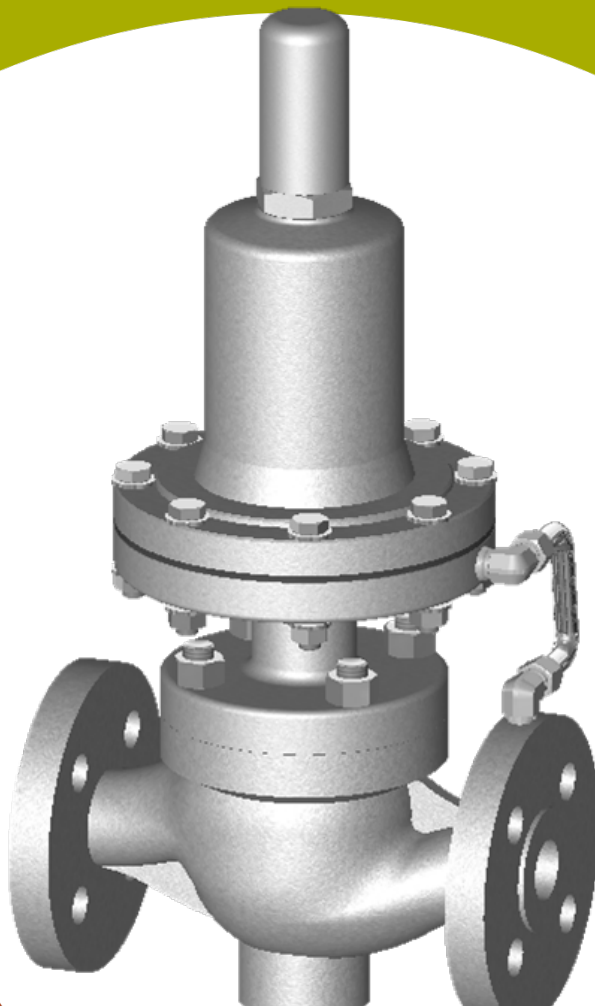


CVK PRD VALVE

RELIABLE, EFFICIENT FLOW CONTROL FOR
GENERAL SERVICE APPLICATIONS

COPES-VULCAN®



CELEROS FLOW TECHNOLOGY – AN INTRODUCTION

Celeros Flow Technology (Celeros FT) is a full lifecycle partner for sustainable flow technology solutions, from initial design and installation of equipment to after sales support. Celeros FT's products and technologies support many different industries including power generation, oil & gas, defense, water, chemical processing and energy transition. The company's innovative product portfolio contains many energy efficient products, including valves, pumps, and closures.

CVK-PRD VALVE

PRODUCT INFORMATION

The Copes-Vulcan CVK-PRD Valve is a standard product offering from Celeros FT providing direct-operated downstream pressure regulation for general service applications. The CVK-PRD Valve precisely controls downstream pressure to a predetermined set point and delivers fast, stable response to sudden pressure changes.

Based on a proven regulator platform and optimized for capacity, control accuracy, and ease of maintenance, the CVK-PRD Valve has been evaluated, tested, and qualified in accordance with Celeros performance and quality requirements.

DESIGN HIGHLIGHTS:

- **Top-entry design** – Allows direct access to internal components for easier and faster maintenance
- **Variable actuator sizes** – Supports all pressure control ranges to match diverse operating conditions.
- **Balanced diaphragm construction** – Provides increased sensitivity and improved pressure stability.
- **Full port design** – Ensures high capacity and efficient flow performance.
- **Guided piston design** – Delivers stable operation across the full pressure range.
- **Soft-seat shut-off** – Achieves tight shut-off even at high pressure differentials.
- **Wide control rangeability** – Maintains excellent pressure control across varying flow demands.
- **Lightweight and compact** – Reduces installation effort and fits into constrained spaces.
- **EN-334 compliant** – Designed and manufactured to meet PRV industry standards.

CONTROL RANGE:

- 0.005 TO 45 BARG (0.0725 ~ 652.671 PSI)

TEMPERATURE RANGE:

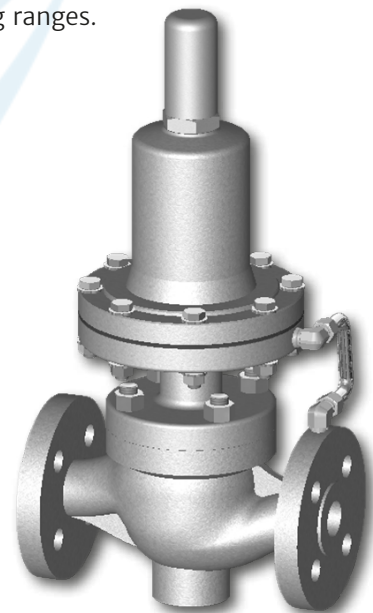
- -25 ~ 200 °C (-13 ~ 392°F)

SIZE:

- 1/2" ~ 2" (12.7 ~ 50.8 MM)

PERFORMANCE BENEFITS:

- **Fast, stable regulation** – Responsive control minimizes pressure swings and maintains steady downstream conditions even under sudden load changes.
- **High-flow efficiency** – Optimized internal geometry delivers strong capacity with reduced energy loss, supporting demanding system throughput.
- **Reliable sealing performance** – Consistent shut-off integrity reduces leakage, enhances efficiency, and supports trouble-free operation over time.
- **Compact operational strength** – A lightweight, space-efficient design simplifies installation while providing dependable performance across wide operating ranges.



PRESSURE REDUCING REGULATORS

Pressure Reducing Regulators maintain designed pressure of downstream while providing the required fluid flow. **Direct-Operated Regulators** are the simplest type of regulator. It senses downstream pressure and controls it by the force of a spring in the actuator.

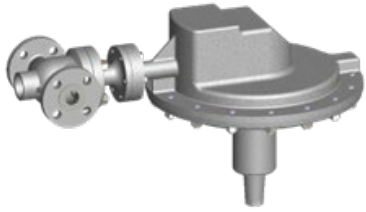
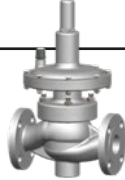

SPECIFICATIONS:

Valve Type	Pressure Regulating Valve (Direct Type)				
Valve Model	CVK - PRD Valve				
Trim Type	Balanced, Unbalanced, Anti-Cavitation, Low-Noise, Optional Special Trim				
Valve Size (inch)	1/2	3/4	1	1.1/2	2
(mm)	15	20	25	40	50
Valve Cv (150Lb ~ 600 Lb)	1.6	2.7	3.8	8.1	14.4
Pressure Rating	ANSI 150 ~ 900 (PN ratings available)				
End Connection	RF, FF, SW, BW, RTJ				
Body Materials	WCB, WCC, WC6, WC9, CF8				
Bonnet Type	Standard (-17°C to 230°C / 1.4 °F ~ 446 °F)				
Packing	Graphite, Carbon Fiber, PTFE				
Gasket	Spiral Wound Metal Gasket				
Guiding	Top / Cage				
Seat Type	Metal / Soft				
Plug Characteristic	Equal Percentage / Linear / Modified-Parabolic / Quick Opening				
Trim Materials	316 SS, 410 Alloy Steel, Stellite Overlays				

Table 1. PRD Valve Specifications



PRESSURE REDUCING REGULATORS OUTLET PRESSURE CONTROL RANGE

PRV Type		Outlet Pressure Range					Spring Type
		BAR G / psi					
		BAR G	PSI		BAR G	PSI	
	EP	0.004	0.058	~	0.0072	0.105	Silver Type 1
		0.0048	0.070	~	0.018	0.261	Silver Type 2
		0.012	0.174	~	0.036	0.522	Silver Type 3
		0.024	0.348	~	0.06	0.870	Silver Type 4
	LP & LT	0.04	0.580	~	0.12	1.740	Silver Type 5
		0.08	1.160	~	0.3	4.351	Silver Type 6
		0.2	2.901	~	0.6	8.702	Silver Type 7
	MP & HT	0.4	5.801	~	1.8	26.107	Yellow Type 1
		1.2	17.405	~	4.2	60.916	Yellow Type 2
		2.8	40.611	~	7.2	104.428	Blue
		4.8	69.620	~	10.8	156.449	Red
		7.2	104.428	~	15.6	226.262	Green Type 1
	HP & HT	10.4	150.842	~	20.4	295.375	Green Type 2
		17.6	255.064	~	36	522.137	Green Type 3
		24	348.091	~	44.4	644.799	Green Type 4
		29.6	429.297		54	783.205	Green Type 5

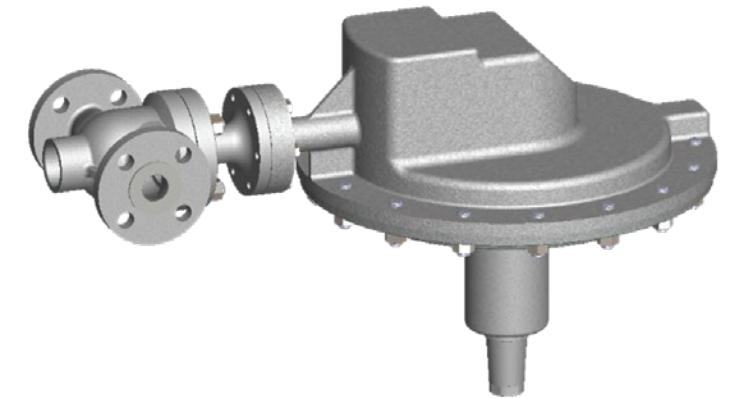
MODEL SELECTION GUIDE

Model	Code	Type	Set Pressure Range	
			BAR	psi
CVK - PRD	EP	Very Low Pressure	0.005 ~ 0.05	0.0725 ~ 0.725
	LP	Low Pressure	0.05 ~ 0.5	0.725 ~ 7.252
	MP	Medium Pressure	0.5 ~ 10	7.252 ~ 145.038
	HP	High Pressure	10 ~ 45	145.038 ~ 652.671
	LT	Low Pressure & High Temperature	0.05 ~ 0.5	0.725 ~ 7.252
	HT	High Pressure & High Temperature	0.5 ~ 45	7.252 ~ 652.671

1. CVK - PRD EP — VERY LOW PRESSURE (TANK BLANKETING VALVE)

CVK - PRD EP tank blanketing pressure regulators are used for accurate pressure control on very low pressure of gas blanketing systems, which is introducing an inert gas into a storage tank.

Tank blanketing regulators reduce a high-pressure gas, such as Nitrogen, and maintain positive pressure in a tank which is slightly higher than atmospheric pressure. By maintaining the pressure, they reduce possibility of tank collapse while the liquid in the tank is being pumped out.



CVK - PRD EP
Set Pressure Range (BarG) : 0.005 ~ 0.05
Set Pressure Range (psi) : 0.0725 ~ 0.725

Temperature Range

- 25 ~ 80 °C (-13 ~ 176 °F)

Diaphragm Material

- Nitrile (NBR), Fluorocarbon (FKM)

Disk & Elastomer Seal Material

- Nitrile (NBR), Fluorocarbon (FKM)

2. DIAPHRAGM TYPE

CVK PRD LP — LOW PRESSURE, CVK PRD MP — MEDIUM PRESSURE

Temperature Range

- 25 ~ 80 °C (-13 ~ 176 °F) Nitrile (NBR)
- 25 ~ 120 °C (-13 ~ 248 °F) Fluorocarbon (FKM)

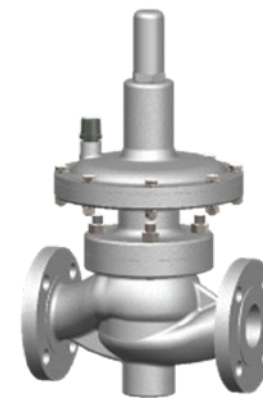
Diaphragm Material

- Nitrile (NBR), Fluorocarbon (FKM)

Disk & Elastomer Seal Material

- Nitrile (NBR), Fluorocarbon (FKM)

CVK PRD LP/MP series direct-operated, spring-loaded, diaphragm type regulators provide precise downstream pressure control at low and medium set pressures. The large diaphragm area of CVK PRD LP provides more accurate control at low-pressure settings.



CVK PRD LP
Set Pressure Range (BarG) : 0.05 ~ 0.5
Set Pressure Range (psi) : 0.725 ~ 7.252



CVK PRD MP
Set Pressure Range (BarG) : 0.5 ~ 10
Set Pressure Range (psi) : 7.252 ~ 145.038

1. PISTON TYPE CVK PRD HP — HIGH PRESSURE

CVK PRD HP Series direct-operated, spring-loaded, piston type regulators provide precise downstream pressure control at high set pressures.

Temperature Range

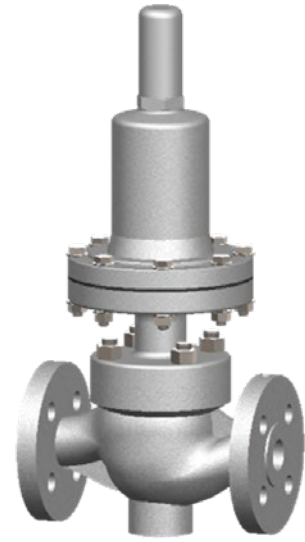
- 25 ~ 120 °C (-13 ~ 248 °F)

Piston Elastomer Seal Material

- Nitrile (NBR), Fluorocarbon (FKM)

Disk & Elastomer Seal Material

- Nitrile (NBR), Fluorocarbon (FKM)



CVK - PRD HP

Set Pressure Range (BarG) : 10 ~ 45

Set Pressure Range (psi) : 145.038 ~ 652.671

2. PISTON TYPE

CVK PRD LT — LOW PRESSURE & HIGH TEMPERATURE

CVK PRD HT — HIGH PRESSURE & HIGH TEMPERATURE

Temperature Range

- 25 ~ 200 °C (-13 ~ 392 °F)

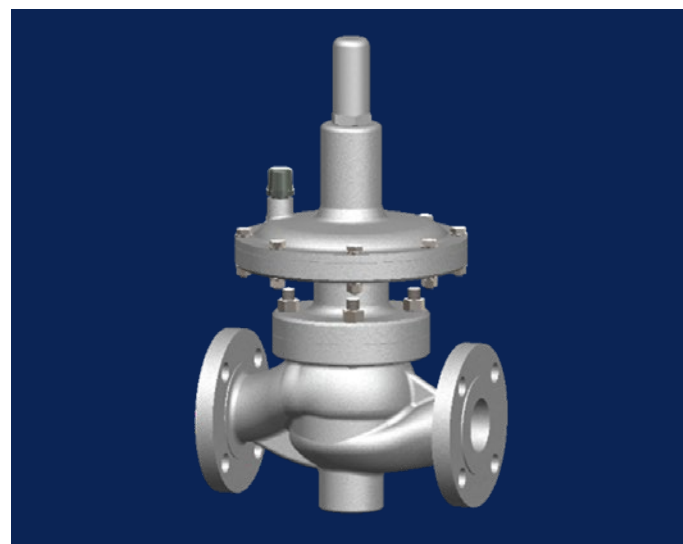
Piston Elastomer Seal Material

- Fluorocarbon (FKM)

Disk & Elastomer Seal Material

- Fluorocarbon (FKM)

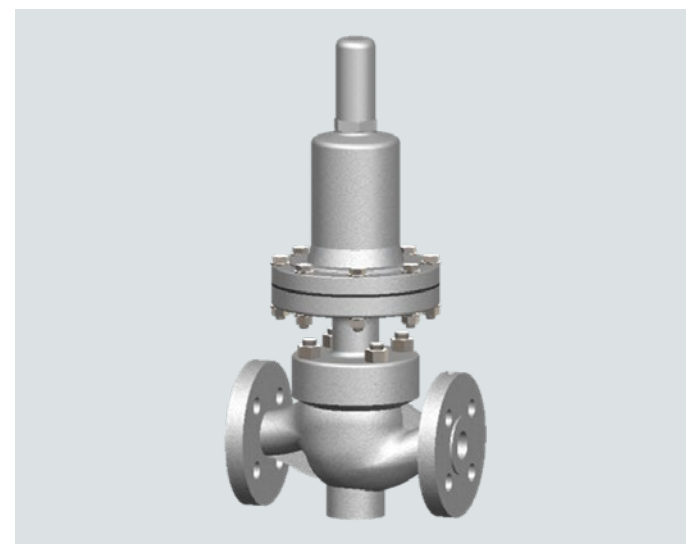
CVK PRD LT/HT Series direct-operated, spring-loaded, piston type regulators are designed for high temperature services. The large pressure sensing area of CVK PRD LT provides more accurate control at low-pressure settings.



CVK PRD LT

Set Pressure Range (BarG) : 0.05 ~ 0.5

Set Pressure Range (psi) : 0.725 ~ 7.252

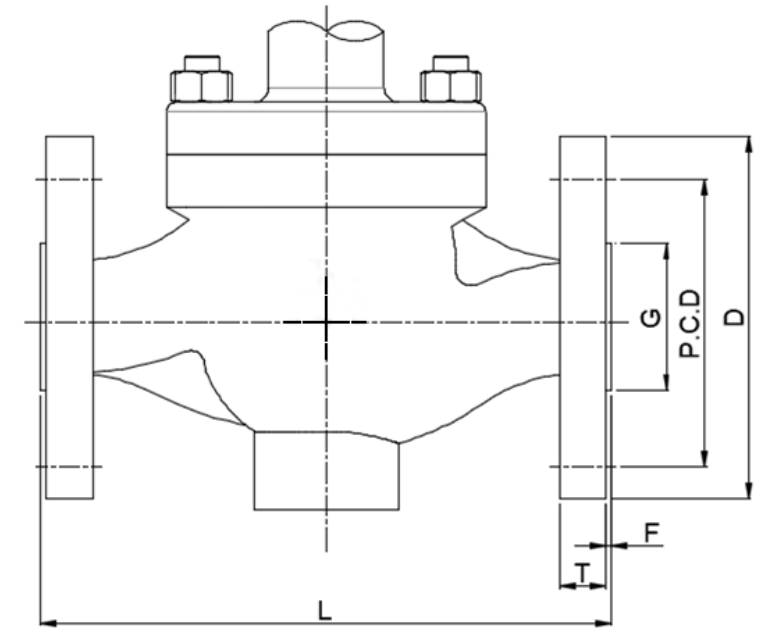


CVK PRD HT

Set Pressure Range (BarG) : 0.5 ~ 45

Set Pressure Range (psi) : 7.252 ~ 652.671

DIMENSION LIST METRIC



ANSI 150

Valve Size	L*	T	F	I.D	G	P.C.D	D	Diameter of bolt Holes		Number of Bolts	Diameter of Bolts		
								In.	mm		In.	mm	
1/2	12.7	184	9.6	2	15	34.9	60.3	90	5/8	15.875	4	1/2	12.7
3/4	19.05	184	11.2	2	19.1	42.9	69.9	100	5/8	15.875	4	1/2	12.7
1	25.4	184	12.7	2	25.4	50.8	79.4	110	5/8	15.875	4	1/2	12.7
1 1/2	38.1	222	15.9	2	38.1	73	98.4	125	5/8	15.875	4	1/2	12.7
2	50.8	254	17.5	2	50.8	92.1	120.7	150	3/4	19.05	4	5/8	15.875

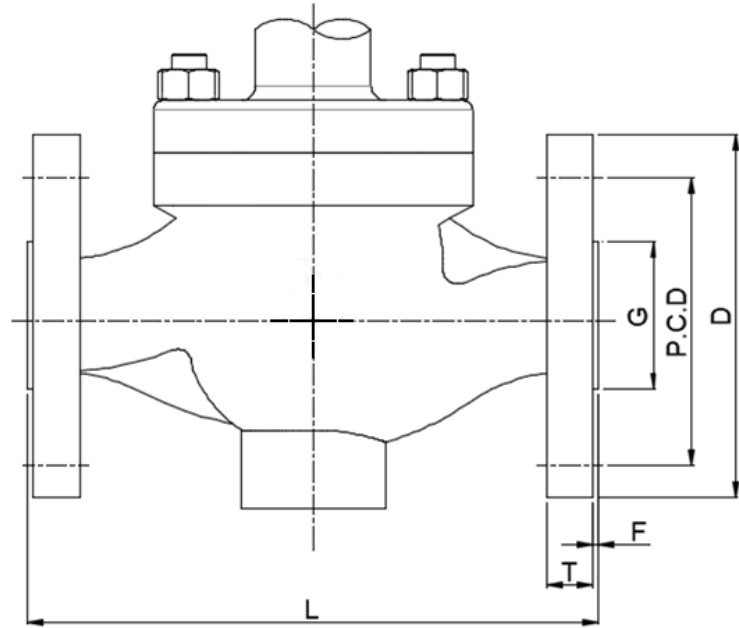
ANSI 300

Valve Size	L*	T	F	I.D	G	P.C.D	D	Diameter of bolt Holes		Number of Bolts	Diameter of Bolts,		
								In.	mm		In.	mm	
1/2	12.7	194	12.7	2	15	34.9	66.7	95	5/8	15.875	4	1/2	12.7
3/4	19.05	194	14.3	2	19.1	42.9	82.6	115	3/4	19.05	4	5/8	15.875
1	25.4	197	15.9	2	25.4	50.8	88.9	125	3/4	19.05	4	5/8	15.875
1 1/2	38.1	235	19.1	2	38.1	73	114.3	155	7/8	22.225	4	3/4	19.05
2	50.8	267	20.7	2	50.8	92.1	127	165	3/4	19.05	8	5/8	15.875

ANSI 600

Valve Size	L*	T	F	I.D	G	P.C.D	D	Diameter of bolt Holes		Number of Bolts	Diameter of Bolts		
								In.	mm		In.	mm	
1/2	12.7	206	14.3	7	15	34.9	66.7	95	5/8	15.875	4	1/2	12.7
3/4	19.05	206	15.9	7	19.1	42.9	82.6	115	3/4	19.05	4	5/8	15.875
1	25.4	210	17.5	7	25.4	50.8	88.9	125	3/4	19.05	4	5/8	15.875
1 1/2	38.1	251	22.3	7	38.1	73	114.3	155	7/8	22.225	4	3/4	19.05
2	50.8	286	25.4	7	50.8	92.1	127	165	3/4	19.05	8	5/8	15.875

DIMENSION LIST IMPERIAL



ANSI 150

Valve Size	L* (in.)	T (in.)	F (in.)	I.D (in.)	G (in.)	P.C.D (in.)	D (in.)	Diameter of bolt Holes	Number of Bolts	Diameter of Bolts
In.	In.	In.	In.	In.	In.	In.	In.	In.		In.
1/2	7.24	0.4	0.1	0.6	1.4	2.4	3.5	5/8	4	1/2
3/4	7.24	0.4	0.1	0.8	1.7	2.8	3.9	5/8	4	1/2
1	7.24	0.5	0.1	1	2	3.1	4.3	5/8	4	1/2
1 1/2	8.74	0.6	0.1	1.5	2.9	3.9	4.9	5/8	4	1/2
2	10	0.7	0.1	2	3.6	4.8	5.9	3/4	4	5/8

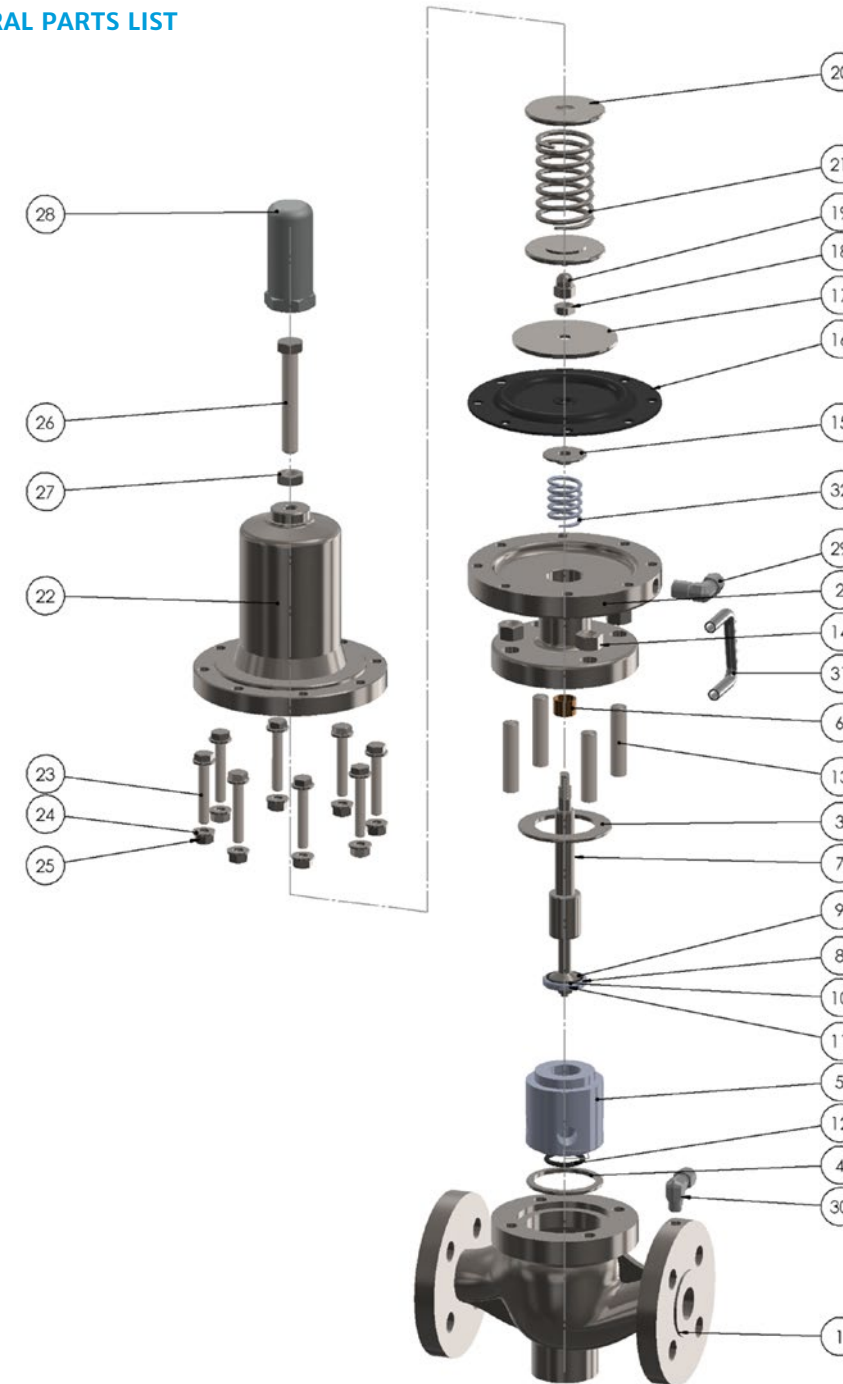
ANSI 300

Valve Size	L* (in.)	T (in.)	F (in.)	I.D (in.)	G (in.)	P.C.D (in.)	D (in.)	Diameter of bolt Holes	Number of Bolts	Diameter of Bolts,
In.	In.	In.	In.	In.	In.	In.	In.	In.		In.
1/2	7.6	0.5	0.1	0.6	1.4	2.6	3.7	5/8	4	1/2
3/4	7.6	0.6	0.1	0.8	1.7	3.3	4.5	3/4	4	5/8
1	7.8	0.6	0.1	1	2	3.5	4.9	3/4	4	5/8
1 1/2	9.3	0.8	0.1	1.5	2.9	4.5	6.1	7/8	4	3/4
2	10.5	0.8	0.1	2	3.6	5	6.5	3/4	8	5/8

ANSI 600

Valve Size	L*	T	F	I.D	G	P.C.D	D	Diameter of bolt Holes	Number of Bolts	Diameter of Bolts
In.	In.	In.	In.	In.	In.	In.	In.	In.		In.
1/2	8.1	0.6	0.3	0.6	1.4	2.6	3.7	5/8	4	1/2
3/4	8.1	0.6	0.3	0.8	1.7	3.3	4.5	3/4	4	5/8
1	8.3	0.7	0.3	1	2	3.5	4.9	3/4	4	5/8
1 1/2	9.9	0.9	0.3	1.5	2.9	4.5	6.1	7/8	4	3/4
2	11.3	1	0.3	2	3.6	5	6.5	3/4	8	5/8

GENERAL PARTS LIST



No.	Parts
1	BODY
2	BONNET
3	BONNET GASKET
4	SEAT GASKET
5	SEAT
6	DUBUSH
7	STEM
8	DISC HOUSING
9	DISC
10	SPRING WASHER
11	NUT
12	O-ring
13	STUD BOLT
14	HEX. HEAVY NUT
15	BACK PLATE
16	DIAPHRAGM
17	DIAPHRAGM SEAT
18	STEM LOCK NUT
19	CAP NUT
20	SPRING SEAT
21	SPRING
22	SPRING CASE
23	HEX. HEAD BOLT
24	SPRING WASHER
25	NUT
26	SETTING BOLT
27	LOCK NUT
28	CAP
29	FITTING
30	FITTING
31	SUS TUBE
32	BALANCE SPRING

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