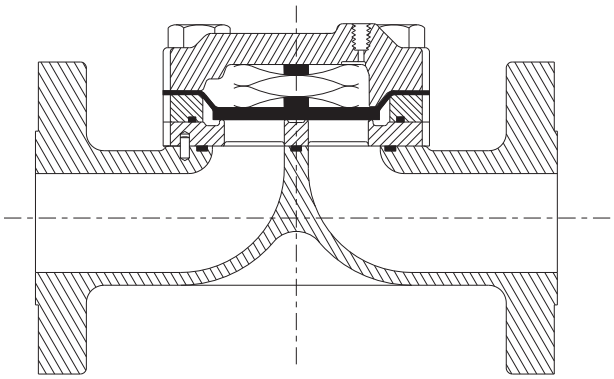
imagination at work

Flowgrid® 250 Single Port

1”, 1-1/4”, 1-1/2” NPT

1” Flowgrid® 250 Valve with Series 20 Pilot

SECTIONAL VIEW



OVERPRESSURE PROTECTION

The Flowgrid® Valve is bi-directional and has a full ANSI rating on both the inlet and outlet. Overpressure protection is required only if the pressure can exceed the flange or body rating.

The pilots, like most regulators, may have an outlet pressure rating lower than the inlet pressure rating. If this is the case then some external form of overpressure protection must be provided for the pilot.

Anytime the Flowgrid® valve or pilot system is exposed to pressure in excess of its rating it should be inspected for damage.

The Flowgrid® 250 Valve is a lower pressure and lower cost version of the 1” steel Flowgrid® valve. It is a ductile iron and aluminum construction rated at 250 psi. Restricted trim is provided by inserting a thin restricting plate between the throttle plate and the body. The Flowgrid® 250 uses the same diaphragm and main spring that have proven reliability in the higher pressure valves.

SPECIFICATIONS

Size	1”, 1-1/4”, & 1-1/2”
Body Style	Single Port
End Connections	1”, 1-1/4”, 1-1/2” NPT
Temperature	Working -20°F to 150°F Emergency -40°F to 175°F
Max. Operating Differential	250 psi
Max. Emergency Differential	250 psi
Min. Differential	Refer to graph on page 2
Cracking Differential	Refer to graph on page 2
Max. Inlet Pressure	250 psig*
Outlet Pressure Range	Limited By Pilot
Flow Direction	Bi-Directional**
Body Taps	Two 1/4” - 18NPT

* Limited by body rating
** Reverse flow by changing pilot connections and reversing spring case

MATERIALS OF CONSTRUCTION

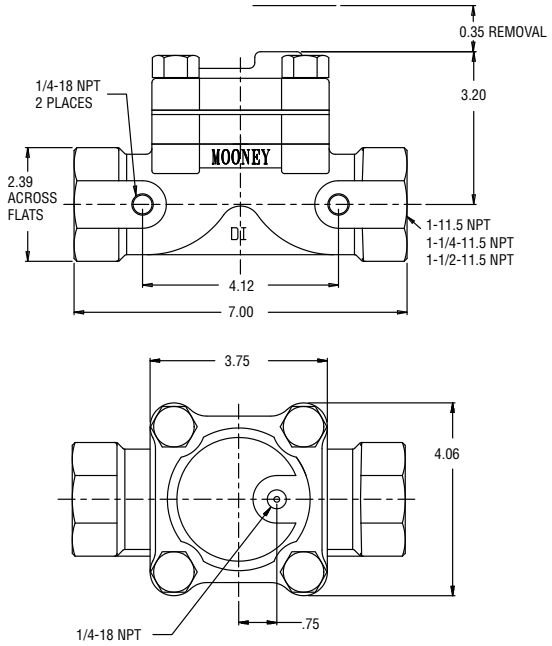
Body	Ductile Iron A395
Spring Case	A356-T6 Aluminum
Throttle Plate	Hard Anodized A356-T6 Aluminum
Diaphragm	Nitrile/Nylon*
Gasket	Nitrile Rubber
Bolting	ASTM A 193 GR B-5 or Equal
Spring	301 Stainless Steel
Restricting Plates	Zinc Plated Carbon Steel

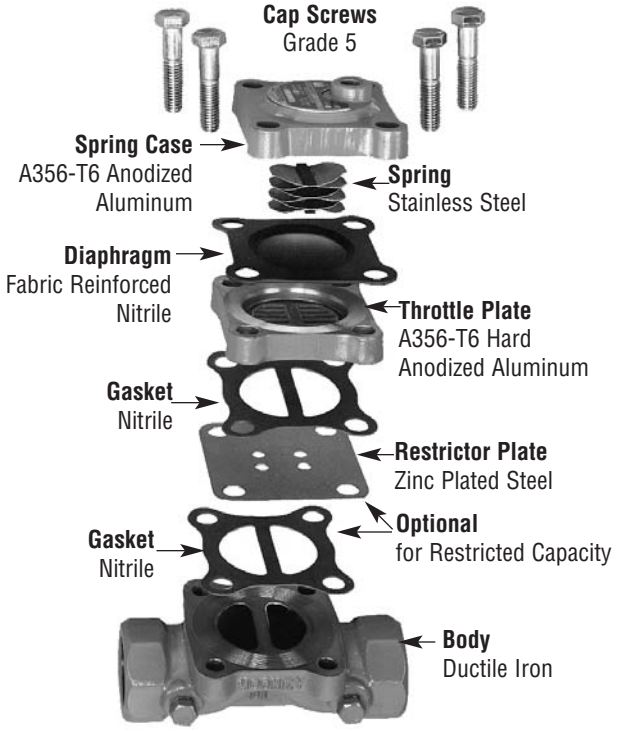
*Refer to diaphragm selection chart on page 2

STOCK NUMBERS

Flowgrid 250	Stock Number	Weight
1” NPT	FG-24	8 lbs.
1-1/4” NPT	FG-25	8 lbs.
1-1/2” NPT	FG-26	8 lbs.

DIMENSIONS



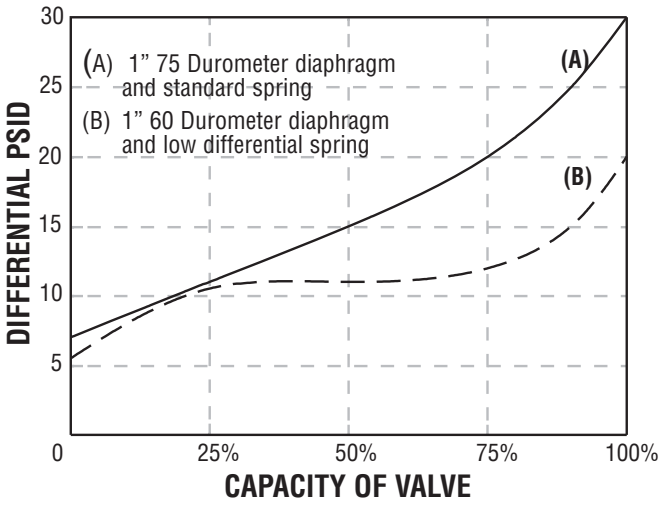


FLOW COEFFICIENTS AND CONSTANTS

Flowgrid 250					Swage Factor Fp	
Size	**Percent Capacity**	**Cv**	**C1**	**Cg**	**1.5:1**	**2:1**
1" NPT	**100%**	13.1	32.7	428	0.96	0.93
	75%	9.4	35.0	330	0.97	0.95
	50%	6.9	38.2	262	0.98	0.96
	25%	3.1	38.0	118	1.00	0.99
1 1/4" NPT	**100%**	13.6	31.7	432	0.96	0.93
	75%	9.8	34.7	339	0.97	0.95
	50%	6.7	37.6	254	0.98	0.96
	25%	3.1	38.9	120	1.00	0.99
1 1/2" NPT	**100%**	14.0	32.4	457	0.96	0.93
	75%	9.4	34.8	328	0.97	0.95
	50%	6.5	36.1	236	0.98	0.96
	25%	3.0	39.3	120	1.00	0.99

NOTE: Allow a 5% factor of safety when calculating relief capacity

MINIMUM PRESSURE DIFFERENTIAL VS. CAPACITY



DIAPHRAGM SELECTION

Compound	Temp. Range (Degrees F)	Maximum Differential	Characteristics	Recommended Applications
75 Duro	-20 to 150	250 psid *	Best All Around Material	60 psid to Max. Differential
60 Duro	-25 to 150	250 psid *	Best Shutoff at Low Differential Pressure	Low Differential (100 psid or less) or Low Temperature