EMERSON™

ANDERSON GREENWOOD

3/8-inch [9.5 mm] (optional 5/8-inch [16 mm]) bore, 6000 psig [414 barg], API Firesafe 607 rated

Features and Benefits

- Cost savings are realized as the root valves are in-line repairable. The replaceable soft or metal seats can be easily removed and replaced eliminating the need for valve removal should the seat become damaged by process conditions. The non-rotating stem design eliminates packing wear and seat galling further extending the valve's service life and consequently improving its economic benefit.
- Facility and operator safety are increased by the API Firesafe 607 rating of the primary block which provides assured valve reliance in severe service applications.
- Bonnet technology provides the best possible solution to the long-life requirements of instrument primary (root) valves. The non-rotating stem eliminates packing wear and seat galling, the two primary factors behind traditional bonnet assembly failures.
- Compact design requires minimum space for operation and installation. Lower valve weight increases strength at the process connection and reduces gauge whip.
- Body-to-bonnet seal is metal to metal in constant compression below the bonnet threads. Prevents bonnet thread corrosion, eliminates possible tensile breakage of bonnet, and gives a reliable seal point.
- Safety back seating prevents stem blowout or accidental removal while in operation and provides a metal-to-metal secondary stem seal while in the full open position.
- Bonnet lock plate is another safety feature which prevents the accidental separation of the bonnet from the body. However, normal valve maintenance and repair are easily accomplished.

Product Overview

The M50 and H70 6000 psig [414 barg] API Firesafe 607 Rated, ANSI Class 2500 instrument primary (root) valves are suited for severe service, instrument primary (root) type installations requiring rugged durability, reliability and safety. Both the M50 and H70 feature the Anderson Greenwood Instrumentation Products non-rotating stem bonnet design which eliminates packing wear and seat galling ensuring a bubble-tight, long-service life. These valves also feature a 3/8-inch [9.5 mm] or optional 5/8- inch [16 mm] straight through (roddable) bore and are equipped with either a metal or soft replaceable seat.

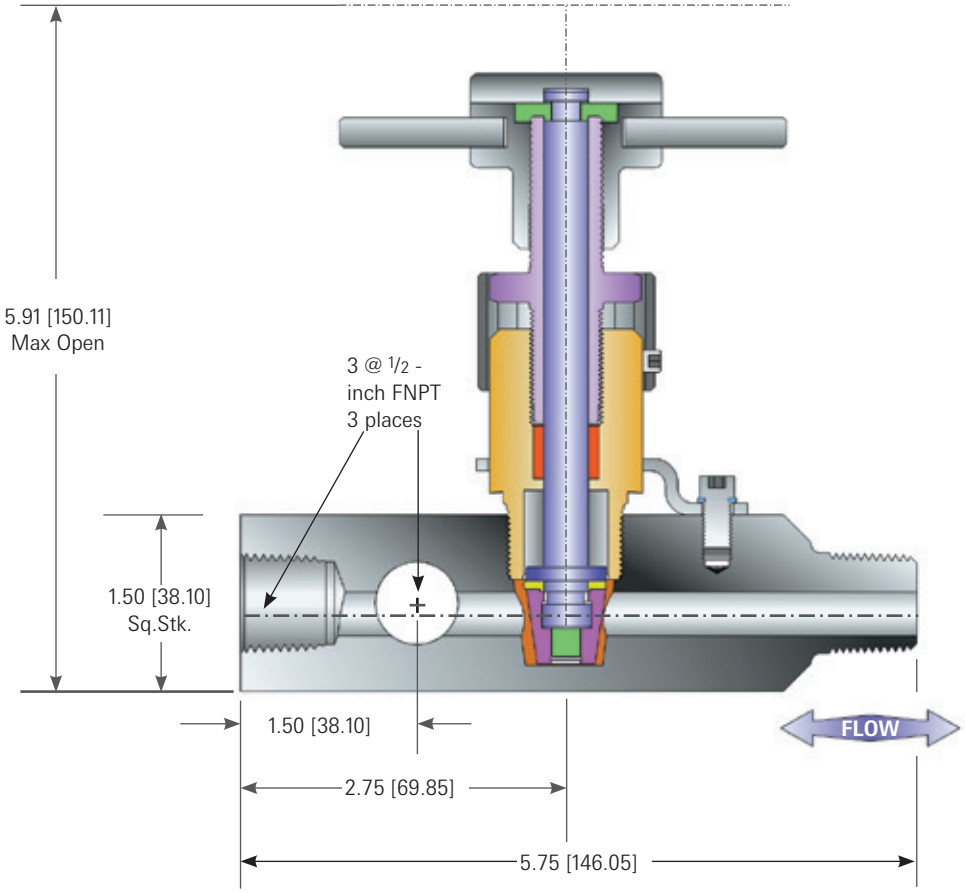
This straight through bore allows for the valve to be rodded out should it become plugged.

The M50 is equipped with multi-port gauge connections allowing versatile positioning of gauges or pressure switches without requiring additional penetration of the main piping. Both the M50 and H70 series instrument primary (root) valves are intended to replace the Gate and Globe Valves found in traditional installations.

All valves with male inlet connections are available threaded or prepared for welding with either standard or extended inlets.

AGIDR-0001-EN-1308

General Dimensions



Note

1. Long body length 7.75-inch [198.8 mm]. Extra long body length 8.80-inch [223.5 mm].

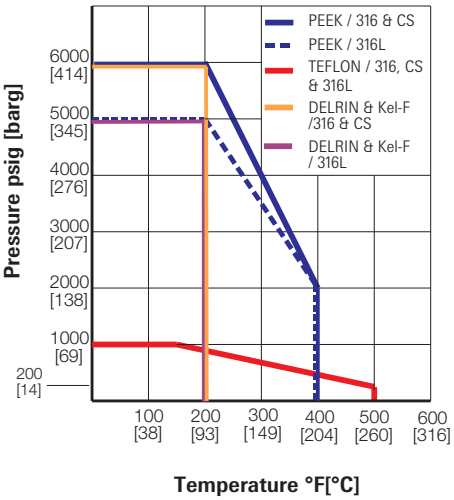
Standard Materials - Metal and Soft Seats

Valve[1]	Body	Stem	Bonnet
CS	A105 CS[2]	303 SS	A105 CS
316 SS	A479-316 SS	A479-316 SS	A479-316 SS
316L3 SS	A479-316L SS	A479-316L SS	A479-316L SS
Monel®	Monel® 400	Monel® R405	Monel® R405
Hastelloy®	Hastelloy® C276	Hastelloy® C276	Hastelloy® C276

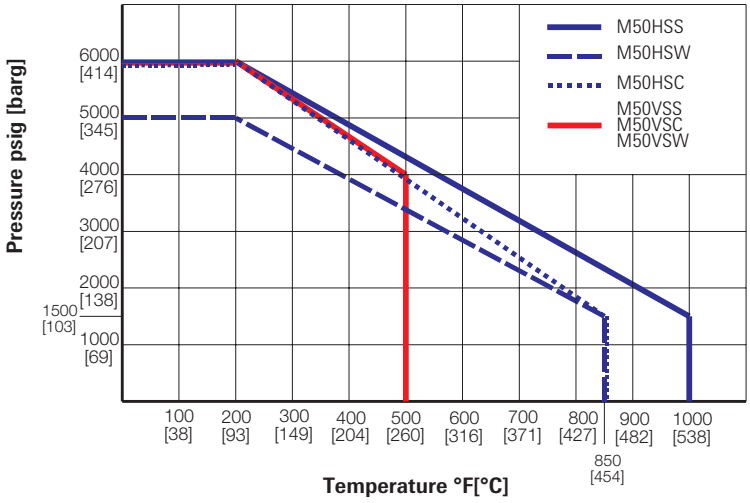
Notes

1. Approximate valve weight: 4.2 lb [1.9 kg].
2. CS zinc plated to prevent corrosion.
3. All 316L SS valves meet the requirements of NACE MR-01-75, latest revision.
4. Monel® is a registered trademark of the International Nickel Company.
5. Hastelloy® is a registered trademark of Haynes International, Inc.

Pressure vs. Temperature - Soft Seat



Pressure vs. Temperature - Hard Seat



Pressure and Temperature Ratings		
Hard seat/Teflon® seal	6000 psig @	200°F
	[414 barg @	93°C]
	4000 psig @	500°F Max.
	[276 barg @	204°C]
Hard seat/Grafoil® seal	6000 psig @	200°F
	[414 barg @	93°C]
	CS 1500 psig @	850°F
	[103 barg @	454°C]
	SS 1500 psig @	1000°F
	[103 barg @	538°C]
Soft seat/Either seal	6000 psig @	200°F
	[414 barg @	93°C]

Pressure and Temperature Ratings - B31.1 Metal Seat GRAFOIL® Packing		
Body Material	**Pressure and Temperature Ratings**	
SS, A479-316	6000 psig @ 100°F	[414 barg @ 38°C]
	2915 psig @1000°F	[201 barg @ 538°C]
CS, A105	6170 psig @ 100°F	[426 barg @ 38°C]
	3430 psig @ 800°F	[237 barg @ 426°C]

Notes

1. All B31.1 products are ASME Class 2500.

6000 psig [414 barg], API Firesafe 607 Rated

Ordering Information

M50 V S S 46C

Orifice Size

M50 – 3/8-inch [9.5 mm] bore
M50A – 5/8-inch [16 mm] bore

Packing

H – GRAFOIL® Bonnet
V – Teflon® Bonnet

Seat

S – SS, A479-316/A479L - 316 SSL
M – Monel®
D – Delrin®
E – PEEK
K – PCTFE (Polychlorotrifluoroethylene exact equivalent of Kel-F®)

Body Materials

S – SS, A479-316/A479L - 316 SSL
C – CS, A105
M – Monel®
J – Hastelloy®
W – A479L - 316SS L

Connections (Inlet/Outlet)

44 – 1/2-inch MNPT x 3 @ 1/2-inch FNPT
46 – 3/4-inch MNPT x 3 @ 1/2-inch FNPT
48 – 1-inch MNPT x 3 @ 1/2-inch FNPT
66 – 3/4-inch MNPT x 3 @ 3/4-inch FNPT
68 – 1-inch MNPT x 3 @ 3/4-inch FNPT
44C – 1/2-inch MSW x 3 @ 1/2-inch FNPT
46C – 3/4-inch MSW x 3 @ 1/2-inch FNPT
48C – 1-inch MSW x 3 @ 1/2-inch FNPT
66C – 3/4-inch MSW x 3 @ 3/4-inch FNPT
68C – 1-inchMSW x 3 @ 3/4-inch FNPT

C – Male plain end (CS is black oxide coated)
L – Long body extension (4-inch insulation)
LL – Extra long body extension (6-inch insulation)

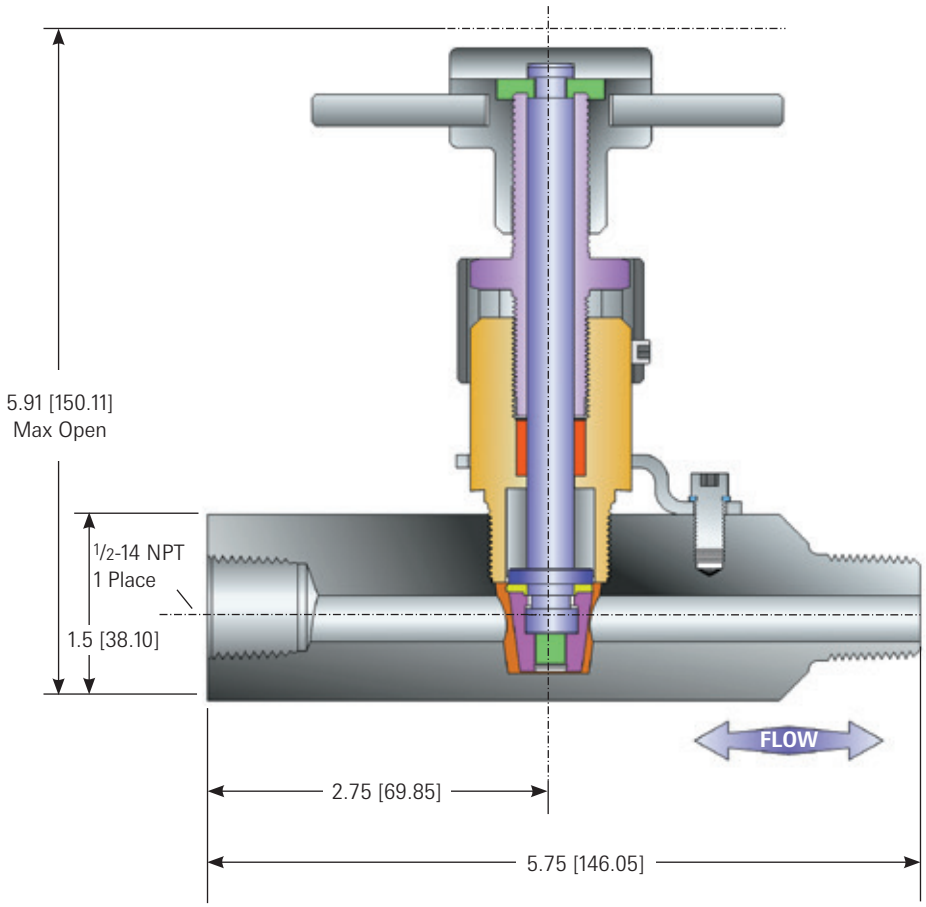
Options

OC – Cleaned for oxygen service
CC – Cleaned for chlorine service
GUS – Removable gusset (support bracket) option
SP – Special Requirements - please specify
XP – For B31.1 Applications
GRAPHOIL® bonnet packing, metal seat, bonnet lock and HYDRO to MSS-SP61)

Note

1. Delrin® is a registered trademark of E.I. duPont de Nemoure Company.

General Dimensions



Note

Long body length 7.75-inch [198.8 mm]. Extra long body length 8.80-inch [223.5 mm].

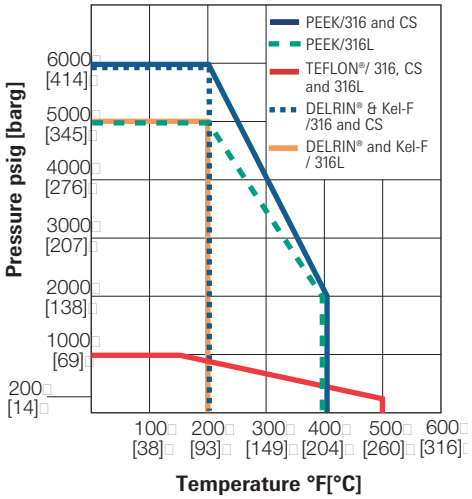
Standard Materials - Metal and Soft Seats

Valve[1]	Body	Stem	Bonnet
CS	A105 CS	303 SS	A105 CS
316 SS	A479-316 SS	A479-316 SS	A479-316 SS
316L SS	A479-316L SS	A479-316L SS	A479-316L SS
Monel®	Monel® 400	Monel® R405	Monel® R405
Hastelloy®	Hastelloy® C276	Hastelloy® C276	Hastelloy® C276

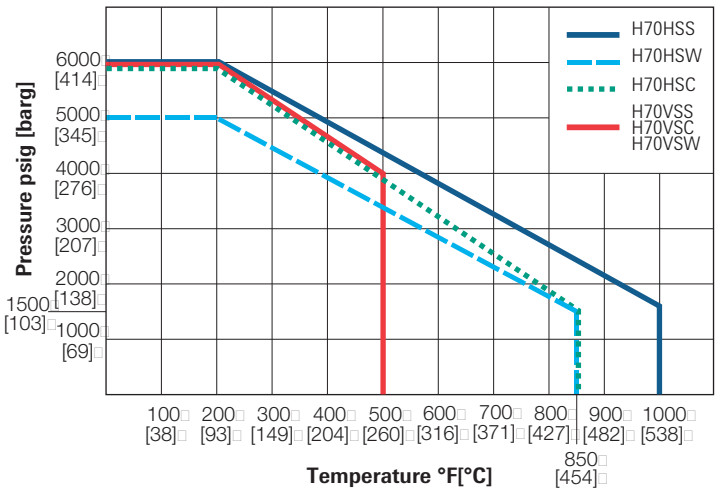
Notes

1. Approximate valve weight: 4.2 lb [1.9 kg].
2. CS zinc-cobalt plated to prevent corrosion.
3. All 316L SS valves meet the requirements of NACE MR-01-75, latest revision.

Pressure vs. Temperature - Soft Seat



Pressure vs. Temperature - Hard Seat



Pressure and Temperature Ratings - B31.1 Metal Seat GRAFOIL® Packing

Body Material	Pressure and Temperature Ratings	
SS, A479-316	6000 psig @ 100°F	[414 barg @ 38°C]
	2915 psig @1000°F	[201 barg @ 538°C]
CS, A105	6170 psig @100°F	[426 barg @ 38°C]
	3430 psig @ 800°F	[237 barg @ 426°C]

Note

1. All B31.1 products are ASME Class 2500.

Pressure and Temperature Ratings

Hard seat/Teflon® seal	6000 psig @	200°F
	[414 barg @	93°C]
	4000 psig @	500°F Max.
	[276 barg @	204°C]
Hard seat/Grafoil® seal	6000 psig @	200°F
	[414 barg @	93°C]
	CS 1500 psig @	850°F
	[103 barg @	454°C]
	SS 1500 psig @	1000°F
	[103 barg @	538°C]
Soft seat/Either seal	6000 psig @	200°F
	[414 barg @	93°C]

6000 psig [414 barg], API Firesafe 607 Rated

Ordering Information

H70 V S S 46C

Orifice Size

H70 – 3/8-inch [9.5 mm] bore
H70A – 5/8-inch [16 mm] bore

Packing

H – GRAFOIL® Bonnet
V – Teflon® Bonnet

Seat

S – SS, A479-316/A479L - 316 SSL
M – Monel®
D – Delrin®
E – PEEK
K – PCTFE (Polychlorotrifluoroethylene exact equivalent of Kel-F®)
V – Teflon®

Body Materials

S – SS, A479-316/A479L - 316 SSL
C – CS, A105
M – Monel®
J – Hastelloy®
W – A479-316 SSL

Connections (Inlet/Outlet)

-4	– 1/2-inch FNPT	x	1/2-inch FNPT
-4C	– 1/2-inch FSWP	x	1/2-inch FSWP
-6	– 3/4-inch FNPT	x	3/4-inch FNPT
-6C	– 3/4-inch FSWP	x	3/4-inch FSWP
44	– 1/2-inch MNPT	x	1/2-inch FNPT
46	– 3/4-inch MNPT	x	1/2-inch FNPT
48	– 1-inch MNPT	x	1/2-inch FNPT
66	– 3/4-inch MNPT	x	3/4-inch FNPT
68	– 1-inch MNPT	x	3/4-inch FNPT
44C	– 1/2-inch MSW	x	3/4-inch FNPT
46C	– 3/4-inch MSW	x	1/2-inch FNPT
48C	– 1-inch MSW	x	1/2-inch FNPT
66C	– 3/4-inch MSW	x	3/4-inch FNPT
68C	– 1-inch MSW	x	3/4-inch FNPT

C – Male plain end (CS is black oxide coated)
L – Long body extension (4-inch insulation)
LL – Extra long body extension (6-inch insulation)

Note

1. All 316 SS/316 SSL dual rated valves in the Root (Primary) Valve Series are rated to NACE MR-01-75 and do not require the standard Anderson Greenwood Instrumentation Products "SG" option denotation for this requirement.

Options

OC – Cleaned for oxygen service
CC – Cleaned for chlorine service
GUS – Removable gusset (support bracket) option
SP – Special Requirements - please specify
XP – For B31.1 Applications
(GRAPHOIL® bonnet packing, metal seat, bonnet lock and HYDRO to MSS-SP61)