

Block and Bleed Gauge Valves

Two-valve single outlet gauge valves that combine isolating, calibrating and venting facilities in a single compact unit

General Application

These valves enable gauges, pressure transmitters or switches to be installed and serviced reliably by reducing potential leak points. A threaded and plugged vent port enables safe installation of exhaust piping/tubing on hazardous service.

TECHNICAL DATA

Materials

CS, 316 SS, Monel®, duplex and other exotic materials

Seats:

Metal

Connections:

½" to 1" NPT; welded also available

Pressure (max):

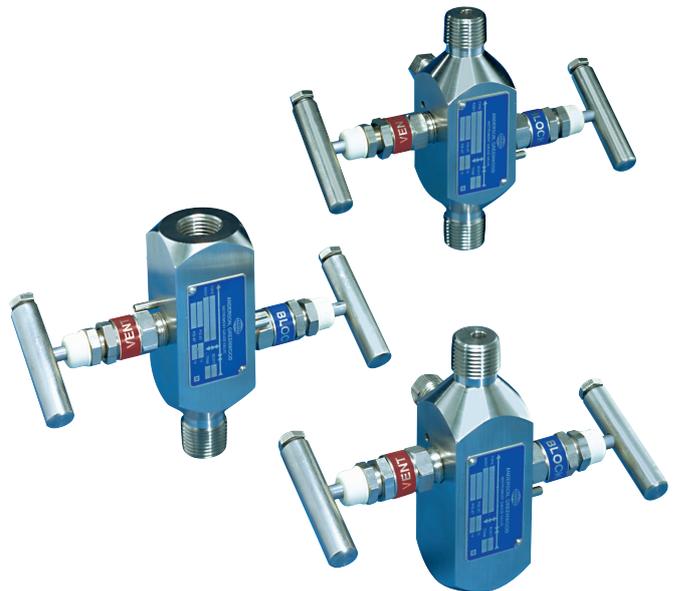
M25: 6,000 psig (414 barg)

M251: 10,000 psig (690 barg)

Temperature (max):

M25: -70° to 1000°F (-57° to 538°C)

M251: -70° to 500°F (-57° to 260°C)



Features

- Compact design minimizes space requirements; low weight improves connection strength and reduces gauge whip.
- Minimal instrument installation components reduce costs and decrease possible leak points.
- Easy instrument check calibration using ¼" FNPT vent/test port.
- Ball end stem eliminates seat galling, provides bubble-tight shutoff and long life. Hardened, non-rotating ball ensures perfect alignment closure.
- Packing below threads prevents lubricant washout, thread corrosion, process contamination and eliminates galling.
- Easily adjustable packing decreases replacement down time and increases valve life.
- Safety back seating prevents stem blowout or accidental removal and provides a metal-to-metal secondary stem seal while in the fully open position.
- Dust cover prevents lubricant washout and protects bonnet assembly from contaminants.
- ENC plated 316 SS prevents galling or freezing of stem threads.
- Rolled stem, bonnet and male NPT threads provide additional strength.
- Mirror stem finish in the packing area enables smooth operation and extends packing life.
- Metal-to-metal body-to-bonnet seal in constant compression prevents bonnet thread corrosion, eliminates possible tensile breakage and gives a reliable seal point.

M25/M251 SERIES

Block and Bleed Gauge Valves

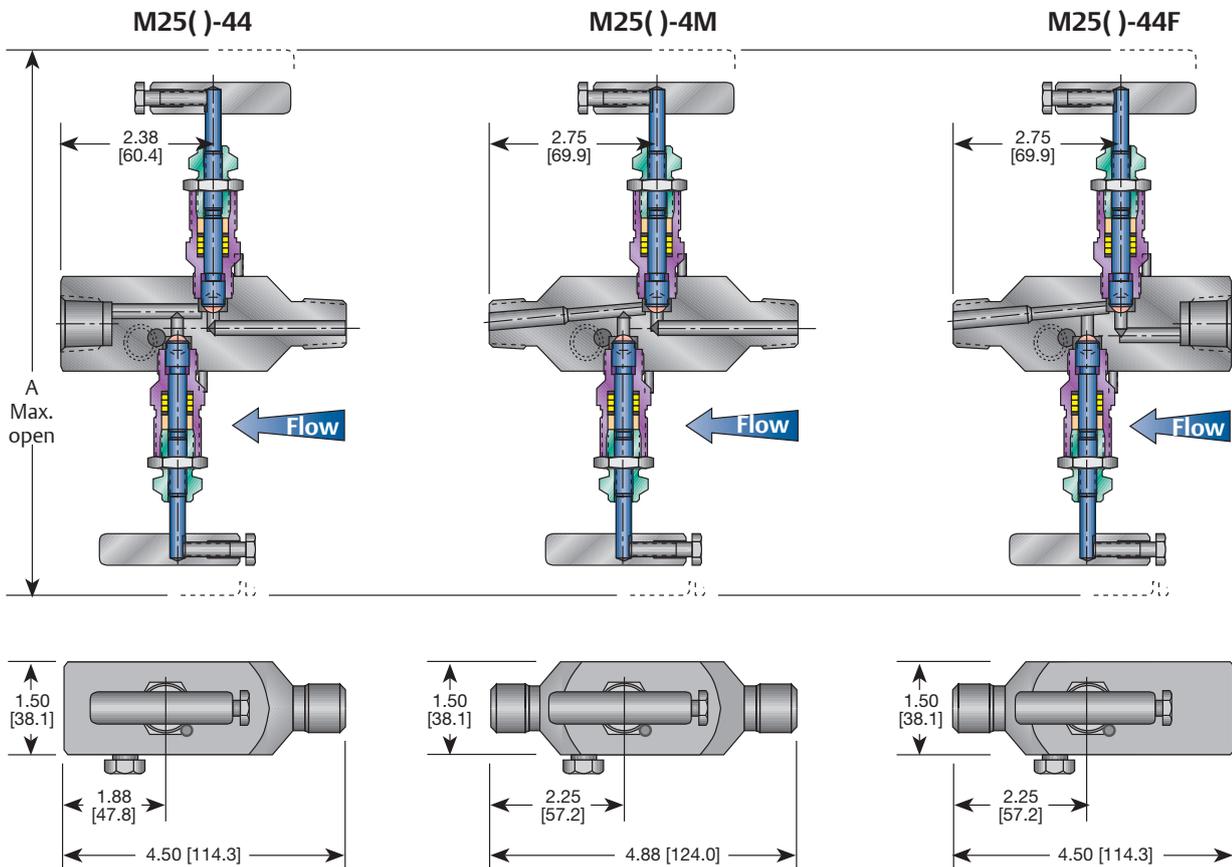
Bonnet Assembly Options

The M25 and M251 feature a metal-seated bonnet assembly which has a rotating stem with free swivel ball-type seat for long service life. The stem threads are rolled and lubricated to prevent galling and reduce operating torque. The stem seal is a patented PTFE packing gland which is adjustable in service. A protective dust cap is fitted to contain stem lubricant and prevent the influx of contaminants. The specially hardened ball seat is ideal for both gas and liquid service. All bonnets are assembled with a bonnet locking pin to prevent accidental removal while in service.

The high pressure M251 bonnet assembly uses a strengthened stem and bonnet and is fitted with a larger size T-bar handle.

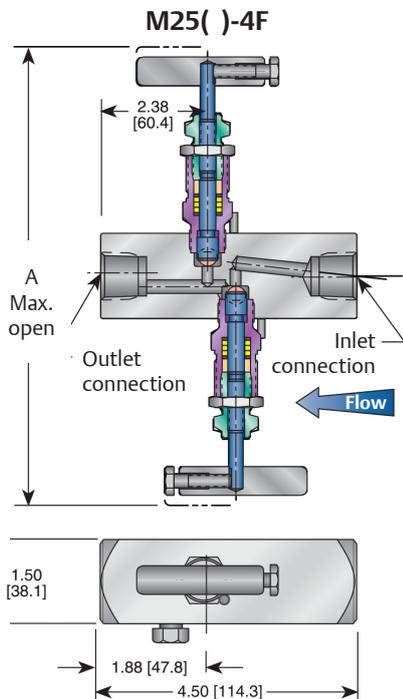
The M25 high-temperature bonnet assembly utilizes a similarly designed stem and bonnet, incorporating adjustable graphite rings and back-up pressure rings to ensure a leak-free stem seal.

Dimensions, inches [mm]



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Bonnet Assembly Options

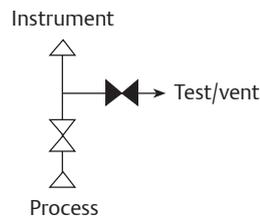


Dimensions, inches [mm]

Packing	A
Low emissions (E)	8.14
GRAFOIL® (H)	[206.8]
PTFE (V)	6.84
M251 only	[173.7]

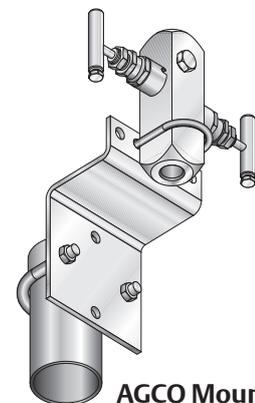
NOTES

1. Approximate valve weight M25(-)44 and M25(-)44F 3.6 lb [1.63 kg]. M25(-)4M 3.8 lb [1.72 kg]. Valve Cv 0.52 maximum.
2. For Hastelloy® and SG3 call factory for dimensions and weights.
3. Contact factory for all other available configurations not shown above.



Standard Materials

Valve	Body	Bonnet	Stem	Ball	Packing
CS ^[1]	A105 CS	A108 CS	A581-303 SS	17-4 PH	PTFE
CS ^[1]	A105 CS	A105 CS	A581-303 SS	17-4 PH	GRAFOIL® Low emissions Graphite
316 SS	A479-316 SS	A479-316 SS	A276-316 SS	316 SS	PTFE
316 SS	A479-316 SS	A479-316 SS	A276-316 SS	316 SS	GRAFOIL® Low emissions Graphite
SG ^[2]	A479-316 SS	A479-316 SS	Monel® 400	Monel® K500	PTFE
SG ^[2]	A479-316 SS	A479-316 SS	Monel® 400	Monel® K500	GRAFOIL® Low emissions Graphite
SG3 ^[3]	Hastelloy® C-276	Hastelloy® C-276	Hastelloy® C-276	Elgiloy®	PTFE
SG3 ^[3]	Hastelloy® C-276	Hastelloy® C-276	Hastelloy® C-276	Elgiloy®	GRAFOIL® Low emissions Graphite



AGCO Mount

The M25 and M251 are available with the AGCO Mount option, which provides secure mounting, instrument piping stability and easy instrument removal for repairs, service and calibration.

NOTES

1. CS is zinc TCP plated to prevent corrosion.
2. SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l (ppm)) and NACE MR0103-2005.
3. SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l (ppm)).

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Pressure vs. Temperature

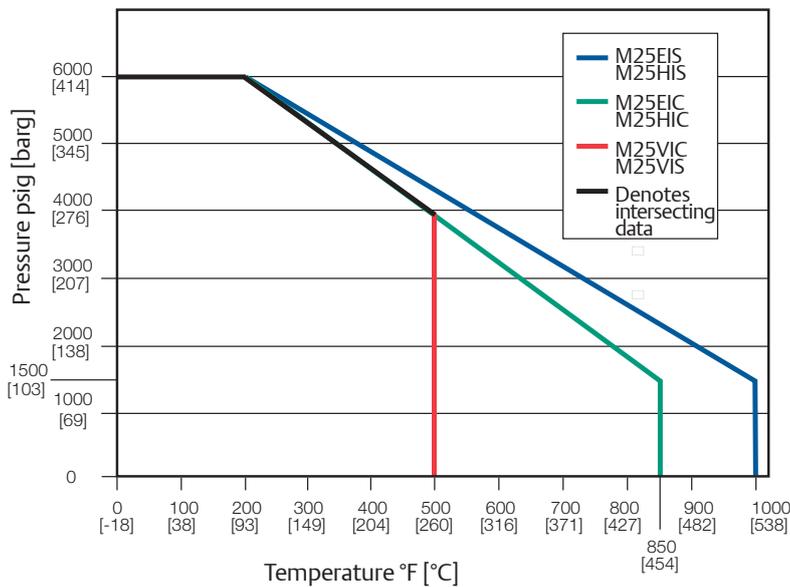
Pressure and Temperature Ratings

PTFE packing		
CS, 316 SS	6000 psig at 200°F [414 barg at 93°C]	4000 psig at 500°F [276 barg at 260°C]
316L SS	5000 psig at 200°F [345 barg at 93°C]	4000 psig at 500°F [276 barg at 260°C]
SG, SG3	6000 psig at 200°F [414 barg at 93°C]	4000 psig at 500°F [276 barg at 260°C]
GRAFOIL® low emissions graphite packing		
CS	6000 psig at 200°F [414 barg at 93°C]	1500 psig at 850°F [103 barg at 454°C]
316L SS	5000 psig at 200°F [345 barg at 93°C]	1500 psig at 850°F [103 barg at 454°C]
316 SS, SG, SG3	6000 psig at 200°F [414 barg at 93°C]	1500 psig at 1000°F [103 barg at 538°C]

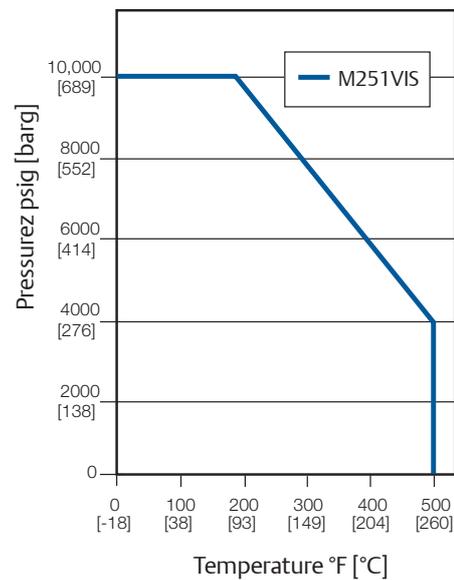
NOTE

Minimum temperature for 316 SS material is -70°F (-57°C).

Pressure vs. Temperature - M25



Pressure vs. Temperature - M251



NOTE

M251 316L material has a maximum pressure rating of 9,000 psi.

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Selection Guide

M25	V	I	S	-44	C	-SG
BASIC SERIES	PACKING	SEAT MATERIAL	BODY MATERIAL ^[1]	CONNECTIONS ^[2]	CONNECTION STYLE	OPTIONS
M25, M251	V PTFE (M251 only available in PTFE packing)	I Integral	C CS	4F ½-inch FNPT (outlet) x ¼-inch vent x ½-inch FNPT (inlet)	C Male plain end (CS is black oxide coated)	HD Hydrostatic testing (100%) (MSS-SP-61)
	H GRAFOIL®		S 316 SS	4M ½-inch MNPT (outlet) x ¼-inch vent x ½-inch MNPT (inlet)		LAT Lockable anti tamper (PTFE Packing)
	E Low emissions graphite		M Monel®	44 ½-inch FNPT (outlet) x ¼-inch vent x ½-inch MNPT (inlet)		MS Monel® stem
			J Hastelloy®	44F ½-inch MNPT (outlet) x ¼-inch vent x ½-inch FNPT (inlet)		NIC No India/China
			W 316L SS (maximum pressure 5,000 psig (345 barg) at 200°F (93°C))	46 ½-inch FNPT (outlet) x ¼-inch vent x ¾-inch MNPT (inlet)		OC00 Gaseous oxygen clean (OC)
				46M ½-inch MNPT (outlet) x ¼-inch vent x ¾-inch MNPT (inlet)		OC01 Liquid oxygen clean (OC)
				48- ½-inch FNPT (outlet) x ¼-inch vent x 1-inch MNPT (inlet)		PMI00 PMI body only
				48M ½-inch MNPT (outlet) x ¼-inch vent x 1-inch MNPT (inlet)		SG SG (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions ≤ 50 mg/l (ppm)) and NACE MR0103-2005
	6 ¾-inch FNPT (outlet) x ¼-inch vent x ¾-inch FNPT (inlet)		SG3 SG3 (Sour Gas) meets the requirements of NACE MR0175/ISO 15156 (for chloride conditions > 50 mg/l (ppm))			
	66 ¾-inch FNPT (outlet) x ¼-inch vent x ¾-inch MNPT (inlet)		AM AGCO Mount			
	68 ¾-inch FNPT (outlet) x ¼-inch vent x 1-inch MNPT (inlet)		AMS AGCO Mount kit (stainless steel)			
			BL Bonnet lock device			

NOTES

- For other body materials, consult factory.
- Consult factory for other optional connections.
- M251 not available in GRAFOIL® or graphite.

M25/M251 SERIES

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Selection Guide - Power Industry Applications ^[1]

M25 HP	S	-44	C	-XP		
BASIC SERIES	BODY MATERIAL	CONNECTIONS (INLET/OUTLET)	CONNECTION STYLE	OPTIONS		
M25 HP	S 316 SS, A479-316	4F	½-inch FNPT (outlet) x ¼-inch vent x ½-inch FNPT (inlet)	C Male plain end (CS is black oxide coated)	PMI00	PMI body only
		4M	½-inch MNPT (outlet) x ¼-inch vent x ½-inch MNPT (inlet)		XP	ASME B31.1 (see note 1)
		44	½-inch FNPT (outlet) x ¼-inch vent x ½-inch MNPT (inlet)		AM	AGCO Mount
		44F	½-inch MNPT (outlet) x ¼-inch vent x ½-inch FNPT (inlet)		AMS	AGCO Mount kit (Stainless steel)
		46	½-inch FNPT (outlet) x ¼-inch vent x ¾-inch MNPT (inlet)			
		46M	½-inch MNPT (outlet) x ¼-inch vent x ¾-inch MNPT (inlet)			
		48	½-inch FNPT (outlet) x ¼-inch vent x 1-inch MNPT (inlet)			
		48M	½-inch MNPT (outlet) x ¼-inch vent x 1-inch MNPT (inlet)			
		6	¾-inch FNPT (outlet) x ¼-inch vent x ¾-inch FNPT (inlet)			
66	¾-inch FNPT (outlet) x ¼-inch vent x ¾-inch MNPT (inlet)					
68	¾-inch FNPT (outlet) x ¼-inch vent x 1-inch MNPT (inlet)					

NOTES

- All Power M25 Gauge Valves come standard with GRAFOIL® packing, integral seats, bonnet locks, and are subjected to hydrostatic testing.
- SS ratings
6000 psig at 100°F [414 barg at 38°C]
3030 psig at 1000°F [201 barg at 538°C]