

KUN-LOK

Instrument Valves and Fittings

Check, Bleed, Purge and Relief Valves

Contents

Check Valves	
CV, CH, CO, CA, COA Series	01
Bleed Valves	
RB Series	14
Purge Valves	
RP Series	18
Proportional Relief Valves	
RV Series	20

Check Valves

CV, CH, CO, CA, COA Series

Features

CV, CH and CO Series

Fixed Cracking Pressures

CV Series

- ⦿ Resilient O-ring seat design for noise-free closing leakage-free
- ⦿ Maximum working pressure: 3000 psig (207 bar)
- ⦿ Working temperature: -10°F to 375°F (-23°C to 190°C)
- ⦿ Cracking pressure: 1/3 to 25 psig (0.02 to 1.7 bar)
- ⦿ Variety of end connections and materials available

CH Series

- ⦿ Seat ring continuously cleaned by media, avoiding secondary pollution
- ⦿ Maximum working pressure: 6000 psig (414 bar)
- ⦿ Working temperature: -10°F to 400°F (-23°C to 204°C)
- ⦿ Cracking pressure: 1/3 to 25 psig (0.02 to 1.7 bar)
- ⦿ Variety of end connections and materials available

CO Series

- ⦿ Compact, one piece body
- ⦿ Maximum working pressure: 3000 psig (207 bar)
- ⦿ Working temperature: -10°F to 375°F (-23°C to 190°C)
- ⦿ Cracking pressure: 1/3 to 25 psig (0.02 to 1.7 bar)
- ⦿ Variety of end connections and materials available

CA and COA Series

Adjustable Cracking Pressures, Variety of Springs Available

CA Series

- ⦿ Maximum working pressure: 3000 psig (207 bar)
- ⦿ Working temperature: -10°F to 375°F (-23°C to 190°C)
- ⦿ Cracking pressure: 3 to 600 psig (0.2 to 41.4 bar)
- ⦿ Variety of end connections and materials available

COA Series

- ⦿ Compact, one-piece body
- ⦿ Maximum working pressure: 3000 psig (207 bar)
- ⦿ Working temperature: -10°F to 375°F (-23°C to 190°C)
- ⦿ Cracking pressure: 3 to 600 psig (0.2 to 41.4 bar)
- ⦿ Variety of end connections and materials available

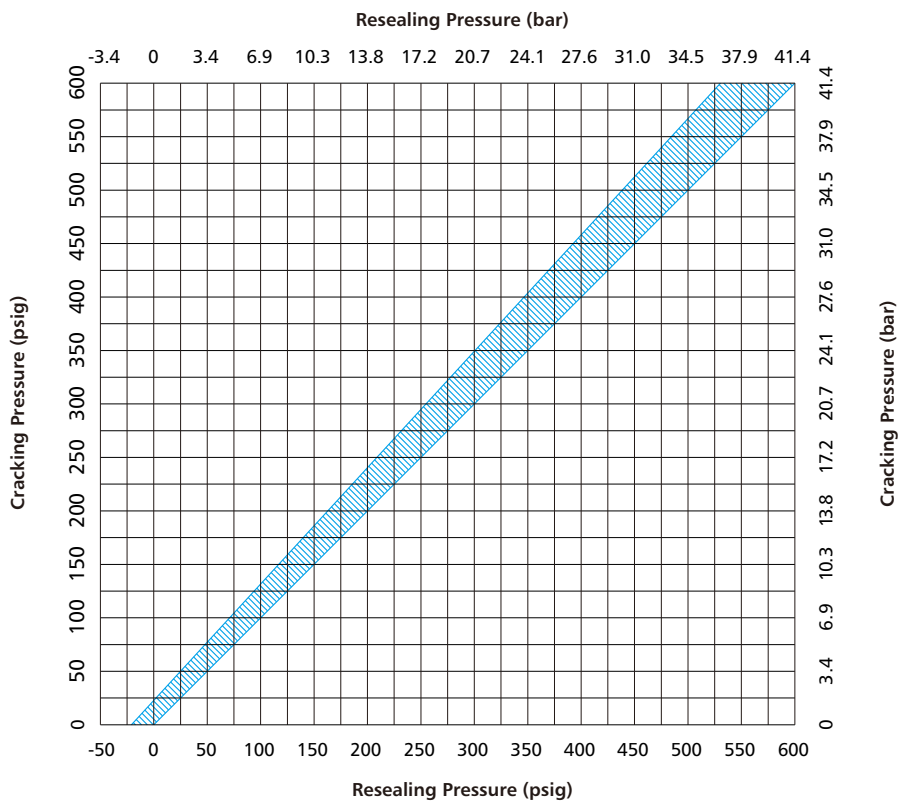
1. All valves use silicone-based and molybdenum disulfide-based lubricant.
2. Contact the authorized representative or KUN-LOK for other materials.
3. Springs with PTFE coating are available for CV, CH, CO, CA and COA series valves.
4. Every valve is tested with nitrogen for leak-tight performance at its maximum working pressure.

Cracking Pressure and Resealing Pressure

Series	Nominal Cracking Pressure psig (bar)	Cracking Pressure Range psig (bar)	Resealing Pressure Range psig (bar)
CV	1/3 (0.02) 1 (0.06) 3 (0.21) 10 (0.68) 25 (1.7)	0 to 3 (0 to 0.21) 0 to 4 (0 to 0.28) 1 to 5 (0.06 to 0.34) 7 to 15 (0.49 to 1.1) 20 to 30 (1.4 to 2.1)	Up to 6 (0.42) downstream pressure Up to 6 (0.42) downstream pressure Up to 6 (0.42) downstream pressure 3 (0.21) or higher upstream pressure 17 (1.2) or higher upstream pressure
CH	1/3 (0.02) 1 (0.06) 3 (0.21) 10 (0.68) 25 (1.7)	0 to 3 (0 to 0.21) 0 to 4 (0 to 0.28) 1 to 5 (0.06 to 0.34) 7 to 15 (0.49 to 1.1) 20 to 30 (1.4 to 2.1)	Up to 6 (0.42) downstream pressure Up to 5 (0.35) downstream pressure Up to 2 (0.14) downstream pressure 3 (0.21) or higher upstream pressure 17 (1.2) or higher upstream pressure
CO	1/3 (0.02) 1 (0.06) 3 (0.21) 10 (0.68) 25 (1.7)	0 to 3 (0 to 0.21) 0 to 4 (0 to 0.28) 1 to 5 (0.06 to 0.34) 7 to 13 (0.49 to 0.9) 20 to 30 (1.4 to 2.1)	6 to 20 (0.42 to 1.4) downstream pressure 5 to 20 (0.35 to 1.4) downstream pressure 3 to 20 (0.21 to 1.4) downstream pressure 3 to 10 (0.21 to 0.68) downstream pressure 5 (0.35) or higher upstream pressure
CA	3 to 50 (0.21 to 3.4) 50 to 150 (3.4 to 10.3)	—	Refer to the chart below
COA	150 to 350 (10.3 to 24.1) 350 to 600 (24.1 to 41.3)		

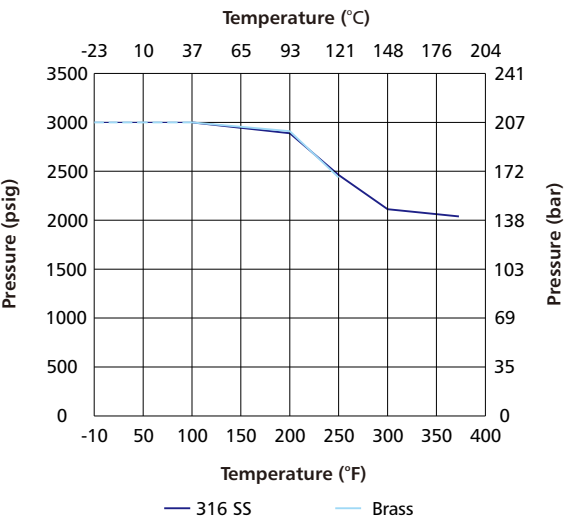
Cracking Pressure and Resealing Pressure

CA and COA Series

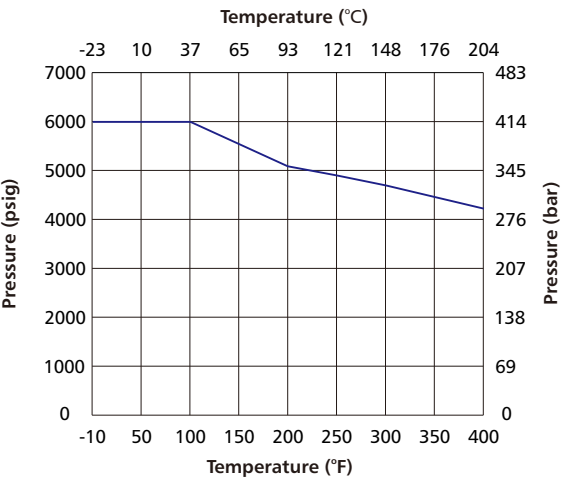


Pressure vs. Temperature

CV, CO, CA and COA Series
FKM Seat in 316 SS Body and Buna N in Brass Body



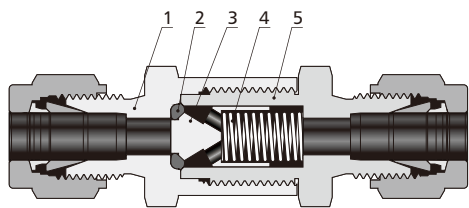
CH Series
FKM Seat in 316 SS Body



Contact the authorized representative or KUN-LOK for curve graph of other materials

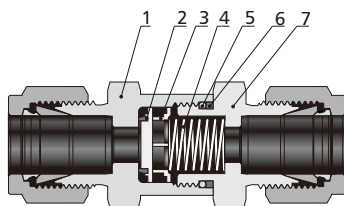
Standard Materials of Construction

CV Series



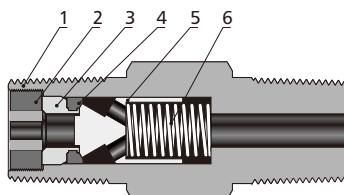
Component		Valve Material Grade/ASTM Specification	
		316 SS	Brass
1	Inlet Body	316 SS/A479	Brass C36000/B16
2	O-ring	Fluorocarbon FKM	Buna N
3	Poppet	316 SS/A479	Brass C36000/B16
4	Spring	302 SS/A313	302 SS/A313
5	Outlet Body	316 SS/A479	Brass C36000/B16

CH Series



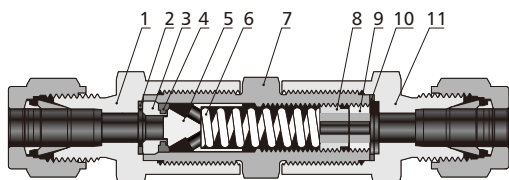
Component		Valve Material Grade/ASTM Specification
1	Inlet Body	316 SS/A479
2	Poppet	Fluorocarbon FKM - bonded 316 SS/A479
3	Poppet Stop	316 SS/A240
4	Spring	302 SS/A313
5	O-ring	Fluorocarbon FKM
6	Backup Ring	PTFE/D1710
7	Outlet Body	316 SS/A479

CO Series



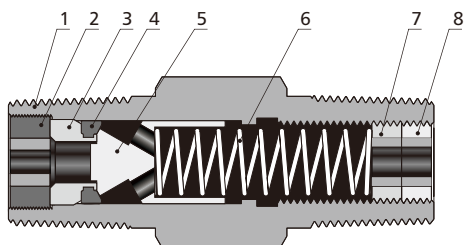
Component		Valve Material Grade/ASTM Specification	
		316 SS	Brass
1	Body	316 SS/A479	Brass C36000/B16
2	Insert Locking Screw	316 SS/A276 or A479	Brass C36000/B16
3	Insert	316 SS/A479	Brass C36000/B16
4	O-ring	Fluorocarbon FKM	Buna N
5	Poppet	316 SS/A479	Brass C36000/B16
6	Spring	302 SS/A313	302 SS/A313

CA Series



Component		Valve Material Grade/ASTM Specification	
		316 SS	Brass
1	Inlet Body	316 SS/A479	Brass C36000/B16
2	Inlet Gasket	PTFE-coated 316 SS/A240	PTFE-coated 316 SS/A240
3	Insert	316 SS/A479	Brass C36000/B16
4	O-ring	Fluorocarbon FKM	Buna N
5	Poppet	316 SS/A479	Brass C36000/B16
6	Spring	302 SS/A313	302 SS/A313
7	Center Body	316 SS/A479	Brass C36000/B16
8	Adjusting Screw	316 SS/A276	316 SS/A276
9	Locking Screw	316 SS/A276	316 SS/A276
10	Outlet Gasket	PTFE-coated 316 SS/A240	PTFE-coated 316 SS/A240
11	Outlet Body	316 SS/A479	Brass C36000/B16

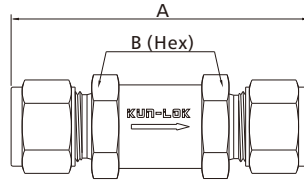
COA Series



Component		Valve Material Grade/ASTM Specification	
		316 SS	Brass
1	Body	316 SS/A479	Brass C36000/B16
2	Insert Locking Screw	316 SS/A479	Brass C36000/B16
3	Insert	316 SS/A479	Brass C36000/B16
4	O-ring	Fluorocarbon FKM	Buna N
5	Poppet	316 SS/A479	Brass C36000/B16
6	Spring	302 SS/A313	302 SS/A313
7	Adjusting Screw	316 SS/A276	316 SS/A276
8	Locking Screw	316 SS/A276	316 SS/A276

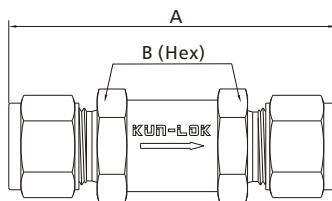
Dimensions

CV Series



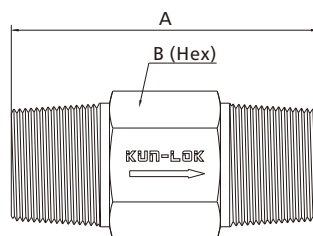
Basic Ordering Number	Connection Type and Size		Cv	Body Size	Dimension, in. (mm)	
	Inlet	Outlet			A	B
CV □□-FK2-	1/8" KUN-LOK	1/8" KUN-LOK	0.10	4	2.14 (54.3)	5/8 (15.88)
CV □□-FK4-	1/4" KUN-LOK	1/4" KUN-LOK	0.47	4	2.35 (59.7)	
CV □□-FK6-	3/8" KUN-LOK	3/8" KUN-LOK	1.47	8	3.17 (80.5)	7/8 (22.23)
CV □□-FK8-	1/2" KUN-LOK	1/2" KUN-LOK	1.68	8	3.42 (86.9)	
CV □□-FK12-	3/4" KUN-LOK	3/4" KUN-LOK	4.48	12	4.32 (110)	1 1/4 (31.75)
CV □□-FK16-	1" KUN-LOK	1" KUN-LOK		12	4.74 (120)	1 3/8 (34.93)
CV □□-MK6-	6 mm KUN-LOK	6 mm KUN-LOK	0.47	4	2.36 (59.9)	5/8 (15.88)
CV □□-MK10-	10 mm KUN-LOK	10 mm KUN-LOK	1.68	8	3.32 (84.3)	7/8 (22.23)
CV □□-MK12-	12 mm KUN-LOK	12 mm KUN-LOK		8	3.42 (86.9)	
CV □□-FNS2-	1/8 Female NPT	1/8 Female NPT	0.10	4	1.89 (48.0)	5/8 (15.88)
CV □□-FNS4-	1/4 Female NPT	1/4 Female NPT	0.47	4	2.15 (54.6)	3/4 (19.05)
CV □□-FNS6-	3/8 Female NPT	3/8 Female NPT	1.47	8	2.98 (75.7)	7/8 (22.23)
CV □□-FNS8-	1/2 Female NPT	1/2 Female NPT	1.68	8	3.58 (90.9)	1 1/16 (26.99)
CV □□-FNS12-	3/4 Female NPT	3/4 Female NPT	4.48	12	4.08 (104)	1 1/4 (31.75)
CV □□-FNS16-	1 Female NPT	1 Female NPT		12	4.84 (123)	1 5/8 (41.28)
CV □□-NS2-	1/8 Male NPT	1/8 Male NPT	0.10	4	1.71 (43.4)	5/8 (15.88)
CV □□-NS4-	1/4 Male NPT	1/4 Male NPT	0.47	4	2.09 (53.1)	
CV □□-NS6-	3/8 Male NPT	3/8 Male NPT	1.47	8	2.78 (70.6)	7/8 (22.23)
CV □□-NS8-	1/2 Male NPT	1/2 Male NPT	1.68	8	3.16 (80.3)	
CV □□-NS12-	3/4 Male NPT	3/4 Male NPT	4.48	12	4.08 (104)	1 1/4 (31.75)
CV □□-NS16-	1 Male NPT	1 Male NPT		12	4.52 (115)	1 5/8 (41.28)
CV □□-FR4-	1/4" Male FR	1/4" Male FR	0.47	4	2.21 (56.1)	5/8 (15.88)
CV □□-FR8-	1/2" Male FR	1/2" Male FR	1.68	8	3.56 (90.4)	15/16 (23.81)
CV □□-FR12-	3/4" Male FR	3/4" Male FR	4.48	12	4.64 (118)	1 5/8 (41.28)
CV □□-FR16-	1" Male FR	1" Male FR		12	4.76 (121)	

CH Series



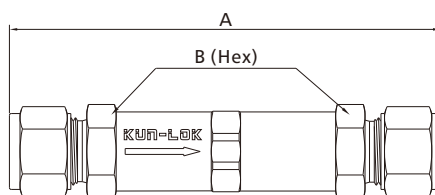
Basic Ordering Number	Connection Type and Size		Pressure Rating at 100° F (37° C) psig (bar)	CV	Body Size	Dimension, in. (mm)	
	Inlet	Outlet				A	B
CH □□-FK2-	1/8" KUN-LOK	1/8" KUN-LOK	414 (6000)	0.67	4	2.27 (57.7)	11/16 (17.46)
CH □□-FK4-	1/4" KUN-LOK	1/4" KUN-LOK			4	2.43 (61.7)	
CH □□-FK6-	3/8" KUN-LOK	3/8" KUN-LOK		1.8	8	2.75 (69.9)	1 (25.4)
CH □□-FK8-	1/2" KUN-LOK	1/2" KUN-LOK			8	2.96 (75.2)	
CH □□-FK12-	3/4" KUN-LOK	3/4" KUN-LOK	344 (5000)	4.7	16	3.52 (89.4)	1 5/8 (41.28)
CH □□-FK16-	1" KUN-LOK	1" KUN-LOK	323 (4700)		16	3.88 (98.6)	
CH □□-MK6-	6 mm KUN-LOK	6 mm KUN-LOK	414 (6000)	0.67	4	2.43 (61.7)	11/16 (17.46)
CH □□-MK8-	8 mm KUN-LOK	8 mm KUN-LOK			8	2.70 (68.6)	
CH □□-MK10-	10 mm KUN-LOK	10 mm KUN-LOK		1.8	8	2.80 (71.1)	1 (25.4)
CH □□-MK12-	12 mm KUN-LOK	12 mm KUN-LOK			8	2.96 (75.2)	
CH □□-MK22-	22 mm KUN-LOK	22 mm KUN-LOK	337(4900)	4.7	16	3.48 (88.4)	1 5/8 (41.28)
CH □□-MK25-	25 mm KUN-LOK	25 mm KUN-LOK	316(4600)		16	3.88 (98.6)	
CH □□-FNS4-	1/4 Female NPT	1/4 Female NPT	414 (6000)	0.67	4	2.13 (54.1)	11/16 (17.46)
CH □□-FNS6-	3/8 Female NPT	3/8 Female NPT	365(5300)		8	2.55 (64.8)	
CH □□-FNS8-	1/2 Female NPT	1/2 Female NPT	337(4900)	1.8	8	3.03 (77.0)	1 1/16 (26.99)
CH □□-FNS12-	3/4 Female NPT	3/4 Female NPT	316(4600)		16	3.23 (82.0)	
CH □□-FNS16-	1 Female NPT	1 Female NPT	303(4400)	4.7	16	3.83 (97.3)	1 5/8 (41.28)
CH □□-NS2-	1/8 Male NPT	1/8 Male NPT	414 (6000)	0.67	4	1.79 (45.4)	11/16 (17.46)
CH □□-NS4-	1/4 Male NPT	1/4 Male NPT			4	2.17 (55.1)	
CH □□-NS6-	3/8 Male NPT	3/8 Male NPT		1.8	8	2.36 (59.9)	1 (25.4)
CH □□-NS8-	1/2 Male NPT	1/2 Male NPT			8	2.73 (69.3)	
CH □□-NS12-	3/4 Male NPT	3/4 Male NPT	344 (5000)	4.7	16	3.29 (83.6)	1 5/8 (41.28)
CH □□-NS16-	1 Male NPT	1 Male NPT			16	3.67 (93.2)	
CH □□-FRT4-	1/4 Female BSPT	1/4 Female BSPT	414 (6000)	0.67	4	2.28 (57.9)	11/16 (17.46)
CH □□-FRT8-	1/2 Female BSPT	1/2 Female BSPT	351(5100)	1.8	8	3.29 (83.6)	1 1/16 (26.99)
CH □□-FRT12-	3/4 Female BSPT	3/4 Female BSPT	330(4800)	4.7	16	3.55 (90.2)	1 5/8 (41.28)
CH □□-FRT16-	1 Female BSPT	1 Female BSPT	303(4400)		16	3.83 (97.3)	
CH □□-RT4-	1/4 Male BSPT	1/4 Male BSPT	414 (6000)	0.67	4	2.17 (55.1)	11/16 (17.46)
CH □□-RT8-	1/2 Male BSPT	1/2 Male BSPT		1.8	8	2.73 (69.3)	1 (25.4)
CH □□-RT12-	3/4 Male BSPT	3/4 Male BSPT	344 (5000)	4.7	16	3.35 (85.1)	1 5/8 (41.28)
CH □□-RT16-	1 Male BSPT	1 Male BSPT			16	3.67 (93.2)	
CH □□-FR4-	1/4" Male FR	1/4" Male FR	414 (6000)	0.67	4	2.28 (57.9)	11/16 (17.46)
CH □□-FR8-	1/2" Male FR	1/2" Male FR	296(4300)	1.8	8	2.73 (69.3)	1 (25.4)
CH □□-FR12-	3/4" Male FR	3/4" Male FR	254(3700)	4.7	16	3.78 (96.0)	1 5/8 (41.28)
CH □□-FO4-	1/4" Male FO	1/4" Male FO	414 (6000)	0.67	4	1.98 (50.3)	11/16 (17.46)
CH □□-FO8-	1/2" Male FO	1/2" Male FO		1.8	8	2.35 (59.7)	1 (25.4)
CH □□-FO12-	3/4" Male FO	3/4" Male FO	344 (5000)	4.7	16	2.90 (73.7)	1 5/8 (41.28)
CH □□-FO16-	1" Male FO	1" Male FO			16		

CO Series



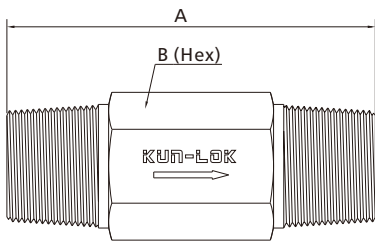
Basic Ordering Number	Connection Type and Size		Cv	Body Size	Dimension, in. (mm)	
	Inlet	Outlet			A	B
CO □□-FNS4-	1/4 Female NPT	1/4 Female NPT	0.35	4	2.41 (61.2)	3/4 (19.05)
CO □□-FNS8-	1/2 Female NPT	1/2 Female NPT	1.20	8	3.71 (94.2)	1 1/16 (26.99)
CO □□-NS4-	1/4 Male NPT	1/4 Male NPT	0.35	4	1.62 (41.1)	9/16 (14.29)
CO □□-NS8-	1/2 Male NPT	1/2 Male NPT	1.20	8	2.28 (57.9)	7/8 (22.23)
CO □□-FRT4-	1/4 Female BSPT	1/4 Female BSPT	0.35	4	2.54 (64.5)	3/4 (19.05)
CO □□-RT4-	1/4 Male BSPT	1/4 Male BSPT			1.62 (41.1)	9/16 (14.29)

CA Series



Basic Ordering Number	Connection Type and Size		Cv	Body Size	Dimension, in. (mm)	
	Inlet	Outlet			A	B
CA □□-FK4-	1/4" KUN-LOK	1/4" KUN-LOK	0.37	4	3.23 (82.0)	5/8 (15.88)
CA □□-MK6-	6 mm KUN-LOK	6 mm KUN-LOK			3.32 (84.3)	
CA □□-MK8-	8 mm KUN-LOK	8 mm KUN-LOK			3.09 (78.5)	
CA □□-FR4-	1/4" Male FR	1/4" Male FR				

COA Series



Basic Ordering Number	Connection Type and Size		Cv	Body Size	Dimension, in. (mm)	
	Inlet	Outlet			A	B
COA □□-FNS4-	1/4 Female NPT	1/4 Female NPT	0.35	4	2.98 (75.7)	3/4 (19.05)
COA □□-NS4-	1/4 Male NPT	1/4 Male NPT	0.35	4	1.62 (41.1)	9/16 (14.29)
COA □□-NS8-	1/2 Male NPT	1/2 Male NPT	1.20	8	2.56 (65.0)	7/8 (22.23)
COA □□-RT4-	1/4 Male BSPT	1/4 Male BSPT	0.35	4	1.62 (41.1)	9/16 (14.29)
COA □□-RT8-	1/2 Male BSPT	1/2 Male BSPT	1.20	8	2.56 (65.0)	7/8 (22.23)

- 1. KUN-LOK means KUN-LOK double ferrule tube fittings, FO means O-ring seal fittings, FR means metal gasket seal fittings, TB means fractional tube butt weld, MTB means metric tube butt weld, TS means fractional tube socket weld, PB means pipe butt weld.
- 2. Sizes and types listed are standard. Other sizes and types are available upon request. For special sizes and types, refer to ordering information.
- 3. Dimensions shown with KUN-LOK nuts finger-tightened. All dimensions are for reference only and are subject to change. For dimensions not shown above, contact the authorized representative or KUN-LOK.

Flow Data at 70°F (20°C)

CV Series

Air Flow (std L/min) Inlet Pressure (psig)	Cracking Pressure (psig)					
	1	10	25	1	10	25
	Cv = 0.10			Cv = 0.47		
5	10	--	--	114	--	--
10	29	--	--	157	36	--
12.5	38	11	--	176	150	--
15	48	23	--	196	170	--
25	72	62	2	253	--	18
30	78	--	17	279	--	146
35	85	--	34	309	--	330
50	103	--	77	402	--	--
80	144	--	136	580	--	--
100	171	--	160	700	--	--

Water Flow (L/min) Pressure Drop (psig)	Cracking Pressure (psig)					
	1	10	25	1	10	25
	Cv = 0.10			Cv = 0.47		
5	0.3	--	--	2.1	--	--
10	1.2	--	--	6.1	--	--
12.5	1.4	0.3	--	6.5	6.5	--
15	1.6	0.7	--	6.9	6.9	--
20	1.9	1.2	--	7.8	7.8	--
27.5	2.3	1.7	0.2	--	--	1.2
35	2.6	2.3	0.9	--	--	5.0
40	2.8	2.4	1.3	--	--	7.5
70	3.6	3.5	3.3	--	--	--
80	3.8	3.8	3.8	--	--	--

Air Flow (std L/min) Inlet Pressure (psig)	Cracking Pressure (psig)					
	1	10	25	1	10	25
	Cv = 1.47			Cv = 1.68		
5	325	--	--	460	--	--
10	623	--	--	747	--	--
15	832	377	--	916	475	--
25	1146	800	32	1255	939	40
35	1440	1150	509	1594	1347	654
50	1879	1686	1072	2101	1960	1230
80	2761	2756	2087	--	--	2400
100	--	--	2763	--	--	--

Water Flow (L/min) Pressure Drop (psig)	Cracking Pressure (psig)					
	1	10	25	1	10	25
	Cv = 1.47			Cv = 1.68		
2.5	4.6	--	--	7.4	--	--
5	8.3	--	--	13.5	--	--
10	17.5	--	--	22.6	--	--
11	--	3.3	--	--	6.8	--
12.5	--	7.7	--	--	12.9	--
15	--	13.1	--	--	20.0	--
20	--	20.0	--	--	--	--
27.5	--	--	2.2	--	--	7.3
30	--	--	4.4	--	--	12
35	--	--	8.8	--	--	19.5

Air Flow (std L/min) Inlet Pressure (psig)	Cracking Pressure (psig)		
	1	10	25
	Cv = 4.48		
5	468	--	--
10	975	--	--
15	1208	491	--
20	1435	945	--
25	1658	1232	--
35	2122	1826	1059
50	2800	2678	1905
60	--	--	2454

Water Flow (L/min) Pressure Drop (psig)	Cracking Pressure (psig)		
	1	10	25
	Cv = 4.48		
2.5	29.5	--	--
5	45.0	--	--
10	59.3	--	--
12.5	65.8	65.8	--
15	72.3	72.3	--
20	85.4	85.4	--
25.5	--	--	22
26	--	--	48
27	--	--	90

CH Series

Air Flow (std L/min) Inlet Pressure (psig)	Cracking Pressure (psig)		
	1	10	25
	Cv = 0.67		
5	8	--	--
10	80	--	--
25	160	200	--
40	180	200	--
60	600	390	180
80	900	880	640
95	1200	1060	830
110	--	1240	1020
128	--	1400	1200
140	--	--	1340

Water Flow (L/min) Pressure Drop (psig)	Cracking Pressure (psig)		
	1	10	25
	Cv = 0.67		
1	0.2	--	--
6	1.9	--	--
10	5.7	--	--
12	7.5	0.2	--
20	--	1.4	--
26	--	2.9	--
36	--	7.5	0.9
50	--	--	3.4
60	--	--	5.6
68	--	--	7.5

Air Flow (std L/min) Inlet Pressure (psig)	Cracking Pressure (psig)		
	1	10	25
	Cv = 1.8		
2	--	--	--
10	620	--	--
25	1140	520	--
30	1320	720	190
40	1620	1130	590
50	1940	1520	1000
60	2250	1900	1400
78	2800	2520	2080
86	--	2800	2430
97	--	--	2800

Water Flow (L/min) Pressure Drop (psig)	Cracking Pressure (psig)		
	1	10	25
	Cv = 1.8		
1.5	--	--	--
5.0	14.4	--	--
7.5	20.4	--	--
10.0	22.5	--	--
15	--	2.0	--
20	--	7.0	--
22	--	22.5	--
30	--	--	0.7
40	--	--	2.6
45	--	--	22.5

Air Flow (std L/min) Inlet Pressure (psig)	Cracking Pressure (psig)		
	1	10	25
	Cv = 4.7		
5	520	--	--
10	940	--	--
15	1240	540	--
20	1560	880	--
25	1620	1100	--
30	1800	1325	420
35	2080	1520	720
40	2800	1760	980
50	2280	2240	1800
60	2560	2650	2280

Water Flow (L/min) Pressure Drop (psig)	Cracking Pressure (psig)		
	1	10	25
	Cv = 4.7		
2.5	32	--	--
5.0	48	--	--
7.5	58	--	--
10.0	68	--	--
11.0	75	10	--
12.0	86	75	--
30.0	--	--	8
32.5	--	--	13
35.0	--	--	21
38.0	--	--	86

CO Series

Air Flow (std L/min) Inlet Pressure (psig)	Cracking Pressure (psig)		
	1	10	25
	Cv = 0.35		
12.5	85	--	--
25	201	121	--
50	400	327	212
75	600	539	431
100	800	750	653
112.5	--	--	750

Air Flow (std L/min) Inlet Pressure (psig)	Cracking Pressure (psig)		
	1	10	25
	Cv = 1.2		
10	366	--	--
20	679	325	--
30	1027	706	237
40	1351	1064	664
50	1692	1433	1122
60	2924	1814	1561

CA Series

Air Flow (std L/min) Inlet Pressure (psig)	Cracking Pressure (psig)			
	3	50	150	350
	Cv = 0.37			
50	459	35	--	--
150	1424	851	40	--
250	2182	1769	440	--
350	--	2800	914	--
400	--	--	1173	303
500	--	--	1785	914
600	--	--	2583	1512
700	--	--	--	2121

Water Flow (L/min) Pressure Drop (psig)	Cracking Pressure (psig)		
	1	10	25
	Cv = 0.35		
7.5	2.6	--	--
15	5.3	0.9	--
22.5	7.7	2.9	--
30	--	5	0.6
60	--	--	3.7
90	--	--	6.7

Water Flow (L/min) Pressure Drop (psig)	Cracking Pressure (psig)		
	1	10	25
	Cv = 1.2		
5	10.3	--	--
7.5	14.1	--	--
10	17.3	--	--
15	--	2.3	--
30	--	13.2	1.0
37.5	--	17.8	2.6
75	--	--	9.8

Water Flow (L/min) Pressure Drop (psig)	Cracking Pressure (psig)			
	3	50	150	350
	Cv = 0.37			
12.5	1.7	--	--	--
25	4.3	--	--	--
37.5	6.6	--	--	--
75	--	1.9	--	--
150	--	6.4	--	--
175	--	7.6	0.8	--
250	--	--	3.8	--
350	--	--	8.0	--
400	--	--	--	1.8
500	--	--	--	5.1
550	--	--	--	6.7

COA Series

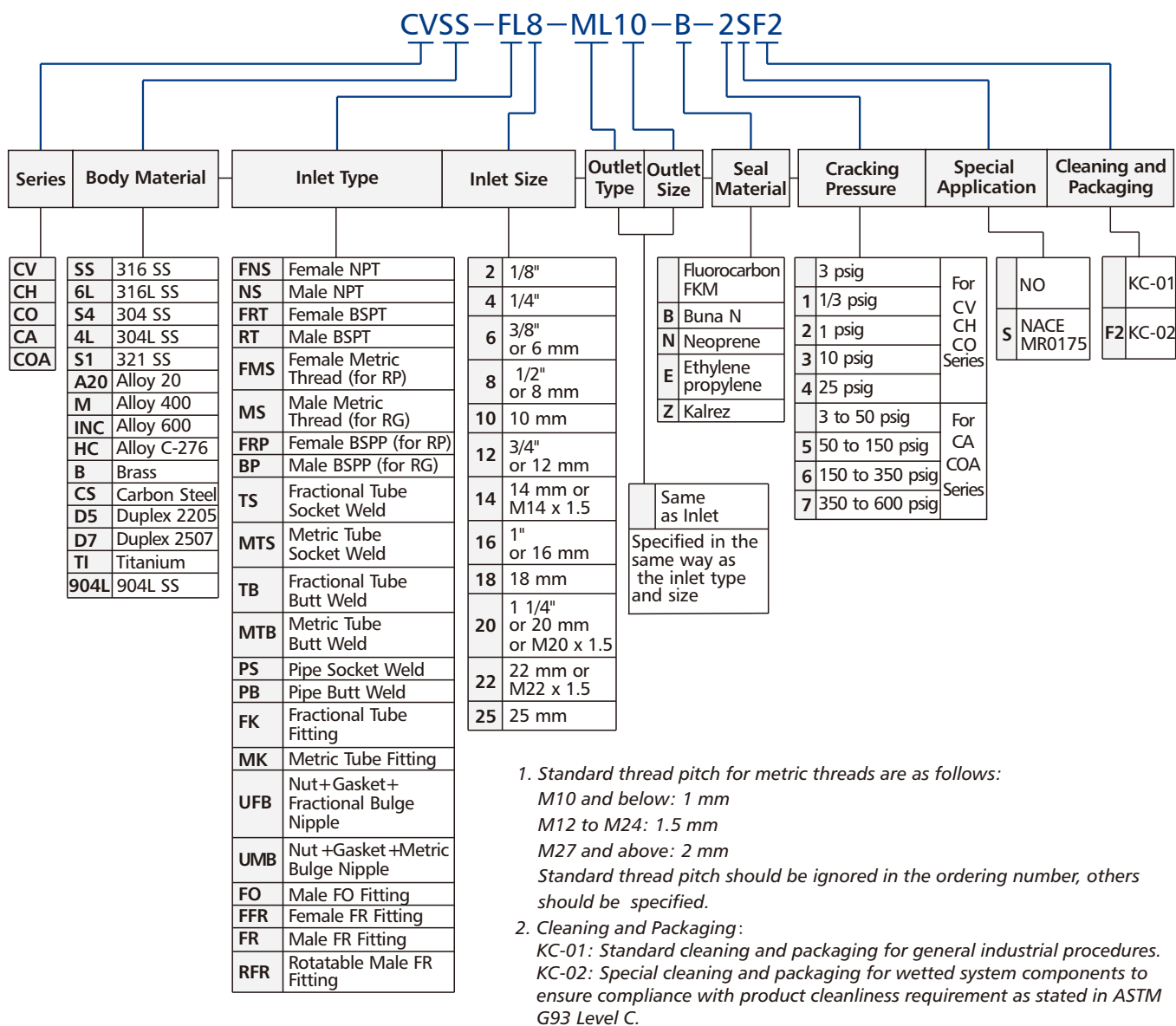
Air Flow (std L/min) Inlet Pressure (psig)	Cracking Pressure (psig)			
	3	50	150	350
	Cv = 0.35			
50	323	--	--	--
150	1165	841	--	--
250	2039	1769	615	--
300	2425	2800	890	--
400	--	--	1502	246
500	--	--	2098	726
600	--	--	2692	1207
700	--	--	--	1700

Water Flow (L/min) Pressure Drop (psig)	Cracking Pressure (psig)			
	3	50	150	350
	Cv = 0.35			
12.5	1.5	--	--	--
25	4.1	--	--	--
37.5	6.4	--	--	--
75	--	1.8	--	--
150	--	6.3	--	--
175	--	7.5	1.1	--
250	--	--	4.5	--
350	--	--	8.6	--
400	--	--	--	1.8
500	--	--	--	5.1
550	--	--	--	6.7

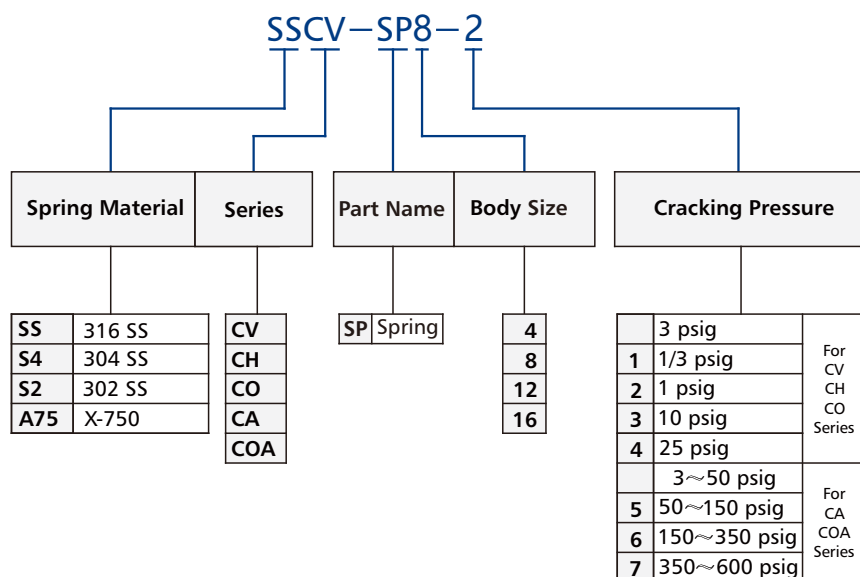
Air Flow (std L/min) Inlet Pressure (psig)	Cracking Pressure (psig)			
	3	50	150	350
	Cv = 1.2			
25	498	--	--	--
50	1553	--	--	--
75	2162	615	--	--
125	--	1682	--	--
175	--	2758	763	--
250	--	--	1859	--
300	--	--	2634	--
350	--	--	--	155
400	--	--	--	1665
450	--	--	--	2382

Water Flow (L/min) Pressure Drop (psig)	Cracking Pressure (psig)			
	3	50	150	350
	Cv = 1.2			
12.5	3.0	--	--	--
25	9.3	--	--	--
37.5	15.2	--	--	--
75	--	5.3	--	--
150	--	17.6	--	--
175	--	21.4	2.5	--
250	--	--	10.3	--
350	--	--	20.2	--
400	--	--	--	4.4
500	--	--	--	13.3
550	--	--	--	21.5

Ordering Information



Ordering Information of Spring Kits



Bleed Valves

RB Series

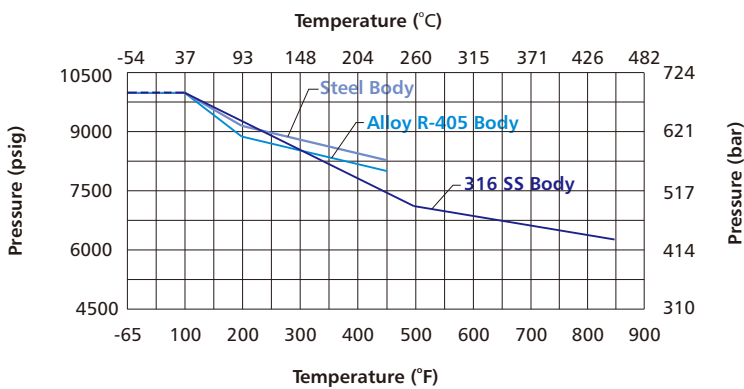
Introduction

Bleed valves can be used on instrument devices such as multi-valve manifolds or gauge valves to vent signal line pressure to atmosphere before removal of an instrument or to assist in calibration.

Features

- Compact design for easy installation
- Chrome-plated stem and tip to extend cycle life
- Maximum working pressure: 10000 psig (689 bar)
- Working temperature: -65°F to 850°F (-54°C to 454°C)
- Variety of end connections
- Stainless steel, carbon steel and alloy R-405 available
- Leak-tight performance testing for every valve with nitrogen at 6000 psig

Pressure vs. Temperature

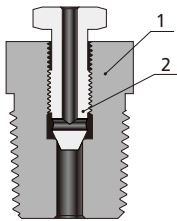


Contact the authorized representative or KUN-LOK for curve graph of other materials.

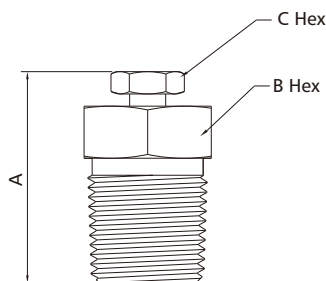
Standard Materials of Construction

Component		Valve Body Material Grade/ASTM Specification		
		316 SS	Carbon Steel	Alloy R-405
1	Body	316 SS/A479	1018/A108	R-405/B164 Alloy
2	Stem	Chrome-plated 316 SS/A276	Chrome-plated 316 SS/A276	R-405/B164 Alloy

1. Lubricant is nickel antiseize, hydrocarbon carrier.
2. Contact the authorized representative or KUN-LOK for other materials.



Dimensions



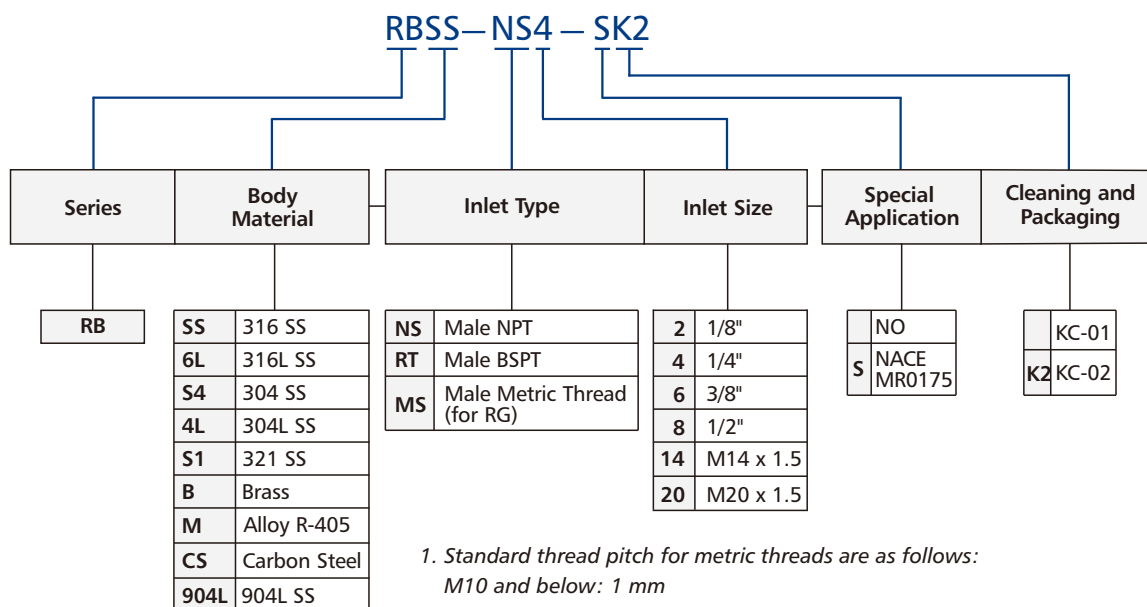
Caution

These bleed valves don't have a cap thread seal, so open the valve slowly and direct the vent hole away from the operator. These valves contain no packing, so some fluid weepage will occur when the valves are opened.

Basic Ordering Number	Inlet Type and Size	Dimension, in. (mm)		
		A (open)	B	C
RB □□-NS2	1/8 Male NPT	1.56 (39.6)	5/8 (15.9)	7/16 (11.1)
RB □□-NS4	1/4 Male NPT			
RB □□-NS6	3/8 Male NPT	1.69 (42.9)	7/8 (22.2)	
RB □□-NS8	1/2 Male NPT			
RB □□-RT4	1/4 Male BSPT	1.56 (39.6)	5/8 (15.9)	
RB □□-RT6	3/8 Male BSPT	1.69 (42.9)	7/8 (22.2)	
RB □□-RT8	1/2 Male BSPT			
RB □□-MS14	M14 x 1.5 Male ISO	1.56 (39.6)		
RB □□-MS20	M20 x 1.5 Male ISO	1.69 (42.9)		

Sizes and types listed are standard. Other sizes and types are available upon request. All dimensions are for reference only and are subject to change. For dimensions not shown above, please contact the authorized representative or KUN-LOK.

Ordering Information



1. Standard thread pitch for metric threads are as follows:

M10 and below: 1 mm

M12 to M24: 1.5 mm

M27 and above: 2 mm

Standard thread pitch should be ignored in the ordering number, others should be specified.

2. Cleaning and Packaging:

KC-01: Standard cleaning and packaging for general industrial procedures.

KC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.

Purge Valves

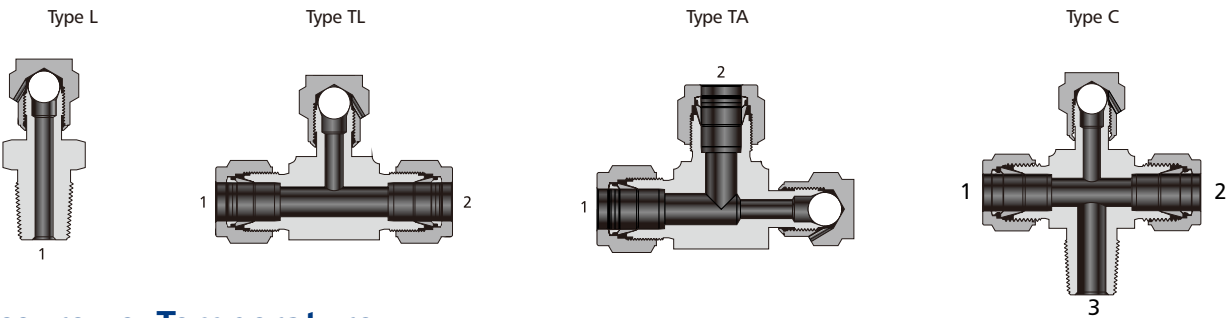
RP Series

Introduction

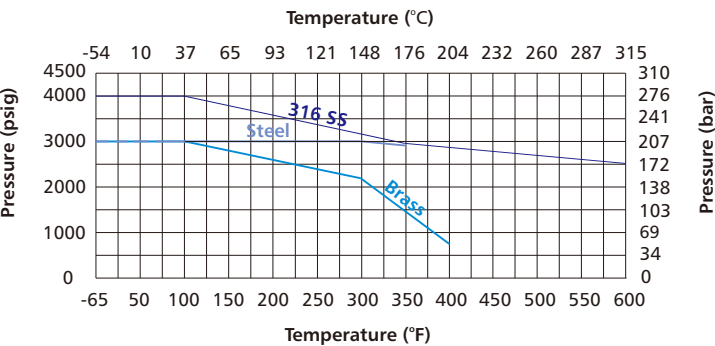
Purge valves are manual bleed, vent or drain valves. The cap is used to release system pressure. One-quarter turn with a wrench from finger-tight obtains leaktight closure on first makeup. Snugging with a wrench ensures closure to the rated pressure with subsequent makeups.

Features

- Compact design for easy installation
- Bonnet crimped to valve body to prevent accidental disassembly
- Maximum working pressure: 4000 psig (276 bar)
- Working temperature: -65°F to 600°F (-54°C to 315°C)
- 316 stainless steel, brass and carbon steel materials available
- Leak-tight performance testing for every valve with nitrogen at the maximum working pressure



Pressure vs. Temperature



Contact the authorized representative or KUN-LOK for curve graph of other materials.

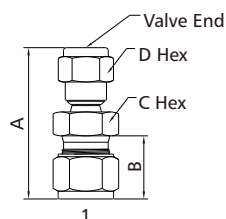
Standard Materials of Construction

Component	Valve Body Material Grade/ASTM Specification		
	316 SS	Brass	Steel
Body	316 SS/A182 316 SS/A479	Brass C36000/B16 Brass C37700/B283	12L4/A108 Chromium-plated
Cap	316 SS/A276		316 SS/A276
Poppet (Ball)	316 SS/A276	316 SS/A276	

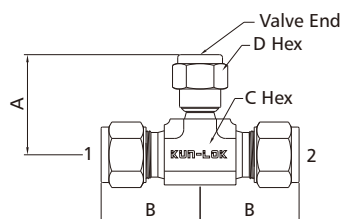
1. Lubricant: molybdenum disulfide-based and silicone-based.
2. Contact the authorized representative or KUN-LOK for other materials.

Models and Dimensions

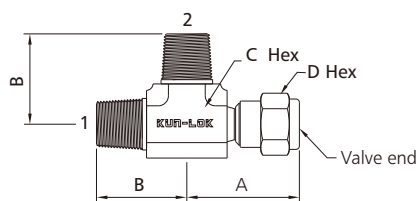
Type L



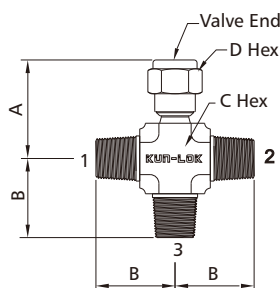
Type TL



Type TA



Type C



Caution:

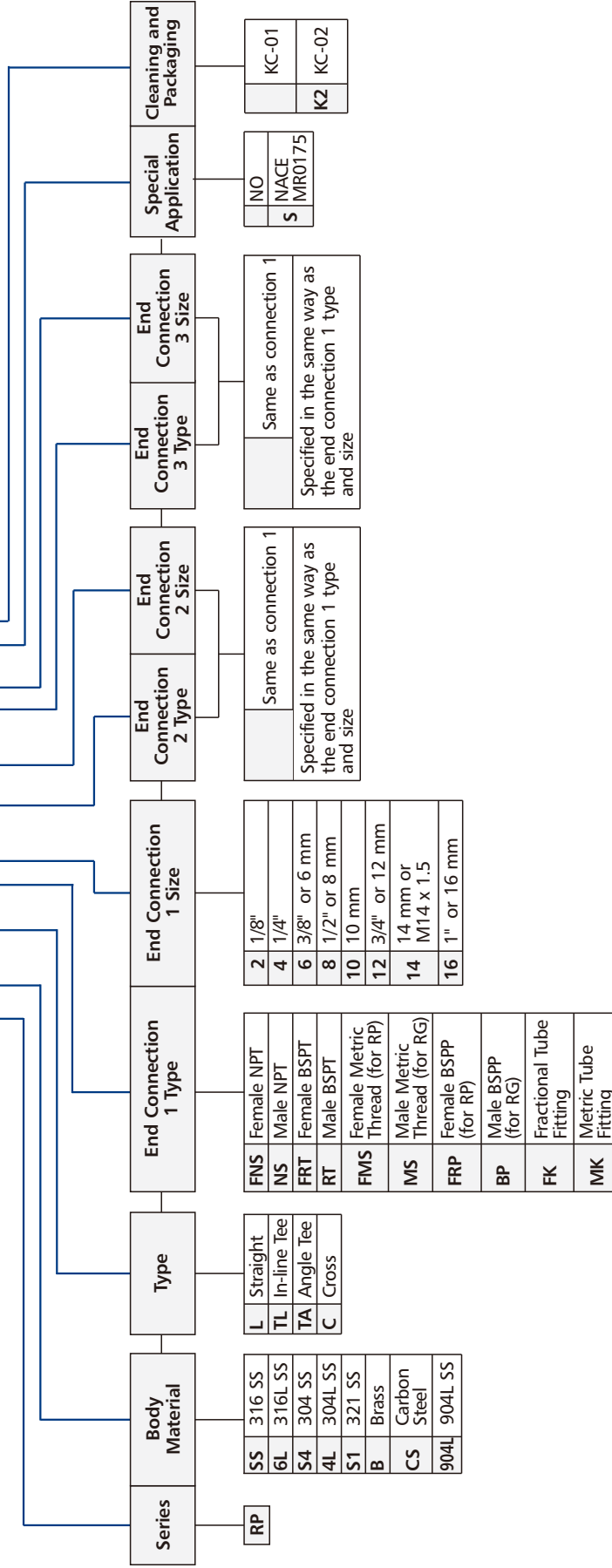
These purge valves don't have a cap thread seal, so open the valve slowly and direct the vent hole away from the operator. These valves contain no packing, so some fluid weepage will occur when the valves are opened.

1. KUN-LOK means KUN-LOK double ferrule tube fittings.
2. Dimensions are shown with KUN-LOK nuts finger-tightened. All dimensions are for reference only and are subject to change.
3. Sizes and types listed are standard. Other sizes and types are available upon request, refer to the ordering information.

Basic Ordering Number	Connection Type and Size		Dimension, in. (mm)			
			A max	B	C	D
RP□□-L-	FK2	1/8" KUN-LOK	1.84 (46.7)	0.59 (15.0)	5/8 (15.9)	1/2 (12.7)
	FK4	1/4" KUN-LOK	1.94 (49.3)	0.69 (17.5)	5/8 (15.9)	1/2 (12.7)
	FK6	3/8" KUN-LOK	2.03 (51.6)	0.75 (19.1)	3/4 (19.1)	5/8 (15.9)
	FK8	1/2" KUN-LOK	2.19 (55.6)	0.88 (22.4)	7/8 (22.2)	3/4 (19.1)
	MK6	6 mm KUN-LOK	1.94 (49.3)	0.69 (17.5)	5/8 (15.9)	1/2 (12.7)
	MK8	8 mm KUN-LOK	2.00 (50.8)	0.72 (18.3)	5/8 (15.9)	1/2 (12.7)
	MK10	10 mm KUN-LOK	1.05 (26.7)	0.75 (19.1)	3/4 (19.1)	5/8 (15.9)
	MK12	12 mm KUN-LOK	1.05 (26.7)	0.88 (22.4)	7/8 (22.2)	3/4 (19.1)
	FNS2	1/8 Female NPT	1.56 (39.6)	0.53 (13.5)	5/8 (15.9)	1/2 (12.7)
	FNS4	1/4 Female NPT	1.75 (44.4)	0.72 (18.3)	5/8 (15.9)	5/8 (15.9)
	FNS6	3/8 Female NPT	1.81 (46.0)	0.78 (19.8)	7/8 (22.2)	3/4 (19.1)
	FNS8	1/2 Female NPT	1.98 (50.3)	0.97 (24.6)	1 1/16 (26.9)	7/8 (22.2)
	NS2	1/8 Male NPT	1.62 (41.1)	0.38 (9.7)	5/8 (15.9)	1/2 (12.7)
	NS4	1/4 Male NPT	1.81 (46.0)	0.56 (14.2)	5/8 (15.9)	5/8 (15.9)
	NS6	3/8 Male NPT	1.84 (46.7)	0.56 (14.2)	3/4 (19.1)	3/4 (19.1)
	NS8	1/2 Male NPT	2.09 (53.1)	0.75 (19.1)	7/8 (22.2)	7/8 (22.2)
RP□□-TL- RP□□-TA- RP□□-C-	FK2	1/8" KUN-LOK	0.90 (22.9)	0.88 (22.4)	5/8 (15.9)	1/2 (12.7)
	FK4	1/4" KUN-LOK	1.08 (27.3)	1.06 (26.9)	5/8 (15.9)	1/2 (12.7)
	FK6	3/8" KUN-LOK	1.22 (31.0)	1.20 (30.5)	3/4 (19.1)	5/8 (15.9)
	FK8	1/2" KUN-LOK	1.44 (36.6)	1.42 (36.1)	7/8 (22.2)	3/4 (19.1)
	MK6	6 mm KUN-LOK	1.08 (27.5)	1.06 (27.0)	5/8 (15.9)	1/2 (12.7)
	MK8	8 mm KUN-LOK	1.20 (30.4)	1.18 (29.9)	5/8 (15.9)	1/2 (12.7)
	MK10	10 mm KUN-LOK	1.34 (34.0)	1.32 (33.5)	3/4 (19.1)	5/8 (15.9)
	MK12	12 mm KUN-LOK	1.43 (36.5)	1.41 (36.0)	7/8 (22.2)	3/4 (19.1)
	FNS2	1/8 Female NPT	0.68 (17.3)	0.66 (16.8)	5/8 (15.9)	1/2 (12.7)
	FNS4	1/4 Female NPT	0.90 (22.9)	0.88 (22.4)	5/8 (15.9)	5/8 (15.9)
	FNS6	3/8 Female NPT	1.03 (26.2)	1.01 (25.7)	7/8 (22.2)	3/4 (19.1)
	FNS8	1/2 Female NPT	1.25 (31.7)	1.23 (31.2)	1 1/16 (26.9)	7/8 (22.2)
	NS2	1/8 Male NPT	0.78 (19.8)	0.76 (19.3)	5/8 (15.9)	1/2 (12.7)
	NS4	1/4 Male NPT	1.11 (28.2)	1.09 (27.7)	5/8 (15.9)	5/8 (15.9)
	NS6	3/8 Male NPT	1.24 (31.5)	1.22 (31.0)	3/4 (19.1)	3/4 (19.1)
	NS8	1/2 Male NPT	1.52 (37.8)	1.47 (37.3)	7/8 (22.2)	7/8 (22.2)

Ordering Information

RPSS—C—FL8—ML10—FL8—SK2



1. Standard thread pitch for metric threads are as follows:

M10 and below: 1 mm

M12 to M24: 1.5 mm

M27 and above: 2 mm

Standard thread pitch should be ignored in the ordering number, others should be specified.

2. Cleaning and Packaging:

KC-01: Standard cleaning and packaging for general industrial procedures.

KC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C.

Proportional Relief Valves

RV Series

Introduction

Valves open when system pressure reaches the set pressure. Then the medium flow out to release system pressure. Valves close when the system pressure is down to the Resealing Pressure.

The opening height and the system pressure are direct proportional. However, there's no limit for relieving capacity. So valves in these series should be selected carefully according to system requirements.

Features

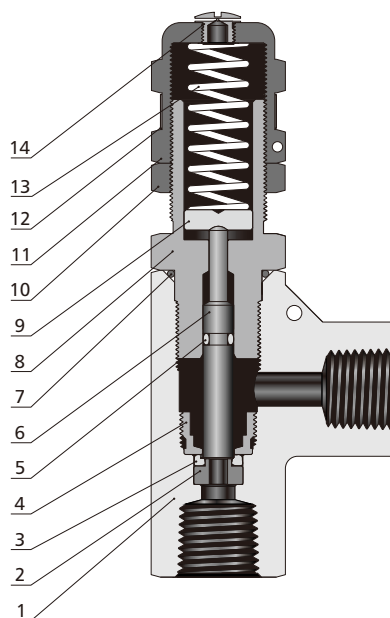
- ⦿ Set Pressure:
RV Series: 7 color-coded springs available for a wide range of set pressure,
50 to 6000 psig @ 70°F (0.34 to 414 bar @ 20°C)
- ⦿ Maximum Outlet Pressure
RV Series: 1500 psig (103 bar)
- ⦿ Orifice Size
RV Series: 0.19" (4.8 mm) and 0.25" (6.4 mm)
- ⦿ Back Pressure and Pre-set Pressure
RV Series: Balance stem design to eliminate the effect of system back pressure
- ⦿ Working Temperature: -10°F to 300°F (-23°C to 148°C)
- ⦿ Variety of end connections
- ⦿ Liquid or gas service
- ⦿ Adjustable bonnet cap and adjustable set pressure
- ⦿ Lock wired secure cap to maintain set pressure
- ⦿ Variety of seal materials
- ⦿ Label identifies the set pressure range
- ⦿ Manual override handle available to open the valve without changing the set pressure which pressure lower than 1500 psig

Standard Materials of Construction

RV Series

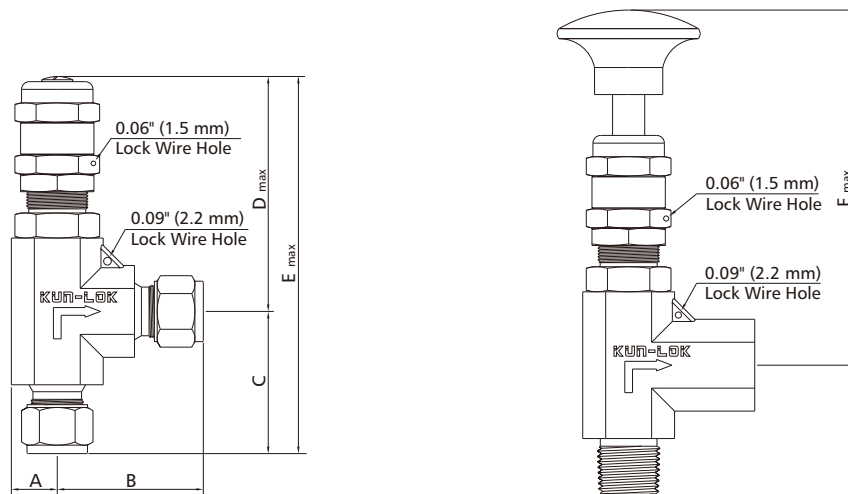
Component		Material Grade/ASTM Specification
1	Body	316 SS/A182
2	Insert	316 SS/A479
3	O-ring	Fluorocarbon FKM
4	Seat Retainer	316 SS/A479
5	O-ring	Fluorocarbon FKM
6	Stem	316 SS/A479
7	O-ring	Fluorocarbon FKM
8	Bonnet	316 SS/A479
9	Spring Support	316 SS/A276
10	Lock Nut	17-4PH powdered metal
11	Bonnet Cap	316 SS/A479
12	Label	Polyester
13	Spring	S17700 SS/AMS 5678
14	Plug	316 SS/A276

1. Lubricant: molybdenum disulfide-based dry film and paste, silicone-based
2. Contact the authorized representative or KUN-LOK for other materials.



Dimensions

RV Series



Basic Ordering Number	Connection Type and Size		Orifice in. (mm)	Dimension in. (mm)					
	Inlet	Outlet		A	B	C	Dmax	Emax	Fmax
RV□□-FK4-6-	1/4" KUN-LOK	1/4" KUN-LOK	0.14 (3.6)	0.43 (10.9)	1.60 (40.6)	1.44 (36.6)	2.70 (68.6)	4.14 (105.2)	4.09 (103.9)
RV□□-FK6-6-	3/8" KUN-LOK	3/8" KUN-LOK							
RV□□-FK8-6-	1/2" KUN-LOK	1/2" KUN-LOK		0.50 (12.7)	1.72 (43.7)	1.72 (43.7)	4.09 (103.9)	5.81 (147.6)	5.37 (136.4)
RV□□-MK6-6-	6 mm KUN-LOK	6 mm KUN-LOK		0.43 (10.9)	1.60 (40.6)	1.44 (36.6)	2.70 (68.6)	4.14 (105.2)	4.09 (104.9)
RV□□-MK8-6-	8 mm KUN-LOK	8 mm KUN-LOK							
RV□□-MK12-6-	12 mm KUN-LOK	12 mm KUN-LOK		0.50 (12.7)	1.83 (46.5)	1.83 (46.5)	4.09 (103.9)	5.92 (150.4)	5.37 (136.4)
RV□□-FNS4-6-	1/4 Female NPT	1/4 Female NPT		0.43 (10.9)	1.17 (29.7)	1.38 (34.9)	2.70 (68.6)	4.08 (103.5)	4.28 (108.7)
RV□□-NS4-6-	1/4 Male NPT	1/4 Male NPT		0.43 (10.9)	1.17 (29.7)	1.19 (30.2)	2.70 (68.6)	3.89 (98.8)	4.09 (103.9)
RV□□-FRT4-6-	1/4 Female BSPT	1/4 Female BSPT		0.43 (10.9)	1.17 (29.7)	1.38 (34.9)	2.70 (68.6)	4.08 (103.5)	4.28 (108.7)

Ordering Information

Spring For Valves

Material	Valve Series	Part Name	Valve Orifice Size	Spring Kit Color
7P S17700	RV	SP Spring	6 0.14"(3.6 mm) RV Series Valves Only 7 0.19"(4.8 mm) RL Series Valves Only 8 0.25"(6.4 mm) RL and RM Series Valves	F Green 50 ~ 300 psig (For RV and RM Series Valves) O Orange 300 ~ 700 psig (For RV and RM Series Valves) Y Yellow 10 ~ 225 psig (For RL Series Valves Only) Yellow 700 ~ 1500 psig (For RV and RM Series Valves) P Purple 1500 ~ 2500 psig (For RV Series Valves Only) W White 2500 ~ 3500 psig (For RV Series Valves Only) J Blue 3500 ~ 4500 psig (For RV Series Valves Only) C Red 4500 ~ 6000 psig (For RV Series Valves Only)

Ordering Information

Valves

RVSS-FL6-ML8-6Z-WM-LSK2

Series	Body Material	Inlet Type	Inlet Size	Outlet Type	Outlet Size	Orifice Size	Seal Material	Spring Kit Color	Handle	Lock wire with seal	Special Application	Cleaning and Packaging
RV	SS 316 SS S4 304 SS S1 321 SS 6L 316L SS 4L 304L SS 904L 904L SS	FNS Female NPT NS Male NPT FRT Female BSPT RT Male BSPT FMS Female Metric Thread (for RP) MS Male Metric Thread (for RG) FRP Female BSPP (for RP) BP Male BSPP (for RG) FK Fractional Tube Fitting MK Metric Tube Fitting	2 1/8" 4 1/4" 6 3/8" or 6 mm 8 1/2" or 8 mm 10 10 mm 12 3/4" or 12 mm	Same as inlet Specified in the same way as the inlet type and size	7 0.19" (4.8 mm) RL Only 8 0.25" (6.4 mm) RL and RM	Fluorocarbon FKM B Buna N N Neoprene E Ethylene propylene Z Kalrez	Yellow 10 ~ 225 psig (RL Only) Green 50 ~ 300 psig (RV and RM) Orange 300 ~ 700 psig (RV and RM) Yellow 700 ~ 1500 psig (RV and RM) Purple 1500 ~ 2500 psig (RV Only) White 2500 ~ 3500 psig (RV Only) Blue 3500 ~ 4500 psig (RV Only) Red 4500 ~ 6000 psig (RV Only) N No spring	None Manual Override Handle M	No S NACE MR0175	No K2 FK-02		

1. Standard thread pitch for metric threads are as follows:

M10 and below: 1 mm

M12 to M24: 1.5 mm

M27 and above: 2 mm

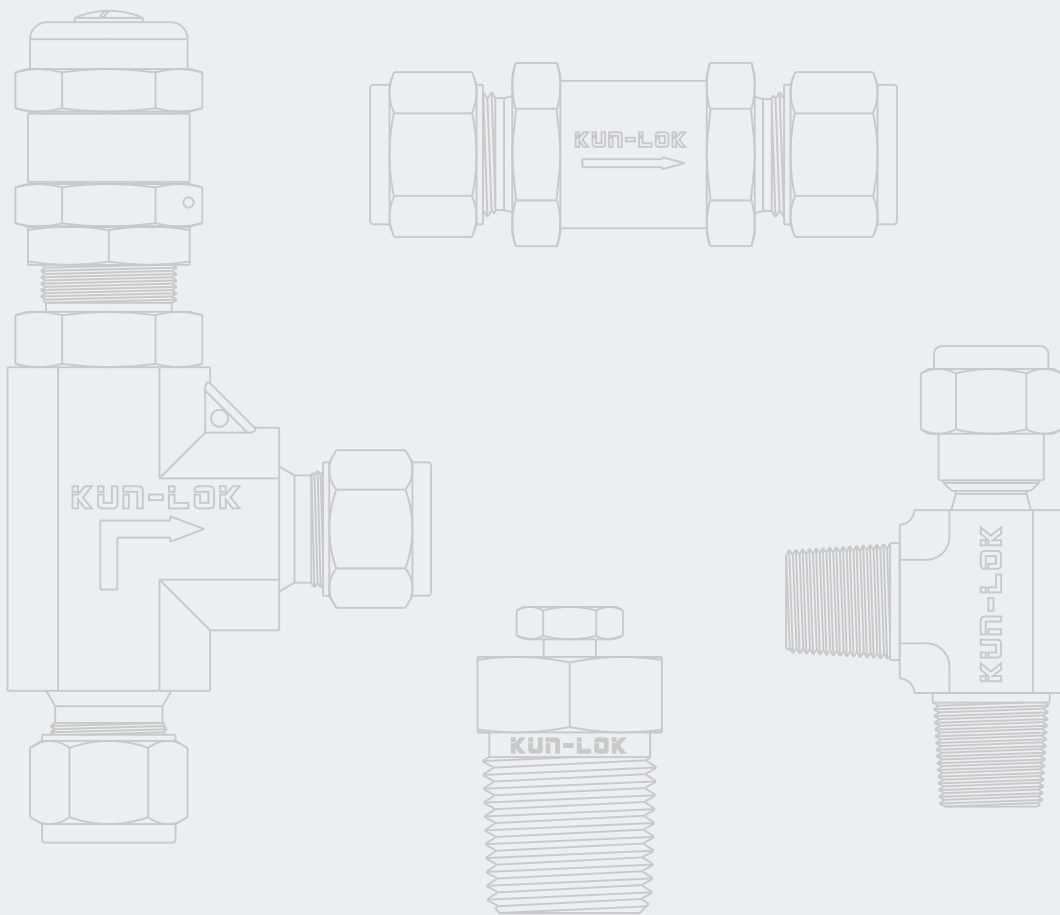
Standard thread pitch should be ignored in the ordering number, others should be specified.

2. Cleaning and Packaging:

KC-01: Standard cleaning and packaging for general industrial procedures.

KC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleaning requirement as stated in ASTM G93 Level C.

3. The color of the manual override handle is black. For other colors, please contact the authorized representative or KUN-LOK.



KUN-LOK

KUN-LOK FLUID TECHNOLOGY
(Shanghai) CO.,LTD

冠昆流体科技(上海)有限公司

E-mail:sales@kun-lok.com
<http://www.kun-lok.com>



Distributed by:

