

## ANDERSON GREENWOOD SERIES H70DB PRIMARY INSTRUMENT ROOT VALVES

ANSI Class 2500,  $\frac{3}{8}$ " (9.5 mm) rod-able bore, double block and bleed primary isolation root valves.  
 Meets the requirements of ASME B16.34 and fire tested to BS 6755 for pressures up to 6000 psig (414 barg)



### GENERAL APPLICATION

The H70DB is designed to provide redundant block valve capabilities in severe or hazardous process conditions. It is intended to replace the gate, globe, gauge and bleed valves found in traditional instrument installations.

### TECHNICAL DATA

Materials:	CS, SS and various exotics
Seats:	Metal or soft
Connections	
Inlet:	$\frac{1}{2}$ " to 1" NPT, SW, BW, Flanged
Outlet:	$\frac{1}{2}$ " to 1" NPT, SW, BW, Flanged
Orifice size:	$\frac{3}{8}$ " (9.5 mm)
Pressure (max.):	6170 psig (426 barg)
Temperature (max.):	1000°F (538°C)

### FEATURES

- Elimination of up to 80% of leak points produced by traditional 'piped-up' instrumentation penetrations increases operator and facility safety.
- Reduced cost of ownership through reduction of necessary components.
- Single-piece barstock construction and pre-installed bleed valve provide maximum strength and rigidity and eliminate requirement for fittings, tees, valves and tubing.
- Fast installation reduces costs: valve is shipped complete and hydrostatically tested for immediate, hassle-free installation.
- Compact design requires minimum space for operation and installation.
- Replaceable soft or metal seats can be removed and replaced easily in-line eliminating the need for valve removal.
- Non-rotating stem design eliminates packing wear and seat galling, extending valve life.
- Provides assured reliability in severe service applications.
- Metal-to-metal body-to-bonnet seal in constant compression prevents bonnet thread corrosion, eliminates possible tensile breakage 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 prevents accidental separation of bonnet from body while allowing easy maintenance and repair.
- Optional multi-port gauge connections allow versatile positioning of gauges or pressure switches without additional penetration of the main piping.

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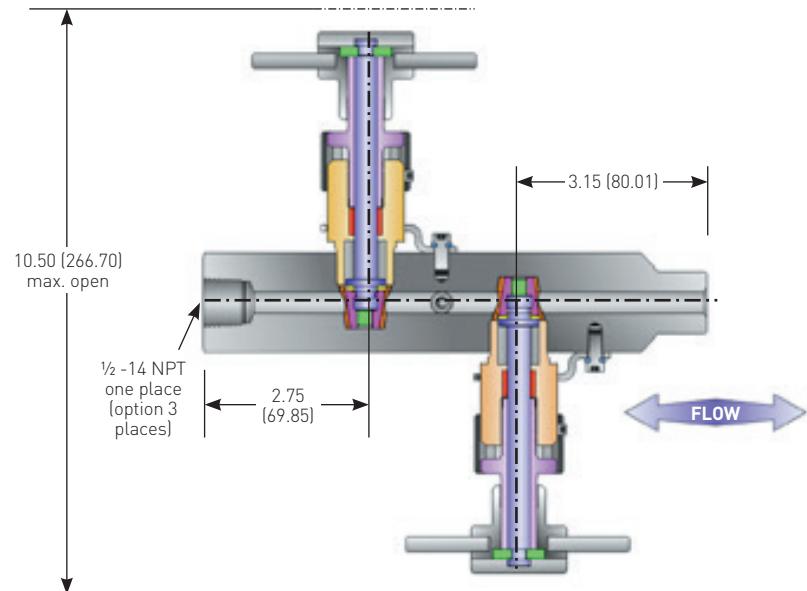
## DOUBLE BLOCK AND BLEED - GENERAL DIMENSIONS

### PRODUCT OVERVIEW

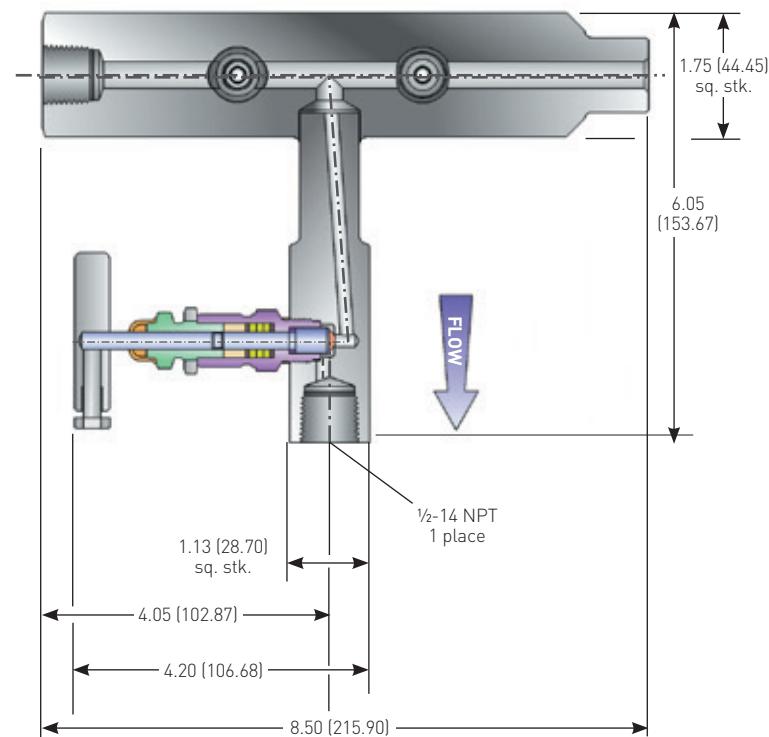
The H70DB instrument primary (root) valve features an installed bleed valve between the block valves to ensure controlled venting of the process and to eliminate costly field welds. It incorporates a primary and secondary block in a single barstock construction, eliminating the need to pipe up two independent valves and the required bleed unit.

This eliminates numerous leak points and installation weakness, which are associated with decreased facility and operator safety as well as high cost of installation. The valve is also available without the installed bleed valve. All valves with male inlet connections are available threaded or prepared for welding with either standard or extended inlets.

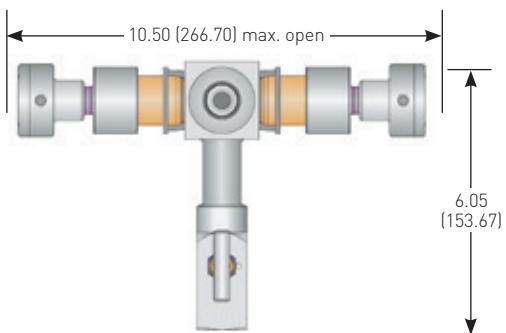
### BLOCK VALVE



### BLEED VALVE



### BLOCK AND BLEED



# ANDERSON GREENWOOD SERIES H70DB PRIMARY INSTRUMENT ROOT VALVES

## DOUBLE BLOCK AND BLEED - SPECIFICATIONS

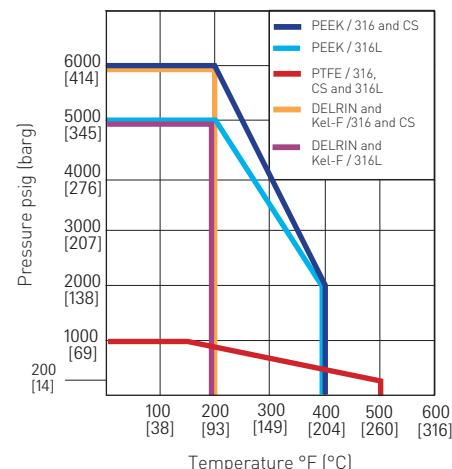
### STANDARD MATERIALS - METAL AND SOFT SEATS

Valve <sup>(1)</sup>	Body	Stem	Bonnet
CS	A105 CS	A479-316 SS	A479-316 SS
316 SS	A479-316 SS	A479-316 SS	A479-316 SS
316L SS	A479-316L SS	A479-316 SS	A479-316 SS
A350-LF2	A350-LF2	A479-316 SS	A479-316 SS

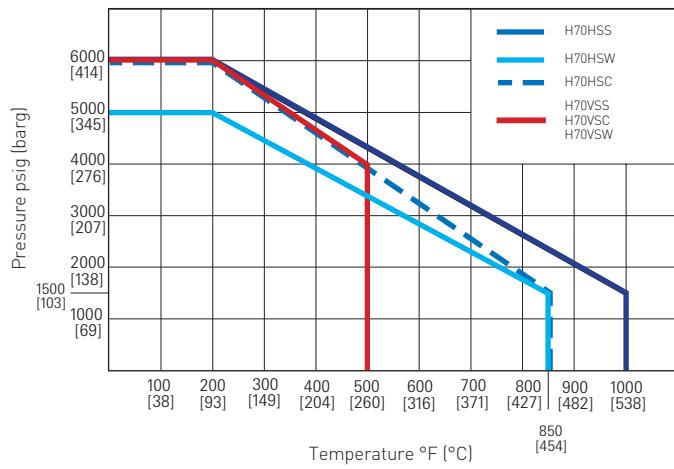
### NOTES

1. Approximate valve weight: standard 8.0 lb (3.6 kg).
2. CS zinc plated to prevent corrosion.
3. All valves meet the requirements of NACE MR-01-75, latest revision.

### PRESSURE VS. TEMPERATURE - H70DB SOFT SEAT



### PRESSURE VS. TEMPERATURE - H70DB HARD SEAT



### PRESSURE AND TEMPERATURE RATINGS

Hard seat/PTFE seal	6000 psig at 200°F (414 barg at 93°C)
	4000 psig at 500°F max. (276 barg at 204°C)
Hard seat/Grafoil® seal	6000 psig at 200°F (414 barg at 93°C)
CS	1500 psig at 850°F (103 barg at 454°C)
SS	1500 psig at 1000°F (103 barg at 538°C)
Soft seat / either seal	6000 psig at 200°F (414 barg at 93°C)
PEEK seat / either seal	6000 psig at 200°F (414 barg at 93°C)
	2000 psig at 400°F (138 barg at 204°C)

### PRESSURE AND TEMPERATURE RATINGS - B31.1 METAL SEAT

#### GRAFOIL® PACKING

Body material	Pressure and temperature ratings
SS, A479-316	6000 psig at 100°F (414 barg at 38°C)
	2915 psig at 1000°F (201 barg at 538°C)
CS, A105	6170 psig at 100°F (426 barg at 38°C)
	3430 psig at 800°F (237 barg at 426°C)

### NOTES

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

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## DOUBLE BLOCK AND BLEED - SPECIFICATIONS

### 6000 psig (414 barg)

#### SELECTION GUIDE

Example:	H70DB	V	S	S	46C
<b>Orifice size</b>					
<b>H70</b>	3/8 inch (9.5 mm) bore				
<b>H70A</b>	5/8 inch (16 mm) bore				
<b>Packing</b>					
<b>H</b>	GRAFOIL® bonnet				
<b>V</b>	PTFE bonnet				
<b>Seat</b>					
<b>S</b>	SS, A479-316/A479L - 316 SSL				
<b>D</b>	Delrin®				
<b>E</b>	PEEK				
<b>K</b>	PCTFE (Polychlorotrifluoroethylene exact equivalent of Kel-F®)				
<b>Body materials</b>					
<b>S</b>	SS, A479-316/A479L - 316 SSL	<b>J</b>	Hastelloy®		
<b>C</b>	CS, A105	<b>W</b>	A479L - 316SS L		
<b>M</b>	Monel®	<b>L</b>	A350-LF2		
<b>Connections (inlet/outlet)</b>					
<b>4</b>	1/2 inch FNPT x 1/2 inch FNPT	<b>66</b>	3/4 inch MNPT x 3/4 inch FNPT		
<b>4C</b>	1/2 inch FSWP x 1/2 inch FSWP	<b>68</b>	1 inch MNPT x 3/4 inch FNPT		
<b>6</b>	3/4 inch FNPT x 3/4 inch FNPT	<b>44C</b>	1/2 inch MSW x 1/2 inch FNPT		
<b>6C</b>	3/4 inch FSWP x 3/4 inch FSWP	<b>46C</b>	3/4 inch MSW x 1/2 inch FNPT		
<b>44</b>	1/2 inch MNPT x 1/2 inch FNPT	<b>48C</b>	1 inch MSW x 1/2 inch FNPT		
<b>46</b>	3/4 inch MNPT x 1/2 inch FNPT	<b>66C</b>	3/4 inch MSW x 3/4 inch FNPT		
<b>48</b>	1 inch MNPT x 1/2 inch FNPT	<b>68C</b>	1 inch MSW x 3/4 inch FNPT		
<b>C</b>	Male plain end (CS is black oxide coated)				
<b>L</b>	Long body extension (4 inch insulation)				
<b>LL</b>	Extra long body extension (6 inch insulation)				

#### OPTIONS <sup>[3]</sup>

<b>OC</b>	Cleaned for oxygen service	<b>2MP</b>	Add 2 at FNPT multi-ports
<b>CC</b>	Cleaned for chlorine service	<b>BVC</b>	Bleed valve 1/2 inch female socket weld outlet
<b>GUS</b>	Removable gusset (support bracket) option	<b>XP</b>	ASME B16.34, ASME B31.1 and B31.3 applications (GRAFOIL® bonnet packing, metal seat, bonnet lock and HYDRO to MSS-SP61)
<b>NBV</b>	Omit installation of bleed valve		
<b>NBVP</b>	1/2" FNPT vent port only between block valves, omit installation of bleed valve		
<b>SP</b>	Special requirements - please specify		

#### NOTES

1. Bleed valve connection is standard 1/2 inch FNPT.
2. Please consult for additional end connection options including flanges, butt-weld etc.
3. All H70DB Series valves inherently meet the requirements of NACE MR0175 and do not require a part number designation.
4. H70ADB valves are only available in soft seats with PTFE packing.

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