



KV Fittings



■ One-touch connection reduces installation time and costs.

■ Rugged, vibration resistant composite body.

■ Various shapes and configurations to meet vehicle applications and make installation easier.

■ Nylon tubing

■ Pipe fittings

Heavy Vehicle Products

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Guide
Collet
Chuck
Tube support

Accepts tubing conforming to both
SAEJ844 and FMVSS106.
Has high retaining force.

Packing

Can be used for a wide range
of pressure from a low
vacuum up to a pressure of
150psi.

The use of a special profile
ensures positive sealing and
reduced resistance when the
tube is being inserted or removed.

Release button (Black)

Low disconnecting force.

When the fitting is removed from the
tubing, the chuck and collet are released,
thus preventing them from scraping and
biting into the tube to an unnecessary degree.

Tube

Stabalization ring (Patent Pending)

Body (Black)

O ring

Stud

**Effective when piping in a
confined space.**

The body and threaded portion can turn independently.

Sealant is
standard on all
male NPTF
fittings

How To Order

Series •

KV

L

07

35

S

Body style •

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• Sealant

-	Without
S	With Sealant (as applicable)

• Thread/Tube Size

33	1/16 NPT(F)*
34	1/8 NPT(F)*
35	1/4 NPT(F)*
36	3/8 NPT(F)*
37	1/2 NPT(F)*
00	Union
99	Plug-in

* Per SAE proposed specifications,
all male threads will incorporate
NPTF threads.

• Tube Size

01	1/8***
03	5/32*
05	3/16"
07	1/4"
11	3/8"
13	1/2"
15	5/8"
19	3/4"

** Note: 1/8" tube sizes are designated by a KQ series part number, and are not covered under the DOT or SAE specifications, since DOT does not specify performance requirements.

Specifications for Series KV - DOT & SAE Approved Fittings

Operating Fluid		Air						
Max. Operating Pressure		150 psi (1.0Mpa)						
Operating Vacuum Pressure		10 Torr (-100 kPa)						
Proof Pressure	Size	5/32"	3/16"	1/4"	3/8"	1/2"	5/8"	3/4"
	At 75°F (24°C)	1200 psi (8.3 Mpa)			1400 psi (9.7 Mpa)	950 psi (6.6 Mpa)	900 psi (6.2 Mpa)	800 psi (5.5 Mpa)
	At 200°F (93°C)	450 psi (3.1 Mpa)						
Ambient and operating fluid temperature (Note 1)		-40°F ~ 200°F (-40°C ~ 93°C)						
Leak Rate at (-40°F) (-40°C)		7 Ncm³/min. or less						
Thread	Thread portion	ANSI/ASME 1.20, 1-1983 (NPT thread)						
	Nut	JISB0208 2A.2B (Unified fine thread)						
Thread Sealant		Fluorine/Acrylic						
Applicable Standards		FMVSS106, SAEJ1131, SAEJ2494 (Proposed Standard)						
Applicable Tubing		Tubing conforming to both SAEJ844 and FMVSS106 Materials: Nylon 11 or Nylon 12						
Tube O.D.		1/8", 5/32", 3/16", 1/4", 3/8", 1/2", 5/8", 3/4"						

Note 1) Conforming to SAEJ1131 and SAEJ2494 (Proposed Standard)

Principal element material

Body	Polybutylene Terephthalate, (PBT)
Stud	Brass (Thread Portion)
Chuck	Stainless Steel,
Guide	Stainless Steel, Polyacetal (Delrin)
Collet	Polyacetal (Delrin)
Release button	Polyacetal (Delrin)
Packing, O-ring	Buna N / Nitrile Rubber
Tube support	Brass
Stabilization ring	Stainless Steel

SMC Corporation of America has a policy of continual product development and reserves the right to change dimensions or specifications without prior notification.

Male Connector: KVH

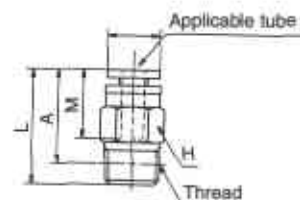


Applicable tube O.D. (Inch)	Thread NPTF	Part No.	H (Hex)	L	A*	M	Min. hole dia.	Wt. (g)
1/8	1/16	KQH01-33S	11.11	22	18	15.5	2.5	7
	1/8	KQH01-34S						9
	1/4	KQH01-35S						16
5/32	1/16	KVH03-33S	11.11	21.7	17.6	16	1.6	8
	1/8	KVH03-34S						9
	1/4	KVH03-35S						14
3/16	1/16	KVH05-33S	11.11	24.4	20.3	16.5	2.2	8
	1/8	KVH05-34S						10
	1/4	KVH05-35S						13
1/4	1/8	KVH07-34S	12.7	22.2	18.1	17	3.5	8
	1/4	KVH07-35S						14
	3/8	KVH07-36S						24
3/8	1/8	KVH11-34S	17.46	30.7	26.6	21	5.6	23
	1/4	KVH11-35S						27
	3/8	KVH11-36S						25
1/2	1/2	KVH11-37S	22.23	26.2	18.1	22	8.7	42
	1/4	KVH13-35S						40
	3/8	KVH13-36S						
5/8	1/2	KVH13-37S	25.4	29.7	21.6	24.6	10.3	41
	3/8	KVH15-36S						68
	1/2	KVH15-37S						57
3/4 **	3/8	KVH19-36S	Consult factory for information					
	1/2	KVH19-37S						

*Reference dimensions after NPTF thread installation.

** Not available at time of catalog printing. Consult factory for availability.

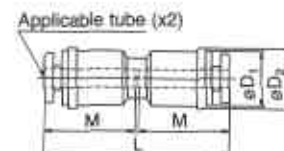
Reference torque specification Table #3



Straight Union: KVH__ - 00

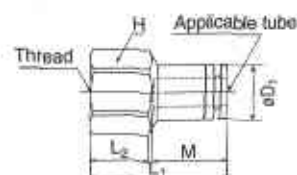


Applicable tube O.D. (Inch)	Part No.	øD ₁	øD ₂	L	M	Min. hole dia.	Wt. (g)
1/8	KQH01-00	9.6	—	31.5	15.5	2.5	3
5/32	KVH03-00	10.4	11	32.6	16	1.6	5
3/16	KVH05-00	11.4	12	34	16.5	2.2	5
1/4	KVH07-00	13.2	13.8	34.6	17	3.5	6
3/8	KVH11-00	17.9	18.9	42.6	21	5.6	15
1/2	KVH13-00	21.7	22.7	44.6	22	8.7	21
5/8	KVH15-00	Consult Factory for Information					



Female Connector: **KVF**

Applicable tube O.D. (Inch)	Thread NPT	Part No.	H (Hex)	øD ₁	L ₁	L ₂	M	Min. hole dia.	Wt. (g)
1/8	1/8	KQF01-34	14.29	9.2	26.5	11.5	15.5	2.5	15
	1/4	KQF01-35	17.46		30.5	14.5			23
5/32	1/8	KVF03-34	14.29	10	27	10.8	16	1.6	17
	1/4	KVF03-35	17.46		30.7	13.5			26
3/16	1/8	KVF05-34	14.29	10.7	27.6	10.9	16.5	2.2	17
	1/4	KVF05-35	17.46		31.3	13.6			26
1/4	1/8	KVF07-34	14.29	12.5	27.5	10.6	17	3.5	17
	1/4	KVF07-35	17.46		31.2	13.3			26
	3/8	KVF07-36	22.23		33.3	15.2			45
3/8	1/8	KVF11-34	17.46	17.4	30.8	11.3	21	5.6	32
	1/4	KVF11-35			34.5	15			33
	3/8	KVF11-36			36.6	15.5			51
	1/2	KVF11-37			40.6	18.9			55
1/2	1/8	KVF13-34	22.23	21	31.4	9.9	22	8.7	52
	1/4	KVF13-35			35.4	13.8			59
	3/8	KVF13-36			36.4	14.8			53
	1/2	KVF13-37			40.8	18.8			59

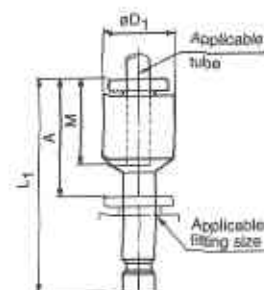


Reference torque specification Table #3

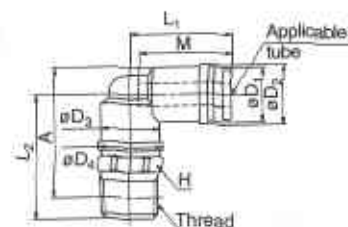
Plug-in Reducer: **KVR****

Applicable tube O.D. (Inch)	Applicable fitting tube O.D. (Inch)	Part No.	øD ₁	øD ₂	L ₁	A	M	Min. hole dia.	Wt. (g)
1/8	5/32	KQR01-03	9.6	—	34.5	18.5	15.5	2.5	2
	3/16	KQR01-05	9.2		34	17.5	15.5	2.5	7
5/32	3/16	KVR03-05	10	11	34	17.5	16	3	8
	1/4	KVR03-07	10.4		34.5	17.5	16	3	9
3/16	1/4	KVR05-07	11.4	12	34.5	18.5	16.5	3.5	4
1/4	3/8	KVR07-11	12.5	13.8	39	18	17	4.6	19
3/8	1/2	KVR11-13	17.9	18.9	42.5	20.5	21	7	32

** Not available at time of catalog printing. Consult factory for availability.

Male Elbow: **KVL**

Applicable tube O.D. (Inch)	Thread NPTF	Part No.	H (Hex)	øD ₁	øD ₂	øD ₃	øD ₄	L ₁	L ₂	A*	M	Min. hole dia.	Wt (g)
1/8	1/16	KQL01-33S	11.11	9.6	10	—	—	17.5	21.5	22.5	15.5	2.5	8
	1/8	KQL01-34S				—	—		25.5	24.5			18
	1/4	KQL01-35S				—	—		25.5	24.5			18
5/32	1/8	KVL03-34S	11.11	10.4	11	10	10.6	18.3	22	23.1	16	1.6	10
3/16	1/8	KVL05-34S	11.11	11.4	12	10	10.6	19.5	22.5	24.1	16.5	2.2	11
	1/4	KVL05-35S	14.29						26.5	26.4			20
1/4	1/8	KVL07-34S	11.11	13.2	13.8	10	10.6	20.6	23.4	25.9	17	3.5	11
	1/4	KVL07-35S	14.29						27.4	28.2			20
	3/8	KVL07-36S	17.46						29.4	29.8			34
3/8	1/8	KVL11-34S	19	17.9	18.9	17	18	26.2	26.6	31.5	21	5.6	30
	1/4	KVL11-35S							29.6	32.8			28
	3/8	KVL11-36S							31.6	34.5			37
	1/2	KVL11-37S							22.23	35.6			36.5
1/2	1/4	KVL13-36S	19	21.7	22.7	17	18	28.8	31.5	36.6	22	8.7	32
	3/8	KVL13-36S							33.5	38.3			41
	1/2	KVL13-37S							22.23	37.5			40.3
5/8	3/8	KVL15-36S	23.8	26.5	27.7	20.9	22.1	33.4	37.8	45	24.6	10.3	64
	1/2	KVL15-37S							40.8	46			80
3/4 **	3/8	KVL19-36S							Consult factory for information				
	1/2	KVL19-37S											



*Reference dimensions after NPTF thread installation.

** Not available at time of catalog printing. Consult factory for availability.

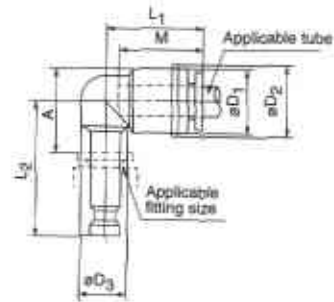
Reference torque specification Table #3

Plug-in Elbow: KVL __ - 99 **



Applicable tube O.D. (Inch)	Part No.	ϕD_1	ϕD_2	ϕD_3	L_1	L_2	A	M	Min. hole dia.	Wt. (g)
1/8	KQL01-99	9.6	—	7	17	24.5	14	15	2.2	3
5/32	KVL03-99	10.4	11	8	18	25	14.5	16	2.5	3
3/16	KVL05-99	11.4	12	10	19.5	34	23.5	16.5	3.5	7
1/4	KVL07-99	13.2	13.8	10	20	27.5	17.5	17	4.6	8
3/8	KVL11-99	17.9	18.9	17	25.5	42	30	21	7	19
1/2	KVL13-99	21.7	22.7	17	28	44.5	34	22	9.6	27

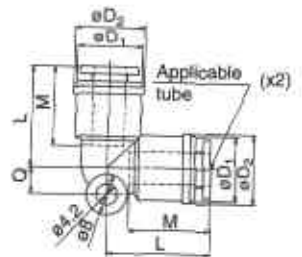
** Not available at time of catalog printing. Consult factory for availability.



Union Elbow: KVL __ - 00



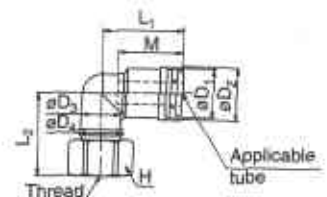
Applicable tube O.D. (Inch)	Part No.	ϕD_1	ϕD_2	L	Q	M	Min. hole dia.	Wt. (g)
1/8	KQL01-00	9.6	—	17.5	4.3	15.5	2.5	3
5/32	KVL03-00	10.4	11	18.3	4.5	16	1.6	5
3/16	KVL05-00	11.4	12	19.5	4.8	16.5	2.2	6
1/4	KVL07-00	13.2	13.8	20.6	5.3	17	3.5	7
3/8	KVL11-00	17.9	18.9	26.2	6.6	21	5.6	16
1/2	KVL13-00	21.7	22.7	28.9	7.8	22	8.7	23



Female Elbow: KVLf



Applicable tube O.D. (Inch)	Thread NPT	Part No.	H (Hax)	ϕD_1	ϕD_2	ϕD_3	ϕD_4	L_1	L_2	M	Min. hole dia.	Wt. (g)
1/8	1/8	KQLF01-34	14.29	9.6	10	—	—	17.5	20	15.5	2.5	NA
	1/4	KQLF01-35	17.46					23.5	23.5			
5/32	1/8	KVLf03-34	14.29	10.4	11	10	10.6	18.3	20.6	16	1.6	14
	1/4	KVLf03-35	17.46					24.1	24.1			22
1/4	1/8	KVLf07-34	14.29	13.2	13.8	10	10.6	20.6	22	17	2.2	14
	1/4	KVLf07-35	17.46					25.5	25.5			23
	3/8	KVLf07-36	22.23					26	26			35
3/8	1/8	KVLf11-34	17.46	17.9	18.9	17	18	18.8	18.8	21	5.6	22
	1/4	KVLf11-35	17.46					27.7	27.7			31
	3/8	KVLf11-36	22.23					28.2	28.2			43
	1/2	KVLf11-37	23.81					32.2	32.2			47
1/2	1/4	KVLf13-35	17.46	21.7	22.7	17	18	29.6	29.6	22	8.7	35
	3/8	KVLf13-36	22.23					30.1	30.1			47
	1/2	KVLf13-37	23.81					34.1	34.1			52

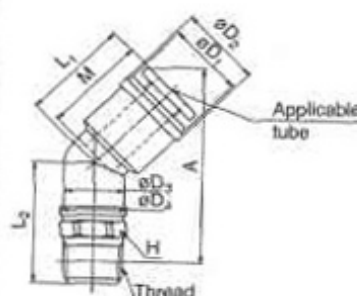


Reference torque specification Table #3



Applicable tube O.D. (Inch)	Thread NPTF	Part No.	H (Hex)	øD ₁	øD ₂	øD ₃	øD ₄	L ₁	L ₂	A	M	Min. hole dia.	Wt. (g)
1/8	1/8	KVK01-34S	11.11	9.6	10	—	—	16.5	22.5	33	15.5	2.5	NA
5/32	1/8	KVK03-34S	11.11	10.4	11	10	10.6	17	20.3	31.6	16	1.6	10
3/16	1/8	KVK05-34S	11.11	11.4	12	10	10.6	18	20.3	32.5	16.5	2.2	11
1/4	1/8	KVK07-34S	11.11	—	—	—	—	—	20.3	33.9	—	—	11
	1/4	KVK07-35S	14.29	13.2	13.8	10	10.6	19	24.3	36.2	17	3.5	20
	3/8	KVK07-36S	17.46	—	—	—	—	—	26.3	37.9	—	—	33
3/8	1/8	KVK11-34S	19	17.9	18.9	17	18	23.5	23.8	42	21	5.6	29
	1/4	KVK11-35S							26.8	43.3			—
	3/8	KVK11-36S							28.8	45			—
	1/2	KVK11-37S	22.23	—	—	—	—	—	32.8	47	—	—	—
1/2	1/8	KVK13-34S	19	21.7	22.7	17	18	25.3	24.3	45.2	22	8.7	6
	1/4	KVK13-35S							27.3	46.5			—
	3/8	KVK13-36S							29.3	48.2			—
	1/2	KVK13-37S	22.23	—	—	—	—	—	33.3	50.2	—	—	64
5/8	3/8	KVK15-36S	23.8	26.5	27.7	20.9	22.1	29.6	32	55.9	24.6	10.3	62
	1/2	KVK15-37S							35	56.9			78
3/4 **	3/8	KVK19-36S	—	—	—	—	—	—	—	—	—	—	—
	1/2	KVK19-37S							—	—			—

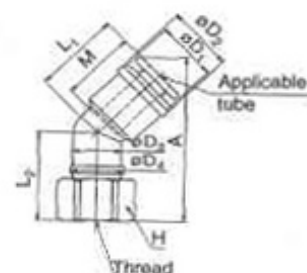
** Not available at time of catalog printing. Consult factory for availability.



45° Female Elt



Applicable tube O.D. (Inch)	Thread NPT	Part No.	H (Hex)	øD ₁	øD ₂	øD ₃	øD ₄	øL ₁	øL ₂	A	M	Min. hole dia.	Wt. (g)
3/8	3/8	KVKF11-36	22.23	17.9	18.9	17	18	23.5	25.4	47.7	21	5.6	42



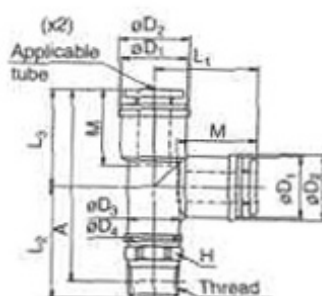
KVV



Applicable tube O.D. (Inch)	Thread NPTF	Part No.	H (Hex)	øD ₁	øD ₂	øD ₃	øD ₄	L ₁	L ₂	L ₃	A*	M	Min. hole dia.	Wt. (g)
1/8	1/16	KQY01-33S	11.11	9.6	10	—	—	17.5	21.5	—	35	15.5	2.5	10
	1/8	KQY01-34S							25.5	—				20
	1/4	KQY01-35S							—	—				—
5/32	1/16	KVY03-33S	11.11	10.4	11	10	10.6	18.3	22	18.3	36.2	16	1.6	12
	1/8	KVY03-34S							26	—				13
3/16	1/8	KVY05-34S	11.11	11.4	12	10	10.6	19.5	22.5	19.5	37.9	16.5	2.2	14
	1/4	KVY05-35S							26.5	—				23
1/4	1/8	KVY07-34S	11.11	13.2	13.8	10	10.6	20.6	23.4	—	39.9	17	3.5	14
	1/4	KVY07-35S							27.4	20.6				23
	3/8	KVY07-36S							29.4	—				37
3/8	1/4	KVY11-35S	19	17.9	18.9	17	18	26.2	29.6	—	50	21	5.6	36
	3/8	KVY11-36S							31.6	26.2				44
	1/2	KVY11-37S							35.6	—				68
1/2	1/4	KVY13-35S	19	21.7	22.7	17	18	28.8	31.5	—	54.5	22	8.7	43
	3/8	KVY13-36S							33.5	28.8				51
	1/2	KVY13-37S							37.5	—				76
5/8	3/8	KVY15-36S	—	—	—	—	—	—	—	—	—	—	—	—
	1/2	KVY15-37S							—	—				—

Consult Factory for Information

*Reference dimensions after NPTF thread installation.



Male Branch Tee: KVT

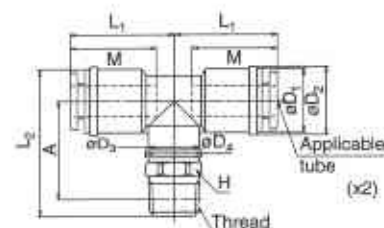


Applicable tube O.D. (Inch)	Thread NPTF	Part No.	H (Hex)	ϕD_1	ϕD_2	ϕD_3	ϕD_4	L_1	L_2	*A	M	Min. hole dia.	Wt. (g)
1/8	1/16	KQT01-33S	11.11	9.6	10	—	—	17.5	21.5	22.5	15.5	2.5	10
	1/8	KQT01-34S	14.29	—	—	—	—	—	25.5	24.5	—	—	20
	1/4	KQT01-35S	14.29	—	—	—	—	—	25.5	24.5	—	—	20
5/32	1/16	KVT03-33S	11.11	10.4	11	10	10.6	18.3	27.2	17.9	16	1.6	12
	1/8	KVT03-34S	14.29	—	—	—	—	—	31.2	20.2	—	—	22
	1/4	KVT03-35S	14.29	—	—	—	—	—	31.2	20.2	—	—	22
3/16	1/8	KVT05-34S	11.11	11.4	12	10	10.6	19.5	28.2	18.4	16.5	2.2	13
	1/4	KVT05-35S	14.29	—	—	—	—	—	32.2	20.7	—	—	22
	1/8	KVT07-34S	11.11	—	—	—	—	—	30	19.3	—	—	14
1/4	1/4	KVT07-35S	14.29	13.2	13.8	10	10.6	20.6	34	21.6	17	3.5	23
	3/8	KVT07-36S	17.46	—	—	—	—	—	36	23.3	—	—	36
	1/8	KVT11-34S	11.11	—	—	—	—	—	35.6	22.5	—	—	37
3/8	1/4	KVT11-35S	14.29	17.9	18.9	17	18	26.2	38.6	23.8	21	5.6	35
	3/8	KVT11-36S	17.46	—	—	—	—	—	40.6	25.5	—	—	44
	1/2	KVT11-37S	22.23	—	—	—	—	—	44.6	27.5	—	—	68
1/2	1/4	KVT13-35S	14.29	21.7	22.7	17	18	28.8	42.4	25.7	22	8.7	43
	3/8	KVT13-36S	17.46	—	—	—	—	—	44.4	27.4	—	—	51
	1/2	KVT13-37S	22.23	—	—	—	—	—	48.4	29.4	—	—	75
5/8	3/8	KVT15-36S	—	—	—	—	—	—	—	—	—	—	—
5/8	1/2	KVT15-37S	—	—	—	—	—	—	—	—	—	—	—

Consult Factory for Information

*Reference dimensions after NPTF thread installation.

Reference torque specification Table #3

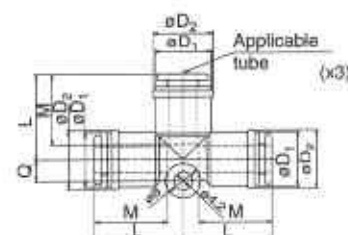


Union Tee: KVT --- - 00



Applicable tube O.D. (Inch)	Part No.	ϕD_1	ϕD_2	L	Q	M	Min. hole dia.	Wt. (g)
1/8	KQT01-00	9.6	—	17.5	4.3	15.5	2.5	5
5/32	KVT03-00	10.4	11	18.3	4.5	16	1.6	8
3/16	KVT05-00	11.4	12	19.5	4.8	16.5	2.2	9
1/4	KVT07-00	13.2	13.8	20.6	5.3	17	3.5	9
3/8	KVT11-00	17.9	18.9	26.2	6.6	21	5.6	23
1/2	KVT13-00	21.7	22.7	28.8	7.8	22	8.7	33
5/8	KVT15-00	—	—	—	—	—	—	—

Consult Factory for Information

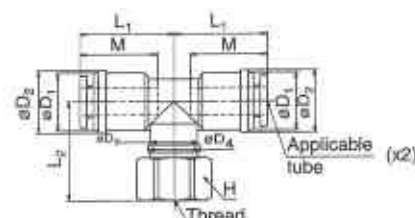


Female Branch Tee: KVTF



Applicable tube O.D. (Inch)	Thread NPT	Part No.	H (Hex)	ϕD_1	ϕD_2	ϕD_3	ϕD_4	L_1	L_2	M	Min. hole dia.	Wt. (g)
1/4	1/8	KVTF07-34	14.29	13.2	13.8	10	10.6	20.6	22	17	3.5	18
	1/4	KVTF07-35	17.46	—	—	—	—	—	25.5	—	—	26
3/8	1/4	KVTF11-35	17.46	17.9	18.9	17	18	26.2	27.7	21	5.6	38
	3/8	KVTF11-36	—	—	—	—	—	—	—	—	—	—
1/2	3/8	KVTF13-36	22.23	21.7	22.7	17	18	28.8	30.1	22	8.7	57
5/8	1/4	KVTF15-35	23.8	26.5	27.7	20.9	22.1	33.4	25.8	24.6	10.3	69

Reference torque specification Table #3

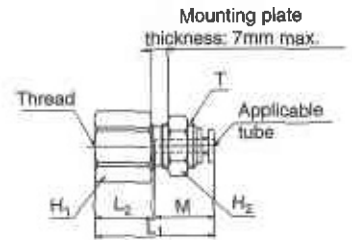


Bulkhead Connector: **KVE**

Applicable tube O.D. (Inch)	Thread NPT	Part No.	T (Thread) UNF	H ₁ (Hex)	H ₂ (Hex)	L ₁	L ₂	M	Min. hole dia.	Mtg. hole	Wt. (g)
1/8	1/4	KQE01-35	1/2-20	17.5	17.5	31	15	15.5	2.5	13.5	36
5/32	1/4	KVE03-35	1/2-20	17.46	17.46	31	14.7	16	1.6	13.5	36
3/16	1/8	KVE05-34	9/16-18	17.46	17.46	27.8	9.9	16.5	2.2	15	35
1/4	1/8	KVE07-34	9/16-18	17.46	17.46	27.5	9.8	17	3.5	15	32
	1/4	KVE07-35				32.4	14.7				36
3/8	1/4	KVE11-35	7/8-14	25.4	25.4	34.5	12.1	21	5.6	23	90
	3/8	KVE11-36				36.9	14.5				91
1/2	3/8	KVE13-36	1-12	28.57	28.57	37.1	13.7	22	8.7	26	120
	1/2	KVE13-37				41.2	17.8				124
5/8	3/8	KVE15-36									
	1/2	KVE15-37									

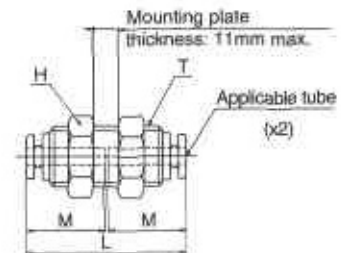
Consult Factory for Information

Reference torque specification Table #4

Bulkhead Union: **KVE _ _ - 00**

Applicable tube O.D. (Inch)	Part No.	T (Thread) UNF	H (Hex)	L	M	Min. hole dia.	Mtg. hole	Wt. (g)
1/8	KQE01-00	1/2-20	17.5	31.5	15.5	2.5	13.5	26
5/32	KVE03-00	1/2-20	17.46	32.1	16	1.6	13.5	32
3/16	KVE05-00	9/16-18	17.46	33.5	16.5	2.2	15	35
1/4	KVE07-00	9/16-18	17.46	34.1	17	3.5	15	30
3/8	KVE11-00	7/8-14	25.4	42.1	21	5.6	23	87
1/2	KVE13-00	1-12	28.57	44.1	22	8.7	6.2	117
5/8	KVE15-00	1 1/8 - 12	33.33	50	24.6	29	10.3	191

Reference torque specification Table #4

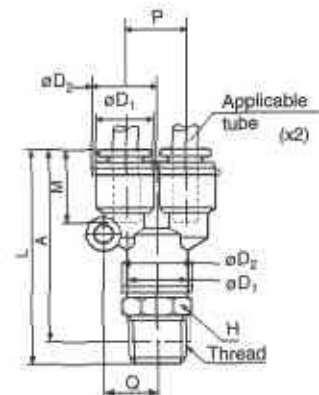
Male Branch "Y": **KVU****

Applicable tube O.D. (Inch)	Thread NPTF	Part No.	H (Hex)	øD ₁	øD ₂	L	P	Q	A*	M	Min. hole dia.	Wt. (g)
1/8	1/8	KQU01-34S	12.7	9.6	—	40.5	9.6	9	36.5	15.5	2.5	14
	1/4	KQU01-35S	14.29			44.5			38.5			
5/32	1/8	KVU03-34S	12.7	10.4	11	42	12.4	9.7	38	16	3	16
	1/4	KVU03-35S	14.29			46			40			
3/16	1/8	KVU05-34S	12.7	11.4	12	44	13.4	10.6	40	16.5	3.5	18
	1/4	KVU05-35S	14.9			48.5			42.5			
1/4	1/8	KVU07-34S	14.29	13.2	13.8	46.5	17.2	12	42.5	17	4.6	20
	1/4	KVU07-35S				49.5			43.5			
	3/8	KVU07-36S				51.5			45			
3/8	1/4	KVU11-35S	19.05	17.9	18.9	60	17.9	15.6	54	21	7	42
	3/8	KVU11-36S				61			54.5			43
	1/2	KVU11-37S				64.5			56.5			56
1/2	1/4	KVU13-35S	22.23	21.7	22.7	64.5	23.7	18.8	58.5	22	9.6	31
	3/8	KVU13-36S				65.5			59			41
	1/2	KVU13-37S				68.5			60.5			68

*Reference dimensions after NPTF thread installation.

** Not available at time of catalog printing. Consult factory for availability.

Reference torque specification Table #3

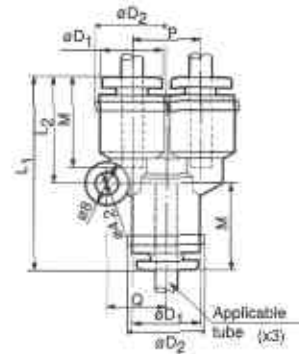


Union "Y": KVU** _ _ - 00



Applicable tube O.D. (inch)	Part No.	ϕD_1	ϕD_2	L_1	L_2	P	Q	M	Min. hole dia.	Wt. (g)
1/8	KQU01-00	9.6	—	33	17.5	9.6	9	15.5	2.5	6
5/32	KVU03-00	10.4	11	34	18	12.4	9.7	16	3	8
3/16	KVU05-00	11.4	12	36.5	20.5	13.4	10.6	16.5	3.5	9
1/4	KVU07-00	13.2	13.8	38	21.5	17.2	12	17	4.6	10
3/8	KVU11-00	17.9	18.9	48	27.5	19.9	15.6	21	7	16

** Not available at time of catalog printing. Consult factory for availability.



KQ2C / KR / KVP Series

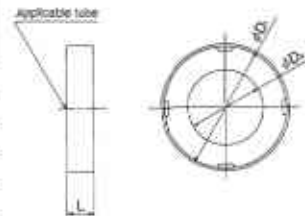
DOT/SAE Air Fittings

Caps: KQ2C



Applicable tube O.D. (inch)	Part No.	ϕD_1	ϕD_2	L	Weight (g)
1/8	KQ2C-01□	9.1	4.4	2.9	0.1
5/32	KQ2C-04□	10.1	5.2	2.9	0.1
3/16	KQ2C-05□	10.8	6.9	2.9	0.1
1/4	KQ2C-07□	12.6	7.5	2.9	0.1
3/8	KQ2C-11□	16.6	10.7	2.9	0.2
1/2	KQ2C-13□	20.6	13.9	2.9	0.2
5/8	KQ2C-16□	26.3	17.2	3.9	0.3

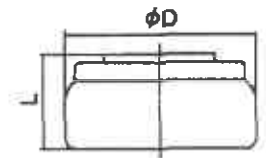
□ R (Red), YR (Orange), BR (Brown), Y (Yellow), G (Green), CB (Sky Blue), W (White), B (Black), GR (Gray), BU (Blue).



Fitting Boot: KR



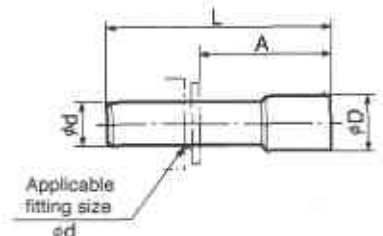
Applicable Fitting O.D.	Model	ϕD	L	
1/4"	KR-07C	Consult factory for information		
3/8"	KR-11C			
1/2"	KR-13C			



Plugs: KVP



Applicable fitting size ϕd (inch)	Part No.	ϕD	L	A	Weight (g)
1/8	KVP-01	5	31.5	16	1
5/32	KVP-03	6	32	16	1
3/16	KVP-05	6.8	34	17.5	1
1/4	KVP-07	8.5	35	18	1
3/8	KVP-11	11.5	43	22	3.5
1/2	KVP-13	15	46	24	5
5/8	KQ2P-16	Consult factory for information			



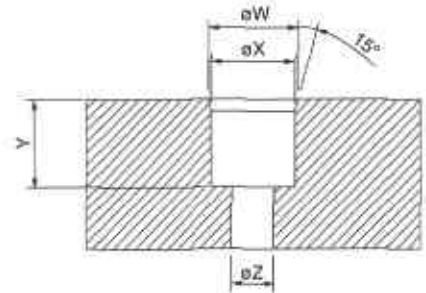
Cartridge: KVQA DOT Specifications

Table 1



Applicable tube O.D. (Inch)	Part No.	ϕX ± 0.05 MM	ϕW ± 0.05 MM	ϕZ min. MM	Y min. MM
5/32	KVQA-03**	8.28	9.09	3.18	10.9
1/4	KVQA-07	11.00	11.81	4.78	11.7

** Not available at time of catalog printing. Consult factory for availability.



Plastic Cavity Dimensions
Consult Factory For Metal

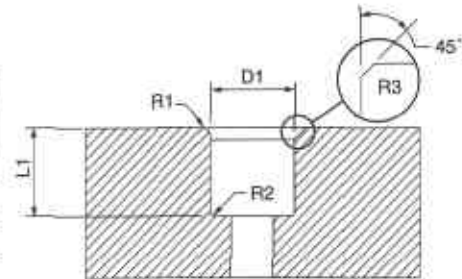
Cartridge: KVQB ** DOT/SAE Specifications

Table 2



Applicable tube O.D. (Inch)	Part No.	D1 ± 0.05 (mm)	L1 ± 0.05 (mm)	R1 (mm)	R2 (mm)	R3 (mm) (optional)
5/32	KVQB-03	8.8	11.4	.5	.5	.5
1/4	KVQB-07	12.8	12.7	.5	.5	.5
3/8	KVQB-11	16.5	16.5	.5	.5	.5
1/2	KVQB-13	19.7	19.8	.5	.5	.5
5/8	KVQB-15	23.5	22.4	.8	.8	.8

** Not available at time of catalog printing. Consult factory for availability.



Aluminum Cavity Dimensions
Consult Factory For Plastic

Advantages

SMC Encapsulated Cartridges are a compact, economical design that allows the user to reduce the space and labor required to install and assemble a conventional pipe thread fitting connection. Weight reduction and the elimination of pipe thread leakage related to improper assembly techniques are also improved. The SMC Single Step Cartridge design allows for faster and easier installation of components and assemblies. An external O ring is reassembled on the SMC Single Step Cartridge to ensure a leak free cavity. The SMC Single Step Cartridge includes a tube support. Once the SMC Single Step Cartridge is installed in a single step cavity, no special tools are needed to connect tubing. Just bottom the tubing into the cartridge body for a positive seal. For color coding use the KQ2C color caps. After installation into a cavity, simply snap the color coded cap onto the release button.

Materials

SMC Single Step Cartridges are designed currently to be installed into a thermoplastic (See Table 1) Nylon/Glass Filled Nylon/Acetal/Polybutylene terephthalate] or Aluminum (See Table 2) [T-6061-76] cavities. Consult factory for special cavity or housing materials that would be suitable for a particular application.

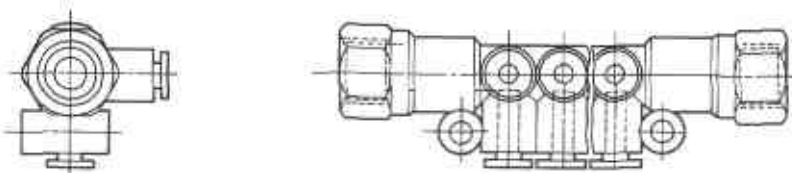
Cartridge Installation

Apply a light grease, light oil, petroleum jelly or silicone lubricant to the cartridge O ring. Use a tool that fits over the release button and presses on the cartridge flange. Apply pressure with an arbor press or assembly machine that will keep the cartridge square to the cavity during installation. Press the cartridge into the cavity until the bottom of the flange makes contact with the cavity body.

Applications

For air brake applications, (using SAE J844 Type A and B Nylon tubing) sizes 5/32" and above meet D.O.T. FMVSS 571.106, S.A.E. J1131 and/or the proposed S.A.E. J2494 air brake performance specifications. The 1/8" SMC Encapsulated Cartridges are not D.O.T./S.A.E. rated and are designed for use in pressure protected air accessory lines that are isolated from the air brake system.

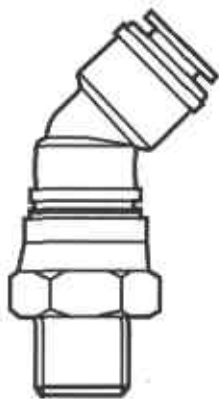
KM12



Triple Universal Male Elbow: KQ2VT Inch

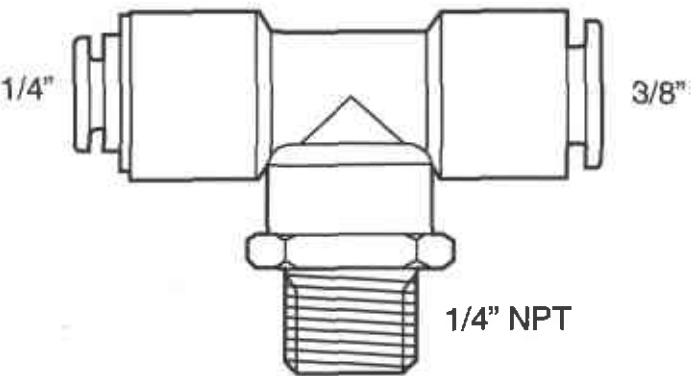


Rotating 45° Male Elbow



3/8" Dia. x NPT 3/8

Differential Branch Tee



1/4" Dia. x 3/8" Dia. x 1/4 NPT

Consult Salesperson for Information

Nylon Tubing



- All colors are available in all tube sizes
- For use in Air Brake systems on Heavy Duty Vehicles.
- Cold and heat stabilized
- UV resistant

Specifications

Operating Fluid	Air								
Max. Operating Pressure	150 psi								
Operating Temp.	-40°F to 200°F (-40°C to 93°C)								
Specifications	D.O.T. FMVSS 106 (1/8" not listed in FMVSS 106)								
	SAE J844 Type A or B								
	Performance requirements of SAE J1131 and SAEJ 2494 (Proposed Standard)								
Tube O.D.	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"
Minimum (mm) Bending Radius	9.4	12.7	19.1	25.4	31.8	38.1	50.8	63.5	76.2
Minimum Burst Pressure at 24°C (75°F) psi	1000	1200	1200	1200	1000	1400	950	900	800
Material	Nylon (Polyamide)								

How to Order

TIV **15** **B** — **33**

• **Tube Size**

01	1/8"
03	5/32"
05	3/16"
07	1/4"
09	5/16"
11	3/8"
13	1/2"
15	5/8"
19	3/4"

• **Length per roll**
See Packaging Table

• **Color Indication**

Symbol	Color
B	Black
W	White
R	Red
Y	Yellow
OR	Orange
G	Green
GR	Gray
BL	Blue
BR	Brown
PU	Purple
T	Tan
N	Natural

• **Tube Model**

Packaging Table

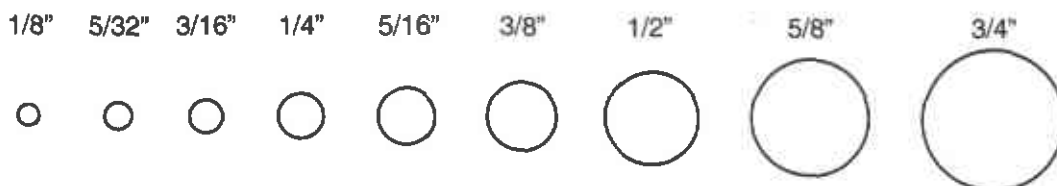
Model	Tube Sizes								
	Type "A"					Type "B"***			
Tube O.D.(Inch)	TIV01 1/8"	TIV03 5/32"	TIV05 3/16"	TIV07 1/4"	TIV09 5/16"	TIV11 3/8"	TIV13 1/2"	TIV15 5/8"	TIV19 3/4"
Length	Symbol								
100 ft	33	☐	☐	☐	☐	☐	☐	•	•
250 ft	77	☐	☐	☐	☐	•	•	▲	▲
500 ft	153	☐	•	•	☐	▲	▲	▲	▲
1000 ft	305	▲	▲	▲	▲	▲	▲	▲	▲

• = Box / ▲ = Reel / * Special Order: ☐ = Box ▲ = Reel

Made to Order

- * For a special order length, add suffix "U" to end of part number.
 ** Not available at time of catalog printing. Consult factory for availability.

Actual Outside Diameters of Tubing



How to Order Pipe Fittings

KV — 122 — B A				
Series •				
Body Style •				
		Page		
48	Connector (Tube to Male Pipe)	22		
49	90° Elbow (Tube to Male Pipe)	22		
54	45° Elbow (Tube to Male Pipe)	23		
99	Forged 90° Elbow (Male)	19		
100	Forged 90° Elbow (Female)	19		
X101	Extruded Male Branch Tee	20		
102	Forged Cross	20		
103	Coupling	18		
106	Forged Male Branch Tee	20		
107	Forged Street Tee	20		
X107	Extruded Street Tee	20		
109	Plug Square Head	21		
110	Bushing	18		
112	Close Nipple	17		
113	Long Nipple	17		
X115	Extruded 90° Street Elbow	19		
116	Forged 90° Street Elbow (Male to Female)	19		
118	Plug Hex Countersink	21		
119	Reducing Coupling	18		
120	Adapter	18		
120	Reducing Adapter	18		
121S	Plug Hex Head	21		
122	Hex Nipple	17		
122	Hex Reducing Nipple	17		
122L	Hex Nipple	17		
124	Forged 45° Street Elbow (Male to Female)	19		
X124	Extruded 45° Street Elbow	19		
1495	Terminal Bolt Female (Bulkhead)	23		
1496	Terminal Bolt Male (Bulkhead)	23		

• Pipe Thread Size

A	1/8 NPT
B	1/4 NPT
C	3/8 NPT
D	1/2 NPT
E	3/4 NPT

• 45° S.A.E. Flare

2	1/8 Tube
3	3/16 Tube
4	1/4 Tube
5	5/16 Tube
6	3/8 Tube
7	7/16 Tube
8	1/2 Tube
10	5/8 Tube

• Bulkheads

C	3/8 Male/Female
D	1/2 Male/Female
L	Long
S	Short

• Pipe Reducing Thread Size

1	1/16 NPT
A	1/8 NPT
B	1/4 NPT
C	3/8 NPT
D	1/2 NPT

• Lengths In Inches

1-1/2
2
2-1/2
3
3-1/2

Note: See specific page # for which combinations are available.

Actual Outside Diameters of Pipe Threads

1/8 NPT
A



.453" DIA

1/4 NPT
B



.540" DIA

3/8 NPT
C



.666" DIA

1/2 NPT
D



.840" DIA

T.P.I. = Threads per inch

ONG NIPPLE



Part No.	Pipe Thread	L	Flow Dia. D
KV-113-A1-1/2	1/8	1-1/2	.250
KV-113-A2	1/8	2	.250
KV-113-B2	1/4	2	.375
KV-113-B2-1/2	1/4	2-1/2	.375
KV-113-C2-1/2	3/8	2-1/2	.500
KV-113-C3	3/8	3	.500

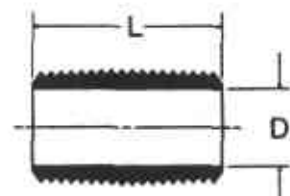
Longer lengths available upon request



LOSE NIPPLE



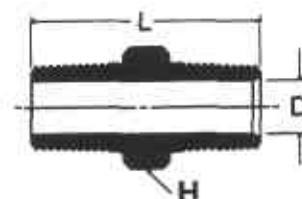
Part No.	Pipe Thread	L	Flow Dia. D
KV-112-A	1/8	.75	.281
KV-112-B	1/4	.88	.375
KV-112-C	3/8	1.00	.500
KV-112-D	1/2	1.28	.625



EX NIPPLE



Part No.	Pipe Thread	H Hex	L	Flow Dia. D
KV-122-A	1/8	7/16	.97	.220
KV-122-B	1/4	9/16	1.38	.314
KV-122L-B*	1/4	Consult factory for information		
KV-122-C	3/8	11/16	1.41	.440
KV-122-D	1/2	7/8	1.81	.564
KV-122-E	3/4	Consult factory for information		

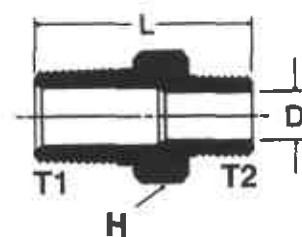


* Long pattern — 1-3/8 Inches

EX REDUCING NIPPLE



Part No.	T1 Pipe Thread	T2 Pipe Thread	H Hex	L	Flow Dia. D
KV-122-BA	1/4	1/8	9/16	1.19	.220
KV-122-CA	3/8	1/8	11/16	1.22	.220
KV-122-CB	3/8	1/4	11/16	1.41	.314
KV-122-DB	1/2	1/4	Consult factory for information		
KV-122-DC	1/2	3/8	7/8	1.62	.440
KV-122-ED	3/4	1/2	1-1/16	1.80	.564

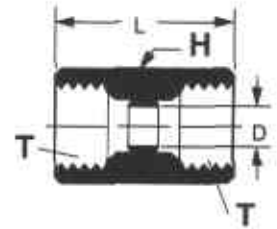


Brass Pipe Fittings

COUPLING



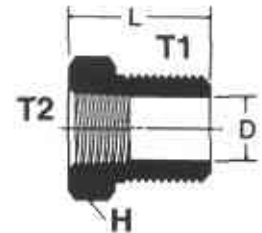
Part No.	T Pipe Thread	H Hex	L	Flow Dia. D
KV-103-A	1/8	9/16	.75	.328
KV-103-B	1/4	3/4	1.12	.422
KV-103-C	3/8	7/8	1.12	.562
KV-103-D	1/2	1-1/16	1.50	.688



BUSHING



Part No.	T1 Pipe Thread	T2 Pipe Thread	H Hex	L	Flow Dia. D
KV-110-BA	1/4	1/8	9/16	.75	.328
KV-110-CA	3/8	1/8	11/16	.75	.328
KV-110-CB	3/8	1/4	11/16	.75	.422
KV-110-DA	1/2	1/8	7/8	1.00	.328
KV-110-DB	1/2	1/4	7/8	1.00	.422
KV-110-DC	1/2	3/8	7/8	1.00	.562
KV-110-ED	3/4	1/2	Consult factory for information		
KV-110-EB	3/4	1/4	Consult factory for information		

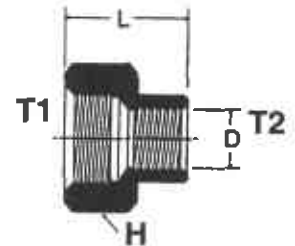


Male pipe listed first

REDUCING COUPLING



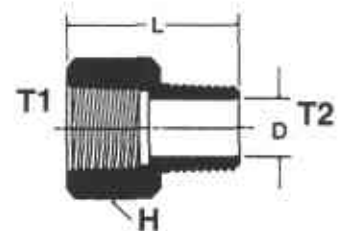
Part No.	T1 Pipe Thread	T2 Pipe Thread	H Hex	L	Flow Dia. D
KV-119-BA	1/4	1/8	3/4	.97	.328
KV-119-CA	3/8	1/8	Consult factory for information		
KV-119-CB	3/8	1/4	7/8	1.16	.422
KV-119-DB	1/2	1/4	1-1/16	1.28	.422
KV-119-DC	1/2	3/8	1-1/16	1.38	.562



REDUCING ADAPTER



Part No.	T1 Pipe Thread	T2 Pipe Thread	H Hex	L	Flow Dia. D
KV-120-A1	1/8	1/16	Consult factory for information		
KV-120-BA	1/4	1/8	3/4	1.06	.218
KV-120-CA	3/8	1/8	7/8	1.10	.218
KV-120-CB	3/8	1/4	7/8	1.25	.314
KV-120-DB	1/2	1/4	1	1.47	.312
KV-120-DC	1/2	3/8	1-1/16	1.47	.440

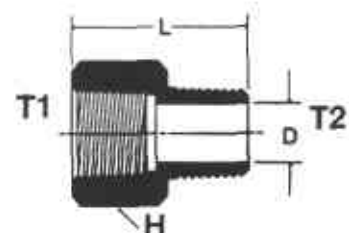


Female pipe listed first

ADAPTER



Part No.	T1 Pipe Thread	T2 Pipe Thread	H Hex	L	Flow Dia. D
KV-120-AA	1/8	1/8	9/16	.88	.218
KV-120-BB	1/4	1/4	3/4	1.25	.314
KV-120-CC	3/8	3/8	7/8	1.25	.440
KV-120-DD	1/2	1/2	1-1/16	1.66	.562

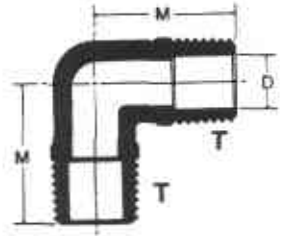


Female pipe listed first

Male: FORGED 90° ELBOW



Part No.	T Pipe Thread	M	Flow Dia. D
KV-99-A	1/8	.71	.220
KV-99-B	1/4	1.09	.312
KV-99-C	3/8	1.09	.406
KV-99-D	1/2	1.41	.562

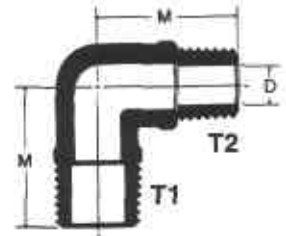


Male: REDUCING FORGED 90° ELBOW



Part No.	T1 Pipe Thread	T1 Pipe Thread	M	Flow Dia. D
KV-99-DC	1/2	3/8	**	**

** Consult factory for information

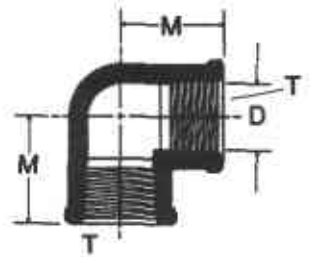


Female: FORGED 90° ELBOW



Part No.	T Pipe Thread	M	Flow Dia. D
KV-100-A	1/8	.56	.328
KV-100-B	1/4	.81	.422
KV-100-C	3/8	.84	.562
KV-100-D	1/2	**	

** Consult factory for information

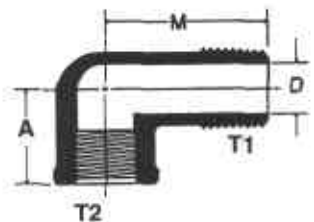


Male - Female: FORGED/EXTRUDED 90° STREET ELBOW



Part No.	T1 Pipe Thread	T2 Pipe Thread	M	A	Flow Dia. D
KV-116-A	1/8	1/8	.91	.56	.220
KV-116-B	1/4	1/4	1.08	.69	.314
KV-116-C	3/8	3/8	1.25	.78	.428
KV-116-D	1/2	1/2	Consult factory for information		
*KV-X115-B	1/4	1/4			
*KV-X115-C	3/8	3/8			
*KV-X115-D	1/2	1/2			

* Extruded
Male pipe listed first

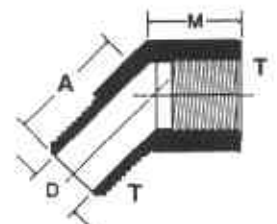


Male - Female: FORGED/EXTRUDED 45° STREET ELBOW



Part No.	T Pipe Thread	M	A	Flow Dia. D
KV-124-A	1/8	.38	.50	.220
KV-124-B	1/4	.54	.70	.314
KV-124-C	3/8	.54	.78	.440
*KV-X124-C	3/8	Consult factory for information		

* Extruded



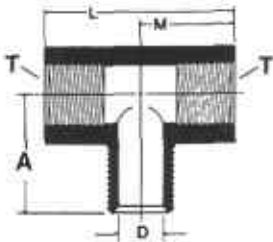
Brass Pipe Fittings

FORGED/EXTRUDED MALE BRANCH TEE



Part No.	T Pipe Thread	L	M	A	Flow Dia. D
KV-106-A	1/8	1.06	.53	.66	.220
KV-106-B	1/4	1.52	.76	.91	.314
KV-106-C	3/8	1.68	.84	.97	.438
KV-106-D	1/2	2.18	1.09	1.27	.592
*KV-X101-C	3/8	Consult factory for information			

*Extruded

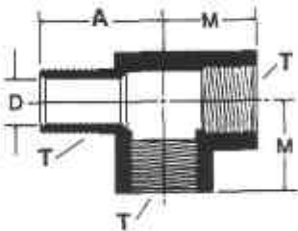


FORGED/EXTRUDED STREET TEE



Part No.	T Pipe Thread	M	A	Flow Dia. D
KV-107-A	1/8	.55	.66	.220
KV-107-B	1/4	.76	.91	.312
KV-107-C	3/8	.82	.99	.440
KV-107-D	1/2	1.07	1.27	.564
*KV-X107-C	3/8	Consult factory for information		

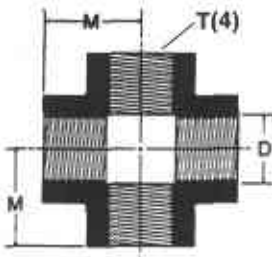
*Extruded



FORGED CROSS



Part No.	T Pipe Thread	M	Flow Dia. D
KV-102-A	1/8	.53	.328
KV-102-B	1/4	.75	.421
KV-102-C	3/8	.82	.562
KV-102-D	1/2	1.07	.688



Hex Head: PLUG



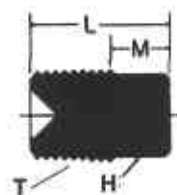
Part No.	Solid	T Pipe Thread	H Hex	L
KV-121S-A	YES	1/8	7/16	.560
KV-121S-B	YES	1/4	9/16	.750
KV-121S-C	YES	3/8	11/16	.780
KV-121S-D	YES	1/2	7/8	.970



Square Head: PLUG



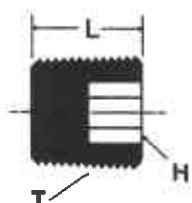
Part No.	T Pipe Thread	H SQ.	L	M
KV-109-A	1/8	9/32	.59	.25
KV-109-B	1/4	3/8	.80	.30
KV-109-C	3/8	15/32	.80	.30
KV-109-D	1/2	9/16	1.07	.39
KV-109-E	3/4	5/8	1.14	.45



Hex Countersunk: PLUG



Part No.	T Pipe Thread	H Hex	L
KV-118-A	1/8	3/16	.30
KV-118-B	1/4	1/4	.46
KV-118-C	3/8	5/16	.47
KV-118-D	1/2	3/8	.61

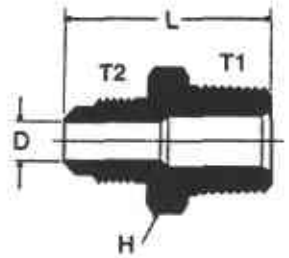


Brass S.A.E. 45° Flare

Tube To Male Pipe: CONNECTOR



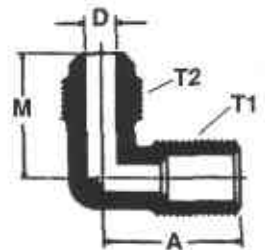
Part No.	Tube Size	T1 Pipe Thread	T2 Str. Thread	H Hex	L	Flow Dia. D
KV-48-2A	1/8	1/8	5/16-24	7/16	.91	.078
KV-48-3A	3/16	1/8	3/8-24	7/16	.98	.125
KV-48-3B	3/16	1/4	3/8-24	9/16	1.17	.125
KV-48-4A	1/4	1/8	7/16-20	7/16	1.04	.189
KV-48-4B	1/4	1/4	7/16-20	9/16	1.23	.189
KV-48-4C	1/4	3/8	7/16-20	11/16	1.29	.189
KV-48-4D	1/4	1/2	7/16-20	7/8	1.54	.189
KV-48-5A	5/16	1/8	1/2-20	1/2	1.14	.220
KV-48-5B	5/16	1/4	1/2-20	9/16	1.32	.220
KV-48-5C	5/16	3/8	1/2-20	11/16	1.36	.220
KV-48-6A	3/8	1/8	5/8-18	5/8	1.23	.220
KV-48-6B	3/8	1/4	5/8-18	5/8	1.42	.282
KV-48-6C	3/8	3/8	5/8-18	11/16	1.42	.282
KV-48-6D	3/8	1/2	5/8-18	7/8	1.67	.282
KV-48-7B	7/16	1/4	Consult factory for information			
KV-48-8B	1/2	1/4	3/4-16	3/4	1.60	.408
KV-48-8C	1/2	3/8	3/4-16	3/4	1.60	.408
KV-48-8D	1/2	1/2	3/4-16	7/8	1.79	.408
KV-48-10C	5/8	3/8	7/8-14	7/8	1.79	.408
KV-48-10D	5/8	1/2	7/8-14	7/8	1.98	.501



Tube To Male Pipe: 90° ELBOW



Part No.	Tube Size	T1 Pipe Thread	T2 Str. Thread	M	A	Flow Dia. D
KV-49-2A	1/8	1/8	Consult factory for information			
KV-49-3A	3/16	1/8				
KV-49-3B	3/16	1/4				
KV-49-4A	1/4	1/8				
KV-49-4B	1/4	1/4				
KV-49-4C	1/4	3/8				
KV-49-4D	1/4	1/2				
KV-49-5A	5/16	1/8	1/2-20	.90	.79	.220
KV-49-5B	5/16	1/4	1/2-20	.92	.95	.220
KV-49-5C	5/16	3/8	1/2-20	.98	1.01	.219
KV-49-5D	5/16	1/2	Consult factory for information			
KV-49-6A	3/8	1/8	5/8-18	1.01	.90	.220
KV-49-6B	3/8	1/4	5/8-18	1.01	1.05	.283
KV-49-6C	3/8	3/8	5/8-18	1.04	1.07	.281
KV-49-6D	3/8	1/2	5/8-18	1.15	1.27	.281
KV-49-8B	1/2	1/4	3/4-16	1.20	1.17	.312
KV-49-8C	1/2	3/8	3/4-16	1.20	1.09	.408
KV-49-8D	1/2	1/2	3/4-16	1.28	1.38	.408
KV-49-10C	5/8	3/8	7/8-14	1.41	1.25	.408
KV-49-10D	5/8	1/2	7/8-14	1.39	1.36	.502

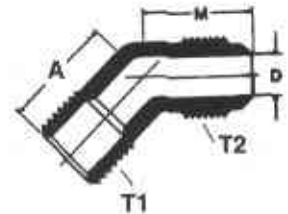


Brass S.A.E. 45° Flare / Steel Terminal Bolts

Tube To Male Pipe: 45° ELBOW



Part No.	Tube Size	T1 Pipe Thread	T2 Str. Thread	M	A	Flow Dia. D
KV-54-4A	1/4	1/8	7/16-20	.78	.56	.188
KV-54-4B	1/4	1/4	7/16-20	.75	.84	.188
KV-54-5A	5/16	1/8	1/2-20	.75	.65	.220
KV-54-5B	5/16	1/4	1/2-20	.75	.81	.220
KV-54-6B	3/8	1/4	5/8-18	.89	.86	.283
KV-54-6C	3/8	3/8	5/8-18	.91	.93	.283
KV-54-6D	3/8	1/2	Consult factory for information			
KV-54-8C	1/2	3/8	3/4-16	1.06	.95	.408
KV-54-8D	1/2	1/2	3/4-16	1.00	.87	.406
KV-54-10D	5/8	1/2	7/8-14	1.21	1.16	.502



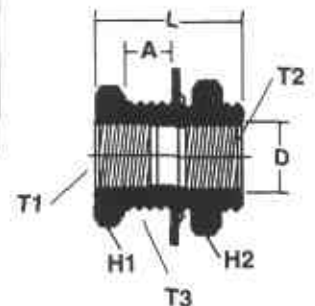
Steel Terminal Bolt: FEMALE BULKHEAD*



Part No.	T1 Pipe Thread	T2 Thread	T3 Thread	L	H1 HEX	H2 HEX	MAX BULKHEAD A	Flow Dia.D
KV-1495-C	3/8	3/8		1-1/4				
KV-1495-L	1/4	1/4	**	1-1/2			**	
KV-1495-S	1/4	1/4		31/32				

* Zinc Dichromate Plating

**Consult factory for information



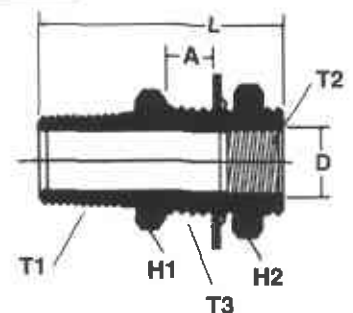
Steel Terminal Bolt: MALE BULKHEAD*



Part No.	T1 Pipe Thread	T2 Thread	T3 Thread	L	H1 HEX	H2 HEX	MAX BULKHEAD A	Flow Dia.D
KV-1496-DC	1/2 M	3/8 F	**	2			**	

* Zinc Dichromate Plating

**Consult factory for information



General Assembly

Port

Stud end torque into metallic ports **Table 3**

Thread NPTF	Standard thread torque in - lbs
1/16	62 to 80
1/8	62 to 80
1/4	106 to 124
3/8	195 to 212
1/2	248 to 266

Metallic: Aluminum, zinc, steel, and brass.

Bulkhead

Stud end torque into metallic ports **Table 4**

Size	Max Torque
1/2-26 UNF	345 in-lbs.
9/16-18 UNF	548 in-lbs.
3/4-16 UNF	1185 in-lbs.
7/8-14 UNF	2283 in-lbs.
1-12 UNF	2911 in-lbs.

Metallic: Aluminum, zinc, steel, and brass.

Tubing Instructions

Preparation of Tubing

The use of a sharp tube cutter, such as SMC's IN-548-13, is highly recommended. This tool will insure a clean, perpendicular cut of the tubing. **Never use diagonal pliers, a razor knife, saw, or dull cutting tool to cut Nylon tubing!** The use of such tools leaves the tubing with a sharp edge, a burr, or out-of-round condition, which can damage the packing when the tube is inserted into the fitting. This reduces the sealing ability of the fitting.

Tube Insertion and Removal Instructions

1. Tube insertions:
 - a) Insert end of tubing into fitting until it bottoms.
 - b) Pull on tubing to verify that it is properly retained.
2. Tubing disassembly:
 - a) Be sure the air system pressure has been reduced to zero (0 psi) before attempting to remove the tubing.
 - b) Simply push the tubing into the fitting
 - c) Press and hold the release button against the body.
 - d) Then remove the tubing.
3. Tubing reassembly:
 - a) Lubricate leading end of the tubing with light oil, petroleum jelly or silicone lubricant.
 - b) Repeat step 1.

Notes

Important Information!

DO'S

- 1** Tighten fitting by hand. Apply final torque with wrench at the hex.



- 2** Cut tubing square with a clean edge.



- 3** Use SMC tube cutter.



- 4** Allow adequate bend radius of tube.



- 5** Simply push the tubing until it bottoms out. Holding and sealing is accomplished instantaneously.



DONT'S

- 1** Avoid using wrench on push-to-connect end.



- 2** Avoid excessive tube angle cut which can lead to improper sealing.



- 3** Avoid using dikes, a knife, a saw or a dull tool to cut the tubing. Avoid burrs, dirt, and anything that can cause improper sealing.



- 4** Avoid kinking the tubing and applying excessive side load which can cause leaks.



- 5** Prevent contaminant's from entering fittings and cartridges.

- 6** Do not attempt to disassemble tubing from fitting with vehicle air system under pressure.

Chemical Resistance Chart

One Touch Fitting/Sealant — Series KQ2, KQ, KV

- — Highly resistant
- — Gradually corrodes (depends on operating conditions)
- ▼ — Moderately corrodes (depends on operating conditions)
- Not recommended for high concentrations & exposure
- — Easily corroded - inapplicable

Parts Description Material Chemicals		Body Stud Guide	Body	Chuck	Release Bushing Collet	O-ring Packing	SMC	For Reference	For Reference
		Brass	PBT	SUS304	POM	NBR	Sealant	Nylon 11	Nylon 6/6
Acetone		□	○	○	○	■	■	○	□
Alcohols - Amyl		○	□	○	□	▼		○	□
Alcohols - Butyl		○	○	○	○	○		○	□
Alcohols - Ethyl		□	□	○	□	□	▼	○	○
Alcohols - Isopropyl		○	□	○	□	○	▼	○	○
Alcohols - Methyl		□	○	○	○	○	▼	○	○
Aluminum Nitrate		▼	○	▼	○	○		○	○
Aluminum Sulfate		■	○	○	□	□		□	□
Ammonium Phosphate		▼	○	○	○	□		□	□
Ammonium Sulfate		▼	○	○	□	□		□	□
Benzene (Benzol)		□	○	□	○	■	▼	□	□
Calcium Chloride		○	□	□	□	□	○	□	□
Carbon Tetrachloride		○	□	○	○	▼	■	■	□
Compressor Oil		□	□	□	□	□	○	□	□
Ethyl Acetate		▼	○	○	○	■		□	□
Ethyl Alcohol		□	□	□	□	○		■	■
Ethylene Glycol		○	□	○	□	□		□	□
Formaldehyde		○	□	□	○	○		○	○
Gasoline		○	□	○	□	○	○	□	□
Glycerin		□	□	□	○	□	○	□	□
Heptane		□	□	□	□	○		○	○
Hexane		○	□	○	□	□	▼	□	□
Hydrochloric Acid 10%		■	○	■	■	○	■	■	■
Hydrogen Peroxide		■	○	○	■	■	▼	○	○
Kerosene		□	□	□	□	□		□	□
Linseed Oil		○	□	□	□	□	□	□	□
Lubricating Oil		○	□	□	□	□	□	□	□
Machine Oil		□	□	□	□	□	□	□	□
Methyl Alcohol		□	□	□	□	○	○	■	■
Methyl Ethyl Ketone		○	○	○	○	■		□	□
Mineral Oil		○	□	○	□	□		□	□
Motor Oil		□	□	□	□	○		○	○
Naphtha		○		○	○	○	○	□	□
Nitrate 10%		■	■	○	■	■	■	▼	▼
Ozone		□	○	○	○	■		▼	▼
Ozone Low Concentration		□	□	□	□	○		○	○
Petroleum		○	○	□	○	○		□	□
Petroleum Oils		○	□	○	□	□		□	□
Soapy Water		□	□	□	□	□	○	□	□
Sodium Chloride		○	□	○	□	□	○	□	□
Sodium Nitrate		○	○	○	○	○		□	□
Sodium Sulfide		○	○	○	□	□		□	□
Sulfuric Acid (H2SO4) 10%		■	○	▼	■	■	▼	▼	■
Toluene		□	○	□	○	■	▼	○	□
Turpentine		○	○	○	○	□	▼	□	□
Urea		○	○	○	□	■		□	□
Water		○	□	○	□	□	○	□	□
Zinc Chloride		■	○	▼	▼	□		○	○
Zinc Sulfate		▼	○	○	○	□		■	▼

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