One-touch Fittings

RoHS

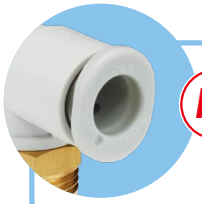
The New "KQ2"

KQ, KQ2, and KJ consolidated into the "KQ2"

- **Enhanced variation**
- **Lightweight**
- **Compact**



New KQ2 Series



New Oval type release button added!

Applicable tubing O.D.

Metric	ø3.2, ø4, ø6
Inch	ø1/8", ø5/32", ø3/16"



Body type: total of 51 models | **Seal method: 3 types** | **Thread material/Surface treatment (Treated or Non-treated): 2 types**[*1]

*1 Brass, Brass + Electroless nickel plating

Applicable tubing	Connection thread	Seal method/Release button shape: Sealant – Oval Type	Sealant – Round Type	Gasket seal – Oval Type	Gasket seal – Round Type	Face seal – Oval Type	Face seal – Round Type
Metric size	M			P.5	P.101		
	R	P.5	P.101			P.65	P.173
	G					P.57	P.165
	Uni			P.87	P.201		
Inch size	UNF			P.29	P.133		
	NPT	P.29	P.133			P.73	P.185
	M			P.49	P.157		
	R	P.49	P.157			P.81	P.195
	Uni			P.95	P.209		

KQ2 Series

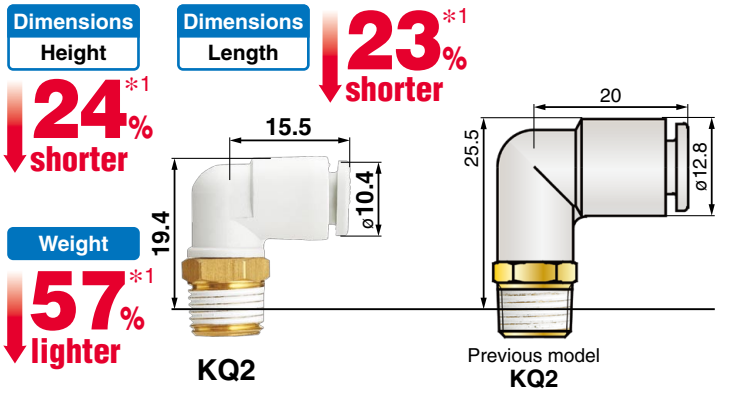
SMC

CAT.ES50-37D

Improved tube insertion/removal



Compact and lightweight

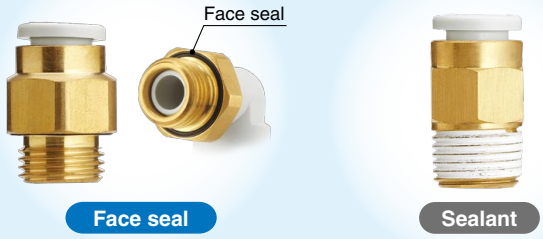


*1 Tube removal strength is ensured to be equivalent to previous model.

*1 Previous KQ2 series model: Male elbow, applicable tubing O.D. ø6, connection thread R1/8

Selectable seal method*1

*1 Connection thread: R, NPT

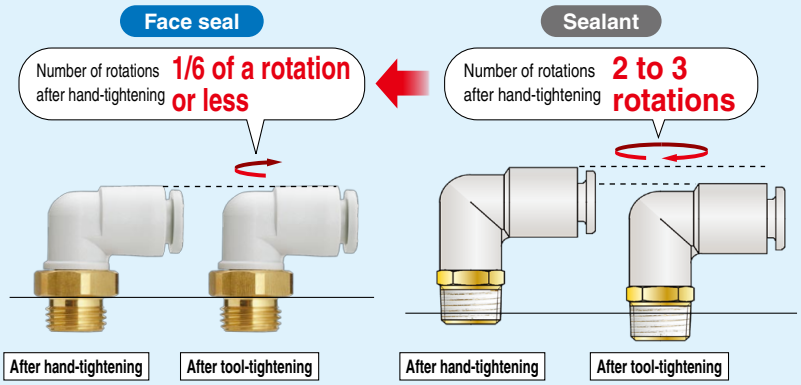


Selectable surface treatment

- Brass (No plating)
- Brass + Electroless nickel plating

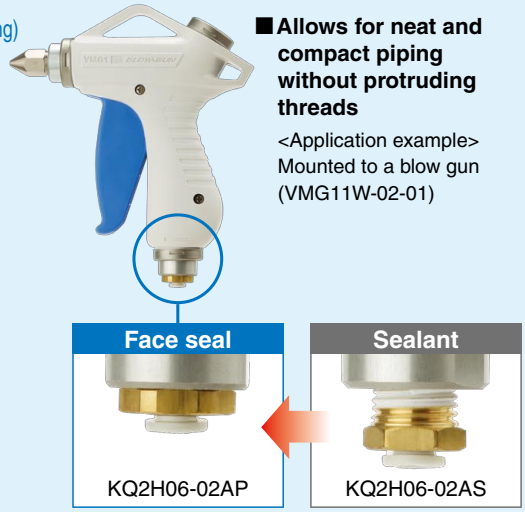
Face seal adopted for threading.
Original thread construction which allows for the use of piping taper female threads (Rc, NPT)

Improved installability (Reduction in amount of tool-tightening required after hand-tightening)

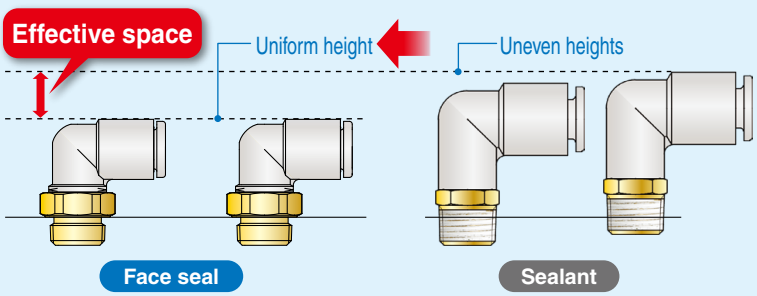


■ **Allows for neat and compact piping without protruding threads**

<Application example>
Mounted to a blow gun (VMG11W-02-01)



A uniform height when using multiple fittings, contributes to space saving



Prevention of sealant residue/protrusion

The current sealant type leaves residue and protrudes out from the threading when installing, making it necessary to clear away the residue using an air blower or similar. However, no residue is created when using a face seal.

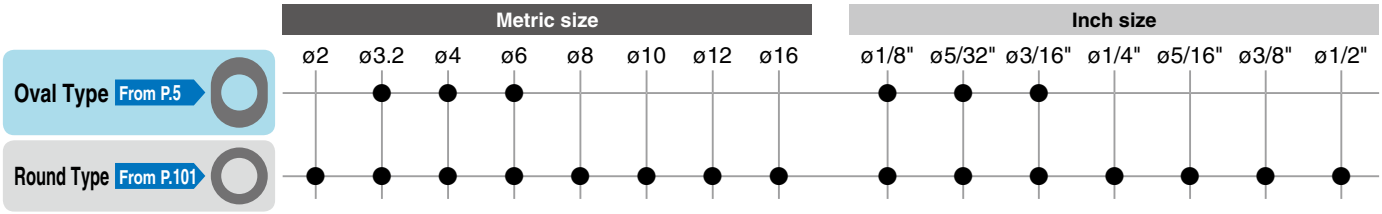
Re-piping is possible.

Face seal

Repeated re-piping of up to 6 to 10 times is possible due to use of elastic sealant on seating.

Sealant

Sealant tape is necessary because sealant becomes separated with repeated installation.



Refer to the next page for details on the applicable tubing sizes of each shape.

Oval Type/Round Type Variations

Hexagon Socket Head Male Connector
KQ2S

Oval Type Round Type

45° Male Elbow
KQ2K

Oval Type Round Type

Bulkhead Union
KQ2E

Oval Type Round Type

Universal Female Elbow
KQ2VF

Oval Type Round Type

Universal Male Elbow
KQ2V

Oval Type Round Type

Extended Male Elbow
KQ2W

Oval Type Round Type

Bulkhead Connector
KQ2E

Oval Type Round Type

Branch Universal Female Elbow
KQ2ZF

Round Type

Male Connector
KQ2H

Oval Type Round Type

Female Connector
KQ2F

Oval Type Round Type

Straight Union
KQ2H

Oval Type Round Type

Different Diameter Straight
KQ2H

Oval Type Round Type

Cross
KQ2TW

Oval Type Round Type

Male Elbow
KQ2L

Oval Type Round Type

Union Elbow
KQ2L

Oval Type Round Type

Plug-in Elbow
KQ2L

Oval Type Round Type

Reducer Elbow
KQ2L

Oval Type Round Type

Different Diameter Cross
KQ2TX

Oval Type Round Type

Male Branch Tee
KQ2T

Oval Type Round Type

Union Tee
KQ2T

Oval Type Round Type

Different Diameter Tee
KQ2T

Oval Type Round Type

Different Diameter Tee
KQ2T

Oval Type Round Type

Different Diameter Cross
KQ2TY

Oval Type Round Type

Hexagon Socket Head Universal Male Elbow
KQ2VS

Oval Type Round Type

Branch Male Elbow
KQ2LU

Round Type

Female Elbow
KQ2LF

Oval Type Round Type

Double Universal Male Elbow
KQ2VD

Oval Type Round Type

Triple Universal Male Elbow
KQ2VT

Oval Type Round Type

Branch Universal Male Elbow
KQ2Z

Round Type

Double Branch Universal Male Elbow
KQ2ZD

Round Type

Male Run Tee
KQ2Y

Oval Type Round Type

Triple Branch Universal Male Elbow
KQ2ZT

Round Type

Branch Union Elbow
KQ2LU

Round Type

Extended Plug-in Elbow
KQ2W

Oval Type Round Type

Male Delta Union
KQ2D

Oval Type Round Type

Delta Union
KQ2D

Oval Type Round Type

Double Branch "Y"
KQ2UD

Round Type

Different Diameter Double Union "Y"
KQ2UD

Round Type

Different Diameter Plug-in "Y"
KQ2X

Round Type

Double Plug-in "Y"
KQ2XD

Round Type

Union "Y"
KQ2U

Round Type

Different Diameter Union "Y"
KQ2U

Round Type

Plug-in "Y"
KQ2U

Round Type

Branch "Y"
KQ2U

Round Type

Plug-in Reducer
KQ2R

Oval Type Round Type

Bulkhead Male Elbow
KQ2LE

Oval Type Round Type

Tube Cap
KQ2C

Oval Type Round Type

* The supported release button type (oval type/round type) is shown next to each product.

Oval Type Release Button

Sealant/Gasket Seal







Applicable tubing

Connection thread: M | R | Rc | UNF | NPT

- **Metric**: ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16 — P.5
- **Inch**: ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2" — P.29
- **Inch**: ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2" — P.49

How to Order ····· P.6
Variations ····· P.7
Dimensions ····· P.9
Made to Order/Clean Series/
Spare Parts ····· P.27

How to Order ····· P.30
Variations ····· P.31
Dimensions ····· P.33
Made to Order/Clean Series/
Spare Parts ····· P.48

How to Order ····· P.50
Variations ····· P.51
Dimensions ····· P.52
Made to Order/Clean Series/
Spare Parts ····· P.55

Face Seal









Applicable tubing

Connection thread: G | R | Rc | NPT | R

- **Metric**: ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16 — P.57
- **Metric**: ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16 — P.65
- **Inch**: ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2" — P.73
- **Inch**: ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2" — P.81

How to Order ····· P.58
Variations ····· P.59
Dimensions ····· P.60
Spare Parts ····· P.63

How to Order ····· P.66
Variations ····· P.67
Dimensions ····· P.68

How to Order ····· P.74
Variations ····· P.75
Dimensions ····· P.76

How to Order ····· P.82
Variations ····· P.83
Dimensions ····· P.84

Gasket Seal (Uni Thread)





Applicable tubing

Connection thread: Rc | G | NPT | NPTF

- **Metric**: ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16 — P.87
- **Inch**: ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2" — P.95

How to Order ····· P.88
Variations ····· P.89
Dimensions ····· P.90
Made to Order/Clean Series/
Spare Parts ····· P.93

How to Order ····· P.96
Variations ····· P.97
Dimensions ····· P.98
Made to Order/Clean Series/
Spare Parts ····· P.100

Round Type Release Button

Sealant/Gasket Seal







Applicable tubing

Connection thread: M | R | Rc | UNF | NPT

Metric
ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16

Inch
ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2"

Inch
ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2"

P.101
How to Order ····· P.102
Variations ····· P.103
Dimensions ····· P.105
Made to Order/Clean Series/
Spare Parts ····· P.131

P.133
How to Order ····· P.134
Variations ····· P.135
Dimensions ····· P.137
Made to Order/Clean Series/
Spare Parts ····· P.156

P.157
How to Order ····· P.158
Variations ····· P.159
Dimensions ····· P.160
Made to Order/Clean Series/
Spare Parts ····· P.163

Face Seal









Applicable tubing

Connection thread: G | R | Rc | NPT | R

Metric
ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16

Metric
ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16

Inch
ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2"

Inch
ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2"

P.165
How to Order ····· P.166
Variations ····· P.167
Dimensions ····· P.168
Spare Parts ····· P.172

P.173
How to Order ····· P.174
Variations ····· P.175
Dimensions ····· P.176

P.185
How to Order ····· P.186
Variations ····· P.187
Dimensions ····· P.188

P.195
How to Order ····· P.196
Variations ····· P.197
Dimensions ····· P.198

Gasket Seal (Uni Thread)





Applicable tubing

Connection thread: Rc | G | NPT | NPTF

Metric
ø2 ø3.2 ø4 ø6 ø8 ø10 ø12 ø16

Inch
ø1/8" ø5/32" ø3/16" ø1/4" ø5/16" ø3/8" ø1/2"

P.201
How to Order ····· P.202
Variations ····· P.203
Dimensions ····· P.204
Made to Order/Clean Series/
Spare Parts ····· P.207

P.209
How to Order ····· P.210
Variations ····· P.211
Dimensions ····· P.212
Made to Order/Clean Series/
Spare Parts ····· P.214

Prior to Use ····· P.215
Precautions ····· P.216
Safety Instructions ····· Back cover

Oval Type Metric Size One-touch Fittings

Applicable Tubing: Metric Size, Connection Thread: M, R, Rc

KQ2 Series

Guide

Chuck

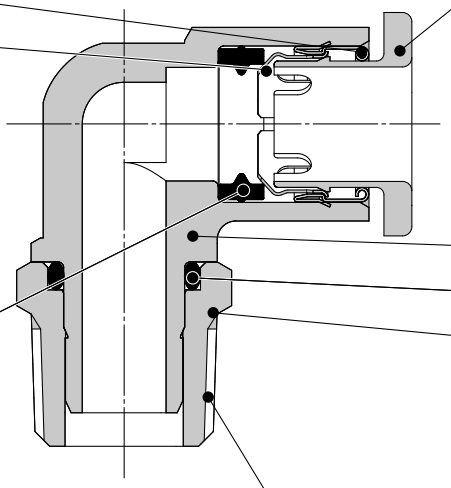
Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

The use of a special profile ensures sealing and reduces resistance when the tube is inserted.



Release button (Light gray)

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

Stud

Effective when piping in a confined space.

Body part rotates allowing for positioning.

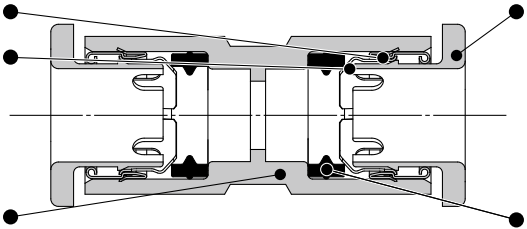
Connection thread

M, R, Rc

Guide

Chuck

Body



Release button (Light gray)

Seal

∗ Fittings without thread portion, and with all resin body material are copper free specification.

One-touch IN/OUT connection. Possible to use in vacuum to –100 kPa.



Made to Order
(Refer to page 27 for details.)

Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø3.2, ø4, ø6

Specifications

Fluid		Air, Water∗1 ∗2
Operating pressure range∗3		–100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		–5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	JIS B0203 (Taper thread for piping) JIS B0205 (Metric coarse thread)
	Nut section	JIS B0205 (Metric fine thread)
Seal on the threads		With sealant

∗1 The surge pressure must be under the maximum operating pressure.
∗2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.
∗3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT, PP, Stainless steel 303
Stud	C3604 (Thread portion), Stainless steel 303 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR

How to Order

Threaded Type KQ2 H 06 – 01 A S 1

One-touch fittings

Model

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
F	Female connector
L	Male elbow
K	45° male elbow
V	Universal male elbow
VS	Hexagon socket head universal male elbow
VF	Universal female elbow
LF	Female elbow
VD	Double universal male elbow
VT	Triple universal male elbow
W	Extended male elbow
T	Male branch tee
Y	Male run tee
D	Male delta union
E	Bulkhead union
	Bulkhead connector
LE	Bulkhead male elbow
N	Adapter

Applicable tubing O.D.

Symbol	Size
23	ø3.2
04	ø4
06	ø6

Port size/Applicable tubing O.D.

Symbol		Size
Thread connection	**M3**	M3 x 0.5
	M5	M5 x 0.8
	M6	M6 x 1.0
	01	R1/8, Rc1/8
	02	R1/4, Rc1/4
	03	R3/8, Rc3/8
Tubing connection	**00**∗1	Same dia. tubing

∗1 Only for "Bulkhead union" and "Bulkhead male elbow".

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating
G	Stainless steel 303 (Connection thread: Only male thread and M3)

Male thread seal method

Symbol	Seal method
Nil	None
S	With thread sealant

Oval type release button

Spare Parts

Use the part number below to order the gasket for M3, M5, and M6 threads.

Gasket for M3 thread: M-3G2
Gasket for M5 thread: M-5G2
Gasket for M6 thread: M-6G

For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Tube – Tube Type KQ2 H 06 – 00 A 1

One-touch fittings

Model

Symbol	Model
H	Straight union
	Different diameter straight
L	Union elbow
	Plug-in elbow
	Reducer elbow
W	Extended plug-in elbow
T	Union tee
	Different diameter tee
TW	Cross
TX	Different diameter cross
TY	Different diameter cross
D	Delta union
R	Plug-in reducer

Applicable tubing O.D.

Symbol	Size
02	ø2
23	ø3.2
04	ø4
06	ø6
08	ø8
10	ø10

Applicable tubing O.D. (Rod O.D.)

Symbol		Size
Tubing (Rod) connection	**00**	Same diameter tubing
	99	Same diameter rod
Different dia. tubing (Reducer)	**23**	ø3.2
	04	ø4
	06	ø6
	08	ø8
	10	ø10
	12	ø12

Oval type release button

Accessories

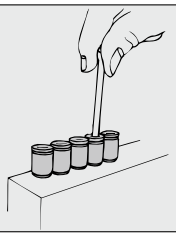
Symbol	Name
KQ2N	Nipple
	Reducer nipple
KQ2C	Tube cap
KQ2P	Plug

Oval Type Variations

Hexagon socket head male connector
KQ2S P.10



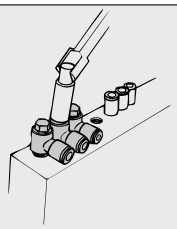
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



Universal male elbow
KQ2V P.13



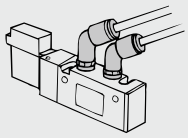
Hexagon head of the body allows tightening with a box wrench in confined spaces.



45° male elbow
KQ2K P.13



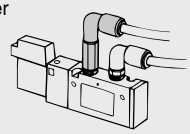
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



Extended male elbow
KQ2W P.17



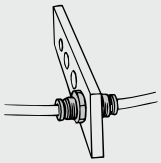
Basically, it is used together with a male elbow.
Its extended height allows for multi-leveled piping and prevents interference among fittings.



Bulkhead union
KQ2E P.24



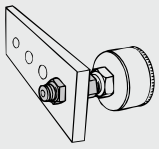
Use to connect tubing through a panel, etc.



Bulkhead connector
KQ2E P.24



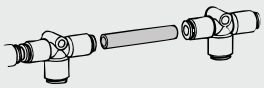
Use to connect a male thread and tubing through a panel, etc.



Nipple
KQ2N P.26



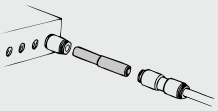
Use to connect One-touch fittings.



Reducer nipple
KQ2N P.26



Use to connect One-touch fittings of different sizes.



Universal female elbow
KQ2VF P.14



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

Male connector
KQ2H P.9



Use to pipe a female thread in the same direction. Most general model.

Cross
KQ2TW P.20



Use to four-branch a line.

Reducer elbow
KQ2L P.12



Use to change the tube direction of One-touch fittings by 90° and connect tubing of reduced size.

Female connector
KQ2F P.10



Use to pipe a male thread of a pressure gauge, etc.

Male elbow
KQ2L P.11



Use to pipe a female thread at right angles. Most general model.

Different diameter cross
KQ2TX P.20



Use to four-branch a line and connect tubing of reduced size at both 90° angles.

Straight union
KQ2H P.9



Use to connect tubing in the same direction.

Union elbow
KQ2L P.11



Use to connect tubing at right angles.

Male branch tee
KQ2T P.18



Use to branch a female thread at both 90° angles.

Different diameter straight
KQ2H P.9



Use to connect tubing of different sizes.

Plug-in elbow
KQ2L P.12



Use to change the tube direction of One-touch fittings by 90°.

Union tee
KQ2T P.19



Use to branch tubing at both 90° angles.

Different diameter tee
KQ2T P.19

Use to connect tubing of reduced size for branching at both 90° angles.

Different diameter tee
KQ2T P.19

Use to connect tubing of reduced size for branching at a 90° angle from two pipes running in the same direction.

Different diameter cross
KQ2TY P.20

Use to connect tubing of reduced size for branching in three directions.

Hexagon socket head universal male elbow
KQ2VS P.14

Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

Female elbow
KQ2LF P.16

Use to pipe a male thread at right angles.

Double universal male elbow
KQ2VD P.15

Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

Triple universal male elbow
KQ2VT P.15

Use to three-branch a female thread at right angles. Three individual parts rotate 360°.

Male run tee
KQ2Y P.21

Use to branch a female thread in the same direction and at a 90° angle.

Extended plug-in elbow
KQ2W P.16

Use to change the tube direction of One-touch fittings by 90°. Multi-leveled piping is also possible with the plug-in elbow.

Male delta union
KQ2D P.22

Use to branch a female thread at two right angles.

Delta union
KQ2D P.23

Use to branch tubing at three right angles.

Plug-in reducer
KQ2R P.23

Use to change size of One-touch fittings.

Bulkhead male elbow
KQ2LE P.24

Use to connect tubing through a panel, etc. and to change the tube direction by 90°.

Adapter
KQ2N P.25

Use to connect One-touch fittings and R female threads.

Tube cap
KQ2C P.25

Use to plug unused tubing.

Color cap
KQ2C P.26

Mount onto the release button and use different colors for piping according to applications.

Plug
KQ2P P.25

Use to plug unused One-touch fittings.

The following models do not support oval type release buttons. Refer to the round type (from page 101).

Branch universal female elbow
KQ2ZF P.115


Branch male elbow
KQ2LU P.110


Branch universal male elbow
KQ2Z P.115


Double branch universal male elbow
KQ2ZD P.116


Triple branch universal male elbow
KQ2ZT P.116


Branch union elbow
KQ2LU P.109


Double branch "Y"
KQ2UD P.126


Different diameter double union "Y"
KQ2UD P.126


Different diameter plug-in "Y"
KQ2X P.127


Double plug-in "Y"
KQ2XD P.127


Union "Y"
KQ2U P.125


Different diameter union "Y"
KQ2U P.125


Plug-in "Y"
KQ2U P.125


Branch "Y"
KQ2U P.124


⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

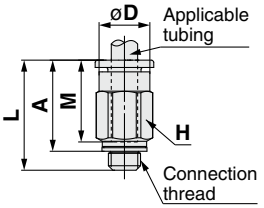
Dimensions

Male Connector: KQ2H (Gasket seal)

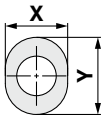


Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	M3 x 0.5	KQ2H23-M3G1	7	6.9	6.7	9.5	17	14.4	13.3	0.9	0.9	1.2	2.4
	M5 x 0.8	KQ2H23-M5□1	7	6.9	6.7	9.5	17.3	14.3	13.3	3	2.5	2.5	2.7
ø4	M3 x 0.5	KQ2H04-M3G1	8	7.9	7.7	10	17.1	14.5	13.3	0.9	0.9	1.2	2.9
	M5 x 0.8	KQ2H04-M5□1	8	7.9	7.7	10	17.7	14.7	13.3	4	4	2.5	3.3
	M6 x 1.0	KQ2H04-M6□1	8	7.9	7.7	10	18.7	14.7	13.3	5.6	4	3	3.6
ø6	M5 x 0.8	KQ2H06-M5□1	10	9.9	9.7	12	17.7	14.7	13.3	4	4	2.5	4.1
	M6 x 1.0	KQ2H06-M6□1	10	9.9	9.7	12	18.8	14.8	13.3	5.6	5.6	3	4.4

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



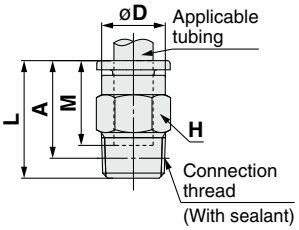
Male Connector: KQ2H (Sealant)



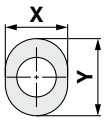
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	KQ2H23-01□S1	10	—	6.7	9.5	14	10.9	13.3	3.4	2.9	2.5	6
	1/4	KQ2H23-02□S1	14	—	6.7	9.5	16.7	12	13.3	3.4	2.9	2.5	15.3
ø4	1/8	KQ2H04-01□S1	10	—	7.7	10	14.3	11.2	13.3	4.8	3.4	3	5.6
	1/4	KQ2H04-02□S1	14	—	7.7	10	16.7	12	13.3	4.8	3.4	3	14.6
ø6	1/8	KQ2H06-01□S1	10	9.9	9.7	12	18.4	15.3	13.3	13.1	10.4	4.5	5.8
	1/4	KQ2H06-02□S1	14	—	9.7	12	16.7	12	13.3	13.1	10.4	4.5	12.5
	3/8	KQ2H06-03□S1	17	—	9.7	12	18.1	13	13.3	13.1	10.4	4.5	24.5

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



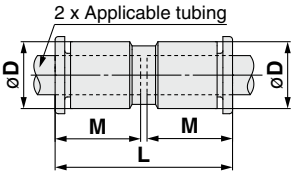
Release button dimensions



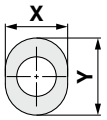
Straight Union: KQ2H



Applicable tubing O.D. [mm]	Model	øD	Release button dimensions X	Release button dimensions Y	L	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	KQ2H23-00A1	7.1	6.7	9.5	27.6	13.3	3.4	2.9	2.5	1.4
ø4	KQ2H04-00A1	8.2	7.7	10	27.6	13.3	5.6	4	3	1.6
ø6	KQ2H06-00A1	10.4	9.7	12	27.6	13.3	13.1	10.4	4.5	2.1



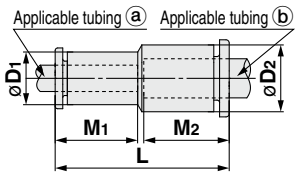
Release button dimensions



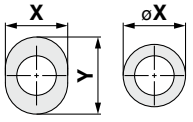
Different Diameter Straight: KQ2H



Applicable tubing O.D. [mm] ⓐ	Applicable tubing O.D. [mm] ⓑ	Model	øD1	Release button dimensions ⓐ øX (X)	Release button dimensions ⓐ Y	øD2	Release button dimensions ⓑ øX (X)	Release button dimensions ⓑ Y	L	M1	M2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø2	ø3.2	KQ2H02-23A1	5.8	5.5	—	7.1	6.7	9.5	26.2	11.9	13.3	—	0.9	1.4	1.1
ø2	ø4	KQ2H02-04A1	5.8	5.5	—	8.2	7.7	10	26.2	11.9	13.3	—	0.9	1.4	1.2
ø3.2	ø4	KQ2H23-04A1	7.1	6.7	9.5	8.2	7.7	10	27.6	13.3	13.3	3.4	2.9	2.5	1.5
ø3.2	ø6	KQ2H23-06A1	7.1	6.7	9.5	10.4	9.7	12	27.6	13.3	13.3	3.4	2.9	2.5	1.8
ø4	ø6	KQ2H04-06A1	8.2	7.7	10	10.4	9.7	12	27.6	13.3	13.3	5.6	5.6	3	2
ø4	ø8	KQ2H04-08A1	10.4	7.7	10	13.2	13	—	28.5	13.3	14.2	5.6	5.6	3	3
ø6	ø8	KQ2H06-08A1	10.4	9.7	12	13.2	13	—	28.5	13.3	14.2	13.1	10.4	4.5	2.9
ø6	ø10	KQ2H06-10A1	13.2	9.7	12	15.9	15.6	—	30.8	13.3	15.6	13.1	10.4	4.5	4.9



Release button dimensions



Applicable tubing O.D.: ø3.2, ø4, ø6

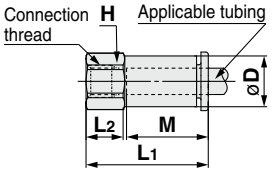
Dimensions

Female Connector: KQ2F

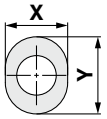


Applicable tubing O.D. [mm]	Connection thread M, Rc	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	M3 x 0.5	KQ2F23-M3□1	7	6.9	6.7	9.5	17.3	5.7	13.3	3	2.5	2.5	3.1
	M5 x 0.8	KQ2F23-M5□1	7	6.9	6.7	9.5	19.7	5.7	13.3	3	2.5	2.5	3.3
ø4	M3 x 0.5	KQ2F04-M3□1	8	7.9	7.7	10	16.5	5.7	13.3	4	4	2.5	4.1
	M5 x 0.8	KQ2F04-M5□1	8	7.9	7.7	10	19.6	5.7	13.3	4	4	3	4.5
	1/8	KQ2F04-01□1	14	7.9	7.7	10	24.1	8.5	13.3	5.6	4	3	12
	1/4	KQ2F04-02□1	17	7.9	7.7	10	29	12.9	13.3	5.6	4	3	21.5
ø6	M5 x 0.8	KQ2F06-M5□1	10	9.9	9.7	12	17.6	5.7	13.3	10	10	4.1	5.5
	1/8	KQ2F06-01□1	14	9.9	9.7	12	23.6	8.5	13.3	13.1	10.4	4.5	12.2
	1/4	KQ2F06-02□1	17	9.9	9.7	12	28.5	12.9	13.3	13.1	10.4	4.5	21.6
	3/8	KQ2F06-03□1	19	9.9	9.7	12	29.9	13.4	13.3	13.1	10.4	4.5	22.7

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

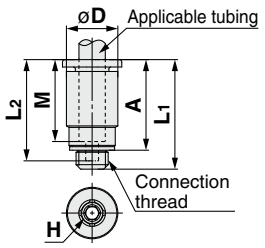


Hexagon Socket Head Male Connector: KQ2S (Gasket seal)

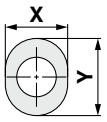


Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	M3 x 0.5	KQ2S23-M3G1	1.5	7	6.7	9.5	17.1	16.1	14.5	13.3	1.4	1.4	1.5	2.2
	M5 x 0.8	KQ2S23-M5□1	2	7	6.7	9.5	17.5	16.3	14.5	13.3	2.5	2.5	2	2.6
ø4	M3 x 0.5	KQ2S04-M3G1	1.5	8	7.7	10	17.1	16.1	14.5	13.3	1.4	1.4	1.5	2.3
	M5 x 0.8	KQ2S04-M5□1	2.5	8	7.7	10	18.6	17.8	15.6	13.3	4	4	2.5	3
	M6 x 1.0	KQ2S04-M6□1	3	8	7.7	10	18.5	17.8	14.5	13.3	4	4	3.1	4.1
ø6	M5 x 0.8	KQ2S06-M5□1	2.5	10	9.7	12	19.5	17.8	16.5	13.3	4	4	2.5	3.5
	M6 x 1.0	KQ2S06-M6□1	3	10	9.7	12	19.1	18.1	15.1	13.3	4	4	3.1	5.1

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



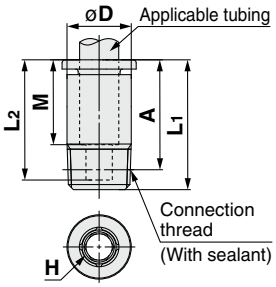
Hexagon Socket Head Male Connector: KQ2S (Sealant)



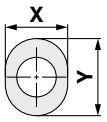
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2S04-01□S1	3	9.8	7.7	10	19.7	18.8	16.6	13.3	4.1	3.6	3.1	8.1
ø6	1/8	KQ2S06-01□S1	4	10	9.7	12	20	18.8	16.9	13.3	10	9.9	4.1	6.5
	1/4	KQ2S06-02□S1	4	13.8	9.7	12	19.8	18.8	15.1	13.3	10.7	10	4.1	13.4

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions



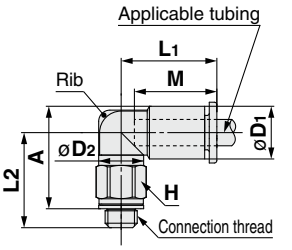
Dimensions

Male Elbow: KQ2L (Gasket seal)

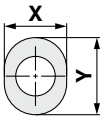


Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3.2	M3 x 0.5	KQ2L23-M3G1	7	7.1	6.7	9.5	7	15.3	13.8	14.8	13.3	0.8	0.8	1.2	2.7	●
	M5 x 0.8	KQ2L23-M5□1	7	7.1	6.7	9.5	7	15.3	14.3	14.9	13.3	2.6	2.2	2.5	3.1	●
ø4	M3 x 0.5	KQ2L04-M3G1	7	8.2	7.7	10	7	15.4	14.3	15.8	13.3	0.8	0.8	1.2	2.7	●
	M5 x 0.8	KQ2L04-M5□1	7	8.2	7.7	10	7	15.4	14.8	15.9	13.3	3.5	3.5	2.5	3.1	●
	M6 x 1.0	KQ2L04-M6□1	8	8.2	7.7	10	7	15.4	15.8	15.9	13.3	3.5	3.5	2.5	4.2	●
ø6	M5 x 0.8	KQ2L06-M5□1	7	10.4	9.7	12	7	14.5	16.5	18.7	13.3	3.5	3.5	2.5	3.2	●
	M6 x 1.0	KQ2L06-M6□1	8	10.4	9.7	12	7	14.5	17.5	18.7	13.3	3.5	3.5	2.5	4.3	●

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



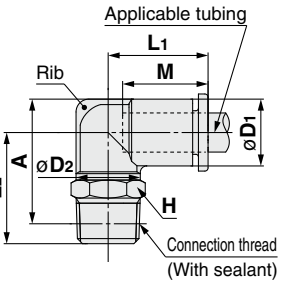
Male Elbow: KQ2L (Sealant)



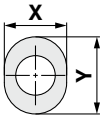
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3.2	1/8	KQ2L23-01□S1	10	7.1	6.7	9.5	10	14.5	16.7	17.2	13.3	3	2.5	2.5	4.6	—
	1/4	KQ2L23-02□S1	14	7.1	6.7	9.5	10	14.5	21.2	20.1	13.3	3	2.5	2.5	14.1	—
ø4	1/8	KQ2L04-01□S1	10	8.2	7.7	10	10	14.8	16.2	17.2	13.3	4.6	3.3	3	4.8	●
	1/4	KQ2L04-02□S1	14	8.2	7.7	10	10	14.8	21.7	21.1	13.3	4.6	3.3	3	14.3	●
ø6	1/8	KQ2L06-01□S1	10	10.4	9.7	12	10	15.5	17.3	19.4	13.3	11.4	9	4.5	5.2	—
	1/4	KQ2L06-02□S1	14	10.4	9.7	12	10	15.5	22.8	23.3	13.3	11.4	9	4.5	14.7	—
	3/8	KQ2L06-03□S1	17	10.4	9.7	12	10	15.5	24.1	24.2	13.3	11.4	9	4.5	26.5	—

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



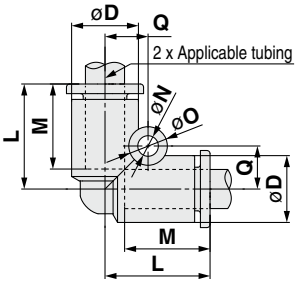
Release button dimensions



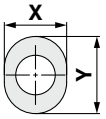
Union Elbow: KQ2L



Applicable tubing O.D. [mm]	Model	øD	Release button dimensions X	Release button dimensions Y	L	Q	M	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	KQ2L23-00A1	7.1	6.7	9.5	14.9	5.4	13.3	6	3.2	7.1	3	2.5	2.5	1.6
ø4	KQ2L04-00A1	8.2	7.7	10	15.3	5.7	13.3	6	3.2	8.2	4.2	4.2	3	1.9
ø6	KQ2L06-00A1	10.4	9.7	12	16.3	6.7	13.3	6	3.2	10.4	11.4	9	4.5	2.7



Release button dimensions

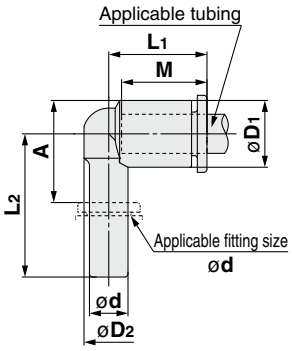


Dimensions

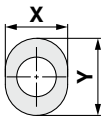
Plug-in Elbow: KQ2L



Applicable tubing O.D. [mm]	Applicable fitting size ød	Model	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	ø3.2	KQ2L23-99A1	7.1	6.7	9.5	6.4	14.4	20.9	11.1	13.3	3	2.5	2.2	0.9
ø4	ø4	KQ2L04-99A1	8.2	7.7	10	7.2	14.5	21.1	11.9	13.3	4.2	4.2	2.5	1.2
ø6	ø6	KQ2L06-99A1	10.4	9.7	12	8	15.3	22.3	14.2	13.3	9	9	4	1.8



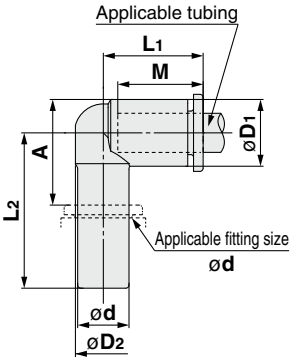
Release button dimensions



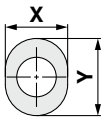
Reducer Elbow: KQ2L



Applicable tubing O.D. [mm]	Applicable fitting size ød	Model	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	ø4	KQ2L23-04A1	7.1	6.7	9.5	6.4	14.5	23.9	14.1	13.3	3	2.5	2.5	1.1
	ø6	KQ2L23-06A1	7.1	6.7	9.5	6.4	14.5	24.1	14.3	13.3	3	2.5	2.5	1.3
ø4	ø6	KQ2L04-06A1	8.2	7.7	10	7.2	14.8	24.6	15.4	13.3	4.2	4.2	3	1.5
	ø8	KQ2L04-08A1	8.2	7.7	10	7.2	14.8	29.5	19.4	13.3	4.2	4.2	3	1.8
ø6	ø8	KQ2L06-08A1	10.4	9.7	12	9	15.5	24.2	15.2	13.3	11.4	9	4.5	2.1
	ø10	KQ2L06-10A1	10.4	9.7	12	9	15.5	31.6	21.2	13.3	11.4	9	4.5	2.7



Release button dimensions



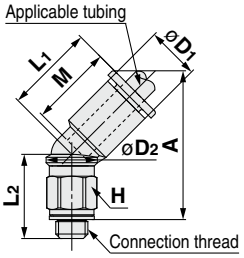
Dimensions

45° Male Elbow: KQ2K (Gasket seal)

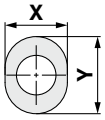


Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2K04-M5□1	7	8.2	7.7	10	8	14.4	13.1	22.8	13.3	3.4	3.4	2.5	3
	M6 x 1.0	KQ2K04-M6□1	8	8.2	7.7	10	8	14.4	14.1	22.8	13.3	3.4	3.4	2.5	4.1
ø6	M5 x 0.8	KQ2K06-M5□1	7	10.4	9.7	12	8	14.4	17	27.4	13.3	3.4	3.4	2.5	3.5
	M6 x 1.0	KQ2K06-M6□1	8	10.4	9.7	12	8	14.4	18	27.4	13.3	3.4	3.4	2.5	4.5

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



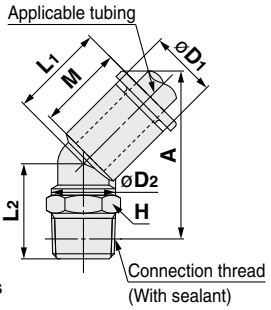
45° Male Elbow: KQ2K (Sealant)



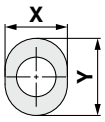
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2K04-01□S1	10	8.2	7.7	10	10	14.4	12.7	22.3	13.3	4.8	3.4	3	4.6
	1/4	KQ2K04-02□S1	14	8.2	7.7	10	10	14.4	17.2	25.2	13.3	4.8	3.4	3	14.1
ø6	1/8	KQ2K06-01□S1	10	10.4	9.7	12	10	14.7	14.8	25.3	13.3	8.7	6.9	4.5	5
	1/4	KQ2K06-02□S1	14	10.4	9.7	12	10	14.7	19.3	28.2	13.3	8.7	6.9	4.5	14.5
	3/8	KQ2K06-03□S1	17	10.4	9.7	12	10	14.7	20.6	29.1	13.3	8.7	6.9	4.5	26.2

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions

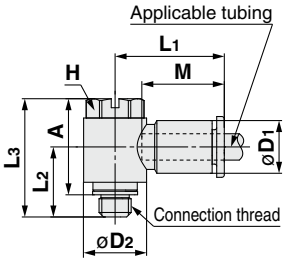


Universal Male Elbow: KQ2V (Gasket seal)

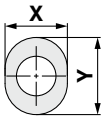


Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2V04-M5□1	8	8.2	7.7	10	9.8	17.5	10.9	18.4	14.9	13.3	2.9	2.9	2.5	5.4
ø6	M5 x 0.8	KQ2V06-M5□1	8	10.4	9.7	12	9.8	18.3	10.9	18.4	14.9	13.3	3.8	3.8	2.5	5.7

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



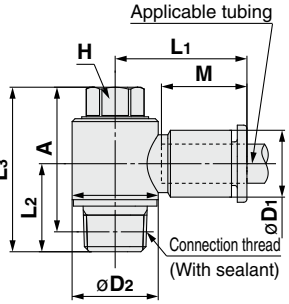
Universal Male Elbow: KQ2V (Sealant)



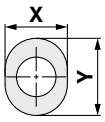
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2V04-01□S1	8	8.2	7.7	10	13.4	19.3	13.7	25.6	22.5	13.3	2.9	2.9	3	13.2
ø6	1/8	KQ2V06-01□S1	8	10.4	9.7	12	13.4	20.5	13.7	25.6	22.5	13.3	7.5	5.9	4.5	13.5
	1/4	KQ2V06-02□S1	10	10.4	9.7	12	15.3	19.9	17.9	30.5	25.8	13.3	7.5	5.9	4.5	24.9

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions



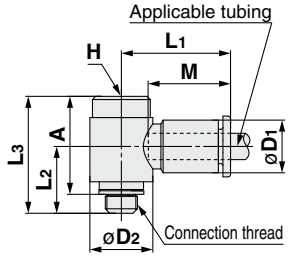
Dimensions

Hexagon Socket Head Universal Male Elbow: KQ2VS (Gasket seal)

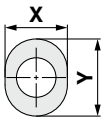


Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2VS04-M5□1	4	8.2	7.7	10	9.8	17.5	10.4	18.2	15.2	13.3	2.9	2.9	2.5	5.3
ø6	M5 x 0.8	KQ2VS06-M5□1	4	10.4	9.7	12	9.8	18.3	10.4	18.2	15.2	13.3	3.8	3.8	2.5	5.6

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



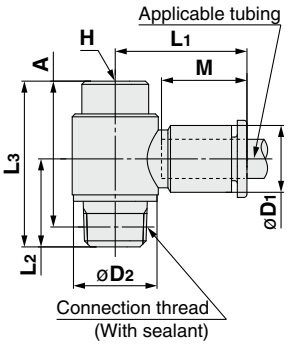
Hexagon Socket Head Universal Male Elbow: KQ2VS (Sealant)



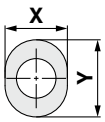
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VS04-01□S1	6	8.2	7.7	10	13.4	19.3	13.7	25.8	22.7	13.3	2.9	2.9	3	13.2
ø6	1/8	KQ2VS06-01□S1	6	10.4	9.7	12	13.4	20.5	13.7	25.8	22.7	13.3	7.5	5.9	4.5	13.5
	1/4	KQ2VS06-02□S1	6	10.4	9.7	12	15.3	19.9	17.9	26.5	21.8	13.3	7.5	5.9	4.5	20.8

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions

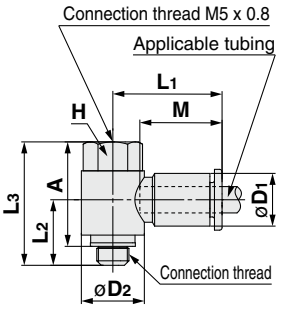


Universal Female Elbow: KQ2VF (Gasket seal)

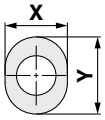


Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2VF04-M5□1	8	8.2	7.7	10	9.8	17.5	10.2	19.2	16.2	13.3	2.9	2.9	2.5	5.5
ø6	M5 x 0.8	KQ2VF06-M5□1	8	10.4	9.7	12	9.8	18.3	10.2	19.2	16.2	13.3	3.8	3.8	2.5	5.8

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



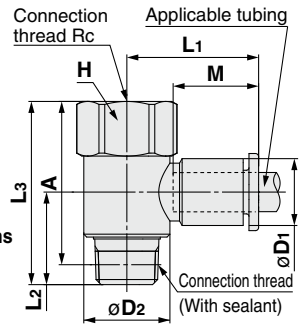
Universal Female Elbow: KQ2VF (Sealant)



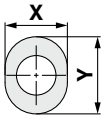
Applicable tubing O.D. [mm]	Connection thread Rc, R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VF04-01□S1	14	8.2	7.7	10	13.4	19.3	14.4	28.5	25.4	13.3	2.9	2.9	3	17.3
ø6	1/8	KQ2VF06-01□S1	14	10.4	9.7	12	13.4	20.5	14.4	28.5	25.4	13.3	7.5	5.9	4.5	17.6
	1/4	KQ2VF06-02□S1	17	10.4	9.7	12	17.6	21.2	19.4	37.9	33.2	13.3	7.5	5.9	4.5	37

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread

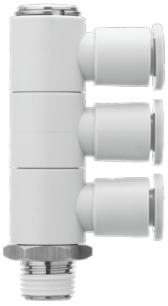


Release button dimensions



Dimensions

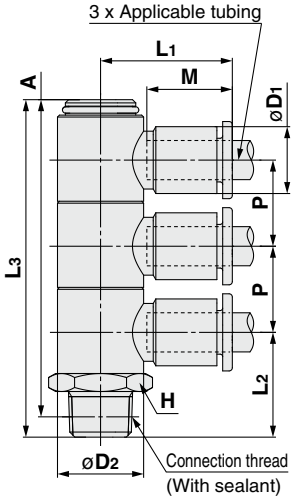
Triple Universal Male Elbow: KQ2VT (Sealant)



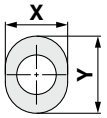
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VT04-01□S1	14	8.2	7.7	10	13.4	19.3	16.3	52.5	49.4	13.3	13.4	2.9	2.9	3	25.3
	1/4	KQ2VT04-02□S1	14	8.2	7.7	10	13.4	19.3	20.7	56.9	52.2	13.3	13.4	2.9	2.9	3	32.9
	3/8	KQ2VT04-03□S1	17	8.2	7.7	10	13.4	19.3	22.1	58.3	53.2	13.3	13.4	2.9	2.9	3	44.8
ø6	1/8	KQ2VT06-01□S1	14	10.4	9.7	12	13.4	20.5	16.3	52.5	49.4	13.3	13.4	7.5	5.9	4.5	26.2
	1/4	KQ2VT06-02□S1	14	10.4	9.7	12	13.4	20.5	20.7	56.9	52.2	13.3	13.4	7.5	5.9	4.5	33.9
	3/8	KQ2VT06-03□S1	17	10.4	9.7	12	13.4	20.5	22.1	58.3	53.2	13.3	13.4	7.5	5.9	4.5	45.8

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions



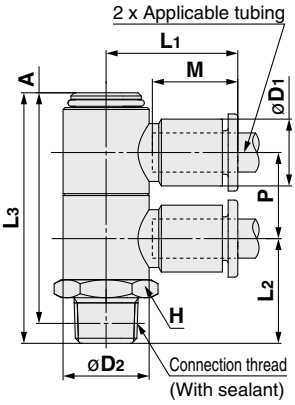
Double Universal Male Elbow: KQ2VD (Sealant)



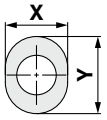
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VD04-01□S1	14	8.2	7.7	10	13.4	19.3	16.3	39	35.9	13.3	13.4	2.9	2.9	3	19.7
	1/4	KQ2VD04-02□S1	14	8.2	7.7	10	13.4	19.3	20.7	43.4	38.7	13.3	13.4	2.9	2.9	3	27.4
	3/8	KQ2VD04-03□S1	17	8.2	7.7	10	13.4	19.3	22.1	44.8	39.7	13.3	13.4	2.9	2.9	3	39.3
ø6	1/8	KQ2VD06-01□S1	14	10.4	9.7	12	13.4	20.5	16.3	39	35.9	13.3	13.4	7.5	5.9	4.5	20.3
	1/4	KQ2VD06-02□S1	14	10.4	9.7	12	13.4	20.5	20.7	43.4	38.7	13.3	13.4	7.5	5.9	4.5	28
	3/8	KQ2VD06-03□S1	17	10.4	9.7	12	13.4	20.5	22.1	44.8	39.7	13.3	13.4	7.5	5.9	4.5	39.9

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions



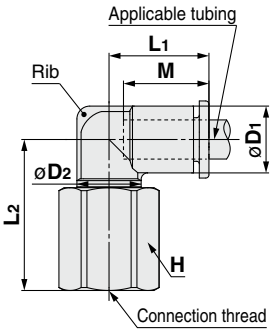
Dimensions

Female Elbow: KQ2LF

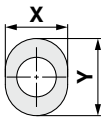


Applicable tubing O.D. [mm]	Connection thread M, Rc	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø4	M5 x 0.8	KQ2LF04-M5□1	8	8.2	7.7	10	7	15.4	15.3	13.3	3.5	3.5	2.5	4.7	●
	M6 x 1.0	KQ2LF04-M6□1	8	8.2	7.7	10	7	15.4	16.1	13.3	3.5	3.5	2.5	4.6	●
	1/8	KQ2LF04-01□1	14	8.2	7.7	10	10	14.8	22.4	13.3	4.2	4.2	3	17.6	—
	1/4	KQ2LF04-02□1	17	8.2	7.7	10	10	14.8	26.9	13.3	4.2	4.2	3	29.6	—
ø6	M5 x 0.8	KQ2LF06-M5□1	8	10.4	9.7	12	7	14.5	17	13.3	3.5	3.5	2.5	4.8	●
	M6 x 1.0	KQ2LF06-M6□1	8	10.4	9.7	12	7	14.5	17.8	13.3	3.5	3.5	2.5	4.7	●
	1/8	KQ2LF06-01□1	14	10.4	9.7	12	10	15.5	23.5	13.3	11.4	9	4.5	18	—
	1/4	KQ2LF06-02□1	17	10.4	9.7	12	10	15.5	28	13.3	11.4	9	4.5	30.1	—
	3/8	KQ2LF06-03□1	19	10.4	9.7	12	10	15.5	28.5	13.3	11.4	9	4.5	34	—

□: A (Brass), N (Brass + Electroless nickel plating)



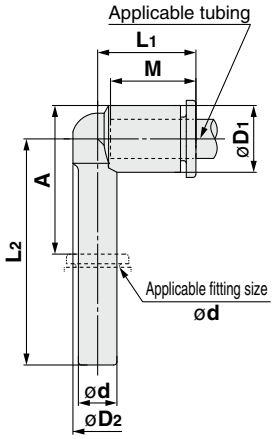
Release button dimensions



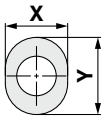
Extended Plug-in Elbow: KQ2W



Applicable tubing O.D. [mm]	Applicable fitting size ød	Model	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	ø3.2	KQ2W23-99A1	7.1	6.7	9.5	6.4	14.4	30.5	20.8	13.3	3	2.5	2.5	1
ø4	ø4	KQ2W04-99A1	8.2	7.7	10	7.2	14.5	31.8	22.6	13.3	4.2	4.2	3	1.3
ø6	ø6	KQ2W06-99A1	10.4	9.7	12	8	15.3	35.2	27.1	13.3	9	9	4	2



Release button dimensions



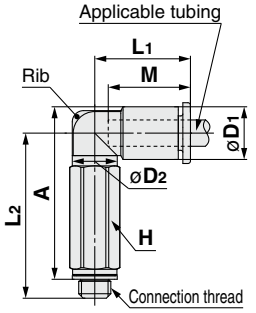
Dimensions

Extended Male Elbow: KQ2W (Gasket seal)

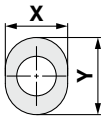


Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3.2	M3 x 0.5	KQ2W23-M3G1	7	7.1	6.7	9.5	7	15.3	22.5	23.4	13.3	0.8	0.8	1.2	4.8	●
	M5 x 0.8	KQ2W23-M5□1	7	7.1	6.7	9.5	7	15.3	25.2	25.7	13.3	2.8	2.4	2.5	5.8	●
ø4	M3 x 0.5	KQ2W04-M3G1	7	8.2	7.7	10	7	15.4	23	24.5	13.3	0.8	0.8	1.2	4.9	●
	M5 x 0.8	KQ2W04-M5□1	7	8.2	7.7	10	7	15.4	25.7	26.8	13.3	3	3	2.5	5.8	●
ø6	M5 x 0.8	KQ2W06-M5□1	7	10.4	9.7	12	7	14.5	27.4	29.6	13.3	3	3	2.5	5.9	●

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



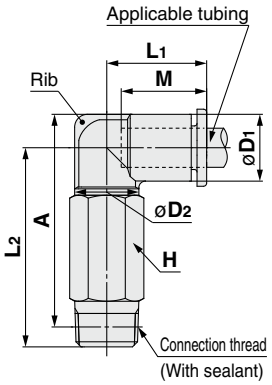
Extended Male Elbow: KQ2W (Sealant)



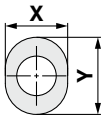
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3.2	1/8	KQ2W23-01□S1	10	7.1	6.7	9.5	10	14.5	30.3	30.8	13.3	2.8	2.4	2.5	10.8	—
	1/4	KQ2W23-02□S1	14	7.1	6.7	9.5	10	14.5	32.8	31.7	13.3	2.8	2.4	2.5	27.3	—
ø4	1/8	KQ2W04-01□S1	10	8.2	7.7	10	10	14.8	29.9	30.9	13.3	4	4	3	11	●
	1/4	KQ2W04-02□S1	14	8.2	7.7	10	10	14.8	33.3	32.7	13.3	4	4	3	27.5	●
ø6	1/8	KQ2W06-01□S1	10	10.4	9.7	12	10	15.5	31	33.1	13.3	10.9	8.6	4.5	11.4	—
	1/4	KQ2W06-02□S1	14	10.4	9.7	12	10	15.5	34.4	34.9	13.3	10.9	8.6	4.5	28	—
	3/8	KQ2W06-03□S1	17	10.4	9.7	12	10	15.5	35.7	35.8	13.3	10.9	8.6	4.5	47.4	—

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions



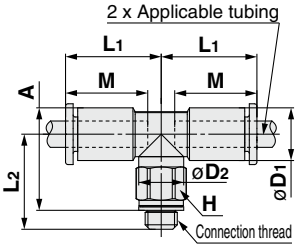
Dimensions

Male Branch Tee: KQ2T (Gasket seal)

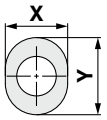


Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	M3 x 0.5	KQ2T23-M3G1	7	7.1	6.7	9.5	7	15.3	13.8	14.7	13.3	0.9	0.9	1.2	3.1
	M5 x 0.8	KQ2T23-M5□1	7	7.1	6.7	9.5	7	15.3	14.3	14.8	13.3	3.2	2.7	2.5	3.5
ø4	M3 x 0.5	KQ2T04-M3G1	7	8.2	7.7	10	7	15.4	14.3	15.8	13.3	0.9	0.9	1.2	3.4
	M5 x 0.8	KQ2T04-M5□1	7	8.2	7.7	10	7	15.4	14.8	15.9	13.3	4.5	4.5	2.5	3.9
	M6 x 1.0	KQ2T04-M6□1	8	8.2	7.7	10	7	15.4	15.8	15.9	13.3	4.5	4.5	2.5	4.9
ø6	M5 x 0.8	KQ2T06-M5□1	7	10.4	9.7	12	7	14.5	16.5	18.7	13.3	4.5	4.5	2.5	4.4
	M6 x 1.0	KQ2T06-M6□1	8	10.4	9.7	12	7	14.5	17.5	18.7	13.3	4.5	4.5	2.5	5.4

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



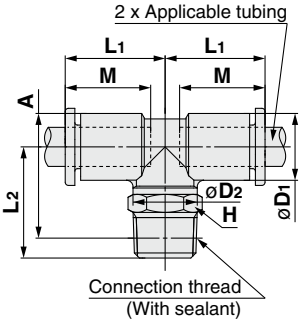
Male Branch Tee: KQ2T (Sealant)



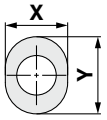
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	KQ2T23-01□S1	10	7.1	6.7	9.5	10	14.5	16.6	17.1	13.3	3.4	2.9	2.5	5.2
	1/4	KQ2T23-02□S1	14	7.1	6.7	9.5	10	14.5	21.1	20	13.3	3.4	2.9	2.5	14.7
ø4	1/8	KQ2T04-01□S1	10	8.2	7.7	10	10	14.8	16.2	17.2	13.3	6	4.1	3	5.5
	1/4	KQ2T04-02□S1	14	8.2	7.7	10	10	14.8	21.7	21.1	13.3	6	4.1	3	15
ø6	1/8	KQ2T06-01□S1	10	10.4	9.7	12	10	15.5	17.3	19.4	13.3	13.9	11	4.5	6.1
	1/4	KQ2T06-02□S1	14	10.4	9.7	12	10	15.5	22.8	23.3	13.3	13.9	11	4.5	15.6
	3/8	KQ2T06-03□S1	17	10.4	9.7	12	10	15.5	24.1	24.2	13.3	13.9	11	4.5	27.4

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions

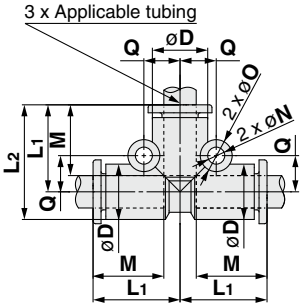


Dimensions

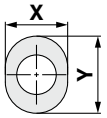
Union Tee: KQ2T



Applicable tubing O.D. [mm]	Model	øD	Release button dimensions X	Release button dimensions Y	L1	L2	M	Q	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	KQ2T23-00A1	7.1	6.7	9.5	14.9	18.5	13.3	5.4	6	3.2	7.1	3.4	2.9	2.5	2.3
ø4	KQ2T04-00A1	8.2	7.7	10	15.3	19.4	13.3	5.7	6	3.2	8.2	6.4	4.4	3	2.8
ø6	KQ2T06-00A1	10.4	9.7	12	16.3	21.5	13.3	6.8	6	3.2	10.4	13.4	10.6	4.5	3.8



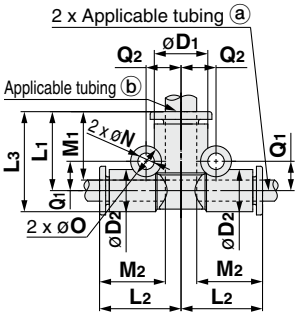
Release button dimensions



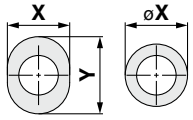
Different Diameter Tee: KQ2T



Applicable tubing O.D. [mm] ⓐ	Applicable tubing O.D. [mm] ⓑ	Model	øD1	Release button dimensions ⓐ øX (X)	Release button dimensions ⓐ Y	øD2	Release button dimensions ⓑ øX (X)	Release button dimensions ⓑ Y	L1	L2	L3	M1	M2	Q1	Q2	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	ø4	KQ2T23-04A1	8.2	6.7	9.5	7.1	7.7	10	14.9	15.3	18.5	13.3	13.3	5.4	5.8	6	3.2	8.2	3.8	3.5	2.5	2.6
ø4	ø6	KQ2T04-06A1	10.4	7.7	10	8.2	9.7	12	15.3	16.3	19.4	13.3	13.3	5.7	6.8	6	3.2	10.4	7.1	6.6	3	3.3
ø4	ø8	KQ2T04-08A1	13.2	7.7	10	10.4	13	—	17.2	17.3	22.4	14.2	13.3	7.3	8.4	8	4.2	13.2	7.1	6.6	3	5.5
ø6	ø8	KQ2T06-08A1	13.2	9.7	12	10.4	13	—	17.2	17.3	22.4	14.2	13.3	7.3	8.4	8	4.2	13.2	16.4	16.4	4.5	5.3
ø6	ø10	KQ2T06-10A1	15.9	9.7	12	13.2	15.6	—	19.6	19.2	26.2	15.6	13.3	8.4	9.6	8	4.2	15.9	16.4	16.4	4.5	12.7



Release button dimensions

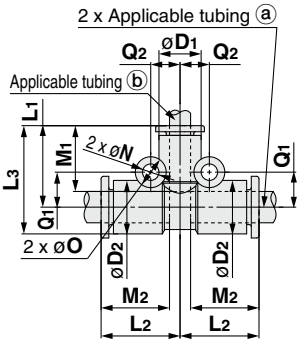


Applicable tubing O.D.: ø3.2, ø4, ø6

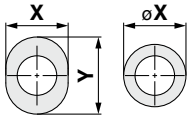
Different Diameter Tee: KQ2T



Applicable tubing O.D. [mm] ⓐ	Applicable tubing O.D. [mm] ⓑ	Model	øD1	Release button dimensions ⓐ øX (X)	Release button dimensions ⓐ Y	øD2	Release button dimensions ⓑ øX (X)	Release button dimensions ⓑ Y	L1	L2	L3	M1	M2	Q1	Q2	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø6	ø4	KQ2T06-04A1	8.2	9.7	12	10.4	7.7	10	16.3	15.3	21.5	13.3	13.3	6.8	5.7	6	3.2	10.4	6.4	4.4	3	3.5
ø8	ø4	KQ2T08-04A1	10.4	13	—	13.2	7.7	10	17.3	17.2	23.9	13.3	14.2	8.4	7.3	8	4.2	13.2	6.4	4.4	3	5.9
ø8	ø6	KQ2T08-06A1	10.4	13	—	13.2	9.7	12	17.3	17.2	23.9	13.3	14.2	8.4	7.3	8	4.2	13.2	13.4	10.6	4.5	6
ø10	ø6	KQ2T10-06A1	13.2	15.6	—	15.9	9.7	12	19.2	19.6	27.2	13.3	15.6	9.6	8.4	8	4.2	15.9	13.4	10.6	4.5	9.2



Release button dimensions



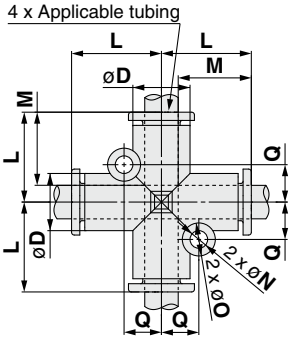
Applicable tubing O.D.: ø4, ø6

Dimensions

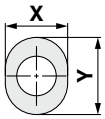
Cross: KQ2TW



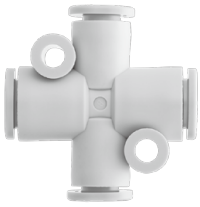
Applicable tubing O.D. [mm]	Model	øD	Release button dimensions X	Release button dimensions Y	L	Q	M	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	KQ2TW04-00A1	8.2	7.7	10	15.3	5.7	13.3	6	3.2	8.2	6.4	4.4	3	3.5
ø6	KQ2TW06-00A1	10.4	9.7	12	16.3	6.8	13.3	6	3.2	10.4	13.4	10.6	4.5	4.9



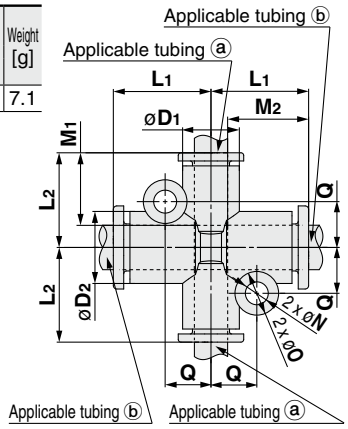
Release button dimensions



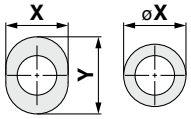
Different Diameter Cross: KQ2TX



Applicable tubing O.D. [mm] ⓐ	Applicable tubing O.D. [mm] ⓑ	Model	øD1	Release button dimensions ⓐ X	Release button dimensions ⓐ Y	øD2	Release button dimensions ⓑ øX (X)	Release button dimensions ⓑ Y	L1	L2	Q	M1	M2	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø6	ø8	KQ2TX06-08A1	10.4	9.7	12	13.2	13	—	17.2	17.3	8.4	13.3	14.2	8	4.2	13.2	13.4	10.6	4.5	7.1



Release button dimensions

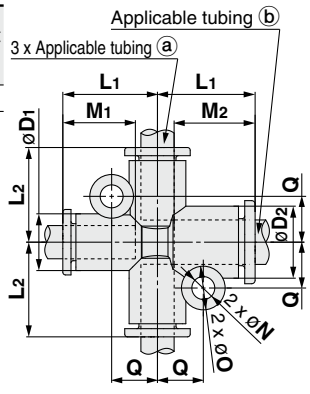


Applicable tubing O.D.: ø6

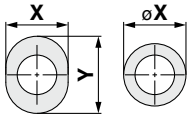
Different Diameter Cross: KQ2TY



Applicable tubing O.D. [mm] ⓐ	Applicable tubing O.D. [mm] ⓑ	Model	øD1	Release button dimensions ⓐ X	Release button dimensions ⓐ Y	øD2	Release button dimensions ⓑ øX (X)	Release button dimensions ⓑ Y	L1	L2	Q	M1	M2	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø6	ø8	KQ2TY06-08A1	10.4	9.7	12	13.2	13	—	17.3	17.2	8.4	13.3	14.2	8	4.2	13.2	13.4	10.6	4.5	6.5



Release button dimensions



Applicable tubing O.D.: ø6

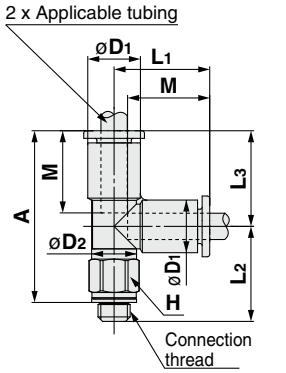
Dimensions

Male Run Tee: KQ2Y (Gasket seal)

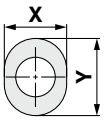


Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	M3 x 0.5	KQ2Y23-M3G1	7	7.1	6.7	9.5	7	15.3	13.8	15.3	26.5	13.3	0.9	0.9	1.2	3.1
	M5 x 0.8	KQ2Y23-M5□1	7	7.1	6.7	9.5	7	15.3	14.3	15.3	26.6	13.3	3.2	2.7	2.5	3.5
ø4	M3 x 0.5	KQ2Y04-M3G1	7	8.2	7.7	10	7	15.4	14.3	15.4	27.1	13.3	0.9	0.9	1.2	3.4
	M5 x 0.8	KQ2Y04-M5□1	7	8.2	7.7	10	7	15.4	14.8	15.4	27.2	13.3	4.5	4.5	2.5	3.9
	M6 x 1.0	KQ2Y04-M6□1	8	8.2	7.7	10	7	15.4	15.8	15.4	27.2	13.3	4.5	4.5	2.5	4.9
ø6	M5 x 0.8	KQ2Y06-M5□1	7	10.4	9.7	12	7	16.3	16.5	16.3	29.8	13.3	4.5	4.5	2.5	4.6
	M6 x 1.0	KQ2Y06-M6□1	8	10.4	9.7	12	7	16.3	17.5	16.3	29.8	13.3	4.5	4.5	2.5	5.7

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



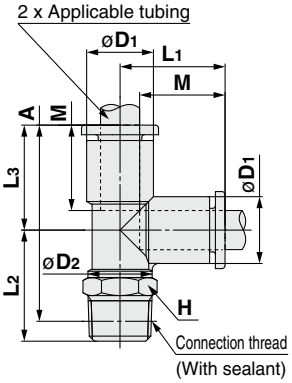
Male Run Tee: KQ2Y (Sealant)



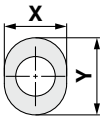
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	KQ2Y23-01□S1	10	7.1	6.7	9.5	10	14.9	16.6	14.9	28.5	13.3	3.4	2.9	2.5	5.3
	1/4	KQ2Y23-02□S1	14	7.1	6.7	9.5	10	14.9	21.1	14.9	31.4	13.3	3.4	2.9	2.5	14.7
ø4	1/8	KQ2Y04-01□S1	10	8.2	7.7	10	10	15.3	16.2	15.3	28.4	13.3	6.4	4.4	3	5.6
	1/4	KQ2Y04-02□S1	14	8.2	7.7	10	10	15.3	21.7	15.3	32.3	13.3	6.4	4.4	3	15
ø6	1/8	KQ2Y06-01□S1	10	10.4	9.7	12	10	16.3	17.3	16.3	30.5	13.3	13.4	10.6	4.5	6.2
	1/4	KQ2Y06-02□S1	14	10.4	9.7	12	10	16.3	22.8	16.3	34.4	13.3	13.4	10.6	4.5	15.8
	3/8	KQ2Y06-03□S1	17	10.4	9.7	12	10	16.3	24.1	16.3	35.3	13.3	13.4	10.6	4.5	27.5

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions



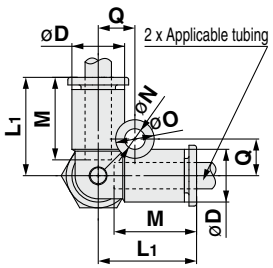
Dimensions

Male Delta Union: KQ2D (Gasket seal)

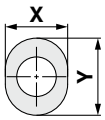


Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	A	M	Q	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2D04-M5□1	10	8.2	7.7	10	15.8	20.7	21.8	13.3	5.7	6	3.2	8.2	2.2	2.2	1.8	6.6
	M6 x 1.0	KQ2D04-M6□1	10	8.2	7.7	10	15.8	21.7	21.8	13.3	5.7	6	3.2	8.2	4.3	4.3	3	6.4
ø6	M5 x 0.8	KQ2D06-M5□1	12	10.4	9.7	12	16.8	21.7	23.9	13.3	6.7	6	3.2	10.4	4.3	4.3	1.8	9.8
	M6 x 1.0	KQ2D06-M6□1	12	10.4	9.7	12	16.8	22.7	23.9	13.3	6.7	6	3.2	10.4	4.3	4.3	3	9.7

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



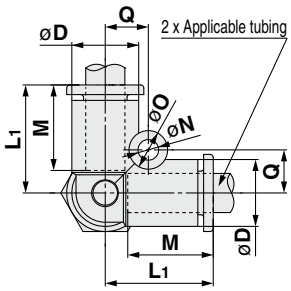
Male Delta Union: KQ2D (Sealant)



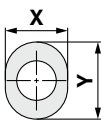
Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	A*1	M	Q	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2D04-01□S1	10	8.2	7.7	10	15.8	23.3	24.3	13.3	5.7	6	3.2	8.2	6	6	3.6	9.2
	1/4	KQ2D04-02□S1	14	8.2	7.7	10	15.8	27.7	27.1	13.3	5.7	6	3.2	8.2	6	6	3.6	19
ø6	1/8	KQ2D06-01□S1	12	10.4	9.7	12	16.8	24.3	26.4	13.3	6.7	6	3.2	10.4	13.9	11	5.4	10.2
	1/4	KQ2D06-02□S1	14	10.4	9.7	12	16.8	28.7	29.2	13.3	6.7	6	3.2	10.4	13.9	11	5.4	19.1
	3/8	KQ2D06-03□S1	17	10.4	9.7	12	16.8	30.1	30.2	13.3	6.7	6	3.2	10.4	13.9	11	5.4	31

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions

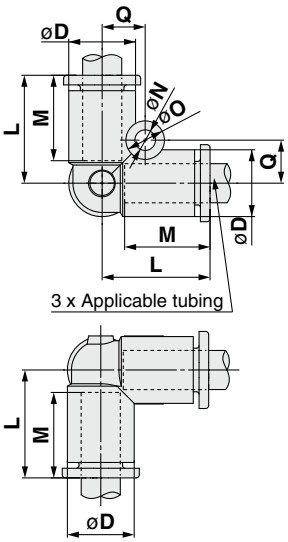


Dimensions

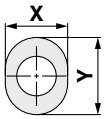
Delta Union: KQ2D



Applicable tubing O.D. [mm]	Model	øD	Release button dimensions		L	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
			X	Y				øO	øN	Thickness	Nylon	Urethane		
ø4	**KQ2D04-00A1**	8.2	7.7	10	15.8	13.3	5.7	6	3.2	8.2	6	4.1	3	2.7
ø6	**KQ2D06-00A1**	10.4	9.7	12	16.8	13.3	6.7	6	3.2	10.4	13.9	11	4.5	3.8



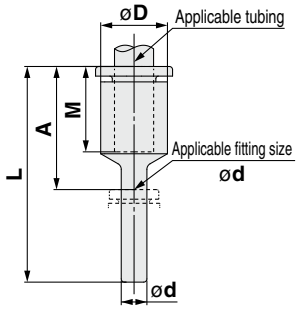
Release button dimensions



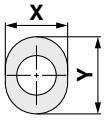
Plug-in Reducer: KQ2R



Applicable tubing O.D. [mm]	Applicable fitting size ød	Model	øD	Release button dimensions		L	A	M	Effective area [mm²]		Min. port size	Weight [g]
				X	Y				Nylon	Urethane		
ø3.2	ø4	**KQ2R23-04A1**	7.1	6.7	9.5	28.6	15.3	13.3	3.4	2.9	2.5	0.8
	ø6	**KQ2R23-06A1**	7.1	6.7	9.5	29.1	15.8	13.3	3.4	2.9	2.5	1
ø4	ø6	**KQ2R04-06A1**	8.2	7.7	10	28.6	15.3	13.3	5.6	4	3	1.1
	ø8	**KQ2R04-08A1**	8.2	7.7	10	29.6	15.4	13.3	5.6	4	3	1.3
	ø10	**KQ2R04-10A1**	10.4	7.7	10	31.7	16.1	13.3	5.6	4	3	2.2
ø6	ø4	**KQ2R06-04A1**	10.4	9.7	12	33.6	20.3	13.3	4	4	2.5	1.4
	ø8	**KQ2R06-08A1**	10.4	9.7	12	31.6	17.4	13.3	13.1	10.4	4.5	1.7
	ø10	**KQ2R06-10A1**	10.4	9.7	12	33.9	18.3	13.3	13.1	10.4	4.5	2.1
	ø12	**KQ2R06-12A1**	12	9.7	12	35.7	18.7	13.3	13.1	10.4	4.5	3.2

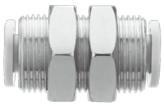


Release button dimensions



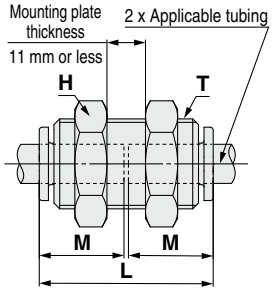
Dimensions

Bulkhead Union: KQ2E (Interchangeable with KQ)

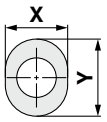


Applicable tubing O.D. [mm]	Model	T (M)	H (Width across flats)	Release button dimensions X	Release button dimensions Y	L	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	KQ2E23-00□1	M12 x 1	14	6.7	9.5	27.3	13	13.3	3.4	2.9	2.5	24.1
ø4	KQ2E04-00□1	M12 x 1	14	7.7	10	27.3	13	13.3	5.6	4	3	22.9
ø6	KQ2E06-00□1	M14 x 1	17	9.7	12	27.3	15	13.3	13.1	10.4	4.5	28

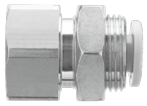
□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

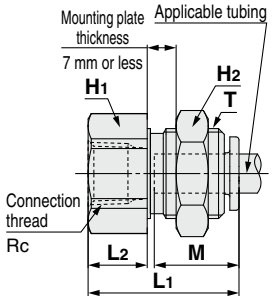


Bulkhead Connector: KQ2E

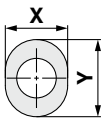


Applicable tubing O.D. [mm]	Connection thread Rc	Model	T (M)	H1 (Width across flats)	H2 (Width across flats)	L1	L2	Release button dimensions X	Release button dimensions Y	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/4	KQ2E23-02□1	M12 x 1	17	14	28.7	14.3	6.7	9.5	13	13.3	3.4	2.9	2.5	31.2
ø4	1/8	KQ2E04-01□1	M12 x 1	14	14	24.4	10	7.7	10	13	13.3	5.6	4	3	21.2
	1/4	KQ2E04-02□1	M12 x 1	17	14	29	14.6	7.7	10	13	13.3	5.6	4	3	30.9
ø6	1/8	KQ2E06-01□1	M14 x 1	17	17	23.6	9.2	9.7	12	15	13.3	13.1	10.4	4.5	28.9
	1/4	KQ2E06-02□1	M14 x 1	17	17	28.4	14	9.7	12	15	13.3	13.1	10.4	4.5	32.4
	3/8	KQ2E06-03□1	M14 x 1	19	17	30.7	16.3	9.7	12	15	13.3	13.1	10.4	4.5	35.9

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

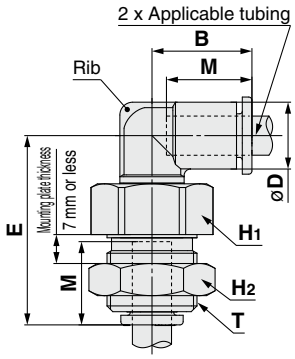


Bulkhead Male Elbow: KQ2LE

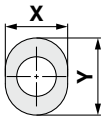


Applicable tubing O.D. [mm]	Model	T (M)	H1 (Width across flats)	H2 (Width across flats)	B	E	øD	Release button dimensions X	Release button dimensions Y	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø4	KQ2LE04-00□1	M12 x 1	14	14	14.8	28.5	8.2	7.7	10	13	13.3	4.2	4.2	3	21.2	●
ø6	KQ2LE06-00□1	M14 x 1	17	17	15.5	29.6	10.4	9.7	12	15	13.3	11.4	9	4.5	29.4	—

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

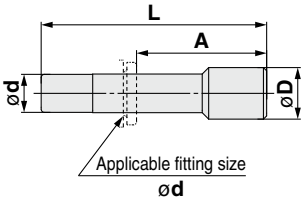


Dimensions

Plug: KQ2P



Applicable fitting size ød	Model	øD	L	A	Weight [g]
ø2	KJP-02	3	17	5.1	0.1
ø3.2	KQ2P-23	5	31.5	18.2	1
ø4	KQ2P-04	6	32	18.7	1
ø6	KQ2P-06	8	35	21.7	1
ø8	KQ2P-08	10	39	24.8	2
ø10	KQ2P-10	12	43	27.4	3.5
ø12	KQ2P-12	14	45.5	28.5	5
ø16	KQ2P-16	20.9	47	26.4	8

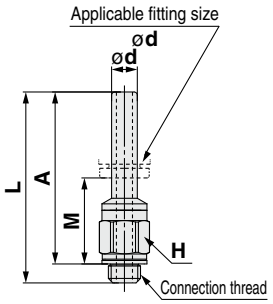


Adapter: KQ2N (Gasket seal)



Applicable fitting size ød	Connection thread M	Model	H (Width across flats)	L	A	M	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2N04-M5□	7	29.7	26.7	13.4	2.5	2.4
ø6	M5 x 0.8	KQ2N06-M5□	7	29.7	26.7	13.4	2.5	2.6

□: A (Brass), N (Brass + Electroless nickel plating)



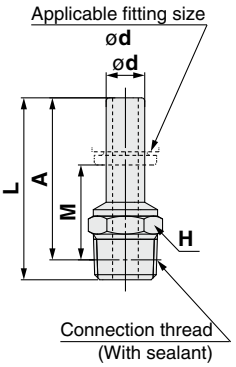
Adapter: KQ2N (Sealant)



Applicable fitting size ød	Connection thread R	Model	H (Width across flats)	L	A*1	M	Min. port size	Weight [g]
ø4	1/8	KQ2N04-01□S	10	28.3	25.2	11.9	2.5	4
ø6	1/8	KQ2N06-01□S	10	28.3	25.2	11.9	4	4.1
	1/4	KQ2N06-02□S	14	32.8	28.1	14.8	4	13.6
ø8	1/4	KQ2N08-02□S	14	35.9	31.2	17	6	15.7
	3/8	KQ2N08-03□S	17	36	30.9	16.7	6	22.7
ø10	3/8	KQ2N10-03□S	17	40.6	35.5	19.9	7.5	19.1

□: A (Brass), N (Brass + Electroless nickel plating)

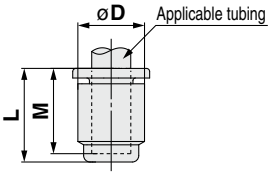
*1 Reference dimensions after installation of R thread



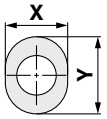
Tube Cap: KQ2C



Applicable tubing O.D. [mm]	Model	øD	Release button dimensions		L	M	Weight [g]
			X	Y			
ø4	KQ2C04-00A1	8.2	7.7	10	14.5	13.3	0.8
ø6	KQ2C06-00A1	10.4	9.7	12	14.6	13.3	1.1



Release button dimensions

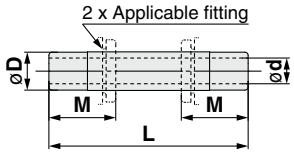


Dimensions

Nipple: KQ2N



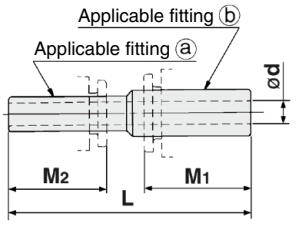
Applicable fitting ø**D**	Model	**L**	**M**	ø**d**	Min. port size	Weight [g]
ø**4**	**KQ2N04-99**	37	13.3	2.5	2.5	1
ø**6**	**KQ2N06-99**	39	13.3	4	4	2
ø**8**	**KQ2N08-99**	43	14.2	6	6	2
ø**10**	**KQ2N10-99**	49	15.6	7.5	7.5	4
ø**12**	**KQ2N12-99**	52	17	9	9	3.3
ø**16**	**KQ2N16-99**	57	20.6	13	13	4.8



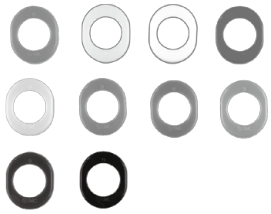
Reducer Nipple: KQ2N



Applicable fitting ⓐ	Applicable fitting ⓑ	Model	**L**	**M1**	**M2**	ø**d** Min. port size	Weight [g]
ø**4**	ø**6**	**KQ2N04-06**	38	13.3	13.3	2.5	2
ø**6**	ø**8**	**KQ2N06-08**	42	14.2	13.3	4	2
ø**8**	ø**10**	**KQ2N08-10**	47	15.6	14.2	6	2
ø**10**	ø**12**	**KQ2N10-12**	51	17	15.6	7.5	3.1
ø**12**	ø**16**	**KQ2N12-16**	55	20.6	17	9	4.9

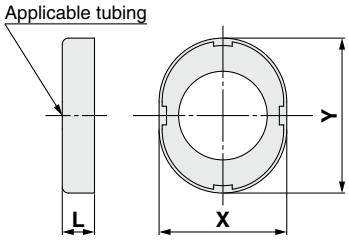


Color Cap: KQ2C



Applicable tubing O.D. [mm]	Model	**X**	**Y**	**L**	Weight [g]
ø**3.2**	**KQ2C-23□B**	7.3	10	2.6	0.1
ø**4**	**KQ2C-04□B**	8.3	10.5	2.6	0.1
ø**6**	**KQ2C-06□B**	10.3	12.5	2.6	0.1

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)



Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

1 Made to Order

Symbol	Specifications
X12	Lubricant: White vaseline Release button color: White
X35∗1	Body color: Black Release button color: Light gray
X41	With fixed orifice∗2

∗1 The following models are not available as made-to-order: Hexagon socket head male connector/KQ2S, Bulkhead union/KQ2E, Bulkhead connector/KQ2E, Nipple/KQ2N, Reducer nipple/KQ2N, Male connector/KQ2H, Female connector/KQ2F, Color cap/KQ2C, Plug/KQ2P

∗2 Please contact SMC for availability.

The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.

Symbol	Specifications
X17	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
X29	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Copper-free (With electroless nickel plating)
X34	Rubber material: FKM
X39	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Clean (Copper-free, air blow, double packaging, resin body: white)
X94	Grease-free Rubber material: FKM (With fluorine coating) Release button color: Light blue

2 Clean Series

Symbol	Specifications
10-	Brass parts: With electroless nickel plating Lubricant: Fluorine grease Air blow in a clean room Double packaging Resin body, Release button color: White

Example) **10-KQ2H06-02NS1** (With thread)

10-KQ2H06-00A1 (Without thread)

3 Spare Parts

Description	Part no.	Applicable thread
Gasket	**M-3G2**	M3
	M-5G2	M5
	M-6G	M6

KQ2-A Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ04-P01A**	KQ2E23-00A1, KQ2E04-00A1, KQ2E23-02A1 KQ2E04-01A1, KQ2E04-02A1, KQ2LE04-00A1	Steel	Zinc chromated
	KQ06-P01A	KQ2E06-00A1, KQ2E06-01A1, KQ2E06-02A1 KQ2E06-03A1, KQ2LE06-00A1		

KQ2-N Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ04-P01N**	KQ2E23-00N1, KQ2E04-00N1, KQ2E23-02N1 KQ2E04-01N1, KQ2E04-02N1, KQ2LE04-00N1	Steel	Nickel plating
	KQ06-P01N	KQ2E06-00N1, KQ2E06-01N1, KQ2E06-02N1 KQ2E06-03N1, KQ2LE06-00N1		

Oval Type Inch Size One-touch Fittings

Applicable Tubing: Inch Size, Connection Thread: UNF, NPT

KQ2 Series

Guide

Chuck

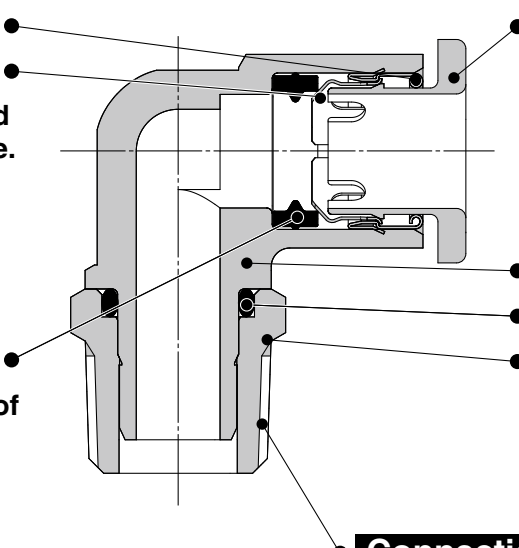
Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

The use of a special profile ensures sealing and reduces resistance when the tube is inserted.



Release button (Orange)

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

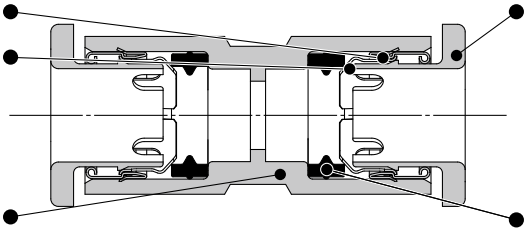
Stud

Effective when piping in a confined space.

Body part rotates allowing for positioning.

Connection thread

UNF, NPT



Guide

Chuck

Body

Release button (Orange)

Seal

∗ Fittings without thread portion, and with all resin body material are copper free specification.

One-touch IN/OUT connection. Possible to use in vacuum to −100 kPa.



Made to Order
(Refer to page 48 for details.)

Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø1/8", ø5/32", ø3/16"

Specifications

Fluid		Air, Water∗1 ∗2
Operating pressure range∗3		−100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		−5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	ANSI/ASME1.20.1 (NPT thread) JIS B0208 (UNF thread)
	Nut section	JIS B0208 (UNF thread)
Seal on the threads		With sealant

∗1 The surge pressure must be under the maximum operating pressure.
∗2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.
∗3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT, PP
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR

How to Order

Threaded Type

KQ2 H 05 – 34 A S 1

- KQ2: One-touch fittings
- H: Model
- 05: Applicable tubing O.D.
- 34: Port size/Applicable tubing O.D.
- A: Thread material/Surface treatment
- S: Male thread seal method
- 1: Oval type release button

Model

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
F	Female connector
L	Male elbow
K	45° male elbow
V	Universal male elbow
VS	Hexagon socket head universal male elbow
VF	Universal female elbow
LF	Female elbow
VD	Double universal male elbow
VT	Triple universal male elbow
W	Extended male elbow
T	Male branch tee
Y	Male run tee
E	Bulkhead union
	Bulkhead connector
LE	Bulkhead male elbow

Male thread seal method

Symbol	Seal method
Nil	None
S	With thread sealant

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

Port size/Applicable tubing O.D.

Symbol		Size
Thread connection	**32**	10-32UNF
	33	NPT1/16
	34	NPT1/8
	35	NPT1/4
Tubing connection	**00**∗1	Same diameter tubing

∗1 Only for "Bulkhead union" and "Bulkhead male elbow".

Applicable tubing O.D.

Symbol	Size
01	ø1/8"
03	ø5/32"
05	ø3/16"

Spare Parts

Use the part number below to order the gasket for sealing 10-32UNF thread.
Gasket for 10-32UNF: M-5G2

For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Tube – Tube Type

KQ2 H 05 – 00 A 1

- KQ2: One-touch fittings
- H: Model
- 05: Applicable tubing O.D.
- 00: Applicable tubing O.D. (Rod O.D.)
- A: Oval type release button

Model

Symbol	Model
H	Straight union
	Different diameter straight
L	Union elbow
	Plug-in elbow
	Reducer elbow
R	Plug-in reducer
T	Union tee
	Different diameter tee
TW	Cross

Applicable tubing O.D. (Rod O.D.)

Symbol		Size
Tubing (Rod) connection	**00**	Same diameter tubing
	99	Same diameter rod
Different dia. tubing (Reducer)	**01**	ø1/8"
	03	ø5/32"
	05	ø3/16"

Applicable tubing O.D.

Symbol	Size
01	ø1/8"
03	ø5/32"
05	ø3/16"

Accessories

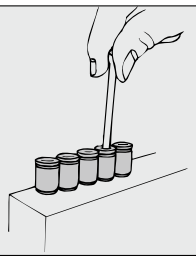
Symbol	Name
KQ2N	Nipple
	Reducer nipple
KQ2C	Tube cap
KQ2P	Plug

Oval Type Variations

Hexagon socket head male connector
KQ2S P.34



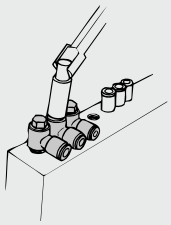
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



Universal male elbow
KQ2V P.37



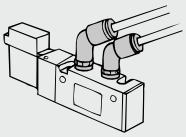
Hexagon head of the body allows tightening with a box wrench in confined spaces.



45° male elbow
KQ2K P.37



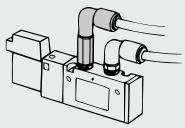
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



Extended male elbow
KQ2W P.41



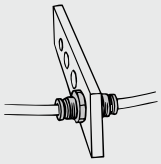
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Bulkhead union
KQ2E P.45



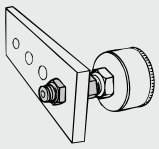
Use to connect tubing through a panel, etc.



Bulkhead connector
KQ2E P.45



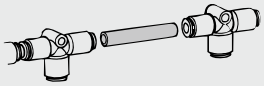
Use to connect a male thread and tubing through a panel, etc.



Nipple
KQ2N P.47



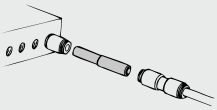
Use to connect One-touch fittings.



Reducer nipple
KQ2N P.47



Use to connect One-touch fittings of different sizes.



Male connector
KQ2H P.33



Use to pipe a female thread in the same direction. Most general model.

Hexagon socket head universal male elbow
KQ2VS P.38



Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

Union elbow
KQ2L P.35



Use to connect tubing at right angles.

Female connector
KQ2F P.34



Use to pipe a male thread of a pressure gauge, etc.

Universal female elbow
KQ2VF P.38



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

Plug-in elbow
KQ2L P.36



Use to change the tube direction of One-touch fittings by 90°.

Straight union
KQ2H P.33



Use to connect tubing in the same direction.

Female elbow
KQ2LF P.36



Use to pipe a male thread at right angles.

Reducer elbow
KQ2L P.36



Use to change the tube direction of One-touch fittings by 90° and connect tubing of reduced size.

Different diameter straight
KQ2H P.33



Use to connect tubing of different sizes.

Double universal male elbow
KQ2VD P.39



Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

Male branch tee
KQ2T P.42



Use to branch a female thread at both 90° angles.

Male elbow
KQ2L P.35



Use to pipe a female thread at right angles. Most general model.

Triple universal male elbow
KQ2VT P.40



Use to three-branch a female thread at right angles. Three individual parts rotate 360°.

Union tee
KQ2T P.43



Use to branch tubing at both 90° angles.

Different diameter tee
KQ2T P.43

Use to connect tubing of reduced size for branching at both 90° angles.

Plug-in reducer
KQ2R P.45

Use to change size of One-touch fittings.

Plug
KQ2P P.46

Use to plug unused One-touch fittings.

Cross
KQ2TW P.43

Use to four-branch a line.

Bulkhead male elbow
KQ2LE P.46

Use to connect tubing through a panel, etc. and to change the tube direction by 90°.

Color cap
KQ2C P.47

Mount onto the release button and use different colors for piping according to applications.

Male run tee
KQ2Y P.44

Use to branch a female thread in the same direction and at a 90° angle.

Tube cap
KQ2C P.46

Use to plug unused tubing.

The following models do not support oval type release buttons. Refer to the round type (from page 133).

Branch universal male elbow
KQ2Z P.146


Double branch universal male elbow
KQ2ZD P.146


Triple branch universal male elbow
KQ2ZT P.147


Branch "Y"
KQ2U P.151


Union "Y"
KQ2U P.152


Different diameter union "Y"
KQ2U P.152


Plug-in "Y"
KQ2U P.152


Different diameter plug-in "Y"
KQ2X P.153


⚠ Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

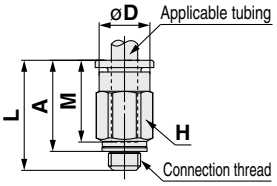
Dimensions

Male Connector: KQ2H (Gasket seal)

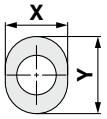


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2H01-32□1**	7	6.9	6.7	9.5	17.4	14.4	13.3	3	2.5	2.3	2.7
ø5/32	10-32UNF	**KQ2H03-32□1**	8	7.9	7.7	10	17.6	14.6	13.3	3.3	3.3	2.3	3.3
ø3/16	10-32UNF	**KQ2H05-32□1**	8	9	8.4	11	17.7	14.7	13.3	3.4	3.4	2.3	3.4

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



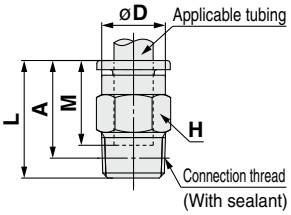
Male Connector: KQ2H (Sealant)



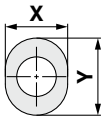
Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/16	**KQ2H01-33□S1**	9.5	6.9	6.7	9.5	19.3	15.2	13.3	3	2.5	2.5	6
	1/8	**KQ2H01-34□S1**	11.11	—	6.7	9.5	14	10.8	13.3	3	2.5	2.5	7.1
	1/4	**KQ2H01-35□S1**	14.29	—	6.7	9.5	16.7	12.3	13.3	3.4	2.9	2.5	16.2
ø5/32	1/16	**KQ2H03-33□S1**	9.5	7.9	7.7	10	20	15.9	13.3	4.8	3.4	3	6.1
	1/8	**KQ2H03-34□S1**	11.11	—	7.7	10	14	10.8	13.3	4.8	3.4	3	6.5
	1/4	**KQ2H03-35□S1**	14.29	—	7.7	10	16.7	12.3	13.3	4.8	3.4	3	15.6
ø3/16	1/8	**KQ2H05-34□S1**	11.11	8.55	8.4	11	17.4	14.2	13.3	7.8	6.5	3.5	7.4
	1/4	**KQ2H05-35□S1**	14.29	—	8.4	11	16.7	12.3	13.3	7.8	6.5	3.5	14.9

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



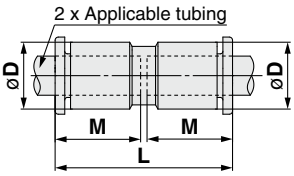
Release button dimensions



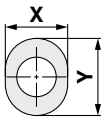
Straight Union: KQ2H



Applicable tubing O.D. [inch]	Model	øD	Release button dimensions X	Release button dimensions Y	L	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	**KQ2H01-00A1**	7.1	6.7	9.5	27.6	13.3	3.4	2.9	2.5	1.4
ø5/32	**KQ2H03-00A1**	8.2	7.7	10	27.6	13.3	5.6	4	3	1.6
ø3/16	**KQ2H05-00A1**	9.1	8.4	11	27.6	13.3	7.8	6.5	3.5	1.9



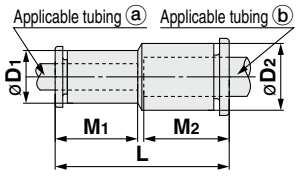
Release button dimensions



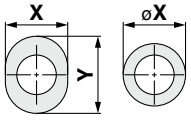
Different Diameter Straight: KQ2H



Applicable tubing O.D. [inch] ⓐ	Applicable tubing O.D. [inch] ⓑ	Model	øD1	Release button dimensions ⓐ X	Release button dimensions ⓐ Y	øD2	Release button dimensions ⓑ øX (X)	Release button dimensions ⓑ Y	L	M1	M2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	ø5/32	**KQ2H01-03A1**	7.1	6.7	9.5	8.2	7.7	10	27.6	13.3	13.3	3.4	2.9	2.5	1.5
	ø1/4	**KQ2H01-07A1**	7.1	6.7	9.5	11.1	10.9	—	27.6	13.3	13.3	3.4	2.9	2.5	2
ø5/32	ø3/16	**KQ2H03-05A1**	8.2	7.7	10	9.1	8.4	11	27.6	13.3	13.3	5.6	5.6	3	1.8
	ø1/4	**KQ2H03-07A1**	8.2	7.7	10	11.1	10.9	—	27.6	13.3	13.3	5.6	5.6	3	2.1
ø3/16	ø1/4	**KQ2H05-07A1**	9.1	8.4	11	11.1	10.9	—	27.6	13.3	13.3	7.8	6.5	3.5	2.2



Release button dimensions



Applicable tubing O.D.: ø1/8", ø5/32", ø3/16"

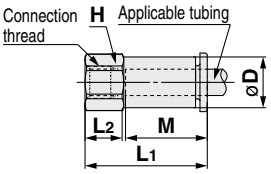
Dimensions

Female Connector: KQ2F

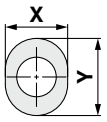


Applicable tubing O.D. [inch]	Connection thread UNF, NPT	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2F01-32□1**	7	6.9	6.7	9.5	19.7	5.7	13.3	3	2.5	2.5	3.4
	1/8	**KQ2F01-34□1**	14.29	6.9	6.7	9.5	25	9.5	13.3	3	2.5	2.5	13.4
	1/4	**KQ2F01-35□1**	17.46	6.9	6.7	9.5	29.8	13.3	13.3	3	2.5	2.5	24.4
ø5/32	10-32UNF	**KQ2F03-32□1**	8	7.9	7.7	10	19.5	5.7	13.3	4	4	3	4.5
	1/8	**KQ2F03-34□1**	14.29	7.9	7.7	10	24.8	9.5	13.3	5.6	4	3	13.7
	1/4	**KQ2F03-35□1**	17.46	7.9	7.7	10	29.7	13.3	13.3	5.6	4	3	24.7

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

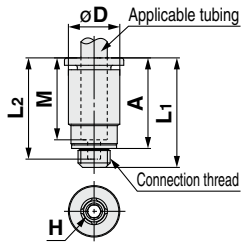


Hexagon Socket Head Male Connector: KQ2S (Gasket seal)

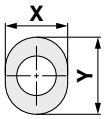


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2S01-32□1**	2	7	6.7	9.5	17.5	16.3	14.5	13.3	2.5	2.5	2	2.6
ø5/32	10-32UNF	**KQ2S03-32□1**	2.5	8	7.7	10	18.6	17.8	15.6	13.3	4	4	2.5	3

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



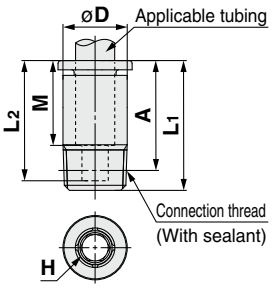
Hexagon Socket Head Male Connector: KQ2S (Sealant)



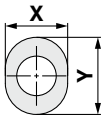
Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø5/32	1/16	**KQ2S03-33□S1**	2.78	8	7.7	10	19.8	18.8	15.7	13.3	4.1	3.6	2.8	4.5
	1/8	**KQ2S03-34□S1**	2.78	10.3	7.7	10	17.3	16.3	14.1	13.3	4.1	3.6	2.8	6
ø3/16	1/8	**KQ2S05-34□S1**	3.57	11	8.4	11	19.8	18.8	16.6	13.3	7.8	6.5	3.6	7.5

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



Release button dimensions



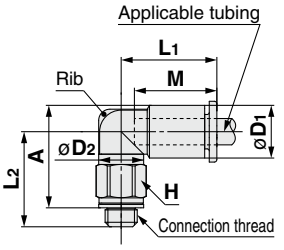
Dimensions

Male Elbow: KQ2L (Gasket seal)

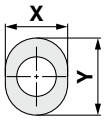


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	10-32UNF	**KQ2L01-32□1**	7	7.1	6.7	9.5	7	15.3	14.2	14.8	13.3	2.6	2.2	2.5	3	●
ø5/32	10-32UNF	**KQ2L03-32□1**	7	8.2	7.7	10	7	15.4	14.7	15.8	13.3	3.5	3.5	2.5	3.1	●
ø3/16	10-32UNF	**KQ2L05-32□1**	7	9.1	8.4	11	7	14.5	15.8	17.4	13.3	3.5	3.5	2.5	3.2	●

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



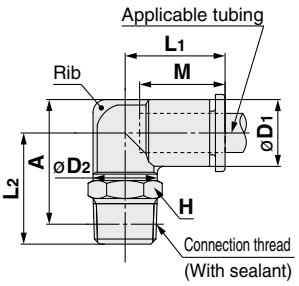
Male Elbow: KQ2L (Sealant)



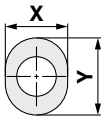
Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	1/16	**KQ2L01-33□S1**	11.11	7.1	6.7	9.5	10	14.5	24.3	23.8	13.3	3	2.5	2.5	9.1	—
	1/8	**KQ2L01-34□S1**	11.11	7.1	6.7	9.5	10	14.5	16.7	17.1	13.3	3	2.5	2.5	5.5	—
	1/4	**KQ2L01-35□S1**	14.29	7.1	6.7	9.5	10	14.5	21.1	20.3	13.3	3	2.5	2.5	15	—
ø5/32	1/16	**KQ2L03-33□S1**	11.11	8.2	7.7	10	10	14.8	23.8	23.8	13.3	4.6	3.3	3	9.3	●
	1/8	**KQ2L03-34□S1**	11.11	8.2	7.7	10	10	14.8	16.2	17.1	13.3	4.6	3.3	3	5.6	●
	1/4	**KQ2L03-35□S1**	14.29	8.2	7.7	10	10	14.8	21.6	21.3	13.3	4.6	3.3	3	15.2	●
ø3/16	1/8	**KQ2L05-34□S1**	11.11	9.1	8.4	11	10	15	16.7	18.1	13.3	6.8	5.6	3.5	5.8	—
	1/4	**KQ2L05-35□S1**	14.29	9.1	8.4	11	10	15	22.1	22.3	13.3	6.8	5.6	3.5	15.4	—

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



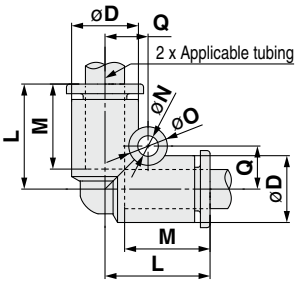
Release button dimensions



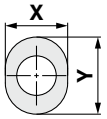
Union Elbow: KQ2L



Applicable tubing O.D. [inch]	Model	øD	Release button dimensions X	Release button dimensions Y	L	Q	M	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	**KQ2L01-00A1**	7.1	6.7	9.5	14.9	5.4	13.3	6	3.2	7.1	3	2.5	2.5	1.6
ø5/32	**KQ2L03-00A1**	8.2	7.7	10	15.3	5.7	13.3	6	3.2	8.2	4.2	4.2	3	1.9
ø3/16	**KQ2L05-00A1**	9.1	8.4	11	15.7	6.2	13.3	6	3.2	9.1	6.8	5.6	3.5	2.2



Release button dimensions

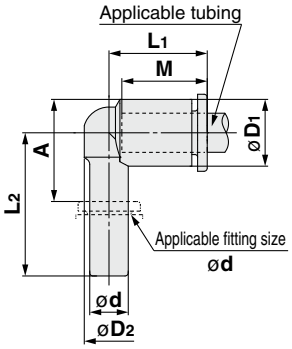


Dimensions

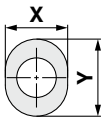
Plug-in Elbow: KQ2L



Applicable tubing O.D. [inch]	Applicable fitting size ød [inch]	Model	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	ø1/8	**KQ2L01-99A1**	7.1	6.7	9.5	6.4	14.5	20.9	11.1	13.3	3	2.5	2.2	0.9
ø5/32	ø5/32	**KQ2L03-99A1**	8.2	7.7	10	7.2	14.5	21.1	11.9	13.3	4.2	4.2	2.5	1.2
ø3/16	ø3/16	**KQ2L05-99A1**	9.1	8.4	11	8	15	22.2	13.4	13.3	6.8	5.6	3.5	1.4



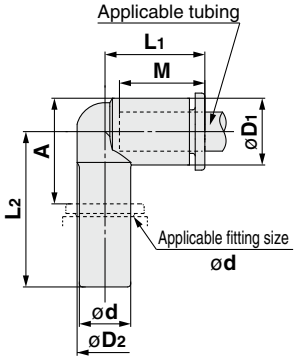
Release button dimensions



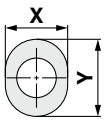
Reducer Elbow: KQ2L



Applicable tubing O.D. [inch]	Applicable fitting size ød [inch]	Model	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	ø5/32	**KQ2L01-03A1**	7.1	6.7	9.5	6.4	14.5	23.9	14.1	13.3	3	2.5	2.5	1.1
	ø3/16	**KQ2L01-05A1**	7.1	6.7	9.5	6.4	14.5	28.4	18.6	13.3	3	2.5	2.5	1.1
	ø1/4	**KQ2L01-07A1**	7.1	6.7	9.5	6.4	14.5	24.5	14.7	13.3	3	2.5	2.5	1.3
ø5/32	ø3/16	**KQ2L03-05A1**	8.2	7.7	10	7.2	14.8	29.1	19.9	13.3	4.2	4.2	3	1.3
	ø1/4	**KQ2L03-07A1**	8.2	7.7	10	7.2	14.8	21.1	11.9	13.3	4.2	4.2	3	1.4
ø3/16	ø1/4	**KQ2L05-07A1**	9.1	8.4	11	8	15	21.6	12.8	13.3	6.8	5.6	3.5	1.5
	ø5/16	**KQ2L05-09A1**	9.1	8.4	11	8	15	30	20.3	13.3	6.8	5.6	3.5	1.9



Release button dimensions

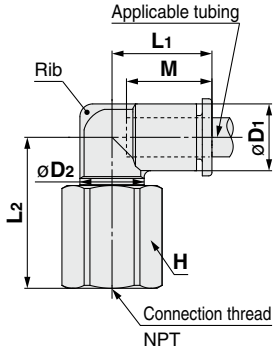


Female Elbow: KQ2LF

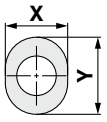


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	1/8	**KQ2LF01-34□1**	14.29	7.1	6.7	9.5	10	14.5	22.8	13.3	3	2.5	2.5	18.2	—
	1/4	**KQ2LF01-35□1**	17.46	7.1	6.7	9.5	10	14.5	26.3	13.3	3	2.5	2.5	31.7	—
ø5/32	1/8	**KQ2LF03-34□1**	14.29	8.2	7.7	10	10	14.8	22.4	13.3	4.2	4.2	3	18.3	●
	1/4	**KQ2LF03-35□1**	17.46	8.2	7.7	10	10	14.8	26.9	13.3	4.2	4.2	3	31.9	●

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



Dimensions

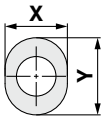
45° Male Elbow: KQ2K (Gasket seal)

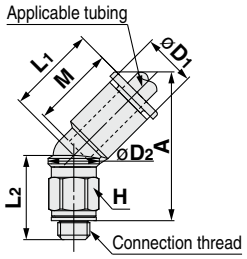


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2K01-32□1**	7	7.1	6.7	9.5	8	14.4	13	21.9	13.3	3	2.5	2.5	2.8
ø5/32	10-32UNF	**KQ2K03-32□1**	7	8.2	7.7	10	8	14.4	13	22.2	13.3	3.4	3.4	2.5	3

□: A (Brass), N (Brass + Electroless nickel plating)

Release button dimensions





45° Male Elbow: KQ2K (Sealant)

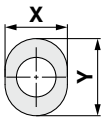


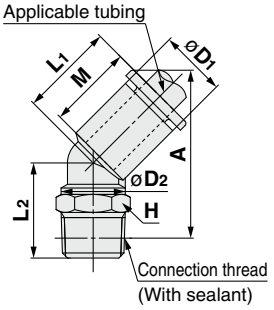
Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2K01-34□S1**	11.11	7.1	6.7	9.5	10	14.3	12.7	21.8	13.3	3	2.5	2.5	5.3
ø5/32	1/8	**KQ2K03-34□S1**	11.11	8.2	7.7	10	10	14.4	12.7	22.2	13.3	4.8	3.4	3	5.5
ø3/16	1/8	**KQ2K05-34□S1**	11.11	9.1	8.4	11	10	14.5	13.2	23.1	13.3	6.8	5.6	3.5	5.6

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

Release button dimensions





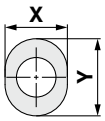
Universal Male Elbow: KQ2V (Gasket seal)

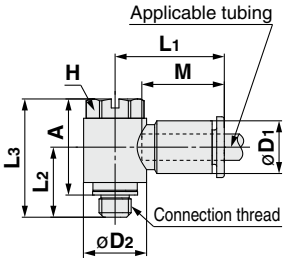


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2V01-32□1**	8	7.1	6.7	9.5	9.8	17.5	10.4	17.9	14.4	13.3	2.2	1.9	2.5	5.2
ø5/32	10-32UNF	**KQ2V03-32□1**	8	8.2	7.7	10	9.8	17.5	10.4	17.9	14.4	13.3	2.9	2.9	2.5	5.3

□: A (Brass), N (Brass + Electroless nickel plating)

Release button dimensions





Universal Male Elbow: KQ2V (Sealant)

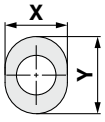


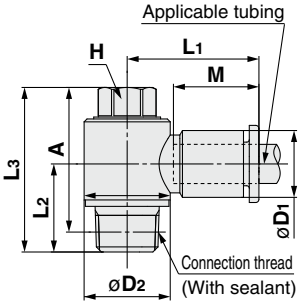
Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2V01-34□S1**	8	7.1	6.7	9.5	13.4	19.3	13.7	25.6	22.4	13.3	2.2	1.9	2.5	13.5
ø5/32	1/8	**KQ2V03-34□S1**	8	8.2	7.7	10	13.4	19.3	13.7	25.6	22.4	13.3	2.9	2.9	3	13.6
ø3/16	1/8	**KQ2V05-34□S1**	8	9.1	8.4	11	13.4	19.6	13.7	25.6	22.4	13.3	4.5	3.7	3.5	13.7

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

Release button dimensions





Dimensions

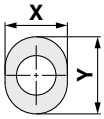
Hexagon Socket Head Universal Male Elbow: KQ2VS (Gasket seal)

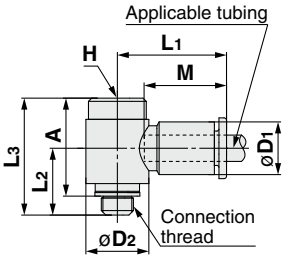


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD_1	Release button dimensions X	Release button dimensions Y	øD_2	L_1	L_2	L_3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2VS01-32□1**	4	7.1	6.7	9.5	9.8	17.5	10.4	18.2	14.7	13.3	2.2	1.9	2.3	5.3
ø5/32	10-32UNF	**KQ2VS03-32□1**	4	8.2	7.7	10	9.8	17.5	10.4	18.2	14.7	13.3	2.9	2.9	2.3	5.4

□: A (Brass), N (Brass + Electroless nickel plating)

Release button dimensions





Hexagon Socket Head Universal Male Elbow: KQ2VS (Sealant)

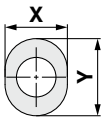


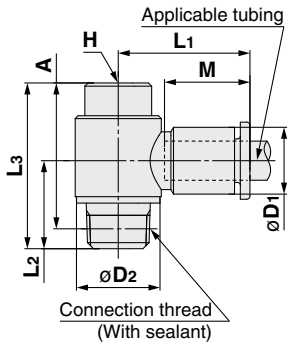
Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD_1	Release button dimensions X	Release button dimensions Y	øD_2	L_1	L_2	L_3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2VS01-34□S1**	6.35	7.1	6.7	9.5	13.4	19.3	13.7	25.8	22.6	13.3	2.2	1.9	2.5	13.1
ø5/32	1/8	**KQ2VS03-34□S1**	6.35	8.2	7.7	10	13.4	19.3	13.7	25.8	22.6	13.3	2.9	2.9	3	13.2
ø3/16	1/8	**KQ2VS05-34□S1**	6.35	9.1	8.4	11	13.4	19.6	13.7	25.8	22.6	13.3	4.5	3.7	3.5	13.3

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

Release button dimensions





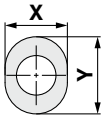
Universal Female Elbow: KQ2VF (Gasket seal)

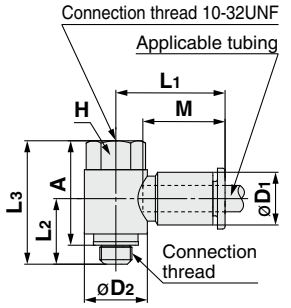


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD_1	Release button dimensions X	Release button dimensions Y	øD_2	L_1	L_2	L_3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2VF01-32□1**	8	7.1	6.7	9.5	9.8	17.5	10.4	19.4	15.9	13.3	2.2	1.9	2.5	5.4
ø5/32	10-32UNF	**KQ2VF03-32□1**	8	8.2	7.7	10	9.8	17.5	10.4	19.4	15.9	13.3	2.9	2.9	2.5	5.5

□: A (Brass), N (Brass + Electroless nickel plating)

Release button dimensions





Universal Female Elbow: KQ2VF (Sealant)

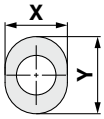


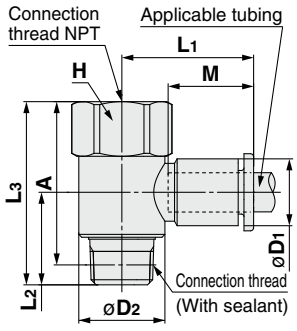
Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD_1	Release button dimensions X	Release button dimensions Y	øD_2	L_1	L_2	L_3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2VF01-34□S1**	14.29	7.1	6.7	9.5	13.4	19.3	14.4	28.5	25.3	13.3	2.2	1.9	2.5	18
ø5/32	1/8	**KQ2VF03-34□S1**	14.29	8.2	7.7	10	13.4	19.3	14.4	28.5	25.3	13.3	2.9	2.9	3	18.1
ø3/16	1/8	**KQ2VF05-34□S1**	14.29	9.1	8.4	11	13.4	19.6	14.4	28.5	25.3	13.3	4.5	3.7	3.5	18.2

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

Release button dimensions





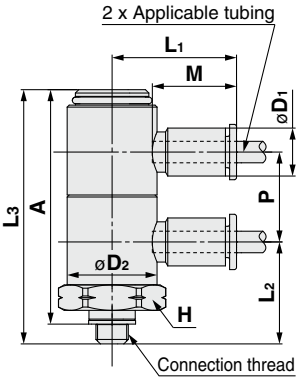
Dimensions

Double Universal Male Elbow: KQ2VD (Gasket seal)

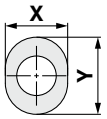


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2VD01-32□1**	14.29	7.1	6.7	9.5	13.4	19.3	15.2	37.9	34.4	13.3	13.4	2.2	1.9	2.3	24.4
ø5/32	10-32UNF	**KQ2VD03-32□1**	14.29	8.2	7.7	10	13.4	19.3	15.2	37.9	34.4	13.3	13.4	2.5	2.5	2.3	24.6

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



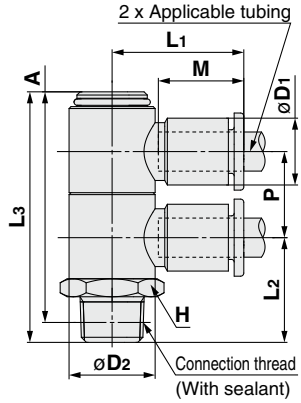
Double Universal Male Elbow: KQ2VD (Sealant)



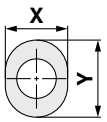
Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2VD01-34□S1**	14.29	7.1	6.7	9.5	13.4	19.3	16.3	39	35.8	13.3	13.4	2.2	1.9	2.5	20
ø5/32	1/8	**KQ2VD03-34□S1**	14.29	8.2	7.7	10	13.4	19.3	16.3	39	35.8	13.3	13.4	2.9	2.9	3	20.2
ø3/16	1/8	**KQ2VD05-34□S1**	14.29	9.1	8.4	11	13.4	19.6	16.3	39	35.8	13.3	13.4	4.5	3.7	3.5	20.5

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



Release button dimensions



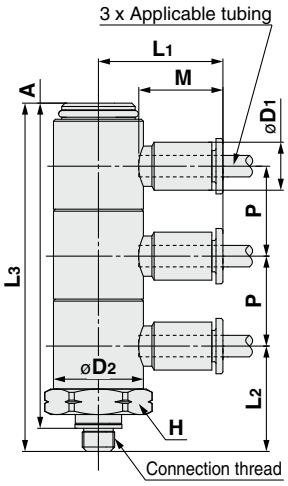
Dimensions

Triple Universal Male Elbow: KQ2VT (Gasket seal)

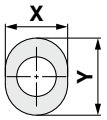


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2VT01-32□1**	14.29	7.1	6.7	9.5	13.4	19.3	15.7	51.9	48.4	13.3	13.4	2.2	1.9	2.5	32.4
ø5/32	10-32UNF	**KQ2VT03-32□1**	14.29	8.2	7.7	10	13.4	19.3	15.7	51.9	48.4	13.3	13.4	2.9	2.9	2.5	32.7

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



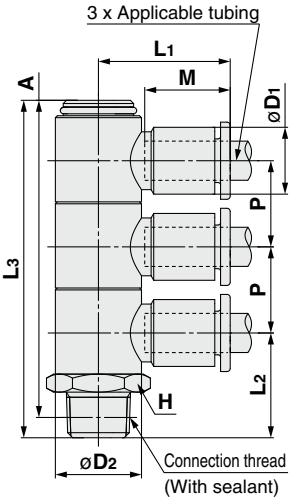
Triple Universal Male Elbow: KQ2VT (Sealant)



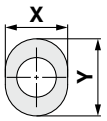
Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2VT01-34□S1**	14.29	7.1	6.7	9.5	13.4	19.3	16.3	52.5	49.3	13.3	13.4	2.2	1.9	2.5	25.5
ø5/32	1/8	**KQ2VT03-34□S1**	14.29	8.2	7.7	10	13.4	19.3	16.3	52.5	49.3	13.3	13.4	2.9	2.9	3	25.8
ø3/16	1/8	**KQ2VT05-34□S1**	14.29	9.1	8.4	11	13.4	19.6	16.3	52.5	49.3	13.3	13.4	4.5	3.7	3.5	26.2

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



Release button dimensions



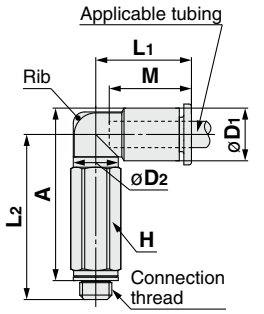
Dimensions

Extended Male Elbow: KQ2W (Gasket seal)

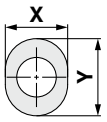


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	10-32UNF	**KQ2W01-32□1**	7	7.1	6.7	9.5	7	15.3	25.8	26.4	13.3	2.8	2.4	2.5	5.9	●
ø5/32	10-32UNF	**KQ2W03-32□1**	7	8.2	7.7	10	7	15.4	26.3	27.5	13.3	3	3	2.5	6	●

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



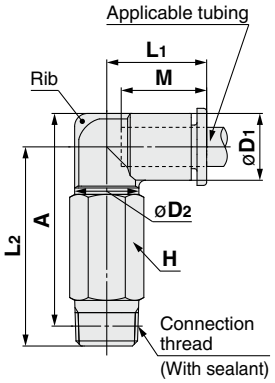
Extended Male Elbow: KQ2W (Sealant)



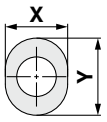
Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	1/16	**KQ2W01-33□S1**	11.11	7.1	6.7	9.5	10	14.5	35.9	35.4	13.3	2.8	2.4	2.5	16.6	—
	1/8	**KQ2W01-34□S1**	11.11	7.1	6.7	9.5	10	14.5	30.3	30.7	13.3	2.8	2.4	2.5	13.9	—
	1/4	**KQ2W01-35□S1**	14.29	7.1	6.7	9.5	10	14.5	32.7	31.9	13.3	2.8	2.4	2.5	27.3	—
ø5/32	1/16	**KQ2W03-33□S1**	11.11	8.2	7.7	10	10	14.8	35.4	35.4	13.3	4	4	3	16.7	●
	1/8	**KQ2W03-34□S1**	11.11	8.2	7.7	10	10	14.8	29.9	30.8	13.3	4	4	3	14.1	●
	1/4	**KQ2W03-35□S1**	14.29	8.2	7.7	10	10	14.8	33.2	32.9	13.3	4	4	3	27.5	●
ø3/16	1/8	**KQ2W05-34□S1**	11.11	9.1	8.4	11	10	15	30.4	31.7	13.3	6.8	5.6	3.5	14.3	—
	1/4	**KQ2W05-35□S1**	14.29	9.1	8.4	11	10	15	33.7	33.9	13.3	6.8	5.6	3.5	27.7	—

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



Release button dimensions



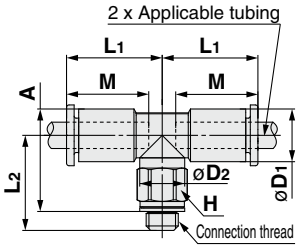
Dimensions

Male Branch Tee: KQ2T (Gasket seal)

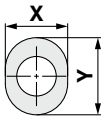


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD_1	Release button dimensions X	Release button dimensions Y	øD_2	L_1	L_2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2T01-32□1**	7	7.1	6.7	9.5	7	15.3	14.2	14.8	13.3	3.2	2.7	2.5	3.5
ø5/32	10-32UNF	**KQ2T03-32□1**	7	8.2	7.7	10	7	15.4	14.7	15.8	13.3	4.5	4.5	2.5	3.8

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



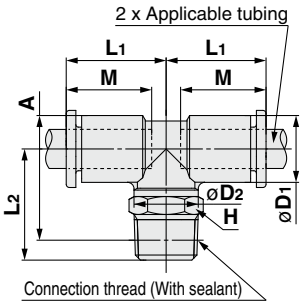
Male Branch Tee: KQ2T (Sealant)



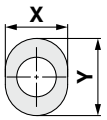
Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD_1	Release button dimensions X	Release button dimensions Y	øD_2	L_1	L_2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/16	**KQ2T01-33□S1**	11.11	7.1	6.7	9.5	10	14.5	24.2	23.7	13.3	3.4	2.9	2.5	9.7
	1/8	**KQ2T01-34□S1**	11.11	7.1	6.7	9.5	10	14.5	16.6	17	13.3	3.4	2.9	2.5	6
	1/4	**KQ2T01-35□S1**	14.29	7.1	6.7	9.5	10	14.5	21	20.2	13.3	3.4	2.9	2.5	15.6
ø5/32	1/16	**KQ2T03-33□S1**	11.11	8.2	7.7	10	10	14.8	23.8	23.8	13.3	6	4.1	3	10
	1/8	**KQ2T03-34□S1**	11.11	8.2	7.7	10	10	14.8	16.2	17.1	13.3	6	4.1	3	6.3
	1/4	**KQ2T03-35□S1**	14.29	8.2	7.7	10	10	14.8	21.6	21.3	13.3	6	4.1	3	15.9
ø3/16	1/8	**KQ2T05-34□S1**	11.11	9.1	8.4	11	10	15	16.7	18	13.3	8.4	7	3.5	6.6
	1/4	**KQ2T05-35□S1**	14.29	9.1	8.4	11	10	15	22.1	22.2	13.3	8.4	7	3.5	16.2

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



Release button dimensions

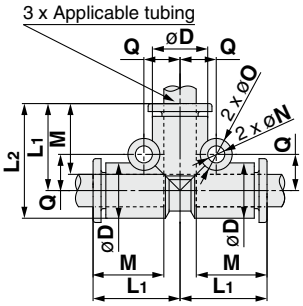


Dimensions

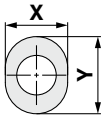
Union Tee: KQ2T



Applicable tubing O.D. [inch]	Model	øD	Release button dimensions X	Release button dimensions Y	L_1	L_2	M	Q	Mounting hole øO	Mounting hole øN	Effective area [mm²] Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	**KQ2T01-00A1**	7.1	6.7	9.5	14.9	18.5	13.3	5.4	6	3.2	7.1	3.4	2.9	2.5	2.3
ø5/32	**KQ2T03-00A1**	8.2	7.7	10	15.3	19.4	13.3	5.7	6	3.2	8.2	6.4	4.4	3	2.8
ø3/16	**KQ2T05-00A1**	9.1	8.4	11	15.7	20.3	13.3	6.2	6	3.2	9.1	8.4	7	3.5	3.2



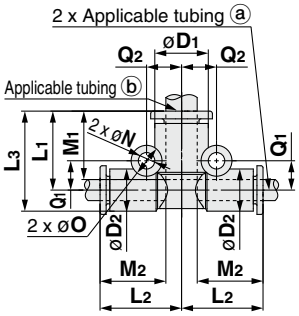
Release button dimensions



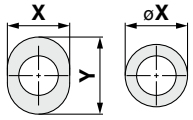
Different Diameter Tee: KQ2T



Applicable tubing O.D. [inch] ⓐ	Applicable tubing O.D. [inch] ⓑ	Model	øD1	Release button dimensions ⓐ X	Release button dimensions ⓐ Y	øD2	Release button dimensions ⓑ øX (X)	Release button dimensions ⓑ Y	L_1	L_2	L_3	M_1	M_2	Q_1	Q_2	Mounting hole øO	Mounting hole øN	Effective area [mm²] Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	ø5/32	**KQ2T01-03A1**	8.2	6.7	9.5	7.1	7.7	10	14.9	15.3	18.5	13.3	13.3	5.4	5.8	6	3.2	8.2	3.8	3.5	3	2.6
	ø1/4	**KQ2T01-07A1**	11.1	6.7	9.5	7.1	10.9	—	14.9	16.5	18.5	13.3	13.3	5.3	7.2	6	3.2	11.1	3.8	3.5	3.2	2.8
ø5/32	ø3/16	**KQ2T03-05A1**	9.1	7.7	10	8.2	8.4	11	15.3	15.7	19.4	13.3	13.3	5.7	6.2	6	3.2	9.1	7.1	6.6	3.5	2.6
	ø1/4	**KQ2T03-07A1**	11.1	7.7	10	8.2	10.9	—	15.3	16.5	19.4	13.3	13.3	5.7	7.2	6	3.2	11.1	7.1	6.6	4.1	3
ø3/16	ø1/4	**KQ2T05-07A1**	11.1	8.4	11	9.1	10.9	—	15.7	16.5	20.3	13.3	13.3	6.2	7.2	6	3.2	11.1	8.4	7	4.6	3.7

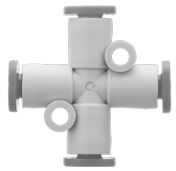


Release button dimensions

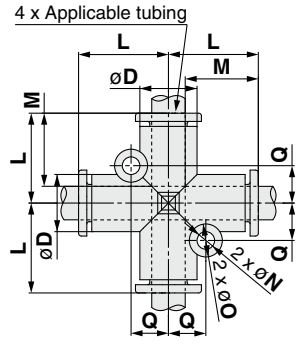


Applicable tubing O.D.: ø1/8", ø5/32", ø3/16"

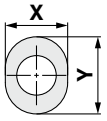
Cross: KQ2TW



Applicable tubing O.D. [inch]	Model	øD	Release button dimensions X	Release button dimensions Y	L	Q	M	Mounting hole øO	Mounting hole øN	Effective area [mm²] Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø5/32	**KQ2TW03-00A1**	8.2	7.7	10	15.3	5.7	13.3	6	3.2	8.2	6.4	4.4	3	3.5



Release button dimensions



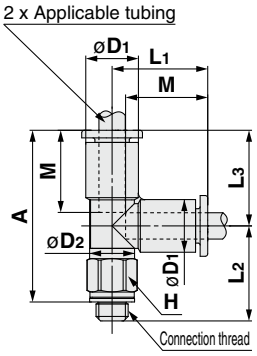
Dimensions

Male Run Tee: KQ2Y (Gasket seal)

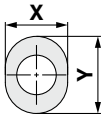


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2Y01-32□1**	7	7.1	6.7	9.5	7	15.3	14.2	15.3	26.5	13.3	3.2	2.7	2.5	3.5
ø5/32	10-32UNF	**KQ2Y03-32□1**	7	8.2	7.7	10	7	15.4	14.7	15.4	27.1	13.3	4.5	4.5	2.5	3.8

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



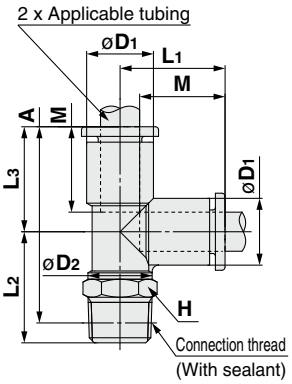
Male Run Tee: KQ2Y (Sealant)



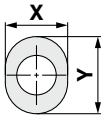
Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/16	**KQ2Y01-33□S1**	11.11	7.1	6.7	9.5	10	14.9	24.2	14.9	35.1	13.3	3.4	2.9	2.5	9.8
	1/8	**KQ2Y01-34□S1**	11.11	7.1	6.7	9.5	10	14.9	16.6	14.9	28.4	13.3	3.4	2.9	2.5	6.1
	1/4	**KQ2Y01-35□S1**	14.29	7.1	6.7	9.5	10	14.9	21	14.9	31.6	13.3	3.4	2.9	2.5	15.6
ø5/32	1/16	**KQ2Y03-33□S1**	11.11	8.2	7.7	10	10	15.3	23.8	15.3	35	13.3	6.4	4.4	3	10.1
	1/8	**KQ2Y03-34□S1**	11.11	8.2	7.7	10	10	15.3	16.2	15.3	28.3	13.3	6.4	4.4	3	6.4
	1/4	**KQ2Y03-35□S1**	14.29	8.2	7.7	10	10	15.3	21.6	15.3	32.5	13.3	6.4	4.4	3	15.9
ø3/16	1/8	**KQ2Y05-34□S1**	11.11	9.1	8.4	11	10	15.7	16.7	15.7	29.2	13.3	8.4	7	3.5	6.7
	1/4	**KQ2Y05-35□S1**	14.29	9.1	8.4	11	10	15.7	22.1	15.7	33.4	13.3	8.4	7	3.5	16.3

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



Release button dimensions

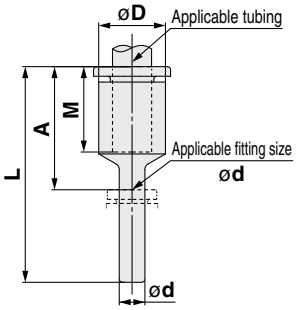


Dimensions

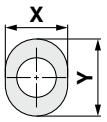
Plug-in Reducer: KQ2R



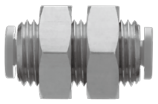
Applicable tubing O.D. [inch]	Applicable fitting size ød [inch]	Model	øD	Release button dimensions X	Release button dimensions Y	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	ø5/32	**KQ2R01-03A1**	7.1	6.7	9.5	28.6	15.3	13.3	3.4	2.9	2.5	0.8
	ø3/16	**KQ2R01-05A1**	7.1	6.7	9.5	28.7	15.4	13.3	3.4	2.9	2.5	0.8
	ø1/4	**KQ2R01-07A1**	7.1	6.7	9.5	28.4	15.1	13.3	3.4	2.9	2.5	1
ø5/32	ø3/16	**KQ2R03-05A1**	8.2	7.7	10	28.7	15.4	13.3	5.6	4	3	1
	ø1/4	**KQ2R03-07A1**	8.2	7.7	10	31.8	18.5	13.3	5.6	4	3	1.2
ø3/16	ø1/4	**KQ2R05-07A1**	9.1	8.4	11	31.4	18.1	13.3	7.8	6.5	3.5	1.3
	ø5/16	**KQ2R05-09A1**	9.1	8.4	11	33.4	19.2	13.3	7.8	6.5	3.5	1.5



Release button dimensions

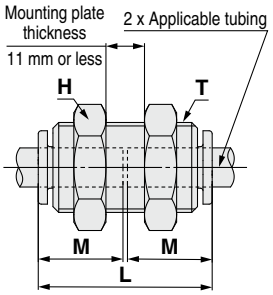


Bulkhead Union: KQ2E (Interchangeable with KQ)

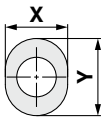


Applicable tubing O.D. [inch]	Model	T (UNF)	H (Width across flats)	Release button dimensions X	Release button dimensions Y	L	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	**KQ2E01-00□1**	1/2-20UNF	17.46	6.7	9.5	27.8	13.5	13.3	3.4	2.9	2.5	26.9
ø5/32	**KQ2E03-00□1**	1/2-20UNF	17.46	7.7	10	27.8	13.5	13.3	5.6	4	3	25.7
ø3/16	**KQ2E05-00□1**	9/16-18UNF	17.46	8.4	11	29.8	15	13.3	7.8	6.5	3.5	40.3

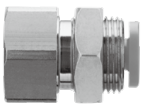
□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

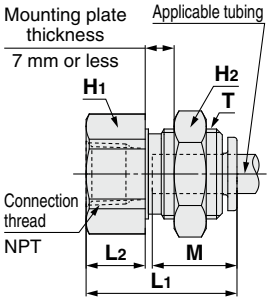


Bulkhead Connector: KQ2E

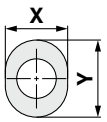


Applicable tubing O.D. [inch]	Connection thread NPT	Model	T (UNF)	H1 (Width across flats)	H2 (Width across flats)	L1	L2	Release button dimensions X	Release button dimensions Y	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/4	**KQ2E01-35□1**	1/2-20UNF	17.46	17.46	28.7	13.3	6.7	9.5	13.5	13.3	3.4	2.9	2.5	33.3
ø5/32	1/4	**KQ2E03-35□1**	1/2-20UNF	17.46	17.46	29	13.6	7.7	10	13.5	13.3	5.6	4	3	33.3
ø3/16	1/8	**KQ2E05-34□1**	9/16-18UNF	17.46	17.46	25.6	9.2	8.4	11	15	13.3	7.8	6.5	3.5	36.6

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



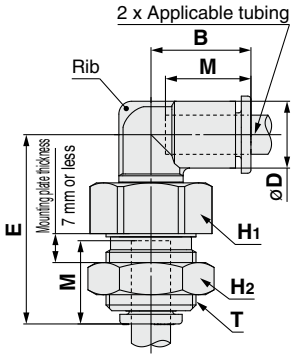
Dimensions

Bulkhead Male Elbow: KQ2LE

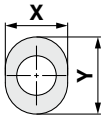


Applicable tubing O.D. [inch]	Model	T (UNF)	H1 (Width across flats)	H2 (Width across flats)	B	E	øD	Release button dimensions X	Release button dimensions Y	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	**KQ2LE01-00□1**	1/2-20UNF	17.46	17.46	14.5	28.9	7.1	6.7	9.5	13.5	13.3	3	2.5	2.5	27.5	—
ø5/32	**KQ2LE03-00□1**	1/2-20UNF	17.46	17.46	14.8	28.5	8.2	7.7	10	13.5	13.3	4.2	4.2	3	27.1	●
ø3/16	**KQ2LE05-00□1**	9/16-18UNF	17.46	17.46	15	29.7	9.1	8.4	11	15	13.3	6.8	5.6	3.5	34.1	—

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

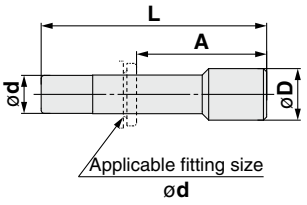


Plug: KQ2P



Applicable fitting size ød [inch]	Model	øD*1	L	A	Weight [g]
ø1/8	**KQ2P-01**	5	31.5	18.2	1
ø5/32	**KQ2P-03**	6	32	18.7	1
ø3/16	**KQ2P-05**	6.8	34	20.7	1
ø1/4	**KQ2P-07**	8.5	35	21.7	1
ø5/16	**KQ2P-09**	10	39	24.8	2
ø3/8	**KQ2P-11**	11.5	43	27.4	3.5
ø1/2	**KQ2P-13**	15	45.5	28.5	5

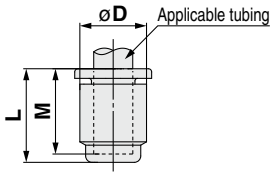
*1 øD is maximum diameter.



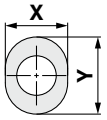
Tube Cap: KQ2C



Applicable tubing O.D. [inch]	Model	øD	Release button dimensions X	Release button dimensions Y	L	M	Weight [g]
ø5/32	**KQ2C03-00A1**	8.2	7.7	10	14.5	13.3	0.8



Release button dimensions

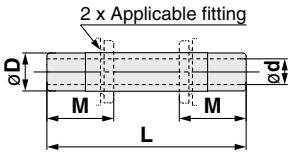


Dimensions

Nipple: KQ2N



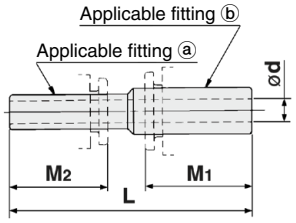
Applicable fitting ø**D**	Model	**L**	**M**	ø**d** Min. port size	Weight [g]
ø1/8	**KQ2N01-99**	36	13.3	2.2	0.2
ø3/16	**KQ2N05-99**	38	13.3	3.5	0.4
ø1/4	**KQ2N07-99**	39	13.3	4.6	1
ø3/8	**KQ2N11-99**	49	15.6	7	2
ø1/2	**KQ2N13-99**	51	17	9.5	3.5



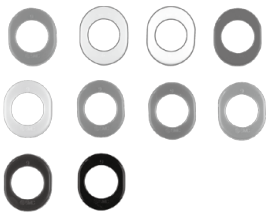
Reducer Nipple: KQ2N



Applicable fitting ⓐ	Applicable fitting ⓑ	Model	**L**	**M1**	**M2**	ø**d** Min. port size	Weight [g]
ø1/8	ø5/32	**KQ2N01-03**	36.5	13.3	13.3	2.2	0.2
	ø3/16	**KQ2N01-05**	37	13.3	13.3	2.2	0.4
ø5/32	ø3/16	**KQ2N03-05**	37.5	13.3	13.3	2.5	0.4
	ø1/4	**KQ2N03-07**	38	13.3	13.3	2.5	0.6
ø3/16	ø1/4	**KQ2N05-07**	38.5	13.3	13.3	3.5	0.6
	ø5/16	**KQ2N05-09**	41	13.3	13.3	3.5	1
ø1/4	ø5/16	**KQ2N07-09**	41.5	13.3	13.3	4.6	1
	ø3/8	**KQ2N07-11**	45	15.6	13.3	4.6	1
ø5/16	ø3/8	**KQ2N09-11**	46.5	15.6	14.2	6	1.8
	ø1/2	**KQ2N09-13**	47.5	17	14.2	6	2.6
ø3/8	ø1/2	**KQ2N11-13**	50	17	15.6	7	3.2

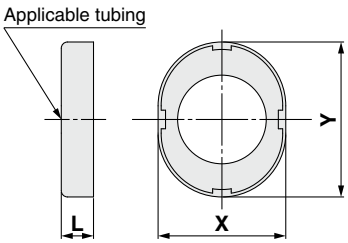


Color Cap: KQ2C



Applicable tubing O.D. [inch]	Model	**X**	**Y**	**L**	Weight [g]
ø1/8	**KQ2C-01□B**	7.3	10	2.6	0.1
ø3/16	**KQ2C-05□B**	9	11.5	2.6	0.1

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)



KQ2 Series
Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

1 Made to Order

Symbol	Specifications
X12	Lubricant: White vaseline Release button color: White
X35∗1	Body color: Black Release button color: Orange
X41	With fixed orifice∗2

∗1 The following models are not available as made-to-order: Hexagon socket head male connector/KQ2S, Bulkhead union/KQ2E, Bulkhead connector/KQ2E, Nipple/KQ2N, Reducer nipple/KQ2N, Male connector/KQ2H, Female connector/KQ2F, Color cap/KQ2C, Plug/KQ2P

∗2 Please contact SMC for availability.

The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.

Symbol	Specifications
X17	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
X29	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Copper-free (With electroless nickel plating)
X34	Rubber material: FKM
X39	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Clean (Copper-free, air blow, double packaging, resin body: white)
X94	Grease-free Rubber material: FKM (With fluorine coating) Release button color: Light blue

2 Clean Series

Symbol	Specifications
10-	Brass parts: With electroless nickel plating Lubricant: Fluorine grease Air blow in a clean room Double packaging Resin body, Release button color: White

Example) **10-KQ2H05-35NS1** (With thread)

10-KQ2H05-00A1 (Without thread)

3 Spare Parts

Description	Part no.	Applicable thread
Gasket	**M-5G2**	10-32UNF

KQ2-A Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ01-P01A**	KQ2E01-00A1, KQ2E03-00A1, KQ2E01-35A1 KQ2E03-35A1, KQ2LE01-00A, KQ2LE03-00A1	Brass	—
	KQ05-P01A	KQ2E05-00A1, KQ2E05-34A1, KQ2LE05-00A1		

KQ2-N Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ01-P01N**	KQ2E01-00N1, KQ2E03-00N1, KQ2E01-35N1 KQ2E03-35N1, KQ2LE01-00N1, KQ2LE03-00N1	Brass	Electroless nickel plating
	KQ05-P01N	KQ2E05-00N1, KQ2E05-34N1, KQ2LE05-00N1		

Oval Type Inch Size One-touch Fittings

Applicable Tubing: Inch Size, Connection Thread: M, R, Rc

KQ2 Series

Guide

Chuck

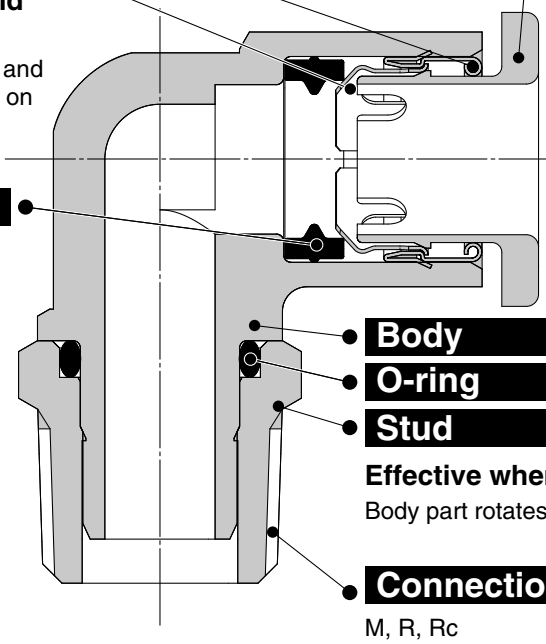
Suitable for use with nylon and urethane.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

The use of a special profile ensures sealing and reduces resistance when the tube is inserted.



Release button (Orange)

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

Stud

Effective when piping in a confined space.

Body part rotates allowing for positioning.

Connection thread

M, R, Rc

One-touch IN/OUT connection. Possible to use in vacuum to –100 kPa.



Made to Order

Made to Order
(Refer to page 55 for details.)

Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø1/8", ø3/16"

Specifications

Fluid		Air, Water*1 *2
Operating pressure range*3		–100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		–5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	JIS B0203 (Taper thread for piping) JIS B0205 (Metric coarse thread)
	Nut section	JIS B0205 (Metric fine thread)
Seal on the threads		With sealant

*1 The surge pressure must be under the maximum operating pressure.

*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR

How to Order

Threaded Type **KQ2 H 05 – 01 A S 1**

One-touch Fittings

Model

Symbol	Model
H	Male connecter
L	Male elbow
T	Male branch tee
W	Extended male elbow
Y	Male run tee
E	Bulkhead union
	Bulkhead connector

Applicable tubing O.D.

Symbol	Size
01	ø1/8"
05	ø3/16"

Port size

Symbol	Size
M5	M5 x 0.8
01	R1/8, Rc1/8
02	R1/4, Rc1/4
00∗1	Same diameter tubing

∗1 Only for "Bulkhead union".

Thread material/Surface treatment

Symbol		Thread material/Surface treatment
A		Brass
N		Brass + Electroless nickel plating
Bulkhead union	**M□**	Only for "Bulkhead union"

∗ □: A, N

Male thread seal method

Symbol	Seal method
Nil	None
S	With thread sealant

Oval type release button

For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Spare Parts

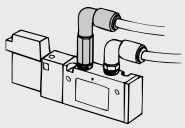
Use the part number below to order the gasket for M5 thread.
Gasket for M5 thread: M-5G2

Oval Type Variations

Extended male elbow
KQ2W P.53



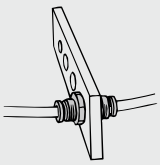
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Bulkhead union
KQ2E P.54



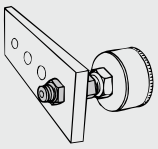
Use to connect tubing through a panel, etc.



Bulkhead connector
KQ2E P.54



Use to connect a male thread and tubing through a panel, etc.



Male connector
KQ2H P.52



Use to pipe a female thread in the same direction. Most general model.

Male branch tee
KQ2T P.53



Use to branch a female thread at both 90° angles.

Male elbow
KQ2L P.52



Use to pipe a female thread at right angles. Most general model.

Male run tee
KQ2Y P.53



Use to branch a female thread in the same direction and at a 90° angle.

Tubing — One-touch fittings	Tubing — Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

Refer to page 31 and after for details.

This model does not support oval type release buttons. Refer to the round type (from page 157).

Branch "Y"
KQ2U P.162



⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

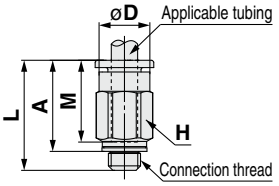
Dimensions

Male Connector: KQ2H (Gasket seal)

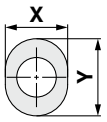


Applicable tubing O.D. [inch]	Connection thread M	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	M5 x 0.8	**KQ2H01-M5□1**	7	6.9	6.7	9.5	17.3	14.3	13.3	3.0	2.5	2.5	2.7
ø3/16	M5 x 0.8	**KQ2H05-M5□1**	10	8.6	8.4	11	17.6	14.6	13.3	4.0	4.0	2.5	4.6

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



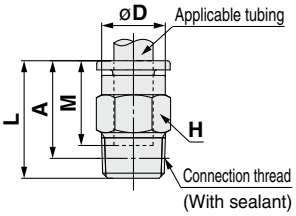
Male Connector: KQ2H (Sealant)



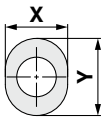
Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2H01-01□S1**	10	—	6.7	9.5	14	10.9	13.3	3.4	2.9	2.5	6
	1/4	**KQ2H01-02□S1**	14	—	6.7	9.5	16.7	12	13.3	3.4	2.9	2.5	15.3
ø3/16	1/8	**KQ2H05-01□S1**	10	8.6	8.4	11	17.9	14.8	13.3	7.8	6.5	3.5	6.4
	1/4	**KQ2H05-02□S1**	14	—	8.4	11	16.7	12	13.3	7.8	6.5	3.5	13.9

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions

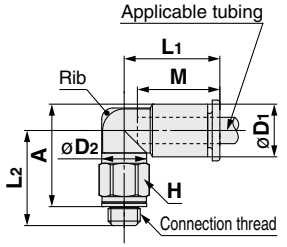


Male Elbow: KQ2L (Gasket seal)

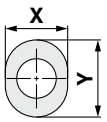


Applicable tubing O.D. [inch]	Connection thread M	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	M5 x 0.8	**KQ2L01-M5□1**	7	7.1	6.7	9.5	7	15.3	14.3	14.9	13.3	2.6	2.2	2.5	3.1	●

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



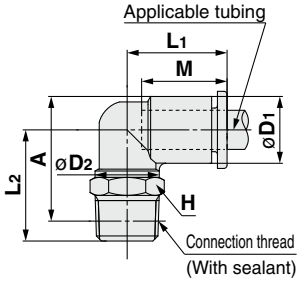
Male Elbow: KQ2L (Sealant)



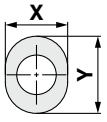
Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	**KQ2L05-01□S1**	10	9.1	8.4	11	10	15	16.7	18.2	13.3	6.8	5.6	3.5	5
	1/4	**KQ2L05-02□S1**	14	9.1	8.4	11	10	15	22.2	22.1	13.3	6.8	5.6	3.5	14.5

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions



Dimensions

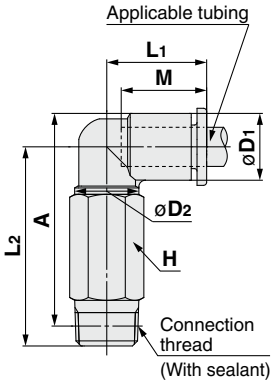
Extended Male Elbow: KQ2W (Sealant)



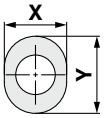
Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	KQ2W05-01□S1	10	9.1	8.4	11	10	15	30.4	31.8	13.3	6.8	5.6	3.5	11.2
	1/4	KQ2W05-02□S1	14	9.1	8.4	11	10	15	33.8	33.7	13.3	6.8	5.6	3.5	27.7

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions



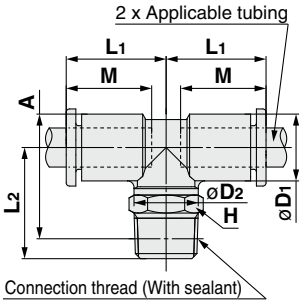
Male Branch Tee: KQ2T (Sealant)



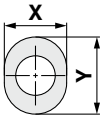
Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	KQ2T05-01□S1	10	9.1	8.4	11	10	15	16.7	18.1	13.3	8.4	7	3.5	5.8
	1/4	KQ2T05-02□S1	14	9.1	8.4	11	10	15	22.2	22	13.3	8.4	7	3.5	15.3

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



Release button dimensions



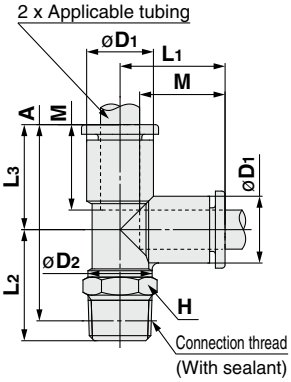
Male Run Tee: KQ2Y (Sealant)



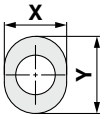
Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	KQ2Y05-01□S1	10	9.1	8.4	11	10	15.7	16.7	15.7	29.3	13.3	8.4	7	3.5	5.9
	1/4	KQ2Y05-02□S1	14	9.1	8.4	11	10	15.7	22.2	15.7	33.2	13.3	8.4	7	3.5	15.4

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread

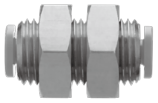


Release button dimensions



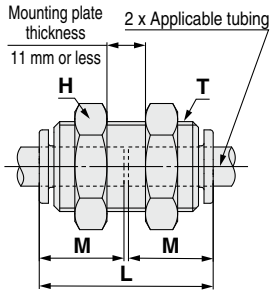
Dimensions

Bulkhead Union: KQ2E

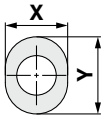


Applicable tubing O.D. [inch]	Model	T (M)	H (Width across flats)	Release button dimensions X	Release button dimensions Y	L	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	**KQ2E05-00M□1**	M14 x 1	17	8.4	11	27.3	15	13.3	7.8	6.5	3.5	30.5

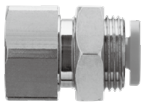
□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

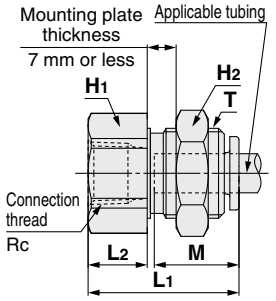


Bulkhead Connector: KQ2E

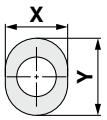


Applicable tubing O.D. [inch]	Connection thread Rc	Model	T (M)	Release button dimensions X	Release button dimensions Y	H1 (Width across flats)	H2 (Width across flats)	L1	L2	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	**KQ2E05-01□1**	M14 x 1	8.4	11	17	17	23.9	9.5	15	13.3	7.8	6.5	3.5	30.8

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



KQ2 Series
Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

1 Made to Order

Symbol	Specifications
X12	Lubricant: White vaseline Release button color: White
X35∗1	Body color: Black Release button color: Orange
X41	With fixed orifice∗2

∗1 The following models are not available as made-to-order: Bulkhead union/KQ2E, Bulkhead connector/KQ2E, Male connector/KQ2H

∗2 Please contact SMC for availability.

The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.

Symbol	Specifications
X17	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
X29	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Copper-free (With electroless nickel plating)
X34	Rubber material: FKM
X39	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Clean (Copper-free, air blow, double packaging, resin body: white)
X94	Grease-free Rubber material: FKM (With fluorine coating) Release button color: Light blue

2 Clean Series

Symbol	Specifications
10-	Brass parts: With electroless nickel plating Lubricant: Fluorine grease Air blow in a clean room Double packaging Resin body, Release button color: White

Example) **10-KQ2H05-02NS1**

3 Spare Parts

Description	Part no.	Applicable thread
Gasket	**M-5G2**	M5

KQ2-A Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ06-P01A**	KQ2E05-00MA1, KQ2E05-01A1	Steel	Zinc chromated

KQ2-N Series

Description	Replacement parts no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ06-P01N**	KQ2E05-00MN1, KQ2E05-01N1	Steel	Nickel plating

Oval Type Metric Size One-touch Fittings

Applicable Tubing: Metric Size, Connection Thread: G

KQ2 Series

Guide

Chuck

Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

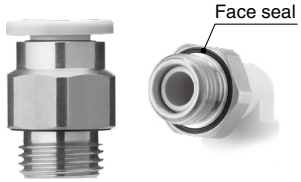
Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

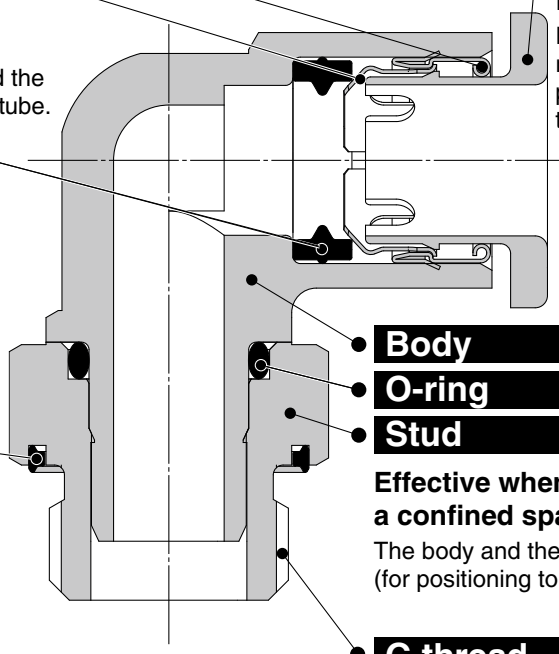
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Face seal method

Seal ring

Piping installability is improved by changing to the face seal structure.





Release button

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

Stud

Effective when piping in a confined space.

The body and the threaded portion can rotate (for positioning to some extent).

G thread

Applicable to parallel pipe thread (G).

Drastically reduces screw-in time with the face seal method.



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø4, ø6

Specifications

Fluid		Air, Water*1 *2
Operating pressure range*3		−100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		−5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	ISO 16030 (Parallel pipe thread)
	Nut section	JIS B0205 (Metric fine thread)
Seal on the threads		Seal ring

*1 The surge pressure must be under the maximum operating pressure.
*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.
*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring, Seal ring	NBR

How to Order

Threaded Type **KQ2 H 06 – G01 A 1**

One-touch fittings

Model

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
F	Female connector
L	Male elbow
V	Universal male elbow
W	Extended male elbow
T	Male branch tee
Y	Male run tee
E	Bulkhead connector

Applicable tubing O.D.

Symbol	Size
04	ø4
06	ø6

Port size

Symbol		Size
Thread connection	**G01**	G1/8
	G02	G1/4
	G03	G3/8

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

Oval type release button

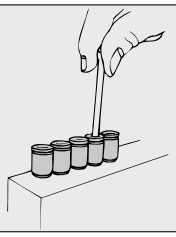
For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Oval Type Variations

Hexagon socket head male connector
KQ2S P.60



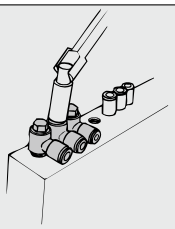
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



Universal male elbow
KQ2V P.61



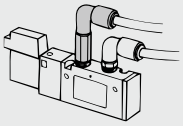
Hexagon head of the body allows tightening with a box wrench in confined spaces.



Extended male elbow
KQ2W P.61



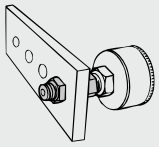
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Bulkhead connector
KQ2E P.62



Use to connect a male thread and tubing through a panel, etc.



Male connector
KQ2H P.60



Use to pipe a female thread in the same direction. Most general model.

Male elbow
KQ2L P.60



Use to pipe a female thread at right angles. Most general model.

Male run tee
KQ2Y P.62



Use to branch a female thread in the same direction and at a 90° angle.

Female connector
KQ2F P.60



Use to pipe a male thread of a pressure gauge, etc.

Male branch tee
KQ2T P.61



Use to branch a female thread at both 90° angles.

Tubing — One-touch fittings	Tubing — Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

Refer to page 7 and after for details.

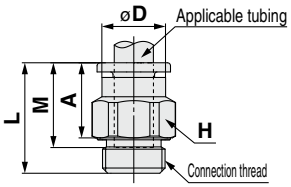
Dimensions

Male Connector: KQ2H (Face seal)

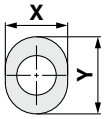


Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2H04-G01□1	12	7.9	7.7	10	17.1	11.6	13.3	4.8	3.4	3	7.7
	1/4	KQ2H04-G02□1	17	—	7.7	10	15.4	8.9	13.3	4.8	3.4	3	16.8
ø6	1/8	KQ2H06-G01□1	12	9.9	9.7	12	17.3	11.8	13.3	13.1	10.4	4.5	6.6
	1/4	KQ2H06-G02□1	17	—	9.7	12	15.4	8.9	13.3	13.1	10.4	4.5	14.8
	3/8	KQ2H06-G03□1	21	—	9.7	12	16.4	8.9	13.3	13.1	10.4	4.5	27.1

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

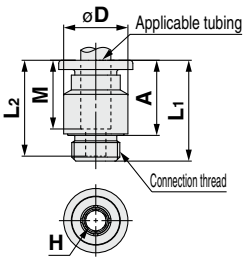


Hexagon Socket Head Male Connector: KQ2S (Face seal)

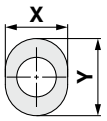


Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2S04-G01□1	3	13	7.7	10	20.6	19.6	15.1	13.3	4.1	3.6	3.1	11.6
ø6	1/8	KQ2S06-G01□1	4	13	9.7	12	19.8	18.8	14.3	13.3	10	9.9	4.1	9.7
	1/4	KQ2S06-G02□1	4	18	9.7	12	19.8	18.8	13.3	13.3	10.7	10	4.1	18

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

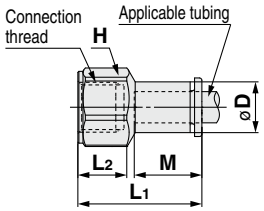


Female Connector: KQ2F

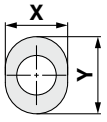


Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2F04-G01□1	14	7.9	7.7	10	24.7	9.5	13.3	5.6	4	3	12.4
	1/4	KQ2F04-G02□1	17	7.9	7.7	10	30.1	13.9	13.3	5.6	4	3	21.3
ø6	1/8	KQ2F06-G01□1	14	9.9	9.7	12	24.3	9.5	13.3	13.1	10.4	4.5	12.6
	1/4	KQ2F06-G02□1	17	9.9	9.7	12	29.6	13.9	13.3	13.1	10.4	4.5	21.4
	3/8	KQ2F06-G03□1	21	9.9	9.7	12	31.1	13.7	13.3	13.1	10.4	4.5	29.6

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

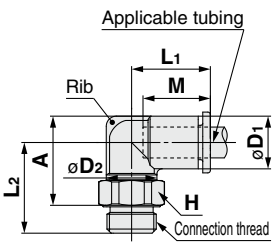


Male Elbow: KQ2L (Face seal)

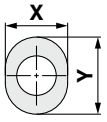


Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø4	1/8	KQ2L04-G01□1	12	8.2	7.7	10	10	14.8	16.8	15.4	13.3	4.6	3.3	3	6.3	●
	1/4	KQ2L04-G02□1	17	8.2	7.7	10	10	14.8	20.3	17.9	13.3	4.6	3.3	3	16.7	●
ø6	1/8	KQ2L06-G01□1	12	10.4	9.7	12	10	15.5	17.9	17.6	13.3	11.4	9	4.5	6.7	—
	1/4	KQ2L06-G02□1	17	10.4	9.7	12	10	15.5	21.4	20.1	13.3	11.4	9	4.5	17.2	—
	3/8	KQ2L06-G03□1	21	10.4	9.7	12	10	15.5	22.4	20.1	13.3	11.4	9	4.5	28.9	—

□: A (Brass), N (Brass + Electroless nickel plating)

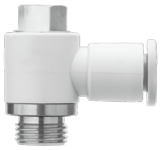


Release button dimensions



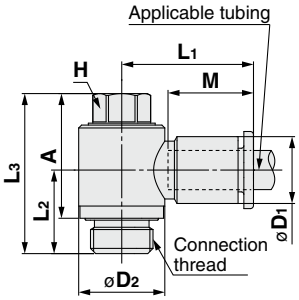
Dimensions

Universal Male Elbow: KQ2V (Face seal)

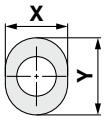


Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2V04-G01□1	8	8.2	7.7	10	13.4	19.3	13	24.9	19.4	13.3	2.9	2.9	3	12.9
ø6	1/8	KQ2V06-G01□1	8	10.4	9.7	12	13.4	20.5	13	24.9	19.4	13.3	7.5	5.9	4.5	13.2
	1/4	KQ2V06-G02□1	10	10.4	9.7	12	18	19.9	15	27.6	21.1	13.3	7.5	5.9	4.5	22.7

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

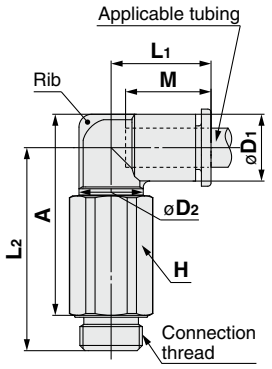


Extended Male Elbow: KQ2W (Face seal)

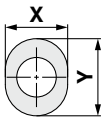


Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø4	1/8	KQ2W04-G01□1	12	8.2	7.7	10	10	14.8	30.5	29.1	13.3	4	4	3	16.5	●
	1/4	KQ2W04-G02□1	17	8.2	7.7	10	10	14.8	31.2	28.8	13.3	4	4	3	35.8	●
ø6	1/8	KQ2W06-G01□1	12	10.4	9.7	12	10	15.5	31.6	31.3	13.3	10.9	8.6	4.5	17	—
	1/4	KQ2W06-G02□1	17	10.4	9.7	12	10	15.5	32.3	31	13.3	10.9	8.6	4.5	36.2	—
	3/8	KQ2W06-G03□1	21	10.4	9.7	12	10	15.5	33.3	31	13.3	10.9	8.6	4.5	59.4	—

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

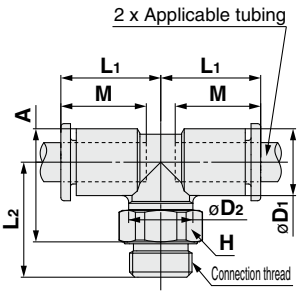


Male Branch Tee: KQ2T (Face seal)

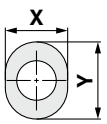


Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2T04-G01□1	12	8.2	7.7	10	10	14.8	16.8	15.4	13.3	6	4.1	3	7
	1/4	KQ2T04-G02□1	17	8.2	7.7	10	10	14.8	20.3	17.9	13.3	6	4.1	3	17.4
ø6	1/8	KQ2T06-G01□1	12	10.4	9.7	12	10	15.5	17.9	17.6	13.3	13.9	11	4.5	7.6
	1/4	KQ2T06-G02□1	17	10.4	9.7	12	10	15.5	21.4	20.1	13.3	13.9	11	4.5	18.1
	3/8	KQ2T06-G03□1	21	10.4	9.7	12	10	15.5	22.4	20.1	13.3	13.9	11	4.5	29.8

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



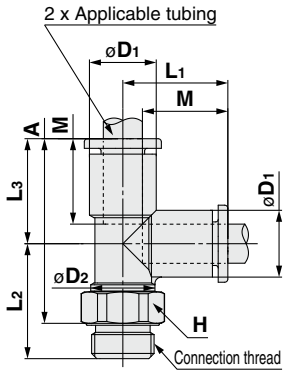
Dimensions

Male Run Tee: KQ2Y (Face seal)

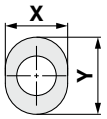


Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2Y04-G01□1	12	8.2	7.7	10	10	15.3	16.8	15.3	26.6	13.3	6.4	4.4	3	7
	1/4	KQ2Y04-G02□1	17	8.2	7.7	10	10	15.3	20.3	15.3	29.1	13.3	6.4	4.4	3	17.5
ø6	1/8	KQ2Y06-G01□1	12	10.4	9.7	12	10	16.3	17.9	16.3	28.7	13.3	13.4	10.6	4.5	7.7
	1/4	KQ2Y06-G02□1	17	10.4	9.7	12	10	16.3	21.4	16.3	31.2	13.3	13.4	10.6	4.5	18.2
	3/8	KQ2Y06-G03□1	21	10.4	9.7	12	10	16.3	22.4	16.3	31.2	13.3	13.4	10.6	4.5	29.9

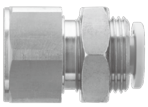
□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

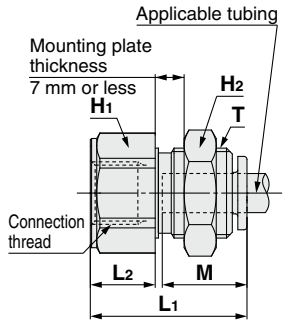


Bulkhead Connector: KQ2E

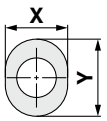


Applicable tubing O.D. [mm]	Connection thread G	Model	T (M)	H1 (Width across flats)	H2 (Width across flats)	L1	L2	Release button dimensions X	Release button dimensions Y	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2E04-G01□1	M12 x 1	14	14	25.1	10.7	7.7	10	13	13.3	5.6	4	3	21.3
	1/4	KQ2E04-G02□1	M12 x 1	17	14	30.7	16.3	7.7	10	13	13.3	5.6	4	3	31.5
ø6	1/8	KQ2E06-G01□1	M14 x 1	17	17	24.5	10.1	9.7	12	15	13.3	13.1	10.4	4.5	29.8
	1/4	KQ2E06-G02□1	M14 x 1	17	17	30	15.6	9.7	12	15	13.3	13.1	10.4	4.5	32.8
	3/8	KQ2E06-G03□1	M14 x 1	21	17	32	17.6	9.7	12	15	13.3	13.1	10.4	4.5	45.5

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



KQ2 Series
Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

1 Spare Parts

KQ2-A Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ04-P01A**	KQ2E04-G01A1, KQ2E04-G02A1	Steel	Zinc chromated
	KQ06-P01A	KQ2E06-G01A1, KQ2E06-G02A1, KQ2E06-G03A1		

KQ2-N Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ04-P01N**	KQ2E04-G01N1, KQ2E04-G02N1	Steel	Nickel plating
	KQ06-P01N	KQ2E06-G01N1, KQ2E06-G02N1, KQ2E06-G03N1		

Oval Type Metric Size One-touch Fittings

Applicable Tubing: Metric Size, Connection Thread: R, Rc

KQ2 Series

Guide

Chuck

Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

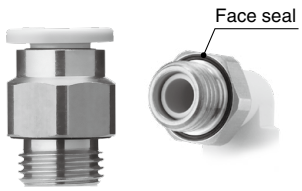
Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

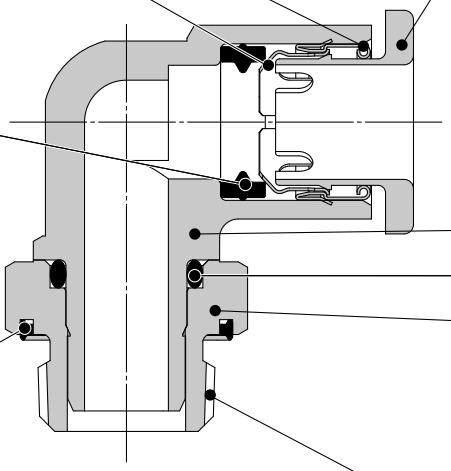
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Face seal method

Seal ring

Piping installability is improved by changing to the face seal structure.





Release button

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

Stud

Effective when piping in a confined space.

Body part rotates allowing for positioning.

Connection thread

R, Rc

One-touch IN/OUT connection. Possible to use in vacuum to –100 kPa.

Drastically reduces screw-in time with the face seal method.

Original thread construction which allows for the use of piping taper female thread (Rc)



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø3.2, ø4, ø6

Specifications

Fluid		Air, Water*1 *2
Operating pressure range*3		–100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		–5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	JIS B0203 (Taper thread for piping) JIS B0205 (Metric coarse thread)
	Nut section	JIS B0205 (Metric fine thread)
Seal on the threads		Seal ring

*1 The surge pressure must be under the maximum operating pressure.

*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring, Seal ring	NBR

How to Order

Threaded Type **KQ2 H 06 – 01 A P 1**

- KQ2: One-touch fittings
- H: Model
- 06: Applicable tubing O.D.
- 01: Port size
- A: Thread material/Surface treatment
- P: Face seal
- 1: Oval type release button

Model

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
L	Male elbow
K	45° male elbow
V	Universal male elbow
VS	Hexagon socket head universal male elbow
VF	Universal female elbow
VD	Double universal male elbow
VT	Triple universal male elbow
W	Extended male elbow
T	Male branch tee
Y	Male run tee
D	Male delta union

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

Port size

Symbol		Size
Thread connection	**01**	R1/8, Rc1/8
	02	R1/4, Rc1/4
	03	R3/8, Rc3/8

Applicable tubing O.D.

Symbol	Size
23	ø3.2
04	ø4
06	ø6

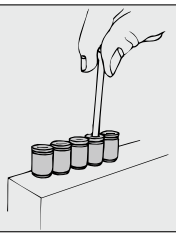
For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Oval Type Variations

Hexagon socket head male connector
KQ2S P.68



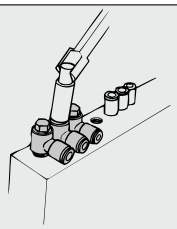
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



Universal male elbow
KQ2V P.69



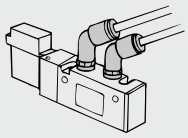
Hexagon head of the body allows tightening with a box wrench in confined spaces.



45° male elbow
KQ2K P.68



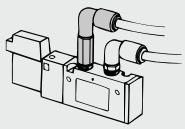
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



Extended male elbow
KQ2W P.71



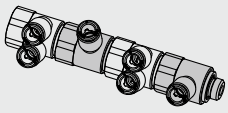
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Universal female elbow
KQ2VF P.69



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.



Male connector
KQ2H P.68



Use to pipe a female thread in the same direction. Most general model.

Hexagon socket head universal male elbow
KQ2VS P.69



Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

Male run tee
KQ2Y P.71



Use to branch a female thread in the same direction and at a 90° angle.

Male elbow
KQ2L P.68



Use to pipe a female thread at right angles. Most general model.

Double universal male elbow
KQ2VD P.70



Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

Male delta union
KQ2D P.72



Use to branch a female thread at two right angles.

Male branch tee
KQ2T P.71



Use to branch a female thread at both 90° angles.

Triple universal male elbow
KQ2VT P.70



Use to three-branch a female thread at right angles. Three individual parts rotate 360°.

Tubing — One-touch fittings	Tubing — Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

Refer to page 7 and after for details.

The following models do not support oval type release buttons. Refer to the round type (from page 173).

Branch universal female elbow
KQ2ZF P.180



Branch male elbow
KQ2LU P.177



Branch universal male elbow
KQ2Z P.180



Double branch universal male elbow
KQ2ZD P.180



Triple branch universal male elbow
KQ2ZT P.181



Double branch "Y"
KQ2UD P.184



Branch "Y"
KQ2U P.183



⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

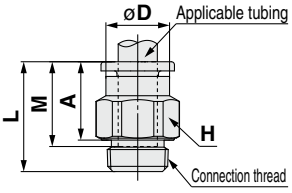
Dimensions

Male Connector: KQ2H (Face seal)

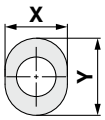


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	KQ2H23-01□P1	12	6.9	6.7	9.5	14.1	8.9	13.3	3.4	2.9	2.5	6.3
	1/4	KQ2H23-02□P1	17	—	6.7	9.5	15	7.4	13.3	3.4	2.9	2.5	15.1
ø4	1/8	KQ2H04-01□P1	12	7.9	7.7	10	16.4	11.2	13.3	4.8	3.4	3	6.9
	1/4	KQ2H04-02□P1	17	—	7.7	10	15	7.4	13.3	4.8	3.4	3	14.5
ø6	1/8	KQ2H06-01□P1	12	9.9	9.7	12	17.2	12	13.3	13.1	10.4	4.5	6.5
	1/4	KQ2H06-02□P1	17	—	9.7	12	14	6.4	13.3	13.1	10.4	4.5	10.6
	3/8	KQ2H06-03□P1	21	—	9.7	12	15.2	7.6	13.3	13.1	10.4	4.5	22.8

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

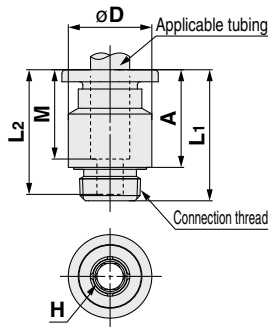


Hexagon Socket Head Male Connector: KQ2S (Face seal)

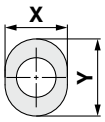


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2S04-01□P1	3	13	7.7	10	20.6	19.6	15.4	13.3	4.1	3.6	3.1	11.6
ø6	1/8	KQ2S06-01□P1	4	13	9.7	12	19.8	18.8	14.6	13.3	10	10	4	9.6
	1/4	KQ2S06-02□P1	4	18	9.7	12	19.8	18.8	12.2	13.3	10.7	10	4.1	16.3

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

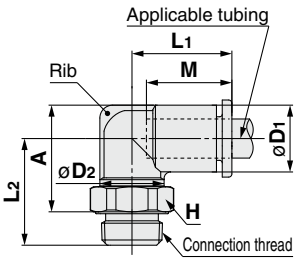


Male Elbow: KQ2L (Face seal)

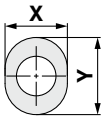


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3.2	1/8	KQ2L23-01□P1	12	7.1	6.7	9.5	10	14.5	16	14.3	13.3	3	2.5	2.5	5.1	—
	1/4	KQ2L23-02□P1	17	7.1	6.7	9.5	10	14.5	19.4	15.3	13.3	3	2.5	2.5	14.3	—
ø4	1/8	KQ2L04-01□P1	12	8.2	7.7	10	10	14.8	15.5	14.4	13.3	4.6	3.3	3	5.2	●
	1/4	KQ2L04-02□P1	17	8.2	7.7	10	10	14.8	19.9	16.4	13.3	4.6	3.3	3	14.5	●
ø6	1/8	KQ2L06-01□P1	12	10.4	9.7	12	10	15.5	16.6	16.6	13.3	11.4	9	4.5	5.7	—
	1/4	KQ2L06-02□P1	17	10.4	9.7	12	10	15.5	21	18.6	13.3	11.4	9	4.5	15	—
	3/8	KQ2L06-03□P1	21	10.4	9.7	12	10	15.5	23	20.6	13.3	11.4	9	4.5	30.2	—

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

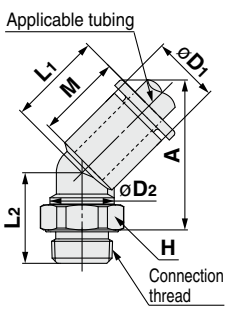


45° Male Elbow: KQ2K (Face seal)

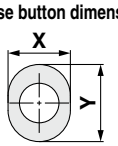


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2K04-01□P1	12	8.2	7.7	10	10	14.4	12	19.5	13.3	4.8	3.4	3	5.1
	1/4	KQ2K04-02□P1	17	8.2	7.7	10	10	14.4	15.4	20.5	13.3	4.8	3.4	3	14.3
ø6	1/8	KQ2K06-01□P1	12	10.4	9.7	12	10	14.7	14.1	22.5	13.3	8.7	6.9	4.5	5.5
	1/4	KQ2K06-02□P1	17	10.4	9.7	12	10	14.7	17.5	23.5	13.3	8.7	6.9	4.5	14.7
	3/8	KQ2K06-03□P1	21	10.4	9.7	12	10	14.7	19.5	25.5	13.3	8.7	6.9	4.5	29.9

□: A (Brass), N (Brass + Electroless nickel plating)

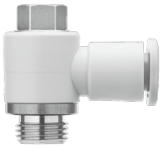


Release button dimensions



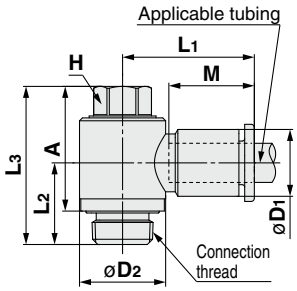
Dimensions

Universal Male Elbow: KQ2V (Face seal)

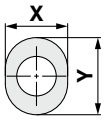


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2V04-01□P1	8	8.2	7.7	10	13.4	19.3	12.7	24.6	19.4	13.3	2.9	2.9	3	12.6
ø6	1/8	KQ2V06-01□P1	8	10.4	9.7	12	13.4	20.5	12.7	24.6	19.4	13.3	7.5	5.9	4.5	12.9
	1/4	KQ2V06-02□P1	10	10.4	9.7	12	18	19.9	16.1	28.7	21.1	13.3	7.5	5.9	4.5	23.2

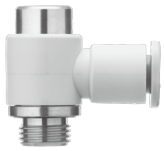
□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

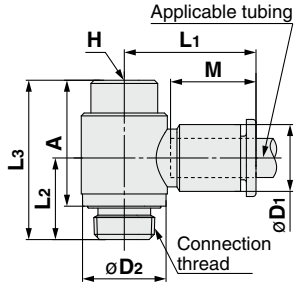


Hexagon Socket Head Universal Male Elbow: KQ2VS (Face seal)

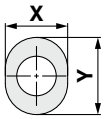


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VS04-01□P1	6	8.2	7.7	10	13.4	19.3	12.7	24.8	19.6	13.3	2.9	2.9	3	12.6
ø6	1/8	KQ2VS06-01□P1	6	10.4	9.7	12	13.4	20.5	12.7	24.8	19.6	13.3	7.5	5.9	4.5	12.9
	1/4	KQ2VS06-02□P1	6	10.4	9.7	12	18	19.9	16.1	24.7	17.1	13.3	7.5	5.9	4.5	19.2

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

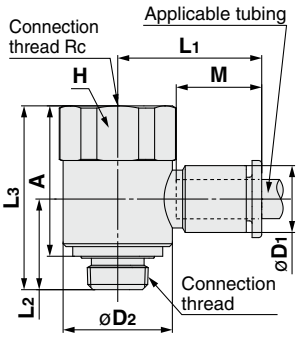


Universal Female Elbow: KQ2VF (Face seal)

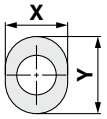


Applicable tubing O.D. [mm]	Connection thread R, Rc	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VF04-01□P1	17	8.2	7.7	10	17	21.2	14.1	28.6	23.4	13.3	2.9	2.9	3	28.5
ø6	1/8	KQ2VF06-01□P1	17	10.4	9.7	12	17	22.4	14.1	28.6	23.4	13.3	7.5	5.9	4.5	28.9
	1/4	KQ2VF06-02□P1	22	10.4	9.7	12	21.7	23.2	17.6	36.4	28.8	13.3	7.5	5.9	4.5	60.3

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



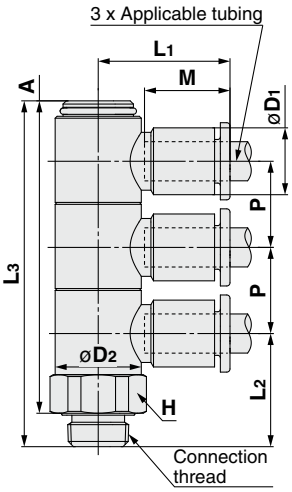
Dimensions

Triple Universal Male Elbow: KQ2VT (Face seal)

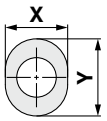


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VT04-01□P1	14	8.2	7.7	10	13.4	19.3	17.6	53.8	48.6	13.3	13.4	2.9	2.9	3	27.5
	1/4	KQ2VT04-02□P1	17	8.2	7.7	10	13.4	19.3	21	57.2	49.6	13.3	13.4	2.9	2.9	3	36.8
	3/8	KQ2VT04-03□P1	21	8.2	7.7	10	13.4	19.3	23	59.2	51.6	13.3	13.4	2.9	2.9	3	54.4
ø6	1/8	KQ2VT06-01□P1	14	10.4	9.7	12	13.4	20.5	17.6	53.8	48.6	13.3	13.4	7.5	5.9	4.5	28.5
	1/4	KQ2VT06-02□P1	17	10.4	9.7	12	13.4	20.5	21	57.2	49.6	13.3	13.4	7.5	5.9	4.5	37.8
	3/8	KQ2VT06-03□P1	21	10.4	9.7	12	13.4	20.5	23	59.2	51.6	13.3	13.4	7.5	5.9	4.5	55.4

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

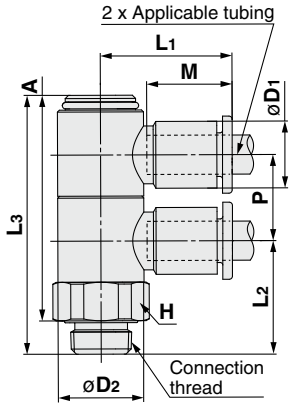


Double Universal Male Elbow: KQ2VD (Face seal)

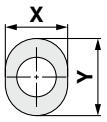


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VD04-01□P1	14	8.2	7.7	10	13.4	19.3	17.6	40.3	35.1	13.3	13.4	2.9	2.9	3	22
	1/4	KQ2VD04-02□P1	17	8.2	7.7	10	13.4	19.3	21	43.7	36.1	13.3	13.4	2.9	2.9	3	31.2
	3/8	KQ2VD04-03□P1	21	8.2	7.7	10	13.4	19.3	23	45.7	38.1	13.3	13.4	2.9	2.9	3	48.7
ø6	1/8	KQ2VD06-01□P1	14	10.4	9.7	12	13.4	20.5	17.6	40.3	35.1	13.3	13.4	7.5	5.9	4.5	22.6
	1/4	KQ2VD06-02□P1	17	10.4	9.7	12	13.4	20.5	21	43.7	36.1	13.3	13.4	7.5	5.9	4.5	31.8
	3/8	KQ2VD06-03□P1	21	10.4	9.7	12	13.4	20.5	23	45.7	38.1	13.3	13.4	7.5	5.9	4.5	49.3

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



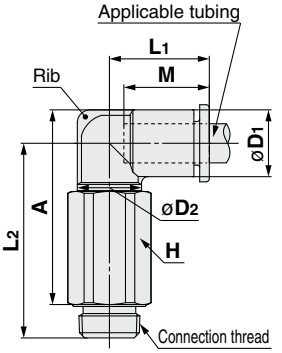
Dimensions

Extended Male Elbow: KQ2W (Face seal)

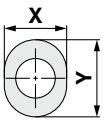


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3.2	1/8	KQ2W23-01□P1	12	7.1	6.7	9.5	10	14.5	29.6	28	13.3	2.8	2.4	2.5	15.3	—
	1/4	KQ2W23-02□P1	17	7.1	6.7	9.5	10	14.5	31	27	13.3	2.8	2.4	2.5	34.6	—
ø4	1/8	KQ2W04-01□P1	12	8.2	7.7	10	10	14.8	29.2	28.1	13.3	4	4	3	15.5	●
	1/4	KQ2W04-02□P1	17	8.2	7.7	10	10	14.8	31.5	28	13.3	4	4	3	34.9	●
ø6	1/8	KQ2W06-01□P1	12	10.4	9.7	12	10	15.5	30.3	30.3	13.3	10.9	8.6	4.5	15.9	—
	1/4	KQ2W06-02□P1	17	10.4	9.7	12	10	15.5	32.6	30.2	13.3	10.9	8.6	4.5	35.3	—
	3/8	KQ2W06-03□P1	21	10.4	9.7	12	10	15.5	34.6	32.2	13.3	10.9	8.6	4.5	62.8	—

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

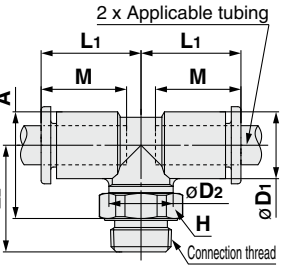


Male Branch Tee: KQ2T (Face seal)

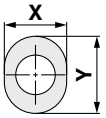


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	KQ2T23-01□P1	12	7.1	6.7	9.5	10	14.5	15.9	14.3	13.3	3.4	2.9	2.5	5.7
	1/4	KQ2T23-02□P1	17	7.1	6.7	9.5	10	14.5	19.3	15.3	13.3	3.4	2.9	2.5	14.9
ø4	1/8	KQ2T04-01□P1	12	8.2	7.7	10	10	14.8	15.5	14.4	13.3	6	4.1	3	5.9
	1/4	KQ2T04-02□P1	17	8.2	7.7	10	10	14.8	19.9	16.4	13.3	6	4.1	3	15.2
ø6	1/8	KQ2T06-01□P1	12	10.4	9.7	12	10	15.5	16.6	16.6	13.3	13.9	11	4.5	6.6
	1/4	KQ2T06-02□P1	17	10.4	9.7	12	10	15.5	21	18.6	13.3	13.9	11	4.5	15.9
	3/8	KQ2T06-03□P1	21	10.4	9.7	12	10	15.5	23	20.6	13.3	13.9	11	4.5	31.1

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

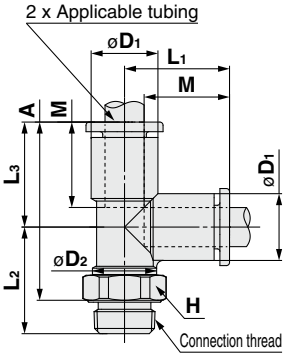


Male Run Tee: KQ2Y (Face seal)

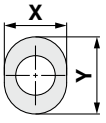


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	KQ2Y23-01□P1	12	7.1	6.7	9.5	10	14.9	15.9	14.9	25.7	13.3	3.4	2.9	2.5	5.7
	1/4	KQ2Y23-02□P1	17	7.1	6.7	9.5	10	14.9	19.3	14.9	26.7	13.3	3.4	2.9	2.5	14.9
ø4	1/8	KQ2Y04-01□P1	12	8.2	7.7	10	10	15.3	15.5	15.3	25.6	13.3	6.4	4.4	3	6
	1/4	KQ2Y04-02□P1	17	8.2	7.7	10	10	15.3	19.9	15.3	27.6	13.3	6.4	4.4	3	15.2
ø6	1/8	KQ2Y06-01□P1	12	10.4	9.7	12	10	16.3	16.6	16.3	27.7	13.3	13.4	10.6	4.5	6.7
	1/4	KQ2Y06-02□P1	17	10.4	9.7	12	10	16.3	21	16.3	29.7	13.3	13.4	10.6	4.5	16
	3/8	KQ2Y06-03□P1	21	10.4	9.7	12	10	16.3	23	16.3	31.7	13.3	13.4	10.6	4.5	31.2

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



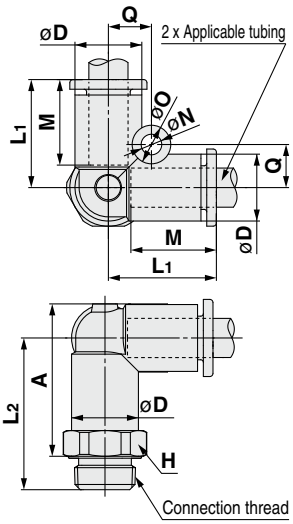
Dimensions

Male Delta Union: KQ2D (Face seal)

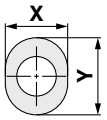


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	A	M	Q	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2D04-01□P1	12	8.2	7.7	10	15.8	22.6	21.5	13.3	5.7	6	3.2	8.2	6	6	3.6	9.1
	1/4	KQ2D04-02□P1	17	8.2	7.7	10	15.8	26	22.5	13.3	5.7	6	3.2	8.2	6	6	3.6	19
ø6	1/8	KQ2D06-01□P1	12	10.4	9.7	12	16.8	23.6	23.6	13.3	6.7	6	3.2	10.4	13.9	11	5.4	9.7
	1/4	KQ2D06-02□P1	17	10.4	9.7	12	16.8	27	24.6	13.3	6.7	6	3.2	10.4	13.9	11	5.4	19.3
	3/8	KQ2D06-03□P1	21	10.4	9.7	12	16.8	26.5	24.1	13.3	6.7	6	3.2	10.4	13.9	11	5.4	27.6

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



Oval Type Inch Size One-touch Fittings

Applicable Tubing: Inch Size, Connection Thread: NPT

KQ2 Series

Guide

Chuck

Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

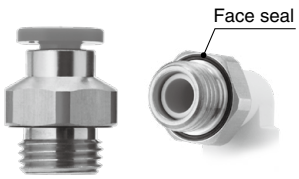
Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

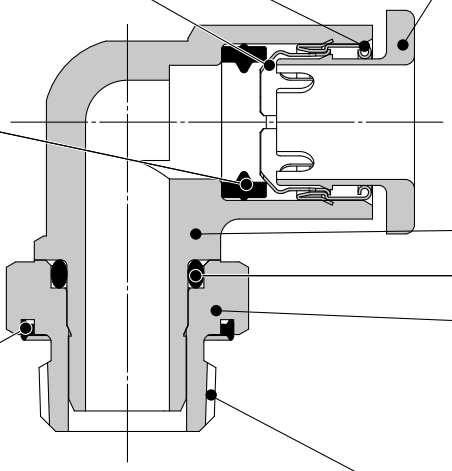
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Face seal method

Seal ring

Piping installability is improved by changing to the face seal structure.





Release button

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

Stud

Effective when piping in a confined space.

Body part rotates allowing for positioning.

Connection thread

NPT

One-touch IN/OUT connection. Possible to use in vacuum to −100 kPa.

Drastically reduces screw-in time with the face seal method.

Original thread construction which allows for the use of piping taper female thread (NPT)



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø1/8", ø5/32", ø3/16"

Specifications

Fluid		Air, Water*1 *2
Operating pressure range*3		−100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		−5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	ANSI/ASME1.20.1 (NPT thread) JIS B0208 (UNF thread)
	Nut section	JIS B0208 (UNF thread)
Seal on the threads		Seal ring

*1 The surge pressure must be under the maximum operating pressure.
*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.
*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring, Seal ring	NBR

How to Order

Threaded Type **KQ2 H 05 – 34 A P 1**

- KQ2: One-touch fittings
- H: Model
- 05: Applicable tubing O.D.
- 34: Port size
- A: Thread material/Surface treatment
- P: Face seal
- 1: Oval type release button

Model

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
L	Male elbow
K	45° male elbow
V	Universal male elbow
VS	Hexagon socket head universal male elbow
VF	Universal female elbow
VD	Double universal male elbow
VT	Triple universal male elbow
W	Extended male elbow
T	Male branch tee
Y	Male run tee

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

Port size

Symbol		Size
Thread connection	**33**	NPT1/16
	34	NPT1/8
	35	NPT1/4

Applicable tubing O.D.

Symbol	Size
01	ø1/8"
03	ø5/32"
05	ø3/16"

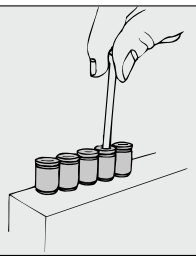
For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Oval Type Variations

Hexagon socket head male connector
KQ2S P.76



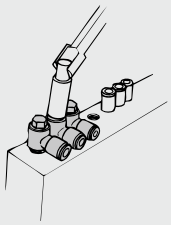
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



Universal male elbow
KQ2V P.77



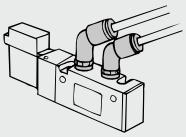
Hexagon head of the body allows tightening with a box wrench in confined spaces.



45° male elbow
KQ2K P.77



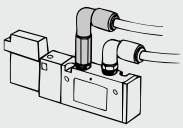
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



Extended male elbow
KQ2W P.79



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Male connector
KQ2H P.76



Use to pipe a female thread in the same direction. Most general model.

Male elbow
KQ2L P.76



Use to pipe a female thread at right angles. Most general model.

Hexagon socket head universal male elbow
KQ2VS P.77



Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

Universal female elbow
KQ2VF P.78



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

Double universal male elbow
KQ2VD P.78



Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

Triple universal male elbow
KQ2VT P.78



Use to three-branch a female thread at right angles. Three individual parts rotate 360°.

Male branch tee
KQ2T P.79



Use to branch a female thread at both 90° angles.

Male run tee
KQ2Y P.79



Use to branch a female thread in the same direction and at a 90° angle.

Tubing — One-touch fittings	Tubing — Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

Refer to page 31 and after for details.

The following models do not support oval type release buttons. Refer to the round type (from page 185).

Branch universal male elbow
KQ2Z P.191



Double branch universal male elbow
KQ2ZD P.192



Triple branch universal male elbow
KQ2ZT P.192



Branch "Y"
KQ2U P.194



⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

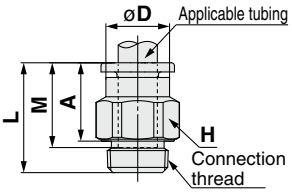
Dimensions

Male Connector: KQ2H (Face seal)

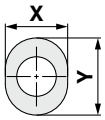


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/16	KQ2H01-33□P1	11.11	6.7	6.7	9.5	16.8	11.4	13.3	3	2.5	2.5	14.9
	1/8	KQ2H01-34□P1	12.7	6.7	6.7	9.5	14.3	8.9	13.3	3	2.5	2.5	8.7
	1/4	KQ2H01-35□P1	17.46	6.7	6.7	9.5	15.6	7.5	13.3	3.4	2.9	2.5	16.6
ø5/32	1/16	KQ2H03-33□P1	11.11	7.7	7.7	10	19	13.6	13.3	4.8	3.4	3	13.9
	1/8	KQ2H03-34□P1	12.7	7.7	7.7	10	16.4	11	13.3	4.8	3.4	3	7.6
	1/4	KQ2H03-35□P1	17.46	7.7	7.7	10	15.6	7.5	13.3	4.8	3.4	3	16
ø3/16	1/8	KQ2H05-34□P1	12.7	8.3	8.4	11	16.9	11.5	13.3	7.8	6.5	3.6	7.8
	1/4	KQ2H05-35□P1	17.46	8.3	8.4	11	15.6	7.5	13.3	7.8	6.5	3.5	15.3

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

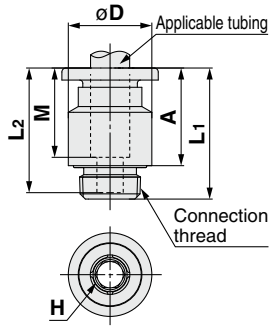


Hexagon Socket Head Male Connector: KQ2S (Face seal)

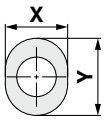


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø5/32	1/16	KQ2S03-33□P1	2.78	12	7.7	10	19	16.3	13.6	13.3	4.1	3.6	2.8	7.5
	1/8	KQ2S03-34□P1	2.78	14	7.7	10	17.3	16.3	11.9	13.3	4.1	3.6	2.8	9.2
ø3/16	1/8	KQ2S05-34□P1	3.57	14	8.4	11	19.8	18.8	14.4	13.3	7.8	6.5	3.6	11.7

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

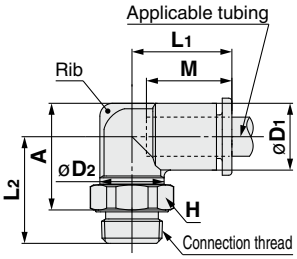


Male Elbow: KQ2L (Face seal)

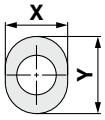


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	1/16	KQ2L01-33□P1	11.11	7.1	6.7	9.5	10	14.5	21.6	19.8	13.3	3	2.5	2.5	14.6	—
	1/8	KQ2L01-34□P1	12.7	7.1	6.7	9.5	10	14.5	16.7	14.9	13.3	3	2.5	2.5	6.1	—
	1/4	KQ2L01-35□P1	17.46	7.1	6.7	9.5	10	14.5	21.4	16.9	13.3	3	2.5	2.5	18.3	—
ø5/32	1/16	KQ2L03-33□P1	11.11	8.2	7.7	10	10	14.8	21.1	19.8	13.3	4.6	3.3	3	14.9	●
	1/8	KQ2L03-34□P1	12.7	8.2	7.7	10	10	14.8	16.2	14.9	13.3	4.6	3.3	3	6.3	●
	1/4	KQ2L03-35□P1	17.46	8.2	7.7	10	10	14.8	21.9	17.9	13.3	4.6	3.3	3	18.5	●
ø3/16	1/8	KQ2L05-34□P1	12.7	9.1	8.4	11	10	15	16.7	15.8	13.3	6.8	5.6	3.5	6.5	—
	1/4	KQ2L05-35□P1	17.46	9.1	8.4	11	10	15	22.4	18.8	13.3	6.8	5.6	3.5	18.7	—

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



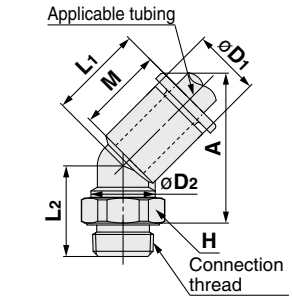
Dimensions

45° Male Elbow: KQ2K (Face seal)

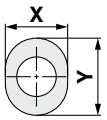


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2K01-34□P1**	12.7	7.1	6.7	9.5	10	14.3	12.7	19.6	13.3	3	2.5	2.5	5.9
ø5/32	1/8	**KQ2K03-34□P1**	12.7	8.2	7.7	10	10	14.4	12.7	20	13.3	4.8	3.4	3	6.1
ø3/16	1/8	**KQ2K05-34□P1**	12.7	9.1	8.4	11	10	14.5	13.2	20.9	13.3	6.8	5.6	3.5	6.3

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

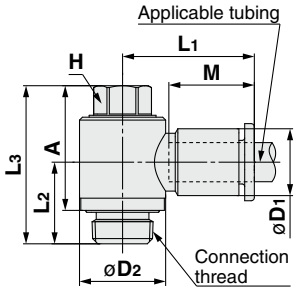


Universal Male Elbow: KQ2V (Face seal)

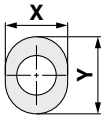


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2V01-34□P1**	8	7.1	6.7	9.5	14	19.3	12.9	24.8	19.4	13.3	2.2	1.9	2.5	13.1
ø5/32	1/8	**KQ2V03-34□P1**	8	8.2	7.7	10	14	19.3	12.9	24.8	19.4	13.3	2.9	2.9	3	13.2
ø3/16	1/8	**KQ2V05-34□P1**	8	9.1	8.4	11	14	19.6	12.9	24.8	19.4	13.3	4.5	3.7	3.5	13.4

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

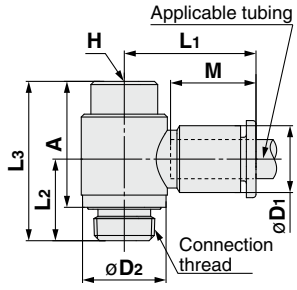


Hexagon Socket Head Universal Male Elbow: KQ2VS (Face seal)

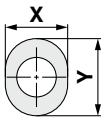


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2VS01-34□P1**	6.35	7.1	6.7	9.5	14	19.3	12.9	25	19.6	13.3	2.2	1.9	2.5	12.7
ø5/32	1/8	**KQ2VS03-34□P1**	6.35	8.2	7.7	10	14	19.3	12.9	25	19.6	13.3	2.9	2.9	3	12.8
ø3/16	1/8	**KQ2VS05-34□P1**	6.35	9.1	8.4	11	14	19.6	12.9	25	19.6	13.3	4.5	3.7	3.5	13.1

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



Dimensions

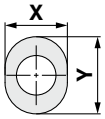
Universal Female Elbow: KQ2VF (Face seal)

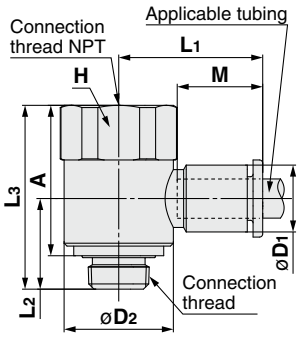


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2VF01-34□P1	17.46	7.1	6.7	9.5	17	21.2	14.3	28.8	23.4	13.3	2.2	1.9	2.5	28.4
ø5/32	1/8	KQ2VF03-34□P1	17.46	8.2	7.7	10	17	21.2	14.3	28.8	23.4	13.3	2.9	2.9	3	28.5
ø3/16	1/8	KQ2VF05-34□P1	17.46	9.1	8.4	11	17	21.5	14.3	28.8	23.4	13.3	4.5	3.7	3.5	28.7

□: A (Brass), N (Brass + Electroless nickel plating)

Release button dimensions





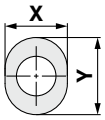
Double Universal Male Elbow: KQ2VD (Face seal)

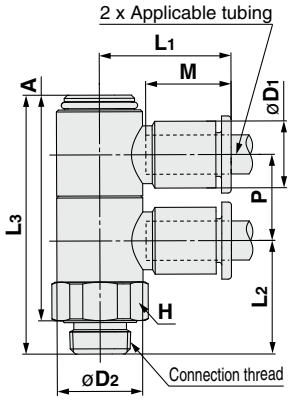


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2VD01-34□P1	14.29	7.1	6.7	9.5	13.4	19.3	18.2	40.9	35.5	13.3	13.4	2.2	1.9	2.5	22.8
ø5/32	1/8	KQ2VD03-34□P1	14.29	8.2	7.7	10	13.4	19.3	18.2	40.9	35.5	13.3	13.4	2.9	2.9	3	23.1
ø3/16	1/8	KQ2VD05-34□P1	14.29	9.1	8.4	11	13.4	19.6	18.2	40.9	35.5	13.3	13.4	4.5	3.7	3.5	23.3

□: A (Brass), N (Brass + Electroless nickel plating)

Release button dimensions





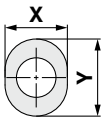
Triple Universal Male Elbow: KQ2VT (Face seal)

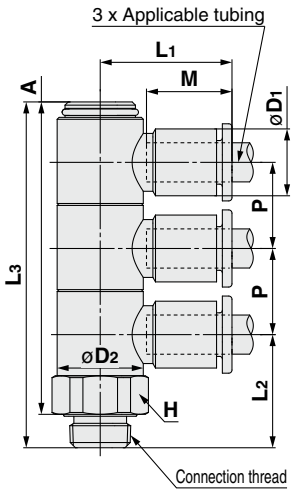


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2VT01-34□P1	14.29	7.1	6.7	9.5	13.4	19.3	18.2	54.4	49	13.3	13.4	2.2	1.9	2.5	28.3
ø5/32	1/8	KQ2VT03-34□P1	14.29	8.2	7.7	10	13.4	19.3	18.2	54.4	49	13.3	13.4	2.9	2.9	3	28.7
ø3/16	1/8	KQ2VT05-34□P1	14.29	9.1	8.4	11	13.4	19.6	18.2	54.4	49	13.3	13.4	4.5	3.7	3.5	29

□: A (Brass), N (Brass + Electroless nickel plating)

Release button dimensions





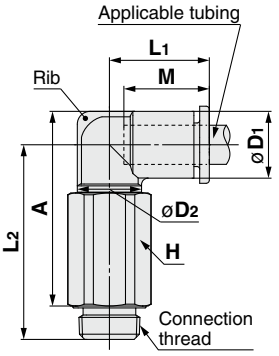
Dimensions

Extended Male Elbow: KQ2W (Face seal)

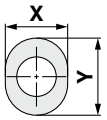


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	1/16	KQ2W01-33□P1	11.11	7.1	6.7	9.5	10	14.5	33.2	31.4	13.3	2.8	2.4	2.5	14.3	—
	1/8	KQ2W01-34□P1	12.7	7.1	6.7	9.5	10	14.5	30.3	28.5	13.3	2.8	2.4	2.5	18	—
	1/4	KQ2W01-35□P1	17.46	7.1	6.7	9.5	10	14.5	33	28.5	13.3	2.8	2.4	2.5	39.9	—
ø5/32	1/16	KQ2W03-33□P1	11.11	8.2	7.7	10	10	14.8	32.7	31.4	13.3	4	4	3	14.4	●
	1/8	KQ2W03-34□P1	12.7	8.2	7.7	10	10	14.8	29.9	28.6	13.3	4	4	3	18.2	●
	1/4	KQ2W03-35□P1	17.46	8.2	7.7	10	10	14.8	33.5	29.5	13.3	4	4	3	40.1	●
ø3/16	1/8	KQ2W05-34□P1	12.7	9.1	8.4	11	10	15	30.4	29.5	13.3	6.8	5.6	3.5	18.4	—
	1/4	KQ2W05-35□P1	17.46	9.1	8.4	11	10	15	34	30.5	13.3	6.8	5.6	3.5	40.3	—

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

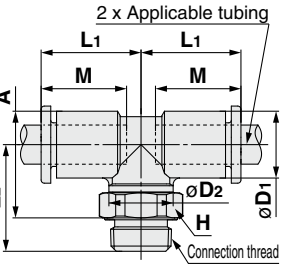


Male Branch Tee: KQ2T (Face seal)

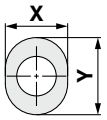


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/16	KQ2T01-33□P1	11.11	7.1	6.7	9.5	10	14.5	21.5	19.7	13.3	3.4	2.9	2.5	7.7
	1/8	KQ2T01-34□P1	12.7	7.1	6.7	9.5	10	14.5	16.6	14.8	13.3	3.4	2.9	2.5	6.7
	1/4	KQ2T01-35□P1	17.46	7.1	6.7	9.5	10	14.5	21.3	16.8	13.3	3.4	2.9	2.5	18.9
ø5/32	1/16	KQ2T03-33□P1	11.11	8.2	7.7	10	10	14.8	21.1	19.8	13.3	6	4.1	3	16.3
	1/8	KQ2T03-34□P1	12.7	8.2	7.7	10	10	14.8	16.2	14.9	13.3	6	4.1	3	7
	1/4	KQ2T03-35□P1	17.46	8.2	7.7	10	10	14.8	21.9	17.9	13.3	6	4.1	3	19.2
ø3/16	1/8	KQ2T05-34□P1	12.7	9.1	8.4	11	10	15	16.7	15.8	13.3	8.4	7	3.5	7.3
	1/4	KQ2T05-35□P1	17.46	9.1	8.4	11	10	15	22.4	18.8	13.3	8.4	7	3.5	19.5

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

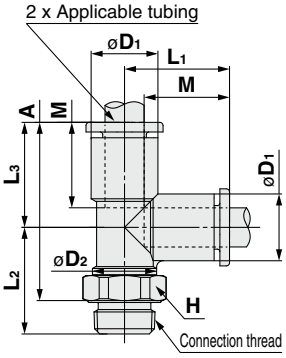


Male Run Tee: KQ2Y (Face seal)

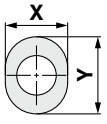


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/16	KQ2Y01-33□P1	11.11	7.1	6.7	9.5	10	14.9	21.5	14.9	31.1	13.3	3.4	2.9	2.5	15.8
	1/8	KQ2Y01-34□P1	12.7	7.1	6.7	9.5	10	14.9	16.6	14.9	26.2	13.3	3.4	2.9	2.5	6.7
	1/4	KQ2Y01-35□P1	17.46	7.1	6.7	9.5	10	14.9	21.3	14.9	28.2	13.3	3.4	2.9	2.5	18.9
ø5/32	1/16	KQ2Y03-33□P1	11.11	8.2	7.7	10	10	15.3	21.1	15.3	31	13.3	6.4	4.4	3	16.4
	1/8	KQ2Y03-34□P1	12.7	8.2	7.7	10	10	15.3	16.2	15.3	26.1	13.3	6.4	4.4	3	7
	1/4	KQ2Y03-35□P1	17.46	8.2	7.7	10	10	15.3	21.9	15.3	29.1	13.3	6.4	4.4	3	19.2
ø3/16	1/8	KQ2Y05-34□P1	12.7	9.1	8.4	11	10	15.7	16.7	15.7	27	13.3	8.4	7	3.5	7.3
	1/4	KQ2Y05-35□P1	17.46	9.1	8.4	11	10	15.7	22.4	15.7	30	13.3	8.4	7	3.5	19.6

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



Oval Type Inch Size One-touch Fittings

Applicable Tubing: Inch Size, Connection Thread: R

KQ2 Series

Guide

Chuck

Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

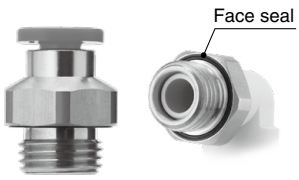
Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

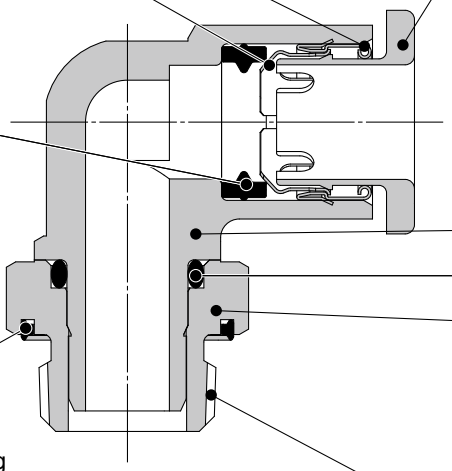
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Face seal method

Seal ring

Piping installability is improved by changing to the face seal structure.





Release button

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

Stud

Effective when piping in a confined space.

Body part rotates allowing for positioning.

Connection thread

R

One-touch IN/OUT connection. Possible to use in vacuum to –100 kPa.

Drastically reduces screw-in time with the face seal method.

Original thread construction which allows for the use of piping taper female thread (Rc)



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø1/8", ø3/16"

Specifications

Fluid		Air, Water*1 *2
Operating pressure range*3		–100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		–5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	JIS B0203 (Taper thread for piping) JIS B0205 (Metric coarse thread)
	Nut section	JIS B0205 (Metric fine thread)
Seal on the threads		Seal ring

*1 The surge pressure must be under the maximum operating pressure.

*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring, Seal ring	NBR

How to Order

Threaded Type **KQ2 H 05 – 01 A P 1**

One-touch fittings

Model

Symbol	Model
H	Male connector
L	Male elbow
T	Male branch tee
W	Extended male elbow
Y	Male run tee

Applicable tubing O.D.

Symbol	Size
01	ø1/8"
05	ø3/16"

Port size

Symbol	Size
01	R1/8
02	R1/4

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

Face seal

Oval type release button

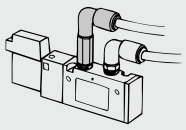
For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Oval Type Variations

Extended male elbow
KQ2W P.84



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Male connector
KQ2H P.84



Use to pipe a female thread in the same direction. Most general model.

Male branch tee
KQ2T P.85



Use to branch a female thread at both 90° angles.

Male elbow
KQ2L P.84



Use to pipe a female thread at right angles. Most general model.

Male run tee
KQ2Y P.85



Use to branch a female thread in the same direction and at a 90° angle.

Tubing — One-touch fittings	Tubing — Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

Refer to page 31 and after for details.

This model does not support oval type release buttons. Refer to the round type (from page 195).

Branch "Y"
KQ2U P.199



⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

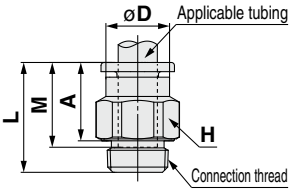
Dimensions

Male Connector: KQ2H (Face seal)

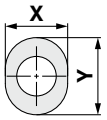


Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2H01-01□P1	12	6.7	6.7	9.5	14.1	8.9	13.3	3.4	2.9	2.5	6.3
	1/4	KQ2H01-02□P1	17	6.7	6.7	9.5	15	7.4	13.3	3.4	2.9	2.5	15.1
ø3/16	1/8	KQ2H05-01□P1	12	8.3	8.4	11	16.7	11.5	13.3	7.8	6.5	3.5	6.8
	1/4	KQ2H05-02□P1	17	8.3	8.4	11	15	7.4	13.3	7.8	6.5	3.5	13.9

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

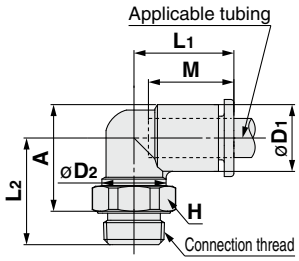


Male Elbow: KQ2L (Face seal)

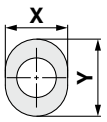


Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	KQ2L05-01□P1	12	9.1	8.4	11	10	15	16	15.3	13.3	6.8	5.6	3.5	5.4
	1/4	KQ2L05-02□P1	17	9.1	8.4	11	10	15	20.4	17.3	13.3	6.8	5.6	3.5	14.7

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

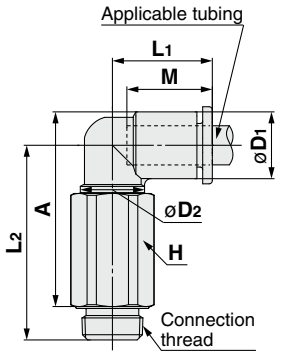


Extended Male Elbow: KQ2W (Face seal)

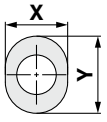


Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	KQ2W05-01□P1	12	9.1	8.4	11	10	15	29.7	29	13.3	6.8	5.6	3.5	15.7
	1/4	KQ2W05-02□P1	17	9.1	8.4	11	10	15	32	29	13.3	6.8	5.6	3.5	35.1

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



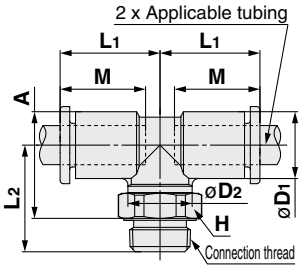
Dimensions

Male Branch Tee: KQ2T (Face seal)

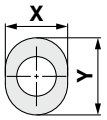


Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	**KQ2T05-01□P1**	12	9.1	8.4	11	10	15	16	15.3	13.3	8.4	7	3.5	6.2
	1/4	**KQ2T05-02□P1**	17	9.1	8.4	11	10	15	20.4	17.3	13.3	8.4	7	3.5	15.5

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions

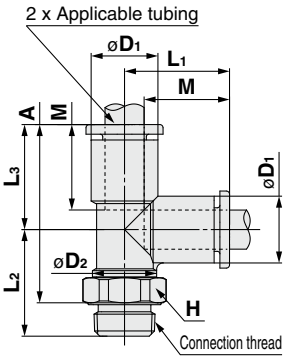


Male Run Tee: KQ2Y (Face seal)

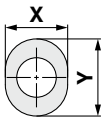


Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	**KQ2Y05-01□P1**	12	9.1	8.4	11	10	15.7	16	15.7	26.5	13.3	8.4	7	3.5	6.3
	1/4	**KQ2Y05-02□P1**	17	9.1	8.4	11	10	15.7	20.4	15.7	28.5	13.3	8.4	7	3.5	15.6

□: A (Brass), N (Brass + Electroless nickel plating)



Release button dimensions



Oval Type Metric Size Uni One-touch Fittings

Applicable Tubing: Metric Size, Connection Thread: Rc, G, NPT, NPTF

KQ2 Series

Guide

Chuck

Suitable for use with nylon and urethane. Large retaining force.

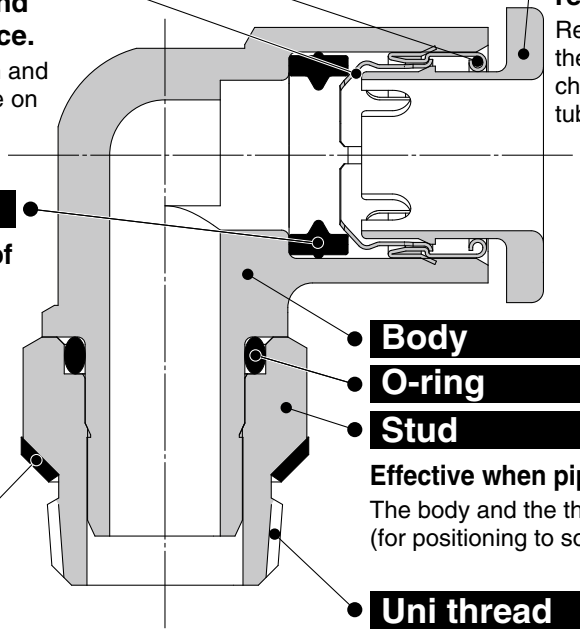
The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Gasket



Release button (Light gray)

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

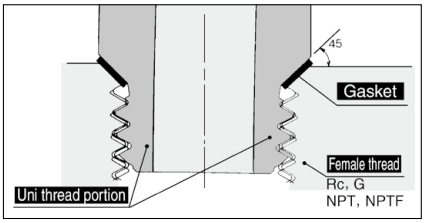
O-ring

Stud

Effective when piping in a confined space.

The body and the threaded portion can rotate (for positioning to some extent).

Uni thread



Uni thread ridge shape

A gasket made of a stainless sheet covered with laminated NBR on both sides is seated on the chamfer of a female thread for a perfect sealing construction irrespective of the difference in thread diameters due to the difference in the types of female threads, variation in tolerance, or difference in the size of chamfer. (It is applicable to any female thread with an ordinary chamfer.)

A ridge shape has been created as a Uni thread for common applications for Rc, G, NPT and NPTF.

Drastically cuts piping work-hours with the gasket seal method.



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø4, ø6

Specifications

Fluid	Air, Water*1 *2
Operating pressure range*3	–100 kPa to 1 MPa
Proof pressure (at 23°C)	3 MPa
Ambient and fluid temperature	–5 to 60°C, Water: 0 to 40°C (No freezing)

*1 The surge pressure must be under the maximum operating pressure.

*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR

Made to Order

Made to Order

(Refer to page 93 for details.)

How to Order

Threaded Type **KQ2 H 06 – U01 A 1**

One-touch fittings

Model

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
L	Male elbow
K	45° male elbow
V	Universal male elbow
T	Male branch tee
W	Extended male elbow
Y	Male run tee

Applicable tubing O.D.

Symbol	Size
04	ø4
06	ø6

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

Port size

Symbol		Size
Thread connection	**U01**	Uni1/8
	U02	Uni1/4
	U03	Uni3/8

Oval type release button

For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Spare Parts

How to Order Gasket

KQG – U01

Gasket for Uni One-touch fittings

Applicable port size

Symbol	Size
U01	Uni1/8
U02	Uni1/4
U03	Uni3/8

Oval Type Variations

Hexagon socket head male connector
KQ2S P.90



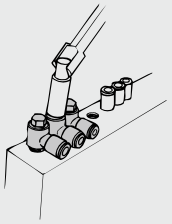
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



Universal male elbow
KQ2V P.91



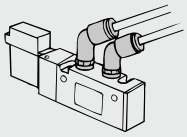
Hexagon head of the body allows tightening with a box wrench in confined spaces.



45° male elbow
KQ2K P.91



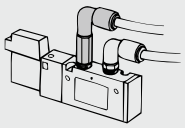
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



Extended male elbow
KQ2W P.91



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Male connector
KQ2H P.90



Use to pipe a female thread in the same direction. Most general model.

Male run tee
KQ2Y P.92



Use to branch a female thread in the same direction and at a 90° angle.

Male elbow
KQ2L P.90



Use to pipe a female thread at right angles. Most general model.

Male branch tee
KQ2T P.92



Use to branch a female thread at both 90° angles.

Tubing — One-touch fittings	Tubing — Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

Refer to page 7 and after for details.

This model does not support oval type release buttons. Refer to the round type (from page 201).

Branch "Y"
KQ2U P.206



⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

Dimensions

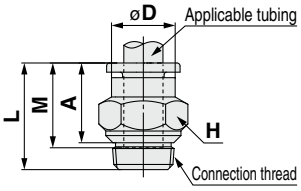
Male Connector: KQ2H (Gasket seal)



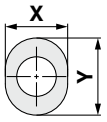
Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2H04-U01□1	10	—	7.7	10	15.9	11.1	13.3	4.8	3.4	3	6.6
	1/4	KQ2H04-U02□1	14	—	7.7	10	15.3	8.9	13.3	4.8	3.4	3	12.7
ø6	1/8	KQ2H06-U01□1	12	9.9	9.7	12	16.7	11.9	13.3	13.1	10.4	4.5	6.2
	1/4	KQ2H06-U02□1	14	—	9.7	12	17	10.6	13.3	13.1	10.4	4.5	12.8
	3/8	KQ2H06-U03□1	17	—	9.7	12	14.9	8.5	13.3	13.1	10.4	4.5	18.1

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



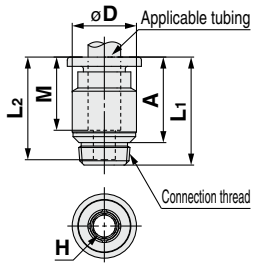
Hexagon Socket Head Male Connector: KQ2S (Gasket seal)



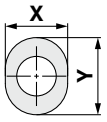
Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2S04-U01□1	3	10	7.7	10	20.6	19.6	15.8	13.3	4.1	3.6	3.1	8
ø6	1/8	KQ2S06-U01□1	4	12	9.7	12	19.8	18.8	15	13.3	10	9.9	4.1	8.2
	1/4	KQ2S06-U02□1	4	14	9.7	12	19.8	18.8	13.4	13.3	10.7	10	4.1	12.3

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



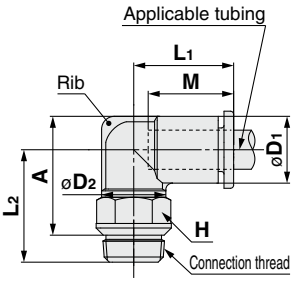
Male Elbow: KQ2L (Gasket seal)



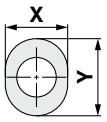
Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø4	1/8	KQ2L04-U01□1	10	8.2	7.7	10	10	14.8	16.4	15.7	13.3	4.6	3.3	3	4.8	●
	1/4	KQ2L04-U02□1	14	8.2	7.7	10	10	14.8	19.2	16.9	13.3	4.6	3.3	3	11.5	●
ø6	1/8	KQ2L06-U01□1	10	10.4	9.7	12	10	15.5	17.5	17.9	13.3	11.4	9	4.5	5.3	—
	1/4	KQ2L06-U02□1	14	10.4	9.7	12	10	15.5	20.3	19.1	13.3	11.4	9	4.5	12	—
	3/8	KQ2L06-U03□1	17	10.4	9.7	12	10	15.5	21.4	20.2	13.3	11.4	9	4.5	21.4	—

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



Dimensions

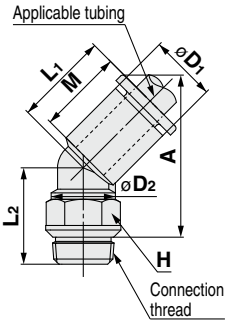
45° Male Elbow: KQ2K (Gasket seal)



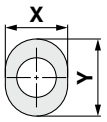
Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2K04-U01□1	10	8.2	7.7	10	10	14.4	12.9	20.8	13.3	4.8	3.4	4.5	4.7
	1/4	KQ2K04-U02□1	14	8.2	7.7	10	10	14.4	14.7	21	13.3	4.8	3.4	4.5	11.3
ø6	1/8	KQ2K06-U01□1	10	10.4	9.7	12	10	14.7	15	23.8	13.3	8.7	6.9	4.5	5.1
	1/4	KQ2K06-U02□1	14	10.4	9.7	12	10	14.7	16.8	24	13.3	8.7	6.9	4.5	11.7
	3/8	KQ2K06-U03□1	17	10.4	9.7	12	10	14.7	17.9	25.1	13.3	8.7	6.9	4.5	21.2

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



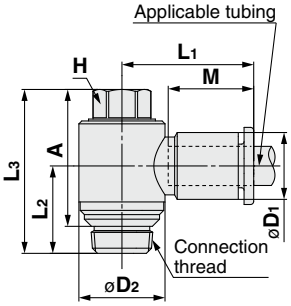
Universal Male Elbow: KQ2V (Gasket seal)



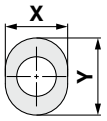
Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2V04-U01□1	8	8.2	7.7	10	13.4	19.3	13.6	25.5	20.7	13.3	2.9	2.9	4.5	13.5
ø6	1/8	KQ2V06-U01□1	8	10.4	9.7	12	13.4	20.5	13.6	25.5	20.7	13.3	7.5	5.9	4.5	13.9
	1/4	KQ2V06-U02□1	10	10.4	9.7	12	15.3	19.9	15.4	28	21.6	13.3	7.5	5.9	4.5	21.8

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



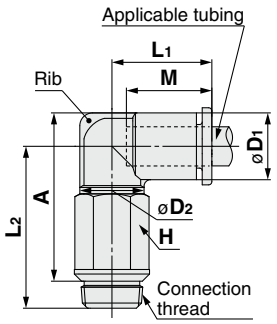
Extended Male Elbow: KQ2W (Gasket seal)



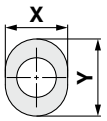
Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø4	1/8	KQ2W04-U01□1	10	8.2	7.7	10	10	14.8	24.1	23.4	13.3	4	4	3	8.3	●
	1/4	KQ2W04-U02□1	14	8.2	7.7	10	10	14.8	30.1	27.8	13.3	4	4	3	23.9	●
ø6	1/8	KQ2W06-U01□1	10	10.4	9.7	12	10	15.5	31.2	31.6	13.3	10.9	8.6	4.5	11.5	—
	1/4	KQ2W06-U02□1	14	10.4	9.7	12	10	15.5	31.2	30	13.3	10.9	8.6	4.5	24.3	—
	3/8	KQ2W06-U03□1	17	10.4	9.7	12	10	15.5	32.3	31.1	13.3	10.9	8.6	4.5	41	—

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



Dimensions

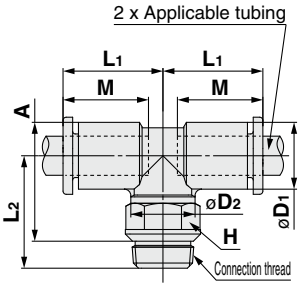
Male Branch Tee: KQ2T (Gasket seal)



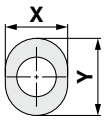
Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2T04-U01□1	10	8.2	7.7	10	10	14.8	16.4	15.7	13.3	6	4.1	3	5.5
	1/4	KQ2T04-U02□1	14	8.2	7.7	10	10	14.8	19.2	16.9	13.3	6	4.1	3	12.2
ø6	1/8	KQ2T06-U01□1	10	10.4	9.7	12	10	15.5	17.5	17.9	13.3	13.9	11	4.5	6.2
	1/4	KQ2T06-U02□1	14	10.4	9.7	12	10	15.5	20.3	19.1	13.3	13.9	11	4.5	12.9
	3/8	KQ2T06-U03□1	17	10.4	9.7	12	10	15.5	21.4	20.2	13.3	13.9	11	4.5	22.3

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



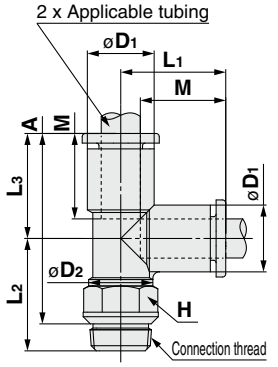
Male Run Tee: KQ2Y (Gasket seal)



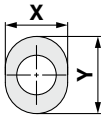
Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2Y04-U01□1	10	8.2	7.7	10	10	15.3	16.4	15.3	26.9	13.3	6.4	4	3	5.6
	1/4	KQ2Y04-U02□1	14	8.2	7.7	10	10	15.3	19.2	15.3	28.1	13.3	6.4	4	3	12.2
ø6	1/8	KQ2Y06-U01□1	10	10.4	9.7	12	10	16.3	17.5	16.3	29	13.3	13.4	10.6	4.5	6.3
	1/4	KQ2Y06-U02□1	14	10.4	9.7	12	10	16.3	20.3	16.3	30.2	13.3	13.4	10.6	4.5	13
	3/8	KQ2Y06-U03□1	17	10.4	9.7	12	10	16.3	21.4	16.3	31.3	13.3	13.4	10.6	4.5	22.5

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



KQ2 Series
Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

1 Made to Order

Symbol	Specifications
X12	Lubricant: White vaseline Release button color: White
X35∗1	Body color: Black Release button color: Light gray
X41	With fixed orifice∗2

∗1 The following models are not available as made-to-order: Hexagon socket head male connector/KQ2S, Male connector/KQ2H

∗2 Please contact SMC for availability.

The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.

Symbol	Specifications
X17	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
X29	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Copper-free (With electroless nickel plating)
X39	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Clean (Copper-free, air blow, double packaging, resin body: white)

2 Clean Series

Symbol	Specifications
10-	Brass parts: With electroless nickel plating Lubricant: Fluorine grease Air blow in a clean room Double packaging Resin body, Release button color: White

Example) **10-KQ2H06-U01N1**

3 Spare Parts

Description	Part no.	Applicable thread
Gasket	**KQG-U01**	Uni1/8
	KQG-U02	Uni1/4
	KQG-U03	Uni3/8

Oval Type Inch Size Uni One-touch Fittings

Applicable Tubing: Inch Size, Connection Thread: Rc, G, NPT, NPTF

KQ2 Series

Guide

Chuck

Suitable for use with nylon and urethane. Large retaining force.

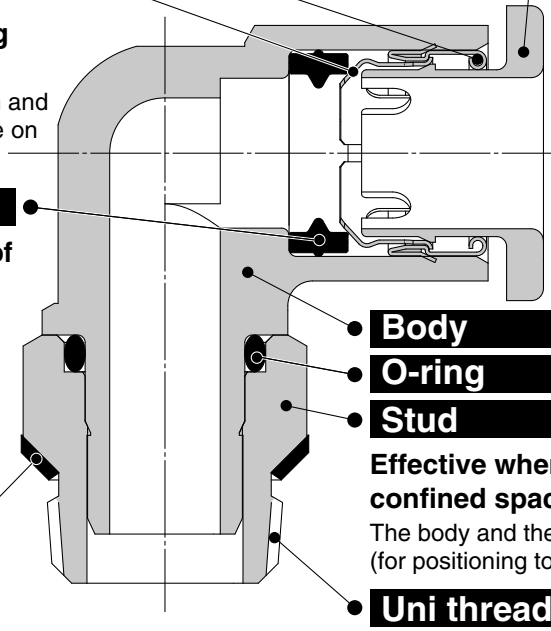
The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Gasket



Release button (Orange)

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

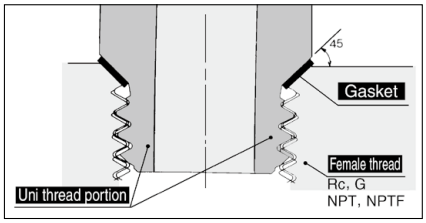
O-ring

Stud

Effective when piping in a confined space.

The body and the threaded portion can rotate (for positioning to some extent).

Uni thread



Uni thread ridge shape

A gasket made of a stainless sheet covered with laminated NBR on both sides is seated on the chamfer of a female thread for a perfect sealing construction irrespective of the difference in thread diameters due to the difference in the types of female threads, variation in tolerance, or difference in the size of chamfer. (It is applicable to any female thread with an ordinary chamfer.)

A ridge shape has been created as a Uni thread for common applications for Rc, G, NPT and NPTF.

Drastically cuts piping work-hours with the gasket seal method.



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø1/8", ø5/32", ø3/16"

Specifications

Fluid	Air, Water*1 *2
Operating pressure range*3	−100 kPa to 1 MPa
Proof pressure (at 23°C)	3 MPa
Ambient and fluid temperature	−5 to 60°C, Water: 0 to 40°C (No freezing)

*1 The surge pressure must be under the maximum operating pressure.

*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR

Made to Order

Made to Order
(Refer to page 100 for details.)

How to Order

Threaded Type

KQ2 H 05 – U01 A 1

- **KQ2**: One-touch fittings
- **H**: Model

Symbol	Model
H	Male connector
L	Male elbow
T	Male branch tee
W	Extended male elbow
Y	Male run tee

- **05**: Applicable tubing O.D.

Symbol	Size
01	ø1/8"
03	ø5/32"
05	ø3/16"

- **U01**: Port size

Symbol		Size
Thread connection	**U01**	Uni1/8
	U02	Uni1/4

- **A**: Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

- **1**: Oval type release button

For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Spare Parts

How to Order Gasket

KQG – U01

- **KQG**: Gasket for Uni One-touch fittings
- **U01**: Applicable port size

Symbol	Size
U01	Uni1/8
U02	Uni1/4

Oval Type Variations

Male connector
KQ2H P.98



Use to pipe a female thread in the same direction. Most general model.

Male elbow
KQ2L P.98



Use to pipe a female thread at right angles. Most general model.

Extended male elbow
KQ2W P.98



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.

Male run tee
KQ2Y P.99



Use to branch a female thread in the same direction and at a 90° angle.

Male branch tee
KQ2T P.99



Use to branch a female thread at both 90° angles.

Tubing — One-touch fittings	Tubing — Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

Refer to page 31 and after for details.

This model does not support oval type release buttons. Refer to the round type (from page 209).

Branch "Y"
KQ2U P.213



⚠Box wrenches and socket wrenches may interfere with oval type release buttons. Refer to page 217 for details.

Dimensions

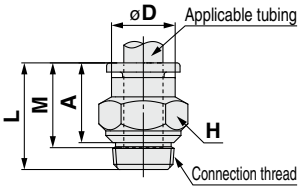
Male Connector: KQ2H (Gasket seal)



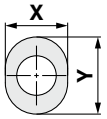
Applicable tubing O.D. [inch]	Connection thread Uni	Model	H (Width across flats)	øD	Release button dimensions X	Release button dimensions Y	L	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2H01-U01□1	11.11	—	6.7	9.5	15.2	10.4	13.3	3.4	2.9	2.5	7.9
	1/4	KQ2H01-U02□1	14.29	—	6.7	9.5	15.3	8.9	13.3	3.4	2.9	2.5	13.7
ø5/32	1/8	KQ2H03-U01□1	11.11	—	7.7	10	15.7	10.9	13.3	4.8	3.4	3	7.7
	1/4	KQ2H03-U02□1	14.29	—	7.7	10	15.3	8.9	13.3	4.8	3.4	3	13
ø3/16	1/8	KQ2H05-U01□1	12.7	8.55	8.4	11	16	11.2	13.3	6.8	5.6	3.5	7.7
	1/4	KQ2H05-U02□1	14.29	—	8.4	11	15.3	8.9	13.3	6.8	5.6	3.5	12.4

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



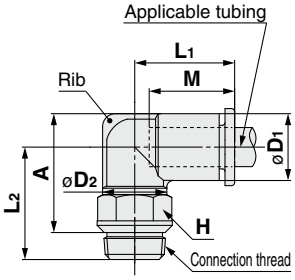
Male Elbow: KQ2L (Gasket seal)



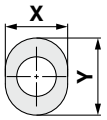
Applicable tubing O.D. [inch]	Connection thread Uni	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	1/8	KQ2L01-U01□1	11.11	7.1	6.7	9.5	10	14.5	17.9	16.7	13.3	3	2.5	2.5	6	—
	1/4	KQ2L01-U02□1	14.29	7.1	6.7	9.5	10	14.5	19.2	16.4	13.3	3	2.5	2.5	12.1	—
ø5/32	1/8	KQ2L03-U01□1	11.11	8.2	7.7	10	10	14.8	17.4	16.7	13.3	4.6	3.3	3	6.2	●
	1/4	KQ2L03-U02□1	14.29	8.2	7.7	10	10	14.8	19.7	17.4	13.3	4.6	3.3	3	12.3	●
ø3/16	1/8	KQ2L05-U01□1	11.11	9.1	8.4	11	10	15	17.9	17.7	13.3	6.8	5.6	3.5	6.4	—
	1/4	KQ2L05-U02□1	14.29	9.1	8.4	11	10	15	20.2	18.4	13.3	6.8	5.6	3.5	12.5	—

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



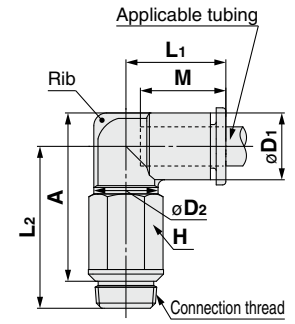
Extended Male Elbow: KQ2W (Gasket seal)



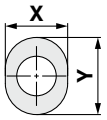
Applicable tubing O.D. [inch]	Connection thread Uni	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	1/8	KQ2W01-U01□1	11.11	7.1	6.7	9.5	10	14.5	31.5	30.3	13.3	2.8	2.4	2.5	14.5	—
	1/4	KQ2W01-U02□1	14.29	7.1	6.7	9.5	10	14.5	30.8	28	13.3	2.8	2.4	2.5	26	—
ø5/32	1/8	KQ2W03-U01□1	11.11	8.2	7.7	10	10	14.8	31.1	30.4	13.3	4	4	3	14.6	●
	1/4	KQ2W03-U02□1	14.29	8.2	7.7	10	10	14.8	31.3	29	13.3	4	4	3	26.2	●
ø3/16	1/8	KQ2W05-U01□1	11.11	9.1	8.4	11	10	15	31.6	31.3	13.3	6.8	5.6	3.5	14.8	—
	1/4	KQ2W05-U02□1	14.29	9.1	8.4	11	10	15	31.8	30	13.3	6.8	5.6	3.5	26.4	—

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



Dimensions

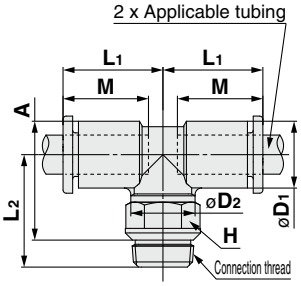
Male Branch Tee: KQ2T (Gasket seal)



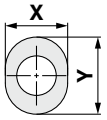
Applicable tubing O.D. [inch]	Connection thread Uni	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2T01-U01□1	11.11	7.1	6.7	9.5	10	14.5	17.8	16.6	13.3	3.4	2.9	2.5	6.6
	1/4	KQ2T01-U02□1	14.29	7.1	6.7	9.5	10	14.5	19.1	16.3	13.3	3.4	2.9	2.5	12.7
ø5/32	1/8	KQ2T03-U01□1	11.11	8.2	7.7	10	10	14.8	17.4	16.7	13.3	6	4.1	3	6.9
	1/4	KQ2T03-U02□1	14.29	8.2	7.7	10	10	14.8	19.7	17.4	13.3	6	4.1	3	13
ø3/16	1/8	KQ2T05-U01□1	11.11	9.1	8.4	11	10	15	17.9	17.6	13.3	6.8	5.6	3.5	7.1
	1/4	KQ2T05-U02□1	14.29	9.1	8.4	11	10	15	20.2	18.3	13.3	6.8	5.6	3.5	13.3

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



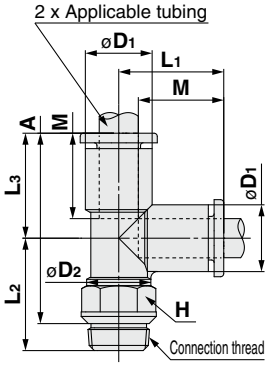
Male Run Tee: KQ2Y (Gasket seal)



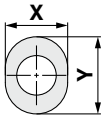
Applicable tubing O.D. [inch]	Connection thread Uni	Model	H (Width across flats)	øD1	Release button dimensions X	Release button dimensions Y	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2Y01-U01□1	11.11	7.1	6.7	9.5	10	14.9	17.8	14.9	28	13.3	3.4	2.9	2.5	6.6
	1/4	KQ2Y01-U02□1	14.29	7.1	6.7	9.5	10	14.9	19.1	14.9	27.7	13.3	3.4	2.9	2.5	12.8
ø5/32	1/8	KQ2Y03-U01□1	11.11	8.2	7.7	10	10	15.3	17.4	15.3	27.9	13.3	6.4	4.4	3	6.9
	1/4	KQ2Y03-U02□1	14.29	8.2	7.7	10	10	15.3	19.7	15.3	28.6	13.3	6.4	4.4	3	13.1
ø3/16	1/8	KQ2Y05-U01□1	11.11	9.1	8.4	11	10	15.7	17.9	15.7	28.8	13.3	6.8	5.6	3.5	7.2
	1/4	KQ2Y05-U02□1	14.29	9.1	8.4	11	10	15.7	20.2	15.7	29.5	13.3	6.8	5.6	3.5	13.4

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Release button dimensions



KQ2 Series
Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

1 Made to Order

Symbol	Specifications
X12	Lubricant: White vaseline Release button color: White
X35∗1	Body color: Black Release button color: Orange
X41	With fixed orifice∗2

∗1 The following model is not available as made-to-order: Male connector/ KQ2H

∗2 Please contact SMC for availability.

The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.

Symbol	Specifications
X17	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
X29	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Copper-free (With electroless nickel plating)
X39	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Clean (Copper-free, air blow, double packaging, resin body: white)

2 Clean Series

Symbol	Specifications
10-	Brass parts: With electroless nickel plating Lubricant: Fluorine grease Air blow in a clean room Double packaging Resin body, Release button color: White

Example) **10-KQ2H05-U01N1**

3 Spare Parts

Description	Part no.	Applicable thread
Gasket	**KQG-U01**	Uni1/8
	KQG-U02	Uni1/4

Metric Size One-touch Fittings

Applicable Tubing: Metric Size, Connection Thread: M, R, Rc

KQ2 Series

Guide

Chuck

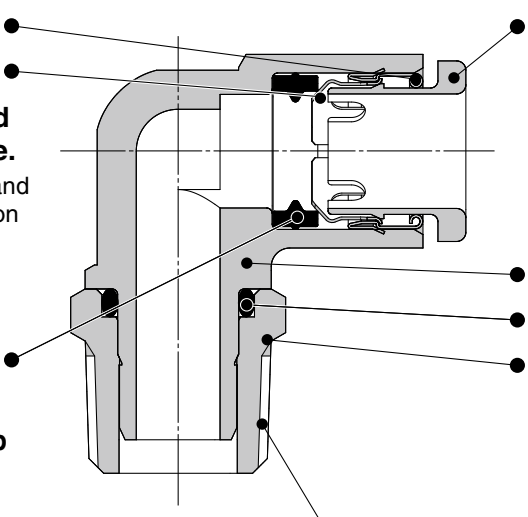
Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

The use of a special profile ensures sealing and reduces resistance when the tube is inserted.



Release button (Light gray)

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

Stud

Effective when piping in a confined space.

Body part rotates allowing for positioning.

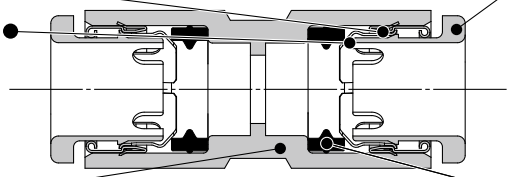
Connection thread

M, R, Rc

Guide

Chuck

Body



Release button (Light gray)

Seal

∗ Fittings without thread portion, and with all resin body material are copper free specification.

One-touch IN/OUT connection. Possible to use in vacuum to –100 kPa.



Made to Order
(Refer to page 131 for details.)

Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø2, ø3.2, ø4, ø6, ø8, ø10, ø12, ø16

Specifications

Fluid		Air, Water∗1 ∗2
Operating pressure range∗3		–100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		–5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	JIS B0203 (Taper thread for piping) JIS B0205 (Metric coarse thread)
	Nut section	JIS B0205 (Metric fine thread)
Seal on the threads		With sealant

∗1 The surge pressure must be under the maximum operating pressure.
∗2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.
∗3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT, PP, Stainless steel 303
Stud	C3604 (Thread portion), Stainless steel 303 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR

How to Order

Threaded Type

KQ2 H 06 – 01 A S

One-touch fittings

Model

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
F	Female connector
L	Male elbow
LU	Branch male elbow
K	45° male elbow
V	Universal male elbow
VS	Hexagon socket head universal male elbow
VF	Universal female elbow
LF	Female elbow
VD	Double universal male elbow
VT	Triple universal male elbow
Z	Branch universal male elbow
ZF	Branch universal female elbow
ZD	Double branch universal male elbow
ZT	Triple branch universal male elbow
W	Extended male elbow
T	Male branch tee
Y	Male run tee
D	Male delta union
U	Branch "Y"
UD	Double branch "Y"
E	Bulkhead union
	Bulkhead connector
LE	Bulkhead male elbow
N	Adapter

Male thread seal method

Symbol	Seal method
Nil	None
S	With thread sealant

Thread material/Surface treatment

Symbol		Thread material/Surface treatment
A		Brass
N		Brass + Electroless nickel plating
G		Stainless steel 303 (Connection thread: Only male thread and M3)
Bulkhead union	**□J**	Interchangeable with KJE

∗ □: A, N

Port size/Applicable tubing O.D.

Symbol		Size
Thread connection	**M3**	M3 x 0.5
	M5	M5 x 0.8
	M6	M6 x 1.0
	01	R1/8, Rc1/8
	02	R1/4, Rc1/4
	03	R3/8, Rc3/8
	04	R1/2, Rc1/2
Tubing connection	**00**∗1	Same dia. tubing

∗1 Only for "Bulkhead union" and "Bulkhead male elbow".

Applicable tubing O.D.

Symbol	Size
02	ø2
23	ø3.2
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
16	ø16

Spare Parts

Use the part number below to order the gasket for M3, M5, and M6 threads.

Gasket for M3 thread: M-3G2
Gasket for M5 thread: M-5G2
Gasket for M6 thread: M-6G

For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Tube – Tube Type

KQ2 H 06 – 00 A

One-touch fittings

Model

Symbol	Model
H	Straight union
	Different diameter straight
L	Union elbow
	Plug-in elbow
	Reducer elbow
LU	Branch union elbow
W	Extended plug-in elbow
T	Union tee
	Different diameter tee
TW	Cross
TX	Different diameter cross
TY	Different diameter cross
D	Delta union
U	Union "Y"
	Plug-in "Y"
	Different diameter union "Y"
UD	Different diameter double union "Y"
X	Different diameter plug-in "Y"
R	Plug-in reducer
XD	Double plug-in "Y"

Applicable tubing O.D. (Rod O.D.)

Symbol		Size
Tubing (Rod) connection	**00**	Same diameter tubing
	99	Same diameter rod
Different dia. tubing (Reducer)	**23**	ø3.2
	04	ø4
	06	ø6
	08	ø8
	10	ø10
	12	ø12
	16	ø16

Applicable tubing O.D.

Symbol	Size
02	ø2
23	ø3.2
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
16	ø16

Accessories

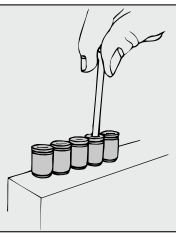
Symbol	Name
KQ2N	Nipple
	Reducer nipple
KQ2C	Tube cap
KQ2P	Plug

Round Type Variations

Hexagon socket head male connector
KQ2S P.107



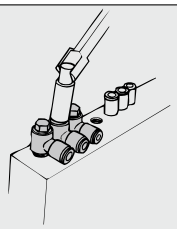
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



Universal male elbow
KQ2V P.112



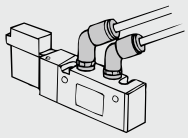
Hexagon head of the body allows tightening with a box wrench in confined spaces.



45° male elbow
KQ2K P.111



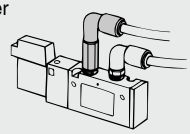
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



Extended male elbow
KQ2W P.118



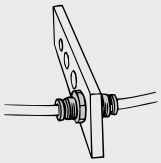
Basically, it is used together with a male elbow.
Its extended height allows for multi-leveled piping and prevents interference among fittings.



Bulkhead union
KQ2E P.128



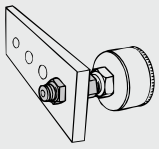
Use to connect tubing through a panel, etc.



Bulkhead connector
KQ2E P.128



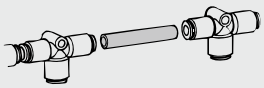
Use to connect a male thread and tubing through a panel, etc.



Nipple
KQ2N P.130



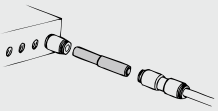
Use to connect One-touch fittings.



Reducer nipple
KQ2N P.130



Use to connect One-touch fittings of different sizes.



Universal female elbow
KQ2VF P.113



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

Branch universal female elbow
KQ2ZF P.115



Use to two-branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

Male connector
KQ2H P.105



Use to pipe a female thread in the same direction. Most general model.

Cross
KQ2TW P.121



Use to four-branch a line.

Reducer elbow
KQ2L P.109



Use to change the tube direction of One-touch fittings by 90° and connect tubing of reduced size.

Female connector
KQ2F P.106



Use to pipe a male thread of a pressure gauge, etc.

Male elbow
KQ2L P.108



Use to pipe a female thread at right angles. Most general model.

Different diameter cross
KQ2TX P.121



Use to four-branch a line and connect tubing of reduced size at both 90° angles.

Straight union
KQ2H P.105



Use to connect tubing in the same direction.

Union elbow
KQ2L P.109



Use to connect tubing at right angles.

Male branch tee
KQ2T P.119



Use to branch a female thread at both 90° angles.

Different diameter straight
KQ2H P.106



Use to connect tubing of different sizes.

Plug-in elbow
KQ2L P.109



Use to change the tube direction of One-touch fittings by 90°.

Union tee
KQ2T P.120



Use to branch tubing at both 90° angles.

Different diameter tee
KQ2T P.120

Use to connect tubing of reduced size for branching at both 90° angles.

Different diameter tee
KQ2T P.120

Use to connect tubing of reduced size for branching at a 90° angle from two pipes running in the same direction.

Different diameter cross
KQ2TY P.121

Use to connect tubing of reduced size for branching in three directions.

Hexagon socket head universal male elbow
KQ2VS P.112

Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

Branch male elbow
KQ2LU P.110

Use to two-branch a female thread at right angles.

Female elbow
KQ2LF P.117

Use to pipe a male thread at right angles.

Double universal male elbow
KQ2VD P.114

Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

Triple universal male elbow
KQ2VT P.114

Use to three-branch a female thread at right angles. Three individual parts rotate 360°.

Branch universal male elbow
KQ2Z P.115

Hexagon head of the body allows tightening with a box wrench. Use for branch connections.

Double branch universal male elbow
KQ2ZD P.116

Use to four-branch a female thread at right angles. Two individual parts rotate 360°.

Male run tee
KQ2Y P.122

Use to branch a female thread in the same direction and at a 90° angle.

Triple branch universal male elbow
KQ2ZT P.116

Use to six-branch a female thread at right angles. Three individual parts rotate 360°.

Branch union elbow
KQ2LU P.109

Use to branch tubing at right angles.

Extended plug-in elbow
KQ2W P.117

Use to change the tube direction of One-touch fittings by 90°. Multi-leveled piping is also possible with the plug-in elbow.

Male delta union
KQ2D P.123

Use to branch a female thread at two right angles.

Delta union
KQ2D P.124

Use to branch tubing at three right angles.

Double branch "Y"
KQ2UD P.126

Use to four-branch a female thread.

Different diameter double union "Y"
KQ2UD P.126

Use to connect tubing of reduced size for four-branching in the same direction.

Different diameter plug-in "Y"
KQ2X P.127

Use to branch One-touch fittings and connect tubing of reduced size in the same direction.

Double plug-in "Y"
KQ2XD P.127

Use to four-branch One-touch fittings in the same direction.

Union "Y"
KQ2U P.125

Use to branch tubing in the same direction.

Different diameter union "Y"
KQ2U P.125

Use to connect tubing of reduced size for branching in the same direction.

Plug-in "Y"
KQ2U P.125

Use to branch One-touch fittings in the same direction.

Branch "Y"
KQ2U P.124

Use to branch a female thread in the same direction.

Plug-in reducer
KQ2R P.128

Use to change size of One-touch fittings.

Bulkhead male elbow
KQ2LE P.129

Use to connect tubing through a panel, etc. and to change the tube direction by 90°.

Adapter
KQ2N P.129

Use to connect One-touch fittings and R female threads.

Tube cap
KQ2C P.130

Use to plug unused tubing.

Color cap
KQ2C P.130

Mount onto the release button and use different colors for piping according to applications.

Plug
KQ2P P.129

Use to plug unused One-touch fittings.

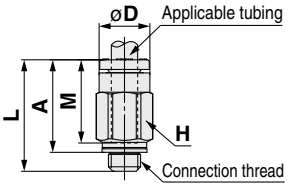
Dimensions

Male Connector: KQ2H (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø2	M3 x 0.5	**KQ2H02-M3G**	5.5	5.5	15.6	13	11.9	—	0.9	1.2	1.5
	M5 x 0.8	**KQ2H02-M5□**	7	5.5	13.8	10.8	11.9	—	0.9	1.4	2
ø3.2	M3 x 0.5	**KQ2H23-M3G**	7	6.7	17	14.4	13.3	0.9	0.9	1.2	2.4
	M5 x 0.8	**KQ2H23-M5□**	7	6.7	17.3	14.3	13.3	3	2.5	2.5	2.7
ø4	M3 x 0.5	**KQ2H04-M3G**	8	7.7	17.1	14.5	13.3	0.9	0.9	1.2	2.9
	M5 x 0.8	**KQ2H04-M5□**	8	7.7	17.7	14.7	13.3	4	4	2.5	3.3
	M6 x 1.0	**KQ2H04-M6□**	8	7.7	18.7	14.7	13.3	5.6	4	3	3.6
ø6	M5 x 0.8	**KQ2H06-M5□**	10	9.7	17.7	14.7	13.3	4	4	2.5	4.1
	M6 x 1.0	**KQ2H06-M6□**	10	9.7	18.8	14.8	13.3	5.6	5.6	3	4.4

□: A (Brass), N (Brass + Electroless nickel plating)



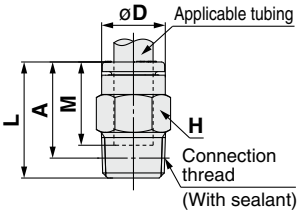
Male Connector: KQ2H (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	L	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	**KQ2H23-01□S**	10	6.7	14	10.9	13.3	3.4	2.9	2.5	6
	1/4	**KQ2H23-02□S**	14	6.7	16.7	12	13.3	3.4	2.9	2.5	15.3
ø4	1/8	**KQ2H04-01□S**	10	7.7	14.3	11.2	13.3	4.8	3.4	3	5.6
	1/4	**KQ2H04-02□S**	14	7.7	16.7	12	13.3	4.8	3.4	3	14.6
ø6	1/8	**KQ2H06-01□S**	10	9.7	18.4	15.3	13.3	13.1	10.4	4.5	5.8
	1/4	**KQ2H06-02□S**	14	9.7	16.7	12	13.3	13.1	10.4	4.5	12.5
	3/8	**KQ2H06-03□S**	17	9.7	18.1	13	13.3	13.1	10.4	4.5	24.5
ø8	1/8	**KQ2H08-01□S**	14	13	22.5	19.4	14.2	26.1	18	6	11.9
	1/4	**KQ2H08-02□S**	14	13	22	17.3	14.2	26.1	18	6	13.9
	3/8	**KQ2H08-03□S**	17	13	18.1	13	14.2	26.1	18	6	21
ø10	1/8	**KQ2H10-01□S**	17	15.6	23.8	20.7	15.6	26.1	26.1	6	16.9
	1/4	**KQ2H10-02□S**	17	15.6	27.3	22.6	15.6	41.5	29.5	7.5	22.1
	3/8	**KQ2H10-03□S**	17	15.6	23.5	18.4	15.6	41.5	29.5	7.5	22.5
	1/2	**KQ2H10-04□S**	22	15.6	22.3	15.9	15.6	41.5	29.5	7.5	44.7
ø12	1/4	**KQ2H12-02□S**	19	18.2	28.7	24	17	58.3	46.1	9	24.3
	3/8	**KQ2H12-03□S**	19	18.2	25.9	20.8	17	58.3	46.1	9	25.2
	1/2	**KQ2H12-04□S**	22	18.2	22.3	15.9	17	58.3	46.1	9	37.7
ø16	1/4	**KQ2H16-02□S**	24	23.6	32.5	27.8	20.6	58.3	58.3	9	37.4
	3/8	**KQ2H16-03□S**	24	23.6	33.1	28	20.6	81	67	11	42.4
	1/2	**KQ2H16-04□S**	24	23.6	32.1	25.7	20.6	113	67	13	44.6

□: A (Brass), N (Brass + Electroless nickel plating)

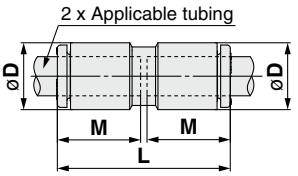
*1 Reference dimensions after installation of R thread



Straight Union: KQ2H



Applicable tubing O.D. [mm]	Model	øD	L	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø2	**KQ2H02-00A**	5.8	24.8	11.9	—	0.9	1.4	0.8
ø3.2	**KQ2H23-00A**	7.1	27.6	13.3	3.4	2.9	2.5	1.4
ø4	**KQ2H04-00A**	8.2	27.6	13.3	5.6	4	3	1.6
ø6	**KQ2H06-00A**	10.4	27.6	13.3	13.1	10.4	4.5	2.1
ø8	**KQ2H08-00A**	13.2	29.4	14.2	26.1	18	6	3.7
ø10	**KQ2H10-00A**	15.9	32.2	15.6	41.5	29.5	7.5	5.5
ø12	**KQ2H12-00A**	18.5	35	17	58.3	46.1	9	8.2
ø16	**KQ2H16-00A**	23.8	42.2	20.6	113	67	13	15.2

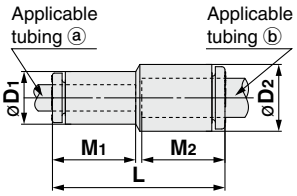


Dimensions

Different Diameter Straight: KQ2H



Applicable tubing O.D. [mm] ⓐ	Applicable tubing O.D. [mm] ⓑ	Model	øD_1	øD_2	L	M_1	M_2	Effective area [mm^2] Nylon	Effective area [mm^2] Urethane	Min. port size	Weight [g]
ø2	ø3.2	KQ2H02-23A	5.8	7.1	26.2	11.9	13.3	—	0.9	1.4	1.1
ø2	ø4	KQ2H02-04A	5.8	8.2	26.2	11.9	13.3	—	0.9	1.4	1.2
ø3.2	ø4	KQ2H23-04A	7.1	8.2	27.6	13.3	13.3	3.4	2.9	2.5	1.5
ø3.2	ø6	KQ2H23-06A	7.1	10.4	27.6	13.3	13.3	3.4	2.9	2.5	1.8
ø4	ø6	KQ2H04-06A	8.2	10.4	27.6	13.3	13.3	5.6	5.6	3	2
ø6	ø8	KQ2H06-08A	10.4	13.2	28.5	13.3	14.2	13.1	10.4	4.5	2.9
ø8	ø10	KQ2H08-10A	13.2	15.9	30.8	14.2	15.6	26.1	18	6	4.9
ø8	ø12	KQ2H08-12A	15.9	18.5	33.6	14.2	17	26.1	18	6	7.5
ø10	ø12	KQ2H10-12A	15.9	18.5	33.6	15.6	17	41.5	29.5	7.5	7.2
ø12	ø16	KQ2H12-16A	18.5	23.8	38.6	17	20.6	58.3	46.1	9	12.4

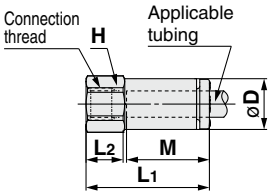


Female Connector: KQ2F



Applicable tubing O.D. [mm]	Connection thread Rc	Model	H (Width across flats)	øD	L_1	L_2	M	Effective area [mm^2] Nylon	Effective area [mm^2] Urethane	Min. port size	Weight [g]
ø3.2	M3 x 0.5	KQ2F23-M3□	7	6.9	17.3	5.7	13.3	3	2.5	2.5	3.1
	M5 x 0.8	KQ2F23-M5□	7	6.9	19.7	5.7	13.3	3	2.5	2.5	3.3
ø4	M3 x 0.5	KQ2F04-M3□	8	7.9	16.5	5.7	13.3	4	4	2.5	4.1
	M5 x 0.8	KQ2F04-M5□	8	7.9	19.6	5.7	13.3	4	4	3	4.5
	1/8	KQ2F04-01□	14	7.9	24.1	8.5	13.3	5.6	4	3	12
	1/4	KQ2F04-02□	17	7.9	29	12.9	13.3	5.6	4	3	21.5
ø6	M5 x 0.8	KQ2F06-M5□	10	9.9	17.6	5.7	13.3	10	10	4.1	5.5
	1/8	KQ2F06-01□	14	9.9	23.6	8.5	13.3	13.1	10.4	4.5	12.2
	1/4	KQ2F06-02□	17	9.9	28.5	12.9	13.3	13.1	10.4	4.5	21.6
	3/8	KQ2F06-03□	19	9.9	29.9	13.4	13.3	13.1	10.4	4.5	22.7
ø8	1/8	KQ2F08-01□	14	13	24.1	8.5	14.2	26.1	18	6	12.9
	1/4	KQ2F08-02□	17	13	29	12.2	14.2	26.1	18	6	22.1
	3/8	KQ2F08-03□	19	13	30.4	13.4	14.2	26.1	18	6	30.7
ø10	1/4	KQ2F10-02□	17	15.6	30	12.9	15.6	41.5	29.5	7.5	24.2
	3/8	KQ2F10-03□	19	15.6	31.3	13.3	15.6	41.5	29.5	7.5	25.5
ø12	1/4	KQ2F12-02□	19	18.2	30.9	12.1	17	58.3	46.1	9	32.6
	3/8	KQ2F12-03□	19	18.2	32.3	13.3	17	58.3	46.1	9	27.6
	1/2	KQ2F12-04□	24	18.2	36.3	15.9	17	58.3	46.1	9	46.3
ø16	3/8	KQ2F16-03□	24	23.6	34.7	12.6	20.6	81	67	13	53.8
	1/2	KQ2F16-04□	24	23.6	38.7	15.9	20.6	113	67	13	51.6

□: A (Brass), N (Brass + Electroless nickel plating)



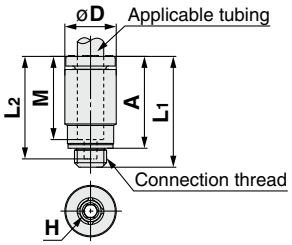
Dimensions

Hexagon Socket Head Male Connector: KQ2S (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD	L1	L2	A	M	Effective area [mm²]		Min. port size	Weight [g]
									Nylon	Urethane		
ø2	M3 x 0.5	**KQ2S02-M3G**	1.5	5.5	15.7	14.7	13.1	11.9	—	0.9	1.5	1.7
ø3.2	M3 x 0.5	**KQ2S23-M3G**	1.5	7	17.1	16.1	14.5	13.3	1.4	1.4	1.5	2.2
	M5 x 0.8	**KQ2S23-M5□**	2	7	17.5	16.3	14.5	13.3	2.5	2.5	2	2.6
ø4	M3 x 0.5	**KQ2S04-M3G**	1.5	8	17.1	16.1	14.5	13.3	1.4	1.4	1.5	2.3
	M5 x 0.8	**KQ2S04-M5□**	2.5	8	18.6	17.8	15.6	13.3	4	4	2.5	3
	M6 x 1.0	**KQ2S04-M6□**	3	8	18.5	17.8	14.5	13.3	4	4	3.1	4.1
ø6	M5 x 0.8	**KQ2S06-M5□**	2.5	10	19.5	17.8	16.5	13.3	4	4	2.5	3.5
	M6 x 1.0	**KQ2S06-M6□**	3	10	19.1	18.1	15.1	13.3	4	4	3.1	5.1

□: A (Brass), N (Brass + Electroless nickel plating)



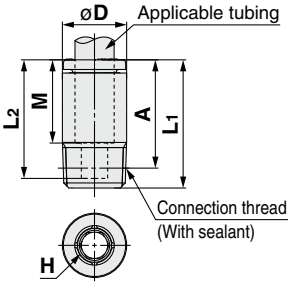
Hexagon Socket Head Male Connector: KQ2S (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	L1	L2	A*1	M	Effective area [mm²]		Min. port size	Weight [g]
									Nylon	Urethane		
ø4	1/8	**KQ2S04-01□S**	3	9.8	19.7	18.8	16.6	13.3	4.1	3.6	3.1	8.1
ø6	1/8	**KQ2S06-01□S**	4	10	20	18.8	16.9	13.3	10	9.9	4.1	6.5
	1/4	**KQ2S06-02□S**	4	13.8	19.8	18.8	15.1	13.3	10.7	10	4.1	13.4
ø8	1/8	**KQ2S08-01□S**	5	13	22.9	19.7	19.8	14.2	17.2	16.2	5.1	10.2
	1/4	**KQ2S08-02□S**	6	14	23.2	19.5	18.5	14.2	23.3	16.2	6.1	14.3
	3/8	**KQ2S08-03□S**	6	17	20.7	19.7	15.6	14.2	23.3	16.2	6.1	21.1
ø10	1/8	**KQ2S10-01□S**	5	15.6	24.3	21.1	21.2	15.6	17.2	16.2	5.1	12
	1/4	**KQ2S10-02□S**	8	15.6	24.6	20.1	19.9	15.6	39	26.6	8.1	12.4
	3/8	**KQ2S10-03□S**	8	17	25.1	20.1	20	15.6	39	26.6	8.1	23.2
	1/2	**KQ2S10-04□S**	8	22	21.1	20.1	14.7	15.6	39	26.6	8.1	37.4
ø12	1/4	**KQ2S12-02□S**	8	18.2	29	21.5	24.3	17	46	44.5	8.1	21
	3/8	**KQ2S12-03□S**	10	18.2	26.4	21.8	21.3	17	60	44.5	10.1	21.2
	1/2	**KQ2S12-04□S**	10	22	22.8	21.8	16.4	17	60	44.5	10.1	30.5
ø16	1/4	**KQ2S16-02□S**	8	23.6	32.5	25.1	27.8	20.6	46	46	8.1	25.7
	3/8	**KQ2S16-03□S**	10	23.6	33.5	25.4	28.4	20.6	81	67	10.1	38.3
	1/2	**KQ2S16-04□S**	12	23.6	33.4	26.1	27	20.6	113	67	12.1	43.5

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



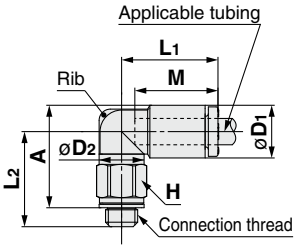
Dimensions

Male Elbow: KQ2L (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø2	M3 x 0.5	KQ2L02-M3G	5.5	5.8	5.5	12.6	12.5	12.8	11.9	—	0.8	1.2	1.6	●
	M5 x 0.8	KQ2L02-M5□	7	5.8	5.5	12.6	13	12.9	11.9	—	0.8	1.4	2.7	●
ø3.2	M3 x 0.5	KQ2L23-M3G	7	7.1	7	15.3	13.8	14.8	13.3	0.8	0.8	1.2	2.7	●
	M5 x 0.8	KQ2L23-M5□	7	7.1	7	15.3	14.3	14.9	13.3	2.6	2.2	2.5	3.1	●
ø4	M3 x 0.5	KQ2L04-M3G	7	8.2	7	15.4	14.3	15.8	13.3	0.8	0.8	1.2	2.7	●
	M5 x 0.8	KQ2L04-M5□	7	8.2	7	15.4	14.8	15.9	13.3	3.5	3.5	2.5	3.1	●
	M6 x 1.0	KQ2L04-M6□	8	8.2	7	15.4	15.8	15.9	13.3	3.5	3.5	2.5	4.2	●
ø6	M5 x 0.8	KQ2L06-M5□	7	10.4	7	14.5	16.5	18.7	13.3	3.5	3.5	2.5	3.2	●
	M6 x 1.0	KQ2L06-M6□	8	10.4	7	14.5	17.5	18.7	13.3	3.5	3.5	2.5	4.3	●

□: A (Brass), N (Brass + Electroless nickel plating)



Male Elbow: KQ2L (Sealant)

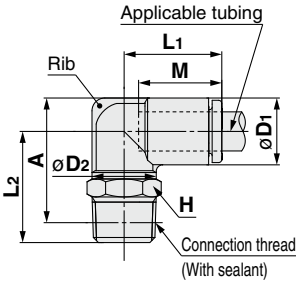


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3.2	1/8	KQ2L23-01□S	10	7.1	10	14.5	16.7	17.2	13.3	3	2.5	2.5	4.6	—
	1/4	KQ2L23-02□S	14	7.1	10	14.5	21.2	20.1	13.3	3	2.5	2.5	14.1	—
ø4	1/8	KQ2L04-01□S	10	8.2	10	14.8	16.2	17.2	13.3	4.6	3.3	3	4.8	●
	1/4	KQ2L04-02□S	14	8.2	10	14.8	21.7	21.1	13.3	4.6	3.3	3	14.3	●
ø6	1/8	KQ2L06-01□S	10	10.4	10	15.5	17.3	19.4	13.3	11.4	9	4.5	5.2	—
	1/4	KQ2L06-02□S	14	10.4	10	15.5	22.8	23.3	13.3	11.4	9	4.5	14.7	—
	3/8	KQ2L06-03□S	17	10.4	10	15.5	24.1	24.2	13.3	11.4	9	4.5	26.5	—
ø8	1/8	KQ2L08-01□S	10	13.2	10	16.4	18.7	22.2	14.2	11.4	11.4	4.5	6.1	●
		KQ2L08-01□QS *2	12	13.2	12	17.2	23.5	27.0	14.2	21.6	14.9	6	9.3	●
	1/4	KQ2L08-02□S	14	13.2	12	17.2	25.4	27.3	14.2	21.6	14.9	6	17.7	●
	3/8	KQ2L08-03□S	17	13.2	12	17.2	25.5	27.0	14.2	21.6	14.9	6	24.7	●
ø10	1/8	KQ2L10-01□S	12	15.9	12	18.6	23.6	28.4	15.6	21.6	14.9	6	11.1	●
	1/4	KQ2L10-02□S	17	15.9	17	19.3	28.7	31.9	15.6	35.2	25	7.5	21.7	●
	3/8	KQ2L10-03□S	17	15.9	17	19.3	29.6	32.4	15.6	35.2	25	7.5	22.2	●
	1/2	KQ2L10-04□S	22	15.9	17	19.3	33.6	35.1	15.6	35.2	25	7.5	44.6	●
ø12	1/4	KQ2L12-02□S	17	18.5	17	21.5	30.0	34.5	17	50.2	39.7	9	23.5	●
	3/8	KQ2L12-03□S	17	18.5	17	21.5	30.9	35.0	17	50.2	39.7	9	24.1	●
	1/2	KQ2L12-04□S	22	18.5	17	21.5	34.9	37.7	17	50.2	39.7	9	46.5	●
ø16	1/4	KQ2L16-02□S	17	23.8	17	25.1	32.6	39.8	20.6	50.2	50.2	9	27.8	●
	3/8	KQ2L16-03□S	22	23.8	21	27.1	35.4	42.2	20.6	71	58.9	11	40.8	—
	1/2	KQ2L16-04□S	22	23.8	21	27.1	34.1	39.6	20.6	100	58.9	13	44.5	—

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread

*2 For details, refer to page 131.

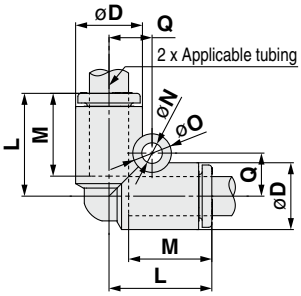


Dimensions

Union Elbow: KQ2L



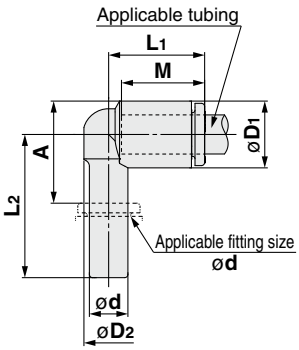
Applicable tubing O.D. [mm]	Model	øD	L	Q	M	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
						øO	øN	Thickness	Nylon	Urethane		
ø3.2	KQ2L23-00A	7.1	14.9	5.4	13.3	6	3.2	7.1	3	2.5	2.5	1.6
ø4	KQ2L04-00A	8.2	15.3	5.7	13.3	6	3.2	8.2	4.2	4.2	3	1.9
ø6	KQ2L06-00A	10.4	16.3	6.7	13.3	6	3.2	10.4	11.4	9	4.5	2.7
ø8	KQ2L08-00A	13.2	18.2	8.4	14.2	8	4.2	13.2	21.6	14.9	6	4.7
ø10	KQ2L10-00A	15.9	20.6	9.6	15.6	8	4.2	15.9	35.2	25	7.5	7.1
ø12	KQ2L12-00A	18.5	23	10.7	17	8	4.2	18.5	50.2	39.7	9	10.3
ø16	KQ2L16-00A	23.8	28.6	13.4	20.6	8	4.2	23.8	100	58.9	13	19.7



Plug-in Elbow: KQ2L



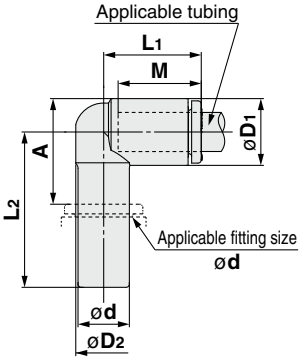
Applicable tubing O.D. [mm]	Applicable fitting size ød	Model	øD1	øD2	L1	L2	A	M	Effective area [mm²]		Min. port size	Weight [g]
									Nylon	Urethane		
ø3.2	ø3.2	KQ2L23-99A	7.1	6.4	14.4	20.9	11.1	13.3	3	2.5	2.2	0.9
ø4	ø4	KQ2L04-99A	8.2	7.2	14.5	21.1	11.9	13.3	4.2	4.2	2.5	1.2
ø6	ø6	KQ2L06-99A	10.4	8	15.3	22.3	14.2	13.3	9	9	4	1.8
ø8	ø8	KQ2L08-99A	13.2	10	17.2	26.2	18.6	14.2	21.6	14.9	6	3
ø10	ø10	KQ2L10-99A	15.9	12	19.3	28.2	20.5	15.6	35.2	25	7.5	4.7
ø12	ø12	KQ2L12-99A	18.5	14	21.5	31	23.2	17	50.2	39.7	9	7
ø16	ø16	KQ2L16-99A	23.8	20	27.1	36.8	28.1	20.6	100	58.9	13	13.7



Reducer Elbow: KQ2L



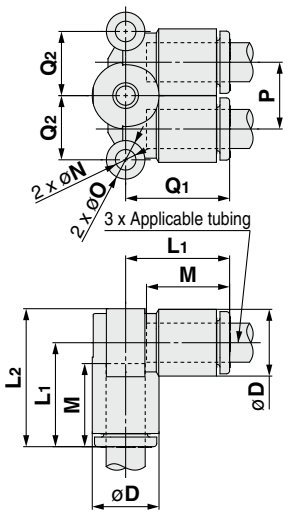
Applicable tubing O.D. [mm]	Applicable fitting size ød	Model	øD1	øD2	L1	L2	A	M	Effective area [mm²]		Min. port size	Weight [g]
									Nylon	Urethane		
ø3.2	ø4	KQ2L23-04A	7.1	6.4	14.5	23.9	14.1	13.3	3	2.5	2.5	1.1
	ø6	KQ2L23-06A	7.1	6.4	14.5	24.1	14.3	13.3	3	2.5	2.5	1.3
ø4	ø6	KQ2L04-06A	8.2	7.2	14.8	24.6	15.4	13.3	4.2	4.2	3	1.5
	ø8	KQ2L04-08A	8.2	7.2	14.8	29.5	19.4	13.3	4.2	4.2	3	1.8
ø6	ø8	KQ2L06-08A	10.4	9	15.5	24.2	15.2	13.3	11.4	9	4.5	2.1
	ø10	KQ2L06-10A	10.4	9	15.5	31.6	21.2	13.3	11.4	9	4.5	2.7
ø8	ø10	KQ2L08-10A	13.2	10	18.8	27.1	18.1	14.2	21.6	14.9	6	3.5
	ø12	KQ2L08-12A	13.2	10	18.8	34	23.6	14.2	21.6	14.9	6	4.9
ø10	ø12	KQ2L10-12A	15.9	12	19.3	35.6	26.5	15.6	35.2	25	7.5	5.6
ø12	ø16	KQ2L12-16A	18.5	14	21.5	42.6	31.2	17	50.2	39.7	9	8.7



Branch Union Elbow: KQ2LU



Applicable tubing O.D. [mm]	Model	øD	L1	L2	Q1	Q2	M	P	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
									øO	øN	Thickness	Nylon	Urethane		
ø4	KQ2LU04-00A	8.2	15.8	19.9	15.8	7.9	13.3	8.2	6	3.2	8.2	6	4.1	3	3.1
ø6	KQ2LU06-00A	10.4	16.5	21.7	16.5	10	13.3	10.4	6	3.2	10.4	13.9	11	4.5	4.4
ø8	KQ2LU08-00A	13.2	18.2	24.8	18.2	13.1	14.2	13.2	8	4.2	13.2	26.3	18.2	6	8
ø10	KQ2LU10-00A	15.9	20.3	28.3	20.3	15.9	15.6	15.9	8	4.2	15.9	40.8	29	7.5	12.2
ø12	KQ2LU12-00A	18.5	22.5	31.7	22.5	17.9	17	18.5	8	4.2	18.5	57.2	45.2	9	18.1



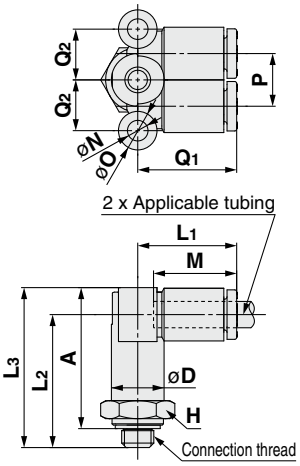
Dimensions

Branch Male Elbow: KQ2LU (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD	L1	L2	L3	A	M	P	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Q1	Q2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2LU04-M5□	10	8.2	15.8	20.7	24.8	21.8	13.3	8.2	6	3.2	8.2	15.8	7.9	4.3	4.1	1.8	6.9
	M6 x 1.0	KQ2LU04-M6□	10	8.2	15.8	21.7	25.8	21.8	13.3	8.2	6	3.2	8.2	15.8	7.9	4.3	4.1	3	6.8
ø6	M5 x 0.8	KQ2LU06-M5□	12	10.4	16.5	21.4	26.6	23.6	13.3	10.4	6	3.2	10.4	16.5	10	4.3	4.3	1.8	10.3
	M6 x 1.0	KQ2LU06-M6□	12	10.4	16.5	22.4	27.6	23.6	13.3	10.4	6	3.2	10.4	16.5	10	4.3	4.3	3	10.3

□: A (Brass), N (Brass + Electroless nickel plating)



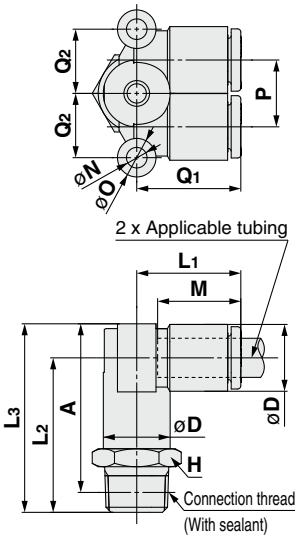
Branch Male Elbow: KQ2LU (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	L1	L2	L3	A*1	M	P	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Q1	Q2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2LU04-01□S	10	8.2	15.8	23.3	27.4	24.3	13.3	8.2	6	3.2	8.2	15.8	7.9	6	4.1	3	9.5
	1/4	KQ2LU04-02□S	14	8.2	15.8	27.7	31.8	27.1	13.3	8.2	6	3.2	8.2	15.8	7.9	6	4.1	3	19.3
ø6	1/8	KQ2LU06-01□S	12	10.4	16.5	24	29.2	26.1	13.3	10.4	6	3.2	10.4	16.5	10	13.9	11	4.5	10.6
	1/4	KQ2LU06-02□S	14	10.4	16.5	28.4	33.6	28.9	13.3	10.4	6	3.2	10.4	16.5	10	13.9	11	4.5	19.5
	3/8	KQ2LU06-03□S	17	10.4	16.5	29.8	35	29.9	13.3	10.4	6	3.2	10.4	16.5	10	13.9	11	4.5	31.5
ø8	1/8	KQ2LU08-01□S	14	13.2	18.2	25.7	32.3	29.2	14.2	13.2	8	4.2	13.2	18.2	13.1	26.3	18.2	6	16.4
	1/4	KQ2LU08-02□S	14	13.2	18.2	30.1	36.7	32	14.2	13.2	8	4.2	13.2	18.2	13.1	26.3	18.2	6	21.5
	3/8	KQ2LU08-03□S	17	13.2	18.2	31.5	38.1	33	14.2	13.2	8	4.2	13.2	18.2	13.1	26.3	18.2	6	33.3
ø10	1/4	KQ2LU10-02□S	17	15.9	20.3	32.2	40.2	35.5	15.6	15.9	8	4.2	15.9	20.3	15.9	40.8	29	7.5	26.6
	3/8	KQ2LU10-03□S	17	15.9	20.3	33.6	41.6	36.5	15.6	15.9	8	4.2	15.9	20.3	15.9	40.8	29	7.5	34.4
	1/2	KQ2LU10-04□S	22	15.9	20.3	37.8	45.8	39.4	15.6	15.9	8	4.2	15.9	20.3	15.9	40.8	29	7.5	62.3
ø12	1/4	KQ2LU12-02□S	19	18.5	22.5	34.4	43.6	38.9	17	18.5	8	4.2	18.5	22.5	17.9	57.2	45.2	9	37.7
	3/8	KQ2LU12-03□S	19	18.5	22.5	35.8	45	39.9	17	18.5	8	4.2	18.5	22.5	17.9	57.2	45.2	9	40.6
	1/2	KQ2LU12-04□S	22	18.5	22.5	40	49.2	42.8	17	18.5	8	4.2	18.5	22.5	17.9	57.2	45.2	9	62.7

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



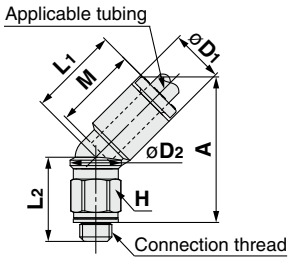
Dimensions

45° Male Elbow: KQ2K (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2K04-M5□	7	8.2	8	14.4	13.1	22.8	13.3	3.4	3.4	2.5	3
	M6 x 1.0	KQ2K04-M6□	8	8.2	8	14.4	14.1	22.8	13.3	3.4	3.4	2.5	4.1
ø6	M5 x 0.8	KQ2K06-M5□	7	10.4	8	14.4	17	27.4	13.3	3.4	3.4	2.5	3.5
	M6 x 1.0	KQ2K06-M6□	8	10.4	8	14.4	18	27.4	13.3	3.4	3.4	2.5	4.5

□: A (Brass), N (Brass + Electroless nickel plating)



45° Male Elbow: KQ2K (Sealant)

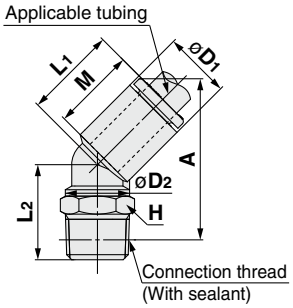


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2K04-01□S	10	8.2	10	14.4	12.7	22.3	13.3	4.8	3.4	3	4.6
	1/4	KQ2K04-02□S	14	8.2	10	14.4	17.2	25.2	13.3	4.8	3.4	3	14.1
ø6	1/8	KQ2K06-01□S	10	10.4	10	14.7	14.8	25.3	13.3	8.7	6.9	4.5	5
	1/4	KQ2K06-02□S	14	10.4	10	14.7	19.3	28.2	13.3	8.7	6.9	4.5	14.5
	3/8	KQ2K06-03□S	17	10.4	10	14.7	20.6	29.1	13.3	8.7	6.9	4.5	26.2
ø8	1/8	KQ2K08-01□S	10	13.2	10	16	15.7	28	14.2	8.7	8.7	4.5	6
		KQ2L08-01□QS *2	12	13.2	12	16	20.5	32.8	14.2	19.7	19.7	6	9.1
	1/4	KQ2K08-02□S	14	13.2	12	16	22.4	33.1	14.2	19.7	19.7	6	17.5
	3/8	KQ2K08-03□S	17	13.2	12	16	22.5	32.8	14.2	19.7	19.7	6	24.5
ø10	1/8	KQ2K10-01□S	12	15.9	12	18.2	21.5	36.2	15.6	30.9	23.2	6	11.1
	1/4	KQ2K10-02□S	17	15.9	17	17.6	29.1	41.8	15.6	30.9	23.2	7.5	21.8
	3/8	KQ2K10-03□S	17	15.9	17	17.6	24.3	36.6	15.6	30.9	23.2	7.5	21.7
	1/2	KQ2K10-04□S	22	15.9	17	17.6	28.3	39.3	15.6	30.9	23.2	7.5	44.1
ø12	1/4	KQ2K12-02□S	17	18.5	17	19.4	29	43.8	17	44.5	35.1	9	23.3
	3/8	KQ2K12-03□S	17	18.5	17	19.4	24.2	38.6	17	44.5	35.1	9	23.2
	1/2	KQ2K12-04□S	22	18.5	17	19.4	28.2	41.3	17	44.5	35.1	9	45.7
ø16	1/4	KQ2K16-02□S	17	23.8	17	24.3	29.6	49.2	20.6	44.5	44.5	9	27.7
	3/8	KQ2K16-03□S	22	23.8	21	23.8	31.4	50.2	20.6	65.8	58	11	39.2
	1/2	KQ2K16-04□S	22	23.8	21	23.8	30.1	47.6	20.6	91.9	58	13	42.9

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread

*2 For details, refer to page 131.



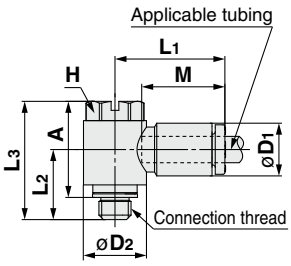
Dimensions

Universal Male Elbow: KQ2V (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2V04-M5□	8	8.2	9.8	17.5	10.9	18.4	14.9	13.3	2.9	2.9	2.5	5.4
ø6	M5 x 0.8	KQ2V06-M5□	8	10.4	9.8	18.3	10.9	18.4	15.4	13.3	3.8	3.8	2.5	5.7

□: A (Brass), N (Brass + Electroless nickel plating)

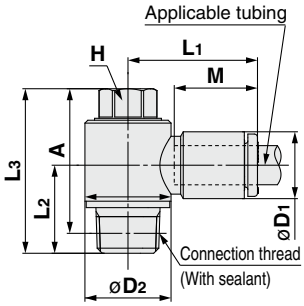


Universal Male Elbow: KQ2V (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2V04-01□S	8	8.2	13.4	19.3	13.7	25.6	22.5	13.3	2.9	2.9	3	13.2
ø6	1/8	KQ2V06-01□S	8	10.4	13.4	20.5	13.7	25.6	22.5	13.3	7.5	5.9	4.5	13.5
	1/4	KQ2V06-02□S	10	10.4	15.3	19.9	17.9	30.5	25.8	13.3	7.5	5.9	4.5	24.9
ø8	1/8	KQ2V08-01□S	12	13.2	17.6	23.5	15.1	27.6	24.5	14.2	16	11.2	6	22.6
	1/4	KQ2V08-02□S	12	13.2	17.6	23.5	18.5	31	26.3	14.2	16	11.2	6	29.1
	3/8	KQ2V08-03□S	14	13.2	20.6	23.1	19.5	35.3	30.2	14.2	16	11.2	6	44.4
ø10	1/4	KQ2V10-02□S	14	15.9	20.6	25.9	19.9	34.9	30.2	15.6	27	20.3	7.5	38.1
	3/8	KQ2V10-03□S	14	15.9	20.6	25.9	20.3	35.3	30.2	15.6	27	20.3	7.5	45.7
ø12	3/8	KQ2V12-03□S	17	18.5	25.2	28.5	21.4	37.6	32.5	17	39	30.8	9	59.6
	1/2	KQ2V12-04□S	17	18.5	25.2	28.5	24.6	40.8	34.4	17	39	30.8	9	78.2
ø16	3/8	KQ2V16-03□S	21	23.8	32.3	34.2	25.1	45.4	40.3	20.6	55	46	11	99.5
	1/2	KQ2V16-04□S	21	23.8	32.3	34.2	28.3	48.6	42.2	20.6	78	46	13	107.9

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of R thread

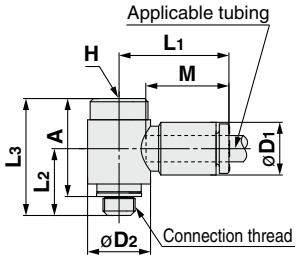


Hexagon Socket Head Universal Male Elbow: KQ2VS (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2VS04-M5□	4	8.2	9.8	17.5	10.4	18.2	15.2	13.3	2.9	2.9	2.5	5.3
ø6	M5 x 0.8	KQ2VS06-M5□	4	10.4	9.8	18.3	10.4	18.2	15.2	13.3	3.8	3.8	2.5	5.6

□: A (Brass), N (Brass + Electroless nickel plating)

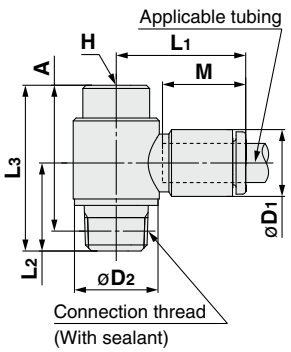


Hexagon Socket Head Universal Male Elbow: KQ2VS (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VS04-01□S	6	8.2	13.4	19.3	13.7	25.8	22.7	13.3	2.9	2.9	3	13.2
ø6	1/8	KQ2VS06-01□S	6	10.4	13.4	20.5	13.7	25.8	22.8	13.3	7.5	5.9	4.5	13.5
	1/4	KQ2VS06-02□S	6	10.4	15.3	19.9	17.9	26.5	21.8	13.3	7.5	5.9	4.5	20.8
ø8	1/8	KQ2VS08-01□S	8	13.2	17.6	23.5	15.1	26	22.9	14.2	16	11.2	6	19.2
	1/4	KQ2VS08-02□S	8	13.2	17.6	23.5	18.5	29.5	24.8	14.2	16	11.2	6	25.7
	3/8	KQ2VS08-03□S	8	13.2	20.6	23.1	19.5	31.4	26.3	14.2	16	11.2	6	37
ø10	1/4	KQ2VS10-02□S	8	15.9	20.6	25.9	19.7	30.8	26.1	15.6	27	20.3	7.5	30.4
	3/8	KQ2VS10-03□S	8	15.9	20.6	25.9	20.3	31.4	26.3	15.6	27	20.3	7.5	38.3
ø12	3/8	KQ2VS12-03□S	10	18.5	25.2	28.5	21.4	35.1	30	17	39	30.8	9	51.4
	1/2	KQ2VS12-04□S	10	18.5	25.2	28.5	24.6	38.3	31.9	17	39	30.8	9	70

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of R thread



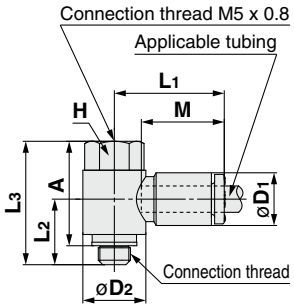
Dimensions

Universal Female Elbow: KQ2VF (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2VF04-M5□	8	8.2	9.8	17.5	10.2	19.2	16.2	13.3	2.9	2.9	2.5	5.5
ø6	M5 x 0.8	KQ2VF06-M5□	8	10.4	9.8	18.3	10.2	19.2	16.2	13.3	3.8	3.8	2.5	5.8

□: A (Brass), N (Brass + Electroless nickel plating)



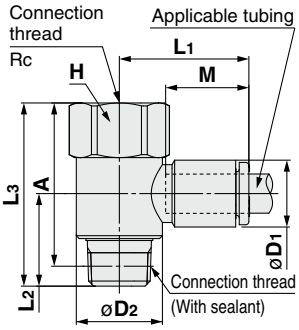
Universal Female Elbow: KQ2VF (Sealant)



Applicable tubing O.D. [mm]	Connection thread R, Rc	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VF04-01□S	14	8.2	13.4	19.3	14.4	28.5	25.4	13.3	2.9	2.9	3	17.3
ø6	1/8	KQ2VF06-01□S	14	10.4	13.4	20.5	14.4	28.5	25.4	13.3	7.5	5.9	4.5	17.6
	1/4	KQ2VF06-02□S	17	10.4	17.6	21.2	19.4	37.9	33.2	13.3	7.5	5.9	4.5	37
ø8	1/8	KQ2VF08-01□S	17	13.2	17.6	23.5	15.5	30	26.9	14.2	16	11.2	6	27.5
	1/4	KQ2VF08-02□S	17	13.2	17.6	23.5	18.9	37.9	33.2	14.2	16	11.2	6	38.1
	3/8	KQ2VF08-03□S	22	13.2	25.2	24.9	24	44	38.9	14.2	16	11.2	6	64.5
ø10	1/4	KQ2VF10-02□S	19	15.9	20.6	25.9	20.4	40.3	35.6	15.6	27	20.3	7.5	46.4
	3/8	KQ2VF10-03□S	22	15.9	25.2	26.3	23.2	44	38.9	15.6	27	20.3	7.5	65.3
ø12	3/8	KQ2VF12-03□S	22	18.5	25.2	28.5	22.5	44	38.9	17	39	30.8	9	67.2
	1/2	KQ2VF12-04□S	24	18.5	27	29.9	24.4	48.9	42.5	17	39	30.8	9	95.6

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread



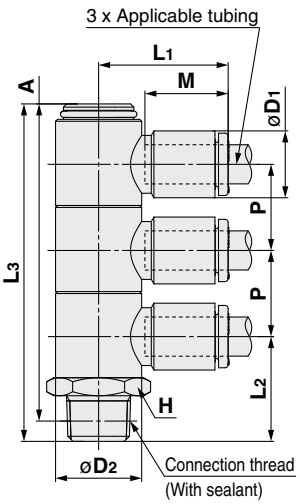
Dimensions

Triple Universal Male Elbow: KQ2VT (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VT04-01□S	14	8.2	13.4	19.3	16.3	52.5	49.4	13.3	13.4	2.9	2.9	3	25.3
	1/4	KQ2VT04-02□S	14	8.2	13.4	19.3	20.7	56.9	52.2	13.3	13.4	2.9	2.9	3	32.9
	3/8	KQ2VT04-03□S	17	8.2	13.4	19.3	22.1	58.3	53.2	13.3	13.4	2.9	2.9	3	44.8
ø6	1/8	KQ2VT06-01□S	14	10.4	13.4	20.5	16.3	52.5	49.4	13.3	13.4	7.5	5.9	4.5	26.2
	1/4	KQ2VT06-02□S	14	10.4	13.4	20.5	20.7	56.9	52.2	13.3	13.4	7.5	5.9	4.5	33.9
	3/8	KQ2VT06-03□S	17	10.4	13.4	20.5	22.1	58.3	53.2	13.3	13.4	7.5	5.9	4.5	45.8
ø8	1/8	KQ2VT08-01□S	19	13.2	17.6	23.7	19	61.8	58.7	14.2	15.9	16	11.2	6	59.6
	1/4	KQ2VT08-02□S	19	13.2	17.6	23.7	22.4	65.2	60.5	14.2	15.9	16	11.2	6	56.8
	3/8	KQ2VT08-03□S	19	13.2	17.6	23.7	23	65.8	60.7	14.2	15.9	16	11.2	6	64.9
	1/2	KQ2VT08-04□S	22	13.2	17.6	23.7	27.2	70	63.6	14.2	15.9	16	11.2	6	91.5
ø10	1/4	KQ2VT10-02□S	21	15.9	20.6	25.7	24.3	75.5	70.8	15.6	19.2	27	20.3	7.5	82
	3/8	KQ2VT10-03□S	21	15.9	20.6	25.7	24.7	75.9	70.8	15.6	19.2	27	20.3	7.5	81.9
	1/2	KQ2VT10-04□S	22	15.9	20.6	25.7	28.7	79.9	73.5	15.6	19.2	27	20.3	7.5	103.9
ø12	1/4	KQ2VT12-02□S	26	18.5	25.2	28.9	26.5	84.1	79.4	17	21.6	39	30.8	9	139.3
	3/8	KQ2VT12-03□S	26	18.5	25.2	28.9	26.9	84.5	79.4	17	21.6	39	30.8	9	129.7
	1/2	KQ2VT12-04□S	26	18.5	25.2	28.9	30.1	87.7	81.3	17	21.6	39	30.8	9	142.2

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of R thread

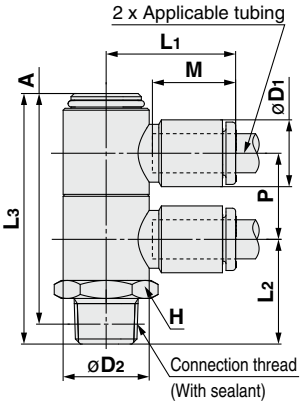


Double Universal Male Elbow: KQ2VD (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VD04-01□S	14	8.2	13.4	19.3	16.3	39	35.9	13.3	13.4	2.9	2.9	3	19.7
	1/4	KQ2VD04-02□S	14	8.2	13.4	19.3	20.7	43.4	38.7	13.3	13.4	2.9	2.9	3	27.4
	3/8	KQ2VD04-03□S	17	8.2	13.4	19.3	22.1	44.8	39.7	13.3	13.4	2.9	2.9	3	39.3
ø6	1/8	KQ2VD06-01□S	14	10.4	13.4	20.5	16.3	39	35.9	13.3	13.4	7.5	5.9	4.5	20.3
	1/4	KQ2VD06-02□S	14	10.4	13.4	20.5	20.7	43.4	38.7	13.3	13.4	7.5	5.9	4.5	28
	3/8	KQ2VD06-03□S	17	10.4	13.4	20.5	22.1	44.8	39.7	13.3	13.4	7.5	5.9	4.5	39.9
ø8	1/8	KQ2VD08-01□S	19	13.2	17.6	23.7	19	45.8	42.7	14.2	15.9	16	11.2	6	45.1
	1/4	KQ2VD08-02□S	19	13.2	17.6	23.7	22.4	49.2	44.5	14.2	15.9	16	11.2	6	44.3
	3/8	KQ2VD08-03□S	19	13.2	17.6	23.7	23	49.8	44.7	14.2	15.9	16	11.2	6	52.3
	1/2	KQ2VD08-04□S	22	13.2	17.6	23.7	27.2	54	47.6	14.2	15.9	16	11.2	6	78.4
ø10	1/4	KQ2VD10-02□S	21	15.9	20.6	25.7	24.3	56.2	51.5	15.6	19.2	27	20.3	7.5	63.1
	3/8	KQ2VD10-03□S	21	15.9	20.6	25.7	24.7	56.6	51.5	15.6	19.2	27	20.3	7.5	65.1
	1/2	KQ2VD10-04□S	22	15.9	20.6	25.7	28.7	60.6	54.2	15.6	19.2	27	20.3	7.5	87
ø12	1/4	KQ2VD12-02□S	26	18.5	25.2	28.9	26.5	62.4	57.7	17	21.6	39	30.8	9	107
	3/8	KQ2VD12-03□S	26	18.5	25.2	28.9	26.9	62.8	57.7	17	21.6	39	30.8	9	102.1
	1/2	KQ2VD12-04□S	26	18.5	25.2	28.9	30.1	66	59.6	17	21.6	39	30.8	9	116.1

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of R thread



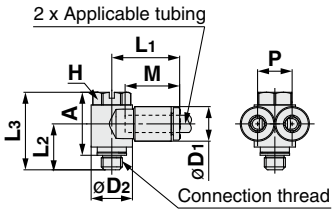
Dimensions

Branch Universal Male Elbow: KQ2Z (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2Z04-M5□	8	8.2	9.8	16.5	11.4	18.4	14.9	13.3	8.2	3.4	3.4	2.5	6.2

□: A (Brass), N (Brass + Electroless nickel plating)

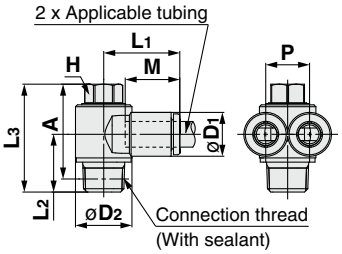


Branch Universal Male Elbow: KQ2Z (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2Z04-01□S	8	8.2	13.4	18.5	13.7	25.6	22.5	13.3	8.2	4.7	4.7	3	14
ø6	1/8	KQ2Z06-01□S	8	10.4	13.4	18.4	13.7	25.6	22.5	13.3	10.4	10.8	8.6	4.5	14.6
	1/4	KQ2Z06-02□S	14	10.4	20.6	21.5	19.1	34.9	30.2	13.3	10.4	10.8	8.6	4.5	37
	3/8	KQ2Z06-03□S	14	10.4	20.6	21.5	19.5	35.3	30.2	13.3	10.4	10.8	8.6	4.5	44.6
ø8	1/8	KQ2Z08-01□S	12	13.2	17.6	21.2	15.1	27.6	24.5	14.2	13.2	20.5	14.2	6	24.3
	1/4	KQ2Z08-02□S	12	13.2	17.6	21.2	18.5	31	26.3	14.2	13.2	20.5	14.2	6	30.8
	3/8	KQ2Z08-03□S	14	13.2	20.6	22.3	19.5	35.3	30.2	14.2	13.2	20.5	14.2	6	46.3
ø10	1/4	KQ2Z10-02□S	14	15.9	21.6	23.6	19.9	34.9	30.2	15.6	15.9	31.8	22.6	7.5	41.7
	3/8	KQ2Z10-03□S	14	15.9	21.6	23.6	20.3	35.3	30.2	15.6	15.9	31.8	22.6	7.5	49.3
ø12	3/8	KQ2Z12-03□S	17	18.5	24.1	26.9	21.2	37.6	32.5	17	18.5	44.6	35.3	9	63.4
	1/2	KQ2Z12-04□S	17	18.5	24.1	26.9	24.4	40.8	34.4	17	18.5	44.6	35.3	9	82

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of R thread

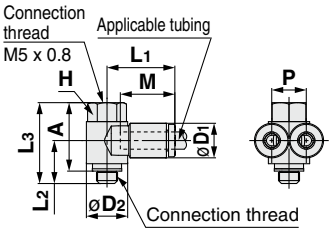


Branch Universal Female Elbow: KQ2ZF (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2ZF04-M5□	8	8.2	9.8	16.5	10.2	19.2	16.2	13.3	8.2	3.4	3.4	2.5	6.3

□: A (Brass), N (Brass + Electroless nickel plating)

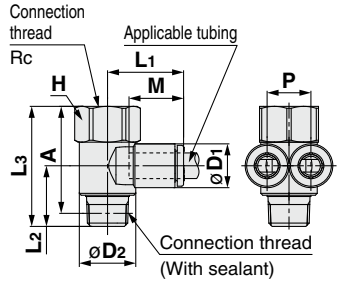


Branch Universal Female Elbow: KQ2ZF (Sealant)



Applicable tubing O.D. [mm]	Connection thread R, Rc	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2ZF04-01□S	14	8.2	13.4	18.5	14.4	28.5	25.4	13.3	8.2	4.7	4.7	3	18.1
ø6	1/8	KQ2ZF06-01□S	14	10.4	13.4	18.4	14.4	28.5	25.4	13.3	10.4	10.8	8.6	4.5	18.7
	1/4	KQ2ZF06-02□S	19	10.4	20.6	21.5	21.2	40.3	35.6	13.3	10.4	10.8	8.6	4.5	45.3
ø8	1/8	KQ2ZF08-01□S	17	13.2	17.6	21.2	15.5	30	26.9	14.2	13.2	20.5	14.2	6	29.3
	1/4	KQ2ZF08-02□S	19	13.2	20.6	22.3	21.2	40.3	35.6	14.2	13.2	20.5	14.2	6	47
ø10	1/4	KQ2ZF10-02□S	19	15.9	21.6	23.6	20.4	40.3	35.6	15.6	15.9	31.8	22.6	7.5	49.9
	3/8	KQ2ZF10-03□S	22	15.9	25.2	25.5	23.2	44	38.9	15.6	15.9	31.8	22.6	7.5	68.4
ø12	3/8	KQ2ZF12-03□S	22	18.5	24.1	26.9	22.7	44	38.9	17	18.5	44.6	35.3	9	71
	1/2	KQ2ZF12-04□S	24	18.5	27	29.9	24.4	48.9	42.5	17	18.5	44.6	35.3	9	100.5

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of R thread



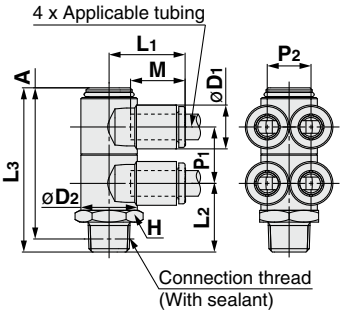
Dimensions

Double Branch Universal Male Elbow: KQ2ZD (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD_1	øD_2	L_1	L_2	L_3	A*1	M	P_1	P_2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2ZD04-01□S	14	8.2	13.4	18.5	16.3	39	35.9	13.3	13.4	8.2	4.7	4.7	3	21.3
	1/4	KQ2ZD04-02□S	14	8.2	13.4	18.5	20.7	43.4	38.7	13.3	13.4	8.2	4.7	4.7	3	29
	3/8	KQ2ZD04-03□S	17	8.2	13.4	18.5	22.1	44.8	39.7	13.3	13.4	8.2	4.7	4.7	3	40.9
ø6	1/8	KQ2ZD06-01□S	14	10.4	13.4	18.4	16.3	39	35.9	13.3	13.4	10.4	10.8	8.6	4.5	22.5
	1/4	KQ2ZD06-02□S	14	10.4	13.4	18.4	20.7	43.4	38.7	13.3	13.4	10.4	10.8	8.6	4.5	30.2
	3/8	KQ2ZD06-03□S	17	10.4	13.4	18.4	22.1	44.8	39.7	13.3	13.4	10.4	10.8	8.6	4.5	42.1
ø8	1/8	KQ2ZD08-01□S	19	13.2	17.6	21.2	19	45.8	42.7	14.2	15.9	13.2	20.5	14.2	6	48.7
	1/4	KQ2ZD08-02□S	19	13.2	17.6	21.2	22.4	49.2	44.5	14.2	15.9	13.2	20.5	14.2	6	48
	3/8	KQ2ZD08-03□S	19	13.2	17.6	21.2	23	49.8	44.7	14.2	15.9	13.2	20.5	14.2	6	55.9
	1/2	KQ2ZD08-04□S	22	13.2	17.6	21.2	27.2	54	47.6	14.2	15.9	13.2	20.5	14.2	6	82.1
ø10	1/4	KQ2ZD10-02□S	21	15.9	20.6	23.6	24.3	56.2	51.5	15.6	19.2	15.9	31.8	21.6	7.5	69
	3/8	KQ2ZD10-03□S	21	15.9	20.6	23.6	24.7	56.6	51.5	15.6	19.2	15.9	31.8	21.6	7.5	71
	1/2	KQ2ZD10-04□S	22	15.9	20.6	23.6	28.7	60	53.6	15.6	19.2	15.9	31.8	21.6	7.5	92.9
ø12	1/4	KQ2ZD12-02□S	26	18.5	25.2	26.8	26.5	62.4	57.7	17	21.6	18.5	44.6	35.3	9	115.6
	3/8	KQ2ZD12-03□S	26	18.5	25.2	26.8	26.9	62.8	57.7	17	21.6	18.5	44.6	35.3	9	110.7
	1/2	KQ2ZD12-04□S	26	18.5	25.2	26.8	30.1	66	59.6	17	21.6	18.5	44.6	35.3	9	124.7

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of R thread

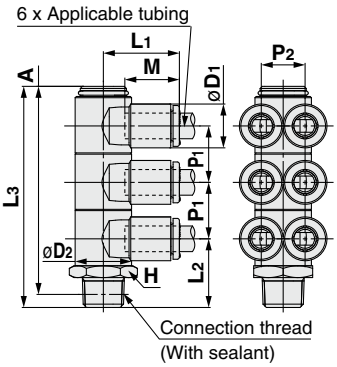


Triple Branch Universal Male Elbow: KQ2ZT (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD_1	øD_2	L_1	L_2	L_3	A*1	M	P_1	P_2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2ZT04-01□S	14	8.2	13.4	18.5	16.3	52.5	49.4	13.3	13.4	8.2	4.7	4.7	3	27.7
	1/4	KQ2ZT04-02□S	14	8.2	13.4	18.5	20.7	56.9	52.2	13.3	13.4	8.2	4.7	4.7	3	35.3
	3/8	KQ2ZT04-03□S	17	8.2	13.4	18.5	22.1	58.3	53.2	13.3	13.4	8.2	4.7	4.7	3	47.2
ø6	1/8	KQ2ZT06-01□S	14	10.4	13.4	18.4	16.3	52.5	49.4	13.3	13.4	10.4	10.8	8.6	4.5	29.5
	1/4	KQ2ZT06-02□S	14	10.4	13.4	18.4	20.7	56.9	52.2	13.3	13.4	10.4	10.8	8.6	4.5	37.2
	3/8	KQ2ZT06-03□S	17	10.4	13.4	18.4	22.1	58.3	53.2	13.3	13.4	10.4	10.8	8.6	4.5	49.1
ø8	1/8	KQ2ZT08-01□S	19	13.2	17.6	21.2	19	61.8	58.7	14.2	15.9	13.2	20.5	14.2	6	65.1
	1/4	KQ2ZT08-02□S	19	13.2	17.6	21.2	22.4	65.2	60.5	14.2	15.9	13.2	20.5	14.2	6	62.3
	3/8	KQ2ZT08-03□S	19	13.2	17.6	21.2	23	65.8	60.7	14.2	15.9	13.2	20.5	14.2	6	70.4
	1/2	KQ2ZT08-04□S	22	13.2	17.6	21.2	27.2	70	63.6	14.2	15.9	13.2	20.5	14.2	6	97
ø10	1/4	KQ2ZT10-02□S	21	15.9	20.6	23.6	24.3	75.5	70.8	15.6	19.2	15.9	31.8	21.6	7.5	90.9
	3/8	KQ2ZT10-03□S	21	15.9	20.6	23.6	24.7	75.9	70.8	15.6	19.2	15.9	31.8	21.6	7.5	90.7
	1/2	KQ2ZT10-04□S	22	15.9	20.6	23.6	28.7	79.9	73.5	15.6	19.2	15.9	31.8	21.6	7.5	112.7
ø12	1/4	KQ2ZT12-02□S	26	18.5	25.2	26.8	26.5	84.1	79.4	17	21.6	18.5	44.6	35.3	9	152.2
	3/8	KQ2ZT12-03□S	26	18.5	25.2	26.8	26.9	84.5	79.4	17	21.6	18.5	44.6	35.3	9	142.6
	1/2	KQ2ZT12-04□S	26	18.5	25.2	26.8	30.1	87.7	81.3	17	21.6	18.5	44.6	35.3	9	155.1

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of R thread



Dimensions

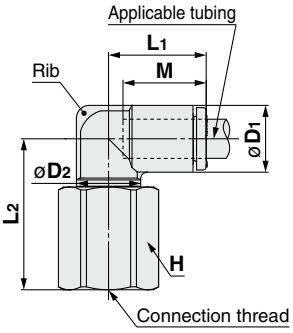
Female Elbow: KQ2LF



Applicable tubing O.D. [mm]	Connection thread M, Rc	Model	H (Width across flats)	øD1	øD2	L1	L2	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø4	M5 x 0.8	KQ2LF04-M5□	8	8.2	7	15.4	15.3	13.3	3.5	3.5	2.5	4.7	●
	M6 x 1.0	KQ2LF04-M6□	8	8.2	7	15.4	16.1	13.3	3.5	3.5	2.5	4.6	●
	1/8	KQ2LF04-01□	14	8.2	10	14.8	22.4	13.3	4.2	4.2	3	17.6	●
	1/4	KQ2LF04-02□	17	8.2	10	14.8	26.9	13.3	4.2	4.2	3	29.6	●
ø6	M5 x 0.8	KQ2LF06-M5□	8	10.4	7	14.5	17	13.3	3.5	3.5	2.5	4.8	●
	M6 x 1.0	KQ2LF06-M6□	8	10.4	7	14.5	17.8	13.3	3.5	3.5	2.5	4.7	●
	1/8	KQ2LF06-01□	14	10.4	10	15.5	23.5	13.3	11.4	9	4.5	18	—
	1/4	KQ2LF06-02□	17	10.4	10	15.5	28	13.3	11.4	9	4.5	30.1	—
	3/8	KQ2LF06-03□	19	10.4	10	15.5	28.5	13.3	11.4	9	4.5	34	—
ø8	1/8	KQ2LF08-01□	14	13.2	10	16.4	24.9	14.2	11.4	11.4	4.5	18.8	●
		KQ2LF08-01□Q *1	14	13.2	12	17.2	23	14.2	21.6	14.9	6	14.6	●
	1/4	KQ2LF08-02□	17	13.2	12	17.2	28.8	14.2	21.6	14.9	6	28.7	●
	3/8	KQ2LF08-03□	19	13.2	12	17.2	29.3	14.2	21.6	14.9	6	32.3	●
ø10	1/4	KQ2LF10-02□	17	15.9	17	19.3	27.4	15.6	21.6	14.9	7.5	26.4	●
	3/8	KQ2LF10-03□	19	15.9	17	19.3	33.5	15.6	35.2	25	7.5	31	●
	1/2	KQ2LF10-04□	24	15.9	17	19.3	36.5	15.6	35.2	25	7.5	57.6	●
ø12	1/4	KQ2LF12-02□	17	18.5	17	21.5	28.7	17	50.2	39.7	9	28.2	●
	3/8	KQ2LF12-03□	19	18.5	17	21.5	34.8	17	50.2	39.7	9	32.9	●
	1/2	KQ2LF12-04□	24	18.5	17	21.5	37.8	17	50.2	39.7	9	59.5	●

□: A (Brass), N (Brass + Electroless nickel plating)

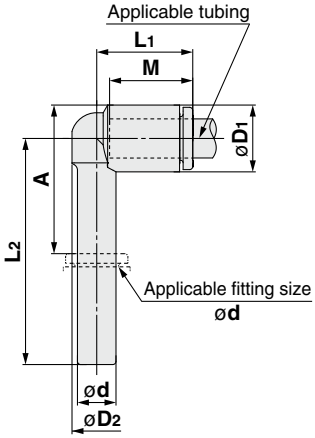
∗1 For details, refer to page 131.



Extended Plug-in Elbow: KQ2W



Applicable tubing O.D. [mm]	Applicable fitting size ød	Model	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	ø3.2	KQ2W23-99A	7.1	6.4	14.4	30.5	20.8	13.3	3	2.5	2.2	1
ø4	ø4	KQ2W04-99A	8.2	7.2	14.5	31.8	22.6	13.3	4.2	4.2	2.5	1.3
ø6	ø6	KQ2W06-99A	10.4	8	15.3	35.2	27.1	13.3	9	9	4	2
ø8	ø8	KQ2W08-99A	13.2	10	17.2	41.9	34.3	14.2	21.6	14.9	6	3.5
ø10	ø10	KQ2W10-99A	15.9	12	19.3	46.6	38.9	15.6	35.2	25	7.5	5.5
ø12	ø12	KQ2W12-99A	18.5	14	21.5	52	44.2	17	50.2	39.7	9	8.4



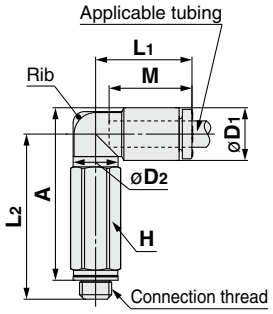
Dimensions

Extended Male Elbow: KQ2W (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø2	M3 x 0.5	KQ2W02-M3G	5.5	5.8	5.5	12.6	18.8	19.1	11.9	—	0.8	1.2	2.6	●
	M5 x 0.8	KQ2W02-M5□	7	5.8	5.5	12.6	19.3	19.2	11.9	—	0.8	1.2	4.6	●
ø3.2	M3 x 0.5	KQ2W23-M3G	7	7.1	7	15.3	22.5	23.4	13.3	0.8	0.8	1.2	4.8	●
	M5 x 0.8	KQ2W23-M5□	7	7.1	7	15.3	25.2	25.7	13.3	2.8	2.4	2.5	5.8	●
ø4	M3 x 0.5	KQ2W04-M3G	7	8.2	7	15.4	23	24.5	13.3	0.8	0.8	1.2	4.9	●
	M5 x 0.8	KQ2W04-M5□	7	8.2	7	15.4	25.7	26.8	13.3	3	3	2.5	5.8	●
ø6	M5 x 0.8	KQ2W06-M5□	7	10.4	7	14.5	27.4	29.6	13.3	3	3	2.5	5.9	●

□: A (Brass), N (Brass + Electroless nickel plating)



Extended Male Elbow: KQ2W (Sealant)

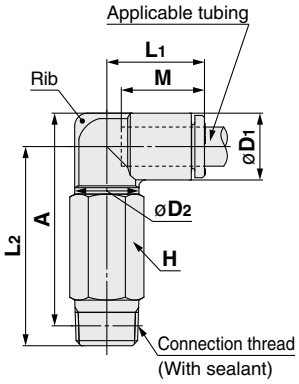


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3.2	1/8	KQ2W23-01□S	10	7.1	10	14.5	30.3	30.8	13.3	2.8	2.4	2.5	10.8	—
	1/4	KQ2W23-02□S	14	7.1	10	14.5	32.8	31.7	13.3	2.8	2.4	2.5	27.3	—
ø4	1/8	KQ2W04-01□S	10	8.2	10	14.8	29.9	30.9	13.3	4	4	3	11	●
	1/4	KQ2W04-02□S	14	8.2	10	14.8	33.3	32.7	13.3	4	4	3	27.5	●
ø6	1/8	KQ2W06-01□S	10	10.4	10	15.5	31	33.1	13.3	10.9	8.6	4.5	11.4	—
	1/4	KQ2W06-02□S	14	10.4	10	15.5	34.4	34.9	13.3	10.9	8.6	4.5	28	—
	3/8	KQ2W06-03□S	17	10.4	10	15.5	35.7	35.8	13.3	10.9	8.6	4.5	47.4	—
ø8	1/8	KQ2W08-01□S	10	13.2	10	16.4	32.4	35.9	14.2	10.9	10.9	4.5	12.2	●
		KQ2W08-01□QS *2	12	13.2	12	17.2	42.4	45.9	14.2	20.5	14.2	6	23.7	●
	1/4	KQ2W08-02□S	14	13.2	12	17.2	39.1	41	14.2	20.5	14.2	6	40	●
	3/8	KQ2W08-03□S	17	13.2	12	17.2	39.2	40.7	14.2	20.5	14.2	6	47	●
ø10	1/4	KQ2W10-02□S	17	15.9	17	19.3	52.9	56.2	15.6	33.5	23.8	7.5	59	●
	3/8	KQ2W10-03□S	17	15.9	17	19.3	48.5	51.4	15.6	33.5	23.8	7.5	51.3	●
	1/2	KQ2W10-04□S	22	15.9	17	19.3	52.5	54.1	15.6	33.5	23.8	7.5	92	●
ø12	1/4	KQ2W12-02□S	17	18.5	17	21.5	54.2	58.8	17	47.7	37.7	9	60.7	●
	3/8	KQ2W12-03□S	17	18.5	17	21.5	49.8	54	17	47.7	37.7	9	53.2	●
	1/2	KQ2W12-04□S	22	18.5	17	21.5	53.8	56.7	17	47.7	37.7	9	93.9	●
ø16	1/4	KQ2W16-02□S	17	23.8	17	25.1	56.9	64.1	20.6	47.7	47.7	9	67.4	●
	3/8	KQ2W16-03□S	22	23.8	21	27.1	59.7	66.5	20.6	71	58.9	11	105.5	—
	1/2	KQ2W16-04□S	22	23.8	21	27.1	58.4	63.9	20.6	100	58.9	13	101.7	—

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread

*2 For details, refer to page 131.



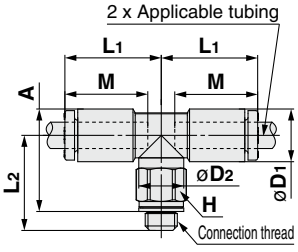
Dimensions

Male Branch Tee: KQ2T (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø2	M3 x 0.5	KQ2T02-M3G	5.5	5.8	5.5	12.6	12.5	12.8	11.9	—	0.9	1.2	1.9
	M5 x 0.8	KQ2T02-M5□	7	5.8	5.5	12.6	13	12.9	11.9	—	0.9	1.4	3
ø3.2	M3 x 0.5	KQ2T23-M3G	7	7.1	7	15.3	13.8	14.7	13.3	0.9	0.9	1.2	3.1
	M5 x 0.8	KQ2T23-M5□	7	7.1	7	15.3	14.3	14.8	13.3	3.2	2.7	2.5	3.5
ø4	M3 x 0.5	KQ2T04-M3G	7	8.2	7	15.4	14.3	15.8	13.3	0.9	0.9	1.2	3.4
	M5 x 0.8	KQ2T04-M5□	7	8.2	7	15.4	14.8	15.9	13.3	4.5	4.5	2.5	3.9
	M6 x 1.0	KQ2T04-M6□	8	8.2	7	15.4	15.8	15.9	13.3	4.5	4.5	2.5	4.9
ø6	M5 x 0.8	KQ2T06-M5□	7	10.4	7	14.5	16.5	18.7	13.3	4.5	4.5	2.5	4.4
	M6 x 1.0	KQ2T06-M6□	8	10.4	7	14.5	17.5	18.7	13.3	4.5	4.5	2.5	5.4

□: A (Brass), N (Brass + Electroless nickel plating)



Male Branch Tee: KQ2T (Sealant)

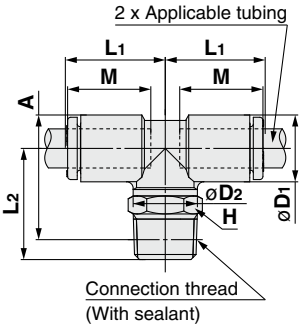


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	KQ2T23-01□S	10	7.1	10	14.5	16.6	17.1	13.3	3.4	2.9	2.5	5.2
	1/4	KQ2T23-02□S	14	7.1	10	14.5	21.1	20	13.3	3.4	2.9	2.5	14.7
ø4	1/8	KQ2T04-01□S	10	8.2	10	14.8	16.2	17.2	13.3	6	4.1	3	5.5
	1/4	KQ2T04-02□S	14	8.2	10	14.8	21.7	21.1	13.3	6	4.1	3	15
ø6	1/8	KQ2T06-01□S	10	10.4	10	15.5	17.3	19.4	13.3	13.9	11	4.5	6.1
	1/4	KQ2T06-02□S	14	10.4	10	15.5	22.8	23.3	13.3	13.9	11	4.5	15.6
	3/8	KQ2T06-03□S	17	10.4	10	15.5	24.1	24.2	13.3	13.9	11	4.5	27.4
ø8	1/8	KQ2T08-01□S	10	13.2	10	16.4	18.7	22.2	14.2	14	14	4.5	7.9
		KQ2T08-01□QS *2	12	13.2	12	17.2	23.5	27	14.2	26.3	18.2	6	11.0
	1/4	KQ2T08-02□S	14	13.2	12	17.2	25.4	27.3	14.2	26.3	18.2	6	19.4
	3/8	KQ2T08-03□S	17	13.2	12	17.2	25.5	27	14.2	26.3	18.2	6	26.5
ø10	1/8	KQ2T10-01□S	12	15.9	12	18.6	23.5	28.4	15.6	21.6	14.9	6	13.9
	1/4	KQ2T10-02□S	17	15.9	17	19.3	28.6	31.9	15.6	35.2	25	7.5	24.3
	3/8	KQ2T10-03□S	17	15.9	17	19.3	29.5	32.4	15.6	35.2	25	7.5	24.8
	1/2	KQ2T10-04□S	22	15.9	17	19.3	33.5	35.1	15.6	35.2	25	7.5	47.3
ø12	1/4	KQ2T12-02□S	17	18.5	17	21.5	29.9	34.5	17	57.2	45.2	9	27.3
	3/8	KQ2T12-03□S	17	18.5	17	21.5	30.8	35	17	57.2	45.2	9	28
	1/2	KQ2T12-04□S	22	18.5	17	21.5	34.8	37.7	17	57.2	45.2	9	50.4
ø16	1/4	KQ2T16-02□S	17	23.8	17	25.1	32.6	39.8	20.6	57.2	57.2	9	35.5
	3/8	KQ2T16-03□S	22	23.8	21	27.1	35.4	42.2	20.6	71	58.9	11	47.7
	1/2	KQ2T16-04□S	22	23.8	21	27.1	34.1	39.6	20.6	100	58.9	13	51.4

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread

*2 For details, refer to page 131.

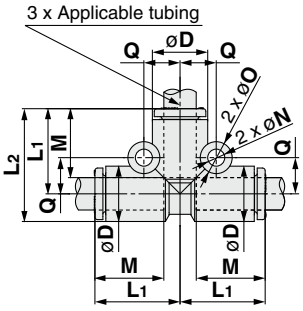


Dimensions

Union Tee: KQ2T



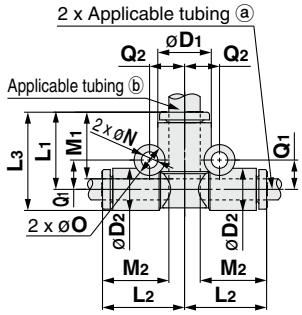
Applicable tubing O.D. [mm]	Model	øD	L1	L2	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
							øO	øN	Thickness	Nylon	Urethane		
ø2	KQ2T02-00A	5.8	12.9	15.8	11.9	4.5	6	3.2	5.8	—	0.9	1.4	1.4
ø3.2	KQ2T23-00A	7.1	14.9	18.5	13.3	5.4	6	3.2	7.1	3.4	2.9	2.5	2.3
ø4	KQ2T04-00A	8.2	15.3	19.4	13.3	5.7	6	3.2	8.2	6.4	4.4	3	2.8
ø6	KQ2T06-00A	10.4	16.3	21.5	13.3	6.8	6	3.2	10.4	13.4	10.6	4.5	3.8
ø8	KQ2T08-00A	13.2	18.2	24.8	14.2	8.4	8	4.2	13.2	25.6	17.7	6	7
ø10	KQ2T10-00A	15.9	20.6	28.6	15.6	9.6	8	4.2	15.9	40	28.4	7.5	11
ø12	KQ2T12-00A	18.5	23	32.3	17	10.7	8	4.2	18.5	57.4	45.4	9	15.7
ø16	KQ2T16-00A	23.8	28.6	40.5	20.6	13.4	8	4.2	23.8	100	58.9	13	29.8



Different Diameter Tee: KQ2T



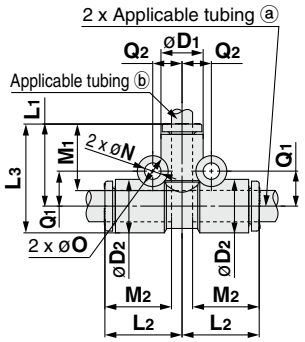
Applicable tubing O.D. [mm]		Model	øD1	øD2	L1	L2	L3	M1	M2	Q1	Q2	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
ⓐ	ⓑ											øO	øN	Thickness	Nylon	Urethane		
ø3.2	ø4	KQ2T23-04A	8.2	7.1	14.9	15.3	18.5	13.3	13.3	5.4	5.8	6	3.2	8.2	3.8	3.5	2.5	2.6
ø4	ø6	KQ2T04-06A	10.4	8.2	15.3	16.3	19.4	13.3	13.3	5.7	6.8	6	3.2	10.4	7.1	6.6	3	3.3
ø6	ø8	KQ2T06-08A	13.2	10.4	17.2	17.3	22.4	14.2	13.3	7.3	8.4	8	4.2	13.2	16.4	16.4	4.5	5.3
ø8	ø10	KQ2T08-10A	15.9	13.2	19.6	19.2	26.2	15.6	14.2	8.4	9.6	8	4.2	15.9	36	27.2	6	8.3
ø8	ø12	KQ2T08-12A	18.5	15.9	22	21.6	30	17	14.2	9.6	10.7	8	4.2	18.5	36	27.2	6	12.7
ø10	ø12	KQ2T10-12A	18.5	15.9	22	21.6	30	17	15.6	9.6	10.7	8	4.2	18.5	56	44.5	7.5	12.2
ø12	ø16	KQ2T12-16A	23.8	18.5	26.6	25	35.9	20.6	17	10.7	13.4	8	4.2	23.8	108.5	74	9	20.1



Different Diameter Tee: KQ2T

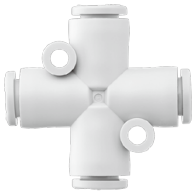


Applicable tubing O.D. [mm]		Model	øD1	øD2	L1	L2	L3	M1	M2	Q1	Q2	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
ⓐ	ⓑ											øO	øN	Thickness	Nylon	Urethane		
ø6	ø4	KQ2T06-04A	8.2	10.4	16.3	15.3	21.5	13.3	13.3	6.8	5.7	6	3.2	10.4	6.4	4.4	3	3.5
ø8	ø6	KQ2T08-06A	10.4	13.2	17.3	17.2	23.9	13.3	14.2	8.4	7.3	8	4.2	13.2	13.4	10.6	4.5	6
ø10	ø8	KQ2T10-08A	13.2	15.9	19.2	19.6	27.2	14.2	15.6	9.6	8.4	8	4.2	15.9	25.6	17.7	6	9.5
ø12	ø8	KQ2T12-08A	15.9	18.5	21.6	22	30.9	14.2	17	10.7	9.6	8	4.2	18.5	25.6	17.7	6	13.8
ø12	ø10	KQ2T12-10A	15.9	18.5	21.6	22	30.9	15.6	17	10.7	9.6	8	4.2	18.5	40	28.4	7.5	13.4

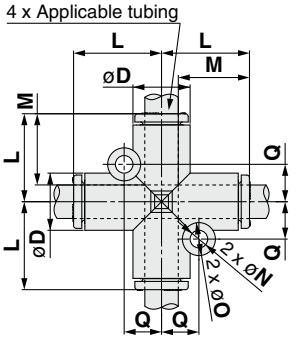


Dimensions

Cross: KQ2TW



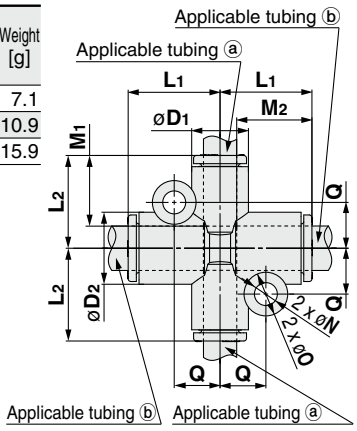
Applicable tubing O.D. [mm]	Model	øD	L	Q	M	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
						øO	øN	Thickness	Nylon	Urethane		
ø4	KQ2TW04-00A	8.2	15.3	5.7	13.3	6	3.2	8.2	6.4	4.4	3	3.5
ø6	KQ2TW06-00A	10.4	16.3	6.8	13.3	6	3.2	10.4	13.4	10.6	4.5	4.9
ø8	KQ2TW08-00A	13.2	18.2	8.4	14.2	8	4.2	13.2	25.6	17.7	6	8.5
ø10	KQ2TW10-00A	15.9	20.6	9.6	15.6	8	4.2	15.9	40	28.4	7.5	12.7
ø12	KQ2TW12-00A	18.5	23	10.7	17	8	4.2	18.5	57.4	45.4	9	18.4



Different Diameter Cross: KQ2TX



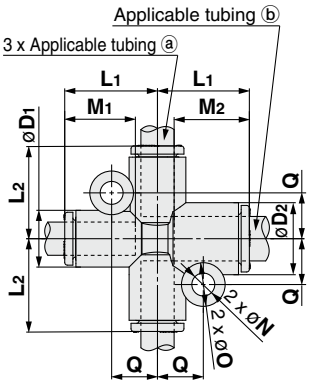
Applicable tubing O.D. [mm]		Model	øD1	øD2	L1	L2	Q	M1	M2	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
ⓐ	ⓑ									øO	øN	Thickness	Nylon	Urethane		
ø6	ø8	KQ2TX06-08A	10.4	13.2	17.2	17.3	8.4	13.3	14.2	8	4.2	13.2	13.4	10.6	4.5	7.1
ø8	ø10	KQ2TX08-10A	13.2	15.9	19.6	19.2	9.6	14.2	15.6	8	4.2	15.9	25.6	17.7	6	10.9
ø10	ø12	KQ2TX10-12A	15.9	18.5	22	21.6	10.7	15.6	17	8	4.2	18.5	40	28.4	7.5	15.9



Different Diameter Cross: KQ2TY



Applicable tubing O.D. [mm]		Model	øD1	øD2	L1	L2	Q	M1	M2	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
ⓐ	ⓑ									øO	øN	Thickness	Nylon	Urethane		
ø6	ø8	KQ2TY06-08A	10.4	13.2	17.3	17.2	8.4	13.3	14.2	8	4.2	13.2	13.4	10.6	4.5	6.5
ø8	ø10	KQ2TY08-10A	13.2	15.9	19.2	19.6	9.6	14.2	15.6	8	4.2	15.9	25.6	17.7	6	10.2
ø10	ø12	KQ2TY10-12A	15.9	18.5	21.6	22	10.7	15.6	17	8	4.2	18.5	40	28.4	7.5	14.9



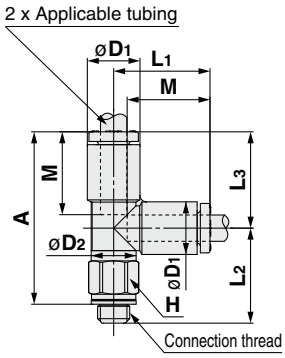
Dimensions

Male Run Tee: KQ2Y (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø2	M3 x 0.5	KQ2Y02-M3G	5.5	5.8	5.5	12.9	12.5	12.9	22.8	11.9	—	0.9	1.2	2
	M5 x 0.8	KQ2Y02-M5□	7	5.8	5.5	12.9	13	12.9	22.9	11.9	—	0.9	1.4	3.1
ø3.2	M3 x 0.5	KQ2Y23-M3G	7	7.1	7	15.3	13.8	15.3	26.5	13.3	0.9	0.9	1.2	3.1
	M5 x 0.8	KQ2Y23-M5□	7	7.1	7	15.3	14.3	15.3	26.6	13.3	3.2	2.7	2.5	3.5
ø4	M3 x 0.5	KQ2Y04-M3G	7	8.2	7	15.4	14.3	15.4	27.1	13.3	0.9	0.9	1.2	3.4
	M5 x 0.8	KQ2Y04-M5□	7	8.2	7	15.4	14.8	15.4	27.2	13.3	4.5	4.5	2.5	3.9
	M6 x 1.0	KQ2Y04-M6□	8	8.2	7	15.4	15.8	15.4	27.2	13.3	4.5	4.5	2.5	4.9
ø6	M5 x 0.8	KQ2Y06-M5□	7	10.4	7	16.3	16.5	16.3	29.8	13.3	4.5	4.5	2.5	4.6
	M6 x 1.0	KQ2Y06-M6□	8	10.4	7	16.3	17.5	16.3	29.8	13.3	4.5	4.5	2.5	5.7

□: A (Brass), N (Brass + Electroless nickel plating)



Male Run Tee: KQ2Y (Sealant)

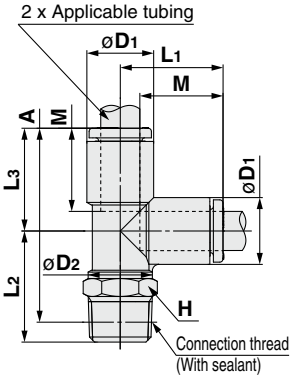


Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	KQ2Y23-01□S	10	7.1	10	14.9	16.6	14.9	28.5	13.3	3.4	2.9	2.5	5.3
	1/4	KQ2Y23-02□S	14	7.1	10	14.9	21.1	14.9	31.4	13.3	3.4	2.9	2.5	14.7
ø4	1/8	KQ2Y04-01□S	10	8.2	10	15.3	16.2	15.3	28.4	13.3	6.4	4.4	3	5.6
	1/4	KQ2Y04-02□S	14	8.2	10	15.3	21.7	15.3	32.3	13.3	6.4	4.4	3	15
ø6	1/8	KQ2Y06-01□S	10	10.4	10	16.3	17.3	16.3	30.5	13.3	13.4	10.6	4.5	6.2
	1/4	KQ2Y06-02□S	14	10.4	10	16.3	22.8	16.3	34.4	13.3	13.4	10.6	4.5	15.8
	3/8	KQ2Y06-03□S	17	10.4	10	16.3	24.1	16.3	35.3	13.3	13.4	10.6	4.5	27.5
ø8	1/8	KQ2Y08-01□S	10	13.2	10	18.2	18.7	18.2	33.8	14.2	13.4	13.4	4.5	8
		KQ2Y08-01□QS *2	12	13.2	12	18.2	23.5	18.2	38.7	14.2	25.6	17.7	6	11.1
	1/4	KQ2Y08-02□S	14	13.2	12	18.2	25.4	18.2	38.9	14.2	25.6	17.7	6	19.5
	3/8	KQ2Y08-03□S	17	13.2	12	18.2	25.5	18.2	38.6	14.2	25.6	17.7	6	26.5
ø10	1/8	KQ2Y10-01□S	12	15.9	12	20.6	23.5	20.6	41.1	15.6	40	28.4	6	14
	1/4	KQ2Y10-02□S	17	15.9	17	20.6	28.6	20.6	44.6	15.6	40	28.4	7.5	24.5
	3/8	KQ2Y10-03□S	17	15.9	17	20.6	29.5	20.6	45.1	15.6	40	28.4	7.5	25
	1/2	KQ2Y10-04□S	22	15.9	17	20.6	33.5	20.6	47.8	15.6	40	28.4	7.5	47.4
ø12	1/4	KQ2Y12-02□S	17	18.5	17	23	29.9	23	48.3	17	57.4	45.4	9	27.6
	3/8	KQ2Y12-03□S	17	18.5	17	23	30.8	23	48.8	17	57.4	45.4	9	28.2
	1/2	KQ2Y12-04□S	22	18.5	17	23	34.8	23	51.5	17	57.4	45.4	9	50.7
ø16	1/4	KQ2Y16-02□S	17	23.8	17	28.6	32.6	28.6	56.5	20.6	57.4	57.4	9	36
	3/8	KQ2Y16-03□S	22	23.8	21	28.6	35.4	28.6	58.9	20.6	81	60	11	48.3
	1/2	KQ2Y16-04□S	22	23.8	21	28.6	34.1	28.6	56.3	20.6	113	60	13	52

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread

*2 For details, refer to page 131.



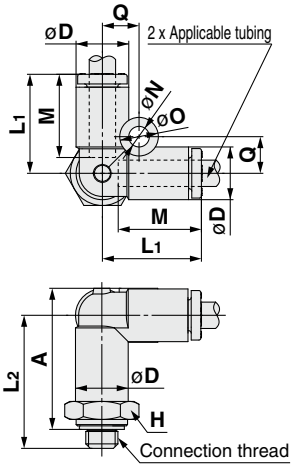
Dimensions

Male Delta Union: KQ2D (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD	L1	L2	A	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
										øO	øN	Thickness	Nylon	Urethane		
ø4	M5 x 0.8	KQ2D04-M5□	10	8.2	15.8	20.7	21.8	13.3	5.7	6	3.2	8.2	2.2	2.2	1.8	6.6
	M6 x 1.0	KQ2D04-M6□	10	8.2	15.8	21.7	21.8	13.3	5.7	6	3.2	8.2	4.3	4.3	3	6.4
ø6	M5 x 0.8	KQ2D06-M5□	12	10.4	16.8	21.7	23.9	13.3	6.7	6	3.2	10.4	4.3	4.3	1.8	9.8
	M6 x 1.0	KQ2D06-M6□	12	10.4	16.8	22.7	23.9	13.3	6.7	6	3.2	10.4	4.3	4.3	3	9.7

□: A (Brass), N (Brass + Electroless nickel plating)

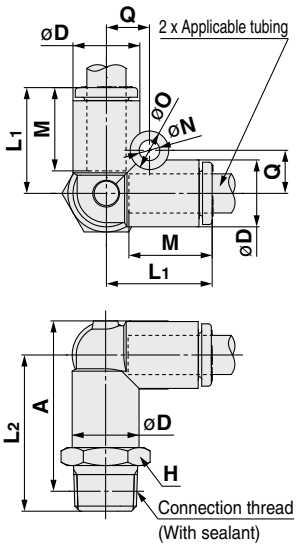


Male Delta Union: KQ2D (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	L1	L2	A*1	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
										øO	øN	Thickness	Nylon	Urethane		
ø4	1/8	KQ2D04-01□S	10	8.2	15.8	23.3	24.3	13.3	5.7	6	3.2	8.2	6	6	3.6	9.2
	1/4	KQ2D04-02□S	14	8.2	15.8	27.7	27.1	13.3	5.7	6	3.2	8.2	6	6	3.6	19
ø6	1/8	KQ2D06-01□S	12	10.4	16.8	24.3	26.4	13.3	6.7	6	3.2	10.4	13.9	11	5.4	10.2
	1/4	KQ2D06-02□S	14	10.4	16.8	28.7	29.2	13.3	6.7	6	3.2	10.4	13.9	11	5.4	19.1
	3/8	KQ2D06-03□S	17	10.4	16.8	30.1	30.2	13.3	6.7	6	3.2	10.4	13.9	11	5.4	31
ø8	1/8	KQ2D08-01□S	14	13.2	18.8	26.3	29.8	14.2	8.4	8	4.2	13.2	26.3	18.2	6	15.3
	1/4	KQ2D08-02□S	14	13.2	18.8	30.7	32.6	14.2	8.4	8	4.2	13.2	26.3	18.2	7.3	20.4
	3/8	KQ2D08-03□S	17	13.2	18.8	32.1	33.6	14.2	8.4	8	4.2	13.2	26.3	18.2	7.3	32.1
ø10	1/4	KQ2D10-02□S	17	15.9	21.2	33.1	36.3	15.6	9.6	8	4.2	15.9	40.8	29	9	24.9
	3/8	KQ2D10-03□S	17	15.9	21.2	34.5	37.3	15.6	9.6	8	4.2	15.9	40.8	29	9.4	32.7
	1/2	KQ2D10-04□S	22	15.9	21.2	38.7	40.2	15.6	9.6	8	4.2	15.9	40.8	29	9.4	60.6
ø12	1/4	KQ2D12-02□S	19	18.5	23.6	35.5	40	17	10.7	8	4.2	18.5	57.2	45.2	9	35
	3/8	KQ2D12-03□S	19	18.5	23.6	36.9	41	17	10.7	8	4.2	18.5	57.2	45.2	11	38
	1/2	KQ2D12-04□S	22	18.5	23.6	41.1	43.9	17	10.7	8	4.2	18.5	57.2	45.2	11.6	60

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of R thread



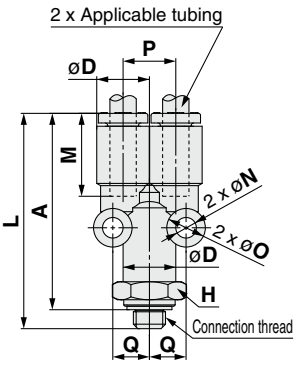
Dimensions

Branch "Y": KQ2U (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread M	Model	H (Width across flats)	øD	L	A	M	P	Q	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	M5 x 0.8	KQ2U23-M5□	10	7.1	33.8	30.8	13.3	7.1	5.2	6	3.2	7.1	2.2	2.2	1.8	5.8
ø4	M5 x 0.8	KQ2U04-M5□	10	8.2	33.9	30.9	13.3	8.2	5.7	6	3.2	8.2	2.2	2.2	1.8	6.7
	M6 x 1.0	KQ2U04-M6□	10	8.2	34.9	30.9	13.3	8.2	5.7	6	3.2	8.2	2.2	2.2	3	6.6
ø6	M5 x 0.8	KQ2U06-M5□	12	10.4	35	32	13.3	10.4	6.8	6	3.2	10.4	2.2	2.2	1.8	10
	M6 x 1.0	KQ2U06-M6□	12	10.4	36	32	13.3	10.4	6.8	6	3.2	10.4	2.2	2.2	3	9.8

□: A (Brass), N (Brass + Electroless nickel plating)



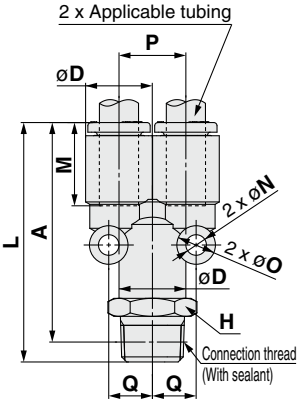
Branch "Y": KQ2U (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	L	A*1	M	P	Q	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	KQ2U23-01□S	10	7.1	36.4	33.3	13.3	7.1	5.2	6	3.2	7.1	3.4	2.9	2.7	8.6
	1/4	KQ2U23-02□S	14	7.1	40.8	36.1	13.3	7.1	5.2	6	3.2	7.1	3.4	2.9	2.7	19
ø4	1/8	KQ2U04-01□S	10	8.2	36.5	33.4	13.3	8.2	5.7	6	3.2	8.2	4.2	4.2	3.6	9.3
	1/4	KQ2U04-02□S	14	8.2	40.9	36.2	13.3	8.2	5.7	6	3.2	8.2	4.2	4.2	3.6	19.1
ø6	1/8	KQ2U06-01□S	12	10.4	37.6	34.5	13.3	10.4	6.8	6	3.2	10.4	13.4	10.6	5.4	10.3
	1/4	KQ2U06-02□S	14	10.4	42	37.3	13.3	10.4	6.8	6	3.2	10.4	13.4	10.6	5.4	19.2
	3/8	KQ2U06-03□S	17	10.4	43.4	38.3	13.3	10.4	6.8	6	3.2	10.4	13.4	10.6	5.4	31.2
ø8	1/8	KQ2U08-01□S	14	13.2	40.7	37.6	14.2	13.2	8.7	8	4.2	13.2	25.6	17.7	6	15.8
	1/4	KQ2U08-02□S	14	13.2	45.1	40.4	14.2	13.2	8.7	8	4.2	13.2	25.6	17.7	7.3	20.9
	3/8	KQ2U08-03□S	17	13.2	46.5	41.4	14.2	13.2	8.7	8	4.2	13.2	25.6	17.7	7.3	32.7
ø10	1/4	KQ2U10-02□S	17	15.9	49	44.3	15.6	15.9	10.1	8	4.2	15.9	40	28.4	9	25.6
	3/8	KQ2U10-03□S	17	15.9	50.4	45.3	15.6	15.9	10.1	8	4.2	15.9	40	28.4	9.4	33.4
	1/2	KQ2U10-04□S	22	15.9	54.6	48.2	15.6	15.9	10.1	8	4.2	15.9	40	28.4	9.4	61.3
ø12	1/4	KQ2U12-02□S	19	18.5	53	48.3	17	18.5	11.4	8	4.2	18.5	57.4	45.4	9	36
	3/8	KQ2U12-03□S	19	18.5	54.4	49.3	17	18.5	11.4	8	4.2	18.5	57.4	45.4	11	38.9
	1/2	KQ2U12-04□S	22	18.5	58.6	52.2	17	18.5	11.4	8	4.2	18.5	57.4	45.4	11.6	61
ø16	1/4	KQ2U16-02□S	24	23.8	62.4	57.7	20.6	23.8	14	8	4.2	23.8	57.4	45.4	9	67.6
	3/8	KQ2U16-03□S	24	23.8	63.8	58.7	20.6	23.8	14	8	4.2	23.8	81	60	11	71.5
	1/2	KQ2U16-04□S	24	23.8	68	61.6	20.6	23.8	14	8	4.2	23.8	113	60	13	82.6

□: A (Brass), N (Brass + Electroless nickel plating)

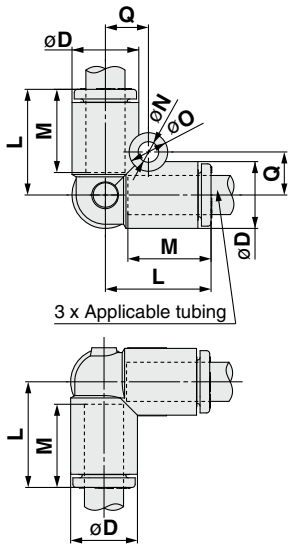
*1 Reference dimensions after installation of R thread



Delta Union: KQ2D



Applicable tubing O.D. [mm]	Model	øD	L	M	Q	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	KQ2D04-00A	8.2	15.8	13.3	5.7	6	3.2	8.2	6	4.1	3	2.7
ø6	KQ2D06-00A	10.4	16.8	13.3	6.7	6	3.2	10.4	13.9	11	4.5	3.8
ø8	KQ2D08-00A	13.2	18.8	14.2	8.4	8	4.2	13.2	26.3	18.2	6	6.8
ø10	KQ2D10-00A	15.9	21.2	15.6	9.6	8	4.2	15.9	40.8	29	7.5	10.3
ø12	KQ2D12-00A	18.5	23.6	17	10.7	8	4.2	18.5	57.2	45.2	9	15.2

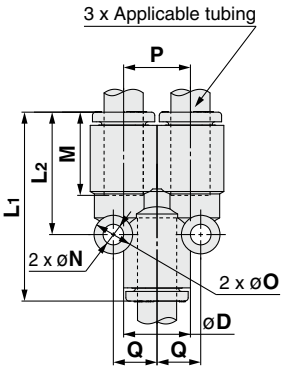


Dimensions

Union "Y": KQ2U



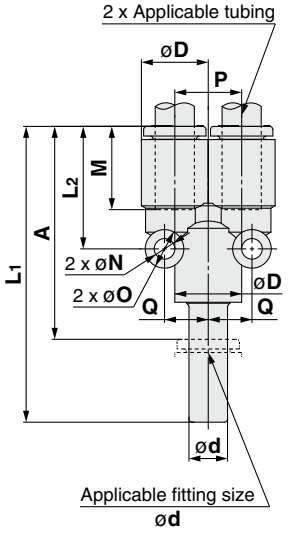
Applicable tubing O.D. [mm]	Model	øD	L1	L2	P	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
								øO	øN	Thickness	Nylon	Urethane		
ø2	KQ2U02-00A	5.8	25.8	16.1	5.8	11.9	4.5	6	3.2	5.8	—	0.9	1.2	1.6
ø3.2	KQ2U23-00A	7.1	28.9	18	7.1	13.3	5.2	6	3.2	7.1	3.4	2.9	2.5	2.4
ø4	KQ2U04-00A	8.2	29	18.2	8.2	13.3	5.7	6	3.2	8.2	4.2	4.2	3	2.9
ø6	KQ2U06-00A	10.4	30.1	19.4	10.4	13.3	6.8	6	3.2	10.4	13.4	10.6	4.5	4.1
ø8	KQ2U08-00A	13.2	33.2	22.3	13.2	14.2	8.7	8	4.2	13.2	25.6	17.7	6	7.4
ø10	KQ2U10-00A	15.9	37.1	25	15.9	15.6	10.1	8	4.2	15.9	40	28.4	7.5	11.2
ø12	KQ2U12-00A	18.5	41.1	27.8	18.5	17	11.4	8	4.2	18.5	57.4	45.4	9	16.4
ø16	KQ2U16-00A	23.8	51.5	35	23.8	20.6	14	8	4.2	23.8	113	60	13	30.6



Plug-in "Y": KQ2U



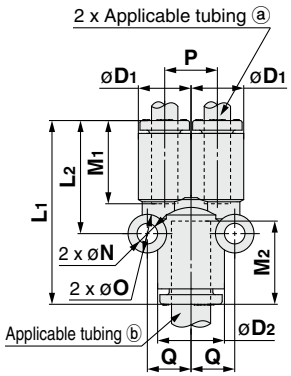
Applicable tubing O.D. [mm]	Applicable fitting size ød	Model	øD	L1	L2	P	A	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
										øO	øN	Thickness	Nylon	Urethane		
ø3.2	ø3.2	KQ2U23-99A	7.1	45.1	18	7.1	31.8	13.3	5.2	6	3.2	7.1	3.4	2.9	2	2.5
ø4	ø4	KQ2U04-99A	8.2	44.8	18.2	8.2	31.5	13.3	5.7	6	3.2	8.2	4.2	4.2	2.5	3.1
ø6	ø6	KQ2U06-99A	10.4	46.3	19.4	10.4	33	13.3	6.8	6	3.2	10.4	13.4	10.6	4	4.5
ø8	ø8	KQ2U08-99A	13.2	52.1	22.3	13.2	37.9	14.2	8.7	8	4.2	13.2	25.6	17.7	6	8
ø10	ø10	KQ2U10-99A	15.9	57.3	25	15.9	41.7	15.6	10.1	8	4.2	15.9	40	28.4	7.5	12.3
ø12	ø12	KQ2U12-99A	18.5	63	27.8	18.5	46	17	11.4	8	4.2	18.5	57.4	45.4	9	18.3
ø16	ø16	KQ2U16-99A	23.8	75.9	35	23.8	55.3	20.6	14	8	4.2	23.8	113	60	13	33.5



Different Diameter Union "Y": KQ2U



Applicable tubing O.D. [mm]		Model	øD1	øD2	L1	L2	P	M1	M2	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
ⓐ	ⓑ										øO	øN	Thickness	Nylon	Urethane		
ø2	ø3.2	KQ2U02-23A	5.8	7.1	28.2	16.6	5.8	11.9	13.3	5.2	6	3.2	7.1	—	0.9	1.2	1.9
ø2	ø4	KQ2U02-04A	5.8	8.2	27.6	15.7	5.8	11.9	13.3	5.7	6	3.2	8.2	—	0.9	1.2	2.1
ø3.2	ø4	KQ2U23-04A	7.1	8.2	28.9	18	7.1	13.3	13.3	5.7	6	3.2	8.2	3.2	2.7	2.5	2.7
ø4	ø6	KQ2U04-06A	8.2	10.4	29	18	8.2	13.3	13.3	6.8	6	3.2	10.4	4.2	4.2	3	3.3
ø4	ø8	KQ2U04-08A	10.4	13.2	31	19.3	10.4	13.3	14.2	8.2	6	3.2	13.2	4.2	4.2	3	5.2
ø6	ø8	KQ2U06-08A	10.4	13.2	31	19.3	10.4	13.3	14.2	8.2	6	3.2	13.2	13.4	10.6	4.5	5
ø6	ø10	KQ2U06-10A	13.2	15.9	34.6	22.3	13.2	13.3	15.6	10.1	8	4.2	15.9	13.4	10.6	4.5	8.7
ø8	ø10	KQ2U08-10A	13.2	15.9	34.6	22.3	13.2	14.2	15.6	10.1	8	4.2	15.9	25.6	17.7	6	8.6
ø8	ø12	KQ2U08-12A	15.9	18.5	38.5	25	15.9	14.2	17	11.4	8	4.2	18.5	25.6	17.7	6	13.3
ø10	ø12	KQ2U10-12A	15.9	18.5	38.5	25	15.9	15.6	17	11.4	8	4.2	18.5	40	28.4	7.5	12.7
ø12	ø16	KQ2U12-16A	18.5	23.8	47.9	31	18.5	17	20.6	14	8	4.2	23.8	57.4	45.4	9	21.2



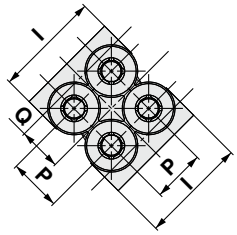
Dimensions

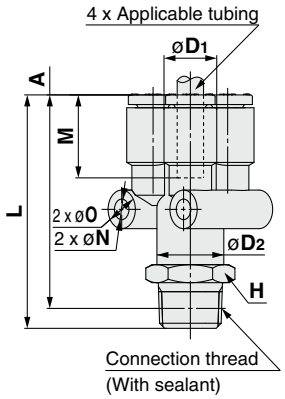
Double Branch "Y": KQ2UD (Sealant)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L	I	A*1	M	P	Q	øO	øN	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2UD04-01□S	12	8.2	10.4	36.7	16.6	33.6	13.3	8.2	6.8	6	3.2	4.2	4.2	5.4	11.7
	1/4	KQ2UD04-02□S	14	8.2	10.4	41.1	16.6	36.4	13.3	8.2	6.8	6	3.2	4.2	4.2	5.4	20.6
ø6	1/8	KQ2UD06-01□S	14	10.4	13.2	39.5	21	36.4	13.3	10.4	8.2	6	3.2	13.4	10.6	6	16.4
	1/4	KQ2UD06-02□S	14	10.4	13.2	43.9	21	39.2	13.3	10.4	8.2	6	3.2	13.4	10.6	7.3	21.6

□: A (Brass), N (Brass + Electroless nickel plating)
*1 Reference dimensions after installation of R thread

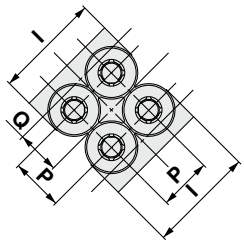


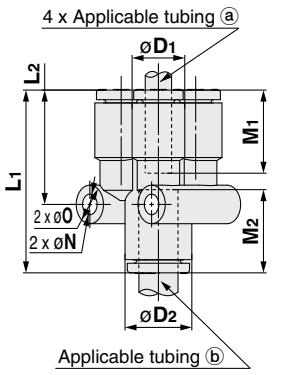


Different Diameter Double Union "Y": KQ2UD



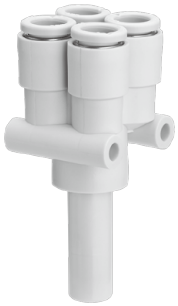
Applicable tubing O.D. [mm] ⓐ	Applicable tubing O.D. [mm] ⓑ	Model	øD1	øD2	L1	L2	P	I	M1	M2	Q	øO	øN	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	ø6	KQ2UD04-06A	8.2	10.4	29.2	18.2	8.2	16.6	13.3	13.3	6.8	6	3.2	4.2	4.2	3	5.4
ø6	ø8	KQ2UD06-08A	10.4	13.2	32	20.5	10.4	21	13.3	14.2	8.2	6	3.2	13.4	10.6	4.5	8.1



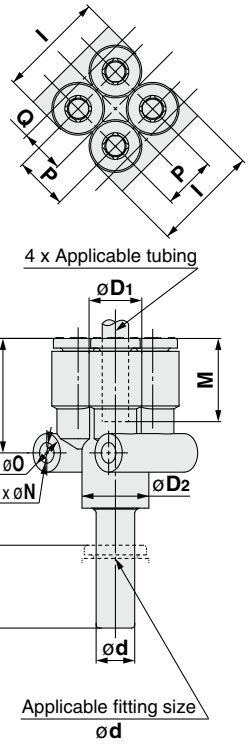


Dimensions

Double Plug-in "Y": KQ2XD



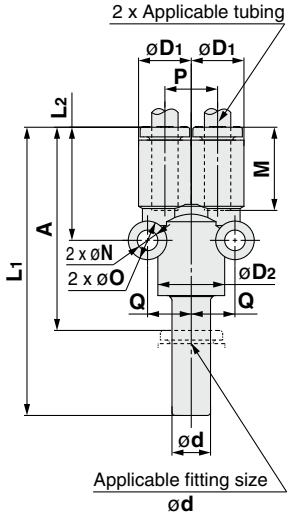
Applicable tubing O.D. [mm]	Applicable fitting size ød	Model	øD1	øD2	L1	L2	A	I	P	M	Q	øO	øN	Effective area [mm²]		Min. port size	Weight [g]
														Nylon	Urethane		
ø4	ø6	KQ2XD04-06A	8.2	10.4	45.4	18.2	32.1	16.6	8.2	13.3	6.8	6	3.2	4.2	4.2	3	5.9
ø6	ø8	KQ2XD06-08A	10.4	13.2	50.9	20.5	36.7	21	10.4	13.3	8.2	6	3.2	13.4	10.6	4.5	8.6



Different Diameter Plug-in "Y": KQ2X



Applicable tubing O.D. [mm]	Applicable fitting size ød	Model	øD1	øD2	L1	L2	A	P	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
											øO	øN	Thickness	Nylon	Urethane		
ø3.2	ø4	KQ2X23-04A	7.1	8.2	44.7	18	31.4	7.1	13.3	5.7	6	3.2	8.2	3.2	2.7	2.5	2.8
ø4	ø6	KQ2X04-06A	8.2	10.4	45.2	18	31.9	8.2	13.3	6.8	6	3.2	10.4	4.2	4.2	3	3.8
ø6	ø8	KQ2X06-08A	10.4	13.2	49.9	19.3	35.7	10.4	13.3	8.2	6	3.2	13.2	13.4	10.6	4.5	5.5
ø8	ø10	KQ2X08-10A	13.2	15.9	54.8	22.3	39.2	13.2	14.2	10.1	8	4.2	15.9	25.6	17.7	6	9.8
ø10	ø12	KQ2X10-12A	15.9	18.5	60.4	25	43.4	15.9	15.6	11.4	8	4.2	18.5	40	28.4	7.5	14.6

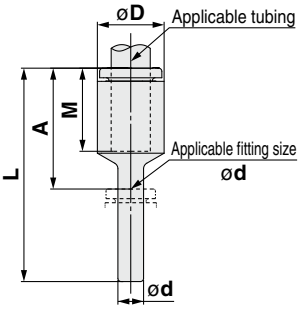


Dimensions

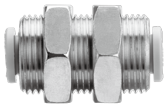
Plug-in Reducer: KQ2R



Applicable tubing O.D. [mm]	Applicable fitting size ød	Model	øD	L	A	M	Effective area [mm²]		Min. port size	Weight [g]
							Nylon	Urethane		
ø2	ø4	KQ2R02-04A	5.8	27.8	14.5	11.9	—	0.9	1.4	0.6
ø3.2	ø4	KQ2R23-04A	7.1	28.6	15.3	13.3	3.4	2.9	2.5	0.8
	ø6	KQ2R23-06A	7.1	29.1	15.8	13.3	3.4	2.9	2.5	1
ø4	ø6	KQ2R04-06A	8.2	28.6	15.3	13.3	5.6	4	3	1.1
	ø8	KQ2R04-08A	8.2	29.6	15.4	13.3	5.6	4	3	1.3
	ø10	KQ2R04-10A	10.4	31.7	16.1	13.3	5.6	4	3	2.2
ø6	ø4	KQ2R06-04A	10.4	33.6	20.3	13.3	4	4	2.5	1.4
	ø8	KQ2R06-08A	10.4	31.6	17.4	13.3	13.1	10.4	4.5	1.7
	ø10	KQ2R06-10A	10.4	33.9	18.3	13.3	13.1	10.4	4.5	2.1
	ø12	KQ2R06-12A	12	35.7	18.7	13.3	13.1	10.4	4.5	3.2
ø8	ø10	KQ2R08-10A	13.2	35.1	19.5	14.2	26.1	18	6	2.9
	ø12	KQ2R08-12A	13.2	36.5	19.5	14.2	26.1	18	6	3.4
ø10	ø12	KQ2R10-12A	15.9	39.2	22.2	15.6	41.5	32.8	7.5	4.5
	ø16	KQ2R10-16A	16	44.7	24.1	15.6	41.5	32.8	7.5	6
ø12	ø16	KQ2R12-16A	18.5	45.7	25.1	17	58.3	46.1	9	7

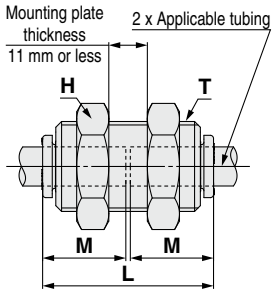


Bulkhead Union: KQ2E (Interchangeable with KQ)



Applicable tubing O.D. [mm]	Model	T (M)	H (Width across flats)	L	Mounting hole	M	Effective area [mm²]		Min. port size	Weight [g]
							Nylon	Urethane		
ø3.2	KQ2E23-00□	M12 x 1	14	27.3	13	13.3	3.4	2.9	2.5	24.1
ø4	KQ2E04-00□	M12 x 1	14	27.3	13	13.3	5.6	4	3	22.9
ø6	KQ2E06-00□	M14 x 1	17	27.3	15	13.3	13.1	10.4	4.5	28
ø8	KQ2E08-00□	M16 x 1	19	29.1	17	14.2	26.1	18	6	34
ø10	KQ2E10-00□	M20 x 1	24	31.9	21	15.6	41.5	29.5	7.5	64.4
ø12	KQ2E12-00□	M22 x 1	27	34.7	23	17	58.3	46.1	9	63.8
ø16	KQ2E16-00□	M28 x 1.5	32	41.9	29	20.6	113	67	13	120.1

□: A (Brass), N (Brass + Electroless nickel plating)

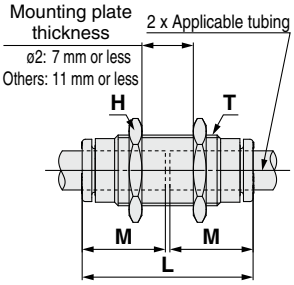


Bulkhead Union: KQ2E (Interchangeable with KJ)

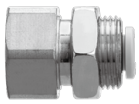


Applicable tubing O.D. [mm]	Model	T (M)	H (Width across flats)	L	Mounting hole	M	Effective area [mm²]		Min. port size	Weight [g]
							Nylon	Urethane		
ø2	KQ2E02-00□J	M7 x 0.75	9	24.5	8	11.9	—	0.9	1.4	5.2
ø3.2	KQ2E23-00□J	M8 x 0.75	10	27.3	9	13.3	3	2.5	2.5	6.9
ø4	KQ2E04-00□J	M9 x 0.75	11	27.3	10	13.3	4	4	3	8.3
ø6	KQ2E06-00□J	M11 x 0.75	14	27.3	12	13.3	10	10	4.5	11.2

□: A (Brass), N (Brass + Electroless nickel plating)

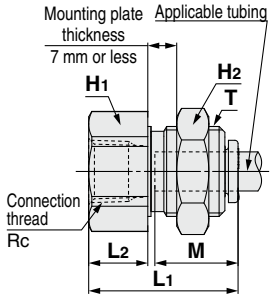


Bulkhead Connector: KQ2E



Applicable tubing O.D. [mm]	Connection thread Rc	Model	T (M)	H1 (Width across flats)	H2 (Width across flats)	L1	L2	Mounting hole	M	Effective area [mm²]		Min. port size	Weight [g]
										Nylon	Urethane		
ø3.2	1/4	KQ2E23-02□	M12 x 1	17	14	28.7	14.3	13	13.3	3.4	2.9	2.5	31.2
ø4	1/8	KQ2E04-01□	M12 x 1	14	14	24.4	10	13	13.3	5.6	4	3	21.2
	1/4	KQ2E04-02□	M12 x 1	17	14	29	14.6	13	13.3	5.6	4	3	30.9
ø6	1/8	KQ2E06-01□	M14 x 1	17	17	23.6	9.2	15	13.3	13.1	10.4	4.5	28.9
	1/4	KQ2E06-02□	M14 x 1	17	17	28.4	14	15	13.3	13.1	10.4	4.5	32.4
	3/8	KQ2E06-03□	M14 x 1	19	17	30.7	16.3	15	13.3	13.1	10.4	4.5	35.9
ø8	1/8	KQ2E08-01□	M16 x 1	17	19	24.1	6.7	17	14.2	26.1	18	6	30.5
	1/4	KQ2E08-02□	M16 x 1	17	19	28.4	11	17	14.2	26.1	18	6	33.1
	3/8	KQ2E08-03□	M16 x 1	19	19	31.7	14.3	17	14.2	26.1	18	6	37.4
ø10	1/4	KQ2E10-02□	M20 x 1	22	24	29.3	9.9	21	15.6	41.5	29.5	7.5	63.8
	3/8	KQ2E10-03□	M20 x 1	22	24	31.4	12	21	15.6	41.5	29.5	7.5	71.6
ø12	3/8	KQ2E12-03□	M22 x 1	24	27	32.3	11.9	23	17	58.3	46.1	9	69.3
	1/2	KQ2E12-04□	M22 x 1	24	27	37.7	17.3	23	17	58.3	46.1	9	72.7
ø16	3/8	KQ2E16-03□	M28 x 1.5	30	32	34.4	11.5	29	20.6	96	67	13	122.2
	1/2	KQ2E16-04□	M28 x 1.5	30	32	38.8	15.9	29	20.6	113	67	13	132.1

□: A (Brass), N (Brass + Electroless nickel plating)



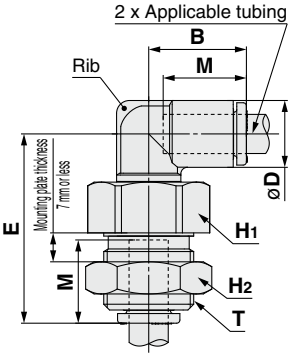
Dimensions

Bulkhead Male Elbow: KQ2LE



Applicable tubing O.D. [mm]	Model	T (M)	H1 (Width across flats)	H2 (Width across flats)	B	E	øD	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø4	KQ2LE04-00□	M12 x 1	14	14	14.8	28.5	8.2	13	13.3	4.2	4.2	3	21.2	●
ø6	KQ2LE06-00□	M14 x 1	17	17	15.5	29.6	10.4	15	13.3	11.4	9	4.5	29.4	—
ø8	KQ2LE08-00□	M16 x 1	17	19	17.2	32.3	13.2	17	14.2	21.6	14.9	6	30.4	●
ø10	KQ2LE10-00□	M20 x 1	22	24	19.3	37.9	15.9	21	15.6	35.2	25	7.5	53.5	●
ø12	KQ2LE12-00□	M22 x 1	24	27	21.5	40.8	18.5	23	17	50.2	39.7	9	61	●

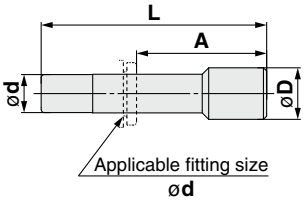
□: A (Brass), N (Brass + Electroless nickel plating)



Plug: KQ2P



Applicable fitting size ød	Model	øD	L	A	Weight [g]
ø2	KJP-02	3	17	5.1	0.1
ø3.2	KQ2P-23	5	31.5	18.2	1
ø4	KQ2P-04	6	32	18.7	1
ø6	KQ2P-06	8	35	21.7	1
ø8	KQ2P-08	10	39	24.8	2
ø10	KQ2P-10	12	43	27.4	3.5
ø12	KQ2P-12	14	45.5	28.5	5
ø16	KQ2P-16	20.9	47	26.4	8

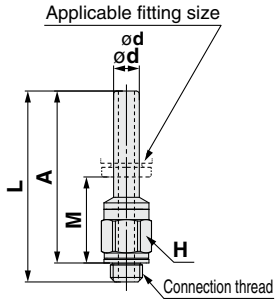


Adapter: KQ2N (Gasket seal)



Applicable fitting size ød	Connection thread M	Model	H (Width across flats)	L	A	M	Min. port size	Weight [g]
ø4	M5 x 0.8	KQ2N04-M5□	7	29.7	26.7	13.4	2.5	2.4
ø6	M5 x 0.8	KQ2N06-M5□	7	29.7	26.7	13.4	2.5	2.6

□: A (Brass), N (Brass + Electroless nickel plating)



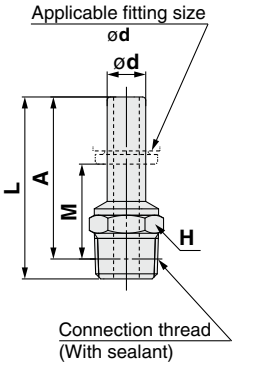
Adapter: KQ2N (Sealant)



Applicable fitting size ød	Connection thread R	Model	H (Width across flats)	L	A*1	M	Min. port size	Weight [g]
ø4	1/8	KQ2N04-01□S	10	28.3	25.2	11.9	2.5	4
ø6	1/8	KQ2N06-01□S	10	28.3	25.2	11.9	4	4.1
	1/4	KQ2N06-02□S	14	32.8	28.1	14.8	4	13.6
ø8	1/4	KQ2N08-02□S	14	35.9	31.2	17	6	15.7
	3/8	KQ2N08-03□S	17	36	30.9	16.7	6	22.7
ø10	3/8	KQ2N10-03□S	17	40.6	35.5	19.9	7.5	19.1

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread

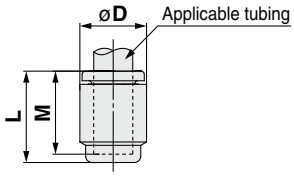


Dimensions

Tube Cap: KQ2C



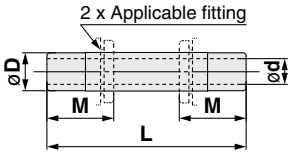
Applicable tubing O.D. [mm]	Model	øD	L	M	Weight [g]
ø4	KQ2C04-00A	8.2	14.5	13.3	0.8
ø6	KQ2C06-00A	10.4	14.6	13.3	1.1
ø8	KQ2C08-00A	13.2	15.7	14.2	2
ø10	KQ2C10-00A	15.9	17.3	15.6	2.9
ø12	KQ2C12-00A	18.5	18.9	17	4.5
ø16	KQ2C16-00A	23.8	23	20.6	8.4



Nipple: KQ2N



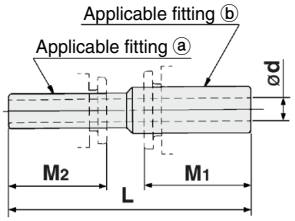
Applicable fitting øD	Model	L	M	ød	Min. port size	Weight [g]
ø4	KQ2N04-99	37	13.3	2.5	2.5	1
ø6	KQ2N06-99	39	13.3	4	4	2
ø8	KQ2N08-99	43	14.2	6	6	2
ø10	KQ2N10-99	49	15.6	7.5	7.5	4
ø12	KQ2N12-99	52	17	9	9	3.3
ø16	KQ2N16-99	57	20.6	13	13	4.8



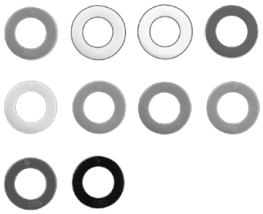
Reducer Nipple: KQ2N



Applicable fitting ⓐ	Applicable fitting ⓑ	Model	L	M1	M2	ød Min. port size	Weight [g]
ø4	ø6	KQ2N04-06	38	13.3	13.3	2.5	2
ø6	ø8	KQ2N06-08	42	14.2	13.3	4	2
ø8	ø10	KQ2N08-10	47	15.6	14.2	6	2
ø10	ø12	KQ2N10-12	51	17	15.6	7.5	3.1
ø12	ø16	KQ2N12-16	55	20.6	17	9	4.9

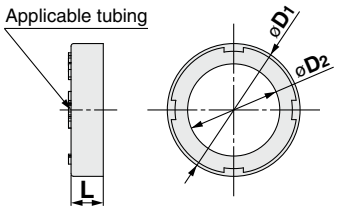


Color Cap: KQ2C



Applicable tubing O.D. [mm]	Model	øD1	øD2	L	Weight [g]	Note
ø2	KQ2C-02□A	6.1	3.2	2.6	0.1	—
ø3.2	KQ2C-23□A	7.3	4.3	2.6	0.1	
ø4	KQ2C-04□A	8.3	5.2	2.6	0.1	
ø6	KQ2C-06□A	10.3	7.2	2.6	0.1	
ø8	KQ2C-08□B	13.6	9.2	2.6	0.1	Applicable for products with enlarged outside diameter of release button
ø10	KQ2C-10□B	16.2	11.2	2.7	0.1	
ø12	KQ2C-12□B	18.8	13.2	2.7	0.2	
ø16	KQ2C-16□B	24.2	17.2	3.2	0.3	

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)



In order to improve operability, the outside diameter of the release button has been enlarged for the new KQ2 series. Therefore, the usable color caps will differ between pre-change and post-change products. Refer to page 221 for details.

KQ2 Series
Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

1 Made to Order

Symbol	Specifications
X12	Lubricant: White vaseline, Release button color: White
X35∗1	Body color: Black, Release button color: Light gray
X41	With fixed orifice∗2
KQ2□08-01□**Q**□	Effective area is interchangeable with the current product (KQ series). Applicable model: Male elbow, 45° male elbow, Female elbow, Extended male elbow, Male branch tee, Male run tee Applicable tubing O.D./Port size: ø8/R1/8 Thread material/Surface treatment: Brass, Brass + Electroless nickel plating Example) **KQ2L08-01AQS**

∗1 The following models are not available as made-to-order: Hexagon socket head male connector/KQ2S, Bulkhead union/KQ2E, Bulkhead connector/KQ2E, Nipple/KQ2N, Reducer nipple/KQ2N, Male connector/KQ2H, Female connector/KQ2F, Color cap/KQ2C, Plug/KQ2P

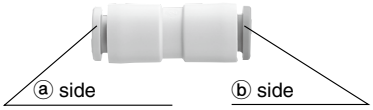
∗2 Please contact SMC for availability.

The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.

Symbol	Specifications
X17	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
X29	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Copper-free (With electroless nickel plating)
X34	Rubber material: FKM
X39	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Clean (Copper-free, air blow, double packaging, resin body: white)
X94	Grease-free Rubber material: FKM (With fluorine coating) Release button color: Light blue

2 Metric/Inch Conversion Fittings

Allows for the metric ↔ inch conversion of tubing



Applicable tubing O.D. [mm]		Model
ⓐ	ⓑ	
ø**6**	ø**1/4"**	**KQ2H06-07A-X562**
ø**10**	ø**3/8"**	**KQ2H10-11A-X562**
ø**12**	ø**1/2"**	**KQ2H12-13A-X562**

Variations

		Inch size						
		ø**1/8"** (Metric nominal size: ø**3.2**)	ø**5/32"** (Metric nominal size: ø**4**)	ø**3/16"**	ø**1/4"**	ø**5/16"** (Metric nominal size: ø**8**)	ø**3/8"**	ø**1/2"**
Metric size	ø**2**	KQ2H02-23A KQ2H02-23A1	KQ2H02-04A KQ2H02-04A1					
	ø**3.2** (Inch nominal size: ø**1/8"**)	(KQ2H23-00A/ KQ2H23-00A/ KQ2H01-00A/ KQ2H01-00A1) Straight type	KQ2H01-03A KQ2H01-03A1 KQ2H23-04A KQ2H23-04A1		KQ2H01-07A KQ2H01-07A1			
	ø**4** (Inch nominal size: ø**5/32"**)	KQ2H01-03A KQ2H01-03A1 KQ2H23-04A KQ2H23-04A1	(KQ2H04-00A/ KQ2H04-00A1/ KQ2H03-00A/ KQ2H03-00A1) Straight type	KQ2H03-05A KQ2H03-05A1	KQ2H03-07A KQ2H03-07A1	KQ2H04-08A1		
	ø**6**	KQ2H23-06A KQ2H23-06A1	KQ2H04-06A KQ2H04-06A1		KQ2H06-07A-X562 (Made to Order)	KQ2H06-08A KQ2H06-08A1		
	ø**8** (Inch nominal size: ø**5/16"**)		KQ2H04-08A1		KQ2H07-09A	(KQ2H08-00A/ KQ2H09-00A) Straight type	KQ2H09-11A	KQ2H09-13A
	ø**10**					KQ2H08-10A	KQ2H10-11A-X562 (Made to Order)	
	ø**12**					KQ2H08-12A		KQ2H12-13A-X562 (Made to Order)

3 Clean Series

Symbol	Specifications
10-	Brass parts: With electroless nickel plating Lubricant: Fluorine grease Air blow in a clean room Double packaging Resin body, Release button color: White

Example) **10-KQ2H06-02NS** (With thread)

10-KQ2H06-00A (Without thread)

4 Spare Parts

Description	Part no.	Applicable thread
Gasket	**M-3G2**	M3
	M-5G2	M5
	M-6G	M6

KQ2-A Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ02-P01AJ**	KQ2E02-00AJ	Steel	Nickel plating
	KQ23-P01AJ	KQ2E23-00AJ		
	KQ04-P01AJ	KQ2E04-00AJ		
	KQ06-P01AJ	KQ2E06-00AJ		
	KQ04-P01A	KQ2E23-00A, KQ2E04-00A, KQ2E23-02A KQ2E04-01A, KQ2E04-02A, KQ2LE04-00A		Zinc chromated
	KQ06-P01A	KQ2E06-00A, KQ2E06-01A, KQ2E06-02A KQ2E06-03A, KQ2LE06-00A		
	KQ08-P01A	KQ2E08-00A, KQ2E08-01A, KQ2E08-02A KQ2E08-03A, KQ2LE08-00A		
	KQ10-P01A	KQ2E10-00A, KQ2E10-02A, KQ2E10-03A KQ2LE10-00A		
	KQ12-P01A	KQ2E12-00A, KQ2E12-03A, KQ2E12-04A KQ2LE12-00A		
	KQ16-P01A	KQ2E16-00A, KQ2E16-03A, KQ2E16-04A		

KQ2-N Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ02-P01NJ**	KQ2E02-00NJ	Steel	Nickel plating
	KQ23-P01NJ	KQ2E23-00NJ		
	KQ04-P01NJ	KQ2E04-00NJ		
	KQ06-P01NJ	KQ2E06-00NJ		
	KQ04-P01N	KQ2E23-00N, KQ2E04-00N, KQ2E23-02N KQ2E04-01N, KQ2E04-02N, KQ2LE04-00N		
	KQ06-P01N	KQ2E06-00N, KQ2E06-01N, KQ2E06-02N KQ2E06-03N, KQ2LE06-00N		
	KQ08-P01N	KQ2E08-00N, KQ2E08-01N, KQ2E08-02N KQ2E08-03N, KQ2LE08-00N		
	KQ10-P01N	KQ2E10-00N, KQ2E10-02N, KQ2E10-03N KQ2LE10-00N		
	KQ12-P01N	KQ2E12-00N, KQ2E12-03N, KQ2E12-04N KQ2LE12-00N		
	KQ16-P01N	KQ2E16-00N, KQ2E16-03N, KQ2E16-04N		

Color Cap

Applicable tubing O.D. [mm]	Model	øD_1	øD_2	L	Weight [g]	Note
ø8	**KQ2C-08□A**	12.8	9.2	2.6	0.1	Applicable for products before enlargement of outside diameter of release button
ø10	**KQ2C-10□A**	15.2	11.2	2.7	0.1	
ø12	**KQ2C-12□A**	17.6	13.2	2.7	0.1	
ø16	**KQ2C-16□A**	22.4	17.2	3.2	0.2	

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

Inch Size One-touch Fittings

Applicable Tubing: Inch Size, Connection Thread: UNF, NPT

KQ2 Series

Guide

Chuck

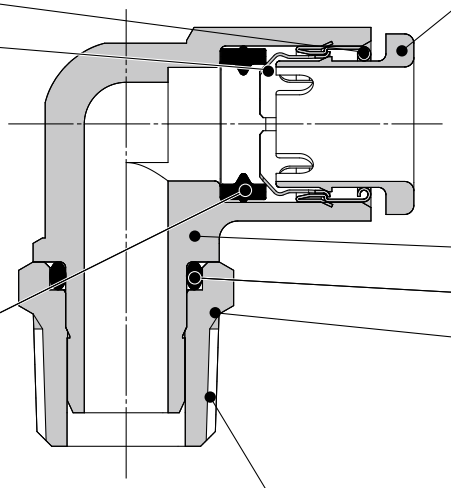
Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

The use of a special profile ensures sealing and reduces resistance when the tube is inserted.



Release button (Orange)

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

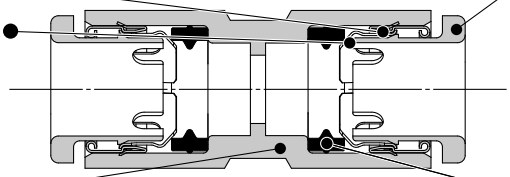
Stud

Effective when piping in a confined space.

Body part rotates allowing for positioning.

Connection thread

UNF, NPT



Guide

Chuck

Body

Release button (Orange)

Seal

∗ Fittings without thread portion, and with all resin body material are copper free specification.

One-touch IN/OUT connection. Possible to use in vacuum to –100 kPa.



Made to Order

Made to Order
(Refer to page 156 for details.)

Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø1/8", ø5/32", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2"

Specifications

Fluid		Air, Water∗1 ∗2
Operating pressure range∗3		–100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		–5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	ANSI/ASME1.20.1 (NPT thread) JIS B0208 (UNF thread)
	Nut section	JIS B0208 (UNF thread)
Seal on the threads		With sealant

∗1 The surge pressure must be under the maximum operating pressure.
∗2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.
∗3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT, PP
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR

How to Order

Threaded Type

KQ2 H 05 – 34 A S

One-touch fittings

Model

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
F	Female connector
L	Male elbow
K	45° male elbow
V	Universal male elbow
VS	Hexagon socket head universal male elbow
VF	Universal female elbow
LF	Female elbow
VD	Double universal male elbow
VT	Triple universal male elbow
Z	Branch universal male elbow
ZD	Double branch universal male elbow
ZT	Triple branch universal male elbow
W	Extended male elbow
T	Male branch tee
Y	Male run tee
U	Branch "Y"
E	Bulkhead union
	Bulkhead connector
LE	Bulkhead male elbow

Male thread seal method

Symbol	Seal method
Nil	None
S	With thread sealant

Thread material/Surface treatment

Symbol		Thread material/Surface treatment
A		Brass
N		Brass + Electroless nickel plating
Bulkhead union	**□J**	Interchangeable with KJE

∗ □: A, N

Port size/Applicable tubing O.D.

Symbol		Size
Thread connection	**32**	10-32UNF
	33	NPT1/16
	34	NPT1/8
	35	NPT1/4
	36	NPT3/8
	37	NPT1/2
Tubing connection	**00**∗1	Same diameter tubing

∗1 Only for "Bulkhead union" and "Bulkhead male elbow".

Applicable tubing O.D.

Symbol	Size
01	ø1/8"
03	ø5/32"
05	ø3/16"
07	ø1/4"
09	ø5/16"
11	ø3/8"
13	ø1/2"

Spare Parts

Use the part number below to order the gasket for sealing 10-32UNF thread.
Gasket for 10-32UNF: M-5G2

For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Tube – Tube Type

KQ2 H 05 – 00 A

One-touch fittings

Model

Symbol	Model
H	Straight union
	Different diameter straight
L	Union elbow
	Plug-in elbow
	Reducer elbow
R	Plug-in reducer
T	Union tee
	Different diameter tee
TW	Cross
U	Union "Y"
	Plug-in "Y"
	Different diameter union "Y"
X	Different diameter plug-in "Y"

Applicable tubing O.D. (Rod)

Symbol		Size
Tubing (Rod) connection	**00**	Same diameter tubing
	99	Same diameter rod
Different dia. tubing (Reducer)	**01**	ø1/8"
	03	ø5/32"
	05	ø3/16"
	07	ø1/4"
	09	ø5/16"
	11	ø3/8"
	13	ø1/2"

Applicable tubing O.D.

Symbol	Size
01	ø1/8"
03	ø5/32"
05	ø3/16"
07	ø1/4"
09	ø5/16"
11	ø3/8"
13	ø1/2"

Accessories

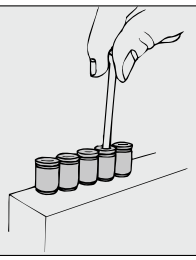
Symbol	Name
KQ2N	Nipple
	Reducer nipple
KQ2C	Tube cap
KQ2P	Plug

Round Type Variations

Hexagon socket head male connector
KQ2S P.139



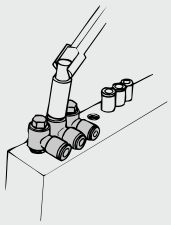
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



Universal male elbow
KQ2V P.142



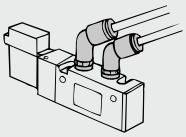
Hexagon head of the body allows tightening with a box wrench in confined spaces.



45° male elbow
KQ2K P.142



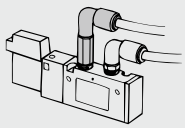
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



Extended male elbow
KQ2W P.147



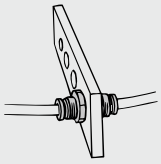
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Bulkhead union
KQ2E P.153



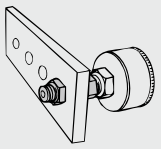
Use to connect tubing through a panel, etc.



Bulkhead connector
KQ2E P.154



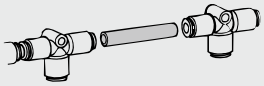
Use to connect a male thread and tubing through a panel, etc.



Nipple
KQ2N P.155



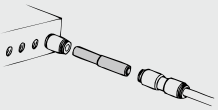
Use to connect One-touch fittings.



Reducer nipple
KQ2N P.155



Use to connect One-touch fittings of different sizes.



Male connector
KQ2H P.137



Use to pipe a female thread in the same direction. Most general model.

Hexagon socket head universal male elbow
KQ2VS P.143



Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

Branch universal male elbow
KQ2Z P.146



Hexagon head of the body allows tightening with a box wrench. Use for branch connections.

Female connector
KQ2F P.138



Use to pipe a male thread of a pressure gauge, etc.

Universal female elbow
KQ2VF P.143



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

Double branch universal male elbow
KQ2ZD P.146



Use to four-branch a female thread at right angles. Two individual parts rotate 360°.

Straight union
KQ2H P.138



Use to connect tubing in the same direction.

Female elbow
KQ2LF P.141



Use to pipe a male thread at right angles.

Triple branch universal male elbow
KQ2ZT P.147



Use to six-branch a female thread at right angles. Three individual parts rotate 360°.

Different diameter straight
KQ2H P.138



Use to connect tubing of different sizes.

Double universal male elbow
KQ2VD P.144



Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

Union elbow
KQ2L P.141



Use to connect tubing at right angles.

Male elbow
KQ2L P.140



Use to pipe a female thread at right angles. Most general model.

Triple universal male elbow
KQ2VT P.145



Use to three-branch a female thread at right angles. Three individual parts rotate 360°.

Plug-in elbow
KQ2L P.141



Use to change the tube direction of One-touch fittings by 90°.

Reducer elbow
KQ2L P.141

Use to change the tube direction of One-touch fittings by 90° and connect tubing of reduced size.

Male branch tee
KQ2T P.148

Use to branch a female thread at both 90° angles.

Union tee
KQ2T P.149

Use to branch tubing at both 90° angles.

Different diameter tee
KQ2T P.149

Use to connect tubing of reduced size for branching at both 90° angles.

Cross
KQ2TW P.149

Use to four-branch a line.

Male run tee
KQ2Y P.150

Use to branch a female thread in the same direction and at a 90° angle.

Branch "Y"
KQ2U P.151

Use to branch a female thread in the same direction.

Union "Y"
KQ2U P.152

Use to branch tubing in the same direction.

Different diameter union "Y"
KQ2U P.152

Use to connect tubing of reduced size for branching in the same direction.

Plug-in "Y"
KQ2U P.152

Use to branch One-touch fittings in the same direction.

Different diameter plug-in "Y"
KQ2X P.153

Use to branch One-touch fittings and connect tubing of reduced size in the same direction.

Plug-in reducer
KQ2R P.153

Use to change size of One-touch fittings.

Bulkhead male elbow
KQ2LE P.154

Use to connect tubing through a panel, etc. and to change the tube direction by 90°.

Tube cap
KQ2C P.155

Use to plug unused tubing.

Plug
KQ2P P.154

Use to plug unused One-touch fittings.

Color cap
KQ2C P.155

Mount onto the release button and use different colors for piping according to applications.

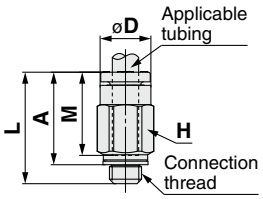
Dimensions

Male Connector: KQ2H (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD	L	A	M	Effective area [mm²]		Min. port size	Weight [g]
								Nylon	Urethane		
ø1/8	10-32UNF	**KQ2H01-32□**	7	6.7	17.4	14.4	13.3	3	2.5	2.3	2.7
ø5/32	10-32UNF	**KQ2H03-32□**	8	7.7	17.6	14.6	13.3	3.3	3.3	2.3	3.3
ø3/16	10-32UNF	**KQ2H05-32□**	8	8.3	17.7	14.7	13.3	3.4	3.4	2.3	3.4
ø1/4	10-32UNF	**KQ2H07-32□**	11.11	10.9	18	15	13.3	3.4	3.4	2.3	5.2

□: A (Brass), N (Brass + Electroless nickel plating)



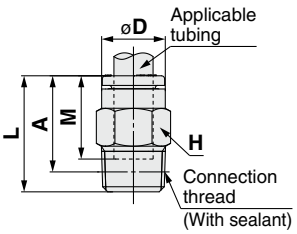
Male Connector: KQ2H (Sealant)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD	L	A*1	M	Effective area [mm²]		Min. port size	Weight [g]
								Nylon	Urethane		
ø1/8	1/16	**KQ2H01-33□S**	9.5	6.7	19.3	15.2	13.3	3	2.5	2.5	6
	1/8	**KQ2H01-34□S**	11.11	6.7	14	10.8	13.3	3	2.5	2.5	7.1
	1/4	**KQ2H01-35□S**	14.29	6.7	16.7	12.3	13.3	3.4	2.9	2.5	16.2
ø5/32	1/16	**KQ2H03-33□S**	9.5	7.7	20	15.9	13.3	4.8	3.4	3	6.1
	1/8	**KQ2H03-34□S**	11.11	7.7	14	10.8	13.3	4.8	3.4	3	6.5
	1/4	**KQ2H03-35□S**	14.29	7.7	16.7	12.3	13.3	4.8	3.4	3	15.6
ø3/16	1/8	**KQ2H05-34□S**	11.11	8.3	17.4	14.2	13.3	7.8	6.5	3.5	7.4
	1/4	**KQ2H05-35□S**	14.29	8.3	16.7	12.3	13.3	7.8	6.5	3.5	14.9
ø1/4	1/16	**KQ2H07-33□S**	11.11	10.9	22.5	18.4	13.3	13.5	11.5	4.6	7.6
	1/8	**KQ2H07-34□S**	11.11	10.9	18	14.8	13.3	13.5	11.5	4.6	6.5
	1/4	**KQ2H07-35□S**	14.29	10.9	16.7	12.3	13.3	13.5	11.5	4.6	13.1
	3/8	**KQ2H07-36□S**	17.46	10.9	18.1	13.4	13.3	13.5	11.5	4.6	25.7
ø5/16	1/8	**KQ2H09-34□S**	14.29	13	22.2	19	14.2	26.1	18	6	12.6
	1/4	**KQ2H09-35□S**	14.29	13	22.1	17.7	14.2	26.1	18	6	15.2
	3/8	**KQ2H09-36□S**	17.46	13	18.1	13.4	14.2	26.1	18	6	22.5
ø3/8	1/8	**KQ2H11-34□S**	17.46	15.1	24.1	20.9	15.6	26	26	6	19.5
	1/4	**KQ2H11-35□S**	17.46	15.1	25.1	20.7	15.6	35.3	29.1	7	21
	3/8	**KQ2H11-36□S**	17.46	15.1	22.7	18	15.6	35.3	29.1	7	23.5
	1/2	**KQ2H11-37□S**	22.23	15.1	22.3	15.9	15.6	35.3	29.1	7	49.1
ø1/2	1/4	**KQ2H13-35□S**	22.23	19	28.8	24.4	17	58.5	51.7	9	34.4
	3/8	**KQ2H13-36□S**	22.23	19	27.5	22.8	17	66	51.7	9.6	36.2
	1/2	**KQ2H13-37□S**	22.23	19	28	21.6	17	66	51.7	9.6	47.1

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

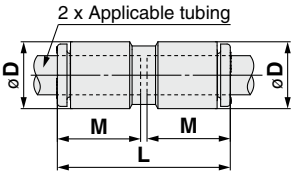


Dimensions

Straight Union: KQ2H



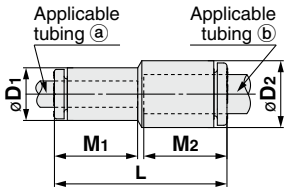
Applicable tubing O.D. [inch]	Model	øD	L	M	Effective area [mm²]		Min. port size	Weight [g]
					Nylon	Urethane		
ø1/8	**KQ2H01-00A**	7.1	27.6	13.3	3.4	2.9	2.5	1.4
ø5/32	**KQ2H03-00A**	8.2	27.6	13.3	5.6	4	3	1.6
ø3/16	**KQ2H05-00A**	9.1	27.6	13.3	7.8	6.5	3.5	1.9
ø1/4	**KQ2H07-00A**	11.1	27.6	13.3	13.5	11.5	4.6	2.4
ø5/16	**KQ2H09-00A**	13.2	29.4	14.2	26.1	18	6	3.7
ø3/8	**KQ2H11-00A**	15.4	32.2	15.6	35.3	29.1	7	5.2
ø1/2	**KQ2H13-00A**	19.3	35	17	66	51.7	9.6	8.7



Different Diameter Straight: KQ2H



Applicable tubing O.D. [inch]		Model	øD1	øD2	L	M1	M2	Effective area [mm²]		Min. port size	Weight [g]
ⓐ	ⓑ							Nylon	Urethane		
ø1/8	ø5/32	**KQ2H01-03A**	7.1	8.2	27.6	13.3	13.3	3.4	2.9	2.5	1.5
	ø1/4	**KQ2H01-07A**	7.1	11.1	27.6	13.3	13.3	3.4	2.9	2.5	2
ø5/32	ø3/16	**KQ2H03-05A**	8.2	9.1	27.6	13.3	13.3	5.6	5.6	3	1.8
	ø1/4	**KQ2H03-07A**	8.2	11.1	27.6	13.3	13.3	5.6	5.6	3	2.1
ø3/16	ø1/4	**KQ2H05-07A**	9.1	11.1	27.6	13.3	13.3	7.8	6.5	3.5	2.2
ø1/4	ø5/16	**KQ2H07-09A**	11.1	13.2	28.5	13.3	14.2	13.5	11.5	4.6	3.2
	ø3/8	**KQ2H07-11A**	11.1	15.4	29.9	13.3	15.6	13.5	11.5	4.6	4.1
ø5/16	ø3/8	**KQ2H09-11A**	13.2	15.4	30.8	14.2	15.6	26.1	18	6	4.7
	ø1/2	**KQ2H09-13A**	13.2	19.3	32.2	14.2	17	26.1	18	6	6.6
ø3/8	ø1/2	**KQ2H11-13A**	15.4	19.3	33.6	15.6	17	35.3	29.1	7	7.3

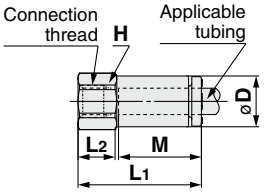


Female Connector: KQ2F



Applicable tubing O.D. [inch]	Connection thread UNF, NPT	Model	H (Width across flats)	øD	L1	L2	M	Effective area [mm²]		Min. port size	Weight [g]
								Nylon	Urethane		
ø1/8	10-32UNF	**KQ2F01-32□**	7	6.9	19.7	5.7	13.3	3	2.5	2.5	3.4
	1/8	**KQ2F01-34□**	14.29	6.9	25	9.5	13.3	3	2.5	2.5	13.4
	1/4	**KQ2F01-35□**	17.46	6.9	29.8	13.3	13.3	3	2.5	2.5	24.4
ø5/32	10-32UNF	**KQ2F03-32□**	8	7.9	19.5	5.7	13.3	4	4	3	4.5
	1/8	**KQ2F03-34□**	14.29	7.9	24.8	9.5	13.3	5.6	4	3	13.7
	1/4	**KQ2F03-35□**	17.46	7.9	29.7	13.3	13.3	5.6	4	3	24.7
ø1/4	10-32UNF	**KQ2F07-32□**	11.11	10.9	17.7	5.5	13.3	10.1	10.1	3.9	6.7
	1/8	**KQ2F07-34□**	14.29	10.9	24.4	9.5	13.3	13	11.5	4.6	14.2
	1/4	**KQ2F07-35□**	17.46	10.9	29.2	13.3	13.3	13	11.5	4.6	25.1
	3/8	**KQ2F07-36□**	22.23	10.9	30.5	13.2	13.3	13	11.5	4.6	38.7
ø5/16	1/8	**KQ2F09-34□**	14.29	13	24.8	9.2	14.2	26.1	18	6	15.2
	1/4	**KQ2F09-35□**	17.46	13	29.7	11.8	14.2	26.1	18	6	26.2
	3/8	**KQ2F09-36□**	22.23	13	31	12.4	14.2	26.1	18	6	39.8
ø3/8	1/4	**KQ2F11-35□**	17.46	15.1	30.5	11.8	15.6	35.3	29.1	8	27.2
	3/8	**KQ2F11-36□**	22.23	15.1	31.8	12.4	15.6	35.3	29.1	8	40.7
	1/2	**KQ2F11-37□**	23.81	15.1	34.9	15.8	15.6	35.3	29.1	8	45.6
ø1/2	3/8	**KQ2F13-36□**	22.23	19	32.6	12.4	17	66	51.7	10	43.8
	1/2	**KQ2F13-37□**	23.81	19	35.7	15.8	17	66	51.7	10	48.6

□: A (Brass), N (Brass + Electroless nickel plating)



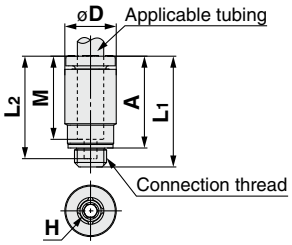
Dimensions

Hexagon Socket Head Male Connector: KQ2S (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD	L1	L2	A	M	Effective area [mm²]		Min. port size	Weight [g]
									Nylon	Urethane		
ø1/8	10-32UNF	**KQ2S01-32□**	2	7	17.5	16.3	14.5	13.3	2.5	2.5	2	2.6
ø5/32	10-32UNF	**KQ2S03-32□**	2.5	8	18.6	17.8	15.6	13.3	4	4	2.5	3
ø1/4	10-32UNF	**KQ2S07-32□**	2.5	10.3	19	17.8	16	13.3	4	4	2.5	3.7

□: A (Brass), N (Brass + Electroless nickel plating)



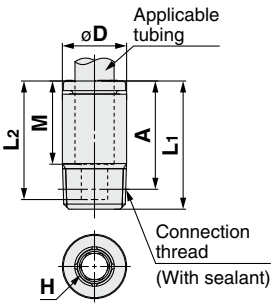
Hexagon Socket Head Male Connector: KQ2S (Sealant)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD	L1	L2	A*1	M	Effective area [mm²]		Min. port size	Weight [g]
									Nylon	Urethane		
ø5/32	1/16	**KQ2S03-33□S**	2.78	8	19.8	18.8	15.7	13.3	4.1	3.6	2.8	4.5
	1/8	**KQ2S03-34□S**	2.78	10.3	17.3	16.3	14.1	13.3	4.1	3.6	2.8	6
ø3/16	1/8	**KQ2S05-34□S**	3.57	11	19.8	18.8	16.6	13.3	7.8	6.5	3.6	7.5
ø1/4	1/16	**KQ2S07-33□S**	3.57	10.3	20.9	18.8	16.8	13.3	8.4	8.4	3.6	6.3
	1/8	**KQ2S07-34□S**	4.76	10.3	19.8	18.8	16.6	13.3	13.5	11.5	4.8	7.4
	1/4	**KQ2S07-35□S**	4.76	13.8	19.8	18.8	15.4	13.3	13.5	11.5	4.8	13.2
	3/8	**KQ2S07-36□S**	4.76	17	20.8	19.8	16.1	13.3	13.5	11.5	4.8	24
ø5/16	1/8	**KQ2S09-34□S**	5.56	13	22.3	19.7	19.1	14.2	17.2	16.2	5.6	9.7
	1/4	**KQ2S09-35□S**	6.35	14	21.2	20.1	16.8	14.2	23.3	16.2	6.4	12.6
	3/8	**KQ2S09-36□S**	6.35	17.5	20.7	19.7	16	14.2	23.3	16.2	6.4	21
ø3/8	1/8	**KQ2S11-34□S**	5.56	15.1	23.7	21.1	20.5	15.6	22.7	22.7	5.6	12.1
	1/4	**KQ2S11-35□S**	6.35	15.1	24.4	21.1	20	15.6	29.6	29.1	6.4	15.2
	3/8	**KQ2S11-36□S**	6.35	18	22.1	21.1	17.4	15.6	29.6	29.1	6.4	22.7
	1/2	**KQ2S11-37□S**	6.35	21.3	22.1	21.1	15.7	15.6	29.6	29.1	6.4	40.6
ø1/2	1/4	**KQ2S13-35□S**	8	19	28.5	22.5	24.1	17	48	48	8.1	18.9
	3/8	**KQ2S13-36□S**	9.53	19	26.3	22.5	21.6	17	66	51.7	9.6	20.7
	1/2	**KQ2S13-37□S**	9.53	22	23.5	22.5	17.1	17	66	51.7	9.6	33.3

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



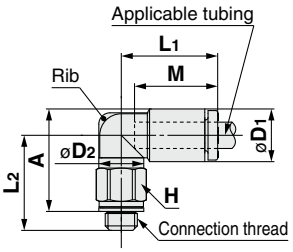
Dimensions

Male Elbow: KQ2L (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	10-32UNF	**KQ2L01-32□**	7	7.1	7	15.3	14.2	14.8	13.3	2.6	2.2	2.5	3	●
ø5/32	10-32UNF	**KQ2L03-32□**	7	8.2	7	15.4	14.7	15.8	13.3	3.5	3.5	2.5	3.1	●
ø3/16	10-32UNF	**KQ2L05-32□**	7	9.1	7	14.5	15.8	17.4	13.3	3.5	3.5	2.5	3.2	●
ø1/4	10-32UNF	**KQ2L07-32□**	7	11.1	7	15.4	16	18.6	13.3	3.5	3.5	2.5	3.5	●

□: A (Brass), N (Brass + Electroless nickel plating)



Male Elbow: KQ2L (Sealant)

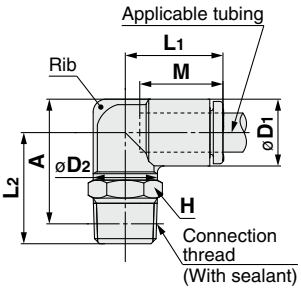


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	1/16	**KQ2L01-33□S**	11.11	7.1	10	14.5	24.3	23.8	13.3	3	2.5	2.5	9.1	—
	1/8	**KQ2L01-34□S**	11.11	7.1	10	14.5	16.7	17.1	13.3	3	2.5	2.5	5.5	—
	1/4	**KQ2L01-35□S**	14.29	7.1	10	14.5	21.1	20.3	13.3	3	2.5	2.5	15	—
ø5/32	1/16	**KQ2L03-33□S**	11.11	8.2	10	14.8	23.8	23.8	13.3	4.6	3.3	3	9.3	●
	1/8	**KQ2L03-34□S**	11.11	8.2	10	14.8	16.2	17.1	13.3	4.6	3.3	3	5.6	●
	1/4	**KQ2L03-35□S**	14.29	8.2	10	14.8	21.6	21.3	13.3	4.6	3.3	3	15.2	●
ø3/16	1/8	**KQ2L05-34□S**	11.11	9.1	10	15	16.7	18.1	13.3	6.8	5.6	3.5	5.8	—
	1/4	**KQ2L05-35□S**	14.29	9.1	10	15	22.1	22.3	13.3	6.8	5.6	3.5	15.4	—
ø1/4	1/16	**KQ2L07-33□S**	11.11	11.1	10	15.6	25.3	26.8	13.3	6.8	6.8	3.5	9.8	●
	1/8	**KQ2L07-34□S**	11.11	11.1	10	15.6	17.7	20.1	13.3	11.3	10	4.5	6.1	●
	1/4	**KQ2L07-35□S**	14.29	11.1	10	15.6	23.1	24.3	13.3	11.3	10	4.5	15.7	●
	3/8	**KQ2L07-36□S**	17.46	11.1	10	15.6	24.5	25.4	13.3	11.3	10	4.5	28	●
ø5/16	1/8	**KQ2L09-34□S**	11.11	13.2	10	16.4	18.7	22.1	14.2	11.4	11.4	4.5	6.9	●
		KQ2L09-34□QS[*2]	12.7	13.2	12	17.2	23.5	26.9	14.2	21.6	14.9	6	9.9	●
	1/4	**KQ2L09-35□S**	14.29	13.2	12	17.2	24.1	26.3	14.2	21.6	14.9	6	14.1	●
	3/8	**KQ2L09-36□S**	17.46	13.2	12	17.2	25.5	27.4	14.2	21.6	14.9	6	26.2	●
ø3/8	1/8	**KQ2L11-34□S**	12.7	15.4	12	18.6	23.2	27.7	15.6	21.2	21.2	6	11.8	●
	1/4	**KQ2L11-35□S**	17.46	15.4	17	19.3	28.6	31.9	15.6	28.8	23.8	7.5	21.7	●
	3/8	**KQ2L11-36□S**	17.46	15.4	17	19.3	29.2	32.2	15.6	28.8	23.8	7.5	19.8	●
	1/2	**KQ2L11-37□S**	22.23	15.4	17	19.3	33.4	34.7	15.6	28.8	23.8	7.5	46.2	●
ø1/2	1/4	**KQ2L13-35□S**	17.46	19.3	17	21.5	30.5	35.7	17	50.3	44.4	9	24	—
	3/8	**KQ2L13-36□S**	17.46	19.3	17	21.8	26.3	31.2	17	56	44.4	9.5	20.3	—
	1/2	**KQ2L13-37□S**	22.23	19.3	17	21.8	30.5	33.7	17	56	44.4	9.5	46.3	—

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

*2 For details, refer to page 156.

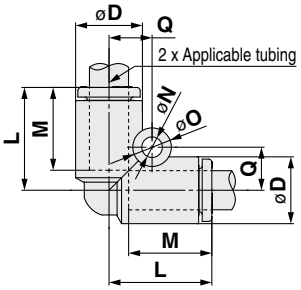


Dimensions

Union Elbow: KQ2L



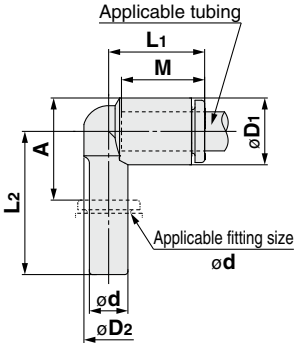
Applicable tubing O.D. [inch]	Model	øD	L	Q	M	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
						øO	øN	Thickness	Nylon	Urethane		
ø1/8	**KQ2L01-00A**	7.1	14.9	5.4	13.3	6	3.2	7.1	3	2.5	2.5	1.6
ø5/32	**KQ2L03-00A**	8.2	15.3	5.7	13.3	6	3.2	8.2	4.2	4.2	3	1.9
ø3/16	**KQ2L05-00A**	9.1	15.7	6.2	13.3	6	3.2	9.1	6.8	5.6	3.5	2.2
ø1/4	**KQ2L07-00A**	11.1	16.5	7.2	13.3	6	3.2	11.1	11.6	10	4.6	2.9
ø5/16	**KQ2L09-00A**	13.2	18.2	8.4	14.2	8	4.2	13.2	21.6	14.9	6	4.7
ø3/8	**KQ2L11-00A**	15.4	20.4	9.9	15.6	8	4.2	15.4	28.8	23.8	7	6.7
ø1/2	**KQ2L13-00A**	19.3	23.4	11.8	17	8	4.2	19.3	56.7	44.4	9.6	10.8



Plug-in Elbow: KQ2L



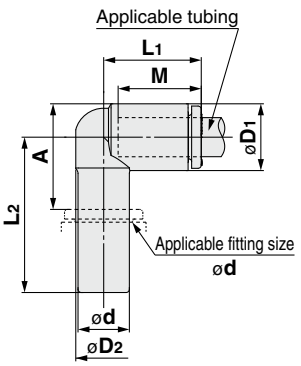
Applicable tubing O.D. [inch]	Applicable fitting size ød [inch]	Model	øD1	øD2	L1	L2	A	M	Effective area [mm²]		Min. port size	Weight [g]
									Nylon	Urethane		
ø1/8	ø1/8	**KQ2L01-99A**	7.1	6.4	14.5	20.9	11.1	13.3	3	2.5	2.2	0.9
ø5/32	ø5/32	**KQ2L03-99A**	8.2	7.2	14.5	21.1	11.9	13.3	4.2	4.2	2.5	1.2
ø3/16	ø3/16	**KQ2L05-99A**	9.1	8	15	22.2	13.4	13.3	6.8	5.6	3.5	1.4
ø1/4	ø1/4	**KQ2L07-99A**	11.1	8	15.6	22.8	15	13.3	11.6	10	4.6	1.9
ø5/16	ø5/16	**KQ2L09-99A**	13.2	10	17.2	26.2	18.6	14.2	21.6	14.9	6	3
ø3/8	ø3/8	**KQ2L11-99A**	15.4	12	19.1	28	20.1	15.6	28.8	23.8	7	4.5
ø1/2	ø1/2	**KQ2L13-99A**	19.3	14	21.8	38.7	31.3	17	56.7	44.4	9.6	7.8



Reducer Elbow: KQ2L



Applicable tubing O.D. [inch]	Applicable fitting size ød [inch]	Model	øD1	øD2	L1	L2	A	M	Effective area [mm²]		Min. port size	Weight [g]
									Nylon	Urethane		
ø1/8	ø5/32	**KQ2L01-03A**	7.1	6.4	14.5	23.9	14.1	13.3	3	2.5	2.5	1.1
	ø3/16	**KQ2L01-05A**	7.1	6.4	14.5	28.4	18.6	13.3	3	2.5	2.5	1.1
	ø1/4	**KQ2L01-07A**	7.1	6.4	14.5	24.5	14.7	13.3	3	2.5	2.5	1.3
ø5/32	ø3/16	**KQ2L03-05A**	8.2	7.2	14.8	29.1	19.9	13.3	4.2	4.2	3	1.3
	ø1/4	**KQ2L03-07A**	8.2	7.2	14.8	21.1	11.9	13.3	4.2	4.2	3	1.4
ø3/16	ø1/4	**KQ2L05-07A**	9.1	8	15	21.6	12.8	13.3	6.8	5.6	3.5	1.5
	ø5/16	**KQ2L05-09A**	9.1	8	15	30	20.3	13.3	6.8	5.6	3.5	1.9
ø1/4	ø5/16	**KQ2L07-09A**	11.1	8	15.6	30.7	22	13.3	11.6	10	4.6	2.3
	ø3/8	**KQ2L07-11A**	11.1	8	15.6	31.1	21	13.3	11.6	10	4.6	3
ø5/16	ø3/8	**KQ2L09-11A**	13.2	10	18.8	34.1	25.1	14.2	21.6	14.9	6	3.7
	ø1/2	**KQ2L09-13A**	13.2	10	18.8	35.6	25.2	14.2	21.6	14.9	6	4.6
ø3/8	ø1/2	**KQ2L11-13A**	15.4	12	19.1	36.5	27.2	15.6	28.8	23.8	7	5.6

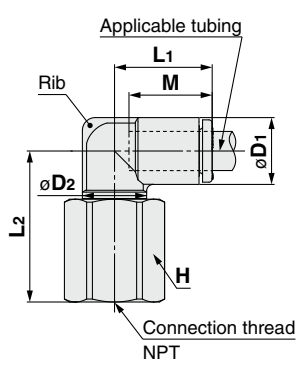


Female Elbow: KQ2LF



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	M	Effective area [mm²]		Min. port size	Weight [g]	With a rib
									Nylon	Urethane			
ø1/8	1/8	**KQ2LF01-34□**	14.29	7.1	10	14.5	22.8	13.3	3	2.5	2.5	18.2	—
	1/4	**KQ2LF01-35□**	17.46	7.1	10	14.5	26.3	13.3	3	2.5	2.5	31.7	—
ø5/32	1/8	**KQ2LF03-34□**	14.29	8.2	10	14.8	22.4	13.3	4.2	4.2	3	18.3	●
	1/4	**KQ2LF03-35□**	17.46	8.2	10	14.8	26.9	13.3	4.2	4.2	3	31.9	●
ø1/4	1/8	**KQ2LF07-34□**	14.29	11.1	10	15.6	23.9	13.3	11.3	10	4.5	18.9	●
	1/4	**KQ2LF07-35□**	17.46	11.1	10	15.6	28.4	13.3	11.3	10	4.5	32.4	●
	3/8	**KQ2LF07-36□**	22.23	11.1	10	15.6	28.9	13.3	11.3	10	4.5	53.1	●
ø3/8	1/4	**KQ2LF11-35□**	17.46	15.4	17	19.3	27.1	15.6	28.8	23.8	7	28	●
	3/8	**KQ2LF11-36□**	22.23	15.4	17	19.3	33.3	15.6	28.8	23.8	7	49.6	●
	1/2	**KQ2LF11-37□**	23.81	15.4	17	19.3	36.3	15.6	28.8	23.8	7	56.9	●
ø1/2	3/8	**KQ2LF13-36□**	22.23	19.3	17	21.8	30.4	17	56	44.4	9.5	51.4	—
	1/2	**KQ2LF13-37□**	23.81	19.3	17	21.8	33.4	17	56	44.4	9.5	58	—

□: A (Brass), N (Brass + Electroless nickel plating)



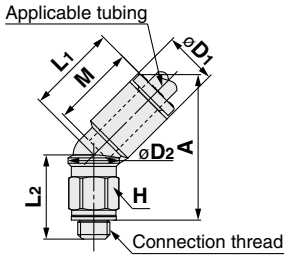
Dimensions

45° Male Elbow: KQ2K (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2K01-32□**	7	7.1	8	14.4	13	21.9	13.3	3	2.5	2.5	2.8
ø5/32	10-32UNF	**KQ2K03-32□**	7	8.2	8	14.4	13	22.2	13.3	3.4	3.4	2.5	3
ø1/4	10-32UNF	**KQ2K07-32□**	7	11.1	8	14.9	16.5	26.8	13.3	3.5	3.5	2.5	3.6

□: A (Brass), N (Brass + Electroless nickel plating)



45° Male Elbow: KQ2K (Sealant)

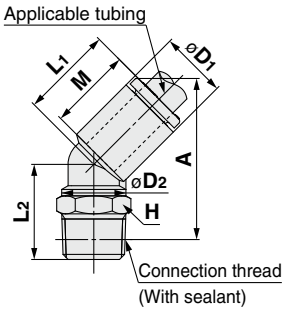


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2K01-34□S**	11.11	7.1	10	14.3	12.7	21.8	13.3	3	2.5	2.5	5.3
ø5/32	1/8	**KQ2K03-34□S**	11.11	8.2	10	14.4	12.7	22.2	13.3	4.8	3.4	3	5.5
ø3/16	1/8	**KQ2K05-34□S**	11.11	9.1	10	14.5	13.2	23.1	13.3	6.8	5.6	3.5	5.6
ø1/4	1/8	**KQ2K07-34□S**	11.11	11.1	10	14.8	15.2	25.8	13.3	11.3	10	4.5	6
	1/4	**KQ2K07-35□S**	14.29	11.1	10	14.8	19.6	29	13.3	11.3	10	4.5	15.6
	3/8	**KQ2K07-36□S**	17.46	11.1	10	14.8	21	30.1	13.3	11.3	10	4.5	27.8
ø5/16	1/8	**KQ2K09-34□S**	11.11	13.2	10	16	15.7	27.9	14.2	11.3	11.3	4.5	6.8
		KQ2K09-34□QS *2	12.7	13.2	12	16	20.5	32.7	14.2	19.7	19.7	6	9.7
	1/4	**KQ2K09-35□S**	14.29	13.2	12	16	21.1	32.1	14.2	19.7	19.7	6	13.9
	3/8	**KQ2K09-36□S**	17.46	13.2	12	16	22.5	33.2	14.2	19.7	19.7	6	26
ø3/8	1/8	**KQ2K11-34□S**	12.7	15.4	12	18.1	21.1	35.5	15.6	21.2	21.2	6	11.7
	1/4	**KQ2K11-35□S**	17.46	15.4	17	17.7	28.6	41.5	15.6	28.8	23.8	7	21.8
	3/8	**KQ2K11-36□S**	17.46	15.4	17	17.7	23.5	36.1	15.6	28.8	23.8	7	19.2
	1/2	**KQ2K11-37□S**	22.23	15.4	17	17.7	27.7	38.6	15.6	28.8	23.8	7	45.7
ø1/2	1/4	**KQ2K13-35□S**	17.46	19.3	17	19.4	28.7	44.1	17	50.3	44.4	9	23.8
	3/8	**KQ2K13-36□S**	17.46	19.3	17	19.4	23.6	38.7	17	56	44.4	9.5	19.9
	1/2	**KQ2K13-37□S**	22.23	19.3	17	19.4	27.8	41.2	17	56	44.4	9.5	46

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

*2 For details, refer to page 156.

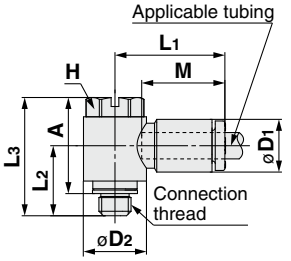


Universal Male Elbow: KQ2V (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2V01-32□**	8	7.1	9.8	17.5	10.4	17.9	14.9	13.3	2.2	1.9	2.5	5.2
ø5/32	10-32UNF	**KQ2V03-32□**	8	8.2	9.8	17.5	10.4	17.9	14.9	13.3	2.9	2.9	2.5	5.3
ø1/4	10-32UNF	**KQ2V07-32□**	8	11.1	13.4	20.6	12.1	24	20.5	13.3	2.9	2.9	2.5	12.2

□: A (Brass), N (Brass + Electroless nickel plating)



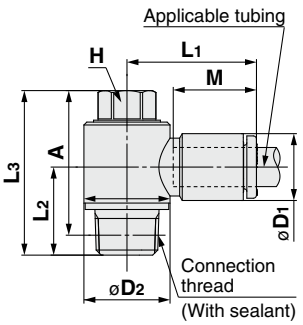
Universal Male Elbow: KQ2V (Sealant)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2V01-34□S**	8	7.1	13.4	19.3	13.7	25.6	22.4	13.3	2.2	1.9	2.5	13.5
ø5/32	1/8	**KQ2V03-34□S**	8	8.2	13.4	19.3	13.7	25.6	22.4	13.3	2.9	2.9	3	13.6
ø3/16	1/8	**KQ2V05-34□S**	8	9.1	13.4	19.6	13.7	25.6	22.4	13.3	4.5	3.7	3.5	13.7
ø1/4	1/8	**KQ2V07-34□S**	8	11.1	13.4	20.6	13.7	25.6	22.4	13.3	7.5	6.6	4.5	14.1
	1/4	**KQ2V07-35□S**	8	11.1	15.3	19.9	18.7	32.1	27.7	13.3	7.5	6.6	4.5	25.6
ø5/16	1/8	**KQ2V09-34□S**	11.11	13.2	17.6	23.5	15.1	27.6	24.4	14.2	16	11.2	6	22.3
	1/4	**KQ2V09-35□S**	11.11	13.2	17.6	23.5	18.5	31	26.6	14.2	16	11.2	6	29.2
	3/8	**KQ2V09-36□S**	12.7	13.2	20.6	23.1	19.5	35.3	30.6	14.2	16	11.2	6	44.1
ø3/8	1/4	**KQ2V11-35□S**	12.7	15.4	20.6	25.8	19.6	34.9	30.5	15.6	23.4	19.3	7	37.5
	3/8	**KQ2V11-36□S**	12.7	15.4	20.6	25.8	20	35.3	30.6	15.6	23.4	19.3	7	45.2
ø1/2	3/8	**KQ2V13-36□S**	17.46	19.3	27	30.5	20.2	35.1	30.4	17	38.8	34.3	9	64
	1/2	**KQ2V13-37□S**	17.46	19.3	27	30.5	23.4	38.3	31.9	17	38.8	34.3	9	82.6

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



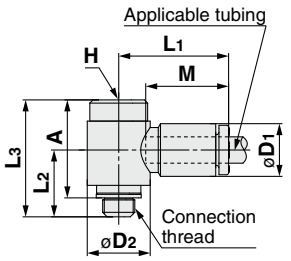
Dimensions

Hexagon Socket Head Universal Male Elbow: KQ2VS (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2VS01-32□**	4	7.1	9.8	17.5	10.4	18.2	15.2	13.3	2.2	1.9	2.3	5.3
ø5/32	10-32UNF	**KQ2VS03-32□**	4	8.2	9.8	17.5	10.4	18.2	15.2	13.3	2.9	2.9	2.3	5.4
ø1/4	10-32UNF	**KQ2VS07-32□**	6.35	11.1	13.4	20.6	11.1	23.2	20.2	13.3	2.9	2.9	2.5	11.3

□: A (Brass), N (Brass + Electroless nickel plating)

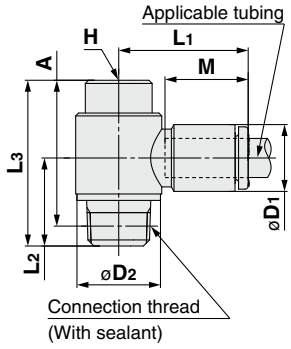


Hexagon Socket Head Universal Male Elbow: KQ2VS (Sealant)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2VS01-34□S**	6.35	7.1	13.4	19.3	13.7	25.8	22.6	13.3	2.2	1.9	2.5	13.1
ø5/32	1/8	**KQ2VS03-34□S**	6.35	8.2	13.4	19.3	13.7	25.8	22.6	13.3	2.9	2.9	3	13.2
ø3/16	1/8	**KQ2VS05-34□S**	6.35	9.1	13.4	19.6	13.7	25.8	22.6	13.3	4.5	3.7	3.5	13.3
ø1/4	1/8	**KQ2VS07-34□S**	6.35	11.1	13.4	20.6	13.7	25.8	22.6	13.3	7.7	6.6	4.6	13.7
	1/4	**KQ2VS07-35□S**	6.35	11.1	15.3	19.9	18.7	28.1	23.7	13.3	7.7	6.6	4.6	20.8
ø5/16	1/8	**KQ2VS09-34□S**	8	13.2	17.6	23.5	15.1	26	22.8	14.2	16	11.2	6	19.3
	1/4	**KQ2VS09-35□S**	8	13.2	17.6	23.5	18.5	29.5	25.1	14.2	16	11.2	6	24.6
	3/8	**KQ2VS09-36□S**	8	13.2	20.6	23.1	19.5	31.4	26.7	14.2	16	11.2	6	37.6
ø3/8	1/4	**KQ2VS11-35□S**	8	15.4	20.6	25.8	19.6	30.8	26.4	15.6	23.4	19.3	7	29
	3/8	**KQ2VS11-36□S**	8	15.4	20.6	25.8	20	31.4	26.7	15.6	23.4	19.3	7	38.6
ø1/2	3/8	**KQ2VS13-36□S**	9.53	19.3	27	30.5	20.2	33.6	28.9	17	38.8	34.3	9	59.2
	1/2	**KQ2VS13-37□S**	9.53	19.3	27	30.5	23.4	36.8	30.4	17	38.8	34.3	9	78.3

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of NPT thread

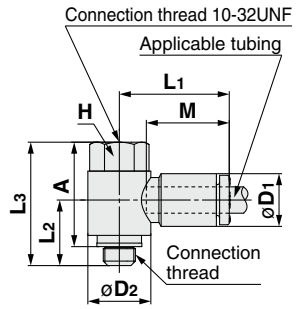


Universal Female Elbow: KQ2VF (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2VF01-32□**	8	7.1	9.8	17.5	10.4	19.4	16.4	13.3	2.2	1.9	2.5	5.4
ø5/32	10-32UNF	**KQ2VF03-32□**	8	8.2	9.8	17.5	10.4	19.4	16.4	13.3	2.9	2.9	2.5	5.5
ø1/4	10-32UNF	**KQ2VF07-32□**	14.29	11.1	13.4	20.6	12.8	22.4	19.4	13.3	2.9	2.9	2.5	14.2

□: A (Brass), N (Brass + Electroless nickel plating)

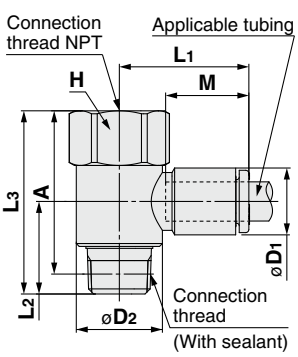


Universal Female Elbow: KQ2VF (Sealant)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2VF01-34□S**	14.29	7.1	13.4	19.3	14.4	28.5	25.3	13.3	2.2	1.9	2.5	18
ø5/32	1/8	**KQ2VF03-34□S**	14.29	8.2	13.4	19.3	14.4	28.5	25.3	13.3	2.9	2.9	3	18.1
ø3/16	1/8	**KQ2VF05-34□S**	14.29	9.1	13.4	19.6	14.4	28.5	25.3	13.3	4.5	3.7	3.5	18.2
ø1/4	1/8	**KQ2VF07-34□S**	14.29	11.1	13.4	20.6	14.4	28.5	25.3	13.3	7.7	6.6	4.6	18.5
	1/4	**KQ2VF07-35□S**	17.46	11.1	17.6	21.3	19.4	37.9	33.5	13.3	7.7	6.6	4.6	38.4
ø5/16	1/8	**KQ2VF09-34□S**	17.46	13.2	17.6	23.5	15.5	30	26.8	14.2	16	11.2	6	28.7
	1/4	**KQ2VF09-35□S**	17.46	13.2	17.6	23.5	18.9	37.9	33.5	14.2	16	11.2	6	39.3
	3/8	**KQ2VF09-36□S**	22.23	13.2	25.2	24.9	24	44	39.3	14.2	16	11.2	6	67.2
ø3/8	1/4	**KQ2VF11-35□S**	22.23	15.4	20.6	25.8	20.7	40.3	35.9	15.6	23.4	19.3	7	58.7
	3/8	**KQ2VF11-36□S**	22.23	15.4	25.2	26.3	23.2	44	39.3	15.6	23.4	19.3	7	67.9
ø1/2	3/8	**KQ2VF13-36□S**	25.4	19.3	27	30.5	21.2	40.7	36	17	38.8	34.3	9	69.8
	1/2	**KQ2VF13-37□S**	25.4	19.3	27	30.5	24.4	48.9	42.5	17	38.8	34.3	9	105.7

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of NPT thread



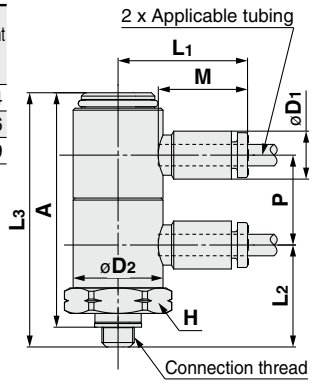
Dimensions

Double Universal Male Elbow: KQ2VD (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2VD01-32□**	14.29	7.1	13.4	19.3	15.2	37.9	34.9	13.3	13.4	2.2	1.9	2.3	24.4
ø5/32	10-32UNF	**KQ2VD03-32□**	14.29	8.2	13.4	19.3	15.2	37.9	34.9	13.3	13.4	2.5	2.5	2.3	24.6
ø1/4	10-32UNF	**KQ2VD07-32□**	14.29	11.1	13.4	20.6	15.6	38.7	35.7	13.3	13.8	2.5	2.5	2.3	26.9

□: A (Brass), N (Brass + Electroless nickel plating)



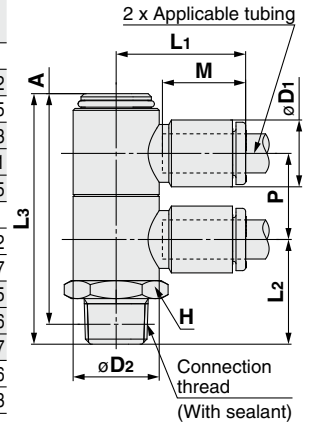
Double Universal Male Elbow: KQ2VD (Sealant)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2VD01-34□S**	14.29	7.1	13.4	19.3	16.3	39	35.8	13.3	13.4	2.2	1.9	2.5	20
ø5/32	1/8	**KQ2VD03-34□S**	14.29	8.2	13.4	19.3	16.3	39	35.8	13.3	13.4	2.9	2.9	3	20.2
ø3/16	1/8	**KQ2VD05-34□S**	14.29	9.1	13.4	19.6	16.3	39	35.8	13.3	13.4	4.5	3.7	3.5	20.5
ø1/4	1/8	**KQ2VD07-34□S**	14.29	11.1	13.4	20.6	17.7	40.8	37.6	13.3	13.8	7.7	6.6	4.6	23.3
	1/4	**KQ2VD07-35□S**	14.29	11.1	13.4	20.6	21.1	44.2	39.8	13.3	13.8	7.7	6.6	4.6	30.1
	3/8	**KQ2VD07-36□S**	17.46	11.1	13.4	20.6	22.5	45.6	40.9	13.3	13.8	7.7	6.6	4.6	42.5
ø5/16	1/4	**KQ2VD09-35□S**	19	13.2	17.6	23.7	22.4	49.2	44.8	14.2	15.9	16	11.2	6	45
	3/8	**KQ2VD09-36□S**	19	13.2	17.6	23.7	23	49.8	45.1	14.2	15.9	16	11.2	6	53.2
	1/2	**KQ2VD09-37□S**	22.23	13.2	17.6	23.7	27.2	54	47.6	14.2	15.9	16	11.2	6	79.7
ø3/8	1/4	**KQ2VD11-35□S**	22.23	15.4	20.6	25.3	24.4	56.3	51.9	15.6	19.2	23.4	19.3	7	65.5
	3/8	**KQ2VD11-36□S**	22.23	15.4	20.6	25.3	24.8	56.7	52	15.6	19.2	23.4	19.3	7	67.6
	1/2	**KQ2VD11-37□S**	22.23	15.4	20.6	25.3	28.7	60.6	54.2	15.6	19.2	23.4	19.3	7	87.7
ø1/2	3/8	**KQ2VD13-36□S**	25.4	19.3	27	30.5	29.6	64.4	59.7	17	22.3	43.8	34.3	9.6	128.6
	1/2	**KQ2VD13-37□S**	25.4	19.3	27	30.5	32.8	67.6	61.2	17	22.3	43.8	34.3	9.6	146.3

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



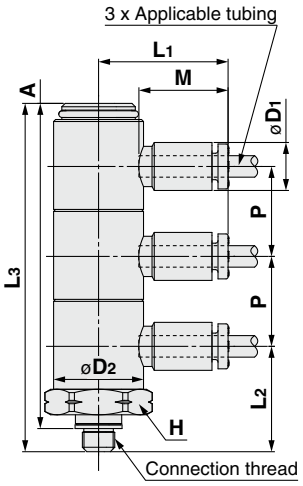
Dimensions

Triple Universal Male Elbow: KQ2VT (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2VT01-32□**	14.29	7.1	13.4	19.3	15.7	51.9	48.4	13.3	13.4	2.2	1.9	2.5	32.4
ø5/32	10-32UNF	**KQ2VT03-32□**	14.29	8.2	13.4	19.3	15.7	51.9	48.4	13.3	13.4	2.9	2.9	2.5	32.7
ø1/4	10-32UNF	**KQ2VT07-32□**	14.29	11.1	13.4	20.6	16.1	53	49.5	13.3	13.8	2.3	2.3	2.5	35.4

□: A (Brass), N (Brass + Electroless nickel plating)



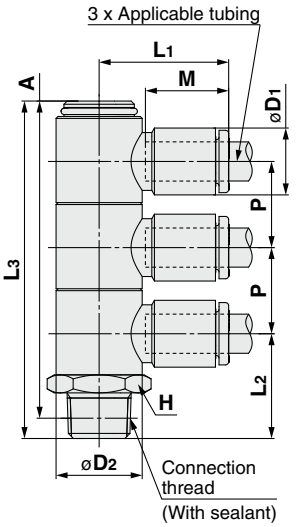
Triple Universal Male Elbow: KQ2VT (Sealant)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2VT01-34□S**	14.29	7.1	13.4	19.3	16.3	52.5	49.3	13.3	13.4	2.2	1.9	2.5	25.5
ø5/32	1/8	**KQ2VT03-34□S**	14.29	8.2	13.4	19.3	16.3	52.5	49.3	13.3	13.4	2.9	2.9	3	25.8
ø3/16	1/8	**KQ2VT05-34□S**	14.29	9.1	13.4	19.6	16.3	52.5	49.3	13.3	13.4	4.5	3.7	3.5	26.2
ø1/4	1/8	**KQ2VT07-34□S**	14.29	11.1	13.4	20.6	17.7	54.6	51.4	13.3	13.8	7.7	6.6	4.6	29.7
	1/4	**KQ2VT07-35□S**	14.29	11.1	13.4	20.6	21.1	58	53.6	13.3	13.8	7.7	6.6	4.6	36.6
	3/8	**KQ2VT07-36□S**	17.46	11.1	13.4	20.6	22.5	59.4	54.7	13.3	13.8	7.7	6.6	4.6	49
ø5/16	1/4	**KQ2VT09-35□S**	17.46	13.2	17.6	23.7	22.4	65.2	60.8	14.2	15.9	16	11.2	6	55.4
	3/8	**KQ2VT09-36□S**	19	13.2	17.6	23.7	23	65.8	61.1	14.2	15.9	16	11.2	6	65.3
	1/2	**KQ2VT09-37□S**	22.23	13.2	17.6	23.7	27.2	70	63.6	14.2	15.9	16	11.2	6	91.8
ø3/8	1/4	**KQ2VT11-35□S**	22.23	15.4	20.6	25.3	24.4	75.6	71.2	15.6	19.2	23.4	19.3	7	84.2
	3/8	**KQ2VT11-36□S**	22.23	15.4	20.6	25.3	24.8	76	71.3	15.6	19.2	23.4	19.3	7	91.8
	1/2	**KQ2VT11-37□S**	22.23	15.4	20.6	25.3	28.7	79.9	73.5	15.6	19.2	23.4	19.3	7	104.4
ø1/2	3/8	**KQ2VT13-36□S**	25.4	19.3	27	30.5	29.6	86.8	82.1	17	22.3	43.8	34.3	9.6	169.3
	1/2	**KQ2VT13-37□S**	25.4	19.3	27	30.5	32.8	90	83.6	17	22.3	43.8	34.3	9.6	187

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



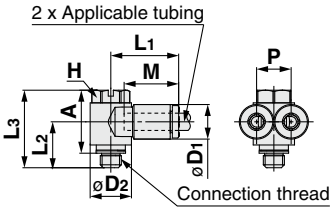
Dimensions

Branch Universal Male Elbow: KQ2Z (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2Z01-32□**	8	7.1	9.8	16.5	10.4	17.9	14.9	13.3	7.1	2.2	1.9	2.5	5.9
ø5/32	10-32UNF	**KQ2Z03-32□**	8	8.2	9.8	16.5	10.4	17.9	14.9	13.3	8.2	2.9	2.9	2.5	6.2
ø1/4	10-32UNF	**KQ2Z07-32□**	8	11.1	13.4	18.4	12.1	24	20.5	13.3	11.1	2.9	2.9	2.5	13.4

□: A (Brass), N (Brass + Electroless nickel plating)



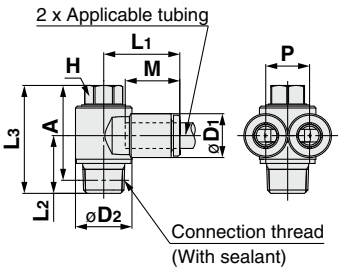
Branch Universal Male Elbow: KQ2Z (Sealant)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2Z01-34□S**	8	7.1	13.4	18.5	13.7	25.6	22.4	13.3	7.1	2.2	1.9	2.5	14.1
ø5/32	1/8	**KQ2Z03-34□S**	8	8.2	13.4	18.5	13.7	25.6	22.4	13.3	8.2	2.9	2.9	3	14.4
ø3/16	1/8	**KQ2Z05-34□S**	8	9.1	13.4	18.4	13.7	25.6	22.4	13.3	9.1	4.5	3.7	3.5	14.7
ø1/4	1/8	**KQ2Z07-34□S**	8	11.1	13.4	18.4	13.7	25.6	22.4	13.3	11.1	7.5	6.6	4.5	15.2
	1/4	**KQ2Z07-35□S**	11.11	11.1	17.6	20.4	18	31	26.6	13.3	11.1	7.7	6.6	4.5	29.5
ø5/16	1/8	**KQ2Z09-34□S**	11.11	13.2	17.6	21.2	15.1	27.6	24.4	14.2	13.2	20.5	14.2	6	24.1
	1/4	**KQ2Z09-35□S**	11.11	13.2	17.6	21.2	18.5	31	26.6	14.2	13.2	20.5	14.2	6	31
	3/8	**KQ2Z09-36□S**	12.7	13.2	20.6	22.3	19.5	35.3	30.6	14.2	13.2	20.5	14.2	6	46
ø3/8	1/4	**KQ2Z11-35□S**	12.7	15.4	20.6	25.9	19.1	34.9	30.5	15.6	15.4	23.4	19.3	7	40.7
	3/8	**KQ2Z11-36□S**	12.7	15.4	20.6	25.9	19.5	35.3	30.6	15.6	15.4	23.4	19.3	7	48.4
ø1/2	3/8	**KQ2Z13-36□S**	17.46	19.3	27	30.1	20.2	35.1	30.4	17	19.3	38.8	34.3	9	69.5
	1/2	**KQ2Z13-37□S**	17.46	19.3	27	30.1	23.4	38.3	31.9	17	19.3	38.8	34.3	9	88.1

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



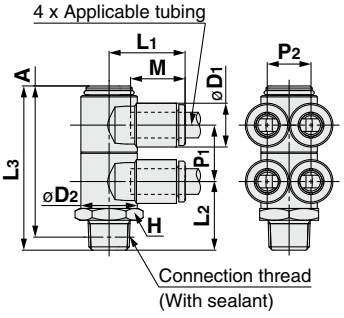
Double Branch Universal Male Elbow: KQ2ZD (Sealant)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	P1	P2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2ZD01-34□S**	14.29	7.1	13.4	18.5	16.3	39	35.8	13.3	13.4	7.1	2.2	1.9	2.5	21.2
ø5/32	1/8	**KQ2ZD03-34□S**	14.29	8.2	13.4	18.5	16.3	39	35.8	13.3	13.4	8.2	2.9	2.9	3	21.8
ø3/16	1/8	**KQ2ZD05-34□S**	14.29	9.1	13.4	18.4	16.3	39	35.8	13.3	13.4	9.1	4.5	3.7	3.5	22.4
ø1/4	1/8	**KQ2ZD07-34□S**	14.29	11.1	13.4	18.3	17.7	40.8	37.6	13.3	13.8	11.1	7.7	6.6	4.6	25.5
	1/4	**KQ2ZD07-35□S**	14.29	11.1	13.4	18.3	21.1	44.2	39.8	13.3	13.8	11.1	7.7	6.6	4.6	32.4
	3/8	**KQ2ZD07-36□S**	17.46	11.1	13.4	18.3	22.5	45.6	40.9	13.3	13.8	11.1	7.7	6.6	4.6	44.8
ø5/16	1/4	**KQ2ZD09-35□S**	19	13.2	17.6	21.95	22.4	49.2	44.8	14.2	15.9	13.2	20.5	14.2	6	48.7
	3/8	**KQ2ZD09-36□S**	19	13.2	17.6	21.95	23	49.8	45.1	14.2	15.9	13.2	20.5	14.2	6	56.8
	1/2	**KQ2ZD09-37□S**	22.23	13.2	17.6	21.95	27.2	54	47.6	14.2	15.9	13.2	20.5	14.2	6	83.3
ø3/8	1/4	**KQ2ZD11-35□S**	22.23	15.4	20.6	23.6	24.4	56.3	51.9	15.6	19.2	15.4	23.4	19.3	7	71.1
	3/8	**KQ2ZD11-36□S**	22.23	15.4	20.6	23.6	24.8	56.7	52	15.6	19.2	15.4	23.4	19.3	7	73.2
	1/2	**KQ2ZD11-37□S**	22.23	15.4	20.6	23.6	28.7	60.6	54.2	15.6	19.2	15.4	23.4	19.3	7	93.3
ø1/2	3/8	**KQ2ZD13-36□S**	25.4	19.3	27	27.9	29.6	64.4	59.7	17	22.3	19.3	43.8	34.3	9.6	137.2
	1/2	**KQ2ZD13-37□S**	25.4	19.3	27	27.9	32.8	67.6	61.2	17	22.3	19.3	43.8	34.3	9.6	155

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread



Dimensions

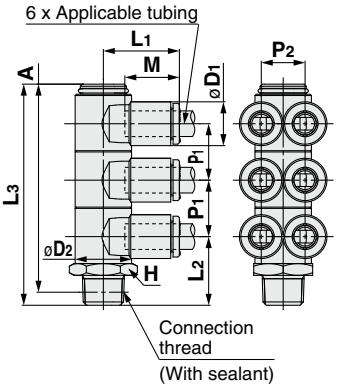
Triple Branch Universal Male Elbow: KQ2ZT (Sealant)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	P1	P2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2ZT01-34□S	14.29	7.1	13.4	18.5	16.3	52.5	49.3	13.3	13.4	7.1	2.2	1.9	2.5	27.3
ø5/32	1/8	KQ2ZT03-34□S	14.29	8.2	13.4	18.5	16.3	52.5	49.3	13.3	13.4	8.2	2.9	2.9	3	28.2
ø3/16	1/8	KQ2ZT05-34□S	14.29	9.1	13.4	18.4	16.3	52.5	49.3	13.3	13.4	9.1	4.5	3.7	3.5	29
ø1/4	1/8	KQ2ZT07-34□S	14.29	11.1	13.4	18.3	17.7	54.6	51.4	13.3	13.8	11.1	7.7	6.6	4.6	33.1
	1/4	KQ2ZT07-35□S	14.29	11.1	13.4	18.3	21.1	58	53.6	13.3	13.8	11.1	7.7	6.6	4.6	40
	3/8	KQ2ZT07-36□S	17.46	11.1	13.4	18.3	22.5	59.4	54.7	13.3	13.8	11.1	7.7	6.6	4.6	52.4
ø5/16	1/4	KQ2ZT09-35□S	17.46	13.2	17.6	21.2	22.4	65.2	60.8	14.2	15.9	13.2	20.5	14.2	6	60.9
	3/8	KQ2ZT09-36□S	19	13.2	17.6	21.2	23	65.8	61.1	14.2	15.9	13.2	20.5	14.2	6	70.8
	1/2	KQ2ZT09-37□S	22.23	13.2	17.6	21.2	27.2	70	63.6	14.2	15.9	13.2	20.5	14.2	6	97.3
ø3/8	1/4	KQ2ZT11-35□S	22.23	15.4	20.6	23.6	24.4	75.6	71.2	15.6	19.2	15.4	23.4	19.3	7	100.2
	3/8	KQ2ZT11-36□S	22.23	15.4	20.6	23.6	24.8	76	71.3	15.6	19.2	15.4	23.4	19.3	7	100.2
	1/2	KQ2ZT11-37□S	22.23	15.4	20.6	23.6	28.7	79.9	73.5	15.6	19.2	15.4	23.4	19.3	7	100.2
ø1/2	3/8	KQ2ZT13-36□S	25.4	19.3	27	27.9	29.6	86.8	82.1	17	22.3	19.3	43.8	34.3	9.6	182.3
	1/2	KQ2ZT13-37□S	25.4	19.3	27	27.9	32.8	90	83.6	17	22.3	19.3	43.8	34.3	9.6	200

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

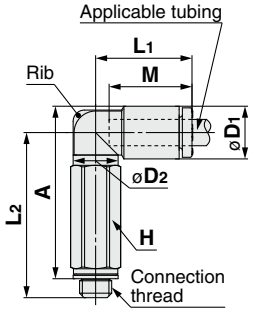


Extended Male Elbow: KQ2W (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	10-32UNF	KQ2W01-32□	7	7.1	7	15.3	25.8	26.4	13.3	2.8	2.4	2.5	5.9	●
ø5/32	10-32UNF	KQ2W03-32□	7	8.2	7	15.4	26.3	27.5	13.3	3	3	2.5	6	●
ø1/4	10-32UNF	KQ2W07-32□	7	11.1	7	15.4	27.6	30.2	13.3	3.5	3.5	2.5	6.4	●

□: A (Brass), N (Brass + Electroless nickel plating)



Extended Male Elbow: KQ2W (Sealant)

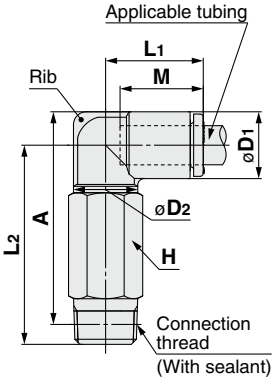


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	1/16	KQ2W01-33□S	11.11	7.1	10	14.5	35.9	35.4	13.3	2.8	2.4	2.5	16.6	—
	1/8	KQ2W01-34□S	11.11	7.1	10	14.5	30.3	30.7	13.3	2.8	2.4	2.5	13.9	—
	1/4	KQ2W01-35□S	14.29	7.1	10	14.5	32.7	31.9	13.3	2.8	2.4	2.5	27.3	—
ø5/32	1/16	KQ2W03-33□S	11.11	8.2	10	14.8	35.4	35.4	13.3	4	4	3	16.7	●
	1/8	KQ2W03-34□S	11.11	8.2	10	14.8	29.9	30.8	13.3	4	4	3	14.1	●
	1/4	KQ2W03-35□S	14.29	8.2	10	14.8	33.2	32.9	13.3	4	4	3	27.5	●
ø3/16	1/8	KQ2W05-34□S	11.11	9.1	10	15	30.4	31.7	13.3	6.8	5.6	3.5	14.3	—
	1/4	KQ2W05-35□S	14.29	9.1	10	15	33.7	33.9	13.3	6.8	5.6	3.5	27.7	—
ø1/4	1/16	KQ2W07-33□S	11.11	11.1	10	15.6	36.9	38.4	13.3	6.8	6.8	3.5	17.3	●
	1/8	KQ2W07-34□S	11.11	11.1	10	15.6	31.4	33.7	13.3	11.3	10	4.5	14.6	●
	1/4	KQ2W07-35□S	14.29	11.1	10	15.6	34.7	35.9	13.3	11.3	10	4.5	28	●
	3/8	KQ2W07-36□S	17.46	11.1	10	15.6	36.1	37	13.3	11.3	10	4.5	50.2	●
ø5/16	1/8	KQ2W09-34□S	11.11	13.2	10	16.4	32.4	35.8	14.2	11.3	11.3	4.5	15.4	●
		KQ2W09-34□QS *2	12.7	13.2	12	17.2	42.4	45.8	14.2	20.5	14.2	6	26.4	●
	1/4	KQ2W09-35□S	14.29	13.2	12	17.2	37.8	40	14.2	20.5	14.2	6	26.5	●
	3/8	KQ2W09-36□S	17.46	13.2	12	17.2	39.2	41.1	14.2	20.5	14.2	6	50	●
ø3/8	1/4	KQ2W11-35□S	17.46	15.4	17	19.3	48.3	51.6	15.6	28.8	23.8	7.5	54.3	●
	3/8	KQ2W11-36□S	17.46	15.4	17	19.3	45.1	48.1	15.6	28.8	23.8	7.5	37.8	●
	1/2	KQ2W11-37□S	22.23	15.4	17	19.3	49.3	50.6	15.6	28.8	23.8	7.5	86.5	●
ø1/2	1/4	KQ2W13-35□S	17.46	19.3	17	21.5	50.2	55.5	17	50.3	44.4	9	56.6	—
	3/8	KQ2W13-36□S	17.46	19.3	17	21.8	46	51	17	56	44.4	9.5	42.8	—
	1/2	KQ2W13-37□S	22.23	19.3	17	21.8	50.2	53.5	17	56	44.4	9.5	95.5	—

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

*2 For details, refer to page 156.



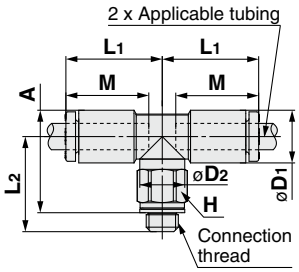
Dimensions

Male Branch Tee: KQ2T (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2T01-32□**	7	7.1	7	15.3	14.2	14.8	13.3	3.2	2.7	2.5	3.5
ø5/32	10-32UNF	**KQ2T03-32□**	7	8.2	7	15.4	14.7	15.8	13.3	4.5	4.5	2.5	3.8
ø1/4	10-32UNF	**KQ2T07-32□**	7	11.1	7	15.4	16	18.6	13.3	4.5	4.5	2.5	4.7

□: A (Brass), N (Brass + Electroless nickel plating)



Male Branch Tee: KQ2T (Sealant)

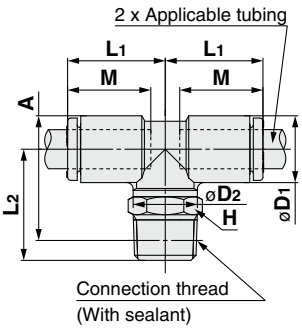


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/16	**KQ2T01-33□S**	11.11	7.1	10	14.5	24.2	23.7	13.3	3.4	2.9	2.5	9.7
	1/8	**KQ2T01-34□S**	11.11	7.1	10	14.5	16.6	17	13.3	3.4	2.9	2.5	6
	1/4	**KQ2T01-35□S**	14.29	7.1	10	14.5	21	20.2	13.3	3.4	2.9	2.5	15.6
ø5/32	1/16	**KQ2T03-33□S**	11.11	8.2	10	14.8	23.8	23.8	13.3	6	4.1	3	10
	1/8	**KQ2T03-34□S**	11.11	8.2	10	14.8	16.2	17.1	13.3	6	4.1	3	6.3
	1/4	**KQ2T03-35□S**	14.29	8.2	10	14.8	21.6	21.3	13.3	6	4.1	3	15.9
ø3/16	1/8	**KQ2T05-34□S**	11.11	9.1	10	15	16.7	18	13.3	8.4	7	3.5	6.6
	1/4	**KQ2T05-35□S**	14.29	9.1	10	15	22.1	22.2	13.3	8.4	7	3.5	16.2
ø1/4	1/16	**KQ2T07-33□S**	11.11	11.1	10	15.6	25.3	26.8	13.3	8.5	8.5	3.5	11
	1/8	**KQ2T07-34□S**	11.11	11.1	10	15.6	17.7	20	13.3	14	12.4	4.5	7.3
	1/4	**KQ2T07-35□S**	14.29	11.1	10	15.6	23.1	24.2	13.3	14	12.4	4.5	16.9
	3/8	**KQ2T07-36□S**	17.46	11.1	10	15.6	24.5	25.3	13.3	14	12.4	4.5	29.2
ø5/16	1/8	**KQ2T09-34□S**	11.11	13.2	10	16.4	18.7	22.1	14.2	14	14	4.5	8.7
		KQ2T09-34□QS *2	12.7	13.2	12	17.2	23.5	26.9	14.2	26.3	18.2	6	11.7
	1/4	**KQ2T09-35□S**	14.29	13.2	12	17.2	24.1	26.3	14.2	26.3	18.2	6	15.9
	3/8	**KQ2T09-36□S**	17.46	13.2	12	17.2	25.5	27.4	14.2	26.3	18.2	6	27.9
ø3/8	1/8	**KQ2T11-34□S**	12.7	15.4	12	18.6	23.1	27.6	15.6	21.2	21.2	6	14.4
	1/4	**KQ2T11-35□S**	17.46	15.4	17	19.3	28.5	31.8	15.6	28.8	23.8	7.5	24.1
	3/8	**KQ2T11-36□S**	17.46	15.4	17	19.3	29.1	32.1	15.6	28.8	23.8	7.5	22.2
	1/2	**KQ2T11-37□S**	22.23	15.4	17	19.3	33.3	34.6	15.6	28.8	23.8	7.5	48.7
ø1/2	1/4	**KQ2T13-35□S**	17.46	19.3	17	21.5	30.4	35.7	17	57.3	50.6	9	28.1
	3/8	**KQ2T13-36□S**	17.46	19.3	17	21.8	26.2	31.2	17	63.8	50.6	9.5	24.4
	1/2	**KQ2T13-37□S**	22.23	19.3	17	21.8	30.4	33.7	17	63.8	50.6	9.5	50.5

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

*2 For details, refer to page 156.

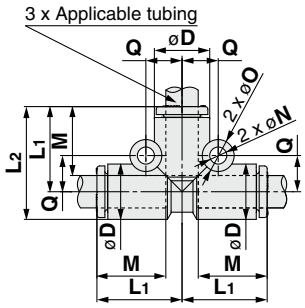


Dimensions

Union Tee: KQ2T



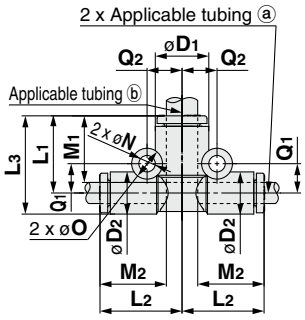
Applicable tubing O.D. [inch]	Model	øD	L1	L2	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
							øO	øN	Thickness	Nylon	Urethane		
ø1/8	**KQ2T01-00A**	7.1	14.9	18.5	13.3	5.4	6	3.2	7.1	3.4	2.9	2.5	2.3
ø5/32	**KQ2T03-00A**	8.2	15.3	19.4	13.3	5.7	6	3.2	8.2	6.4	4.4	3	2.8
ø3/16	**KQ2T05-00A**	9.1	15.7	20.3	13.3	6.2	6	3.2	9.1	8.4	7	3.5	3.2
ø1/4	**KQ2T07-00A**	11.1	16.5	22.1	13.3	7.2	6	3.2	11.1	14.4	12.4	4.6	4.3
ø5/16	**KQ2T09-00A**	13.2	18.2	24.8	14.2	8.4	8	4.2	13.2	25.6	17.7	6	7
ø3/8	**KQ2T11-00A**	15.4	20.4	28.1	15.6	9.9	8	4.2	15.4	28.8	23.8	7	10.2
ø1/2	**KQ2T13-00A**	19.3	23.4	33	17	11.8	8	4.2	19.3	64.6	50.6	9.6	16.9



Different Diameter Tee: KQ2T



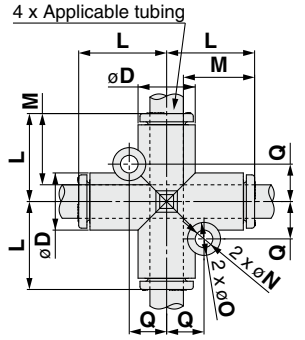
Applicable tubing O.D. [inch]		Model	øD1	øD2	L1	L2	L3	M1	M2	Q1	Q2	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
ⓐ	ⓑ											øO	øN	Thickness	Nylon	Urethane		
ø1/8	ø5/32	**KQ2T01-03A**	8.2	7.1	14.9	15.3	18.5	13.3	13.3	5.4	5.8	6	3.2	8.2	3.8	3.5	3	2.6
	ø1/4	**KQ2T01-07A**	11.1	7.1	14.9	16.5	18.5	13.3	13.3	5.3	7.2	6	3.2	11.1	3.8	3.5	3.2	2.8
ø5/32	ø3/16	**KQ2T03-05A**	9.1	8.2	15.3	15.7	19.4	13.3	13.3	5.7	6.2	6	3.2	9.1	7.1	6.6	3.5	2.6
	ø1/4	**KQ2T03-07A**	11.1	8.2	15.3	16.5	19.4	13.3	13.3	5.7	7.2	6	3.2	11.1	7.1	6.6	4.1	3
ø3/16	ø1/4	**KQ2T05-07A**	11.1	9.1	15.7	16.5	20.3	13.3	13.3	6.2	7.2	6	3.2	11.1	8.4	7	4.6	3.7
ø1/4	ø5/16	**KQ2T07-09A**	13.2	11.1	17.4	17.3	23	14.2	13.3	7.4	8.4	8	4.2	13.2	14.4	12.4	6	5.6
	ø3/8	**KQ2T07-11A**	15.4	11.1	18.8	18.1	24.4	15.6	13.3	7.7	9.9	8	4.2	15.4	14.4	12.4	6.4	6.8
ø5/16	ø3/8	**KQ2T09-11A**	15.4	13.2	19.6	19	26.2	15.6	14.2	8.7	9.9	8	4.2	15.4	26.3	18.3	7	8.2
	ø1/2	**KQ2T09-13A**	19.3	13.2	21	20.6	27.6	17	14.2	8.7	11.8	8	4.2	19.3	26.3	18.3	8.1	10.6
ø3/8	ø1/2	**KQ2T11-13A**	19.3	15.4	21.8	22	29.5	17	15.6	9.9	11.8	8	4.2	19.3	28.8	23.8	9.6	12.4



Cross: KQ2TW



Applicable tubing O.D. [inch]	Model	øD	L	Q	M	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
						øO	øN	Thickness	Nylon	Urethane		
ø5/32	**KQ2TW03-00A**	8.2	15.3	5.7	13.3	6	3.2	8.2	6.4	4.4	3	3.5
ø1/4	**KQ2TW07-00A**	11.1	16.5	7.2	13.3	6	3.2	11.1	14.4	12.4	4.6	5.4
ø5/16	**KQ2TW09-00A**	13.2	18.2	8.4	14.2	8	4.2	13.2	25.6	17.7	6	8.5
ø3/8	**KQ2TW11-00A**	15.4	20.4	9.9	15.6	8	4.2	15.4	28.8	23.8	7	12
ø1/2	**KQ2TW13-00A**	19.3	23.4	11.8	17	8	4.2	19.3	64.6	50.6	9.6	19.7



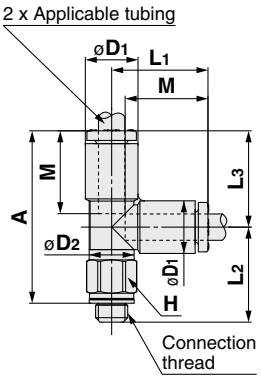
Dimensions

Male Run Tee: KQ2Y (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	10-32UNF	**KQ2Y01-32□**	7	7.1	7	15.3	14.2	15.3	26.5	13.3	3.2	2.7	2.5	3.5
ø5/32	10-32UNF	**KQ2Y03-32□**	7	8.2	7	15.4	14.7	15.4	27.1	13.3	4.5	4.5	2.5	3.8
ø1/4	10-32UNF	**KQ2Y07-32□**	7	11.1	7	16.5	16	16.5	29.5	13.3	4.5	4.5	2.5	4.7

□: A (Brass), N (Brass + Electroless nickel plating)



Male Run Tee: KQ2Y (Sealant)

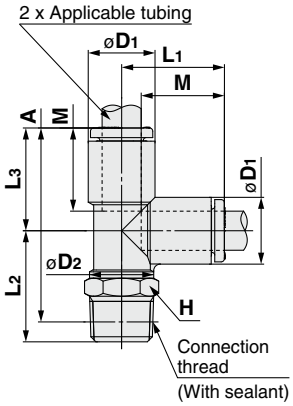


Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/16	**KQ2Y01-33□S**	11.11	7.1	10	14.9	24.2	14.9	35.1	13.3	3.4	2.9	2.5	9.8
	1/8	**KQ2Y01-34□S**	11.11	7.1	10	14.9	16.6	14.9	28.4	13.3	3.4	2.9	2.5	6.1
	1/4	**KQ2Y01-35□S**	14.29	7.1	10	14.9	21	14.9	31.6	13.3	3.4	2.9	2.5	15.6
ø5/32	1/16	**KQ2Y03-33□S**	11.11	8.2	10	15.3	23.8	15.3	35	13.3	6.4	4.4	3	10.1
	1/8	**KQ2Y03-34□S**	11.11	8.2	10	15.3	16.2	15.3	28.3	13.3	6.4	4.4	3	6.4
	1/4	**KQ2Y03-35□S**	14.29	8.2	10	15.3	21.6	15.3	32.5	13.3	6.4	4.4	3	15.9
ø3/16	1/8	**KQ2Y05-34□S**	11.11	9.1	10	15.7	16.7	15.7	29.2	13.3	8.4	7	3.5	6.7
	1/4	**KQ2Y05-35□S**	14.29	9.1	10	15.7	22.1	15.7	33.4	13.3	8.4	7	3.5	16.3
ø1/4	1/16	**KQ2Y07-33□S**	11.11	11.1	10	16.5	25.3	16.5	37.7	13.3	8.5	8.5	3.5	11
	1/8	**KQ2Y07-34□S**	11.11	11.1	10	16.5	17.7	16.5	31	13.3	14	12.4	4.5	7.3
	1/4	**KQ2Y07-35□S**	14.29	11.1	10	16.5	23.1	16.5	35.2	13.3	14	12.4	4.5	16.9
	3/8	**KQ2Y07-36□S**	17.46	11.1	10	16.5	24.5	16.5	36.3	13.3	14	12.4	4.5	29.2
ø5/16	1/8	**KQ2Y09-34□S**	11.11	13.2	10	18.2	18.7	18.2	33.7	14.2	14	14	4.5	8.8
		KQ2Y09-34□QS *2	12.7	13.2	12	18.2	23.5	18.2	38.6	14.2	25.6	17.7	6	11.7
	1/4	**KQ2Y09-35□S**	14.29	13.2	12	18.2	24.1	18.2	37.9	14.2	25.6	17.7	6	16
	3/8	**KQ2Y09-36□S**	17.46	13.2	12	18.2	25.5	18.2	39	14.2	25.6	17.7	6	28
ø3/8	1/4	**KQ2Y11-35□S**	17.46	15.4	17	20.4	28.5	20.4	44.5	15.6	28.8	23.8	7.5	24.3
	3/8	**KQ2Y11-36□S**	17.46	15.4	17	20.4	29.1	20.4	44.8	15.6	28.8	23.8	7.5	22.3
	1/2	**KQ2Y11-37□S**	22.23	15.4	17	20.4	33.3	20.4	47.3	15.6	28.8	23.8	7.5	48.8
ø1/2	1/4	**KQ2Y13-35□S**	17.46	19.3	17	23.4	30.4	23.4	49.4	17	57.3	50.6	9	28.5
	3/8	**KQ2Y13-36□S**	17.46	19.3	17	23.4	26.2	23.4	44.9	17	63.8	50.6	9.5	24.7
	1/2	**KQ2Y13-37□S**	22.23	19.3	17	23.4	30.4	23.4	47.4	17	63.8	50.6	9.5	50.7

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

*2 For details, refer to page 156.



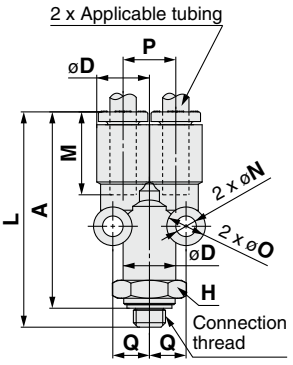
Dimensions

Branch "Y": KQ2U (Gasket seal)

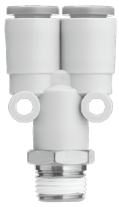


Applicable tubing O.D. [inch]	Connection thread UNF	Model	H (Width across flats)	øD	L	P	A	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
										øO	øN	Thickness	Nylon	Urethane		
ø1/8	10-32UNF	**KQ2U01-32□**	8	7.1	33.8	7.1	30.3	13.3	5.2	6	3.2	7.1	2.2	2.2	1.8	5
ø5/32	10-32UNF	**KQ2U03-32□**	10	8.2	33.9	8.2	30.4	13.3	5.7	6	3.2	8.2	2.2	2.2	1.8	6.6
ø1/4	10-32UNF	**KQ2U07-32□**	12	11.1	35.2	11.1	31.7	13.3	7.6	8	4	11.1	2.2	2.2	1.8	11.2

□: A (Brass), N (Brass + Electroless nickel plating)



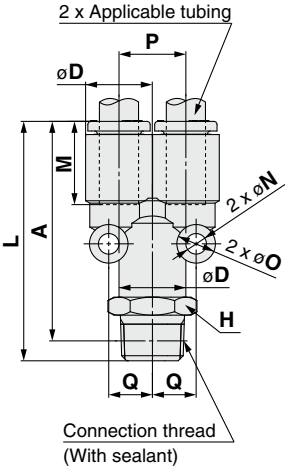
Branch "Y": KQ2U (Sealant)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD	L	P	A*1	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
										øO	øN	Thickness	Nylon	Urethane		
ø1/8	1/16	**KQ2U01-33□S**	9	7.1	37.3	7.1	33.2	13.3	5.2	6	3.2	7.1	3.4	2.9	2.5	7.1
	1/8	**KQ2U01-34□S**	11.11	7.1	36.4	7.1	33.2	13.3	5.2	6	3.2	7.1	3.4	2.9	2.7	9.5
	1/4	**KQ2U01-35□S**	14.29	7.1	40.8	7.1	36.4	13.3	5.2	6	3.2	7.1	3.4	2.9	2.7	20
ø5/32	1/16	**KQ2U03-33□S**	9	8.2	37.4	8.2	33.3	13.3	5.7	6	3.2	8.2	4.2	4.2	3.6	7.3
	1/8	**KQ2U03-34□S**	11.11	8.2	36.5	8.2	33.3	13.3	5.7	6	3.2	8.2	4.2	4.2	3.6	9.8
	1/4	**KQ2U03-35□S**	14.29	8.2	40.9	8.2	36.5	13.3	5.7	6	3.2	8.2	4.2	4.2	3.6	20.1
ø3/16	1/8	**KQ2U05-34□S**	11.11	9.1	37.1	9.1	33.9	13.3	6.2	6	3.2	9.1	8.4	7	4.1	10.2
	1/4	**KQ2U05-35□S**	14.29	9.1	41.5	9.1	37.1	13.3	6.2	6	3.2	9.1	8.4	7	4.1	20.5
ø1/4	1/16	**KQ2U07-33□S**	12.7	11.1	38.7	11.1	34.6	13.3	7.6	8	4	11.1	14.4	12.4	4.6	11.6
	1/8	**KQ2U07-34□S**	12.7	11.1	37.8	11.1	34.6	13.3	7.6	8	4	11.1	14.4	12.4	5.6	12
	1/4	**KQ2U07-35□S**	14.29	11.1	42.2	11.1	37.8	13.3	7.6	8	4	11.1	14.4	12.4	5.6	21.1
	3/8	**KQ2U07-36□S**	17.46	11.1	43.6	11.1	38.9	13.3	7.6	8	4	11.1	14.4	12.4	5.6	33.5
ø5/16	1/8	**KQ2U09-34□S**	14.29	13.2	40.7	13.2	37.5	14.2	8.7	8	4.2	13.2	25.6	17.7	6	16.4
	1/4	**KQ2U09-35□S**	14.29	13.2	45.1	13.2	40.7	14.2	8.7	8	4.2	13.2	25.6	17.7	7.3	21.9
	3/8	**KQ2U09-36□S**	17.46	13.2	46.5	13.2	41.8	14.2	8.7	8	4.2	13.2	25.6	17.7	7.3	34.1
ø3/8	1/4	**KQ2U11-35□S**	17.46	15.4	48.6	15.4	44.2	15.6	9.9	8	4.2	15.4	28.8	23.8	8.9	25.7
	3/8	**KQ2U11-36□S**	17.46	15.4	50	15.4	45.3	15.6	9.9	8	4.2	15.4	28.8	23.8	8.9	35
	1/2	**KQ2U11-37□S**	22.23	15.4	54.2	15.4	47.8	15.6	9.9	8	4.2	15.4	28.8	23.8	8.9	62.8
ø1/2	1/4	**KQ2U13-35□S**	22	19.3	53.4	19.3	49	17	11.8	8	4.2	19.3	57.3	50.6	9	42
	3/8	**KQ2U13-36□S**	22	19.3	54.8	19.3	50.1	17	11.8	8	4.2	19.3	64.6	50.6	11	45.8
	1/2	**KQ2U13-37□S**	22.23	19.3	59	19.3	52.6	17	11.8	8	4.2	19.3	64.6	50.6	12.1	62.1

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of NPT thread

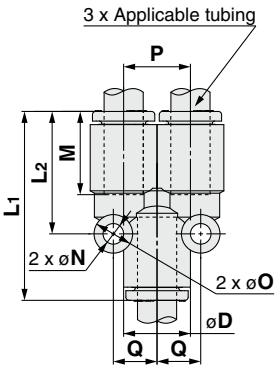


Dimensions

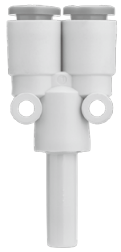
Union "Y": KQ2U



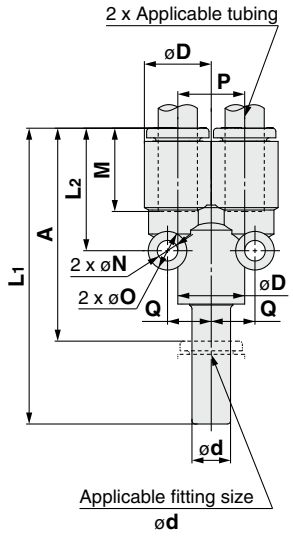
Applicable tubing O.D. [inch]	Model	øD	L1	L2	P	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
								øO	øN	Thickness	Nylon	Urethane		
ø1/8	**KQ2U01-00A**	7.1	28.9	18	7.1	13.3	5.2	6	3.2	7.1	3.4	2.9	3.2	2.4
ø5/32	**KQ2U03-00A**	8.2	29	18.2	8.2	13.3	5.7	6	3.2	8.2	4.2	4.2	4.1	2.9
ø3/16	**KQ2U05-00A**	9.1	29.6	18.9	9.1	13.3	6.2	6	3.2	9.1	8.4	7	4.8	3.5
ø1/4	**KQ2U07-00A**	11.1	30.3	20.2	11.1	13.3	7.6	8	4	11.1	14.4	12.4	6.4	5
ø5/16	**KQ2U09-00A**	13.2	33.2	22.3	13.2	14.2	8.7	8	4.2	13.2	25.6	17.7	8.1	7.4
ø3/8	**KQ2U11-00A**	15.4	36.7	24.6	15.4	15.6	9.9	8	4.2	15.4	28.8	23.8	9.6	10.4
ø1/2	**KQ2U13-00A**	19.3	41.5	28.2	19.3	17	11.8	8	4.2	19.3	64.6	50.6	12.8	17.4



Plug-in "Y": KQ2U



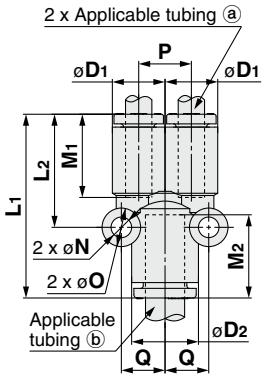
Applicable tubing O.D. [inch]	Applicable fitting size ød [inch]	Model	øD	L1	L2	P	A	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
										øO	øN	Thickness	Nylon	Urethane		
ø1/8	ø1/8	**KQ2U01-99A**	7.1	45.1	18	7.1	31.8	13.3	5.2	6	3.2	7.1	3.4	2.9	2	2.5
ø5/32	ø5/32	**KQ2U03-99A**	8.2	44.8	18.2	8.2	31.5	13.3	5.7	6	3.2	8.2	4.2	4.2	2.5	3.1
ø3/16	ø3/16	**KQ2U05-99A**	9.1	46.1	18.9	9.1	32.8	13.3	6.2	6	3.2	9.1	8.4	7	3.5	3.6
ø1/4	ø1/4	**KQ2U07-99A**	11.1	46.8	20.2	11.1	33.5	13.3	7.6	8	4	11.1	14.4	12.4	4.6	5.5
ø5/16	ø5/16	**KQ2U09-99A**	13.2	52.1	22.3	13.2	37.9	14.2	8.7	8	4.2	13.2	25.6	17.7	6	8



Different Diameter Union "Y": KQ2U



Applicable tubing O.D. [inch]		Model	øD1	øD2	L1	L2	P	M1	M2	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
ⓐ	ⓑ										øO	øN	Thickness	Nylon	Urethane		
ø1/8	ø5/32	**KQ2U01-03A**	7.1	8.2	28.9	18	7.1	13.3	13.3	5.7	6	3.2	8.2	3.2	2.7	3.3	2.7
	ø1/4	**KQ2U01-07A**	7.1	11.1	30.3	18.5	7.1	13.3	13.3	7.2	6	3.2	11.1	3.2	2.7	3.3	3.3
ø5/32	ø3/16	**KQ2U03-05A**	8.2	9.1	29.6	18.8	8.2	13.3	13.3	6.2	6	3.2	9.1	4.2	4.2	4.1	3.2
	ø1/4	**KQ2U03-07A**	8.2	11.1	30.3	19	8.2	13.3	13.3	7.2	6	3.2	11.1	4.2	4.2	4.1	3.6
ø3/16	ø1/4	**KQ2U05-07A**	9.1	11.1	30.6	19.8	9.1	13.3	13.3	7.2	6	3.2	11.1	8.4	7	4.8	3.9
ø1/4	ø5/16	**KQ2U07-09A**	11.1	13.2	32.3	21.3	11.1	13.3	14.2	8.6	8	4	13.2	14.4	12.4	6.4	6
	ø3/8	**KQ2U07-11A**	11.1	15.4	34.4	21.7	11.1	13.3	15.6	9.8	8	4	15.4	14.4	12.4	6.4	7.2
ø5/16	ø3/8	**KQ2U09-11A**	13.2	15.4	35.3	23	13.2	14.2	15.6	9.9	8	4.2	15.4	26.3	18.3	8.1	8.5
	ø1/2	**KQ2U09-13A**	13.2	19.3	38.7	24.2	13.2	14.2	17	11.8	8	4.2	19.3	26.3	18.3	8.1	11.2
ø3/8	ø1/2	**KQ2U11-13A**	15.4	19.3	40.1	26.6	15.4	15.6	17	11.8	8	4.2	19.3	28.8	23.8	9.6	13

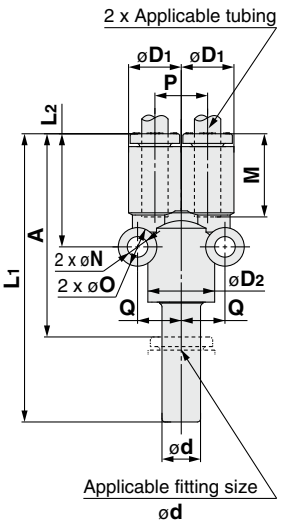


Dimensions

Different Diameter Plug-in "Y": KQ2X



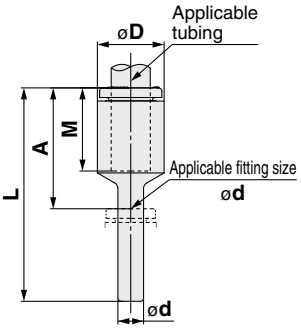
Applicable tubing O.D. [inch]	Applicable fitting size ød [inch]	Model	øD1	øD2	L1	L2	A	P	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
											øO	øN	Thickness	Nylon	Urethane		
ø1/8	ø5/32	**KQ2X01-03A**	7.1	8.2	44.7	18	42.2	7.1	13.3	5.7	6	3.2	8.2	3.2	2.7	2.5	2.8
ø5/32	ø3/16	**KQ2X03-05A**	8.2	9.1	46.1	18.8	42.6	8.2	13.3	6.2	6	3.2	9.1	3.4	2.9	3.5	3.3
	ø1/4	**KQ2X03-07A**	8.2	11.1	46.8	19	42.2	8.2	13.3	7.2	6	3.2	11.1	3.4	2.9	4.1	4
ø3/16	ø1/4	**KQ2X05-07A**	9.1	11.1	47.1	19.8	42.5	9.1	13.3	7.2	6	3.2	11.1	8.4	7	4.6	4.4
ø1/4	ø5/16	**KQ2X07-09A**	11.1	13.2	51.2	21.3	45.2	11.1	13.3	8.6	8	4	13.2	14.4	12.4	6	6.5



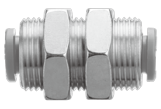
Plug-in Reducer: KQ2R



Applicable tubing O.D. [inch]	Applicable fitting size ød [inch]	Model	øD	L	A	M	Effective area [mm²]		Min. port size	Weight [g]
							Nylon	Urethane		
ø1/8	ø5/32	**KQ2R01-03A**	7.1	28.6	15.3	13.3	3.4	2.9	2.5	0.8
	ø3/16	**KQ2R01-05A**	7.1	28.7	15.4	13.3	3.4	2.9	2.5	0.8
	ø1/4	**KQ2R01-07A**	7.1	28.4	15.1	13.3	3.4	2.9	2.5	1
ø5/32	ø3/16	**KQ2R03-05A**	8.2	28.7	15.4	13.3	5.6	4	3	1
	ø1/4	**KQ2R03-07A**	8.2	31.8	18.5	13.3	5.6	4	3	1.2
ø3/16	ø1/4	**KQ2R05-07A**	9.1	31.4	18.1	13.3	7.8	6.5	3.5	1.3
	ø5/16	**KQ2R05-09A**	9.1	33.4	19.2	13.3	7.8	6.5	3.5	1.5
ø1/4	ø5/16	**KQ2R07-09A**	11.1	33.3	19.1	13.3	13.5	11.5	4.6	1.7
	ø3/8	**KQ2R07-11A**	11.1	35.9	20.3	13.3	13.5	11.5	4.6	2.2
ø5/16	ø3/8	**KQ2R09-11A**	13.2	36.2	20.6	14.2	26	18.1	6	2.8
	ø1/2	**KQ2R09-13A**	13.2	37.2	20.2	14.2	26	18.1	6	3.5
ø3/8	ø1/2	**KQ2R11-13A**	15.4	39.5	22.5	15.6	35.3	29.1	7	4.2

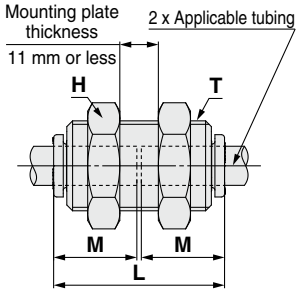


Bulkhead Union: KQ2E (Interchangeable with KQ)



Applicable tubing O.D. [inch]	Model	T (UNF)	H (Width across flats)	L	Mounting hole	M	Effective area [mm²]		Min. port size	Weight [g]
							Nylon	Urethane		
ø1/8	**KQ2E01-00□**	1/2-20UNF	17.46	27.8	13.5	13.3	3.4	2.9	2.5	26.9
ø5/32	**KQ2E03-00□**	1/2-20UNF	17.46	27.8	13.5	13.3	5.6	4	3	25.7
ø3/16	**KQ2E05-00□**	9/16-18UNF	17.46	29.8	15	13.3	7.8	6.5	3.5	40.3
ø1/4	**KQ2E07-00□**	9/16-18UNF	17.46	29.8	15	13.3	13.5	11.5	4.6	36.9
ø5/16	**KQ2E09-00□**	3/4-16UNF	22.23	31.8	20	14.2	26.1	18	6	61.2
ø3/8	**KQ2E11-00□**	7/8-14UNF	25.4	33.8	23	15.6	35.3	29.1	7	83.4
ø1/2	**KQ2E13-00□**	1-12UNF	28.57	37.8	26	17	66	51.7	9.6	109.2

□: A (Brass), N (Brass + Electroless nickel plating)

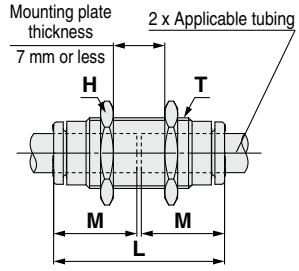


Bulkhead Union: KQ2E (Interchangeable with KJ)



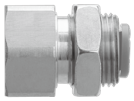
Applicable tubing O.D. [inch]	Model	T (UNF)	H (Width across flats)	L	Mounting hole	M	Effective area [mm²]		Min. port size	Weight [g]
							Nylon	Urethane		
ø1/8	**KQ2E01-00□J**	3/8-24UNF	12.7	27.3	10.5	13.3	3	2.5	2.5	12.6
ø5/32	**KQ2E03-00□J**	3/8-24UNF	12.7	27.3	10.5	13.3	4	4	3	11.9
ø1/4	**KQ2E07-00□J**	1/2-20UNF	15.88	27.3	14	13.3	13.5	11.5	4.6	19.2

□: A (Brass), N (Brass + Electroless nickel plating)



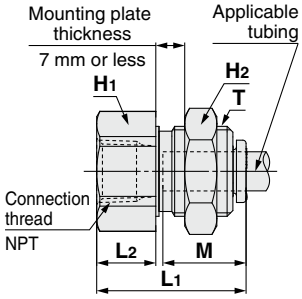
Dimensions

Bulkhead Connector: KQ2E



Applicable tubing O.D. [inch]	Connection thread NPT	Model	T (UNF)	H1 (Width across flats)	H2 (Width across flats)	L1	L2	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/4	**KQ2E01-35□**	1/2-20UNF	17.46	17.46	28.7	13.3	13.5	13.3	3.4	2.9	2.5	33.3
ø5/32	1/4	**KQ2E03-35□**	1/2-20UNF	17.46	17.46	29	13.6	13.5	13.3	5.6	4	3	33.3
ø3/16	1/8	**KQ2E05-34□**	9/16-18UNF	17.46	17.46	25.6	9.2	15	13.3	7.8	6.5	3.5	36.6
ø1/4	1/4	**KQ2E07-35□**	9/16-18UNF	17.46	17.46	29.9	13.5	15	13.3	13.5	11.5	4.6	38.8
ø5/16	3/8	**KQ2E09-36□**	3/4-16UNF	22.23	22.23	31	13.6	20	14.2	26.1	18	6	61.8
ø3/8	3/8	**KQ2E11-36□**	7/8-14UNF	25.4	25.4	31.4	12	23	15.6	35.3	29.1	7	83.8
ø1/2	3/8	**KQ2E13-36□**	1-12UNF	28.57	28.57	32	11.6	26	17	66	51.7	9.6	106.6
	1/2	**KQ2E13-37□**	1-12UNF	28.57	28.57	36.1	15.7	26	17	66	51.7	9.6	114.3

□: A (Brass), N (Brass + Electroless nickel plating)

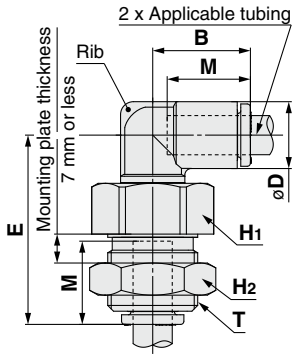


Bulkhead Male Elbow: KQ2LE



Applicable tubing O.D. [inch]	Model	T (UNF)	H1 (Width across flats)	H2 (Width across flats)	B	E	øD	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	**KQ2LE01-00□**	1/2-20UNF	17.46	17.46	14.5	28.9	7.1	13.5	13.3	3	2.5	2.5	27.5	—
ø5/32	**KQ2LE03-00□**	1/2-20UNF	17.46	17.46	14.8	28.5	8.2	13.5	13.3	4.2	4.2	3	27.1	●
ø3/16	**KQ2LE05-00□**	9/16-18UNF	17.46	17.46	15	29.7	9.1	15	13.3	6.8	5.6	3.5	34.1	—
ø1/4	**KQ2LE07-00□**	9/16-18UNF	17.46	17.46	15.6	30.7	11.1	15	13.3	11.3	10	4.5	32.8	●
ø5/16	**KQ2LE09-00□**	3/4-16UNF	22.23	22.23	17.2	34.2	13.2	20	14.2	21.6	14.9	6	55.6	●
ø3/8	**KQ2LE11-00□**	7/8-14UNF	25.4	25.4	19.3	32.6	15.4	23	15.6	28.8	23.8	7	67.7	●
ø1/2	**KQ2LE13-00□**	1-12UNF	28.57	28.57	21.8	43.2	19.3	26	17	56	44.4	9.5	121.5	—

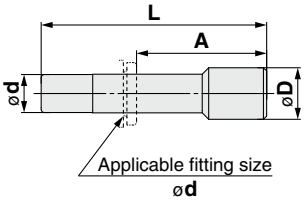
□: A (Brass), N (Brass + Electroless nickel plating)



Plug: KQ2P



Applicable fitting size ød [inch]	Model	øD	L	A	Weight [g]
ø1/8	**KQ2P-01**	5	31.5	18.2	1
ø5/32	**KQ2P-03**	6	32	18.7	1
ø3/16	**KQ2P-05**	6.8	34	20.7	1
ø1/4	**KQ2P-07**	8.5	35	21.7	1
ø5/16	**KQ2P-09**	10	39	24.8	2
ø3/8	**KQ2P-11**	11.5	43	27.4	3.5
ø1/2	**KQ2P-13**	15	45.5	28.5	5

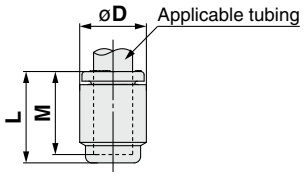


Dimensions

Tube Cap: KQ2C



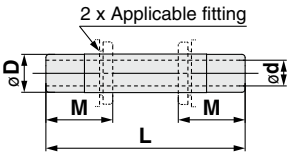
Applicable tubing O.D. [inch]	Model	ø**D**	**L**	**M**	Weight [g]
ø5/32	**KQ2C03-00A**	8.2	14.5	13.3	0.8
ø1/4	**KQ2C07-00A**	11.1	14.8	13.3	1.3
ø5/16	**KQ2C09-00A**	13.2	15.7	14.2	2
ø3/8	**KQ2C11-00A**	15.4	17.3	15.6	2.8



Nipple: KQ2N



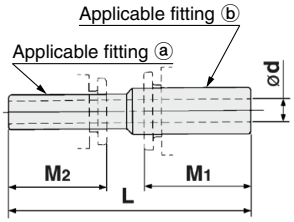
Applicable fitting ø**D**	Model	**L**	**M**	ø**d** Min. port size	Weight [g]
ø1/8	**KQ2N01-99**	36	13.3	2.2	0.2
ø3/16	**KQ2N05-99**	38	13.3	3.5	0.4
ø1/4	**KQ2N07-99**	39	13.3	4.6	1
ø3/8	**KQ2N11-99**	49	15.6	7	2
ø1/2	**KQ2N13-99**	51	17	9.5	3.5



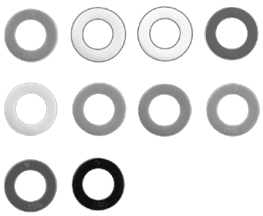
Reducer Nipple: KQ2N



Applicable fitting ⓐ	Applicable fitting ⓑ	Model	**L**	**M1**	**M2**	ø**d** Min. port size	Weight [g]
ø1/8	ø5/32	**KQ2N01-03**	36.5	13.3	13.3	2.2	0.2
	ø3/16	**KQ2N01-05**	37	13.3	13.3	2.2	0.4
ø5/32	ø3/16	**KQ2N03-05**	37.5	13.3	13.3	2.5	0.4
	ø1/4	**KQ2N03-07**	38	13.3	13.3	2.5	0.6
ø3/16	ø1/4	**KQ2N05-07**	38.5	13.3	13.3	3.5	0.6
	ø5/16	**KQ2N05-09**	41	13.3	13.3	3.5	1
ø1/4	ø5/16	**KQ2N07-09**	41.5	13.3	13.3	4.6	1
	ø3/8	**KQ2N07-11**	45	15.6	13.3	4.6	1
ø5/16	ø3/8	**KQ2N09-11**	46.5	15.6	14.2	6	1.8
	ø1/2	**KQ2N09-13**	47.5	17	14.2	6	2.6
ø3/8	ø1/2	**KQ2N11-13**	50	17	15.6	7	3.2

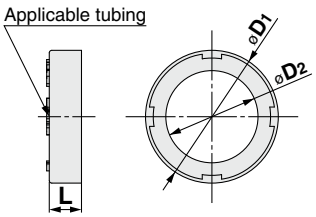


Color Cap: KQ2C



Applicable tubing O.D. [inch]	Model	ø**D1**	ø**D2**	**L**	Weight [g]	Note
ø1/8	**KQ2C-01□A**	7.3	4.3	2.6	0.1	—
ø3/16	**KQ2C-05□A**	9	5.9	2.6	0.1	
ø1/4*1	**KQ2C-07□B**	11.5	7.5	2.6	0.1	Applicable for products with enlarged outside diameter of release button
ø3/8	**KQ2C-11□B**	15.7	10.7	2.7	0.1	
ø1/2	**KQ2C-13□B**	19.6	13.9	2.7	0.2	

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)



*1 The KQ2S07-32□, KQ2S07-33□S, and KQ2S07-34□S are not applicable for products with enlarged outside diameter of release button. The applicable color cap is KQ2C-07□A.

In order to improve operability, the outside diameter of the release button has been enlarged for the new KQ2 series. Therefore, the usable color caps will differ between pre-change and post-change products.
Refer to page 221 for details.

KQ2 Series
Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

1 Made to Order

Symbol	Specifications
X12	Lubricant: White vaseline, Release button color: White
X35∗1	Body color: Black, Release button color: Orange
X41	With fixed orifice∗2
KQ2□09-34□**Q**□	Effective area is interchangeable with the current product (KQ series). Applicable model: Male elbow 45° male elbow Extended male elbow Male branch tee Male run tee Applicable tubing O.D./Port size: ø5/16"/NPT1/8 Thread material/Surface treatment: Brass, Brass + Electroless nickel plating Example) **KQ2L09-34AQS**

∗1 The following models are not available as made-to-order: Hexagon socket head male connector/KQ2S, Bulkhead union/KQ2E, Bulkhead connector/KQ2E, Nipple/KQ2N, Reducer nipple/KQ2N, Male connector/KQ2H, Female connector/KQ2F, Color cap/KQ2C, Plug/KQ2P

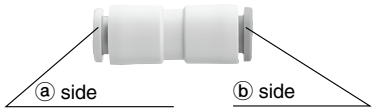
∗2 Please contact SMC for availability.

The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.

Symbol	Specifications
X17	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
X29	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Copper-free (With electroless nickel plating)
X34	Rubber material: FKM
X39	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Clean (Copper-free, air blow, double packaging, resin body: white)
X94	Grease-free Rubber material: FKM (With fluorine coating) Release button color: Light blue

2 Metric/Inch Conversion Fittings

Allows for the metric ↔ inch conversion of tubing



ⓐ side
Release button: Light gray

ⓑ side
Release button: Orange

Applicable tubing O.D. [mm]		Model
ⓐ	ⓑ	
ø6	**ø1/4"**	**KQ2H06-07A-X562**
ø10	**ø3/8"**	**KQ2H10-11A-X562**
ø12	**ø1/2"**	**KQ2H12-13A-X562**

Variations

		Inch size						
		ø1/8" (Metric nominal size: ø**3.2**)	**ø5/32"** (Metric nominal size: ø**4**)	**ø3/16"**	**ø1/4"**	**ø5/16"** (Metric nominal size: ø**8**)	**ø3/8"**	**ø1/2"**
Metric size	**ø2**	KQ2H02-23A KQ2H02-23A1	KQ2H02-04A KQ2H02-04A1					
	ø3.2 (Inch nominal size: ø**1/8"**)	(KQ2H23-00A/ KQ2H23-00A/ KQ2H01-00A/ KQ2H01-00A1) Straight type	KQ2H01-03A KQ2H01-03A1 KQ2H23-04A KQ2H23-04A1		KQ2H01-07A KQ2H01-07A1			
	ø4 (Inch nominal size: ø**5/32"**)	KQ2H01-03A KQ2H01-03A1 KQ2H23-04A KQ2H23-04A1	(KQ2H04-00A/ KQ2H04-00A1/ KQ2H03-00A/ KQ2H03-00A1) Straight type	KQ2H03-05A KQ2H03-05A1	KQ2H03-07A KQ2H03-07A1	KQ2H04-08A1		
	ø6	KQ2H23-06A KQ2H23-06A1	KQ2H04-06A KQ2H04-06A1		KQ2H06-07A-X562 (Made to Order)	KQ2H06-08A KQ2H06-08A1		
	ø8 (Inch nominal size: ø**5/16"**)		KQ2H04-08A1		KQ2H07-09A	(KQ2H08-00A/ KQ2H09-00A) Straight type	KQ2H09-11A	KQ2H09-13A
	ø10					KQ2H08-10A	KQ2H10-11A-X562 (Made to Order)	
	ø12					KQ2H08-12A		KQ2H12-13A-X562 (Made to Order)

3 Clean Series

Symbol	Specifications
10-	Brass parts: With electroless nickel plating Lubricant: Fluorine grease Air blow in a clean room Double packaging Resin body, Release button color: White

Example) **10-KQ2H07-35NS** (With thread)

10-KQ2H07-00A (Without thread)

4 Spare Parts

Description	Part no.	Applicable thread
Gasket	**M-5G2**	10-32UNF

KQ2-A Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ01-P01AJ**	KQ2E01-00AJ, KQ2E03-00AJ	Brass	Electroless nickel plating
	KQ07-P01AJ	KQ2E07-00AJ		
	KQ01-P01A	KQ2E01-00A, KQ2E03-00A, KQ2E01-35A KQ2E03-35A, KQ2LE01-00A, KQ2LE03-00A		—
	KQ05-P01A	KQ2E05-00A, KQ2E07-00A, KQ2E05-34A KQ2E07-35A, KQ2LE05-00A, KQ2LE07-00A		
	KQ09-P01A	KQ2E09-00A, KQ2E09-36A, KQ2LE09-00A		
	KQ11-P01A	KQ2E11-00A, KQ2E11-36A, KQ2LE11-00A		
	KQ13-P01A	KQ2E13-00A, KQ2E13-36A KQ2E13-37A, KQ2LE13-00A		

KQ2-N Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ01-P01NJ**	KQ2E01-00NJ, KQ2E03-00NJ	Brass	Electroless nickel plating
	KQ07-P01NJ	KQ2E07-00NJ		
	KQ01-P01N	KQ2E01-00N, KQ2E03-00N, KQ2E01-35N KQ2E03-35N, KQ2LE01-00N, KQ2LE03-00N		
	KQ05-P01N	KQ2E05-00N, KQ2E07-00N, KQ2E05-34N KQ2E07-35N, KQ2LE05-00N, KQ2LE07-00N		
	KQ09-P01N	KQ2E09-00N, KQ2E09-36N, KQ2LE09-00N		
	KQ11-P01N	KQ2E11-00N, KQ2E11-36N, KQ2LE11-00N		
	KQ13-P01N	KQ2E13-00N, KQ2E13-36N KQ2E13-37N, KQ2LE13-00N		

Color Cap

Applicable tubing O.D. [inch]	Model	øD_1	øD_2	L	Weight [g]	Note
ø1/4	**KQ2C-07□A**	10.7	7.5	2.6	0.1	Applicable for products before enlargement of outside diameter of release button
ø3/8	**KQ2C-11□A**	14.8	10.7	2.7	0.1	
ø1/2	**KQ2C-13□A**	18.5	13.9	2.7	0.1	

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

Inch Size One-touch Fittings

Applicable Tubing: Inch Size, Connection Thread: M, R, Rc

KQ2 Series

Guide

Chuck

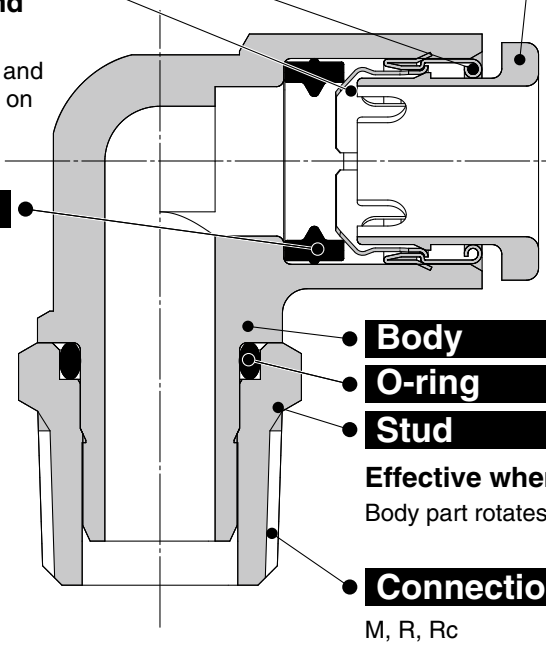
Suitable for use with nylon and urethane.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

The use of a special profile ensures sealing and reduces resistance when the tube is inserted.



Release button (Orange)

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

Stud

Effective when piping in a confined space.

Body part rotates allowing for positioning.

Connection thread

M, R, Rc

One-touch IN/OUT connection. Possible to use in vacuum to –100 kPa.



Made to Order

Made to Order
(Refer to page 163 for details.)

Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø1/8", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2"

Specifications

Fluid		Air, Water*1 *2
Operating pressure range*3		–100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		–5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	JIS B0203 (Taper thread for piping) JIS B0205 (Metric coarse thread)
	Nut section	JIS B0205 (Metric fine thread)
Seal on the threads		With sealant

*1 The surge pressure must be under the maximum operating pressure.

*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT, PP
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR

How to Order

Threaded Type **KQ2 H 05 – 01 A S**

One-touch Fittings

Model

Symbol	Model
H	Male connecter
L	Male elbow
T	Male branch tee
W	Extended male elbow
Y	Male run tee
U	Branch "Y"
E	Bulkhead union
	Bulkhead connector

Applicable tubing O.D.

Symbol	Size
01	ø1/8"
05	ø3/16"
07	ø1/4"
09	ø5/16"
11	ø3/8"
13	ø1/2"

Male thread seal method

Symbol	Seal method
Nil	None
S	With thread sealant

Thread material/Surface treatment

Symbol		Thread material/Surface treatment
A		Brass
N		Brass + Electroless nickel plating
Bulkhead union	**M□**	Only for "Bulkhead union"

∗ □: A, N

Port size/Applicable tubing O.D.

Symbol	Size
M5	M5 x 0.8
01	R1/8, Rc1/8
02	R1/4, Rc1/4
03	R3/8, Rc3/8
04	R1/2, Rc1/2
00∗1	Same diameter tubing

∗1 Only for "Bulkhead union".

For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Spare Parts

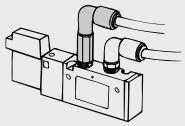
Use the part number below to order the gasket for M5 thread.
Gasket for M5 thread: M-5G2

Round Type Variations

Extended male elbow
KQ2W P.161



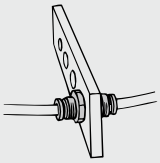
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Bulkhead union
KQ2E P.162



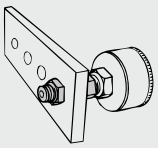
Use to connect tubing through a panel, etc.



Bulkhead connector
KQ2E P.162



Use to connect a male thread and tubing through a panel, etc.



Male connector
KQ2H P.160



Use to pipe a female thread in the same direction. Most general model.

Male branch tee
KQ2T P.161



Use to branch a female thread at both 90° angles.

Branch "Y"
KQ2U P.162



Use to branch a female thread in the same direction.

Male elbow
KQ2L P.160



Use to pipe a female thread at right angles. Most general model.

Male run tee
KQ2Y P.161



Use to branch a female thread in the same direction and at a 90° angle.

Tubing — One-touch fittings	Tubing — Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

Refer to page 135 and after for details.

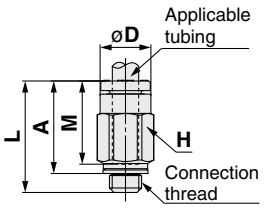
Dimensions

Male Connector: KQ2H (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread M	Model	H (Width across flats)	øD	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	M5 x 0.8	**KQ2H01-M5□**	7	6.7	17.3	14.3	13.3	3.0	2.5	2.5	2.7
ø3/16	M5 x 0.8	**KQ2H05-M5□**	10	8.3	17.6	14.6	13.3	4.0	4.0	2.5	4.6
ø1/4	M5 x 0.8	**KQ2H07-M5□**	11	10.9	18.4	15.4	13.3	4.0	4.0	2.5	6.5

□: A (Brass), N (Brass + Electroless nickel plating)

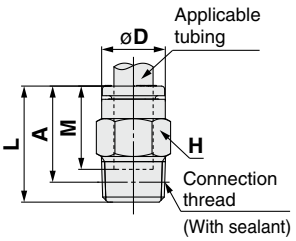


Male Connector: KQ2H (Sealant)



Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD	L	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2H01-01□S**	10	6.7	14	10.9	13.3	3.4	2.9	2.5	6
	1/4	**KQ2H01-02□S**	14	6.7	16.7	12	13.3	3.4	2.9	2.5	15.3
ø3/16	1/8	**KQ2H05-01□S**	10	8.3	17.9	14.8	13.3	7.8	6.5	3.5	6.4
	1/4	**KQ2H05-02□S**	14	8.3	16.7	12	13.3	7.8	6.5	3.5	13.9
ø1/4	1/8	**KQ2H07-01□S**	12	10.9	18.2	15.1	13.3	13.5	11.5	4.6	7.1
	1/4	**KQ2H07-02□S**	14	10.9	16.7	12	13.3	13.5	11.5	4.6	12.1
	3/8	**KQ2H07-03□S**	17	10.9	18.1	13	13.3	13.5	11.5	4.6	24
ø5/16	1/8	**KQ2H09-01□S**	14	13	22.5	19.4	14.2	26.1	18	6	11.9
	1/4	**KQ2H09-02□S**	14	13	22	17.3	14.2	26.1	18	6	13.9
	3/8	**KQ2H09-03□S**	17	13	18.1	13	14.2	26.1	18	6	21
ø3/8	1/4	**KQ2H11-02□S**	17	15.1	26.9	22.2	15.6	35.3	29.1	7	22.5
	3/8	**KQ2H11-03□S**	17	15.1	23.2	18.1	15.6	35.3	29.1	7	22.9
	1/2	**KQ2H11-04□S**	22	15.1	22.3	15.9	15.6	35.3	29.1	7	45.9
ø1/2	1/4	**KQ2H13-02□S**	19	19	28.7	24	17	58.5	51.7	9	23.3
	3/8	**KQ2H13-03□S**	19	19	27.2	22.1	17	66.0	51.7	9.6	26.2
	1/2	**KQ2H13-04□S**	22	19	22.3	15.9	17	66.0	51.7	9.6	35.4

□: A (Brass), N (Brass + Electroless nickel plating)
*1 Reference dimensions after installation of R thread

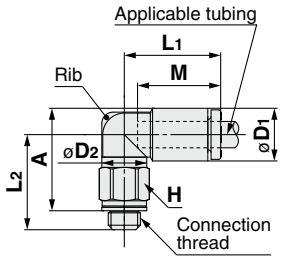


Male Elbow: KQ2L (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread M	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	M5 x 0.8	**KQ2L01-M5□**	7	7.1	7	15.3	14.3	14.9	13.3	2.6	2.2	2.5	3.1	●
ø1/4	M5 x 0.8	**KQ2L07-M5□**	7	11.1	7	15.4	16.1	18.7	13.3	3.5	3.5	2.5	3.6	●

□: A (Brass), N (Brass + Electroless nickel plating)

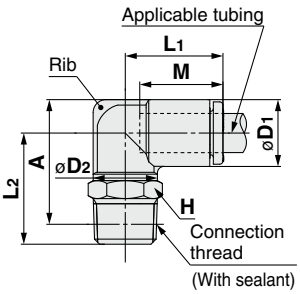


Male Elbow: KQ2L (Sealant)



Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3/16	1/8	**KQ2L05-01□S**	10	9.1	10	15	16.7	18.2	13.3	6.8	5.6	3.5	5	—
	1/4	**KQ2L05-02□S**	14	9.1	10	15	22.2	22.1	13.3	6.8	5.6	3.5	14.5	—
ø1/4	1/8	**KQ2L07-01□S**	10	11.1	10	15.6	17.7	20.2	13.3	11.3	10	4.5	5.3	●
	1/4	**KQ2L07-02□S**	14	11.1	10	15.6	23.2	24.1	13.3	11.3	10	4.5	14.8	●
	3/8	**KQ2L07-03□S**	17	11.1	10	15.6	24.5	25.0	13.3	11.3	10	4.5	26.5	●
ø5/16	1/8	**KQ2L09-01□S**	10	13.2	10	16.4	18.7	22.2	14.2	11.4	11.4	4.5	6.1	●
		KQ2L09-01□QS *2	12	13.2	12	17.2	23.5	27.0	14.2	21.6	14.9	6	9.3	●
	1/4	**KQ2L09-02□S**	14	13.2	12	17.2	25.4	27.3	14.2	21.6	14.9	6	17.7	●
	3/8	**KQ2L09-03□S**	17	13.2	12	17.2	25.5	27.0	14.2	21.6	14.9	6	24.7	●
ø3/8	1/4	**KQ2L11-02□S**	17	15.4	17	19.3	28.5	31.5	15.6	28.8	23.8	7.5	21.5	●
	3/8	**KQ2L11-03□S**	17	15.4	17	19.3	29.4	32.0	15.6	28.8	23.8	7.5	22	●
	1/2	**KQ2L11-04□S**	22	15.4	17	19.3	33.4	34.7	15.6	28.8	23.8	7.5	44.4	●
ø1/2	1/4	**KQ2L13-02□S**	17	19.3	17	21.5	30.4	35.3	17	50.3	44.4	9	23.8	—
	3/8	**KQ2L13-03□S**	17	19.3	17	21.8	28.5	33.0	17	56.7	44.4	9.5	23.2	—
	1/2	**KQ2L13-04□S**	22	19.3	17	21.8	30.5	33.7	17	56.7	44.4	9.5	44.6	—

□: A (Brass), N (Brass + Electroless nickel plating)
*1 Reference dimensions after installation of R thread
*2 For details, refer to page 163.

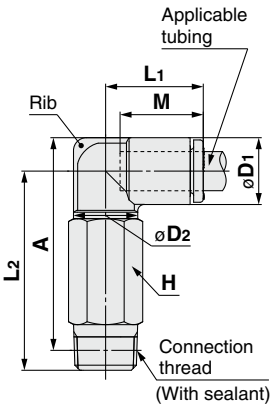


Dimensions

Extended Male Elbow: KQ2W (Sealant)



Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3/16	1/8	KQ2W05-01□S	10	9.1	10	15	30.4	31.8	13.3	6.8	5.6	3.5	11.2	—
	1/4	KQ2W05-02□S	14	9.1	10	15	33.8	33.7	13.3	6.8	5.6	3.5	27.7	—
ø1/4	1/8	KQ2W07-01□S	10	11.1	10	15.6	31.4	33.8	13.3	11.6	10.0	4.5	11.5	●
	1/4	KQ2W07-02□S	14	11.1	10	15.6	34.8	35.7	13.3	11.6	10.0	4.5	28	●
	3/8	KQ2W07-03□S	17	11.1	10	15.6	36.1	36.6	13.3	11.6	10.0	4.5	47.4	●
ø5/16	1/8	KQ2W09-01□S	10	13.2	10	16.4	32.4	35.9	14.2	11.6	11.6	4.5	12.2	●
		KQ2W09-01□QS*2	12	13.2	12	17.2	42.4	45.9	14.2	21.5	14.9	6	23.7	●
	1/4	KQ2W09-02□S	14	13.2	12	17.2	39.1	41	14.2	21.5	14.9	6	40	●
	3/8	KQ2W09-03□S	17	13.2	12	17.2	39.2	40.7	14.2	21.5	14.9	6	47	●
ø3/8	1/4	KQ2W11-02□S	17	15.4	17	19.3	52.7	55.7	15.6	28.8	23.8	7	58.8	●
	3/8	KQ2W11-03□S	17	15.4	17	19.3	48.3	50.9	15.6	28.8	23.8	7	51.1	●
	1/2	KQ2W11-04□S	22	15.4	17	19.3	52.3	53.6	15.6	28.8	23.8	7	91.8	●
ø1/2	1/4	KQ2W13-02□S	17	19.3	17	21.5	54.6	59.6	17	56.7	44.4	9	61	—
	3/8	KQ2W13-03□S	17	19.3	17	21.8	48.2	52.8	17	56.7	44.4	9.5	48.4	—
	1/2	KQ2W13-04□S	22	19.3	17	21.8	50.2	53.5	17	56.7	44.4	9.5	92.3	—



□: A (Brass), N (Brass + Electroless nickel plating)

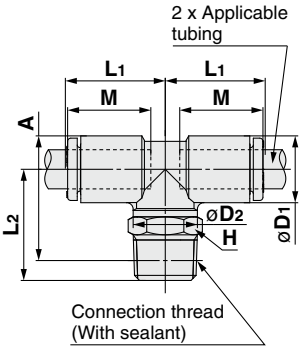
*1 Reference dimensions after installation of R thread

*2 For details, refer to page 163.

Male Branch Tee: KQ2T (Sealant)



Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	KQ2T05-01□S	10	9.1	10	15	16.7	18.1	13.3	8.4	7.0	3.5	5.8
	1/4	KQ2T05-02□S	14	9.1	10	15	22.2	22	13.3	8.4	7.0	3.5	15.3
ø1/4	1/8	KQ2T07-01□S	10	11.1	10	15.6	17.7	20.1	13.3	14.4	12.4	4.5	6.5
	1/4	KQ2T07-02□S	14	11.1	10	15.6	23.2	24	13.3	14.4	12.4	4.5	16
	3/8	KQ2T07-03□S	17	11.1	10	15.6	24.5	24.9	13.3	14.4	12.4	4.5	27.7
ø5/16	1/8	KQ2T09-01□S	10	13.2	10	16.4	18.7	22.2	14.2	14.4	14.4	4.5	7.9
		KQ2T09-01□QS*2	12	13.2	12	17.2	23.5	27	14.2	26.3	18.2	6	11.0
	1/4	KQ2T09-02□S	14	13.2	12	17.2	25.4	27.3	14.2	26.3	18.2	6	19.4
	3/8	KQ2T09-03□S	17	13.2	12	17.2	25.5	27	14.2	26.3	18.2	6	26.5
ø3/8	1/4	KQ2T11-02□S	17	15.4	17	19.3	28.4	31.4	15.6	28.8	23.8	7.5	23.9
	3/8	KQ2T11-03□S	17	15.4	17	19.3	29.3	31.9	15.6	28.8	23.8	7.5	24.4
	1/2	KQ2T11-04□S	22	15.4	17	19.3	33.3	34.6	15.6	28.8	23.8	7.5	46.9
ø1/2	1/4	KQ2T13-02□S	17	19.3	17	21.5	30.3	35.3	17	57.3	50.6	9	27.9
	3/8	KQ2T13-03□S	17	19.3	17	21.8	28.4	33	17	63.8	50.6	9.5	27.4
	1/2	KQ2T13-04□S	22	19.3	17	21.8	30.4	33.7	17	63.8	50.6	9.5	48.8



□: A (Brass), N (Brass + Electroless nickel plating)

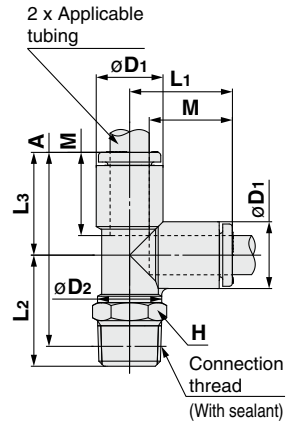
*1 Reference dimensions after installation of R thread

*2 For details, refer to page 163.

Male Run Tee: KQ2Y (Sealant)



Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	KQ2Y05-01□S	10	9.1	10	15.7	16.7	15.7	29.3	13.3	8.4	7.0	3.5	5.9
	1/4	KQ2Y05-02□S	14	9.1	10	15.7	22.2	15.7	33.2	13.3	8.4	7.0	3.5	15.4
ø1/4	1/8	KQ2Y07-01□S	10	11.1	10	16.5	17.7	16.5	31.1	13.3	14.0	12.4	4.5	6.5
	1/4	KQ2Y07-02□S	14	11.1	10	16.5	23.2	16.5	35	13.3	14.0	12.4	4.5	16
	3/8	KQ2Y07-03□S	17	11.1	10	16.5	24.5	16.5	35.9	13.3	14.0	12.4	4.5	27.7
ø5/16	1/8	KQ2Y09-01□S	10	13.2	10	18.2	18.7	18.2	33.8	14.2	14.0	14.0	4.5	8
		KQ2Y09-01□QS*2	12	13.2	12	18.2	23.5	18.2	38.7	14.2	26.3	18.3	6	11.1
	1/4	KQ2Y09-02□S	14	13.2	12	18.2	25.4	18.2	38.9	14.2	26.3	18.3	6	19.5
	3/8	KQ2Y09-03□S	17	13.2	12	18.2	25.5	18.2	38.6	14.2	26.3	18.3	6	26.5
ø3/8	1/4	KQ2Y11-02□S	17	15.4	17	20.4	28.4	20.4	44.1	15.6	28.8	23.8	7.5	24.1
	3/8	KQ2Y11-03□S	17	15.4	17	20.4	29.3	20.4	44.6	15.6	28.8	23.8	7.5	24.5
	1/2	KQ2Y11-04□S	22	15.4	17	20.4	33.3	20.4	47.3	15.6	28.8	23.8	7.5	47
ø1/2	1/4	KQ2Y13-02□S	17	19.3	17	23.4	30.3	23.4	49	17	57.3	50.6	9	28.3
	3/8	KQ2Y13-03□S	17	19.3	17	23.4	28.4	23.4	46.7	17	64.6	50.6	9.5	27.6
	1/2	KQ2Y13-04□S	22	19.3	17	23.4	30.4	23.4	47.4	17	64.6	50.6	9.5	49



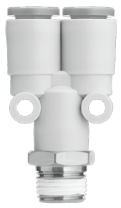
□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of R thread

*2 For details, refer to page 163.

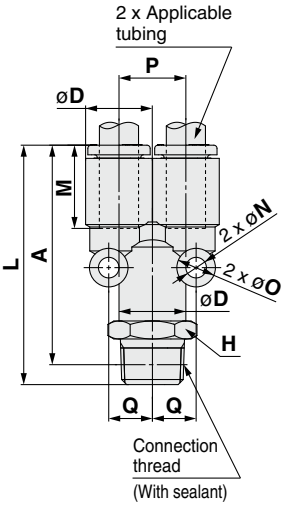
Dimensions

Branch "Y": KQ2U (Sealant)

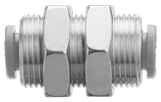


Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD	L	P	A*1	M	Q	Mounting hole		Effective area [mm²]			Min. port size	Weight [g]
										øO	øN	Thickness	Nylon	Urethane		
ø3/16	1/8	KQ2U05-01□S	12	9.1	37.1	9.1	34	13.3	6.2	6	3.2	9.1	8.4	7.0	3.5	10.3
	1/4	KQ2U05-02□S	14	9.1	41.5	9.1	36.8	13.3	6.2	6	3.2	9.1	8.4	7.0	3.5	19.5
ø1/4	1/8	KQ2U07-01□S	12	11.1	37.8	11.1	34.7	13.3	7.6	8	4	11.1	14.4	12.4	4.6	11.3
	1/4	KQ2U07-02□S	14	11.1	42.2	11.1	37.5	13.3	7.6	8	4	11.1	14.4	12.4	4.6	20.1
	3/8	KQ2U07-03□S	17	11.1	43.6	11.1	38.5	13.3	7.6	8	4	11.1	14.4	12.4	4.6	32
ø5/16	1/8	KQ2U09-01□S	14	13.2	40.7	13.2	37.6	14.2	8.7	8	4.2	13.2	26.3	18.3	6	15.8
	1/4	KQ2U09-02□S	14	13.2	45.1	13.2	40.4	14.2	8.7	8	4.2	13.2	26.3	18.3	6	20.9
	3/8	KQ2U09-03□S	17	13.2	46.5	13.2	41.4	14.2	8.7	8	4.2	13.2	26.3	18.3	6	32.7
ø3/8	1/4	KQ2U11-02□S	17	15.4	48.6	15.4	43.9	15.6	9.9	8	4.2	15.4	28.8	23.8	7	24.5
	3/8	KQ2U11-03□S	17	15.4	50	15.4	44.9	15.6	9.9	8	4.2	15.4	28.8	23.8	7	33.5
	1/2	KQ2U11-04□S	22	15.4	54.2	15.4	47.8	15.6	9.9	8	4.2	15.4	28.8	23.8	7	61.6
ø1/2	1/4	KQ2U13-02□S	21	19.3	53.4	19.3	48.7	17	11.8	8	4.2	19.3	57.3	50.6	9	40.4
	3/8	KQ2U13-03□S	21	19.3	54.8	19.3	49.7	17	11.8	8	4.2	19.3	64.6	50.6	9.6	43.9
	1/2	KQ2U13-04□S	22	19.3	59	19.3	52.6	17	11.8	8	4.2	19.3	64.6	50.6	9.6	61

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of R thread

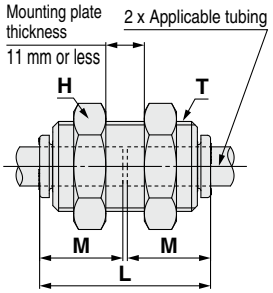


Bulkhead Union: KQ2E

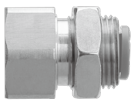


Applicable tubing O.D. [inch]	Model	T (M)	H (Width across flats)	L	Mounting hole	M	Effective area [mm²]		Min. port size	Weight [g]
							Nylon	Urethane		
ø3/16	KQ2E05-00M□	M14 x 1	17	27.3	15	13.3	7.8	6.5	3.5	30.5
ø1/4	KQ2E07-00M□	M14 x 1	17	27.3	15	13.3	13.5	11.5	4.6	27.2
ø5/16	KQ2E09-00M□	M16 x 1	19	29.1	17	14.2	26.1	18	6	34
ø3/8	KQ2E11-00M□	M20 x 1	24	31.9	21	15.6	35.3	29.1	7	66.1
ø1/2	KQ2E13-00M□	M22 x 1	27	34.7	23	17	66.0	51.7	9.6	59.9

□: A (Brass), N (Brass + Electroless nickel plating)

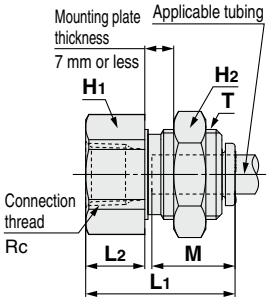


Bulkhead Connector: KQ2E



Applicable tubing O.D. [inch]	Connection thread Rc	Model	T (M)	H1 (Width across flats)	H2 (Width across flats)	L1	L2	Mounting hole	M	Effective area [mm²]		Min. port size	Weight [g]
										Nylon	Urethane		
ø3/16	1/8	KQ2E05-01□	M14 x 1	17	17	23.9	9.5	15	13.3	7.8	6.5	3.5	30.8
ø1/4	1/4	KQ2E07-02□	M14 x 1	17	17	28.4	14	15	13.3	13.5	11.5	4.6	32
ø5/16	3/8	KQ2E09-03□	M16 x 1	19	19	31.7	14.3	17	14.2	26.1	18	6	59.2
ø3/8	3/8	KQ2E11-03□	M20 x 1	22	24	31.5	12.1	21	15.6	35.3	29.1	7	62.7
ø1/2	3/8	KQ2E13-03□	M22 x 1	24	27	32.1	11.7	23	17	66.0	51.7	9.6	66.7
	1/2	KQ2E13-04□	M22 x 1	24	27	37.7	17.3	23	17	66.0	51.7	9.6	70.6

□: A (Brass), N (Brass + Electroless nickel plating)



Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

1 Made to Order

Symbol	Specifications
X12	Lubricant: White vaseline Release button color: White
X35∗1	Body color: Black Release button color: Orange
X41	With fixed orifice∗2
KQ2□09-01□**Q**□	Effective area is interchangeable with the current product (KQ series). Applicable model: Male elbow Extended male elbow Male branch tee Male run tee Applicable tubing O.D./Port size: ø5/16"/R1/8 Thread material/Surface treatment: Brass, Brass + Electroless nickel plating Example) **KQ2L09-01AQS**

∗1 The following models are not available as made-to-order: Bulkhead union/KQ2E, Bulkhead connector/KQ2E, Male connector/KQ2H

∗2 Please contact SMC for availability.

The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.

Symbol	Specifications
X17	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
X29	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Copper-free (With electroless nickel plating)
X34	Rubber material: FKM
X39	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Clean (Copper-free, air blow, double packaging, resin body: white)
X94	Grease-free Rubber material: FKM (With fluorine coating) Release button color: Light blue

2 Clean Series

Symbol	Specifications
10-	Brass parts: With electroless nickel plating Lubricant: Fluorine grease Air blow in a clean room Double packaging Resin body, Release button color: White

Example) **10-KQ2H07-02NS**

3 Spare Parts

Description	Part no.	Applicable thread
Gasket	**M-5G2**	M5

KQ2-A Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ06-P01A**	KQ2E05-00MA, KQ2E07-00MA KQ2E05-01A, KQ2E07-02A	Steel	Zinc chromated
	KQ08-P01A	KQ2E09-00MA, KQ2E09-03A		
	KQ10-P01A	KQ2E11-00MA, KQ2E11-03A		
	KQ12-P01A	KQ2E13-00MA, KQ2E13-03A, KQ2E13-04A		

KQ2-N Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ06-P01N**	KQ2E05-00MN, KQ2E07-00MN KQ2E05-01N, KQ2E07-02N	Steel	Nickel plating
	KQ08-P01N	KQ2E09-00MN, KQ2E09-03N		
	KQ10-P01N	KQ2E11-00MN, KQ2E11-03N		
	KQ12-P01N	KQ2E13-00MN, KQ2E13-03N, KQ2E13-04N		

Metric Size One-touch Fittings

Applicable Tubing: Metric Size, Connection Thread: G

KQ2 Series

Guide

Chuck

Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

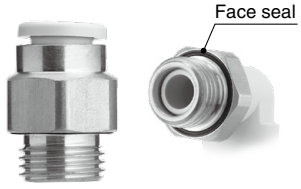
Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

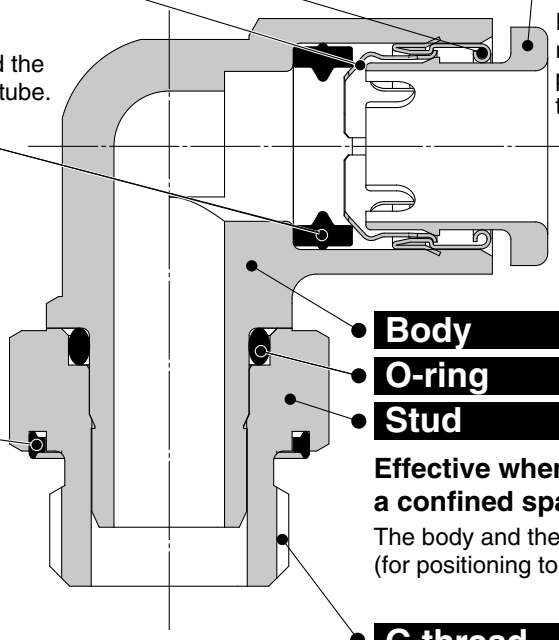
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Face seal method

Seal ring

Piping installability is improved by changing to the face seal structure.





Release button

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

Stud

Effective when piping in a confined space.

The body and the threaded portion can rotate (for positioning to some extent).

G thread

Applicable to parallel pipe thread (G).

Drastically reduces screw-in time with the face seal method.



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø4, ø6, ø8, ø10, ø12, ø16

Specifications

Fluid		Air, Water*1 *2
Operating pressure range*3		−100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		−5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	ISO 16030 (Parallel pipe thread)
	Nut section	JIS B0205 (Metric fine thread)
Seal on the threads		Seal ring

*1 The surge pressure must be under the maximum operating pressure.

*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring, Seal ring	NBR

How to Order

Threaded Type **KQ2 H 06 – G01 A**

One-touch fittings

Model

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
F	Female connector
L	Male elbow
V	Universal male elbow
W	Extended male elbow
T	Male branch tee
Y	Male run tee
E	Bulkhead connector

Applicable tubing O.D.

Symbol	Size
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
16	ø16

Port size

Symbol		Size
Thread connection	**G01**	G1/8
	G02	G1/4
	G03	G3/8
	G04	G1/2

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

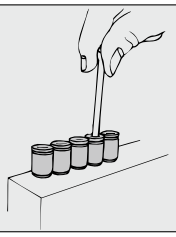
For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Round Type Variations

Hexagon socket head male connector
KQ2S P.168



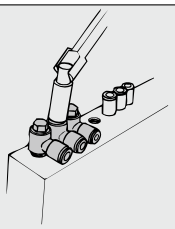
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



Universal male elbow
KQ2V P.169



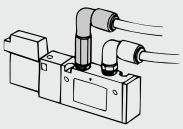
Hexagon head of the body allows tightening with a box wrench in confined spaces.



Extended male elbow
KQ2W P.170



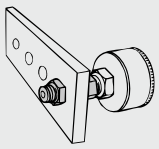
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Bulkhead connector
KQ2E P.171



Use to connect a male thread and tubing through a panel, etc.



Male connector
KQ2H P.168



Use to pipe a female thread in the same direction. Most general model.

Male elbow
KQ2L P.169



Use to pipe a female thread at right angles. Most general model.

Male run tee
KQ2Y P.171



Use to branch a female thread in the same direction and at a 90° angle.

Female connector
KQ2F P.168



Use to pipe a male thread of a pressure gauge, etc.

Male branch tee
KQ2T P.170



Use to branch a female thread at both 90° angles.

Tubing — One-touch fittings	Tubing — Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

Refer to page 103 and after for details.

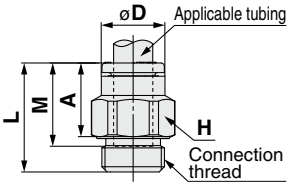
Dimensions

Male Connector: KQ2H (Face seal)



Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2H04-G01□	12	7.7	17.1	11.6	13.3	4.8	3.4	3	7.7
	1/4	KQ2H04-G02□	17	7.7	15.4	8.9	13.3	4.8	3.4	3	16.8
ø6	1/8	KQ2H06-G01□	12	9.7	17.3	11.8	13.3	13.1	10.4	4.5	6.6
	1/4	KQ2H06-G02□	17	9.7	15.4	8.9	13.3	13.1	10.4	4.5	14.8
	3/8	KQ2H06-G03□	21	9.7	16.4	8.9	13.3	13.1	10.4	4.5	27.1
ø8	1/8	KQ2H08-G01□	14	13	21.4	15.9	14.2	26.1	18	6	7.5
	1/4	KQ2H08-G02□	17	13	19.9	13.4	14.2	26.1	18	6	15.5
	3/8	KQ2H08-G03□	21	13	16.4	8.9	14.2	26.1	18	6	23.8
ø10	1/8	KQ2H10-G01□	17	15.6	23.2	17.7	15.6	26.1	26.1	6	15.7
	1/4	KQ2H10-G02□	17	15.6	22.8	16.3	15.6	41.5	29.5	7.5	16.8
	3/8	KQ2H10-G03□	21	15.6	21.8	14.3	15.6	41.5	29.5	7.5	26.1
	1/2	KQ2H10-G04□	27	15.6	17.9	8.9	15.6	41.5	29.5	7.5	39.9
ø12	1/4	KQ2H12-G02□	19	18.2	25.3	18.8	17	58.3	46.1	9	15.1
	3/8	KQ2H12-G03□	21	18.2	23.6	16.1	17	58.3	46.1	9	25.6
	1/2	KQ2H12-G04□	27	18.2	24.8	15.8	17	58.3	46.1	9	46.9
ø16	3/8	KQ2H16-G03□	27	23.6	30.5	23	20.6	81	67	11	47.1
	1/2	KQ2H16-G04□	27	23.6	29.7	20.7	20.6	113	67	13	48.8

□: A (Brass), N (Brass + Electroless nickel plating)

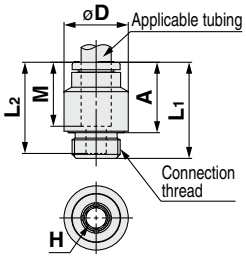


Hexagon Socket Head Male Connector: KQ2S (Face seal)



Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2S04-G01□	3	13	20.6	19.6	15.1	13.3	4.1	3.6	3.1	11.6
ø6	1/8	KQ2S06-G01□	4	13	19.8	18.8	14.3	13.3	10	9.9	4.1	9.7
	1/4	KQ2S06-G02□	4	18	19.8	18.8	13.3	13.3	10.7	10	4.1	18
ø8	1/8	KQ2S08-G01□	5	13	21.7	19.7	16.2	14.2	17.2	16.2	5.1	9.5
	1/4	KQ2S08-G02□	6	18	20.5	19.5	14	14.2	23.3	16.2	6.1	17.2
	3/8	KQ2S08-G03□	6	22	20.7	19.7	13.2	14.2	23.3	16.2	6.1	27.1
ø10	1/8	KQ2S10-G01□	5	15.6	23	21.1	17.5	15.6	17.2	16.2	5.1	10.9
	1/4	KQ2S10-G02□	8	18	24.1	20.1	17.6	15.6	39	26.6	8.1	19.2
	3/8	KQ2S10-G03□	8	22	21.4	20.1	13.9	15.6	39	26.6	8.1	25
	1/2	KQ2S10-G04□	8	26	21.1	20.1	12.1	15.6	39	26.6	8.1	34.1
ø12	1/4	KQ2S12-G02□	8	18.2	25.6	21.5	19.1	17	46	44.5	8.1	18.3
	3/8	KQ2S12-G03□	10	22	23.8	21.8	16.3	17	60	44.5	10.1	25.7
	1/2	KQ2S12-G04□	10	26	22.8	21.8	13.8	17	60	44.5	10.1	35.6
ø16	3/8	KQ2S16-G03□	10	23.6	30.8	25.4	23.3	20.6	81	67	10.1	29.2
	1/2	KQ2S16-G04□	12	26	30.3	26.1	21.3	20.6	113	67	12.1	45.8

□: A (Brass), N (Brass + Electroless nickel plating)

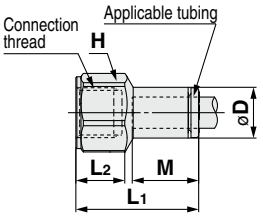


Female Connector: KQ2F



Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD	L1	L2	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2F04-G01□	14	7.9	24.7	9.5	13.3	5.6	4	3	12.4
	1/4	KQ2F04-G02□	17	7.9	30.1	13.9	13.3	5.6	4	3	21.3
ø6	1/8	KQ2F06-G01□	14	9.9	24.3	9.5	13.3	13.1	10.4	4.5	12.6
	1/4	KQ2F06-G02□	17	9.9	29.6	13.9	13.3	13.1	10.4	4.5	21.4
	3/8	KQ2F06-G03□	21	9.9	31.1	13.7	13.3	13.1	10.4	4.5	29.6
ø8	1/8	KQ2F08-G01□	14	13	24.7	9.5	14.2	26.1	18	6	15.1
	1/4	KQ2F08-G02□	17	13	30.1	13.9	14.2	26.1	18	6	24
	3/8	KQ2F08-G03□	21	13	31.6	13.7	14.2	26.1	18	6	32.3
ø10	1/4	KQ2F10-G02□	17	15.6	31.1	13.9	15.6	41.5	29.5	7.5	24.1
	3/8	KQ2F10-G03□	21	15.6	32.6	13.7	15.6	41.5	29.5	7.5	32.6
ø12	1/4	KQ2F12-G02□	19	18.2	32	13.8	17	58.3	46.1	9	33
	3/8	KQ2F12-G03□	21	18.2	33.5	13.7	17	58.3	46.1	9	34.1
	1/2	KQ2F12-G04□	27	18.2	38.6	16.9	17	58.3	46.1	9	64.9
ø16	3/8	KQ2F16-G03□	24	23.6	36	14.4	20.6	81	67	13	55.7
	1/2	KQ2F16-G04□	27	23.6	41.1	16.9	20.6	113	67	13	71.7

□: A (Brass), N (Brass + Electroless nickel plating)



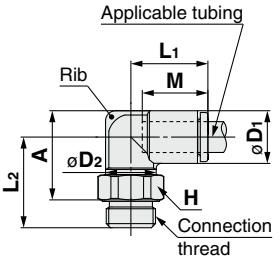
Dimensions

Male Elbow: KQ2L (Face seal)



Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø4	1/8	KQ2L04-G01□	12	8.2	10	14.8	16.8	15.4	13.3	4.6	3.3	3	6.3	●
	1/4	KQ2L04-G02□	17	8.2	10	14.8	20.3	17.9	13.3	4.6	3.3	3	16.7	●
ø6	1/8	KQ2L06-G01□	12	10.4	10	15.5	17.9	17.6	13.3	11.4	9	4.5	6.7	—
	1/4	KQ2L06-G02□	17	10.4	10	15.5	21.4	20.1	13.3	11.4	9	4.5	17.2	—
	3/8	KQ2L06-G03□	21	10.4	10	15.5	22.4	20.1	13.3	11.4	9	4.5	28.9	—
ø8	1/8	KQ2L08-G01□	12	13.2	10	16.4	19.3	20.4	14.2	11.4	11.4	4.5	7.6	●
	1/4	KQ2L08-G02□	17	13.2	12	17.2	22.8	22.9	14.2	21.6	14.9	6	15.9	●
	3/8	KQ2L08-G03□	21	13.2	12	17.2	23.8	22.9	14.2	21.6	14.9	6	27.9	●
ø10	1/8	KQ2L10-G01□	12	15.9	12	18.6	22.5	24.9	15.6	21.6	14.9	6	10.3	●
	1/4	KQ2L10-G02□	17	15.9	17	19.3	24.6	26.0	15.6	35.2	25	7.5	17.5	●
	3/8	KQ2L10-G03□	21	15.9	17	19.3	27.7	28.1	15.6	35.2	25	7.5	22.6	●
	1/2	KQ2L10-G04□	27	15.9	17	19.3	29.2	28.1	15.6	35.2	25	7.5	42.5	●
ø12	1/4	KQ2L12-G02□	17	18.5	17	21.5	25.9	28.6	17	50.2	39.7	9	19.3	●
	3/8	KQ2L12-G03□	21	18.5	17	21.5	29.0	30.7	17	50.2	39.7	9	24.5	●
	1/2	KQ2L12-G04□	27	18.5	17	21.5	30.5	30.7	17	50.2	39.7	9	44.4	●
ø16	3/8	KQ2L16-G03□	21	23.8	21	27.1	33.1	37.5	20.6	71	58.9	11	35.2	—
	1/2	KQ2L16-G04□	27	23.8	21	27.1	33.8	36.7	20.6	100	58.9	13	58.7	—

□: A (Brass), N (Brass + Electroless nickel plating)

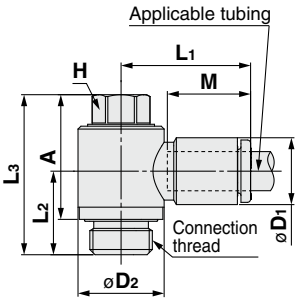


Universal Male Elbow: KQ2V (Face seal)



Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2V04-G01□	8	8.2	13.4	19.3	13	24.9	19.4	13.3	2.9	2.9	3	12.9
ø6	1/8	KQ2V06-G01□	8	10.4	13.4	20.5	13	24.9	19.4	13.3	7.5	5.9	4.5	13.2
	1/4	KQ2V06-G02□	10	10.4	18	19.9	15	27.6	21.1	13.3	7.5	5.9	4.5	22.7
ø8	1/8	KQ2V08-G01□	12	13.2	17.6	23.5	15	27.5	22	14.2	16	11.2	5	24.5
	1/4	KQ2V08-G02□	12	13.2	18	23.5	15.6	28.1	21.6	14.2	16	11.2	6	26.8
	3/8	KQ2V08-G03□	14	13.2	22	23.1	17.3	33.1	25.6	14.2	16	11.2	7.5	42.1
ø10	1/4	KQ2V10-G02□	14	15.9	20.6	25.9	17.9	32.9	26.4	15.6	27	20.3	7.5	37.5
	3/8	KQ2V10-G03□	14	15.9	22	25.9	18.1	33.1	25.6	15.6	27	20.3	7.5	43.4
ø12	3/8	KQ2V12-G03□	17	18.5	25.2	28.5	20.5	36.7	29.2	17	39	30.8	9	60.5
	1/2	KQ2V12-G04□	17	18.5	26	28.5	21.1	37.3	28.3	17	39	30.8	9	71
ø16	3/8	KQ2V16-G03□	21	23.8	32.3	34.2	24.2	44.5	37	20.6	55	46	11	101.7
	1/2	KQ2V16-G04□	21	23.8	32.3	34.2	26.2	46.5	37.5	20.6	78	46	13	106.6

□: A (Brass), N (Brass + Electroless nickel plating)



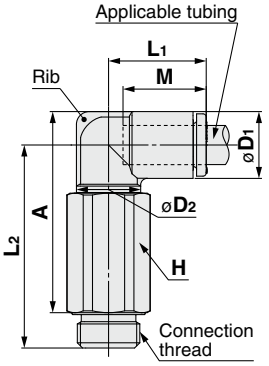
Dimensions

Extended Male Elbow: KQ2W (Face seal)



Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø4	1/8	KQ2W04-G01□	12	8.2	10	14.8	30.5	29.1	13.3	4	4	3	16.5	●
	1/4	KQ2W04-G02□	17	8.2	10	14.8	31.2	28.8	13.3	4	4	3	35.8	●
ø6	1/8	KQ2W06-G01□	12	10.4	10	15.5	31.6	31.3	13.3	10.9	8.6	4.5	17	—
	1/4	KQ2W06-G02□	17	10.4	10	15.5	32.3	31	13.3	10.9	8.6	4.5	36.2	—
	3/8	KQ2W06-G03□	21	10.4	10	15.5	33.3	31	13.3	10.9	8.6	4.5	59.4	—
ø8	1/8	KQ2W08-G01□	12	13.2	10	16.4	33	34.1	14.2	10.9	10.9	4.5	17.8	●
	1/4	KQ2W08-G02□	17	13.2	12	17.2	36.5	36.6	14.2	20.5	14.2	6	37.5	●
	3/8	KQ2W08-G03□	21	13.2	12	17.2	37.5	36.6	14.2	20.5	14.2	6	63.9	●
ø10	1/4	KQ2W10-G02□	17	15.9	17	19.3	48.8	50.3	15.6	33.5	23.8	7.5	45.1	●
	3/8	KQ2W10-G03□	21	15.9	17	19.3	46.6	47.1	15.6	33.5	23.8	7.5	62.6	●
	1/2	KQ2W10-G04□	27	15.9	17	19.3	48.1	47.1	15.6	33.5	23.8	7.5	120.2	●
ø12	1/4	KQ2W12-G02□	17	18.5	17	21.5	50.1	52.9	17	47.7	37.7	9	46.9	●
	3/8	KQ2W12-G03□	21	18.5	17	21.5	47.9	49.7	17	47.7	37.7	9	64.5	●
	1/2	KQ2W12-G04□	27	18.5	17	21.5	49.4	49.7	17	47.7	37.7	9	122.1	●
ø16	3/8	KQ2W16-G03□	21	23.8	21	27.1	57.4	61.8	20.6	71	58.9	11	71.7	—
	1/2	KQ2W16-G04□	27	23.8	21	27.1	58.1	61	20.6	100	58.9	13	144.1	—

□: A (Brass), N (Brass + Electroless nickel plating)

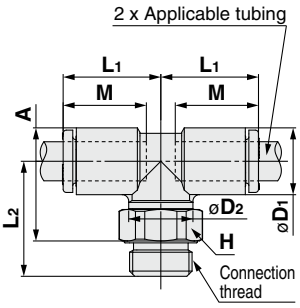


Male Branch Tee: KQ2T (Face seal)



Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2T04-G01□	12	8.2	10	14.8	16.8	15.4	13.3	6	4.1	3	7
	1/4	KQ2T04-G02□	17	8.2	10	14.8	20.3	17.9	13.3	6	4.1	3	17.4
ø6	1/8	KQ2T06-G01□	12	10.4	10	15.5	17.9	17.6	13.3	13.9	11	4.5	7.6
	1/4	KQ2T06-G02□	17	10.4	10	15.5	21.4	20.1	13.3	13.9	11	4.5	18.1
	3/8	KQ2T06-G03□	21	10.4	10	15.5	22.4	20.1	13.3	13.9	11	4.5	29.8
ø8	1/8	KQ2T08-G01□	12	13.2	10	16.4	19.3	20.4	14.2	14	14	4.5	9.4
	1/4	KQ2T08-G02□	17	13.2	12	17.2	22.8	22.9	14.2	26.3	18.2	6	17.6
	3/8	KQ2T08-G03□	21	13.2	12	17.2	23.8	22.9	14.2	26.3	18.2	6	29.6
ø10	1/8	KQ2T10-G01□	12	15.9	12	18.6	22.4	24.9	15.6	21.6	14.9	6	13.1
	1/4	KQ2T10-G02□	17	15.9	17	19.3	24.5	26	15.6	35.2	25	7.5	20.1
	3/8	KQ2T10-G03□	21	15.9	17	19.3	27.6	28.1	15.6	35.2	25	7.5	25.3
	1/2	KQ2T10-G04□	27	15.9	17	19.3	29.1	28.1	15.6	35.2	25	7.5	45.2
ø12	1/4	KQ2T12-G02□	17	18.5	17	21.5	25.8	28.6	17	57.2	45.2	9	23.1
	3/8	KQ2T12-G03□	21	18.5	17	21.5	28.9	30.7	17	57.2	45.2	9	28.4
	1/2	KQ2T12-G04□	27	18.5	17	21.5	30.4	30.7	17	57.2	45.2	9	48.3
ø16	3/8	KQ2T16-G03□	21	23.8	21	27.1	33.1	37.5	20.6	71	58.9	11	42.1
	1/2	KQ2T16-G04□	27	23.8	21	27.1	33.8	36.7	20.6	100	58.9	13	65.7

□: A (Brass), N (Brass + Electroless nickel plating)



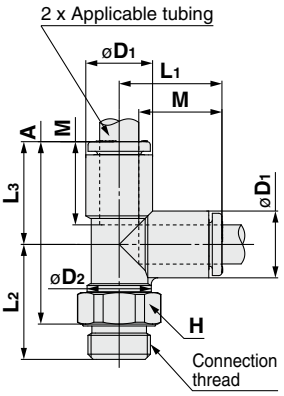
Dimensions

Male Run Tee: KQ2Y (Face seal)

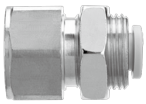


Applicable tubing O.D. [mm]	Connection thread G	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2Y04-G01□	12	8.2	10	15.3	16.8	15.3	26.6	13.3	6.4	4.4	3	7
	1/4	KQ2Y04-G02□	17	8.2	10	15.3	20.3	15.3	29.1	13.3	6.4	4.4	3	17.5
ø6	1/8	KQ2Y06-G01□	12	10.4	10	16.3	17.9	16.3	28.7	13.3	13.4	10.6	4.5	7.7
	1/4	KQ2Y06-G02□	17	10.4	10	16.3	21.4	16.3	31.2	13.3	13.4	10.6	4.5	18.2
	3/8	KQ2Y06-G03□	21	10.4	10	16.3	22.4	16.3	31.2	13.3	13.4	10.6	4.5	29.9
ø8	1/8	KQ2Y08-G01□	12	13.2	10	18.2	19.3	18.2	32	14.2	13.4	13.4	4.5	9.5
	1/4	KQ2Y08-G02□	17	13.2	12	18.2	22.8	18.2	34.5	14.2	25.6	17.7	6	17.7
	3/8	KQ2Y08-G03□	21	13.2	12	18.2	23.8	18.2	34.5	14.2	25.6	17.7	6	29.7
ø10	1/8	KQ2Y10-G01□	12	15.9	12	20.6	22.5	20.6	37.5	15.6	40	28.4	6	13.2
	1/4	KQ2Y10-G02□	17	15.9	17	20.6	24.6	20.6	38.6	15.6	40	28.4	7.5	20.3
	3/8	KQ2Y10-G03□	21	15.9	17	20.6	27.7	20.6	40.7	15.6	40	28.4	7.5	25.4
	1/2	KQ2Y10-G04□	27	15.9	17	20.6	29.2	20.6	40.7	15.6	40	28.4	7.5	45.3
ø12	1/4	KQ2Y12-G02□	17	18.5	17	23	25.9	23	42.3	17	57.4	45.4	9	23.4
	3/8	KQ2Y12-G03□	21	18.5	17	23	29	23	44.4	17	57.4	45.4	9	28.6
	1/2	KQ2Y12-G04□	27	18.5	17	23	30.4	23	44.4	17	57.4	45.4	9	48.5
ø16	3/8	KQ2Y16-G03□	21	23.8	21	28.6	33.1	28.6	54.2	20.6	81	60	11	42.7
	1/2	KQ2Y16-G04□	27	23.8	21	28.6	33.8	28.6	53.4	20.6	113	60	13	66.2

□: A (Brass), N (Brass + Electroless nickel plating)

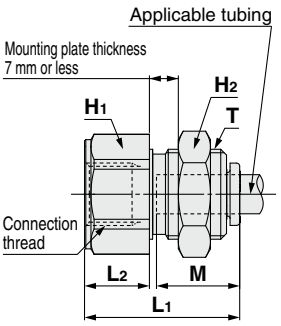


Bulkhead Connector: KQ2E



Applicable tubing O.D. [mm]	Connection thread G	Model	T (M)	H1 (Width across flats)	H2 (Width across flats)	L1	L2	Mounting hole	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2E04-G01□	M12 x 1	14	14	25.1	10.7	13	13.3	5.6	4	3	21.3
	1/4	KQ2E04-G02□	M12 x 1	17	14	30.7	16.3	13	13.3	5.6	4	3	31.5
ø6	1/8	KQ2E06-G01□	M14 x 1	17	17	24.5	10.1	15	13.3	13.1	10.4	4.5	29.8
	1/4	KQ2E06-G02□	M14 x 1	17	17	30	15.6	15	13.3	13.1	10.4	4.5	32.8
	3/8	KQ2E06-G03□	M14 x 1	21	17	32	17.6	15	13.3	13.1	10.4	4.5	45.5
ø8	1/8	KQ2E08-G01□	M16 x 1	17	19	24.7	7.3	17	14.2	26.1	18	6	30.9
	1/4	KQ2E08-G02□	M16 x 1	17	19	30	12.6	17	14.2	26.1	18	6	33.5
	3/8	KQ2E08-G03□	M16 x 1	21	19	33.1	15.7	17	14.2	26.1	18	6	46.1
ø10	1/4	KQ2E10-G02□	M20 x 1	22	24	31	11.6	21	15.6	41.5	29.5	7.5	66.7
	3/8	KQ2E10-G03□	M20 x 1	22	24	32.5	13.1	21	15.6	41.5	29.5	7.5	61.6
ø12	3/8	KQ2E12-G03□	M22 x 1	24	27	33.5	13.1	23	17	58.3	46.1	9	70.4
	1/2	KQ2E12-G04□	M22 x 1	27	27	39.9	19.5	23	17	58.3	46.1	9	94
ø16	3/8	KQ2E16-G03□	M28 x 1.5	30	32	35.9	13	29	20.6	96	67	13	127.6
	1/2	KQ2E16-G04□	M28 x 1.5	30	32	41	18.1	29	20.6	113	67	13	137.2

□: A (Brass), N (Brass + Electroless nickel plating)



KQ2 Series
Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

1 Spare Parts

KQ2-A Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ04-P01A**	KQ2E04-G01A, KQ2E04-G02A	Steel	Zinc chromated
	KQ06-P01A	KQ2E06-G01A, KQ2E06-G02A, KQ2E06-G03A		
	KQ08-P01A	KQ2E08-G01A, KQ2E08-G02A, KQ2E08-G03A		
	KQ10-P01A	KQ2E10-G02A, KQ2E10-G03A		
	KQ12-P01A	KQ2E12-G03A, KQ2E12-G04A		
	KQ16-P01A	KQ2E16-G03A, KQ2E16-G04A		

KQ2-N Series

Description	Part no.	Applicable model	Material	Surface treatment
Pipe nut	**KQ04-P01N**	KQ2E04-G01N, KQ2E04-G02N	Steel	Nickel plating
	KQ06-P01N	KQ2E06-G01N, KQ2E06-G02N, KQ2E06-G03N		
	KQ08-P01N	KQ2E08-G01N, KQ2E08-G02N, KQ2E08-G03N		
	KQ10-P01N	KQ2E10-G02N, KQ2E10-G03N		
	KQ12-P01N	KQ2E12-G03N, KQ2E12-G04N		
	KQ16-P01N	KQ2E16-G03N, KQ2E16-G04N		

Metric Size One-touch Fittings

Applicable Tubing: Metric Size, Connection Thread: R, Rc

KQ2 Series

Guide

Chuck

Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

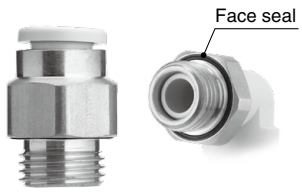
Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

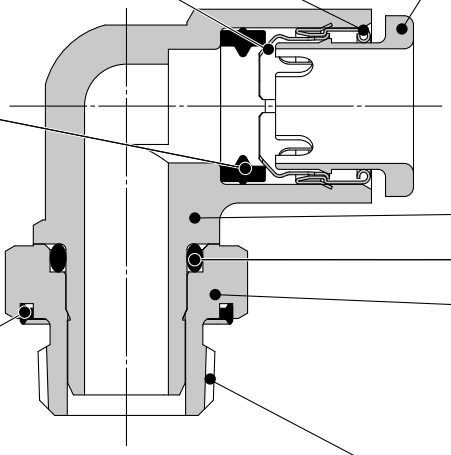
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Face seal method

Seal ring

Piping installability is improved by changing to the face seal structure.





Release button

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

Stud

Effective when piping in a confined space.

Body part rotates allowing for positioning.

Connection thread

R, Rc

One-touch IN/OUT connection. Possible to use in vacuum to –100 kPa.

Drastically reduces screw-in time with the face seal method.

Original thread construction which allows for the use of piping taper female thread (Rc)



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø3.2, ø4, ø6, ø8, ø10, ø12, ø16

Specifications

Fluid		Air, Water*1 *2
Operating pressure range*3		–100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		–5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	JIS B0203 (Taper thread for piping) JIS B0205 (Metric coarse thread)
	Nut section	JIS B0205 (Metric fine thread)
Seal on the threads		Seal ring

*1 The surge pressure must be under the maximum operating pressure.

*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring, Seal ring	NBR

How to Order

Threaded Type **KQ2 H 06 – 01 A P**

One-touch fittings

Face seal

Model

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
L	Male elbow
LU	Branch male elbow
K	45° male elbow
V	Universal male elbow
VS	Hexagon socket head universal male elbow
VF	Universal female elbow
VD	Double universal male elbow
VT	Triple universal male elbow
Z	Branch universal male elbow
ZF	Branch universal female elbow
ZD	Double branch universal male elbow
ZT	Triple branch universal male elbow
W	Extended male elbow
T	Male branch tee
Y	Male run tee
D	Male delta union
U	Branch "Y"
UD	Double branch "Y"
N	Adapter

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

Port size

Symbol		Size
Thread connection	**01**	R1/8, Rc1/8
	02	R1/4, Rc1/4
	03	R3/8, Rc3/8
	04	R1/2, Rc1/2

Applicable tubing O.D.

Symbol	Size
23	ø3.2
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
16	ø16

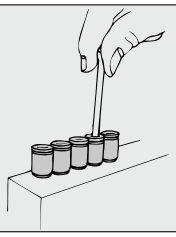
For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Round Type Variations

Hexagon socket head male connector
KQ2S P.176



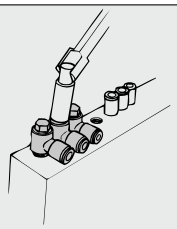
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



Universal male elbow
KQ2V P.178



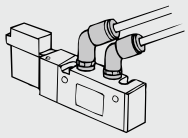
Hexagon head of the body allows tightening with a box wrench in confined spaces.



45° male elbow
KQ2K P.178



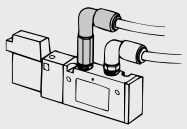
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



Extended male elbow
KQ2W P.181



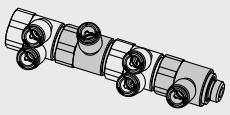
Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Universal female elbow
KQ2VF P.179



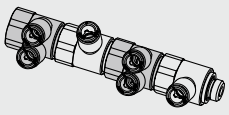
Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.



Branch universal female elbow
KQ2ZF P.180



Use to two-branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.



Male connector
KQ2H P.176



Use to pipe a female thread in the same direction. Most general model.

Double universal male elbow
KQ2VD P.179



Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

Triple branch universal male elbow
KQ2ZT P.181



Use to six-branch a female thread at right angles. Three individual parts rotate 360°.

Male elbow
KQ2L P.177



Use to pipe a female thread at right angles. Most general model.

Triple universal male elbow
KQ2VT P.179



Use to three-branch a female thread at right angles. Three individual parts rotate 360°.

Male delta union
KQ2D P.183



Use to branch a female thread at two right angles.

Male branch tee
KQ2T P.182



Use to branch a female thread at both 90° angles.

Branch universal male elbow
KQ2Z P.180



Hexagon head of the body allows tightening with a box wrench. Use for branch connections.

Double branch "Y"
KQ2UD P.184



Use to four-branch a female thread in the same direction.

Hexagon socket head universal male elbow
KQ2VS P.178



Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

Double branch universal male elbow
KQ2ZD P.180



Use to four-branch a female thread at right angles. Two individual parts rotate 360°.

Branch "Y"
KQ2U P.183



Use to branch a female thread in the same direction.

Branch male elbow
KQ2LU P.177



Use to two-branch a female thread at right angles.

Male run tee
KQ2Y P.182



Use to branch a female thread in the same direction and at a 90° angle.

Adapter
KQ2N P.184



Use to connect One-touch fittings and R female threads.

Tubing — One-touch fittings	Tubing — Tubing	Accessory	
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.	Refer to page 103 and after for details.

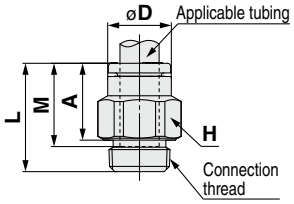
Dimensions

Male Connector: KQ2H (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	KQ2H23-01□P	12	6.7	14.1	8.9	13.3	3.4	2.9	2.5	6.3
	1/4	KQ2H23-02□P	17	6.7	15	7.4	13.3	3.4	2.9	2.5	15.1
ø4	1/8	KQ2H04-01□P	12	7.7	16.4	11.2	13.3	4.8	3.4	3	6.9
	1/4	KQ2H04-02□P	17	7.7	15	7.4	13.3	4.8	3.4	3	14.5
ø6	1/8	KQ2H06-01□P	12	9.7	17.2	12	13.3	13.1	10.4	4.5	6.5
	1/4	KQ2H06-02□P	17	9.7	14	6.4	13.3	13.1	10.4	4.5	10.6
	3/8	KQ2H06-03□P	21	9.7	15.2	7.6	13.3	13.1	10.4	4.5	22.8
ø8	1/8	KQ2H08-01□P	14	13	21.1	15.9	14.2	26.1	18	6	11.8
	1/4	KQ2H08-02□P	17	13	19.9	12.3	14.2	26.1	18	6	13.9
	3/8	KQ2H08-03□P	21	13	15.2	7.6	14.2	26.1	18	6	19.6
ø10	1/8	KQ2H10-01□P	17	15.6	22.9	17.7	15.6	26.1	26.1	6	16.3
	1/4	KQ2H10-02□P	17	15.6	24.4	16.8	15.6	41.5	29.5	7.5	17.9
	3/8	KQ2H10-03□P	21	15.6	21.2	13.6	15.6	41.5	29.5	7.5	23.7
	1/2	KQ2H10-04□P	27	15.6	18.8	8.4	15.6	41.5	29.5	7.5	40.9
ø12	1/4	KQ2H12-02□P	19	18.2	26.6	19	17	58.3	46.1	9	22
	3/8	KQ2H12-03□P	21	18.2	25.1	17.5	17	58.3	46.1	9	28.6
	1/2	KQ2H12-04□P	27	18.2	25.1	14.7	17	58.3	46.1	9	45
ø16	1/4	KQ2H16-02□P	24	23.6	30.6	23	20.6	58.3	58.3	9	42.5
	3/8	KQ2H16-03□P	24	23.6	30.6	23	20.6	81	67	11	39.2
	1/2	KQ2H16-04□P	27	23.6	32.1	21.7	20.6	113	67	13	55

□: A (Brass), N (Brass + Electroless nickel plating)

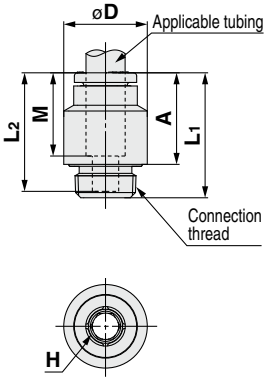


Hexagon Socket Head Male Connector: KQ2S (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2S04-01□P	3	13	20.6	19.6	15.4	13.3	4.1	3.6	3.1	11.6
ø6	1/8	KQ2S06-01□P	4	13	19.8	18.8	14.6	13.3	10	10	4.1	9.6
	1/4	KQ2S06-02□P	4	18	19.8	18.8	12.2	13.3	10.7	10	4.1	16.3
ø8	1/8	KQ2S08-01□P	5	13	21.2	19.7	16	14.2	17.2	16.2	5.1	9
	1/4	KQ2S08-02□P	6	18	20.4	19.5	12.8	14.2	23.3	16.2	6.1	15.5
	3/8	KQ2S08-03□P	6	22	20.7	19.7	13.1	14.2	23.3	16.2	6.1	26.3
ø10	1/8	KQ2S10-01□P	5	18	23	21.1	17.8	15.6	17.2	16.2	5.1	17.8
	1/4	KQ2S10-02□P	8	18	28.8	20.1	21.2	15.6	39	26.6	8.1	19.2
	3/8	KQ2S10-03□P	8	22	21.1	20.1	13.5	15.6	39	26.6	8.1	23.4
	1/2	KQ2S10-04□P	8	26	21.1	20.1	10.7	15.6	39	26.6	8.1	40.6
ø12	1/4	KQ2S12-02□P	8	18.2	30.2	21.5	22.6	17	46	44.5	8.1	24.3
	3/8	KQ2S12-03□P	10	22	25.1	21.8	17.5	17	60	44.5	10.1	28.2
	1/2	KQ2S12-04□P	10	26	25.2	21.8	14.8	17	60	44.5	10.1	40.7
ø16	1/4	KQ2S16-02□P	8	23.6	30.6	25.1	23	20.6	46	46	8.1	35.1
	3/8	KQ2S16-03□P	10	23.6	30.6	25.4	23	20.6	81	67	10.1	27.9
	1/2	KQ2S16-04□P	12	26	32.1	26.1	21.7	20.6	113	67	12.1	48.2

□: A (Brass), N (Brass + Electroless nickel plating)



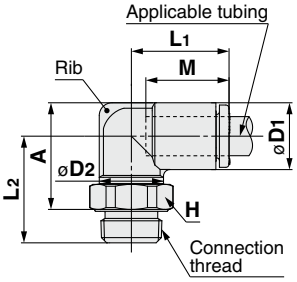
Dimensions

Male Elbow: KQ2L (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3.2	1/8	KQ2L23-01□P	12	7.1	10	14.5	16	14.3	13.3	3	2.5	2.5	5.1	—
	1/4	KQ2L23-02□P	17	7.1	10	14.5	19.4	15.3	13.3	3	2.5	2.5	14.3	—
ø4	1/8	KQ2L04-01□P	12	8.2	10	14.8	15.5	14.4	13.3	4.6	3.3	3	5.2	●
	1/4	KQ2L04-02□P	17	8.2	10	14.8	19.9	16.4	13.3	4.6	3.3	3	14.5	●
ø6	1/8	KQ2L06-01□P	12	10.4	10	15.5	16.6	16.6	13.3	11.4	9	4.5	5.7	—
	1/4	KQ2L06-02□P	17	10.4	10	15.5	21	18.6	13.3	11.4	9	4.5	15	—
	3/8	KQ2L06-03□P	21	10.4	10	15.5	23	20.6	13.3	11.4	9	4.5	30.2	—
ø8	1/8	KQ2L08-01□P	12	13.2	10	16.4	18	19.4	14.2	11.4	11.4	4.5	6.5	●
	1/4	KQ2L08-02□P	17	13.2	12	17.2	22.4	21.4	14.2	21.6	14.9	6	13.7	●
	3/8	KQ2L08-03□P	21	13.2	12	17.2	24.4	23.4	14.2	21.6	14.9	6	28.7	●
ø10	1/8	KQ2L10-01□P	12	15.9	12	18.6	22.2	24.9	15.6	21.6	14.9	6	10.1	●
	1/4	KQ2L10-02□P	17	15.9	17	19.3	25.7	26.0	15.6	35.2	25	7.5	17.9	●
	3/8	KQ2L10-03□P	21	15.9	17	19.3	25.8	26.1	15.6	35.2	25	7.5	17.8	●
	1/2	KQ2L10-04□P	27	15.9	17	19.3	30.6	28.1	15.6	35.2	25	7.5	45.1	●
ø12	1/4	KQ2L12-02□P	17	18.5	17	21.5	27	28.6	17	50.2	39.7	9	19.6	●
	3/8	KQ2L12-03□P	21	18.5	17	21.5	27.1	28.7	17	50.2	39.7	9	19.7	●
	1/2	KQ2L12-04□P	27	18.5	17	21.5	31.9	30.7	17	50.2	39.7	9	47	●
ø16	1/4	KQ2L16-02□P	17	23.8	17	25.1	29.6	33.9	20.6	50.2	50.2	9	24	●
	3/8	KQ2L16-03□P	21	23.8	21	27.1	32.7	37.0	20.6	71	58.9	11	33.8	—
	1/2	KQ2L16-04□P	27	23.8	21	27.1	34.7	36.2	20.6	100	58.9	13	59.9	—

□: A (Brass), N (Brass + Electroless nickel plating)

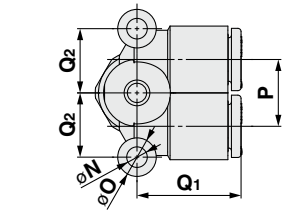


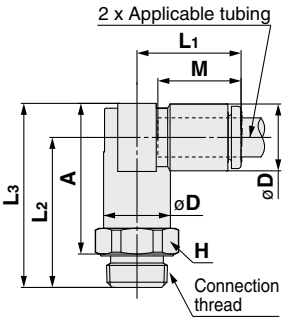
Branch Male Elbow: KQ2LU (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	L1	L2	L3	A	M	P	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Q1	Q2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2LU04-01□P	12	8.2	15.8	22.6	26.7	21.5	13.3	8.2	6	3.2	8.2	15.8	7.9	6	4.1	3	9.5
	1/4	KQ2LU04-02□P	17	8.2	15.8	26	30.1	22.5	13.3	8.2	6	3.2	8.2	15.8	7.9	6	4.1	3	19.4
ø6	1/8	KQ2LU06-01□P	12	10.4	16.5	23.3	28.5	23.3	13.3	10.4	6	3.2	10.4	16.5	10	13.9	11	4.5	10.2
	1/4	KQ2LU06-02□P	17	10.4	16.5	26.7	31.9	24.3	13.3	10.4	6	3.2	10.4	16.5	10	13.9	11	4.5	19.8
	3/8	KQ2LU06-03□P	21	10.4	16.5	26.2	31.4	23.8	13.3	10.4	6	3.2	10.4	16.5	10	13.9	11	4.5	28.1
ø8	1/8	KQ2LU08-01□P	14	13.2	18.2	25	31.6	26.4	14.2	13.2	8	4.2	13.2	18.2	13.1	26.3	18.2	6	16.4
	1/4	KQ2LU08-02□P	17	13.2	18.2	28.4	35	27.4	14.2	13.2	8	4.2	13.2	18.2	13.1	26.3	18.2	6	22
	3/8	KQ2LU08-03□P	21	13.2	18.2	27.9	34.5	26.9	14.2	13.2	8	4.2	13.2	18.2	13.1	26.3	18.2	6	30.4
ø10	1/4	KQ2LU10-02□P	17	15.9	20.3	30.5	38.5	30.9	15.6	15.9	8	4.2	15.9	20.3	15.9	40.8	29	7.5	24.9
	3/8	KQ2LU10-03□P	21	15.9	20.3	30	38	30.4	15.6	15.9	8	4.2	15.9	20.3	15.9	40.8	29	7.5	32.4
	1/2	KQ2LU10-04□P	27	15.9	20.3	32.3	40.3	29.9	15.6	15.9	8	4.2	15.9	20.3	15.9	40.8	29	7.5	50.5
ø12	1/4	KQ2LU12-02□P	21	18.5	22.5	32.7	41.9	34.3	17	18.5	8	4.2	18.5	22.5	17.9	57.2	45.2	9	39.3
	3/8	KQ2LU12-03□P	21	18.5	22.5	32.2	41.4	33.8	17	18.5	8	4.2	18.5	22.5	17.9	57.2	45.2	9	37
	1/2	KQ2LU12-04□P	27	18.5	22.5	34.5	43.7	33.3	17	18.5	8	4.2	18.5	22.5	17.9	57.2	45.2	9	52.5

□: A (Brass), N (Brass + Electroless nickel plating)





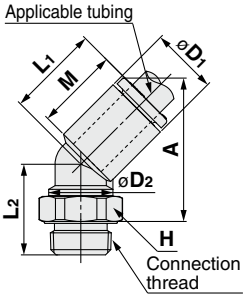
Dimensions

45° Male Elbow: KQ2K (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2K04-01□P	12	8.2	10	14.4	12	19.5	13.3	4.8	3.4	3	5.1
	1/4	KQ2K04-02□P	17	8.2	10	14.4	15.4	20.5	13.3	4.8	3.4	3	14.3
ø6	1/8	KQ2K06-01□P	12	10.4	10	14.7	14.1	22.5	13.3	8.7	6.9	4.5	5.5
	1/4	KQ2K06-02□P	17	10.4	10	14.7	17.5	23.5	13.3	8.7	6.9	4.5	14.7
	3/8	KQ2K06-03□P	21	10.4	10	14.7	19.5	25.5	13.3	8.7	6.9	4.5	29.9
ø8	1/8	KQ2K08-01□P	12	13.2	10	16	15	25.2	14.2	8.7	8.7	4.5	6.4
	1/4	KQ2K08-02□P	17	13.2	12	16	19.4	27.2	14.2	19.7	19.7	6	13.5
	3/8	KQ2K08-03□P	21	13.2	12	16	21.4	29.2	14.2	19.7	19.7	6	28.5
ø10	1/8	KQ2K10-01□P	12	15.9	12	18.2	20.1	32.7	15.6	30.9	23.2	6	10.1
	1/4	KQ2K10-02□P	17	15.9	17	17.6	26.1	35.9	15.6	30.9	23.2	7.5	18
	3/8	KQ2K10-03□P	21	15.9	17	17.6	20.5	30.3	15.6	30.9	23.2	7.5	17.3
	1/2	KQ2K10-04□P	27	15.9	17	17.6	25.3	32.3	15.6	30.9	23.2	7.5	44.6
ø12	1/4	KQ2K12-02□P	17	18.5	17	19.4	26	37.9	17	44.5	35.1	9	19.5
	3/8	KQ2K12-03□P	21	18.5	17	19.4	20.4	32.3	17	44.5	35.1	9	18.8
	1/2	KQ2K12-04□P	27	18.5	17	19.4	25.2	34.3	17	44.5	35.1	9	46.1
ø16	1/4	KQ2K16-02□P	17	23.8	17	24.3	26.6	43.3	20.6	44.5	44.5	9	23.9
	3/8	KQ2K16-03□P	21	23.8	21	23.8	28.7	45	20.6	65.8	58	11	32.2
	1/2	KQ2K16-04□P	27	23.8	21	23.8	30.7	44.2	20.6	91.9	58	13	58.3

□: A (Brass), N (Brass + Electroless nickel plating)

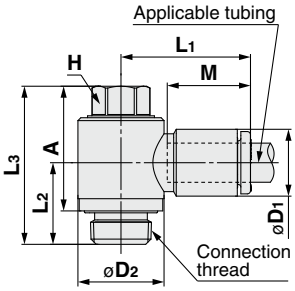


Universal Male Elbow: KQ2V (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2V04-01□P	8	8.2	13.4	19.3	12.7	24.6	19.4	13.3	2.9	2.9	3	12.6
ø6	1/8	KQ2V06-01□P	8	10.4	13.4	20.5	12.7	24.6	19.4	13.3	7.5	5.9	4.5	12.9
	1/4	KQ2V06-02□P	10	10.4	18	19.9	16.1	28.7	21.1	13.3	7.5	5.9	4.5	23.2
ø8	1/8	KQ2V08-01□P	12	13.2	17.6	23.5	14.1	26.6	21.4	14.2	16	11.2	6	22.7
	1/4	KQ2V08-02□P	12	13.2	18	23.5	16.7	29.2	21.6	14.2	16	11.2	6	27.2
	3/8	KQ2V08-03□P	14	13.2	22	23.1	17.4	33.2	25.6	14.2	16	11.2	6	42.1
ø10	1/4	KQ2V10-02□P	14	15.9	20.6	25.9	18.1	33.1	25.5	15.6	27	20.3	7.5	36.5
	3/8	KQ2V10-03□P	14	15.9	22	25.9	18.2	33.2	25.6	15.6	27	20.3	7.5	43.4
ø12	3/8	KQ2V12-03□P	17	18.5	25.2	28.5	19.3	35.5	27.9	17	39	30.8	9	56.7
	1/2	KQ2V12-04□P	17	18.5	26	28.5	22.6	38.8	28.4	17	39	30.8	9	72.2
ø16	3/8	KQ2V16-03□P	21	23.8	32.3	34.2	23	43.3	35.7	20.6	55	46	11	99.9
	1/2	KQ2V16-04□P	21	23.8	32.3	34.2	26.3	46.6	36.2	20.6	78	46	13	113

□: A (Brass), N (Brass + Electroless nickel plating)

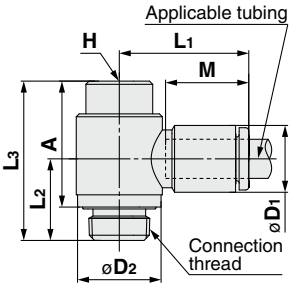


Hexagon Socket Head Universal Male Elbow: KQ2VS (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VS04-01□P	6	8.2	13.4	19.3	12.7	24.8	19.6	13.3	2.9	2.9	3	12.6
ø6	1/8	KQ2VS06-01□P	6	10.4	13.4	20.5	12.7	24.8	19.6	13.3	7.5	5.9	4.5	12.9
	1/4	KQ2VS06-02□P	6	10.4	18	19.9	16.1	24.7	17.1	13.3	7.5	5.9	4.5	19.2
ø8	1/8	KQ2VS08-01□P	8	13.2	17.6	23.5	14.1	25	19.8	14.2	16	11.2	6	19.3
	1/4	KQ2VS08-02□P	8	13.2	18	23.5	16.7	27.7	20.1	14.2	16	11.2	6	23.8
	3/8	KQ2VS08-03□P	8	13.2	22	23.1	17.4	29.3	21.7	14.2	16	11.2	6	34.4
ø10	1/4	KQ2VS10-02□P	8	15.9	20.6	25.9	18.1	29.2	21.6	15.6	27	20.3	7.5	29.2
	3/8	KQ2VS10-03□P	8	15.9	22	25.9	18.2	29.3	21.7	15.6	27	20.3	7.5	35.6
ø12	3/8	KQ2VS12-03□P	10	18.5	25.2	28.5	19.3	33	25.4	17	39	30.8	9	48.6
	1/2	KQ2VS12-04□P	10	18.5	26	28.5	22.6	36.3	25.9	17	39	30.8	9	64.1

□: A (Brass), N (Brass + Electroless nickel plating)



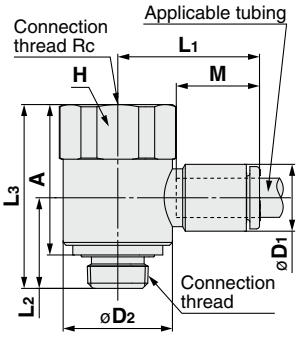
Dimensions

Universal Female Elbow: KQ2VF (Face seal)



Applicable tubing O.D. [mm]	Connection thread R, Rc	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VF04-01□P	17	8.2	17	21.2	14.1	28.6	23.4	13.3	2.9	2.9	3	28.5
ø6	1/8	KQ2VF06-01□P	17	10.4	17	22.4	14.1	28.6	23.4	13.3	7.5	5.9	4.5	28.9
	1/4	KQ2VF06-02□P	22	10.4	21.7	23.2	17.6	36.4	28.8	13.3	7.5	5.9	4.5	60.3
ø8	1/8	KQ2VF08-01□P	17	13.2	17.6	23.5	14.8	29.3	24.1	14.2	16	11.2	6	27.2
	1/4	KQ2VF08-02□P	22	13.2	21.6	25.1	17.8	36.4	28.8	14.2	16	11.2	6	61.2
	3/8	KQ2VF08-03□P	27	13.2	27.7	26.2	22.2	42.2	34.6	14.2	16	11.2	6	90.2
ø10	1/4	KQ2VF10-02□P	22	15.9	22.6	26.9	18.8	38.7	31.1	15.6	27	20.3	7.5	61
	3/8	KQ2VF10-03□P	27	15.9	26.6	27.6	21.4	42.2	34.6	15.6	27	20.3	7.5	90
ø12	3/8	KQ2VF12-03□P	27	18.5	26.6	29.9	20.9	42.2	34.6	17	39	30.8	9	91.6
	1/2	KQ2VF12-04□P	30	18.5	31.6	32.1	22.3	47.2	36.8	17	39	30.8	9	144.1

□: A (Brass), N (Brass + Electroless nickel plating)

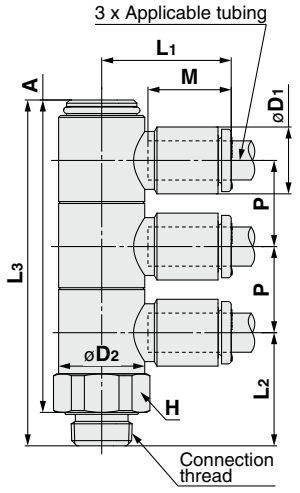


Triple Universal Male Elbow: KQ2VT (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VT04-01□P	14	8.2	13.4	19.3	17.6	53.8	48.6	13.3	13.4	2.9	2.9	3	27.5
	1/4	KQ2VT04-02□P	17	8.2	13.4	19.3	21	57.2	49.6	13.3	13.4	2.9	2.9	3	36.8
	3/8	KQ2VT04-03□P	21	8.2	13.4	19.3	23	59.2	51.6	13.3	13.4	2.9	2.9	3	54.4
ø6	1/8	KQ2VT06-01□P	14	10.4	13.4	20.5	17.6	53.8	48.6	13.3	13.4	7.5	5.9	4.5	28.5
	1/4	KQ2VT06-02□P	17	10.4	13.4	20.5	21	57.2	49.6	13.3	13.4	7.5	5.9	4.5	37.8
	3/8	KQ2VT06-03□P	21	10.4	13.4	20.5	23	59.2	51.6	13.3	13.4	7.5	5.9	4.5	55.4
ø8	1/8	KQ2VT08-01□P	19	13.2	17.6	23.7	21	63.8	58.6	14.2	15.9	16	11.2	6	67
	1/4	KQ2VT08-02□P	19	13.2	17.6	23.7	23.4	66.2	58.6	14.2	15.9	16	11.2	6	60.8
	3/8	KQ2VT08-03□P	21	13.2	17.6	23.7	24.4	67.2	59.6	14.2	15.9	16	11.2	6	72.7
	1/2	KQ2VT08-04□P	27	13.2	17.6	23.7	29.2	72	61.6	14.2	15.9	16	11.2	6	112.8
ø10	1/4	KQ2VT10-02□P	21	15.9	20.6	25.7	25.8	77	69.4	15.6	19.2	27	20.3	7.5	89.7
	3/8	KQ2VT10-03□P	21	15.9	20.6	25.7	25.8	77	69.4	15.6	19.2	27	20.3	7.5	86.5
	1/2	KQ2VT10-04□P	27	15.9	20.6	25.7	30.6	81.8	71.4	15.6	19.2	27	20.3	7.5	125.5
ø12	1/4	KQ2VT12-02□P	26	18.5	25.2	28.9	29.1	86.7	79.1	17	21.6	39	30.8	9	158.6
	3/8	KQ2VT12-03□P	26	18.5	25.2	28.9	29.1	86.7	79.1	17	21.6	39	30.8	9	145.4
	1/2	KQ2VT12-04□P	27	18.5	25.2	28.9	31.9	89.5	79.1	17	21.6	39	30.8	9	155.4

□: A (Brass), N (Brass + Electroless nickel plating)

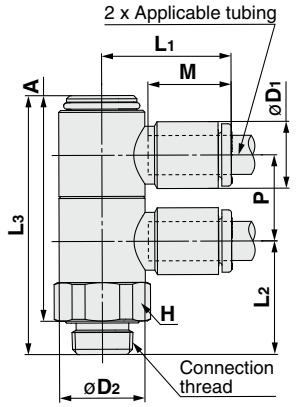


Double Universal Male Elbow: KQ2VD (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2VD04-01□P	14	8.2	13.4	19.3	17.6	40.3	35.1	13.3	13.4	2.9	2.9	3	22
	1/4	KQ2VD04-02□P	17	8.2	13.4	19.3	21	43.7	36.1	13.3	13.4	2.9	2.9	3	31.2
	3/8	KQ2VD04-03□P	21	8.2	13.4	19.3	23	45.7	38.1	13.3	13.4	2.9	2.9	3	48.7
ø6	1/8	KQ2VD06-01□P	14	10.4	13.4	20.5	17.6	40.3	35.1	13.3	13.4	7.5	5.9	4.5	22.6
	1/4	KQ2VD06-02□P	17	10.4	13.4	20.5	21	43.7	36.1	13.3	13.4	7.5	5.9	4.5	31.8
	3/8	KQ2VD06-03□P	21	10.4	13.4	20.5	23	45.7	38.1	13.3	13.4	7.5	5.9	4.5	49.3
ø8	1/8	KQ2VD08-01□P	19	13.2	17.6	23.7	21	47.8	42.6	14.2	15.9	16	11.2	6	52.4
	1/4	KQ2VD08-02□P	19	13.2	17.6	23.7	23.4	50.2	42.6	14.2	15.9	16	11.2	6	48.6
	3/8	KQ2VD08-03□P	21	13.2	17.6	23.7	24.4	51.2	43.6	14.2	15.9	16	11.2	6	60.4
	1/2	KQ2VD08-04□P	27	13.2	17.6	23.7	29.2	56	45.6	14.2	15.9	16	11.2	6	100.4
ø10	1/4	KQ2VD10-02□P	21	15.9	20.6	25.7	25.8	57.7	50.1	15.6	19.2	27	20.3	7.5	70.6
	3/8	KQ2VD10-03□P	21	15.9	20.6	25.7	25.8	57.7	50.1	15.6	19.2	27	20.3	7.5	69.5
	1/2	KQ2VD10-04□P	27	15.9	20.6	25.7	30.6	62.5	52.1	15.6	19.2	27	20.3	7.5	108.2
ø12	1/4	KQ2VD12-02□P	26	18.5	25.2	28.9	29.1	65	57.4	17	21.6	39	30.8	9	125.8
	3/8	KQ2VD12-03□P	26	18.5	25.2	28.9	29.1	65	57.4	17	21.6	39	30.8	9	117.4
	1/2	KQ2VD12-04□P	27	18.5	25.2	28.9	31.9	67.8	57.4	17	21.6	39	30.8	9	128.8

□: A (Brass), N (Brass + Electroless nickel plating)



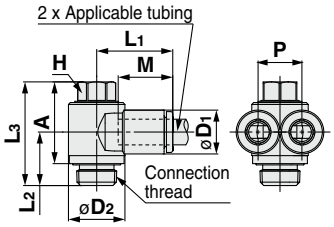
Dimensions

Branch Universal Male Elbow: KQ2Z (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD_1	øD_2	L_1	L_2	L_3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2Z04-01□P	8	8.2	13.4	18.5	12.7	24.6	19.4	13.3	8.2	4.7	4.7	3	13.4
ø6	1/8	KQ2Z06-01□P	8	10.4	13.4	18.4	12.7	24.6	19.4	13.3	10.4	10.8	8.6	4.5	14
	1/4	KQ2Z06-02□P	14	10.4	20.6	21.5	17.3	33.1	25.5	13.3	10.4	10.8	8.6	4.5	35.4
	3/8	KQ2Z06-03□P	14	10.4	22	21.5	17.4	33.2	25.6	13.3	10.4	10.8	8.6	4.5	42.3
ø8	1/8	KQ2Z08-01□P	12	13.2	17.6	21.2	14.1	26.6	21.4	14.2	13.2	20.5	14.2	6	24.5
	1/4	KQ2Z08-02□P	12	13.2	18	21.2	16.7	29.2	21.6	14.2	13.2	20.5	14.2	6	28.9
	3/8	KQ2Z08-03□P	14	13.2	22	22.3	17.4	33.2	25.6	14.2	13.2	20.5	14.2	6	44
ø10	1/4	KQ2Z10-02□P	14	15.9	21.6	23.6	18.1	33.1	25.5	15.6	15.9	31.8	22.6	7.5	40
	3/8	KQ2Z10-03□P	14	15.9	22	23.6	18.2	33.2	25.6	15.6	15.9	31.8	22.6	7.5	46.9
ø12	3/8	KQ2Z12-03□P	17	18.5	24.1	26.9	19.1	35.5	27.9	17	18.5	44.6	35.3	9	60.5
	1/2	KQ2Z12-04□P	17	18.5	26	26.9	22.4	38.8	28.4	17	18.5	44.6	35.3	9	76

□: A (Brass), N (Brass + Electroless nickel plating)

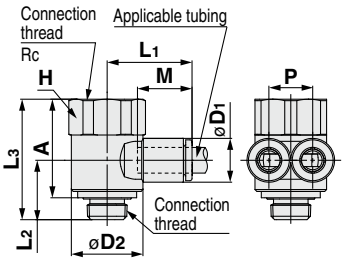


Branch Universal Female Elbow: KQ2ZF (Face seal)



Applicable tubing O.D. [mm]	Connection thread R, Rc	Model	H (Width across flats)	øD_1	øD_2	L_1	L_2	L_3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2ZF04-01□P	17	8.2	17	20.5	14.1	28.6	23.4	13.3	8.2	4.7	4.7	3	29.3
ø6	1/8	KQ2ZF06-01□P	17	10.4	17	20.5	14.1	28.6	23.4	13.3	10.4	10.8	8.6	4.5	29.9
	1/4	KQ2ZF06-02□P	22	10.4	21.7	22.5	17.6	36.4	28.8	13.3	10.4	10.8	8.6	4.5	61.3
ø8	1/8	KQ2ZF08-01□P	17	13.2	17.6	21.2	14.8	29.3	24.1	14.2	13.2	20.5	14.2	6	28.9
	1/4	KQ2ZF08-02□P	22	13.2	21.4	23.3	17.8	36.4	28.8	14.2	13.2	20.5	14.2	6	62.8
ø10	1/4	KQ2ZF10-02□P	22	15.9	22.6	24.6	18.8	38.7	31.1	15.6	15.9	31.8	22.6	7.5	63.8
	3/8	KQ2ZF10-03□P	27	15.9	26.6	26.9	21.4	42.2	34.6	15.6	15.9	31.8	22.6	7.5	93
ø12	3/8	KQ2ZF12-03□P	27	18.5	26.6	28.1	20.9	42.2	34.6	17	18.5	44.6	35.3	9	96
	1/2	KQ2ZF12-04□P	30	18.5	31.6	32	22.3	47.2	36.8	17	18.5	44.6	35.3	9	148.8

□: A (Brass), N (Brass + Electroless nickel plating)

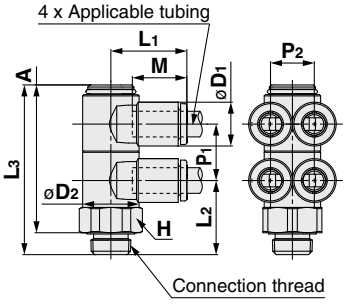


Double Branch Universal Male Elbow: KQ2ZD (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD_1	øD_2	L_1	L_2	L_3	A	M	P_1	P_2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2ZD04-01□P	14	8.2	13.4	18.5	17.6	40.3	35.1	13.3	13.4	8.2	4.7	4.7	3	23.6
	1/4	KQ2ZD04-02□P	17	8.2	13.4	18.5	21	43.7	36.1	13.3	13.4	8.2	4.7	4.7	3	32.8
	3/8	KQ2ZD04-03□P	21	8.2	13.4	18.5	23	45.7	38.1	13.3	13.4	8.2	4.7	4.7	3	50.3
ø6	1/8	KQ2ZD06-01□P	14	10.4	13.4	18.4	17.6	40.3	35.1	13.3	13.4	10.4	10.8	8.6	4.5	24.8
	1/4	KQ2ZD06-02□P	17	10.4	13.4	18.4	21	43.7	36.1	13.3	13.4	10.4	10.8	8.6	4.5	34
	3/8	KQ2ZD06-03□P	21	10.4	13.4	18.4	23	45.7	38.1	13.3	13.4	10.4	10.8	8.6	4.5	51.6
ø8	1/8	KQ2ZD08-01□P	19	13.2	17.6	21.2	21	47.8	42.6	14.2	15.9	13.2	20.5	14.2	6	56.1
	1/4	KQ2ZD08-02□P	19	13.2	17.6	21.2	23.4	50.2	42.6	14.2	15.9	13.2	20.5	14.2	6	52.2
	3/8	KQ2ZD08-03□P	21	13.2	17.6	21.2	24.4	51.2	43.6	14.2	15.9	13.2	20.5	14.2	6	64.1
	1/2	KQ2ZD08-04□P	27	13.2	17.6	21.2	29.2	56	45.6	14.2	15.9	13.2	20.5	14.2	6	104.1
ø10	1/4	KQ2ZD10-02□P	21	15.9	20.6	23.6	25.8	57.7	50.1	15.6	19.2	15.9	31.8	21.6	7.5	76.5
	3/8	KQ2ZD10-03□P	21	15.9	20.6	23.6	25.8	57.7	50.1	15.6	19.2	15.9	31.8	21.6	7.5	75.3
	1/2	KQ2ZD10-04□P	27	15.9	20.6	23.6	30.6	62.5	52.1	15.6	19.2	15.9	31.8	21.6	7.5	114
ø12	1/4	KQ2ZD12-02□P	26	18.5	25.2	26.8	29.1	65	57.4	17	21.6	18.5	44.6	35.3	9	134.4
	3/8	KQ2ZD12-03□P	26	18.5	25.2	26.8	29.1	65	57.4	17	21.6	18.5	44.6	35.3	9	126
	1/2	KQ2ZD12-04□P	27	18.5	25.2	26.8	31.9	67.8	57.4	17	21.6	18.5	44.6	35.3	9	137.4

□: A (Brass), N (Brass + Electroless nickel plating)



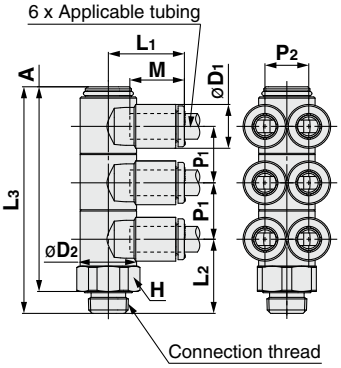
Dimensions

Triple Branch Universal Male Elbow: KQ2ZT (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P1	P2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2ZT04-01□P	14	8.2	13.4	18.5	17.6	53.8	48.6	13.3	13.4	8.2	4.7	4.7	3	29.9
	1/4	KQ2ZT04-02□P	17	8.2	13.4	18.5	21	57.2	49.6	13.3	13.4	8.2	4.7	4.7	3	39.2
	3/8	KQ2ZT04-03□P	21	8.2	13.4	18.5	23	59.2	51.6	13.3	13.4	8.2	4.7	4.7	3	56.8
ø6	1/8	KQ2ZT06-01□P	14	10.4	13.4	18.4	17.6	53.8	48.6	13.3	13.4	10.4	10.8	8.6	4.5	31.8
	1/4	KQ2ZT06-02□P	17	10.4	13.4	18.4	21	57.2	49.6	13.3	13.4	10.4	10.8	8.6	4.5	41.1
	3/8	KQ2ZT06-03□P	21	10.4	13.4	18.4	23	59.2	51.6	13.3	13.4	10.4	10.8	8.6	4.5	58.7
ø8	1/8	KQ2ZT08-01□P	19	13.2	17.6	21.2	21	63.8	58.6	14.2	15.9	13.2	20.5	14.2	6	72.5
	1/4	KQ2ZT08-02□P	19	13.2	17.6	21.2	23.4	66.2	58.6	14.2	15.9	13.2	20.5	14.2	6	66.3
	3/8	KQ2ZT08-03□P	21	13.2	17.6	21.2	24.4	67.2	59.6	14.2	15.9	13.2	20.5	14.2	6	78.2
	1/2	KQ2ZT08-04□P	27	13.2	17.6	21.2	29.2	72	61.6	14.2	15.9	13.2	20.5	14.2	6	118.3
ø10	1/4	KQ2ZT10-02□P	21	15.9	20.6	23.6	25.8	77	69.4	15.6	19.2	15.9	31.8	21.6	7.5	98.5
	3/8	KQ2ZT10-03□P	21	15.9	20.6	23.6	25.8	77	69.4	15.6	19.2	15.9	31.8	21.6	7.5	95.3
	1/2	KQ2ZT10-04□P	27	15.9	20.6	23.6	30.6	81.8	71.4	15.6	19.2	15.9	31.8	21.6	7.5	134.3
ø12	1/4	KQ2ZT12-02□P	26	18.5	25.2	26.8	29.1	86.7	79.1	17	21.6	18.5	44.6	35.3	9	171.5
	3/8	KQ2ZT12-03□P	26	18.5	25.2	26.8	29.1	86.7	79.1	17	21.6	18.5	44.6	35.3	9	158.3
	1/2	KQ2ZT12-04□P	27	18.5	25.2	26.8	31.9	89.5	79.1	17	21.6	18.5	44.6	35.3	9	168.3

□: A (Brass), N (Brass + Electroless nickel plating)

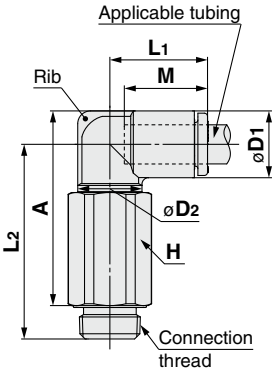


Extended Male Elbow: KQ2W (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3.2	1/8	KQ2W23-01□P	12	7.1	10	14.5	29.6	28	13.3	2.8	2.4	2.5	15.3	—
	1/4	KQ2W23-02□P	17	7.1	10	14.5	31	27	13.3	2.8	2.4	2.5	34.6	—
ø4	1/8	KQ2W04-01□P	12	8.2	10	14.8	29.2	28.1	13.3	4	4	3	15.5	●
	1/4	KQ2W04-02□P	17	8.2	10	14.8	31.5	28	13.3	4	4	3	34.9	●
ø6	1/8	KQ2W06-01□P	12	10.4	10	15.5	30.3	30.3	13.3	10.9	8.6	4.5	15.9	—
	1/4	KQ2W06-02□P	17	10.4	10	15.5	32.6	30.2	13.3	10.9	8.6	4.5	35.3	—
	3/8	KQ2W06-03□P	21	10.4	10	15.5	34.6	32.2	13.3	10.9	8.6	4.5	62.8	—
ø8	1/8	KQ2W08-01□P	12	13.2	10	16.4	31.7	33.1	14.2	10.9	10.9	4.5	16.7	●
	1/4	KQ2W08-02□P	17	13.2	12	17.2	36.1	35.1	14.2	20.5	14.2	6	35.4	●
	3/8	KQ2W08-03□P	21	13.2	12	17.2	38.1	37.1	14.2	20.5	14.2	6	64.7	●
ø10	1/4	KQ2W10-02□P	17	15.9	17	19.3	50.1	50.5	15.6	33.5	23.8	7.5	54.3	●
	3/8	KQ2W10-03□P	21	15.9	17	19.3	44.7	45.1	15.6	33.5	23.8	7.5	57.8	●
	1/2	KQ2W10-04□P	27	15.9	17	19.3	49.5	47.1	15.6	33.5	23.8	7.5	122.8	●
ø12	1/4	KQ2W12-02□P	17	18.5	17	21.5	51.4	53.1	17	47.7	37.7	9	56	●
	3/8	KQ2W12-03□P	21	18.5	17	21.5	46	47.7	17	47.7	37.7	9	59.7	●
	1/2	KQ2W12-04□P	27	18.5	17	21.5	50.8	49.7	17	47.7	37.7	9	124.6	●
ø16	1/4	KQ2W16-02□P	17	23.8	17	25.1	54.1	58.4	20.6	47.7	47.7	9	60.4	●
	3/8	KQ2W16-03□P	22	23.8	21	27.1	57	61.3	20.6	71	58.9	11	89.1	—
	1/2	KQ2W16-04□P	27	23.8	21	27.1	59	60.5	20.6	100	58.9	13	155.9	—

□: A (Brass), N (Brass + Electroless nickel plating)



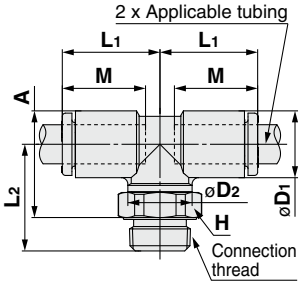
Dimensions

Male Branch Tee: KQ2T (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	KQ2T23-01□P	12	7.1	10	14.5	15.9	14.3	13.3	3.4	2.9	2.5	5.7
	1/4	KQ2T23-02□P	17	7.1	10	14.5	19.3	15.3	13.3	3.4	2.9	2.5	14.9
ø4	1/8	KQ2T04-01□P	12	8.2	10	14.8	15.5	14.4	13.3	6	4.1	3	5.9
	1/4	KQ2T04-02□P	17	8.2	10	14.8	19.9	16.4	13.3	6	4.1	3	15.2
ø6	1/8	KQ2T06-01□P	12	10.4	10	15.5	16.6	16.6	13.3	13.9	11	4.5	6.6
	1/4	KQ2T06-02□P	17	10.4	10	15.5	21	18.6	13.3	13.9	11	4.5	15.9
	3/8	KQ2T06-03□P	21	10.4	10	15.5	23	20.6	13.3	13.9	11	4.5	31.1
ø8	1/8	KQ2T08-01□P	12	13.2	10	16.4	18	19.4	14.2	14	14	4.5	8.3
	1/4	KQ2T08-02□P	17	13.2	12	17.2	22.4	21.4	14.2	26.3	18.2	6	15.5
	3/8	KQ2T08-03□P	21	13.2	12	17.2	24.4	23.4	14.2	26.3	18.2	6	30.4
ø10	1/8	KQ2T10-01□P	12	15.9	12	18.6	22.1	24.9	15.6	21.6	14.9	6	12.9
	1/4	KQ2T10-02□P	17	15.9	17	19.3	25.6	26	15.6	35.2	25	7.5	20.5
	3/8	KQ2T10-03□P	21	15.9	17	19.3	25.7	26.1	15.6	35.2	25	7.5	20.4
	1/2	KQ2T10-04□P	27	15.9	17	19.3	30.5	28.1	15.6	35.2	25	7.5	47.7
ø12	1/4	KQ2T12-02□P	17	18.5	17	21.5	26.9	28.6	17	57.2	45.2	9	23.5
	3/8	KQ2T12-03□P	21	18.5	17	21.5	27	28.7	17	57.2	45.2	9	23.6
	1/2	KQ2T12-04□P	27	18.5	17	21.5	31.8	30.7	17	57.2	45.2	9	50.8
ø16	1/4	KQ2T16-02□P	17	23.8	17	25.1	29.6	33.9	20.6	57.2	57.2	9	31.7
	3/8	KQ2T16-03□P	21	23.8	21	27.1	32.7	37	20.6	71	58.9	11	40.8
	1/2	KQ2T16-04□P	27	23.8	21	27.1	34.7	36.2	20.6	100	58.9	13	66.8

□: A (Brass), N (Brass + Electroless nickel plating)

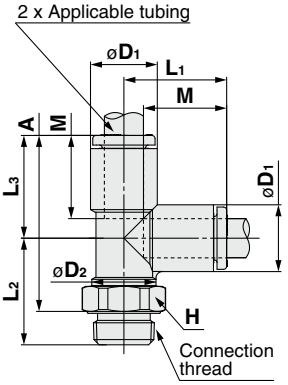


Male Run Tee: KQ2Y (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3.2	1/8	KQ2Y23-01□P	12	7.1	10	14.9	15.9	14.9	25.7	13.3	3.4	2.9	2.5	5.7
	1/4	KQ2Y23-02□P	17	7.1	10	14.9	19.3	14.9	26.7	13.3	3.4	2.9	2.5	14.9
ø4	1/8	KQ2Y04-01□P	12	8.2	10	15.3	15.5	15.3	25.6	13.3	6.4	4.4	3	6
	1/4	KQ2Y04-02□P	17	8.2	10	15.3	19.9	15.3	27.6	13.3	6.4	4.4	3	15.2
ø6	1/8	KQ2Y06-01□P	12	10.4	10	16.3	16.6	16.3	27.7	13.3	13.4	10.6	4.5	6.7
	1/4	KQ2Y06-02□P	17	10.4	10	16.3	21	16.3	29.7	13.3	13.4	10.6	4.5	16
	3/8	KQ2Y06-03□P	21	10.4	10	16.3	23	16.3	31.7	13.3	13.4	10.6	4.5	31.2
ø8	1/8	KQ2Y08-01□P	12	13.2	10	18.2	18	18.2	31	14.2	13.4	13.4	4.5	8.4
	1/4	KQ2Y08-02□P	17	13.2	12	18.2	22.4	18.2	33	14.2	25.6	17.7	6	15.6
	3/8	KQ2Y08-03□P	21	13.2	12	18.2	24.4	18.2	35	14.2	25.6	17.7	6	30.5
ø10	1/8	KQ2Y10-01□P	12	15.9	12	20.6	22.1	20.6	37.6	15.6	40	28.4	6	13
	1/4	KQ2Y10-02□P	17	15.9	17	20.6	25.6	20.6	38.7	15.6	40	28.4	7.5	20.7
	3/8	KQ2Y10-03□P	21	15.9	17	20.6	25.7	20.6	38.8	15.6	40	28.4	7.5	20.6
	1/2	KQ2Y10-04□P	27	15.9	17	20.6	30.5	20.6	40.8	15.6	40	28.4	7.5	47.9
ø12	1/4	KQ2Y12-02□P	17	18.5	17	23	26.9	23	42.4	17	57.4	45.4	9	23.8
	3/8	KQ2Y12-03□P	21	18.5	17	23	27	23	42.5	17	57.4	45.4	9	23.8
	1/2	KQ2Y12-04□P	27	18.5	17	23	31.8	23	44.5	17	57.4	45.4	9	51.1
ø16	1/4	KQ2Y16-02□P	17	23.8	17	28.6	29.6	28.6	50.6	20.6	57.4	45.4	9	32.2
	3/8	KQ2Y16-03□P	21	23.8	21	28.6	32.7	28.6	53.7	20.6	81	60	11	41.3
	1/2	KQ2Y16-04□P	27	23.8	21	28.6	34.7	28.6	52.9	20.6	113	60	13	67.3

□: A (Brass), N (Brass + Electroless nickel plating)



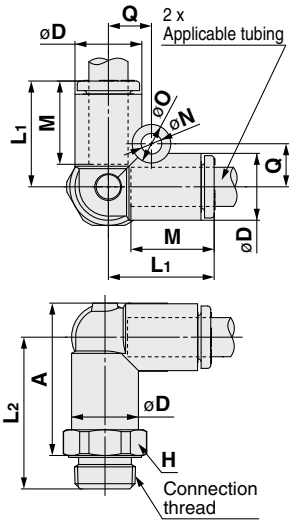
Dimensions

Male Delta Union: KQ2D (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	L1	L2	A	M	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
										øO	øN	Thickness	Nylon	Urethane		
ø4	1/8	KQ2D04-01□P	12	8.2	15.8	22.6	21.5	13.3	5.7	6	3.2	8.2	6	6	3.6	9.1
	1/4	KQ2D04-02□P	17	8.2	15.8	26	22.5	13.3	5.7	6	3.2	8.2	6	6	3.6	19
ø6	1/8	KQ2D06-01□P	12	10.4	16.8	23.6	23.6	13.3	6.7	6	3.2	10.4	13.9	11	5.4	9.7
	1/4	KQ2D06-02□P	17	10.4	16.8	27	24.6	13.3	6.7	6	3.2	10.4	13.9	11	5.4	19.3
	3/8	KQ2D06-03□P	21	10.4	16.8	26.5	24.1	13.3	6.7	6	3.2	10.4	13.9	11	5.4	27.6
ø8	1/8	KQ2D08-01□P	14	13.2	18.8	25.6	27	14.2	8.4	8	4.2	13.2	26.3	18.2	6	15.2
	1/4	KQ2D08-02□P	17	13.2	18.8	29	28	14.2	8.4	8	4.2	13.2	26.3	18.2	7.3	20.9
	3/8	KQ2D08-03□P	21	13.2	18.8	28.5	27.5	14.2	8.4	8	4.2	13.2	26.3	18.2	7.3	29.3
ø10	1/4	KQ2D10-02□P	17	15.9	21.2	31.4	31.7	15.6	9.6	8	4.2	15.9	40.8	29	9	23.2
	3/8	KQ2D10-03□P	21	15.9	21.2	30.9	31.2	15.6	9.6	8	4.2	15.9	40.8	29	9.4	30.7
	1/2	KQ2D10-04□P	27	15.9	21.2	33.2	30.7	15.6	9.6	8	4.2	15.9	40.8	29	9.4	48.8
ø12	1/4	KQ2D12-02□P	21	18.5	23.6	33.8	35.4	17	10.7	8	4.2	18.5	57.2	45.2	9	36.6
	3/8	KQ2D12-03□P	21	18.5	23.6	33.3	34.9	17	10.7	8	4.2	18.5	57.2	45.2	11	34.3
	1/2	KQ2D12-04□P	27	18.5	23.6	35.6	34.4	17	10.7	8	4.2	18.5	57.2	45.2	11.6	49.8

□: A (Brass), N (Brass + Electroless nickel plating)

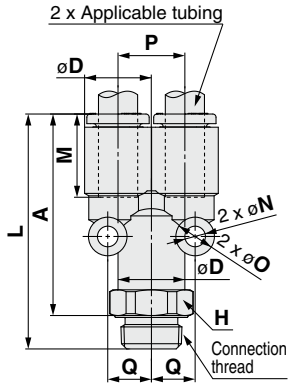


Branch "Y": KQ2U (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD	L	A	M	P	Q	Mounting hole			Effective area [mm²]		Min. port size	Weight [g]
										øO	øN	Thickness	Nylon	Urethane		
ø3.2	1/8	KQ2U23-01□P	12	7.1	35.7	30.5	13.3	7.1	5.2	6	3.2	7.1	3.4	2.9	2.7	9
	1/4	KQ2U23-02□P	17	7.1	39.1	31.5	13.3	7.1	5.2	6	3.2	7.1	3.4	2.9	2.7	19
ø4	1/8	KQ2U04-01□P	12	8.2	35.8	30.6	13.3	8.2	5.7	6	3.2	8.2	4.2	4.2	3.6	9.3
	1/4	KQ2U04-02□P	17	8.2	39.2	31.6	13.3	8.2	5.7	6	3.2	8.2	4.2	4.2	3.6	19.2
ø6	1/8	KQ2U06-01□P	12	10.4	36.9	31.7	13.3	10.4	6.8	6	3.2	10.4	13.4	10.6	5.4	9.9
	1/4	KQ2U06-02□P	17	10.4	40.3	32.7	13.3	10.4	6.8	6	3.2	10.4	13.4	10.6	5.4	19.5
	3/8	KQ2U06-03□P	21	10.4	39.8	32.2	13.3	10.4	6.8	6	3.2	10.4	13.4	10.6	5.4	27.8
ø8	1/8	KQ2U08-01□P	14	13.2	40	34.8	14.2	13.2	8.7	8	4.2	13.2	25.6	17.7	6	15.8
	1/4	KQ2U08-02□P	17	13.2	43.4	35.8	14.2	13.2	8.7	8	4.2	13.2	25.6	17.7	7.3	21.4
	3/8	KQ2U08-03□P	21	13.2	42.9	35.3	14.2	13.2	8.7	8	4.2	13.2	25.6	17.7	7.3	29.8
ø10	1/4	KQ2U10-02□P	17	15.9	47.3	39.7	15.6	15.9	10.1	8	4.2	15.9	40	28.4	9	23.9
	3/8	KQ2U10-03□P	21	15.9	46.8	39.2	15.6	15.9	10.1	8	4.2	15.9	40	28.4	9.4	31.4
	1/2	KQ2U10-04□P	27	15.9	49.1	38.7	15.6	15.9	10.1	8	4.2	15.9	40	28.4	9.4	49.5
ø12	1/4	KQ2U12-02□P	21	18.5	51.3	43.7	17	18.5	11.4	8	4.2	18.5	57.4	45.4	9	37.6
	3/8	KQ2U12-03□P	21	18.5	50.8	43.2	17	18.5	11.4	8	4.2	18.5	57.4	45.4	11	35.2
	1/2	KQ2U12-04□P	27	18.5	53.1	42.7	17	18.5	11.4	8	4.2	18.5	57.4	45.4	11.6	50.8
ø16	1/4	KQ2U16-02□P	24	23.8	60.7	53.1	20.6	23.8	14	8	4.2	23.8	57.4	45.4	9	68.2
	3/8	KQ2U16-03□P	24	23.8	60.2	52.6	20.6	23.8	14	8	4.2	23.8	81	60	11	64.7
	1/2	KQ2U16-04□P	27	23.8	62.5	52.1	20.6	23.8	14	8	4.2	23.8	113	60	13	70

□: A (Brass), N (Brass + Electroless nickel plating)



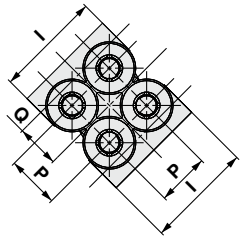
Dimensions

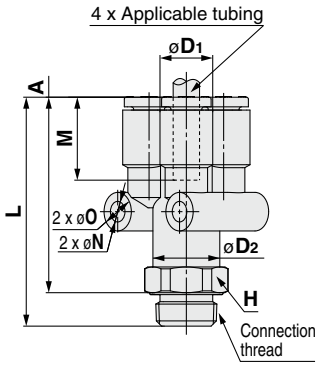
Double Branch "Y": KQ2UD (Face seal)



Applicable tubing O.D. [mm]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L	I	A	M	P	Q	øO	øN	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2UD04-01□P	12	8.2	10.4	36	16.6	30.8	13.3	8.2	6.8	6	3.2	4.2	4.2	5.4	11.3
	1/4	KQ2UD04-02□P	17	8.2	10.4	39.4	16.6	31.8	13.3	8.2	6.8	6	3.2	4.2	4.2	5.4	20.8
ø6	1/8	KQ2UD06-01□P	14	10.4	13.2	38.8	21	33.6	13.3	10.4	8.2	6	3.2	13.4	10.6	6	16.4
	1/4	KQ2UD06-02□P	17	10.4	13.2	42.2	21	34.6	13.3	10.4	8.2	6	3.2	13.4	10.6	7.3	22.1

□: A (Brass), N (Brass + Electroless nickel plating)



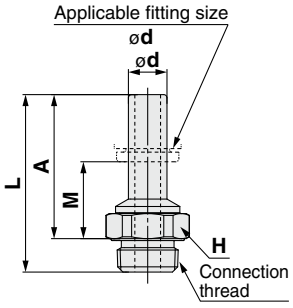


Adapter: KQ2N (Face seal)



Applicable fitting size ød	Connection thread R	Model	H (Width across flats)	L	A	M	Min. port size	Weight [g]
ø4	1/8	KQ2N04-01□P	12	27.6	22.4	9.1	2.5	4.4
ø6	1/8	KQ2N06-01□P	12	27.6	22.4	9.1	4	4.6
	1/4	KQ2N06-02□P	17	31	23.4	10.1	4	13.8
ø8	1/4	KQ2N08-02□P	17	32.9	25.3	11.1	6	11.8
	3/8	KQ2N08-03□P	21	34.9	27.3	13.1	6	26.7
ø10	3/8	KQ2N10-03□P	21	36.8	29.2	13.6	7.5	14.7

□: A (Brass), N (Brass + Electroless nickel plating)



Inch Size One-touch Fittings

Applicable Tubing: Inch Size, Connection Thread: NPT

KQ2 Series

Guide

Chuck

Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

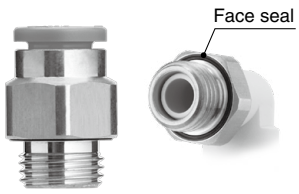
Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

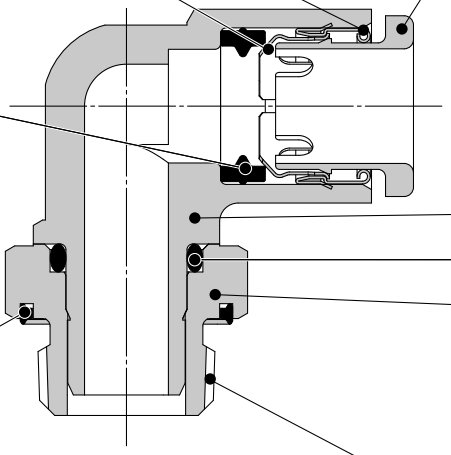
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Face seal method

Seal ring

Piping installability is improved by changing to the face seal structure.





Release button

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

Stud

Effective when piping in a confined space.

Body part rotates allowing for positioning.

Connection thread

NPT

One-touch IN/OUT connection. Possible to use in vacuum to –100 kPa.

Drastically reduces screw-in time with the face seal method.

Original thread construction which allows for the use of piping taper female thread (NPT)



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø1/8", ø5/32", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2"

Specifications

Fluid		Air, Water*1 *2
Operating pressure range*3		–100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		–5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	ANSI/ASME1.20.1 (NPT thread) JIS B0208 (UNF thread)
	Nut section	JIS B0208 (UNF thread)
Seal on the threads		Seal ring

*1 The surge pressure must be under the maximum operating pressure.

*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring, Seal ring	NBR

How to Order

Threaded Type **KQ2 H 05 – 34 A P**

One-touch fittings

Face seal

Model

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
L	Male elbow
K	45° male elbow
V	Universal male elbow
VS	Hexagon socket head universal male elbow
VF	Universal female elbow
VD	Double universal male elbow
VT	Triple universal male elbow
Z	Branch universal male elbow
ZD	Double branch universal male elbow
ZT	Triple branch universal male elbow
W	Extended male elbow
T	Male branch tee
Y	Male run tee
U	Branch "Y"

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

Port size

Symbol		Size
Thread connection	**33**	NPT1/16
	34	NPT1/8
	35	NPT1/4
	36	NPT3/8
	37	NPT1/2

Applicable tubing O.D.

Symbol	Size
01	ø1/8"
03	ø5/32"
05	ø3/16"
07	ø1/4"
09	ø5/16"
11	ø3/8"
13	ø1/2"

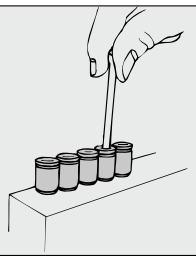
For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Round Type Variations

Hexagon socket head male connector
KQ2S P.188



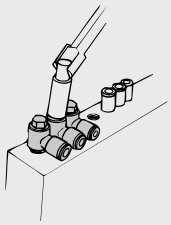
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



Universal male elbow
KQ2V P.190



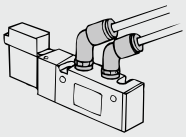
Hexagon head of the body allows tightening with a box wrench in confined spaces.



45° male elbow
KQ2K P.189



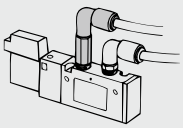
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



Extended male elbow
KQ2W P.193



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Male connector
KQ2H P.188



Use to pipe a female thread in the same direction. Most general model.

Double universal male elbow
KQ2VD P.191



Use to two-branch a female thread at right angles. Two individual parts rotate 360°.

Triple universal male elbow
KQ2VT P.191



Use to three-branch a female thread at right angles. Three individual parts rotate 360°.

Triple branch universal male elbow
KQ2ZT P.192



Use to six-branch a female thread at right angles. Three individual parts rotate 360°.

Male elbow
KQ2L P.189



Use to pipe a female thread at right angles. Most general model.

Male branch tee
KQ2T P.193



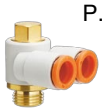
Use to branch a female thread at both 90° angles.

Hexagon socket head universal male elbow
KQ2VS P.190



Hexagon socket on the top allows tightening with a hexagon wrench in confined spaces.

Branch universal male elbow
KQ2Z P.191



Hexagon head of the body allows tightening with a box wrench. Use for branch connections.

Male run tee
KQ2Y P.194



Use to branch a female thread in the same direction and at a 90° angle.

Universal female elbow
KQ2VF P.190



Use to branch a male or female thread in the same direction and at a 90° angle. Multiple connections possible.

Double branch universal male elbow
KQ2ZD P.192



Use to four-branch a female thread at right angles. Two individual parts rotate 360°.

Branch "Y"
KQ2U P.194



Use to branch a female thread in the same direction.

Tubing — One-touch fittings	Tubing — Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

Refer to page 135 and after for details.

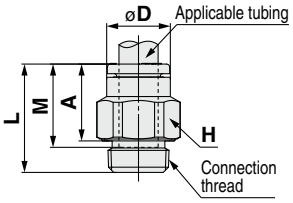
Dimensions

Male Connector: KQ2H (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/16	**KQ2H01-33□P**	11.11	6.7	16.8	11.4	13.3	3	2.5	2.5	14.9
	1/8	**KQ2H01-34□P**	12.7	6.7	14.3	8.9	13.3	3	2.5	2.5	8.7
	1/4	**KQ2H01-35□P**	17.46	6.7	15.6	7.5	13.3	3.4	2.9	2.5	16.6
ø5/32	1/16	**KQ2H03-33□P**	11.11	7.7	19	13.6	13.3	4.8	3.4	3	13.9
	1/8	**KQ2H03-34□P**	12.7	7.7	16.4	11	13.3	4.8	3.4	3	7.6
	1/4	**KQ2H03-35□P**	17.46	7.7	15.6	7.5	13.3	4.8	3.4	3	16
ø3/16	1/8	**KQ2H05-34□P**	12.7	8.3	16.9	11.5	13.3	7.8	6.5	3.6	7.8
	1/4	**KQ2H05-35□P**	17.46	8.3	15.6	7.5	13.3	7.8	6.5	3.5	15.3
ø1/4	1/16	**KQ2H07-33□P**	11.11	10.9	19.9	14.5	13.3	13.5	11.5	3.5	6.4
	1/8	**KQ2H07-34□P**	12.7	10.9	19.5	14.1	13.3	13.5	11.5	4.6	9.4
	1/4	**KQ2H07-35□P**	17.46	10.9	15.6	7.5	13.3	13.5	11.5	4.6	13.6
	3/8	**KQ2H07-36□P**	22	10.9	15.1	7	13.3	13.5	11.5	4.6	22.5
ø5/16	1/8	**KQ2H09-34□P**	17.46	13	21.3	15.9	14.2	26.1	18	6	17.8
	1/4	**KQ2H09-35□P**	17.46	13	20.5	12.4	14.2	26.1	18	6	15.7
	3/8	**KQ2H09-36□P**	22	13	15.2	7.1	14.2	26.1	18	6	20
ø3/8	1/8	**KQ2H11-34□P**	17.46	15.1	23.1	17.7	15.6	26	26	6	18.4
	1/4	**KQ2H11-35□P**	17.46	15.1	24.5	16.4	15.6	35.3	29.1	7	19.8
	3/8	**KQ2H11-36□P**	22	15.1	21.7	13.6	15.6	35.3	29.1	7	26.3
	1/2	**KQ2H11-37□P**	28.57	15.1	16.9	6.5	15.6	35.3	29.1	7	36.5
ø1/2	1/4	**KQ2H13-35□P**	22	19	27.1	19	17	58.5	51.7	9	29.7
	3/8	**KQ2H13-36□P**	22	19	26.2	18.1	17	66	51.7	9.6	31.8
	1/2	**KQ2H13-37□P**	28.57	19	25.8	15.4	17	66	51.7	9.6	52.5

□: A (Brass), N (Brass + Electroless nickel plating)

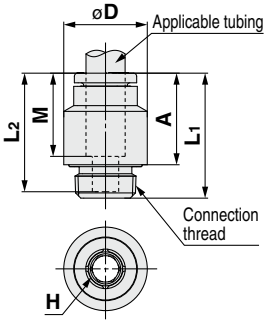


Hexagon Socket Head Male Connector: KQ2S (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø5/32	1/16	**KQ2S03-33□P**	2.78	12	19	16.3	13.6	13.3	4.1	3.6	2.8	7.5
	1/8	**KQ2S03-34□P**	2.78	14	17.3	16.3	11.9	13.3	4.1	3.6	2.8	9.2
ø3/16	1/8	**KQ2S05-34□P**	3.57	14	19.8	18.8	14.4	13.3	7.8	6.5	3.6	11.7
ø1/4	1/16	**KQ2S07-33□P**	2.78	12	19.9	16.3	14.5	13.3	8.4	8.4	2.8	7.1
	1/8	**KQ2S07-34□P**	4.76	14	19.8	18.8	14.4	13.3	13.5	11.5	4.8	10.6
	1/4	**KQ2S07-35□P**	4.76	18	19.8	18.8	11.7	13.3	13.5	11.5	4.8	15.6
	3/8	**KQ2S07-36□P**	4.76	22	19.8	18.8	11.7	13.3	13.5	11.5	4.8	26.4
ø5/16	1/8	**KQ2S09-34□P**	5.56	13	20.9	19.7	15.5	14.2	17.2	16.2	5.6	8.6
	1/4	**KQ2S09-35□P**	6.35	18	20.7	19.7	12.6	14.2	23.3	16.2	6.4	15.3
	3/8	**KQ2S09-36□P**	6.35	22	20.7	19.7	12.6	14.2	23.3	16.2	6.4	25
ø3/8	1/8	**KQ2S11-34□P**	5.56	15.1	23.1	21.1	17.7	15.6	22.7	22.7	5.6	12.1
	1/4	**KQ2S11-35□P**	6.35	18	24.5	21.1	16.4	15.6	29.6	29.1	6.4	19.9
	3/8	**KQ2S11-36□P**	6.35	22	22.1	21.1	14	15.6	29.6	29.1	6.4	26.8
	1/2	**KQ2S11-37□P**	6.35	26	22.1	21.1	11.7	15.6	29.6	29.1	6.4	42.8
ø1/2	1/4	**KQ2S13-35□P**	8	19	31.2	22.5	23.1	17	48	48	8.1	23.9
	3/8	**KQ2S13-36□P**	9.53	22	26.2	22.5	18.1	17	66	51.7	9.6	30.2
	1/2	**KQ2S13-37□P**	9.53	26	25.6	22.5	15.2	17	66	51.7	9.6	43.6

□: A (Brass), N (Brass + Electroless nickel plating)



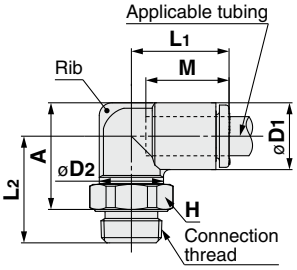
Dimensions

Male Elbow: KQ2L (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	1/16	**KQ2L01-33□P**	11.11	7.1	10	14.5	21.6	19.8	13.3	3	2.5	2.5	14.6	—
	1/8	**KQ2L01-34□P**	12.7	7.1	10	14.5	16.7	14.9	13.3	3	2.5	2.5	6.1	—
	1/4	**KQ2L01-35□P**	17.46	7.1	10	14.5	21.4	16.9	13.3	3	2.5	2.5	18.3	—
ø5/32	1/16	**KQ2L03-33□P**	11.11	8.2	10	14.8	21.1	19.8	13.3	4.6	3.3	3	14.9	●
	1/8	**KQ2L03-34□P**	12.7	8.2	10	14.8	16.2	14.9	13.3	4.6	3.3	3	6.3	●
	1/4	**KQ2L03-35□P**	17.46	8.2	10	14.8	21.9	17.9	13.3	4.6	3.3	3	18.5	●
ø3/16	1/8	**KQ2L05-34□P**	12.7	9.1	10	15	16.7	15.8	13.3	6.8	5.6	3.5	6.5	—
	1/4	**KQ2L05-35□P**	17.46	9.1	10	15	22.4	18.8	13.3	6.8	5.6	3.5	18.7	—
ø1/4	1/16	**KQ2L07-33□P**	11.11	11.1	10	15.6	22.6	22.7	13.3	6.8	6.8	3.5	8	●
	1/8	**KQ2L07-34□P**	12.7	11.1	10	15.6	17.7	17.8	13.3	11.3	10	4.5	6.8	●
	1/4	**KQ2L07-35□P**	17.46	11.1	10	15.6	23.4	20.8	13.3	11.3	10	4.5	19	●
	3/8	**KQ2L07-36□P**	22	11.1	10	15.6	23.9	21.3	13.3	11.3	10	4.5	32.5	●
ø5/16	1/8	**KQ2L09-34□P**	12.7	13.2	10	16.4	18.7	19.9	14.2	11.4	11.4	4.5	7.5	●
	1/4	**KQ2L09-35□P**	17.46	13.2	12	17.2	23.4	21.9	14.2	21.6	14.9	6	15.7	●
	3/8	**KQ2L09-36□P**	22	13.2	12	17.2	24.9	23.4	14.2	21.6	14.9	6	30.8	●
ø3/8	1/8	**KQ2L11-34□P**	12.7	15.4	12	18.6	22.2	24.5	15.6	21.2	21.2	6	10.7	●
	1/4	**KQ2L11-35□P**	17.46	15.4	17	19.3	25.4	24.9	15.6	28.8	23.8	7.5	18.1	●
	3/8	**KQ2L11-36□P**	22	15.4	17	19.3	26.1	25.6	15.6	28.8	23.8	7.5	19	●
	1/2	**KQ2L11-37□P**	28.57	15.4	17	19.3	31.4	28.6	15.6	28.8	23.8	7.5	53.9	●
ø1/2	1/4	**KQ2L13-35□P**	17.46	19.3	17	21.5	27.3	28.8	17	50.3	44.4	9	20.4	—
	3/8	**KQ2L13-36□P**	22	19.3	17	21.8	28.2	29.7	17	56	44.4	9.5	34.7	—
	1/2	**KQ2L13-37□P**	28.57	19.3	17	21.8	33.3	32.5	17	56	44.4	9.5	76.4	—

□: A (Brass), N (Brass + Electroless nickel plating)

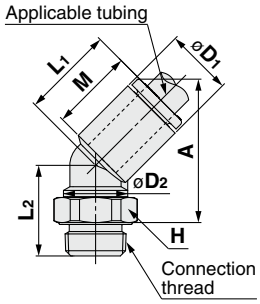


45° Male Elbow: KQ2K (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2K01-34□P**	12.7	7.1	10	14.3	12.7	19.6	13.3	3	2.5	2.5	5.9
ø5/32	1/8	**KQ2K03-34□P**	12.7	8.2	10	14.4	12.7	20	13.3	4.8	3.4	3	6.1
ø3/16	1/8	**KQ2K05-34□P**	12.7	9.1	10	14.5	13.2	20.9	13.3	6.8	5.6	3.5	6.3
ø1/4	1/8	**KQ2K07-34□P**	12.7	11.1	10	14.8	15.2	23.6	13.3	11.3	10	4.5	6.7
	1/4	**KQ2K07-35□P**	17.46	11.1	10	14.8	19.9	25.6	13.3	11.3	10	4.5	18.9
	3/8	**KQ2K07-36□P**	22	11.1	10	14.8	20.4	26.1	13.3	11.3	10	4.5	32.4
ø5/16	1/8	**KQ2K09-34□P**	12.7	13.2	10	16	15.7	25.7	14.2	11.3	11.3	4.5	7.4
	1/4	**KQ2K09-35□P**	17.46	13.2	12	16	20.4	27.7	14.2	19.7	19.7	6	15.5
	3/8	**KQ2K09-36□P**	22	13.2	12	16	21.9	29.2	14.2	19.7	19.7	6	30.6
ø3/8	1/8	**KQ2K11-34□P**	12.7	15.4	12	18.1	20.1	32.3	15.6	21.2	21.2	6	10.6
	1/4	**KQ2K11-35□P**	17.46	15.4	17	17.7	25.4	34.6	15.6	28.8	23.8	7	18.2
	3/8	**KQ2K11-36□P**	22	15.4	17	17.7	20.4	29.6	15.6	28.8	23.8	7	18.4
	1/2	**KQ2K11-37□P**	28.57	15.4	17	17.7	25.7	32.6	15.6	28.8	23.8	7	53.4
ø1/2	1/4	**KQ2K13-35□P**	17.46	19.3	17	19.4	25.5	37.2	17	50.3	44.4	9	20.2
	3/8	**KQ2K13-36□P**	22	19.3	17	19.4	25.5	37.2	17	56	44.4	9.5	34.4
	1/2	**KQ2K13-37□P**	28.57	19.3	17	19.4	30.6	40	17	56	44.4	9.5	76.1

□: A (Brass), N (Brass + Electroless nickel plating)



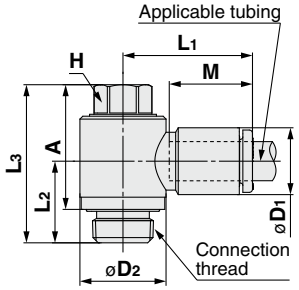
Dimensions

Universal Male Elbow: KQ2V (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2V01-34□P	8	7.1	14	19.3	12.9	24.8	19.4	13.3	2.2	1.9	2.5	13.1
ø5/32	1/8	KQ2V03-34□P	8	8.2	14	19.3	12.9	24.8	19.4	13.3	2.9	2.9	3	13.2
ø3/16	1/8	KQ2V05-34□P	8	9.1	14	19.6	12.9	24.8	19.4	13.3	4.5	3.7	3.5	13.4
ø1/4	1/8	KQ2V07-34□P	8	11.1	14	20.6	12.9	24.8	19.4	13.3	7.5	6.6	4.5	13.7
	1/4	KQ2V07-35□P	8	11.1	18	19.9	17.4	30.8	22.7	13.3	7.5	6.6	4.5	23.9
ø5/16	1/8	KQ2V09-34□P	11.11	13.2	17.6	23.5	14.3	26.8	21.4	14.2	16	11.2	6	22.4
	1/4	KQ2V09-35□P	11.11	13.2	18	23.5	17.2	29.7	21.6	14.2	16	11.2	6	27.2
	3/8	KQ2V09-36□P	12.7	13.2	22	23.1	17.9	33.7	25.6	14.2	16	11.2	6	41.3
ø3/8	1/4	KQ2V11-35□P	12.7	15.4	20.6	25.8	18.3	33.6	25.5	15.6	23.4	19.3	7	35.7
	3/8	KQ2V11-36□P	12.7	15.4	22	25.8	18.4	33.7	25.6	15.6	23.4	19.3	7	42.4
ø1/2	3/8	KQ2V13-36□P	17.46	19.3	27	30.5	18.6	33.5	25.4	17	38.8	34.3	7.5	65.1
	1/2	KQ2V13-37□P	17.46	19.3	27	30.5	21.3	36.2	25.8	17	38.8	34.3	9	75.2

□: A (Brass), N (Brass + Electroless nickel plating)

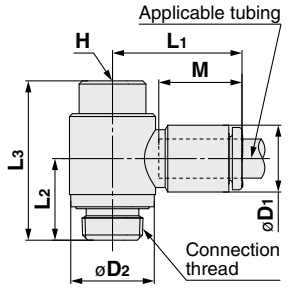


Hexagon Socket Head Universal Male Elbow: KQ2VS (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2VS01-34□P	6.35	7.1	14	19.3	12.9	25	19.6	13.3	2.2	1.9	2.5	12.7
ø5/32	1/8	KQ2VS03-34□P	6.35	8.2	14	19.3	12.9	25	19.6	13.3	2.9	2.9	3	12.8
ø3/16	1/8	KQ2VS05-34□P	6.35	9.1	14	19.6	12.9	25	19.6	13.3	4.5	3.7	3.5	13.1
ø1/4	1/8	KQ2VS07-34□P	6.35	11.1	14	20.6	12.9	25	19.6	13.3	7.7	6.6	4.6	13.4
	1/4	KQ2VS07-35□P	6.35	11.1	18	19.9	17.4	26.8	18.7	13.3	7.7	6.6	4.6	20.9
ø5/16	1/8	KQ2VS09-34□P	8	13.2	17.6	23.5	14.3	25.2	19.8	14.2	16	11.2	6	19.6
	1/4	KQ2VS09-35□P	8	13.2	18	23.5	17.2	28.2	20.1	14.2	16	11.2	6	24.5
	3/8	KQ2VS09-36□P	8	13.2	22	23.1	17.9	29.8	21.7	14.2	16	11.2	6	35.1
ø3/8	1/4	KQ2VS11-35□P	8	15.4	20.6	25.8	18.3	29.5	21.4	15.6	23.4	19.3	7	29.3
	3/8	KQ2VS11-36□P	8	15.4	22	25.8	18.4	29.8	21.7	15.6	23.4	19.3	7	36.3
ø1/2	3/8	KQ2VS13-36□P	9.53	19.3	27	30.5	18.6	32	23.9	17	38.8	34.3	9	57.6
	1/2	KQ2VS13-37□P	9.53	19.3	27	30.5	21.3	34.7	24.3	17	38.8	34.3	9	70.9

□: A (Brass), N (Brass + Electroless nickel plating)

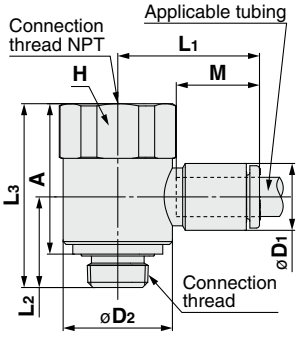


Universal Female Elbow: KQ2VF (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2VF01-34□P	17.46	7.1	17	21.2	14.3	28.8	23.4	13.3	2.2	1.9	2.5	28.4
ø5/32	1/8	KQ2VF03-34□P	17.46	8.2	17	21.2	14.3	28.8	23.4	13.3	2.9	2.9	3	28.5
ø3/16	1/8	KQ2VF05-34□P	17.46	9.1	17	21.5	14.3	28.8	23.4	13.3	4.5	3.7	3.5	28.7
ø1/4	1/8	KQ2VF07-34□P	17.46	11.1	17	22.5	14.3	28.8	23.4	13.3	7.7	6.6	4.6	29
	1/4	KQ2VF07-35□P	22.23	11.1	21.7	23.2	18.1	36.9	28.8	13.3	7.7	6.6	4.6	62.4
ø5/16	1/8	KQ2VF09-34□P	17.46	13.2	17.6	23.5	15	30.5	25.1	14.2	16	11.2	6	30.2
	1/4	KQ2VF09-35□P	22.23	13.2	21.6	25.1	18.3	36.9	28.8	14.2	16	11.2	6	63.2
	3/8	KQ2VF09-36□P	25.4	13.2	27.7	26.2	22.7	42.7	34.6	14.2	16	11.2	6	87.2
ø3/8	1/4	KQ2VF11-35□P	22.23	15.4	22.6	26.4	19.7	39.2	31.1	15.6	23.4	19.3	7	62.1
	3/8	KQ2VF11-36□P	25.4	15.4	27.7	27.6	22.2	42.7	34.6	15.6	23.4	19.3	7	88
ø1/2	3/8	KQ2VF13-36□P	25.4	19.3	27.7	30.7	20.9	42.7	34.6	17	38.8	34.3	9	90.2
	1/2	KQ2VF13-37□P	28.57	19.3	31.6	32.8	22.6	47.1	36.7	17	38.8	34.3	9	136

□: A (Brass), N (Brass + Electroless nickel plating)



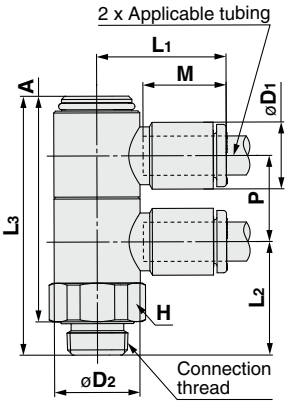
Dimensions

Double Universal Male Elbow: KQ2VD (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2VD01-34□P	14.29	7.1	13.4	19.3	18.2	40.9	35.5	13.3	13.4	2.2	1.9	2.5	22.8
ø5/32	1/8	KQ2VD03-34□P	14.29	8.2	13.4	19.3	18.2	40.9	35.5	13.3	13.4	2.9	2.9	3	23.1
ø3/16	1/8	KQ2VD05-34□P	14.29	9.1	13.4	19.6	18.2	40.9	35.5	13.3	13.4	4.5	3.7	3.5	23.3
ø1/4	1/8	KQ2VD07-34□P	14.29	11.1	13.4	20.6	19.2	42.3	36.9	13.3	13.8	7.7	6.6	4.6	25.6
	1/4	KQ2VD07-35□P	17.46	11.1	13.4	20.6	22.4	45.5	37.4	13.3	13.8	7.7	6.6	4.6	35.4
	3/8	KQ2VD07-36□P	22	11.1	13.4	20.6	23.9	47	38.9	13.3	13.8	7.7	6.6	4.6	53.4
ø5/16	1/4	KQ2VD09-35□P	19	13.2	17.6	23.7	23.9	50.7	42.6	14.2	15.9	16	11.2	6	49.3
	3/8	KQ2VD09-36□P	22	13.2	17.6	23.7	24.9	51.7	43.6	14.2	15.9	16	11.2	6	63.4
	1/2	KQ2VD09-37□P	28.57	13.2	17.6	23.7	30.2	57	46.6	14.2	15.9	16	11.2	6	113.5
ø3/8	1/4	KQ2VD11-35□P	22	15.4	20.6	25.3	26.1	58	49.9	15.6	19.2	23.4	19.3	7	72.2
	3/8	KQ2VD11-36□P	22	15.4	20.6	25.3	26.1	58	49.9	15.6	19.2	23.4	19.3	7	71.2
	1/2	KQ2VD11-37□P	28.57	15.4	20.6	25.3	31.4	63.3	52.9	15.6	19.2	23.4	19.3	7	119.3
ø1/2	3/8	KQ2VD13-36□P	28.57	19.3	27	30.5	31	65.8	57.7	17	22.3	43.8	34.3	9.6	150.7
	1/2	KQ2VD13-37□P	28.57	19.3	27	30.5	33.3	68.1	57.7	17	22.3	43.8	34.3	9.6	161.2

□: A (Brass), N (Brass + Electroless nickel plating)

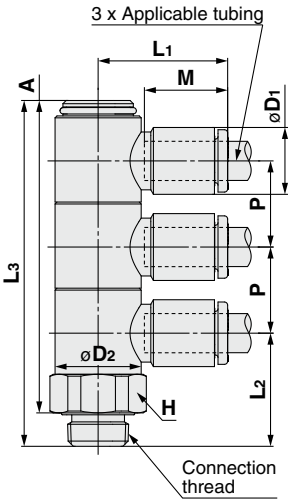


Triple Universal Male Elbow: KQ2VT (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2VT01-34□P	14.29	7.1	13.4	19.3	18.2	54.4	49	13.3	13.4	2.2	1.9	2.5	28.3
ø5/32	1/8	KQ2VT03-34□P	14.29	8.2	13.4	19.3	18.2	54.4	49	13.3	13.4	2.9	2.9	3	28.7
ø3/16	1/8	KQ2VT05-34□P	14.29	9.1	13.4	19.6	18.2	54.4	49	13.3	13.4	4.5	3.7	3.5	29
ø1/4	1/8	KQ2VT07-34□P	14.29	11.1	13.4	20.6	19.2	56.1	50.7	13.3	13.8	7.7	6.6	4.6	32.1
	1/4	KQ2VT07-35□P	17.46	11.1	13.4	20.6	22.4	59.3	51.2	13.3	13.8	7.7	6.6	4.6	41.9
	3/8	KQ2VT07-36□P	22	11.1	13.4	20.6	23.9	60.8	52.7	13.3	13.8	7.7	6.6	4.6	59.9
ø5/16	1/4	KQ2VT09-35□P	19	13.2	17.6	23.7	23.9	66.7	58.6	14.2	15.9	16	11.2	6	61.4
	3/8	KQ2VT09-36□P	22	13.2	17.6	23.7	24.9	67.7	59.6	14.2	15.9	16	11.2	6	75.5
	1/2	KQ2VT09-37□P	28.57	13.2	17.6	23.7	30.2	73	62.6	14.2	15.9	16	11.2	6	125.4
ø3/8	1/4	KQ2VT11-35□P	22	15.4	20.6	25.3	26.1	77.3	69.2	15.6	19.2	23.4	19.3	7	90.8
	3/8	KQ2VT11-36□P	22	15.4	20.6	25.3	26.1	77.3	69.2	15.6	19.2	23.4	19.3	7	87.8
	1/2	KQ2VT11-37□P	28.57	15.4	20.6	25.3	31.4	82.6	72.2	15.6	19.2	23.4	19.3	7	136
ø1/2	3/8	KQ2VT13-36□P	28.57	19.3	27	30.5	31	88.2	80.1	17	22.3	43.8	34.3	9.6	191.4
	1/2	KQ2VT13-37□P	28.57	19.3	27	30.5	33.3	90.5	80.1	17	22.3	43.8	34.3	9.6	191.5

□: A (Brass), N (Brass + Electroless nickel plating)

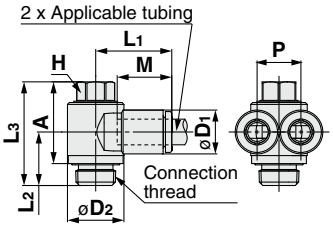


Branch Universal Male Elbow: KQ2Z (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2Z01-34□P	8	7.1	14	18.5	12.9	24.8	19.4	13.3	7.1	2.2	1.9	2.5	13.8
ø5/32	1/8	KQ2Z03-34□P	8	8.2	14	18.5	12.9	24.8	19.4	13.3	8.2	2.9	2.9	3	14
ø3/16	1/8	KQ2Z05-34□P	8	9.1	14	18.4	12.9	24.8	19.4	13.3	9.1	4.5	3.7	3.5	14.3
ø1/4	1/8	KQ2Z07-34□P	8	11.1	14	18.4	12.9	24.8	19.4	13.3	11.1	7.5	6.6	4.5	14.8
	1/4	KQ2Z07-35□P	11.11	11.1	18	20.4	16.7	29.7	21.6	13.3	11.1	7.7	6.6	4.6	27.6
ø5/16	1/8	KQ2Z09-34□P	11.11	13.2	17.6	21.2	14.3	26.8	21.4	14.2	13.2	20.5	14.2	6	24.1
	1/4	KQ2Z09-35□P	11.11	13.2	18	21.2	17.2	29.7	21.6	14.2	13.2	20.5	14.2	6	29
	3/8	KQ2Z09-36□P	12.7	13.2	22	22.3	17.9	33.7	25.6	14.2	13.2	20.5	14.2	6	43.2
ø3/8	1/4	KQ2Z11-35□P	12.7	15.4	20.6	25.9	17.8	33.6	25.5	15.6	15.4	23.4	19.3	7	38.9
	3/8	KQ2Z11-36□P	12.7	15.4	22	25.9	17.9	33.7	25.6	15.6	15.4	23.4	19.3	7	45.6
ø1/2	3/8	KQ2Z13-36□P	17.46	19.3	27	30.1	18.6	33.5	25.4	17	19.3	26.9	26.9	7.5	70.6
	1/2	KQ2Z13-37□P	17.46	19.3	27	30.1	21.3	36.2	25.8	17	19.3	38.8	34.3	9	80.6

□: A (Brass), N (Brass + Electroless nickel plating)



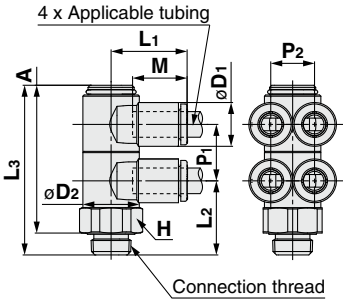
Dimensions

Double Branch Universal Male Elbow: KQ2ZD (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P1	P2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2ZD01-34□P	14.29	7.1	13.4	18.5	18.2	40.9	35.5	13.3	13.4	7.1	2.2	1.9	2.5	24.1
ø5/32	1/8	KQ2ZD03-34□P	14.29	8.2	13.4	18.5	18.2	40.9	35.5	13.3	13.4	8.2	2.9	2.9	3	24.7
ø3/16	1/8	KQ2ZD05-34□P	14.29	9.1	13.4	18.4	18.2	40.9	35.5	13.3	13.4	9.1	4.5	3.7	3.5	25.2
ø1/4	1/8	KQ2ZD07-34□P	14.29	11.1	13.4	18.3	19.2	42.3	36.9	13.3	13.8	11.1	7.7	6.6	4.6	27.9
	1/4	KQ2ZD07-35□P	17.46	11.1	13.4	18.3	22.4	45.5	37.4	13.3	13.8	11.1	7.7	6.6	4.6	37.7
	3/8	KQ2ZD07-36□P	22	11.1	13.4	18.3	23.9	47	38.9	13.3	13.8	11.1	7.7	6.6	4.6	55.7
ø5/16	1/4	KQ2ZD09-35□P	19	13.2	17.6	21.2	23.9	50.7	42.6	14.2	15.9	13.2	20.5	14.2	6	52.9
	3/8	KQ2ZD09-36□P	22	13.2	17.6	21.2	24.9	51.7	43.6	14.2	15.9	13.2	20.5	14.2	6	67
	1/2	KQ2ZD09-37□P	28.57	13.2	17.6	21.2	30.2	57	46.6	14.2	15.9	13.2	20.5	14.2	6	117.1
ø3/8	1/4	KQ2ZD11-35□P	22	15.4	20.6	23.6	26.1	58	49.9	15.6	19.2	15.4	23.4	19.3	7	77.8
	3/8	KQ2ZD11-36□P	22	15.4	20.6	23.6	26.1	58	49.9	15.6	19.2	15.4	23.4	19.3	7	76.8
	1/2	KQ2ZD11-37□P	28.57	15.4	20.6	23.6	31.4	63.3	52.9	15.6	19.2	15.4	23.4	19.3	7	124.9
ø1/2	3/8	KQ2ZD13-36□P	28.57	19.3	27	27.9	31	65.8	57.7	17	22.3	19.3	43.8	34.3	9.6	159.4
	1/2	KQ2ZD13-37□P	28.57	19.3	27	27.9	33.3	68.1	57.7	17	22.3	19.3	43.8	34.3	9.6	169.9

□: A (Brass), N (Brass + Electroless nickel plating)

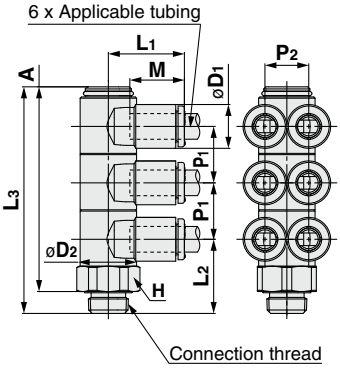


Triple Branch Universal Male Elbow: KQ2ZT (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	P1	P2	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2ZT01-34□P	14.29	7.1	13.4	18.5	18.2	54.4	49	13.3	13.4	7.1	2.2	1.9	2.5	30.2
ø5/32	1/8	KQ2ZT03-34□P	14.29	8.2	13.4	18.5	18.2	54.4	49	13.3	13.4	8.2	2.9	2.9	3	31.1
ø3/16	1/8	KQ2ZT05-34□P	14.29	9.1	13.4	18.4	18.2	54.4	49	13.3	13.4	9.1	4.5	3.7	3.5	31.9
ø1/4	1/8	KQ2ZT07-34□P	14.29	11.1	13.4	18.3	19.2	56.1	50.7	13.3	13.8	11.1	7.7	6.6	4.6	35.5
	1/4	KQ2ZT07-35□P	17.46	11.1	13.4	18.3	22.4	59.3	51.2	13.3	13.8	11.1	7.7	6.6	4.6	45.3
	3/8	KQ2ZT07-36□P	22	11.1	13.4	18.3	23.9	60.8	52.7	13.3	13.8	11.1	7.7	6.6	4.6	63.3
ø5/16	1/4	KQ2ZT09-35□P	19	13.2	17.6	21.2	23.9	66.7	58.6	14.2	15.9	13.2	20.5	14.2	6	66.9
	3/8	KQ2ZT09-36□P	22	13.2	17.6	21.2	24.9	67.7	59.6	14.2	15.9	13.2	20.5	14.2	6	81
	1/2	KQ2ZT09-37□P	28.57	13.2	17.6	21.2	30.2	73	62.6	14.2	15.9	13.2	20.5	14.2	6	130.9
ø3/8	1/4	KQ2ZT11-35□P	22	15.4	20.6	23.6	26.1	77.3	69.2	15.6	19.2	15.4	23.4	19.3	7	96.2
	3/8	KQ2ZT11-36□P	22	15.4	20.6	23.6	26.1	77.3	69.2	15.6	19.2	15.4	23.4	19.3	7	96.2
	1/2	KQ2ZT11-37□P	28.57	15.4	20.6	23.6	31.4	82.6	72.2	15.6	19.2	15.4	23.4	19.3	7	96.3
ø1/2	3/8	KQ2ZT13-36□P	28.57	19.3	27	27.9	31	88.2	80.1	17	22.3	19.3	43.8	34.3	9.6	204.4
	1/2	KQ2ZT13-37□P	28.57	19.3	27	27.9	33.3	90.5	80.1	17	22.3	19.3	43.8	34.3	9.6	204.4

□: A (Brass), N (Brass + Electroless nickel plating)



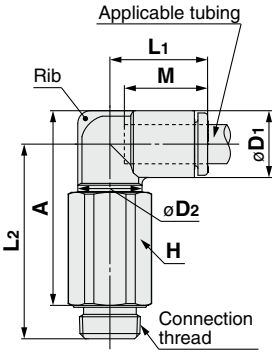
Dimensions

Extended Male Elbow: KQ2W (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²]		Min. port size	Weight [g]	With a rib
										Nylon	Urethane			
ø1/8	1/16	KQ2W01-33□P	11.11	7.1	10	14.5	33.2	31.4	13.3	2.8	2.4	2.5	14.3	—
	1/8	KQ2W01-34□P	12.7	7.1	10	14.5	30.3	28.5	13.3	2.8	2.4	2.5	18	—
	1/4	KQ2W01-35□P	17.46	7.1	10	14.5	33	28.5	13.3	2.8	2.4	2.5	39.9	—
ø5/32	1/16	KQ2W03-33□P	11.11	8.2	10	14.8	32.7	31.4	13.3	4	4	3	14.4	●
	1/8	KQ2W03-34□P	12.7	8.2	10	14.8	29.9	28.6	13.3	4	4	3	18.2	●
	1/4	KQ2W03-35□P	17.46	8.2	10	14.8	33.5	29.5	13.3	4	4	3	40.1	●
ø3/16	1/8	KQ2W05-34□P	12.7	9.1	10	15	30.4	29.5	13.3	6.8	5.6	3.5	18.4	—
	1/4	KQ2W05-35□P	17.46	9.1	10	15	34	30.5	13.3	6.8	5.6	3.5	40.3	—
ø1/4	1/16	KQ2W07-33□P	11.11	11.1	10	15.6	34.2	34.4	13.3	6.8	6.8	3.5	15	●
	1/8	KQ2W07-34□P	12.7	11.1	10	15.6	31.4	31.5	13.3	11.3	10	4.5	18.7	●
	1/4	KQ2W07-35□P	17.46	11.1	10	15.6	35	32.5	13.3	11.3	10	4.5	40.7	●
	3/8	KQ2W07-36□P	22	11.1	10	15.6	35.5	33	13.3	11.3	10	4.5	67.5	●
ø5/16	1/8	KQ2W09-34□P	12.7	13.2	10	16.4	32.4	33.6	14.2	11.3	11.3	4.5	19.5	●
	1/4	KQ2W09-35□P	17.46	13.2	12	17.2	37.1	35.6	14.2	20.5	14.2	6	38.9	●
	3/8	KQ2W09-36□P	22	13.2	12	17.2	38.6	37.1	14.2	20.5	14.2	6	69.6	●
ø3/8	1/4	KQ2W11-35□P	17.46	15.4	17	19.3	45.1	44.7	15.6	28.8	23.8	7.5	49.7	●
	3/8	KQ2W11-36□P	22	15.4	17	19.3	42	41.6	15.6	28.8	23.8	7.5	55.8	●
	1/2	KQ2W11-37□P	28.57	15.4	17	19.3	47.3	44.6	15.6	28.8	23.8	7.5	128.9	●
ø1/2	1/4	KQ2W13-35□P	17.46	19.3	17	21.5	47	48.6	17	50.3	44.4	9	52	—
	3/8	KQ2W13-36□P	22	19.3	17	21.8	47.9	49.5	17	56	44.4	9.5	86.7	—
	1/2	KQ2W13-37□P	28.57	19.3	17	21.8	53	52.3	17	56	44.4	9.5	168	—

□: A (Brass), N (Brass + Electroless nickel plating)

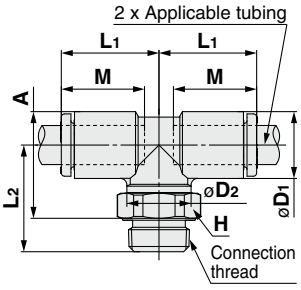


Male Branch Tee: KQ2T (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²]		Min. port size	Weight [g]
										Nylon	Urethane		
ø1/8	1/16	KQ2T01-33□P	11.11	7.1	10	14.5	21.5	19.7	13.3	3.4	2.9	2.5	7.7
	1/8	KQ2T01-34□P	12.7	7.1	10	14.5	16.6	14.8	13.3	3.4	2.9	2.5	6.7
	1/4	KQ2T01-35□P	17.46	7.1	10	14.5	21.3	16.8	13.3	3.4	2.9	2.5	18.9
ø5/32	1/16	KQ2T03-33□P	11.11	8.2	10	14.8	21.1	19.8	13.3	6	4.1	3	16.3
	1/8	KQ2T03-34□P	12.7	8.2	10	14.8	16.2	14.9	13.3	6	4.1	3	7
	1/4	KQ2T03-35□P	17.46	8.2	10	14.8	21.9	17.9	13.3	6	4.1	3	19.2
ø3/16	1/8	KQ2T05-34□P	12.7	9.1	10	15	16.7	15.8	13.3	8.4	7	3.5	7.3
	1/4	KQ2T05-35□P	17.46	9.1	10	15	22.4	18.8	13.3	8.4	7	3.5	19.5
ø1/4	1/16	KQ2T07-33□P	11.11	11.1	10	15.6	22.6	22.7	13.3	8.5	8.5	3.5	9.1
	1/8	KQ2T07-34□P	12.7	11.1	10	15.6	17.7	17.8	13.3	14	12.4	4.5	7.9
	1/4	KQ2T07-35□P	17.46	11.1	10	15.6	23.4	20.8	13.3	14	12.4	4.5	20.2
	3/8	KQ2T07-36□P	22	11.1	10	15.6	23.9	21.3	13.3	14	12.4	4.5	33.7
ø5/16	1/8	KQ2T09-34□P	12.7	13.2	10	16.4	18.7	19.9	14.2	14	14	4.5	9.4
	1/4	KQ2T09-35□P	17.46	13.2	12	17.2	23.4	21.9	14.2	26.3	18.2	6	17.4
	3/8	KQ2T09-36□P	22	13.2	12	17.2	24.9	23.4	14.2	26.3	18.2	6	32.5
ø3/8	1/8	KQ2T11-34□P	12.7	15.4	12	18.6	22.1	24.4	15.6	21.2	21.2	6	13.3
	1/4	KQ2T11-35□P	17.46	15.4	17	19.3	25.3	24.9	15.6	28.8	23.8	7.5	20.5
	3/8	KQ2T11-36□P	22	15.4	17	19.3	26	25.6	15.6	28.8	23.8	7.5	21.4
	1/2	KQ2T11-37□P	28.57	15.4	17	19.3	31.3	28.6	15.6	28.8	23.8	7.5	56.4
ø1/2	1/4	KQ2T13-35□P	17.46	19.3	17	21.5	27.2	28.8	17	57.3	50.6	9	24.5
	3/8	KQ2T13-36□P	22	19.3	17	21.8	28.1	29.7	17	63.8	50.6	9.5	38.9
	1/2	KQ2T13-37□P	28.57	19.3	17	21.8	33.2	32.5	17	63.8	50.6	9.5	80.6

□: A (Brass), N (Brass + Electroless nickel plating)



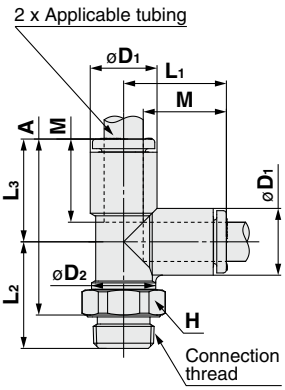
Dimensions

Male Run Tee: KQ2Y (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/16	KQ2Y01-33□P	11.11	7.1	10	14.9	21.5	14.9	31.1	13.3	3.4	2.9	2.5	15.8
	1/8	KQ2Y01-34□P	12.7	7.1	10	14.9	16.6	14.9	26.2	13.3	3.4	2.9	2.5	6.7
	1/4	KQ2Y01-35□P	17.46	7.1	10	14.9	21.3	14.9	28.2	13.3	3.4	2.9	2.5	18.9
ø5/32	1/16	KQ2Y03-33□P	11.11	8.2	10	15.3	21.1	15.3	31	13.3	6.4	4.4	3	16.4
	1/8	KQ2Y03-34□P	12.7	8.2	10	15.3	16.2	15.3	26.1	13.3	6.4	4.4	3	7
	1/4	KQ2Y03-35□P	17.46	8.2	10	15.3	21.9	15.3	29.1	13.3	6.4	4.4	3	19.2
ø3/16	1/8	KQ2Y05-34□P	12.7	9.1	10	15.7	16.7	15.7	27	13.3	8.4	7	3.5	7.3
	1/4	KQ2Y05-35□P	17.46	9.1	10	15.7	22.4	15.7	30	13.3	8.4	7	3.5	19.6
ø1/4	1/16	KQ2Y07-33□P	11.11	11.1	10	16.5	22.6	16.5	33.7	13.3	8.5	8.5	3.5	9.2
	1/8	KQ2Y07-34□P	12.7	11.1	10	16.5	17.7	16.5	28.8	13.3	14	12.4	4.5	8
	1/4	KQ2Y07-35□P	17.46	11.1	10	16.5	23.4	16.5	31.8	13.3	14	12.4	4.5	20.2
	3/8	KQ2Y07-36□P	22	11.1	10	16.5	23.9	16.5	32.3	13.3	14	12.4	4.5	33.7
ø5/16	1/8	KQ2Y09-34□P	12.7	13.2	10	18.2	18.7	18.2	31.5	14.2	14	14	4.5	9.4
	1/4	KQ2Y09-35□P	17.46	13.2	12	18.2	23.4	18.2	33.5	14.2	25.6	17.7	6	17.5
	3/8	KQ2Y09-36□P	22	13.2	12	18.2	24.9	18.2	35	14.2	25.6	17.7	6	32.6
ø3/8	1/4	KQ2Y11-35□P	17.46	15.4	17	20.4	25.3	20.4	37.6	15.6	28.8	23.8	7.5	20.7
	3/8	KQ2Y11-36□P	22	15.4	17	20.4	26	20.4	38.3	15.6	28.8	23.8	7.5	21.5
	1/2	KQ2Y11-37□P	28.57	15.4	17	20.4	31.3	20.4	41.3	15.6	28.8	23.8	7.5	56.5
ø1/2	1/4	KQ2Y13-35□P	17.46	19.3	17	23.4	27.2	23.4	42.5	17	57.3	50.6	9	24.9
	3/8	KQ2Y13-36□P	22	19.3	17	23.4	28.1	23.4	43.4	17	63.8	50.6	9.5	39.1
	1/2	KQ2Y13-37□P	28.57	19.3	17	23.4	33.2	23.4	46.2	17	63.8	50.6	9.5	80.8

□: A (Brass), N (Brass + Electroless nickel plating)

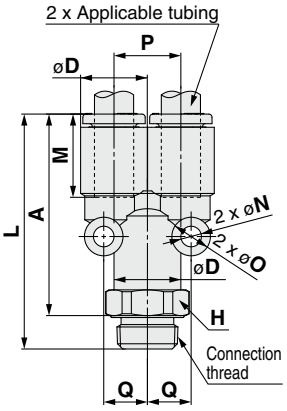


Branch "Y": KQ2U (Face seal)



Applicable tubing O.D. [inch]	Connection thread NPT	Model	H (Width across flats)	øD	L	P	A	M	Q	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/16	KQ2U01-33□P	11.11	7.1	35.9	7.1	30.5	13.3	5.2	6	3.2	7.1	3.4	2.9	2.5	7.2
	1/8	KQ2U01-34□P	12.7	7.1	35.9	7.1	30.5	13.3	5.2	6	3.2	7.1	3.4	2.9	2.7	9.8
	1/4	KQ2U01-35□P	17.46	7.1	39.6	7.1	31.5	13.3	5.2	6	3.2	7.1	3.4	2.9	2.7	20.3
ø5/32	1/16	KQ2U03-33□P	11.11	8.2	36	8.2	30.6	13.3	5.7	6	3.2	8.2	4.2	4.2	3.6	7.5
	1/8	KQ2U03-34□P	12.7	8.2	36	8.2	30.6	13.3	5.7	6	3.2	8.2	4.2	4.2	3.6	10.1
	1/4	KQ2U03-35□P	17.46	8.2	39.7	8.2	31.6	13.3	5.7	6	3.2	8.2	4.2	4.2	3.6	20.5
ø3/16	1/8	KQ2U05-34□P	12.7	9.1	36.6	9.1	31.2	13.3	6.2	6	3.2	9.1	8.4	7	4.1	10.6
	1/4	KQ2U05-35□P	17.46	9.1	40.3	9.1	32.2	13.3	6.2	6	3.2	9.1	8.4	7	4.1	20.9
ø1/4	1/16	KQ2U07-33□P	12.7	11.1	37.3	11.1	31.9	13.3	7.6	8	4	11.1	8.5	8.5	3.5	12.2
	1/8	KQ2U07-34□P	12.7	11.1	37.3	11.1	31.9	13.3	7.6	8	4	11.1	14.4	12.4	5.6	11.7
	1/4	KQ2U07-35□P	17.46	11.1	41	11.1	32.9	13.3	7.6	8	4	11.1	14.4	12.4	5.6	21.6
	3/8	KQ2U07-36□P	22	11.1	40.5	11.1	32.4	13.3	7.6	8	4	11.1	14.4	12.4	5.6	30.6
ø5/16	1/8	KQ2U09-34□P	14.29	13.2	40.2	13.2	34.8	14.2	8.7	8	4.2	13.2	25.6	17.7	6	16.3
	1/4	KQ2U09-35□P	17.46	13.2	43.9	13.2	35.8	14.2	8.7	8	4.2	13.2	25.6	17.7	7.3	22.6
	3/8	KQ2U09-36□P	22	13.2	43.4	13.2	35.3	14.2	8.7	8	4.2	13.2	25.6	17.7	7.3	31.5
ø3/8	1/4	KQ2U11-35□P	17.46	15.4	47.4	15.4	39.3	15.6	9.9	8	4.2	15.4	28.8	23.8	8.9	23.8
	3/8	KQ2U11-36□P	22	15.4	46.9	15.4	38.8	15.6	9.9	8	4.2	15.4	28.8	23.8	8.9	32.9
	1/2	KQ2U11-37□P	28.57	15.4	48.7	15.4	38.3	15.6	9.9	8	4.2	15.4	28.8	23.8	8.9	53.2
ø1/2	1/4	KQ2U13-35□P	22	19.3	52.2	19.3	44.1	17	11.8	8	4.2	19.3	57.3	50.6	9	41.4
	3/8	KQ2U13-36□P	22	19.3	51.7	19.3	43.6	17	11.8	8	4.2	19.3	64.6	50.6	11	39
	1/2	KQ2U13-37□P	28.57	19.3	53.5	19.3	43.1	17	11.8	8	4.2	19.3	64.6	50.6	12.1	54.8

□: A (Brass), N (Brass + Electroless nickel plating)



Inch Size One-touch Fittings

Applicable Tubing: Inch Size, Connection Thread: R

KQ2 Series

Guide

Chuck

Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

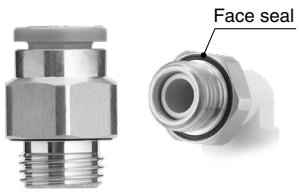
Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

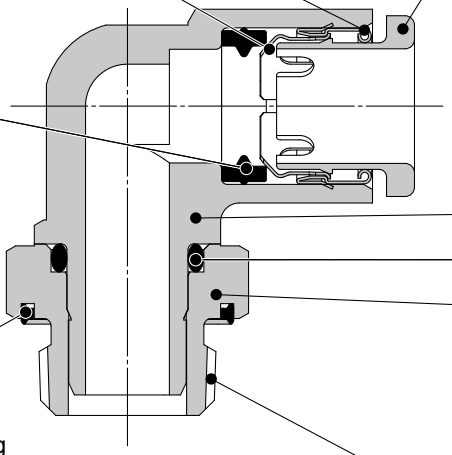
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Face seal method

Seal ring

Piping installability is improved by changing to the face seal structure.





Release button

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

O-ring

Stud

Effective when piping in a confined space.

Body part rotates allowing for positioning.

Connection thread

R

One-touch IN/OUT connection. Possible to use in vacuum to –100 kPa.

Drastically reduces screw-in time with the face seal method.

Original thread construction which allows for the use of piping taper female thread (Rc)



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø1/8", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2"

Specifications

Fluid		Air, Water*1 *2
Operating pressure range*3		–100 kPa to 1 MPa
Proof pressure (at 23°C)		3 MPa
Ambient and fluid temperature		–5 to 60°C, Water: 0 to 40°C (No freezing)
Thread	**Mounting section**	JIS B0203 (Taper thread for piping) JIS B0205 (Metric coarse thread)
	Nut section	JIS B0205 (Metric fine thread)
Seal on the threads		Seal ring

*1 The surge pressure must be under the maximum operating pressure.

*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring, Seal ring	NBR

How to Order

Threaded Type **KQ2 H 05 – 01 A P**

One-touch fittings

Model

Symbol	Model
H	Male connector
L	Male elbow
T	Male branch tee
W	Extended male elbow
Y	Male run tee
U	Branch "Y"

Applicable tubing O.D.

Symbol	Size
01	ø1/8"
05	ø3/16"
07	ø1/4"
09	ø5/16"
11	ø3/8"
13	ø1/2"

Port size

Symbol	Size
01	R1/8
02	R1/4
03	R3/8
04	R1/2

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

Face seal

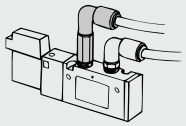
For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Round Type Variations

Extended male elbow
KQ2W P.198



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.



Male connector
KQ2H P.198



Use to pipe a female thread in the same direction. Most general model.

Male branch tee
KQ2T P.199



Use to branch a female thread at both 90° angles.

Branch "Y"
KQ2U P.199



Use to branch a female thread in the same direction.

Male elbow
KQ2L P.198



Use to pipe a female thread at right angles. Most general model.

Male run tee
KQ2Y P.199



Use to branch a female thread in the same direction and at a 90° angle.

Tubing – One-touch fittings	Tubing – Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

Refer to page 135 and after for details.

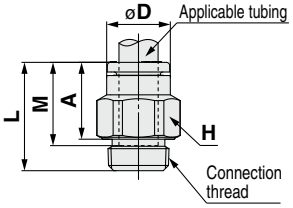
Dimensions

Male Connector: KQ2H (Face seal)



Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD	L	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	**KQ2H01-01□P**	12	6.7	14.1	8.9	13.3	3.4	2.9	2.5	6.3
	1/4	**KQ2H01-02□P**	17	6.7	15	7.4	13.3	3.4	2.9	2.5	15.1
ø3/16	1/8	**KQ2H05-01□P**	12	8.3	16.7	11.5	13.3	7.8	6.5	3.5	6.8
	1/4	**KQ2H05-02□P**	17	8.3	15	7.4	13.3	7.8	6.5	3.5	13.9
ø1/4	1/8	**KQ2H07-01□P**	12	10.9	19.4	14.2	13.3	13.5	11.5	4.6	8.2
	1/4	**KQ2H07-02□P**	17	10.9	15	7.4	13.3	13.5	11.5	4.6	12.2
	3/8	**KQ2H07-03□P**	21	10.9	14.5	6.9	13.3	13.5	11.5	4.6	20.4
ø5/16	1/8	**KQ2H09-01□P**	14	13	21.1	15.9	14.2	26.1	18	6	11.8
	1/4	**KQ2H09-02□P**	17	13	19.9	12.3	14.2	26.1	18	6	13.9
	3/8	**KQ2H09-03□P**	21	13	15.2	7.6	14.2	26.1	18	6	19.6
ø3/8	1/4	**KQ2H11-02□P**	17	15.1	23.9	16.3	15.6	35.3	29.1	7	18
	3/8	**KQ2H11-03□P**	21	15.1	21.2	13.6	15.6	35.3	29.1	7	24.3
	1/2	**KQ2H11-04□P**	27	15.1	18.8	8.4	15.6	35.3	29.1	7	42
ø1/2	1/4	**KQ2H13-02□P**	19	19	26.8	19.2	17	58.5	51.7	9	21.3
	3/8	**KQ2H13-03□P**	21	19	25.6	18	17	66.0	51.7	9.6	28.9
	1/2	**KQ2H13-04□P**	27	19	26.5	16.1	17	66.0	51.7	9.6	50.9

□: A (Brass), N (Brass + Electroless nickel plating)

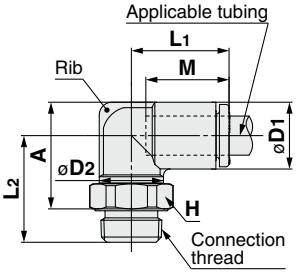


Male Elbow: KQ2L (Face seal)



Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3/16	1/8	**KQ2L05-01□P**	12	9.1	10	15	16.0	15.3	13.3	6.8	5.6	3.5	5.4	—
	1/4	**KQ2L05-02□P**	17	9.1	10	15	20.4	17.3	13.3	6.8	5.6	3.5	14.7	—
ø1/4	1/8	**KQ2L07-01□P**	12	11.1	10	15.6	17.0	17.3	13.3	11.3	10	4.5	5.8	●
	1/4	**KQ2L07-02□P**	17	11.1	10	15.6	21.4	19.3	13.3	11.3	10	4.5	15	●
	3/8	**KQ2L07-03□P**	21	11.1	10	15.6	23.4	21.3	13.3	11.3	10	4.5	30.3	●
ø5/16	1/8	**KQ2L09-01□P**	12	13.2	10	16.4	18.0	19.4	14.2	11.4	11.4	4.5	6.5	●
	1/4	**KQ2L09-02□P**	17	13.2	12	17.2	22.4	21.4	14.2	21.6	14.9	6	13.7	●
	3/8	**KQ2L09-03□P**	21	13.2	12	17.2	24.4	23.4	14.2	21.6	14.9	6	28.7	●
ø3/8	1/4	**KQ2L11-02□P**	17	15.4	17	19.3	25.5	25.5	15.6	28.8	23.8	7.5	17.7	●
	3/8	**KQ2L11-03□P**	21	15.4	17	19.3	25.6	25.6	15.6	28.8	23.8	7.5	17.6	●
	1/2	**KQ2L11-04□P**	27	15.4	17	19.3	30.4	27.6	15.6	28.8	23.8	7.5	44.8	●
ø1/2	1/4	**KQ2L13-02□P**	17	19.3	17	21.5	27.4	29.4	17	50.3	44.4	9	20	—
	3/8	**KQ2L13-03□P**	21	19.3	17	21.8	27.7	29.7	17	56.7	44.4	9.5	32.6	—
	1/2	**KQ2L13-04□P**	27	19.3	17	21.8	32.3	31.5	17	56.7	44.4	9.5	64.5	—

□: A (Brass), N (Brass + Electroless nickel plating)

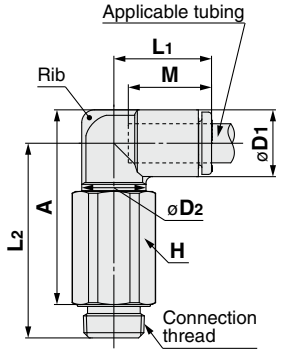


Extended Male Elbow: KQ2W (Face seal)



Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø3/16	1/8	**KQ2W05-01□P**	12	9.1	10	15	29.7	29	13.3	6.8	5.6	3.5	15.7	—
	1/4	**KQ2W05-02□P**	17	9.1	10	15	32	29	13.3	6.8	5.6	3.5	35.1	—
ø1/4	1/8	**KQ2W07-01□P**	12	11.1	10	15.6	30.7	31	13.3	11.6	10.0	4.5	16	●
	1/4	**KQ2W07-02□P**	17	11.1	10	15.6	33	31	13.3	11.6	10.0	4.5	35.4	●
	3/8	**KQ2W07-03□P**	21	11.1	10	15.6	35	33	13.3	11.6	10.0	4.5	62.8	●
ø5/16	1/8	**KQ2W09-01□P**	12	13.2	10	16.4	31.7	33.1	14.2	11.6	11.6	4.5	16.7	●
	1/4	**KQ2W09-02□P**	17	13.2	12	17.2	36.1	35.1	14.2	21.5	14.9	6	35.4	●
	3/8	**KQ2W09-03□P**	21	13.2	12	17.2	38.1	37.1	14.2	21.5	14.9	6	64.7	●
ø3/8	1/4	**KQ2W11-02□P**	17	15.4	17	19.3	49.9	50	15.6	28.8	23.8	7	54.1	●
	3/8	**KQ2W11-03□P**	21	15.4	17	19.3	44.5	44.6	15.6	28.8	23.8	7	57.5	●
	1/2	**KQ2W11-04□P**	27	15.4	17	19.3	49.3	46.6	15.6	28.8	23.8	7	122.5	●
ø1/2	1/4	**KQ2W13-02□P**	17	19.3	17	21.5	51.8	53.9	17	56.7	44.4	9	56.4	—
	3/8	**KQ2W13-03□P**	21	19.3	17	21.8	47.4	49.5	17	56.7	44.4	9.5	81.6	—
	1/2	**KQ2W13-04□P**	27	19.3	17	21.8	52	51.3	17	56.7	44.4	9.5	143.9	—

□: A (Brass), N (Brass + Electroless nickel plating)



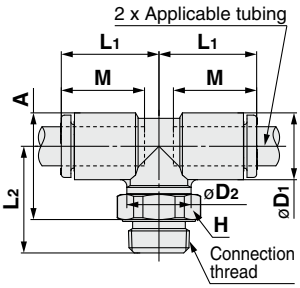
Dimensions

Male Branch Tee: KQ2T (Face seal)



Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	KQ2T05-01□P	12	9.1	10	15	16	15.3	13.3	8.4	7.0	3.5	6.2
	1/4	KQ2T05-02□P	17	9.1	10	15	20.4	17.3	13.3	8.4	7.0	3.5	15.5
ø1/4	1/8	KQ2T07-01□P	12	11.1	10	15.6	17	17.3	13.3	14.4	12.4	4.5	6.9
	1/4	KQ2T07-02□P	17	11.1	10	15.6	21.4	19.3	13.3	14.4	12.4	4.5	16.2
	3/8	KQ2T07-03□P	21	11.1	10	15.6	23.4	21.3	13.3	14.4	12.4	4.5	31.5
ø5/16	1/8	KQ2T09-01□P	12	13.2	10	16.4	18	19.4	14.2	14.4	14.4	4.5	8.3
	1/4	KQ2T09-02□P	17	13.2	12	17.2	22.4	21.4	14.2	26.3	18.2	6	15.5
	3/8	KQ2T09-03□P	21	13.2	12	17.2	24.4	23.4	14.2	26.3	18.2	6	30.4
ø3/8	1/4	KQ2T11-02□P	17	15.4	17	19.3	25.4	25.5	15.6	28.8	23.8	7.5	20.1
	3/8	KQ2T11-03□P	21	15.4	17	19.3	25.5	25.6	15.6	28.8	23.8	7.5	20
	1/2	KQ2T11-04□P	27	15.4	17	19.3	30.3	27.6	15.6	28.8	23.8	7.5	47.3
ø1/2	1/4	KQ2T13-02□P	17	19.3	17	21.5	27.3	29.4	17	57.3	50.6	9	24.1
	3/8	KQ2T13-03□P	21	19.3	17	21.8	27.6	29.7	17	63.8	50.6	9.5	36.7
	1/2	KQ2T13-04□P	27	19.3	17	21.8	32.2	31.5	17	63.8	50.6	9.5	68.7

□: A (Brass), N (Brass + Electroless nickel plating)

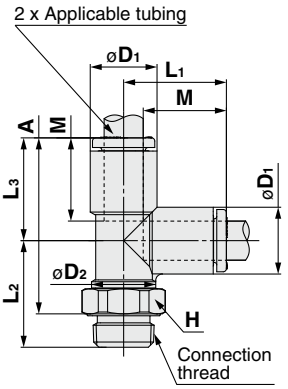


Male Run Tee: KQ2Y (Face seal)



Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	KQ2Y05-01□P	12	9.1	10	15.7	16	15.7	26.5	13.3	8.4	7.0	3.5	6.3
	1/4	KQ2Y05-02□P	17	9.1	10	15.7	20.4	15.7	28.5	13.3	8.4	7.0	3.5	15.6
ø1/4	1/8	KQ2Y07-01□P	12	11.1	10	16.5	17	16.5	28.3	13.3	14.0	12.4	4.5	6.9
	1/4	KQ2Y07-02□P	17	11.1	10	16.5	21.4	16.5	30.3	13.3	14.0	12.4	4.5	16.2
	3/8	KQ2Y07-03□P	21	11.1	10	16.5	23.4	16.5	32.3	13.3	14.0	12.4	4.5	31.5
ø5/16	1/8	KQ2Y09-01□P	12	13.2	10	18.2	18	18.2	31	14.2	14.0	14.0	4.5	8.4
	1/4	KQ2Y09-02□P	17	13.2	12	18.2	22.4	18.2	33	14.2	26.3	18.3	6	15.6
	3/8	KQ2Y09-03□P	21	13.2	12	18.2	24.4	18.2	35	14.2	26.3	18.3	6	30.5
ø3/8	1/4	KQ2Y11-02□P	17	15.4	17	20.4	25.4	20.4	38.2	15.6	28.8	23.8	7.5	20.2
	3/8	KQ2Y11-03□P	21	15.4	17	20.4	25.5	20.4	38.3	15.6	28.8	23.8	7.5	20.1
	1/2	KQ2Y11-04□P	27	15.4	17	20.4	30.3	20.4	40.3	15.6	28.8	23.8	7.5	47.4
ø1/2	1/4	KQ2Y13-02□P	17	19.3	17	23.4	27.3	23.4	43.1	17	57.3	50.6	9	24.4
	3/8	KQ2Y13-03□P	21	19.3	17	23.4	27.6	23.4	43.4	17	64.6	50.6	9.5	37
	1/2	KQ2Y13-04□P	27	19.3	17	23.4	32.2	23.4	45.2	17	64.6	50.6	9.5	68.9

□: A (Brass), N (Brass + Electroless nickel plating)

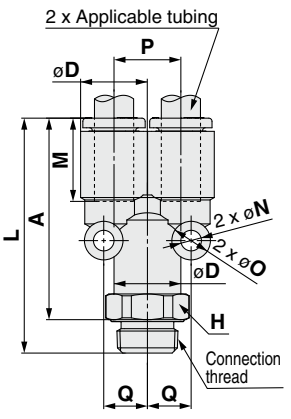


Branch "Y": KQ2U (Face seal)



Applicable tubing O.D. [inch]	Connection thread R	Model	H (Width across flats)	øD	L	P	A	M	Q	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø3/16	1/8	KQ2U05-01□P	12	9.1	36.4	9.1	31.2	13.3	6.2	6	3.2	9.1	8.4	7.0	4.1	9.8
	1/4	KQ2U05-02□P	17	9.1	39.8	9.1	32.2	13.3	6.2	6	3.2	9.1	8.4	7.0	4.1	19.6
ø1/4	1/8	KQ2U07-01□P	14	11.1	37.1	11.1	31.9	13.3	7.6	8	4	11.1	14.4	12.4	5.6	12.3
	1/4	KQ2U07-02□P	17	11.1	40.5	11.1	32.9	13.3	7.6	8	4	11.1	14.4	12.4	5.6	20.4
	3/8	KQ2U07-03□P	21	11.1	40	11.1	32.4	13.3	7.6	8	4	11.1	14.4	12.4	5.6	28.7
ø5/16	1/8	KQ2U09-01□P	14	13.2	40	13.2	34.8	14.2	8.7	8	4.2	13.2	26.3	18.3	6	15.8
	1/4	KQ2U09-02□P	17	13.2	43.4	13.2	35.8	14.2	8.7	8	4.2	13.2	26.3	18.3	7.3	21.4
	3/8	KQ2U09-03□P	21	13.2	42.9	13.2	35.3	14.2	8.7	8	4.2	13.2	26.3	18.3	7.3	29.8
ø3/8	1/4	KQ2U11-02□P	17	15.4	46.9	15.4	39.3	15.6	9.9	8	4.2	15.4	28.8	23.8	8.9	22.8
	3/8	KQ2U11-03□P	21	15.4	46.4	15.4	38.8	15.6	9.9	8	4.2	15.4	28.8	23.8	8.9	31.3
	1/2	KQ2U11-04□P	27	15.4	48.7	15.4	38.3	15.6	9.9	8	4.2	15.4	28.8	23.8	8.9	49.6
ø1/2	1/4	KQ2U13-02□P	21	19.3	51.2	19.3	43.6	17	11.8	8	4.2	19.3	57.3	50.6	9	38.8
	3/8	KQ2U13-03□P	21	19.3	51.2	19.3	43.6	17	11.8	8	4.2	19.3	64.6	50.6	11	37.6
	1/2	KQ2U13-04□P	27	19.3	53.5	19.3	43.1	17	11.8	8	4.2	19.3	64.6	50.6	12.1	51.3

□: A (Brass), N (Brass + Electroless nickel plating)



Metric Size Uni One-touch Fittings

Applicable Tubing: Metric Size, Connection Thread: Rc, G, NPT, NPTF

KQ2 Series

Guide

Chuck

Suitable for use with nylon and urethane. Large retaining force.

The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

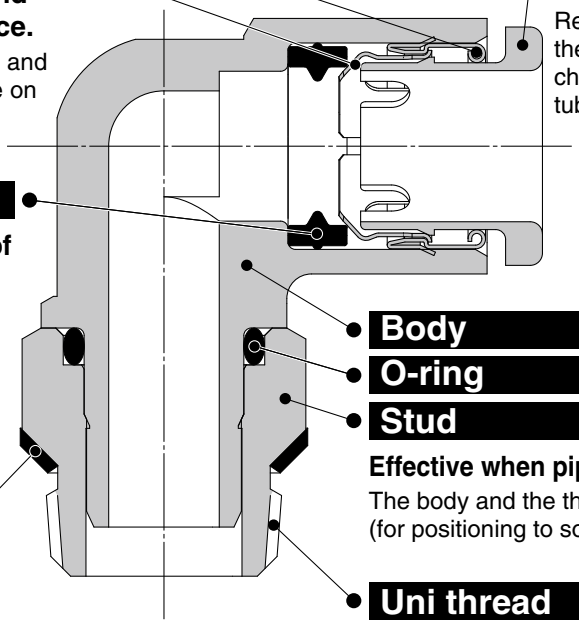
The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Gasket

Release button (Light gray)

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.



Body

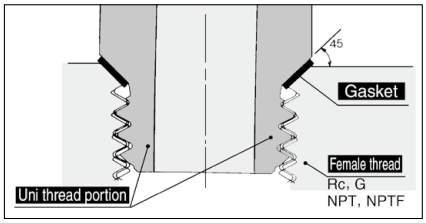
O-ring

Stud

Effective when piping in a confined space.

The body and the threaded portion can rotate (for positioning to some extent).

Uni thread



Uni thread ridge shape

A gasket made of a stainless sheet covered with laminated NBR on both sides is seated on the chamfer of a female thread for a perfect sealing construction irrespective of the difference in thread diameters due to the difference in the types of female threads, variation in tolerance, or difference in the size of chamfer. (It is applicable to any female thread with an ordinary chamfer.)

A ridge shape has been created as a Uni thread for common applications for Rc, G, NPT and NPTF.

Drastically cuts piping work-hours with the gasket seal method.



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø4, ø6, ø8, ø10, ø12, ø16

Specifications

Fluid	Air, Water*1 *2
Operating pressure range*3	−100 kPa to 1 MPa
Proof pressure (at 23°C)	3 MPa
Ambient and fluid temperature	−5 to 60°C, Water: 0 to 40°C (No freezing)

*1 The surge pressure must be under the maximum operating pressure.

*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR

Made to Order

Made to Order

(Refer to page 207 for details.)

How to Order

Threaded Type

KQ2 H 06 – U01 A

One-touch fittings

Model

Symbol	Model
H	Male connector
S	Hexagon socket head male connector
L	Male elbow
K	45° male elbow
V	Universal male elbow
T	Male branch tee
W	Extended male elbow
Y	Male run tee
U	Branch "Y"

Applicable tubing O.D.

Symbol	Size
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
16	ø16

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

Port size

Symbol		Size
Thread connection	**U01**	Uni1/8
	U02	Uni1/4
	U03	Uni3/8
	U04	Uni1/2

For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Spare Parts

How to Order Gasket

KQG – U01

Gasket for Uni One-touch fittings

Applicable port size

Symbol	Size
U01	Uni1/8
U02	Uni1/4
U03	Uni3/8
U04	Uni1/2

Round Type Variations

Hexagon socket head male connector
KQ2S P.204



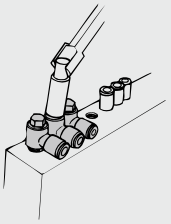
Internal hexagon socket allows tightening with a hexagon wrench in confined spaces.



Universal male elbow
KQ2V P.205



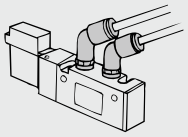
Hexagon head of the body allows tightening with a box wrench in confined spaces.



45° male elbow
KQ2K P.205



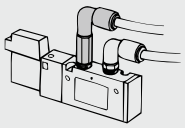
Use to pipe a female thread at a 45° angle. Its direction is in-between that of the male connector and male elbow.



Extended male elbow
KQ2W P.205



Basically, it is used together with a male elbow.
Its extended height allows for multi-leveled piping and prevents interference among fittings.



Male connector
KQ2H P.204



Use to pipe a female thread in the same direction. Most general model.

Male elbow
KQ2L P.204



Use to pipe a female thread at right angles. Most general model.

Male branch tee
KQ2T P.206



Use to branch a female thread at both 90° angles.

Branch "Y"
KQ2U P.206



Use to branch a female thread in the same direction.

Male run tee
KQ2Y P.206



Use to branch a female thread in the same direction and at a 90° angle.

Tubing — One-touch fittings	Tubing — Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

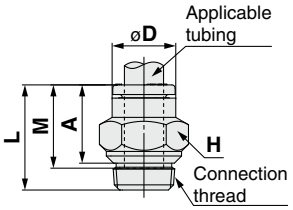
Refer to page 103 and after for details.

Dimensions

Male Connector: KQ2H (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD	L	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2H04-U01□	10	7.7	15.9	11.1	13.3	4.8	3.4	3	6.6
	1/4	KQ2H04-U02□	14	7.7	15.3	8.9	13.3	4.8	3.4	3	12.7
ø6	1/8	KQ2H06-U01□	12	9.7	16.7	11.9	13.3	13.1	10.4	4.5	6.2
	1/4	KQ2H06-U02□	14	9.7	17	10.6	13.3	13.1	10.4	4.5	12.8
	3/8	KQ2H06-U03□	17	9.7	14.9	8.5	13.3	13.1	10.4	4.5	18.1
ø8	1/8	KQ2H08-U01□	14	13	20.6	15.8	14.2	26.1	18	6	7
	1/4	KQ2H08-U02□	14	13	18.5	12.1	14.2	26.1	18	6	10.1
	3/8	KQ2H08-U03□	17	13	14.9	8.5	14.2	26.1	18	6	15
ø10	1/8	KQ2H10-U01□	17	15.6	22.4	17.6	15.6	26.1	18	6	13.9
	1/4	KQ2H10-U02□	17	15.6	23.7	17.3	15.6	41.5	29.5	7.5	17.6
	3/8	KQ2H10-U03□	17	15.6	19.5	13.1	15.6	41.5	29.5	7.5	15.6
	1/2	KQ2H10-U04□	22	15.6	17	8.4	15.6	41.5	29.5	7.5	29.5
ø12	1/4	KQ2H12-U02□	19	18.2	24.8	18.4	17	58.3	46.1	9	13.8
	3/8	KQ2H12-U03□	19	18.2	21.8	15.4	17	58.3	46.1	9	17.9
	1/2	KQ2H12-U04□	22	18.2	17.7	9.1	17	58.3	46.1	9	25.4
ø16	3/8	KQ2H16-U03□	24	23.6	29.2	22.8	20.6	81	67	11	33.9
	1/2	KQ2H16-U04□	24	23.6	26.8	18.2	20.6	113	67	13	31.5



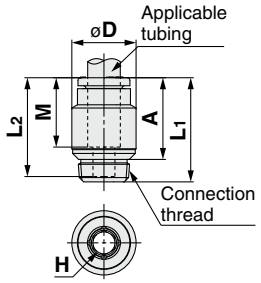
□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread

Hexagon Socket Head Male Connector: KQ2S (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2S04-U01□	3	10	20.6	19.6	15.8	13.3	4.1	3.6	3.1	8
ø6	1/8	KQ2S06-U01□	4	12	19.8	18.8	15	13.3	10	9.9	4.1	8.2
	1/4	KQ2S06-U02□	4	14	19.8	18.8	13.4	13.3	10.7	10	4.1	12.3
ø8	1/8	KQ2S08-U01□	5	14	20.7	19.7	15.9	14.2	17.2	16.2	5.1	9.4
	1/4	KQ2S08-U02□	6	14	20.5	19.5	14.1	14.2	23.3	16.2	6.1	10.9
	3/8	KQ2S08-U03□	6	17	20.7	19.7	14.3	14.2	23.3	16.2	6.1	19.8
ø10	1/8	KQ2S10-U01□	5	15.6	22.4	21.1	17.6	15.6	17.2	16.2	5.1	10.5
	1/4	KQ2S10-U02□	8	17	23.7	20.1	17.3	15.6	39	26.6	8.1	15.4
	3/8	KQ2S10-U03□	8	17	21.1	20.1	14.7	15.6	39	26.6	8.1	16.4
	1/2	KQ2S10-U04□	8	21	21.1	20.1	12.5	15.6	39	26.6	8.1	29.7
ø12	1/4	KQ2S12-U02□	8	18.2	27.8	21.5	21.4	17	46	44.5	8.1	20.7
	3/8	KQ2S12-U03□	10	18.2	22.8	21.8	16.4	17	60	44.5	10.1	16.1
	1/2	KQ2S12-U04□	10	21	22.8	21.8	14.2	17	60	44.5	10.1	28.1



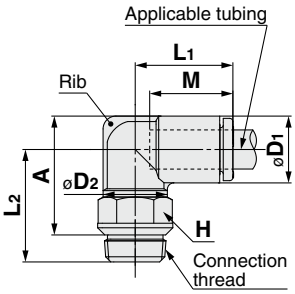
□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread

Male Elbow: KQ2L (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø4	1/8	KQ2L04-U01□	10	8.2	10	14.8	16.4	15.7	13.3	4.6	3.3	3	4.8	●
	1/4	KQ2L04-U02□	14	8.2	10	14.8	19.2	16.9	13.3	4.6	3.3	3	11.5	●
ø6	1/8	KQ2L06-U01□	10	10.4	10	15.5	17.5	17.9	13.3	11.4	9	4.5	5.3	—
	1/4	KQ2L06-U02□	14	10.4	10	15.5	20.3	19.1	13.3	11.4	9	4.5	12	—
	3/8	KQ2L06-U03□	17	10.4	10	15.5	21.4	20.2	13.3	11.4	9	4.5	21.4	—
ø8	1/8	KQ2L08-U01□	10	13.2	10	16.4	18.9	20.7	14.2	11.4	11.4	4.5	6.1	●
		KQ2L08-U01□Q *2	12	13.2	12	17.2	22.7	25.0	14.2	21.6	14.9	6	8.6	●
	1/4	KQ2L08-U02□	14	13.2	12	17.2	21.7	21.9	14.2	21.6	14.9	6	10.9	●
	3/8	KQ2L08-U03□	17	13.2	12	17.2	22.8	23.0	14.2	21.6	14.9	6	20.2	●
ø10	1/8	KQ2L10-U01□	14	15.9	12	18.6	21.5	24.6	15.6	21.6	14.9	6	12.3	●
	1/4	KQ2L10-U02□	17	15.9	17	19.3	24.3	25.8	15.6	35.2	25	7.5	16.9	●
	3/8	KQ2L10-U03□	17	15.9	17	19.3	26.9	28.4	15.6	35.2	25	7.5	17.9	●
	1/2	KQ2L10-U04□	22	15.9	17	19.3	34.5	33.8	15.6	35.2	25	7.5	48.2	●
ø12	1/4	KQ2L12-U02□	17	18.5	17	21.5	25.6	28.4	17	50.2	39.7	9	18.7	●
	3/8	KQ2L12-U03□	17	18.5	17	21.5	28.2	31.0	17	50.2	39.7	9	19.8	●
	1/2	KQ2L12-U04□	22	18.5	17	21.5	35.8	36.4	17	50.2	39.7	9	50	●
ø16	3/8	KQ2L16-U03□	22	23.8	21	27.1	32.4	37.9	20.6	71	58.9	11	37.4	—
	1/2	KQ2L16-U04□	22	23.8	21	27.1	35.0	38.3	20.6	100	58.9	13	47.9	—



□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread

*2 For details, refer to page 207.

Dimensions

45° Male Elbow: KQ2K (Gasket seal)

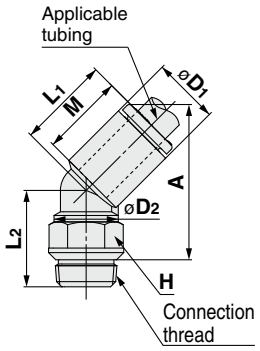


Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2K04-U01□	10	8.2	10	14.4	12.9	20.8	13.3	4.8	3.4	4.5	4.7
	1/4	KQ2K04-U02□	14	8.2	10	14.4	14.7	21	13.3	4.8	3.4	4.5	11.3
ø6	1/8	KQ2K06-U01□	10	10.4	10	14.7	15	23.8	13.3	8.7	6.9	4.5	5.1
	1/4	KQ2K06-U02□	14	10.4	10	14.7	16.8	24	13.3	8.7	6.9	4.5	11.7
	3/8	KQ2K06-U03□	17	10.4	10	14.7	17.9	25.1	13.3	8.7	6.9	4.5	21.2
ø8	1/8	KQ2K08-U01□	10	13.2	10	16	15.9	26.5	14.2	8.7	8.7	4.5	6
		KQ2K08-U01□Q *2	12	13.2	12	16	19.7	30.8	14.2	19.7	13.6	6	8.4
	1/4	KQ2K08-U02□	14	13.2	12	16	18.7	27.7	14.2	19.7	19.7	6	10.7
	3/8	KQ2K08-U03□	17	13.2	12	16	19.8	28.8	14.2	19.7	19.7	6	20
ø10	1/8	KQ2K10-U01□	14	15.9	12	18.2	19.4	32.4	15.6	30.9	23.2	6	12.2
	1/4	KQ2K10-U02□	17	15.9	17	17.6	24.7	35.7	15.6	30.9	23.2	7.5	17
	3/8	KQ2K10-U03□	17	15.9	17	17.6	21.6	32.6	15.6	30.9	23.2	7.5	17.4
	1/2	KQ2K10-U04□	22	15.9	17	17.6	29.2	38	15.6	30.9	23.2	7.5	47.7
ø12	1/4	KQ2K12-U02□	17	18.5	17	19.4	24.6	37.7	17	44.5	35.1	9	18.5
	3/8	KQ2K12-U03□	17	18.5	17	19.4	21.5	34.6	17	44.5	35.1	9	18.9
	1/2	KQ2K12-U04□	22	18.5	17	19.4	29.1	40	17	44.5	35.1	9	49.2

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread

*2 For details, refer to page 207.



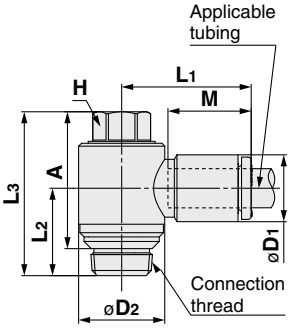
Universal Male Elbow: KQ2V (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2V04-U01□	8	8.2	13.4	19.3	13.6	25.5	20.7	13.3	2.9	2.9	4.5	13.5
ø6	1/8	KQ2V06-U01□	8	10.4	13.4	20.5	13.6	25.5	20.7	13.3	7.5	5.9	4.5	13.9
	1/4	KQ2V06-U02□	10	10.4	15.3	19.9	15.4	28	21.6	13.3	7.5	5.9	4.5	21.8
ø8	1/8	KQ2V08-U01□	12	13.2	17.6	23.5	15	27.5	22.7	14.2	16	11.2	6	23.7
	1/4	KQ2V08-U02□	12	13.2	17.6	23.5	17	29.5	23.1	14.2	16	11.2	6	28
	3/8	KQ2V08-U03□	14	13.2	20.6	23.1	18.2	34	27.6	14.2	20.5	14.3	7.5	43.1
ø10	1/4	KQ2V10-U02□	14	15.9	20.6	25.9	19	34	27.6	15.6	27	20.3	7.5	38.9
	3/8	KQ2V10-U03□	14	15.9	20.6	25.9	19	34	27.6	15.6	27	20.3	7.5	44.4
ø12	3/8	KQ2V12-U03□	17	18.5	25.2	28.5	20.2	36.4	30	17	39	30.8	9	60.5
	1/2	KQ2V12-U04□	17	18.5	25.2	28.5	22.9	39.1	30.5	17	39	30.8	9	74.5

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread



Extended Male Elbow: KQ2W (Gasket seal)

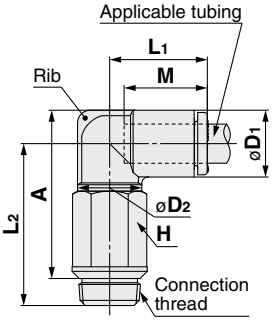


Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø4	1/8	KQ2W04-U01□	10	8.2	10	14.8	24.1	23.4	13.3	4	4	3	8.3	●
	1/4	KQ2W04-U02□	14	8.2	10	14.8	30.1	27.8	13.3	4	4	3	23.9	●
ø6	1/8	KQ2W06-U01□	10	10.4	10	15.5	31.2	31.6	13.3	10.9	8.6	4.5	11.5	—
	1/4	KQ2W06-U02□	14	10.4	10	15.5	31.2	30	13.3	10.9	8.6	4.5	24.3	—
	3/8	KQ2W06-U03□	17	10.4	10	15.5	32.3	31.1	13.3	10.9	8.6	4.5	41	—
ø8	1/8	KQ2W08-U01□	10	13.2	10	16.4	32.6	34.4	14.2	10.9	10.9	4.5	12.3	●
		KQ2W08-U01□Q *2	12	13.2	12	17.2	43.6	45.4	14.2	20.5	14.2	6	24.7	●
	1/4	KQ2W08-U02□	14	13.2	12	17.2	35.4	35.6	14.2	20.5	14.2	6	24.1	●
	3/8	KQ2W08-U03□	17	13.2	12	17.2	36.5	36.7	14.2	20.5	14.2	6	42.5	●
ø10	1/4	KQ2W10-U02□	17	15.9	17	19.3	48.5	50.1	15.6	33.5	23.8	7.5	54.2	●
	3/8	KQ2W10-U03□	17	15.9	17	19.3	45.8	47.4	15.6	33.5	23.8	7.5	47	●
	1/2	KQ2W10-U04□	22	15.9	17	19.3	53.4	52.8	15.6	33.5	23.8	7.5	95.5	●
ø12	1/4	KQ2W12-U02□	17	18.5	17	21.5	49.8	52.7	17	47.7	37.7	9	55.9	●
	3/8	KQ2W12-U03□	17	18.5	17	21.5	47.1	50	17	47.7	37.7	9	48.9	●
	1/2	KQ2W12-U04□	22	18.5	17	21.5	54.7	55.4	17	47.7	37.7	9	97.4	●

□: A (Brass), N (Brass + Electroless nickel plating)

*1 Reference dimensions after installation of Uni thread

*2 For details, refer to page 207.



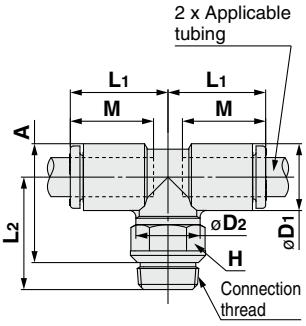
Dimensions

Male Branch Tee: KQ2T (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2T04-U01□	10	8.2	10	14.8	16.4	15.7	13.3	6	4.1	3	5.5
	1/4	KQ2T04-U02□	14	8.2	10	14.8	19.2	16.9	13.3	6	4.1	3	12.2
ø6	1/8	KQ2T06-U01□	10	10.4	10	15.5	17.5	17.9	13.3	13.9	11	4.5	6.2
	1/4	KQ2T06-U02□	14	10.4	10	15.5	20.3	19.1	13.3	13.9	11	4.5	12.9
	3/8	KQ2T06-U03□	17	10.4	10	15.5	21.4	20.2	13.3	13.9	11	4.5	22.3
ø8	1/8	KQ2T08-U01□	10	13.2	10	16.4	18.9	20.7	14.2	13.9	13.9	4.5	7.9
		KQ2T08-U01□Q *2	12	13.2	12	17.2	22.7	25	14.2	26.3	18.2	6	10.3
	1/4	KQ2T08-U02□	14	13.2	12	17.2	21.7	21.9	14.2	26.3	18.2	6	12.6
	3/8	KQ2T08-U03□	17	13.2	12	17.2	22.8	23	14.2	26.3	18.2	6	21.9
ø10	1/8	KQ2T10-U01□	14	15.9	12	18.6	21.4	24.6	15.6	21.6	14.9	6	15.1
	1/4	KQ2T10-U02□	17	15.9	17	19.3	24.2	25.8	15.6	35.2	25	7.5	19.5
	3/8	KQ2T10-U03□	17	15.9	17	19.3	26.8	28.4	15.6	35.2	25	7.5	20.5
	1/2	KQ2T10-U04□	22	15.9	17	19.3	34.4	33.8	15.6	35.2	25	7.5	50.8
ø12	1/4	KQ2T12-U02□	17	18.5	17	21.5	25.5	28.4	17	57.2	45.2	9	22.5
	3/8	KQ2T12-U03□	17	18.5	17	21.5	28.1	31	17	57.2	45.2	9	23.6
	1/2	KQ2T12-U04□	22	18.5	17	21.5	35.7	36.4	17	57.2	45.2	9	53.9
ø16	3/8	KQ2T16-U03□	22	23.8	21	27.1	32.4	37.9	20.6	71	58.9	11	44.3
	1/2	KQ2T16-U04□	22	23.8	21	27.1	35	38.3	20.6	100	58.9	13	54.8

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of Uni thread
*2 For details, refer to page 207.

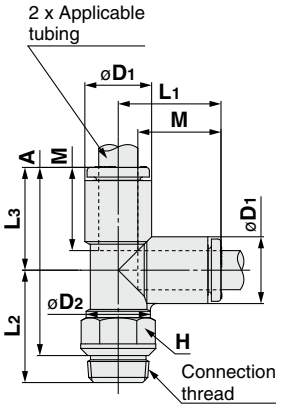


Male Run Tee: KQ2Y (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2Y04-U01□	10	8.2	10	15.3	16.4	15.3	26.9	13.3	6.4	4	3	5.6
	1/4	KQ2Y04-U02□	14	8.2	10	15.3	19.2	15.3	28.1	13.3	6.4	4	3	12.2
ø6	1/8	KQ2Y06-U01□	10	10.4	10	16.3	17.5	16.3	29	13.3	13.4	10.6	4.5	6.3
	1/4	KQ2Y06-U02□	14	10.4	10	16.3	20.3	16.3	30.2	13.3	13.4	10.6	4.5	13
	3/8	KQ2Y06-U03□	17	10.4	10	16.3	21.4	16.3	31.3	13.3	13.4	10.6	4.5	22.5
ø8	1/8	KQ2Y08-U01□	10	13.2	10	18.2	18.9	18.2	32.3	14.2	13.4	13.4	4.5	8
		KQ2Y08-U01□Q *2	12	13.2	12	18.2	22.7	18.2	36.7	14.2	25.6	17.7	6	10.4
	1/4	KQ2Y08-U02□	14	13.2	12	18.2	21.7	18.2	33.5	14.2	25.6	17.7	6	12.7
	3/8	KQ2Y08-U03□	17	13.2	12	18.2	22.8	18.2	34.6	14.2	25.6	17.7	6	22
ø10	1/8	KQ2Y10-U01□	14	15.9	12	20.6	21.4	20.6	37.3	15.6	40	28.4	6	15.2
	1/4	KQ2Y10-U02□	17	15.9	17	20.6	24.2	20.6	38.5	15.6	40	28.4	7.5	19.7
	3/8	KQ2Y10-U03□	17	15.9	17	20.6	26.8	20.6	41.1	15.6	40	28.4	7.5	20.7
	1/2	KQ2Y10-U04□	22	15.9	17	20.6	34.4	20.6	46.5	15.6	40	28.4	7.5	50.9
ø12	1/4	KQ2Y12-U02□	17	18.5	17	23	25.5	23	42.2	17	57.4	45.4	9	22.8
	3/8	KQ2Y12-U03□	17	18.5	17	23	28.1	23	44.8	17	57.4	45.4	9	23.9
	1/2	KQ2Y12-U04□	22	18.5	17	23	35.7	23	50.2	17	57.4	45.4	9	54.2
ø16	3/8	KQ2Y16-U03□	22	23.8	21	28.6	32.4	28.6	54.6	20.6	81	60	11	44.9
	1/2	KQ2Y16-U04□	22	23.8	21	28.6	35	28.6	55	20.6	113	60	13	55.4

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of Uni thread
*2 For details, refer to page 207.

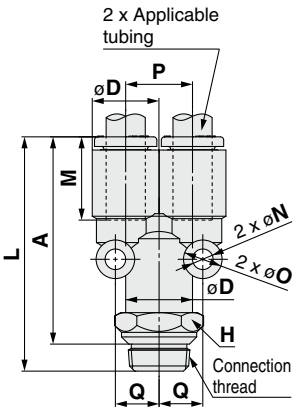


Branch "Y": KQ2U (Gasket seal)



Applicable tubing O.D. [mm]	Connection thread Uni	Model	H (Width across flats)	øD	L	P	A*1	M	Q	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø4	1/8	KQ2U04-U01□	11	8.2	35.4	8.2	30.6	13.3	5.7	6	3.2	8.2	4.2	4.2	3.6	8.6
	1/4	KQ2U04-U02□	14	8.2	37.4	8.2	31	13.3	5.7	6	3.2	8.2	4.2	4.2	3.6	14.6
ø6	1/8	KQ2U06-U01□	12	10.4	36.8	10.4	32	13.3	6.8	6	3.2	10.4	13.4	10.6	5.4	10
	1/4	KQ2U06-U02□	14	10.4	38.5	10.4	32.1	13.3	6.8	6	3.2	10.4	13.4	10.6	5.4	15
	3/8	KQ2U06-U03□	17	10.4	39.3	10.4	32.9	13.3	6.8	6	3.2	10.4	13.4	10.6	5.4	23.3
ø8	1/8	KQ2U08-U01□	14	13.2	41.6	13.2	36.8	14.2	8.7	8	4.2	13.2	25.6	17.7	6	17.6
	1/4	KQ2U08-U02□	14	13.2	42.6	13.2	36.2	14.2	8.7	8	4.2	13.2	25.6	17.7	7.3	18.3
	3/8	KQ2U08-U03□	17	13.2	42.4	13.2	36	14.2	8.7	8	4.2	13.2	25.6	17.7	7.3	25.5
ø10	1/4	KQ2U10-U02□	17	15.9	47.6	15.9	41.2	15.6	10.1	8	4.2	15.9	40	28.4	9	25.3
	3/8	KQ2U10-U03□	19	15.9	47.5	15.9	41.1	15.6	10.1	8	4.2	15.9	40	28.4	9.4	31.6
	1/2	KQ2U10-U04□	22	15.9	49.4	15.9	40.8	15.6	10.1	8	4.2	15.9	40	28.4	9.4	47.6
ø12	1/4	KQ2U12-U02□	22	18.5	52.1	18.5	45.7	17	11.4	8	4.2	18.5	57.4	45.4	9	42.6
	3/8	KQ2U12-U03□	22	18.5	52	18.5	45.6	17	11.4	8	4.2	18.5	57.4	45.4	11	41.2
	1/2	KQ2U12-U04□	22	18.5	53.4	18.5	44.8	17	11.4	8	4.2	18.5	57.4	45.4	11.6	48.8

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of Uni thread



KQ2 Series
Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

1 Made to Order

Symbol	Specifications
X12	Lubricant: White vaseline Release button color: White
X35∗1	Body color: Black Release button color: Light gray
X41	With fixed orifice∗2
KQ2□08-U01□**Q**	Effective area is interchangeable with the current product (KQ series). Applicable model: Male elbow 45° male elbow Extended male elbow Male branch tee Male run tee Applicable tubing O.D./Port size: ø8/Uni1/8 Thread material/Surface treatment: Brass, Brass + Electroless nickel plating Example) **KQ2L08-U01AQ**

∗1 The following models are not available as made-to-order: Hexagon socket head male connector/KQ2S, Male connector/KQ2H

∗2 Please contact SMC for availability.

The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.

Symbol	Specifications
X17	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
X29	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Copper-free (With electroless nickel plating)
X39	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Clean (Copper-free, air blow, double packaging, resin body: white)

3 Spare Parts

Description	Part no.	Applicable thread
Gasket	**KQG-U01**	Uni1/8
	KQG-U02	Uni1/4
	KQG-U03	Uni3/8
	KQG-U04	Uni1/2

2 Clean Series

Symbol	Specifications
10-	Brass parts: With electroless nickel plating Lubricant: Fluorine grease Air blow in a clean room Double packaging Resin body, Release button color: White

Example) **10-KQ2H06-U01N**

Inch Size Uni One-touch Fittings

Applicable Tubing: Inch Size, Connection Thread: Rc, G, NPT, NPTF

KQ2 Series

Guide

Chuck

Suitable for use with nylon and urethane. Large retaining force.

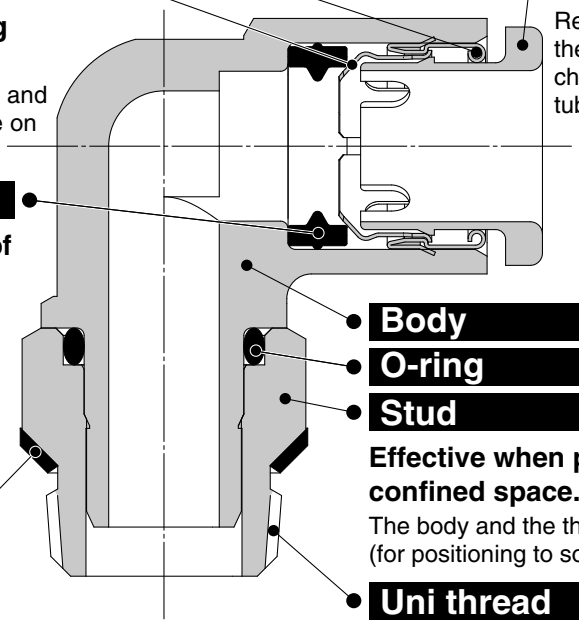
The chuck provides secure retention and the collet increases the holding force on the tube.

Seal

Can be used for a wide range of pressures from a low vacuum up to a pressure of 1 MPa.

The use of a special profile ensures sealing and reduces resistance when the tube is inserted.

Gasket



Release button (Orange)

Requires little force for removal.

Releases the chuck collet to remove the tube as well as to prevent the chuck from biting too deeply into the tubing.

Body

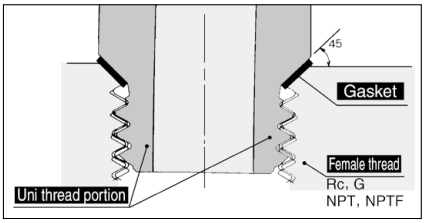
O-ring

Stud

Effective when piping in a confined space.

The body and the threaded portion can rotate (for positioning to some extent).

Uni thread



Uni thread ridge shape

A gasket made of a stainless sheet covered with laminated NBR on both sides is seated on the chamfer of a female thread for a perfect sealing construction irrespective of the difference in thread diameters due to the difference in the types of female threads, variation in tolerance, or difference in the size of chamfer. (It is applicable to any female thread with an ordinary chamfer.)

A ridge shape has been created as a Uni thread for common applications for Rc, G, NPT and NPTF.

Drastically cuts piping work-hours with the gasket seal method.



Applicable Tubing

Tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane
Tubing O.D.	ø1/8", ø5/32", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2"

Specifications

Fluid	Air, Water*1 *2
Operating pressure range*3	−100 kPa to 1 MPa
Proof pressure (at 23°C)	3 MPa
Ambient and fluid temperature	−5 to 60°C, Water: 0 to 40°C (No freezing)

*1 The surge pressure must be under the maximum operating pressure.

*2 Deionized water is not recommended for use as it may affect the material used in the fittings. In addition, it is known to degrade the water quality.

*3 Do not use the fittings with a leak tester or for vacuum retention because they are not guaranteed for zero leakage.

Principal Parts Material

Body	C3604, PBT
Stud	C3604 (Thread portion)
Chuck	Stainless steel 304
Guide	Stainless steel 304
Release button	POM
Seal, O-ring	NBR
Gasket	Stainless steel 304, NBR

Made to Order

Made to Order

(Refer to page 214 for details.)

How to Order

Threaded Type

KQ2 H 05 – U01 A

One-touch fittings

Model

Symbol	Model
H	Male connector
L	Male elbow
T	Male branch tee
W	Extended male elbow
Y	Male run tee
U	Branch "Y"

Applicable tubing O.D.

Symbol	Size
01	ø1/8"
03	ø5/32"
05	ø3/16"
07	ø1/4"
09	ø5/16"
11	ø3/8"
13	ø1/2"

Thread material/Surface treatment

Symbol	Thread material/Surface treatment
A	Brass
N	Brass + Electroless nickel plating

Port size

Symbol		Size
Thread connection	**U01**	Uni1/8
	U02	Uni1/4
	U03	Uni3/8
	U04	Uni1/2

For details on applicable tubing O.D. and port size combinations for each model, refer to the charts on the Dimensions page.

Spare Parts

How to Order Gasket

KQG – U01

Gasket for Uni One-touch fittings

Applicable port size

Symbol	Size
U01	Uni1/8
U02	Uni1/4
U03	Uni3/8
U04	Uni1/2

Round Type Variations

Male connector
KQ2H P.212



Use to pipe a female thread in the same direction. Most general model.

Male elbow
KQ2L P.212



Use to pipe a female thread at right angles. Most general model.

Male branch tee
KQ2T P.213



Use to branch a female thread at both 90° angles.

Male run tee
KQ2Y P.213



Use to branch a female thread in the same direction and at a 90° angle.

Branch "Y"
KQ2U P.213



Use to branch a female thread in the same direction.

Extended male elbow
KQ2W P.212



Basically, it is used together with a male elbow. Its extended height allows for multi-leveled piping and prevents interference among fittings.

Tubing — One-touch fittings	Tubing — Tubing	Accessory
Plug-in reducer/Plug-in elbow etc.	Union elbow/Union tee/Straight union etc.	Nipple/Plug etc.

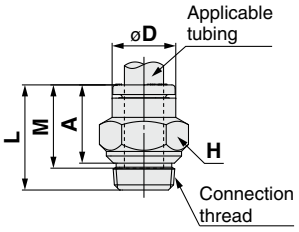
Refer to page 135 and after for details.

Dimensions

Male Connector: KQ2H (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread Uni	Model	H (Width across flats)	øD	L	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2H01-U01□	11.11	6.7	15.2	10.4	13.3	3.4	2.9	2.5	7.9
	1/4	KQ2H01-U02□	14.29	6.7	15.3	8.9	13.3	3.4	2.9	2.5	13.7
ø5/32	1/8	KQ2H03-U01□	11.11	7.7	15.7	10.9	13.3	4.8	3.4	3	7.7
	1/4	KQ2H03-U02□	14.29	7.7	15.3	8.9	13.3	4.8	3.4	3	13
ø3/16	1/8	KQ2H05-U01□	12.7	8.3	16	11.2	13.3	6.8	5.6	3.5	7.7
	1/4	KQ2H05-U02□	14.29	8.3	15.3	8.9	13.3	6.8	5.6	3.5	12.4
ø1/4	1/8	KQ2H07-U01□	12.7	10.9	18.9	14.1	13.3	11.6	10	4.6	8.7
	1/4	KQ2H07-U02□	14.29	10.9	15.3	8.9	13.3	11.6	10	4.6	10.7
	3/8	KQ2H07-U03□	17.46	10.9	14.9	8.5	13.3	11.6	10	4.6	18.4
ø5/16	1/8	KQ2H09-U01□	14.29	13	20.6	15.8	14.2	26.1	18	6	10.5
	1/4	KQ2H09-U02□	14.29	13	18.5	12.1	14.2	26.1	18	6	10.7
	3/8	KQ2H09-U03□	17.46	13	14.9	8.5	14.2	26.1	18	6	15.5
ø3/8	1/4	KQ2H11-U02□	17.46	15.1	22.2	15.8	15.6	28.8	23.8	7	16.6
	3/8	KQ2H11-U03□	17.46	15.1	18.9	12.5	15.6	28.8	23.8	7	16.2
	1/2	KQ2H11-U04□	22.23	15.1	17	8.4	15.6	28.8	23.8	7	30.9
ø1/2	1/4	KQ2H13-U02□	22.23	19	25.2	18.8	17	50.3	44.4	9	24.9
	3/8	KQ2H13-U03□	22.23	19	23.5	17.1	17	56.7	44.4	9.6	27
	1/2	KQ2H13-U04□	22.23	19	21.7	13.1	17	56.7	44.4	9.6	29.8

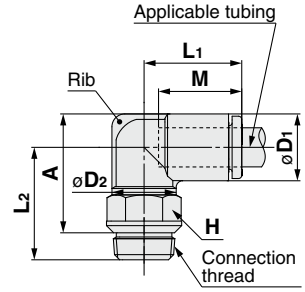


□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of Uni thread

Male Elbow: KQ2L (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread Uni	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	1/8	KQ2L01-U01□	11.11	7.1	10	14.5	17.9	16.7	13.3	3	2.5	2.5	6	—
	1/4	KQ2L01-U02□	14.29	7.1	10	14.5	19.2	16.4	13.3	3	2.5	2.5	12.1	—
ø5/32	1/8	KQ2L03-U01□	11.11	8.2	10	14.8	17.4	16.7	13.3	4.6	3.3	3	6.2	●
	1/4	KQ2L03-U02□	14.29	8.2	10	14.8	19.7	17.4	13.3	4.6	3.3	3	12.3	●
ø3/16	1/8	KQ2L05-U01□	11.11	9.1	10	15	17.9	17.7	13.3	6.8	5.6	3.5	6.4	—
	1/4	KQ2L05-U02□	14.29	9.1	10	15	20.2	18.4	13.3	6.8	5.6	3.5	12.5	—
ø1/4	1/8	KQ2L07-U01□	11.11	11.1	10	15.6	18.9	19.7	13.3	11.3	10	4.5	6.7	●
	1/4	KQ2L07-U02□	14.29	11.1	10	15.6	21.2	20.4	13.3	11.3	10	4.5	12.9	●
	3/8	KQ2L07-U03□	17.46	11.1	10	15.6	22.3	21.5	13.3	11.3	10	4.5	23.1	●
ø5/16	1/8	KQ2L09-U01□	11.11	13.2	10	16.4	19.9	21.7	14.2	11.4	11.4	4.5	7.4	●
		KQ2L09-U01□Q *2	12.7	13.2	12	17.2	22.7	25.0	14.2	21.6	14.9	6	9.2	●
	1/4	KQ2L09-U02□	14.29	13.2	12	17.2	22.2	22.4	14.2	21.6	14.9	6	11.6	●
	3/8	KQ2L09-U03□	17.46	13.2	12	17.2	23.3	23.5	14.2	21.6	14.9	6	21.7	●
ø3/8	1/4	KQ2L11-U02□	17.46	15.4	17	19.3	24.4	25.7	15.6	28.8	23.8	7.5	18	●
	3/8	KQ2L11-U03□	17.46	15.4	17	19.3	27.0	28.3	15.6	28.8	23.8	7.5	18.7	●
	1/2	KQ2L11-U04□	22.23	15.4	17	19.3	34.8	33.9	15.6	28.8	23.8	7.5	50	●
ø1/2	1/4	KQ2L13-U02□	17.46	19.3	17	21.5	26.3	29.5	17	50.3	44.4	9	20.3	—
	3/8	KQ2L13-U03□	17.46	19.3	17	21.8	28.9	32.1	17	56	44.4	9.5	25.1	—
	1/2	KQ2L13-U04□	22.23	19.3	17	21.8	31.9	32.9	17	56	44.4	9.5	56	—

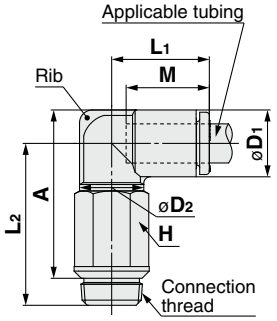


□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of Uni thread
*2 For details, refer to page 214.

Extended Male Elbow: KQ2W (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread Uni	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]	With a rib
ø1/8	1/8	KQ2W01-U01□	11.11	7.1	10	14.5	31.5	30.3	13.3	2.8	2.4	2.5	14.5	—
	1/4	KQ2W01-U02□	14.29	7.1	10	14.5	30.8	28	13.3	2.8	2.4	2.5	26	—
ø5/32	1/8	KQ2W03-U01□	11.11	8.2	10	14.8	31.1	30.4	13.3	4	4	3	14.6	●
	1/4	KQ2W03-U02□	14.29	8.2	10	14.8	31.3	29	13.3	4	4	3	26.2	●
ø3/16	1/8	KQ2W05-U01□	11.11	9.1	10	15	31.6	31.3	13.3	6.8	5.6	3.5	14.8	—
	1/4	KQ2W05-U02□	14.29	9.1	10	15	31.8	30	13.3	6.8	5.6	3.5	26.4	—
ø1/4	1/8	KQ2W07-U01□	11.11	11.1	10	15.6	32.6	33.3	13.3	11.3	10	4.5	15.1	●
	1/4	KQ2W07-U02□	14.29	11.1	10	15.6	32.8	32	13.3	11.3	10	4.5	26.8	●
	3/8	KQ2W07-U03□	17.46	11.1	10	15.6	33.9	33.1	13.3	11.3	10	4.5	45.3	●
ø5/16	1/8	KQ2W09-U01□	11.11	13.2	10	16.4	33.6	35.4	14.2	11.3	11.3	4.5	15.9	●
		KQ2W09-U01□Q *2	12.7	13.2	12	17.2	39.5	41.3	14.2	20.5	14.2	6	24.0	●
	1/4	KQ2W09-U02□	14.29	13.2	12	17.2	35.9	36.1	14.2	20.5	14.2	6	25.7	●
	3/8	KQ2W09-U03□	17.46	13.2	12	17.2	37	37.2	14.2	20.5	14.2	6	45.5	●
ø3/8	1/4	KQ2W11-U02□	17.46	15.4	17	19.3	44.1	45.4	15.6	28.8	23.8	7.5	50.6	●
	3/8	KQ2W11-U03□	17.46	15.4	17	19.3	42.9	44.2	15.6	28.8	23.8	7.5	45	●
	1/2	KQ2W11-U04□	22.23	15.4	17	19.3	50.7	49.8	15.6	28.8	23.8	7.5	90.9	●
ø1/2	1/4	KQ2W13-U02□	17.46	19.3	17	21.5	46	49.3	17	50.3	44.4	9	52.9	—
	3/8	KQ2W13-U03□	17.46	19.3	17	21.8	48.6	51.9	17	56	44.4	9.5	52.6	—
	1/2	KQ2W13-U04□	22.23	19.3	17	21.8	51.6	52.7	17	56	44.4	9.5	114.1	—



□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of Uni thread
*2 For details, refer to page 214.

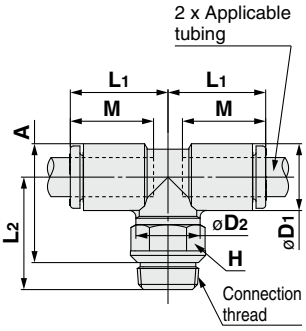
Dimensions

Male Branch Tee: KQ2T (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread Uni	Model	H (Width across flats)	øD1	øD2	L1	L2	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2T01-U01□	11.11	7.1	10	14.5	17.8	16.6	13.3	3.4	2.9	2.5	6.6
	1/4	KQ2T01-U02□	14.29	7.1	10	14.5	19.1	16.3	13.3	3.4	2.9	2.5	12.7
ø5/32	1/8	KQ2T03-U01□	11.11	8.2	10	14.8	17.4	16.7	13.3	6	4.1	3	6.9
	1/4	KQ2T03-U02□	14.29	8.2	10	14.8	19.7	17.4	13.3	6	4.1	3	13
ø3/16	1/8	KQ2T05-U01□	11.11	9.1	10	15	17.9	17.6	13.3	6.8	5.6	3.5	7.1
	1/4	KQ2T05-U02□	14.29	9.1	10	15	20.2	18.3	13.3	6.8	5.6	3.5	13.3
ø1/4	1/8	KQ2T07-U01□	11.11	11.1	10	15.6	18.9	19.6	13.3	11.3	10	4.5	7.8
	1/4	KQ2T07-U02□	14.29	11.1	10	15.6	21.2	20.3	13.3	11.3	10	4.5	14.1
	3/8	KQ2T07-U03□	17.46	11.1	10	15.6	22.3	21.4	13.3	11.3	10	4.5	24.3
ø5/16	1/8	KQ2T09-U01□	11.11	13.2	10	16.4	19.9	21.7	14.2	13.9	13.9	4.5	9.3
		KQ2T09-U01□Q *2	12.7	13.2	12	17.2	22.7	25	14.2	26.3	18.2	6	10.9
	1/4	KQ2T09-U02□	14.29	13.2	12	17.2	22.2	22.4	14.2	26.3	18.2	6	13.4
	3/8	KQ2T09-U03□	17.46	13.2	12	17.2	23.3	23.5	14.2	26.3	18.2	6	23.4
ø3/8	1/4	KQ2T11-U02□	17.46	15.4	17	19.3	24.3	25.6	15.6	28.8	23.8	7.5	20.4
	3/8	KQ2T11-U03□	17.46	15.4	17	19.3	26.9	28.2	15.6	28.8	23.8	7.5	21.2
	1/2	KQ2T11-U04□	22.23	15.4	17	19.3	34.7	33.8	15.6	28.8	23.8	7.5	52.5
ø1/2	1/4	KQ2T13-U02□	17.46	19.3	17	21.5	26.2	29.5	17	50.3	44.4	9	24.4
	3/8	KQ2T13-U03□	17.46	19.3	17	21.8	28.8	32.1	17	56	44.4	9.5	29.3
	1/2	KQ2T13-U04□	22.23	19.3	17	21.8	31.8	32.9	17	56	44.4	9.5	60.2

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of Uni thread
*2 For details, refer to page 214.

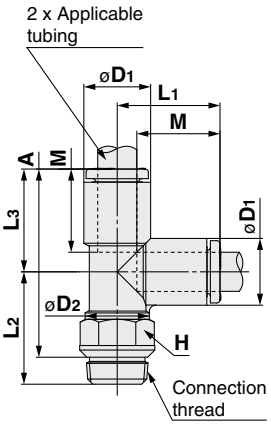


Male Run Tee: KQ2Y (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread Uni	Model	H (Width across flats)	øD1	øD2	L1	L2	L3	A*1	M	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2Y01-U01□	11.11	7.1	10	14.9	17.8	14.9	28	13.3	3.4	2.9	2.5	6.6
	1/4	KQ2Y01-U02□	14.29	7.1	10	14.9	19.1	14.9	27.7	13.3	3.4	2.9	2.5	12.8
ø5/32	1/8	KQ2Y03-U01□	11.11	8.2	10	15.3	17.4	15.3	27.9	13.3	6.4	4.4	3	6.9
	1/4	KQ2Y03-U02□	14.29	8.2	10	15.3	19.7	15.3	28.6	13.3	6.4	4.4	3	13.1
ø3/16	1/8	KQ2Y05-U01□	11.11	9.1	10	15.7	17.9	15.7	28.8	13.3	6.8	5.6	3.5	7.2
	1/4	KQ2Y05-U02□	14.29	9.1	10	15.7	20.2	15.7	29.5	13.3	6.8	5.6	3.5	13.4
ø1/4	1/8	KQ2Y07-U01□	11.11	11.1	10	16.5	18.9	16.5	30.6	13.3	11.3	10	4.5	7.9
	1/4	KQ2Y07-U02□	14.29	11.1	10	16.5	21.2	16.5	31.3	13.3	11.3	10	4.5	14.1
	3/8	KQ2Y07-U03□	17.46	11.1	10	16.5	22.3	16.5	32.4	13.3	11.3	10	4.5	24.3
ø5/16	1/8	KQ2Y09-U01□	11.11	13.2	10	18.2	19.9	18.2	33.3	14.2	13.4	13.4	4.5	9.3
		KQ2Y09-U01□Q *2	12.7	13.2	12	18.2	22.7	18.2	36.7	14.2	25.6	17.7	6	11.0
	1/4	KQ2Y09-U02□	14.29	13.2	12	18.2	22.2	18.2	34	14.2	25.6	17.7	6	13.4
	3/8	KQ2Y09-U03□	17.46	13.2	12	18.2	23.3	18.2	35.1	14.2	25.6	17.7	6	23.5
ø3/8	1/4	KQ2Y11-U02□	17.46	15.4	17	20.4	24.3	20.4	38.3	15.6	28.8	23.8	7.5	20.5
	3/8	KQ2Y11-U03□	17.46	15.4	17	20.4	26.9	20.4	40.9	15.6	28.8	23.8	7.5	21.3
	1/2	KQ2Y11-U04□	22.23	15.4	17	20.4	34.7	20.4	46.5	15.6	28.8	23.8	7.5	52.6
ø1/2	1/4	KQ2Y13-U02□	17.46	19.3	17	23.4	26.2	23.4	43.2	17	50.3	44.4	9	24.7
	3/8	KQ2Y13-U03□	17.46	19.3	17	23.4	28.8	23.4	45.8	17	56	44.4	9.5	29.5
	1/2	KQ2Y13-U04□	22.23	19.3	17	23.4	31.8	23.4	46.6	17	56	44.4	9.5	60.4

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of Uni thread
*2 For details, refer to page 214.

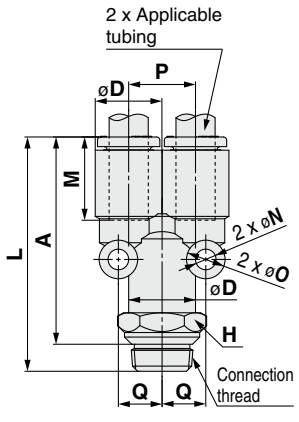


Branch "Y": KQ2U (Gasket seal)



Applicable tubing O.D. [inch]	Connection thread Uni	Model	H (Width across flats)	øD	L	P	A*1	M	Q	Mounting hole øO	Mounting hole øN	Mounting hole Thickness	Effective area [mm²] Nylon	Effective area [mm²] Urethane	Min. port size	Weight [g]
ø1/8	1/8	KQ2U01-U01□	11.11	7.1	35.1	7.1	30.3	13.3	5.2	6	3.2	7.1	3.4	2.9	2.7	8.2
	1/4	KQ2U01-U02□	14.29	7.1	37.4	7.1	31	13.3	5.2	6	3.2	7.1	3.4	2.9	2.7	14.6
ø5/32	1/8	KQ2U03-U01□	11.11	8.2	35.4	8.2	30.6	13.3	5.7	6	3.2	8.2	4.2	4.2	3.6	8.7
	1/4	KQ2U03-U02□	14.29	8.2	37.4	8.2	31	13.3	5.7	6	3.2	8.2	4.2	4.2	3.6	14.8
ø3/16	1/8	KQ2U05-U01□	11.11	9.1	35.8	9.1	31	13.3	6.2	6	3.2	9.1	6.8	5.6	4.1	9
	1/4	KQ2U05-U02□	14.29	9.1	38.1	9.1	31.7	13.3	6.2	6	3.2	9.1	6.8	5.6	4.1	15.3
ø1/4	1/8	KQ2U07-U01□	12.7	11.1	37.7	11.1	32.9	13.3	7.6	8	4	11.1	11.6	10	5.6	12
	1/4	KQ2U07-U02□	14.29	11.1	38.8	11.1	32.4	13.3	7.6	8	4	11.1	11.6	10	5.6	16.3
	3/8	KQ2U07-U03□	17.46	11.1	39.7	11.1	33.3	13.3	7.6	8	4	11.1	11.6	10	5.6	25.1
ø5/16	1/8	KQ2U09-U01□	14.29	13.2	41.6	13.2	36.8	14.2	8.7	8	4.2	13.2	25.6	17.7	6	17.9
	1/4	KQ2U09-U02□	14.29	13.2	42.6	13.2	36.2	14.2	8.7	8	4.2	13.2	25.6	17.7	7.3	18.6
	3/8	KQ2U09-U03□	17.46	13.2	42.4	13.2	36	14.2	8.7	8	4.2	13.2	25.6	17.7	7.3	26.1
ø3/8	1/4	KQ2U11-U02□	17.46	15.4	47.2	15.4	40.8	15.6	9.9	8	4.2	15.4	28.8	23.8	8.9	24.8
	3/8	KQ2U11-U03□	19	15.4	47.1	15.4	40.7	15.6	9.9	8	4.2	15.4	28.8	23.8	8.9	31.5
	1/2	KQ2U11-U04□	22.23	15.4	49.3	15.4	40.7	15.6	9.9	8	4.2	15.4	81	23.8	8.9	48.9
ø1/2	1/4	KQ2U13-U02□	22.23	19.3	52.5	19.3	46.1	17	11.8	8	4.2	19.3	113	50.6	9	44.3
	3/8	KQ2U13-U03□	22.23	19.3	52.4	19.3	46	17	11.8	8	4.2	19.3	113	50.6	11	43
	1/2	KQ2U13-U04□	22.23	19.3	54	19.3	45.4	17	11.8	8	4.2	19.3	113	50.6	12.1	50

□: A (Brass), N (Brass + Electroless nickel plating) *1 Reference dimensions after installation of Uni thread



KQ2 Series
Made to Order/Clean Series/Spare Parts

Please contact SMC for detailed dimensions, specifications, and lead times.

1 Made to Order

Symbol	Specifications
X12	Lubricant: White vaseline Release button color: White
X35∗1	Body color: Black Release button color: Orange
X41	With fixed orifice∗2
KQ2□09-U01□**Q**	Effective area is interchangeable with the current product (KQ series). Applicable model: Male elbow 45° male elbow Extended male elbow Male branch tee Male run tee Applicable tubing O.D./Port size: ø5/16"/Uni1/8 Thread material/Surface treatment: Brass, Brass + Electroless nickel plating Example) **KQ2L09-U01AQ**

∗1 The following model is not available as made-to-order: Male connector/ KQ2H

∗2 Please contact SMC for availability.

The following made-to-order products will be provided based on previous models (KQ2 series). Please contact SMC separately.

Symbol	Specifications
X17	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue
X29	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Copper-free (With electroless nickel plating)
X39	Grease-free Rubber material: NBR (With fluorine coating) Release button color: Light blue Clean (Copper-free, air blow, double packaging, resin body: white)

3 Spare Parts

Description	Part no.	Applicable thread
Gasket	**KQG-U01**	Uni1/8
	KQG-U02	Uni1/4
	KQG-U03	Uni3/8
	KQG-U04	Uni1/2

2 Clean Series

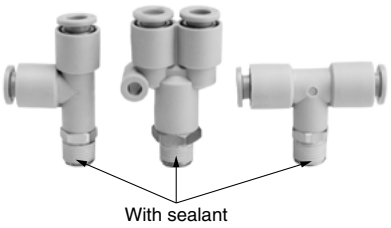
Symbol	Specifications
10-	Brass parts: With electroless nickel plating Lubricant: Fluorine grease Air blow in a clean room Double packaging Resin body, Release button color: White

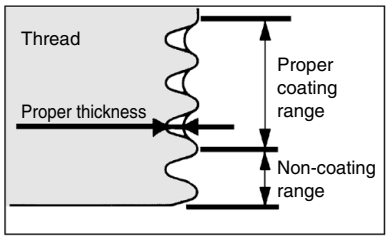
Example) **10-KQ2H07-U01N**

Prior to Use

Fittings with Sealant

Seal material (fluororesin) is coated on the thread part with the proper thickness and range, that reduces the piping work, such as winding sealant tape and coating the sealant on the thread.





Female Thread Conditions Applicable to Face Seal

1. Surface roughness of bearing surface: Rz 25 or less
2. Chamfer dimension: ø**D1**, Seal bearing surface diameter: ø**D2** (Refer to the table below.)
3. Female thread inclination angle: 1° or less
4. Counterbore diameter when the female thread is counterbored.: ø**D3**
   · Models with width across flats: Body width across flats x 1.1 or more
   · Models other than hexagon (Hexagon socket head male connector etc.): Body dimensions + 0.2 mm or more
   ∗ The width across flats and the body dimensions differ depending on the model even when the same thread size is used. Refer to the dimensions in the catalog.
5. If oil content or sealant is sticking to the female thread, this may cause damage of the product. Remove it before piping.

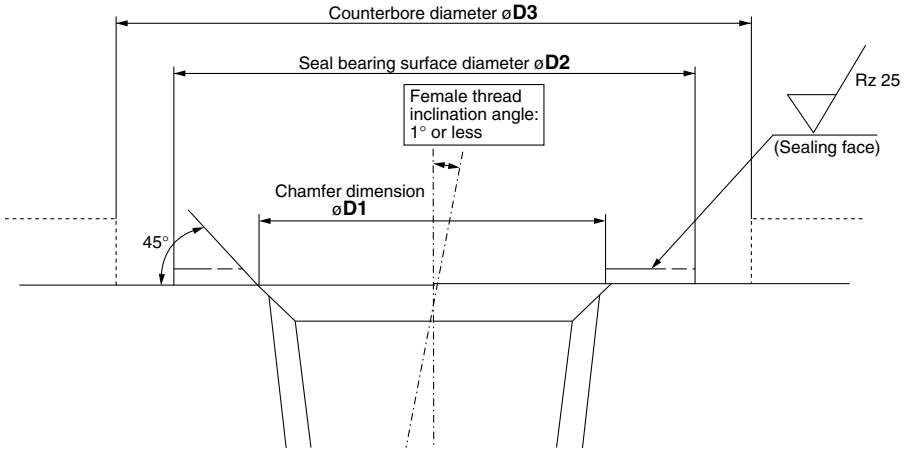


Table 1

Connection thread size	Chamfer dimension ø**D1** [mm]	Seal bearing surface diameter ø**D2** [mm]
R1/8	10.2 to 10.4	12 or more
R1/4	13.6 to 13.8	17 or more
R3/8	17.1 to 17.3	21 or more
R1/2	21.4 to 21.6	27 or more
NPT1/16	8.2 to 8.4	11.11 or more
NPT1/8	10.5 to 10.7	12.7 or more
NPT1/4	14.1 to 14.3	17.46 or more
NPT3/8	17.4 to 17.6	22 or more
NPT1/2	21.7 to 21.9	28.7 or more
G1/8	10.2 to 10.6	12 or more
G1/4	13.6 to 14.0	17 or more
G3/8	17.1 to 17.5	21 or more
G1/2	21.4 to 21.8	27 or more

⚠ **Precautions**

For products that do not satisfy the female thread conditions shown above and the piping with a piping pitch narrower than the product dimension, use the current sealant type.

∗ The rubber parts of the face seal cannot be replaced.

∗ The rubber parts of the face seal may fall off by the air blow and they cannot be mounted again. Be careful not to perform the air blow.

Fittings & Tubing Precautions 1

Be sure to read this before handling products.

Design / Selection

⚠Warning

1. Confirm the specifications.

Products represented in this catalog are designed only for use in compressed air systems (including vacuum). Do not operate at pressures, temperatures, etc., beyond the range of specifications, as this can cause damage or malfunction. (Refer to the specifications.)

We do not guarantee against any damage if the product is used outside of the specification range.

2. Do not disassemble the product or make any modifications, including additional machining.

It may cause human injury and/or an accident.

3. Check if PTFE can be used in application.

PTFE powder (Polytetrafluoroethylene resin) is included in the sealant. Confirm that the use of it will not cause any adverse affect on the system.

4. When operating at a high temperature, the fittings and tubing will also become very hot.

Touching the product may result in burns, so be sure to take safety measures before coming into direct contact with the product.

⚠Caution

1. Keep the connection part of fittings and tubing from rotating or oscillating movement. Use Rotary One-touch Fittings (KS or KX series) in these cases.

The fittings may be damaged if they are used in the above manner.

2. The tubing bending radius in the vicinity of the fitting should be at least the minimum bending radius of the tubing.

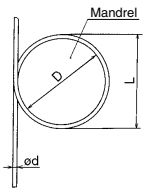
If the bending radius is less than the minimum value, fittings may damage, or tubing may crack or be crushed. The minimum bending radius of the FR soft nylon tubing (TRS series), FR double layer tubing (TRB series), antistatic soft nylon tubing (TAS series), polyolefin tubing (TPH series), and soft polyolefin tubing (TPS series) is measured as following in accordance with JIS B 8381.

Tubing deformation ratio at the minimum bending radius is obtained through the following formula, based on tubing diameter and mandrel diameter by winding the same radius mandrel tube.

Tube deformation ratio at the minimum bending radius

$$\eta = \left(1 - \frac{L - D}{2d}\right) \times 100$$

Here, η : Deformation ratio [%]
d : Tubing diameter [mm]
L : Measured length [mm]
D : Mandrel diameter [mm]
(Twice against the minimum bending radius)
Test temperature: 20 ±5°C
Relative humidity: 65 ±5%



3. Do not use fluids other than listed on the specifications.

Applicable fluids are air and water.

4. When used with liquid fluid, the fittings or tubing may be damaged depending on the surge pressure.

5. Depending on the storage or operating environment and the period of storage or use, the surface of the brass (C3604) may blacken. If the discoloration of the brass is a problem, we recommend selecting electroless nickel-plated brass instead.

Example) KQ2H06-01 NS

6. The dimensions shown in the dimension drawings are merely reference dimensions. The actual dimensions will vary depending on the tolerance. Be sure to provide sufficient clearance around the fitting for piping. Please contact SMC if you are planning to mount the product in a narrow space.

Mounting / Piping

⚠Warning

1. Operation manual

Install the products and operate them only after reading the operation manual carefully and understanding its contents. Also, keep the manual where it can be referred to as necessary.

2. Maintenance space

Allow sufficient space for maintenance and inspection.

3. Adhere to the thread tightening method.

Refer to “Connection Thread Tightening Method” when mounting the product.

4. There may be cases of the tubing detaching from the fitting and thrashing around uncontrollably due to tubing degradation or fitting breakage.

To prevent the situation from becoming uncontrollable, fit the tubing with a protective cover or fix it in place.

⚠Caution

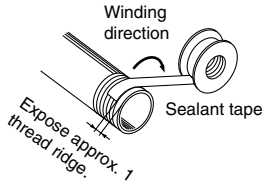
1. Preparation before piping

Before piping is connected, it should be thoroughly blown out with air (flushing) or washed to remove chips, cutting oil and other debris from inside the pipe.

2. Winding of sealant tape

When screwing together pipes and fittings, etc., be certain that chips from the pipe threads and sealant do not get inside the pipe.

Also, when the sealant tape is used, leave approx. 1 thread ridge exposed at the end of the threads.



3. Check the model, type and size before installation. Also, confirm that there is no scratches, gouges or cracks on the product.

4. When connecting the tubing, take pressure or possible changes to the tubing length into account, and allow a sufficient margin.

Failure to do so may result in fitting breakage or detachment of the tubing. Refer to the recommended piping conditions.

5. Do not apply unnecessary forces such as twisting, pulling, moment loads, vibration and impact, etc. on fittings or tubing.

This will cause damage to fittings and will crush, burst or release tubing.

6. Tubing, with the exception of coiled tubing, requires stationary installation. Do not use standard tubing (non-coiled) in applications where tubing is required to travel inside the flexible protection tube. Tubing that travels may sustain abrasion, extension, or severance due to tensile force, or may result in removal of tubing from fitting. Use caution prior to use for proper application.

7. To install the fitting, screw the fitting into the hexagonal face of the body, and tighten with an appropriate wrench.

Affix the wrench at the base of the thread. If the size of hexagonal face and wrench do not match, or tightening takes place near the tube side, it may cause collapse or deformation of the hexagonal face, or damage to the equipment. After installing, confirm that there is no damage to the fitting, etc.

Fittings & Tubing Precautions 2

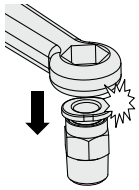
Be sure to read this before handling products.

Mounting / Piping

⚠Caution

8. Interference in oval type release button

The following models cannot be used if a box wrench or socket wrench is used.



KQ2 Series

Model	Applicable tubing	Connection thread	Part number
Male connector	ø3.2	M3 x 0.5	KQ2H23-M3G1
	ø3.2	M5 x 0.8	KQ2H23-M5□1
	ø4	M3 x 0.5	KQ2H04-M3G1
	ø4	M5 x 0.8	KQ2H04-M5□1
	ø4	M6 x 1.0	KQ2H04-M6□1
	ø6	M5 x 0.8	KQ2H06-M5□1
	ø6	M6 x 1.0	KQ2H06-M6□1
	ø6	R1/8	KQ2H06-01□S1
	ø1/8	10-32UNF	KQ2H01-32□1
	ø5/32	10-32UNF	KQ2H03-32□1
	ø3/16	10-32UNF	KQ2H05-32□1
	ø5/32	NPT1/16	KQ2H03-33□S1
	ø1/8	M5 x 0.8	KQ2H01-M5□1
	ø3/16	M5 x 0.8	KQ2H05-M5□1
	ø3/16	R1/8	KQ2H05-01□S1
Female connector	ø4	M3 x 0.5	KQ2F04-M3□1
	ø4	M5 x 0.8	KQ2F04-M5□1
	ø6	M5 x 0.8	KQ2F06-M5□1
	ø1/8	10-32UNF	KQ2F01-32□1
	ø5/32	10-32UNF	KQ2F03-32□1
	ø1/8	M3 x 0.5	KQ2F23-M3□1
	ø1/8	M5 x 0.8	KQ2F23-M5□1

□: A (Brass), N (Brass + Electroless nickel plating)

KQ2-G Stainless Steel Series

Model	Applicable tubing	Connection thread	Part number
Male connector	ø4	M5 x 0.8	KQ2H04-M5G1
	ø6	M5 x 0.8	KQ2H06-M5G1
	ø6	R1/8	KQ2H06-01GS1

Air Supply

⚠Warning

1. Type of fluids

Be sure to use compressed air for the fluid.
Regarding products for general fluids, please contact SMC concerning applicable fluids.

2. When there is a large amount of drainage

Compressed air containing a large amount of drainage can cause malfunction of pneumatic equipment. An air dryer or water separator should be installed upstream from filters.

3. Drain flushing

If condensation in the drain bowl is not emptied on a regular basis, the bowl will overflow and allow the condensation to enter the compressed air lines. This causes the malfunction of pneumatic equipment.
If the drain bowl is difficult to check and remove, the installation of a drain bowl with an auto drain option is recommended.

Refer to “SMC Air Preparation System” for further details on compressed air quality.

4. Use clean air.

Do not use compressed air that contains chemicals, synthetic oils that include organic solvents, salt, corrosive gases, etc., as they can cause damage or malfunction.

Air Supply

⚠Caution

1. Install an air filter.

Install an air filter at the upstream side of valve.
Select an air filter with a filtration degree of 5 μm or finer.

2. Install an aftercooler, air dryer or water separator, etc.

Compressed air containing a large amount of drainage can cause the malfunction of pneumatic equipment. Therefore, take appropriate measures to ensure air quality, such as by providing an aftercooler, air dryer, or water separator.

3. Ensure that the fluid and ambient temperature are within the specified range.

If the fluid temperature is 5°C or less, the moisture in the circuit could freeze, causing damage to the seals and leading to equipment malfunction. Therefore, take appropriate measures to prevent freezing.

Refer to “SMC Air Preparation System” for further details on compressed air quality.

Operating Environment

⚠Warning

1. Do not use in an atmosphere where corrosive gases, chemicals, sea water, water, or water steam is present. Do not use in cases where there is direct contact with any of the above.

Refer to each construction drawing on the fittings and tubing material.

2. Do not expose the product to direct sunlight for an extended period of time.

3. Do not use in a place subject to heavy vibration and/or impact.

4. Do not mount the product in locations where it is exposed to radiant heat.

5. Do not use the ordinary fittings and tubing in locations where static electricity would be problematic.

It may result in the system failure and trouble. In such places, use of antistatic fittings (KA series) and antistatic tubing (TA series) are recommended.

6. Do not use the ordinary fittings and tubing in locations where spatter is generated.

Spattering may result in a fire hazard. In such a place, use of flame resistant fittings (KR/KRM series) and flame resistant tubing (TRS/TRB/TRBU/TRTU series) are recommended.

7. Do not use in an environment where the product is directly exposed to cutting oil, lubricant, coolant oil, etc.

8. Take note that if nylon tubing and soft nylon tubing are used in a clean room.

The antioxidant on the surface of the soft nylon tubing may come off, thereby lowering the cleanness level.

9. Do not use in environments where foreign matter may stick to the product or get mixed in the product’s interior.

This may cause leakage or disconnection of the tubing.

Fittings & Tubing Precautions 3

Be sure to read this before handling products.

Maintenance

⚠Warning

1. Perform maintenance inspections according to the procedures indicated in the operation manual.
If handled improperly, malfunction and damage of machinery or equipment may occur.

2. Maintenance work
If handled improperly, compressed air can be dangerous. The assembly, handling, repair, and element replacement of pneumatic systems should be performed by a knowledgeable and experienced person.

3. Drain flushing
Remove drainage from air filters regularly.

4. Removal of equipment and supply/exhaust of compressed air
When components are removed, first confirm that measures are in place to prevent workpieces from dropping, run-away equipment, etc. Then, cut off the supply pressure and electric power, and exhaust all compressed air from the system using the residual pressure release function.
When the equipment is restarted, proceed with caution after confirming that appropriate measures are in place to prevent cylinders from sudden movement.

⚠Caution

1. Be certain to wear safety glasses at all times during periodical inspections.

2. Replace fittings or tubing having the following problems.
1) Cracks, gouges, wearing, corrosion
2) Air leakage
3) Twists or crushing of tubing
4) Hardening, deterioration, softening of tubing

3. When replacing tubes or fittings, do not try to mend or repair and then reuse them.

One-touch Fittings
Mounting / Piping

⚠Caution

1. Installation and removal of tubing for One-touch fittings

1) Installation of tubing

(1) Cut the tubing perpendicularly, being careful not to damage the outside surface. Use an SMC tube cutter TK-1, 2, 3, 5 or 6. Do not cut the tubing with pliers, nippers, scissors, etc., otherwise, the tubing will be deformed and trouble may result.

(2) The outside diameter of the polyurethane tubing swells when internal pressure is applied to it. Therefore, it may be possible that the tubing cannot be re-inserted into the One-touch fitting. Check the tubing outside diameter, and when the accuracy of the outside diameter is +0.07 mm or larger for ø2, +0.15 mm or larger for other sizes, insert into the One-touch fitting again, without cutting the tubing to use it. When the tubing is re-inserted into the One-touch fitting, confirm that the tubing goes through the release button smoothly.

One-touch Fittings
Mounting / Piping

⚠Caution

(3) Grasp the tubing, slowly push it straight (0 to 5°) into the One-touch fitting until it comes to a stop.

(4) Pull the tubing back gently to make sure it has a positive seal. Insufficient installation may cause air to leak or the tubing to release.
As a guide for checking the tubing is not pulled out, refer to the following table.

Tubing size	Tensile force of tubing [N]
ø2, 3.2, 1/8"	5
ø4, 5/32", 3/16"	8
ø6, 1/4"	12
ø8, 5/16"	20
ø10, 3/8"	30
ø12, 1/2"	35
ø16	50

2) Removal of tubing

(1) Push the release button flange evenly and sufficiently to release the tube. Do not push in the tubing before pressing the release button.

(2) Pull out the tubing while keeping the release button depressed. If the release button is not held down sufficiently, the tubing cannot be withdrawn.

(3) To reuse the tubing, remove the previously lodged portion of the tubing. If the lodged portion is left on without being removed, it may result in air leakage and removal of the tubing difficult.

2. Connecting products with metal rods

Products with metal rods (KC series, previous KQ series, KN series, and KM series, etc.) cannot be connected to KQ2 series One-touch fittings. If connected, the metal rod cannot be retained by the chuck of the One-touch fitting and products with metal rods may project during pressurization, causing serious personal injury or accident.
Even when products with metal rods can be connected to other One-touch fittings, do not use any tube, resin plug, or reducer after connection. This may cause releasing.
For details about One-touch fittings that can connect products with metal rods, contact SMC.

Fittings & Tubing Precautions 4

Be sure to read this before handling products.

Connection Thread Tightening Method

1. Connection thread: M3

First, tighten by hand, then use a wrench appropriate for the hexagon flats of the body to tighten an additional 1/4 turn.
A reference value for the tightening torque is 0.4 to 0.5 N·m.

2. Connection thread: M5 and 10-32UNF

First, tighten by hand, then use a wrench appropriate for the hexagon flats of the body to tighten an additional 1/6 to 1/4 turn.
A reference value for the tightening torque is 1 to 1.5 N·m.

3. Connection thread: M6

First, tighten by hand, then use a wrench appropriate for the hexagon flats of the body to tighten an additional 1/6 to 1/4 turn.

∗ Excessive tightening may damage the thread portion or deform the gasket and cause air leakage.
Insufficient tightening may loosen the threads, or cause air leakage.

4. Fittings with sealant: R, NPT

1) First, tighten the fitting by hand, then use a wrench appropriate for the hexagon flats of the body to tighten it a further two or three turns.
For a tightening torque guide, see the table below.

Connection thread size (R, NPT)	Tightening torque [N·m]
1/16, 1/8	3 to 5
1/4	8 to 12
3/8	15 to 20
1/2	20 to 25

2) If the fitting is tightened with excessive torque, a large amount of sealant will seep out. Remove the excess sealant.

3) Insufficient tightening may cause seal failure, or loosen the threads.

4) Reuse

(1) Normally, fittings with a sealant can be reused up to 2 to 3 times.

(2) To prevent air leakage through the sealant, remove any loose sealant stuck to the fitting by blowing air over the threaded portion.

(3) If the sealant no longer provides effective sealing, wind sealing tape over the sealant before reusing. Do not use the sealant in any form other than a tape type.

(4) Once the fitting has been tightened, backing it out to its original position often causes the sealant to become defective. Air leakage will occur.

5. Face seal fittings: R, NPT, G

1) Tighten fittings with sealant using the proper tightening torques in the table below.

Connection thread size (R, NPT, G)	Proper tightening torque [N·m]
1/16, 1/8	3 to 5
1/4	8 to 12
3/8	15 to 20
1/2	20 to 25

2) Insufficient tightening may cause seal failure, or loosen the threads.

3) Reuse

(1) Normally, fittings with a sealant can be reused up to 6 to 10 times.

(2) The seal ring cannot be replaced.

6. Uni thread fittings

1) First, tighten the threaded portion by hand, then use a proper wrench, which could be suitable for the width across flats of the hexagon body, to tighten it further at a wrench tightening angle shown below. As a reference value for the tightening torque, refer to the table below.

Connection Female Thread: Rc, NPT, NPTF

Uni thread size	Wrench tightening angle after hand-tightening [deg]	Tightening torque [N·m]
1/8	30 to 60	3 to 5
1/4	30 to 60	8 to 12
3/8	15 to 45	14 to 16
1/2	15 to 30	20 to 22

Connection Female Thread: G

Uni thread size	Wrench tightening angle after hand-tightening [deg]	Tightening torque [N·m]
1/8	30 to 45	3 to 4
1/4	15 to 30	4 to 5
3/8	15 to 30	8 to 9
1/2	15 to 30	14 to 15

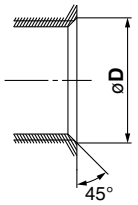
2) The gasket can be reused up to 6 to 10 times. It can be replaced easily when it has sustained damage. A broken gasket can be removed by holding it and then turning it in the same direction as loosening the thread. If gasket is difficult to remove, cut it with nippers, etc. In such a case, use caution not to scratch the seat face because the seat face of 45° gasket of fitting is the sealing face.

Chamfer Dimension for Female Thread

⚠Caution

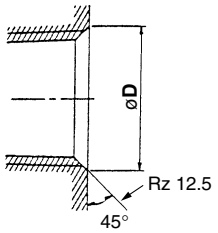
1. Chamfer dimension for female thread of the connection thread M3, M5, 10-32UNF

Confirming to ISO 16030 (air pressure fluid dynamics – connection – ports and stud ends), the chamfer dimensions shown below are recommended. By chamfering as shown in the following table, machining of threads is easier and effective for burr prevention.



Connection thread size	Chamfer dimension ø**D** (Recommended value) [mm]
M3	3.1 to 3.4
M5	5.1 to 5.4
10-32UNF	5.0 to 5.3

2. Chamfer dimension of R and NPT thread with sealant, and Uni thread



Connection thread size	Chamfer dimension ø**D** (Recommended value)		
	G	Rc	NPT, NPTF
1/16	—	—	8.2 to 8.4
1/8	10.2 to 10.6	10.2 to 10.4	10.5 to 10.7
1/4	13.6 to 14.0	13.6 to 13.8	14.1 to 14.3
3/8	17.1 to 17.5	17.1 to 17.3	17.4 to 17.6
1/2	21.4 to 21.8	21.4 to 21.6	21.7 to 21.9

∗ For Uni thread, Rz 12.5 is necessary for sealing at the chamfered part.

Fittings & Tubing Precautions 5

Be sure to read this before handling products.

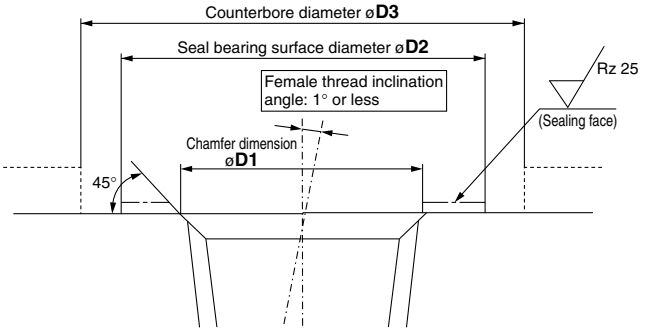
Chamfer Dimension for Female Thread

⚠Caution

3. Chamfer dimension for female thread of face seal fitting (R, NPT, G)

1) Surface roughness of bearing surface: Rz 25 or less
2) Chamfer dimension: ø**D1**, Seal bearing surface diameter: ø**D2** (Refer to the table below.)
3) Female thread inclination angle: 1° or less
4) Counterbore diameter when the female thread is counterbored.: ø**D3**
   · Models with width across flats: Body width across flats x 1.1 or more
   · Models other than hexagon (Hexagon socket head male connector etc.): Body dimensions + 0.2 mm or more
   ∗ The width across flats and the body dimensions differ depending on the model even when the same thread size is used. Refer to the dimensions in the catalog.
5) If oil content or sealant is sticking to the female thread, this may cause damage of the product. Remove it before piping.

Connection thread size	Chamfer dimension ø**D1** [mm]	Seal bearing surface diameter ø**D2** [mm]
R1/8	10.2 to 10.4	12 or more
R1/4	13.6 to 13.8	17 or more
R3/8	17.1 to 17.3	21 or more
R1/2	21.4 to 21.6	27 or more
NPT1/16	8.2 to 8.4	11.11 or more
NPT1/8	10.5 to 10.7	12.7 or more
NPT1/4	14.1 to 14.3	17.46 or more
NPT3/8	17.4 to 17.6	22 or more
NPT1/2	21.7 to 21.9	28.7 or more
G1/8	10.2 to 10.6	12 or more
G1/4	13.6 to 14.0	17 or more
G3/8	17.1 to 17.5	21 or more
G1/2	21.4 to 21.8	27 or more



Recommended Piping Conditions

1. When connecting piping to the One-touch fitting, use pipe length with sufficient margin, in accordance with the piping conditions shown in Fig. 1.

Also, when using a tying band, etc., to bind the piping together, make sure that external force does not come to bear on the fitting. (See Fig. 2.)

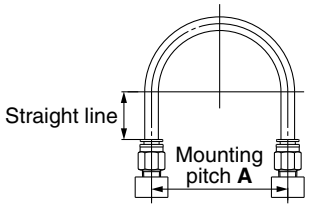


Fig. 1 Recommended piping

Unit: [mm]

Tubing size	Mounting pitch **A**			Straight line length
	Nylon tubing	Soft nylon tubing	Polyurethane tubing	
ø2	—	—	13 or more	10 or more
ø3.2, 1/8"	44 or more	35 or more	25 or more	16 or more
ø4, 5/32"	56 or more	44 or more	26 or more	20 or more
ø3/16"	67 or more	52 or more	38 or more	24 or more
ø6	84 or more	66 or more	39 or more	30 or more
ø1/4"	89 or more	70 or more	57 or more	32 or more
ø8, 5/16"	112 or more	88 or more	52 or more	40 or more
ø10	140 or more	110 or more	69 or more	50 or more
ø3/8"	134 or more	105 or more	69 or more	48 or more
ø12	168 or more	132 or more	88 or more	60 or more
ø1/2"	178 or more	140 or more	93 or more	64 or more
ø16	224 or more	176 or more	114 or more	80 or more

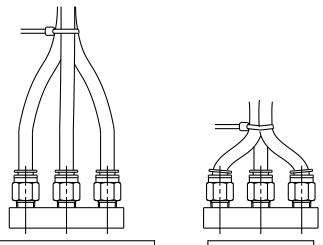


Fig. 2 When using a tying band to bind the piping together

Tubing
Design / Selection

⚠Caution

1. When using a tubing other than from SMC, be careful of the tolerance of the tubing O.D. and tubing material.

1) Nylon tubing Within ±0.1 mm
2) Soft nylon tubing Within ±0.1 mm
3) Polyurethane tubing Within +0.15 mm, Within −0.2 mm

Do not use the tubing which does not satisfy the specified tubing O.D. accuracy, or if the tubing has a different I.D., material, hardness, or surface roughness from those of SMC's tubing. Please consult SMC if there is anything unclear. It may cause difficulty in connecting the tubing, leakage, disconnection of the tubing, or fitting damage.
When used with tubing other than those from SMC, due to their properties, the products listed below are not subject to warranty.
KQG2, KQB2, KFG2, KF, ø2M

2. When using fittings other than those from SMC, be certain to confirm that operating conditions are such that no problems will arise.

KQ2C Series
Notes when Ordering Color Caps

In order to improve operability, the outside diameter of the release button has been enlarged for the **new KQ2** series.
Therefore, the usable color caps will differ between pre-change and post-change products.
Please contact SMC if anything is unclear.

Applicable Sizes and Models

	Applicable tubing O.D.	Model
Metric size	ø8, ø10, ø12, ø16	All models*1
Inch size	ø1/4", ø3/8", ø1/2"	

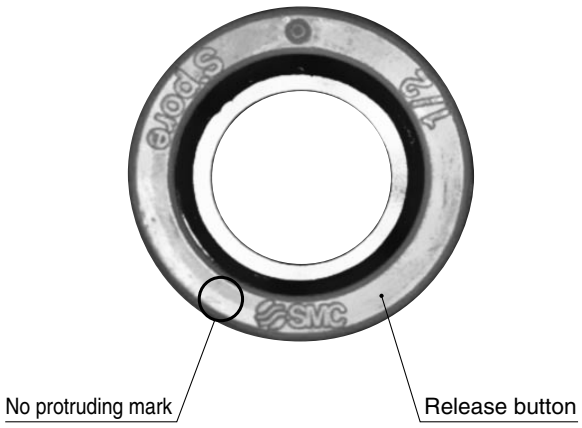
*1 Excluding models without release buttons

How to Identify Release Buttons Before and After Change

The release button for both the fitting/**KQ2** and color cap/**KQ2C** after the change can be identified by the protruding mark on the left side of the SMC logo, and the release button before the change has no protruding mark. The same identification method is used for metric size and inch size.

* Along with the change of the release button, the model of the color cap/**KQ2C** is changed from **KQ2C-□A** to **KQ2C-□B**.
* There is no change of the model for the fitting/**KQ2**.

Before change



Applicable color cap

Metric Size

Applicable tubing O.D. [mm]	Model	ø**D1**	ø**D2**	**L**	Weight [g]
ø**8**	**KQ2C-08□A**	12.8	9.2	2.6	0.1
ø**10**	**KQ2C-10□A**	15.2	11.2	2.7	0.1
ø**12**	**KQ2C-12□A**	17.6	13.2	2.7	0.1
ø**16**	**KQ2C-16□A**	22.4	17.2	3.2	0.2

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

Inch Size

Applicable tubing O.D. [inch]	Model	ø**D1**	ø**D2**	**L**	Weight [g]
ø**1/4**	**KQ2C-07□A**	10.7	7.5	2.6	0.1
ø**3/8**	**KQ2C-11□A**	14.8	10.7	2.7	0.1
ø**1/2**	**KQ2C-13□A**	18.5	13.9	2.7	0.1

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

After change



Applicable color cap

Metric Size

Applicable tubing O.D. [mm]	Model	ø**D1**	ø**D2**	**L**	Weight [g]
ø**8**	**KQ2C-08□B**	13.6	9.2	2.6	0.1
ø**10**	**KQ2C-10□B**	16.2	11.2	2.7	0.1
ø**12**	**KQ2C-12□B**	18.8	13.2	2.7	0.2
ø**16**	**KQ2C-16□B**	24.2	17.2	3.2	0.3

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

Inch Size

Applicable tubing O.D. [inch]	Model	ø**D1**	ø**D2**	**L**	Weight [g]
ø**1/4**	**KQ2C-07□B**	11.5	7.5	2.6	0.1
ø**3/8**	**KQ2C-11□B**	15.7	10.7	2.7	0.1
ø**1/2**	**KQ2C-13□B**	19.6	13.9	2.7	0.2

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

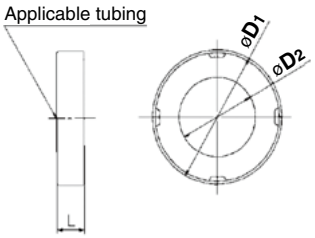
KQ2C Series
Precautions for Color Caps Applicable to Products Other than the New KQ2

Please note that color cap models for products other than the **New KQ2** One-touch fittings are different.
The table of applicable color caps is shown below.
Contact SMC for color caps for products not listed in the table below or if you have any other questions or concerns.

Table of Applicable Color Caps

Metric Size

Description	Applicable series	Applicable tubing O.D. mm	Model	øD_1	øD_2	L	Weight g
Rectangular Multi-connector	**KDM**	**ø3.2**	**KQ2C-01□**	9.1	4.35	2.9	0.1
		ø4	**KQ2C-04□**	10.1	5.2	2.9	0.1
		ø6	**KQ2C-06□**	12.1	7.2	2.9	0.1
		ø8	**KQ2C-08□**	14.1	9.2	2.9	0.1
Multi-connector with One-touch Fittings	**DMK**	**ø3.2**	**KQ2C-01A-□**	7.35	4.2	2.5	0.1
		ø4	**KQ2C-04A-□**	8.5	5	2.2	0.1
S Couplers Straight Type with One-touch Fitting **KK2□-□H** / Bulkhead Type with One-touch Fitting **KK2□-□E**	**KK2□-□H KK2□-□E**	**ø3.2**	**KQ2C-01A-□**	7.35	4.2	2.5	0.1
		ø4	**KQ2C-04A-□**	8.5	5	2.2	0.1
		ø6	**KQ2C-06A-□**	10.5	7	2.2	0.1
S Couplers Elbow Type with One-touch Fitting	**KK2□-23L**	**ø3.2**	**KQ2C-01B-□**	8.8	4.2	2.5	0.1
	KK2□-04L	**ø4**	**KQ2C-04B-□**	9.7	5	2.2	0.1
	KK2□-06L	**ø6**	**KQ2C-06B-□**	12	7	2.2	0.1
S Couplers	**KK3**	**ø4**	**KQ2C-04□**	10.1	5.2	2.9	0.1
	KK3, KK4	**ø6**	**KQ2C-06□**	12.1	7.2	2.9	0.1
		ø8	**KQ2C-08□**	14.1	9.2	2.9	0.1
		ø10	**KQ2C-10□**	17.1	11.2	2.9	0.2
	KK4, KK6	**ø12**	**KQ2C-12□**	19.1	13.2	2.9	0.2
One-touch Fittings Manifold	**KM**	**ø4**	**KQ2C-04□**	10.1	5.2	2.9	0.1
		ø6	**KQ2C-06□**	12.1	7.2	2.9	0.1
		ø8	**KQ2C-08□**	14.1	9.2	2.9	0.1
		ø10	**KQ2C-10□**	17.1	11.2	2.9	0.2
Self-seal Fittings / **Rotary One-touch Fittings**	**KC KS/KX**	**ø4**	**KQ2C-04□**	10.1	5.2	2.9	0.1
		ø6	**KQ2C-06□**	12.1	7.2	2.9	0.1
		ø8	**KQ2C-08□**	14.1	9.2	2.9	0.1
		ø10	**KQ2C-10□**	17.1	11.2	2.9	0.2
		ø12	**KQ2C-12□**	19.1	13.2	2.9	0.2
Piping Module	**KB**	**ø4**	**KQ2C-04□**	10.1	5.2	2.9	0.1
		ø6	**KQ2C-06□**	12.1	7.2	2.9	0.1
		ø8	**KQ2C-08□**	14.1	9.2	2.9	0.1
		ø10	**KQ2C-10□**	17.1	11.2	2.9	0.2
		ø12	**KQ2C-12□**	19.1	13.2	2.9	0.2
		ø16	**KQ2C-16□**	26.3	17.2	3.9	0.3



□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

Inch Size

Description	Applicable series	Applicable tubing O.D. Inch	Model	øD_1	øD_2	L	Weight g
Rectangular Multi-connector	**KDM**	1/8"	**KQ2C-01□**	9.1	4.35	2.9	0.1
		1/4"	**KQ2C-07□**	12.6	7.5	2.9	0.1
One-touch Fittings Manifold	**KM**	1/4"	**KQ2C-07□**	12.6	7.5	2.9	0.1
		3/8"	**KQ2C-11□**	16.6	10.65	2.9	0.2
		1/2"	**KQ2C-13□**	20.6	1.85	2.9	0.2
Rotary One-touch Fittings	**KS**	1/4"	**KQ2C-07□**	12.6	7.5	2.9	0.1
		3/8"	**KQ2C-11□**	16.6	10.65	2.9	0.2

□: B (Black), R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky blue), GR (Gray), W (White), BU (Blue)

⚠ Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of **"Caution," "Warning"** or **"Danger."** They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

⚠ Caution: **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

⚠ Warning: **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

⚠ Danger : **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

*1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines.
(Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots – Safety.
etc.

⚠ Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/ equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
3. An application which could have negative effects on people, property, or animals requiring special safety analysis.
4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

⚠ Caution

1. The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".
Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)
   Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
   This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*2) **Vacuum pads are excluded from this 1 year warranty.**
A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

⚠ Caution

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

Revision History

Edition B
* Correction of errors in dimensions
* Pages 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 22, 24, 25, 26, 27, 28, 29, 38, 39, 41, 49, 52, 53, 60, 68, 70
* Addition of proof pressure conditions
* Change of tightening conditions (Torque, Number of rotations)
* Addition of color cap

* Addition of made to order (White vaseline, Black body)
* Addition of Clean Series RS

Edition C
* Addition of face seal
* Correction of errors in dimensions
Pages 11, 13, 15, 16, 23, 26, 40, 46, 51, 60, 61, 104, 105
* Deletion of the note about "Applicable Tubing"
Pages 1, 33, 57, 65, 101, 109

* Number of pages increased from 88 to 124 RZ

Edition D
* Addition of oval type release button
* Addition of products with interchangeable effective area (KQ2□□-□□Q□)
* Addition of made to order
* Number of pages increased from 124 to 224 UX