

PROPORTIONAL RELIEF VALVES



- Sizes: 1/4" to 1"
- Pressure Ratings: 6,000 PSI,
- NPT, ISO/BSP, Threads
- Stainless Steel (316L,316,304,304L),
Brass, Carbon Steel, Monel, Inconel

TVI PROPORTIONAL RELIEF VALVES

RV, RL, AND RM SERIES

Relief valves open when system pressure and set pressure of the valve matches. This allows the pressurized medium to flow out until the PRV reaches its reset point. The opening height of the stem and the system pressure are directly proportional. However, the actual amount in units per second that the valve can pass is limited by the size of the valve orifice. Therefore, attention should be paid to sizing the valve to the system

Features:

- Set Pressure
 - RV series: 7 color coded springs for a wide range of set pressures
50 to 6,000 psig @ 70 F (3.4 to 414 bar @ 20 C)
 - RL series: 10 to 225 psig @ 70 F (0.68 to 15.5 bar @ 20 C)
 - RM series: 3 color coded springs for a wide range of set pressures
50 to 1500 psig @ 70 F (3.4 to 103 bar @ 20 C)
- Maximum outlet pressure:
 - RV series: 1500 psig (103 bar)
 - RL series: 225 psig (15.5 bar)
 - RM series: 50 to 1500 psig (103 bar)
- Orifice Size:
 - RV series: 0.14" (3.8mm)
 - RL series: 0.19" (4.8mm) and 0.25" (6.4mm)
 - RM series: 0.25" (6.4mm)
- Back pressure and Pre-set pressure
 - RV and RM series: Balanced stem design eliminates back pressure issue
 - RL series: Pre-set pressure = Desired pressure - 0.8 x back pressure
- Working temperature: -10 F to 300 F (-23 C to 148 C)
- Multiple end connections
- Liquid, vapor, or gas service
- Easily adjustable set pressure
- Holes drilled for lock wire
- Multiple seal materials available
- Manual pressure test handle available

Temperature Range of Soft Goods

O-ring Material	Temp Range F (C)
Flurocarbon FKM	25 to 250 (-4 to 121)
Buna-N	0 to 250 (-17 to 121)
Neoprene	-10 to 300 (-23 to 148)
EPD	30 to 250 (-1 to 121)
Perflourocarbon FFKM	-6 to 482 (-21 to 250)



Texas Valve & Instruments, LLC
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Ordering Tree

TRV - 4 - MXF - SS - 6 - V - P - Y - N

Series

TRV TRM TRL

Inlet Size

2 = 1/8" 8 = 1/2"
4 = 1/4" 12 = 3/4"
6 = 3/8"

Inlet/Outlet Type

MXF = Male Pipe Inlet x Female Pipe Outlet
FT = Fractional Tubing Inlet X Fraction Tubing Outlet
FTF= Fractional Tubing Inlet X Female Pipe Outlet

Body Material

SS = 316SS
XX = other materials

Orifice Size

6 = 0.14" (3.6mm) RV only
7 = 0.19" (4.8mm) RL only
8 = 0.25" (6.4mm) RL & RM

Seal Material

B = Buna N N = Neoprene
V = Viton FKM K = Kalrez FFKM
E = Ethylene Propylene

Spring Kit

G = Green - 50 - 300 psig (for RV & RM)
O = Orange - 300-700 psig (for RV & RM)
Y = Yellow - 300-700 psig (for RL only)
 - 700-1500 psig (RV & RM)
P = Purple - 1500-2500 psig (RV only)
W = White - 2500-3500 psig (RV only)
B = Blue - 3500-4500 psig (RV only)
R = Red - 4500-6000 psig (RV only)

Locking Wire & Seal

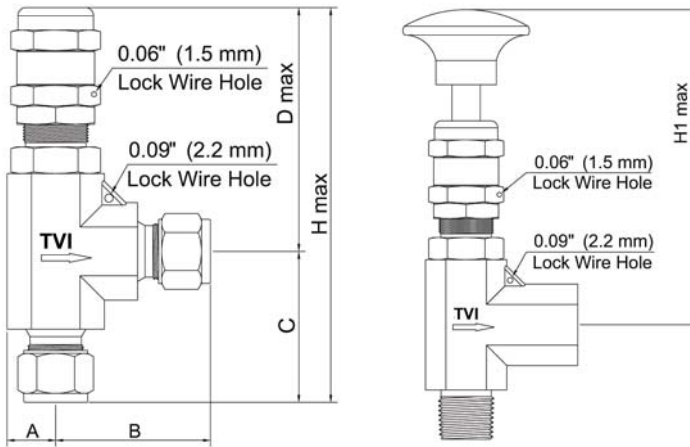
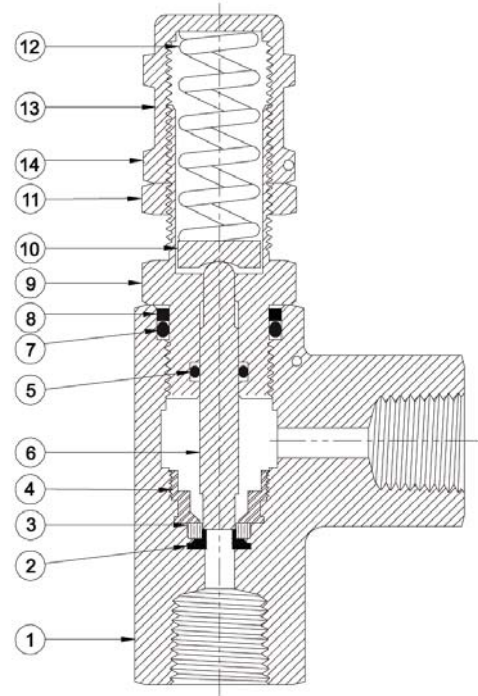
N = No Y = Yes

Manual Override Handle

N = No Y = Yes

RV Series Dimensions

Item #	Part Name	Material Type
1	Body	316SS/A182
2	Insert	316SS/A179
3	O-ring	FKM
4	Seat Retainer	316SS/A479
5	O-ring	FKM
6	Stem	316SS/A479
7	O-ring	FKM
8	Seat Retainer	PTFE
9	Bonnet	316SS/A479
10	Spring Support	316SS/A276
11	Lock Nut	17-4PH -PM
12	Spring	S17700SS/AMS 5678
13	Label	Polyester
14	Bonnet Cap	316SS/A479

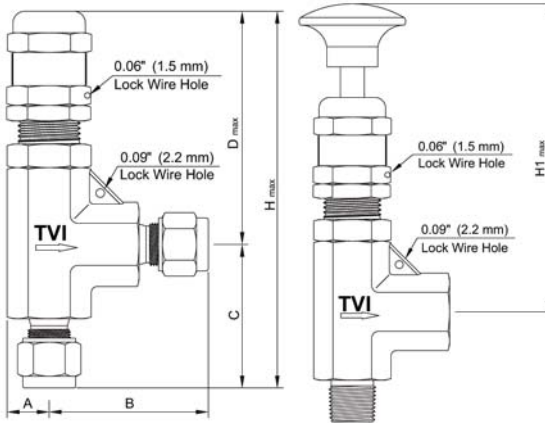
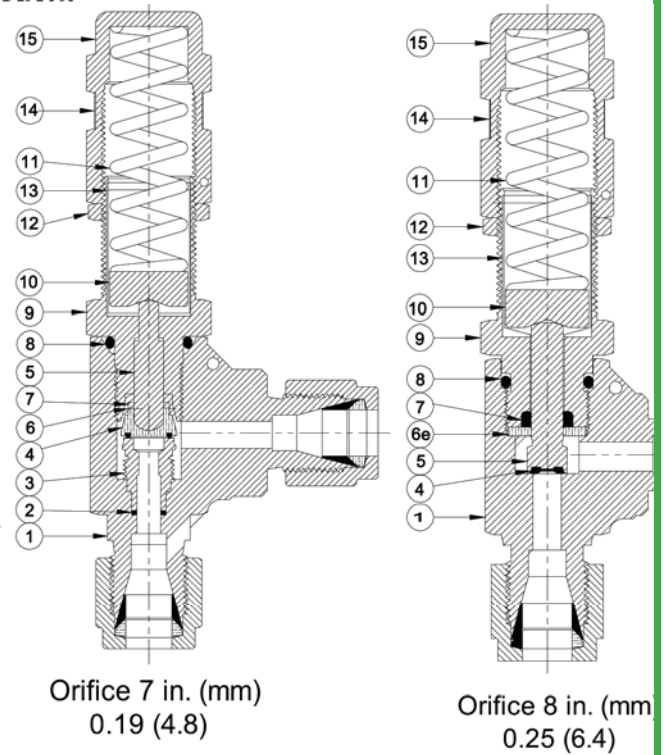


Pattern #	Connection		Orifice in(mm)	Dimensions - in(mm)					
	Inlet	Outlet		A	B	C	Dmax	Hmax	H1max
TRV-4-FXP	1/4" MNPT	1/4" FNPT	0.14" (3.6)	0.43 (10.9)	1.17 (29.7)	1.38 (34.9)	2.70 (68.6)	4.08 (103.5)	4.28 (108.7)
TRV-4-FY	1/4" Tube	1/4" Tube		0.43 (10.9)	1.60 (40.6)	1.44 (36.6)	2.70 (68.6)	4.14 (105.2)	4.09 (103.9)
TRV-8-FT	1/2" Tube	1/2" Tube		0.50 (12.7)	1.83 (46.5)	1.83 (46.5)	4.09 (103.9)	5.92 (150)	5.37 (136.4)
TRV-4-FTL	1/4" Tube	1/4" FNPT		0.43 (10.9)	1.60 (40.6)	1.19 (30.2)	2.70 (68.6)	3.89 (98.8)	4.09 (104)

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RL Series Dimensions

Item #	Part Name	Material Type
1	Body	316SS/A182
2	Gasket (#7 only)	316SS/A479
3	Seat	316SS/A479
4	Bonded Disc	316SS/A479-FKM coated
5	Stem	316SS/A479
6	Retainer (#7 Only)	316SS/A479
6a	Ring (#8 only)	316SS/S479
7	Quad Seat	FKKM
8	O-ring	FKM
9	Bonnet	316SS/A279
10	Spring Support	316SS/A576
11	Spring	S17700SS/AMS 5678
12	Lock Nut	17-4 PH-PM
13	Sleeve	304SS/A240
14	Label	Polyester
15	Bonnet Cap	316SS/A479



Pattern #	Connection		Orifice in(mm)	Dimensions - in(mm)					
	Inlet	Outlet		A	B	C	Dmax	Hmax	H1max
TRL-4-FXP	1/4" MNPT	1/4" FNPT	0.19 (4.8)	0.43 (10.9)	1.17 (29.7)	1.19 (30.2)	2.70 (68.6)	3.89 (98.8)	4.28 (108.7)
TRL-8-FXP	1/2" MNPT	1/2" FNPT	0.25 (6.4)	0.5 (12.7)	1.44 (36.6)	1.44 (36.6)	4.09 (104)	5.52 (140)	5.37 (136)
TRL-4-FT	1/4" Tube	1/4" Tube	0.19 (4.8)	0.43 (10.9)	1.60 (40.6)	1.55 (36.6)	2.70 (68.6)	4.14 (105)	4.09 (103.9)
TRL-8-FT	1/2" Tube	1/2" Tube	0.25 (6.4)	0.50 (12.7)	1.83 (46.5)	1.83 (46.5)	4.09 (103.9)	5.92 (150)	5.37 (136.4)
TRL-4-FTF	1/4" Tube	1/4" FNPT	0.19 (4.8)	0.43 (10.9)	1.17 (29.7)	1.19 (30.2)	2.70 (68.6)	3.89 (98.8)	4.09 (104)

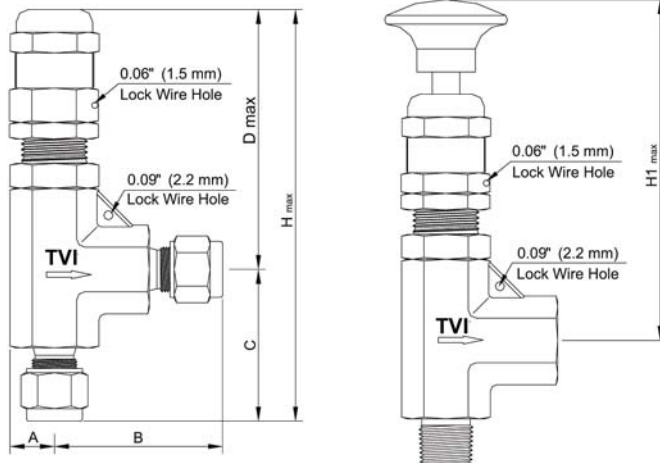
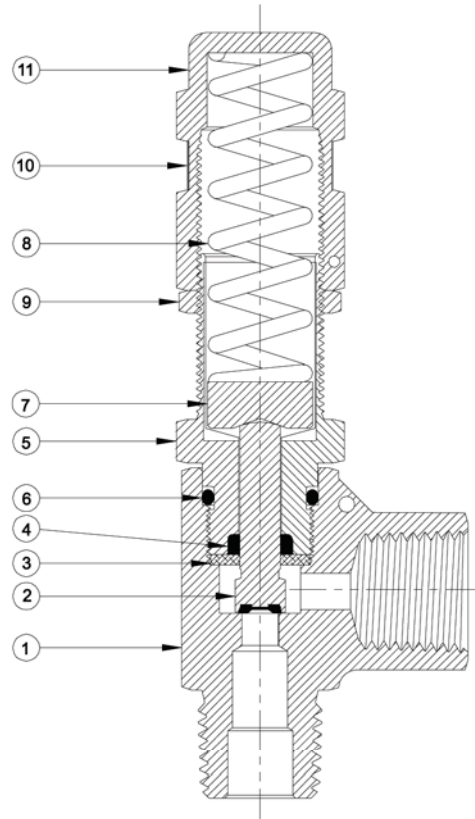
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RM Series Dimensions

Item #	Part Name	Material Type
1	Body	316SS/A182
2	Stem	316SS/A479-FKM coated
3	Retainer	316SS/A479
4	Seal	FKM
5	Bonnet	316SS/A479
6	O-ring	FKM
7	Spring Support	316SS/A276
8	Spring	S17700SS/AMS 5678
9	Lock Nut	17-4PH-PM
10	Label	Polyester
11	Bonnet Cap	316SS/A576

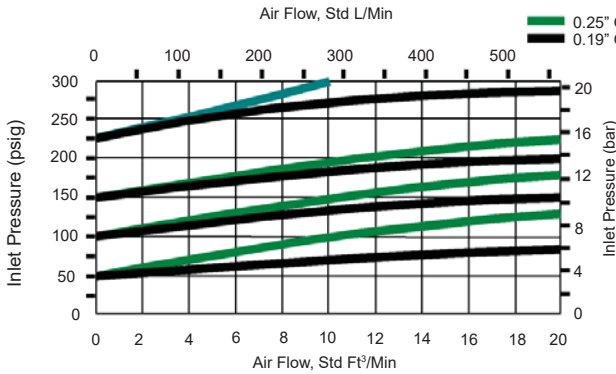


Pattern #	Connection		Orifice in(mm)	Dimensions - in(mm)					
	Inlet	Outlet		A	B	C	Dmax	Hmax	H1max
TRM-8-FXP	1/2" MNPT	1/2" FNPT	0.25 (6.4)	0.5 (12.7)	1.17 (29.7)	1.19 (30.2)	4.09 (104)	3.89 (98.8)	5.37 (136)
TRM-8-FT	1/2" Tube	1/2" Tube	0.25 (6.4)	0.50 (12.7)	1.83 (46.5)	1.83 (46.5)	4.09 (103.9)	5.52 (140)	5.37 (136.4)

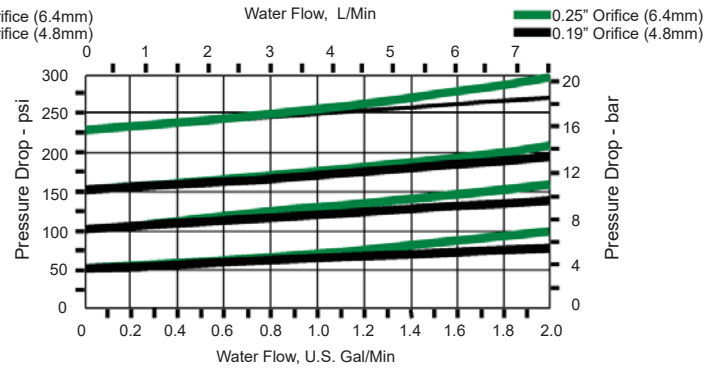
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TRL Flow Data @ 70°F (20°C)

Air



Water



TRV & TRM Flow Data @ 70°F (20°C)

