



High Pressure Valves
Series H



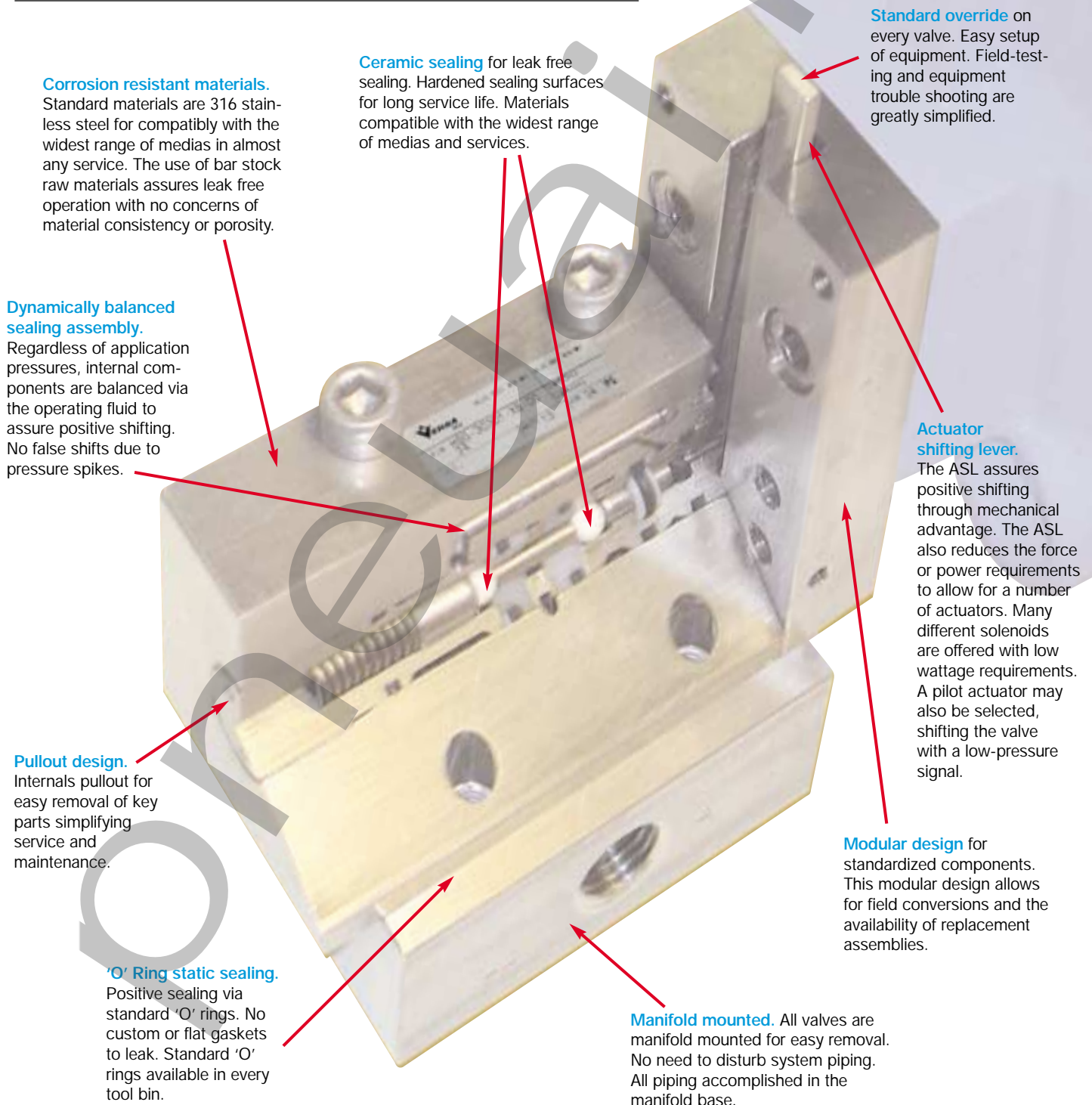
The H Series Leak-Proof, High-Pressure Valves

Versa Products Company has been supplying high quality pneumatic and hydraulic directional control valves and components for over 50 years. We have built a reputation for quality that is unsurpassed in a wide range of markets for high performance solenoids, pneumatic relays and resets and related components.

Versa's H Series is a range of leak-proof high-pressure valves suitable for low viscosity fluids that are ideally suited for the unique needs in the most demanding markets and applications. Low viscosity fluid may be mineral oils, high water based fluids, compressed air or natural gas. Standard valves are rated for hydraulic fluids up to 10.5 gpm (40 l/min) in 2-way and 3-way functions.

Apply Versa's optional pneumatic service suffix and many forms of gas can be controlled in various flow configurations. Valves are available with solenoid or pilot actuation and manual overrides are standard. H Series valves are constructed of stainless steel materials, as standard. All valves are manifold mounted style with a number of standard manifold configurations. Custom manifolding, circuitry and non-standard functions can be easily developed upon request.

Major market applications are within the Oil and Gas industry, however H Series valves have been successfully applied in mining, steel, utility, fire-fighting, desalination and more.



Corrosion resistant materials. Standard materials are 316 stainless steel for compatibility with the widest range of medias in almost any service. The use of bar stock raw materials assures leak free operation with no concerns of material consistency or porosity.

Ceramic sealing for leak free sealing. Hardened sealing surfaces for long service life. Materials compatible with the widest range of medias and services.

Dynamically balanced sealing assembly. Regardless of application pressures, internal components are balanced via the operating fluid to assure positive shifting. No false shifts due to pressure spikes.

Pullout design. Internals pullout for easy removal of key parts simplifying service and maintenance.

'O' Ring static sealing. Positive sealing via standard 'O' rings. No custom or flat gaskets to leak. Standard 'O' rings available in every tool bin.

Standard override on every valve. Easy setup of equipment. Field-testing and equipment trouble shooting are greatly simplified.

Actuator shifting lever. The ASL assures positive shifting through mechanical advantage. The ASL also reduces the force or power requirements to allow for a number of actuators. Many different solenoids are offered with low wattage requirements. A pilot actuator may also be selected, shifting the valve with a low-pressure signal.

Modular design for standardized components. This modular design allows for field conversions and the availability of replacement assemblies.

Manifold mounted. All valves are manifold mounted for easy removal. No need to disturb system piping. All piping accomplished in the manifold base.

H Series Specifications

Function

The H Series is a line of stainless or aluminum manifold mounted valves available as 2-way or 3-way, normally open or closed function. Valve function is not field convertible therefore specify function as required. For other functions consult factory.

Service Media

Hydraulic Service. The standard H Series valve is rated for hydraulic media. Typical hydraulic fluids are considered mineral oil, synthetic oils, water and water glycol. All applications to be confirmed by factory. High-pressure hydraulic service is also available, see pressure chart.

Pneumatic Service. H Series valves are rated for pneumatic service, suffix detail option required. See pressure chart. Pneumatic service would be high-pressure air, inert gasses, natural gas and sour gas. All valves, with pneumatic service option are rated for non-lube service, however lubrication is recommended when feasible.

Flow/ Pressure Ratings

	Pressure Rating					
	Flow		Hydraulic		Pneumatic	
			Standard Valve no suffix	Suffix -HP2	Suffix -AS	Suffix -AS1
Valve Size	Cv	GPM (l/min)	PSI (bar)	PSI (bar)	PSI (bar)	PSI (bar)
H02	0.06	0.3 (0.9)	10,000 (690)	N/A	N/A	N/A
H03	0.23	1.2 (5)	6,000 (414)	10,000 (690)	2,320 (160)	3,625 (250)
H06	0.79	4.0 (15)	6,000 (414)	N/A	2,320 (160)	3,625 (250)
H10	1.9	10.5 (40)	5,000 (345)	N/A	1,450 (100)	N/A

Pressures listed above are maximum body pressures. Minimum pressures are based on actuator selection, see actuator section for minimum pressure ratings.

All valves are tested prior to shipment.

Test pressures are 1.5 times rated pressures for hydraulic service.

Pneumatic valves are tested at rated pressures.

For higher flows and or pressures contact factory.

General Specifications

Temperature range

Temperature range is based on actuator selection.
Please see page 4 for temperature information.

Filtration

Hydraulic Service: 10 micron (H02 size)
20 micron (H03, H06 and H10 size)
Pneumatic Service: 20 micron (all sizes)

Materials of Construction

Main Body:	316 Stainless steel (standard) 304 Stainless steel (optional, add suffix -304) Aluminum, anodized (optional, add suffix -AL)
Seals, dynamic:	Ceramic seal with stainless steel seat (hydraulic service, standard and suffix -HP2) Ceramic seal with engineered polymer seat (pneumatic service, suffix -AS and -AS1)
Seals, Static:	Buna
Fasteners:	Stainless Steel
Manifold:	See manifold section

Versa exercises diligence to assure that information contained in this catalog is correct, but does not accept responsibility for any errors or omissions. Versa also reserves the right to change or delete data or products at any time without prior notification. To be sure the data you require is correct, consult factory.

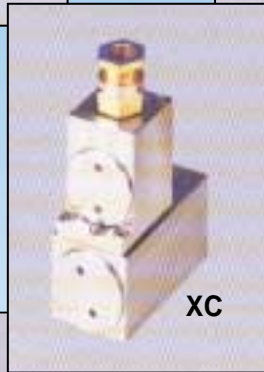
Actuators



XB



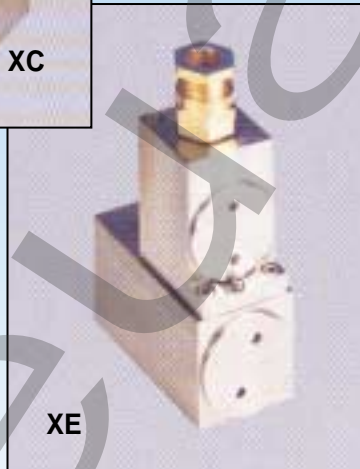
XF



XC



XD



XE

Solenoids

Suffix Detail: XB

Hazardous Location – Flameproof

Protection Classification: EEx de II B + H2 T4/T6
Area Classification: ZONE 1
Ingress Protection: IP44
Voltage: 12 to 250 Volts AC or DC
Power: H3 13 to 17 Watts, H6 20 Watts
Electrical Connection: M20x1.5 w/PG16 cord grip
Temperature Rating: T4: -4F to 158F (-20C to 70C)
 T6: -4F to 104F (-20C to 40C)

Suffix Detail: XC

Hazardous Location – Flameproof

Protection Classification: EEx d II C T6
Area Classification: ZONE 1
Ingress Protection: IP65
Voltage: Up to 250 Volts DC
Power: 3 Watts
Electrical Connection: M20x1.5
Temperature Rating: T6 -4F to 140F (-20C to 60C)

Suffix Detail: XD

Hazardous Location – Intrinsic Safe

Protection Classification: EEx ia II C T5/T6
Area Classification: ZONE 1
Ingress Protection: IP54
Voltage: 5 to 24 Volts DC
Power: up to 2 Watts
Electrical Connection: PG7 cord grip
Temperature Rating: T6 -4F to 140F (-20C to 60C)
 T5 -4F to 158F (-20C to 70C)

Suffix Detail: XE

Hazardous Location – Encapsulation

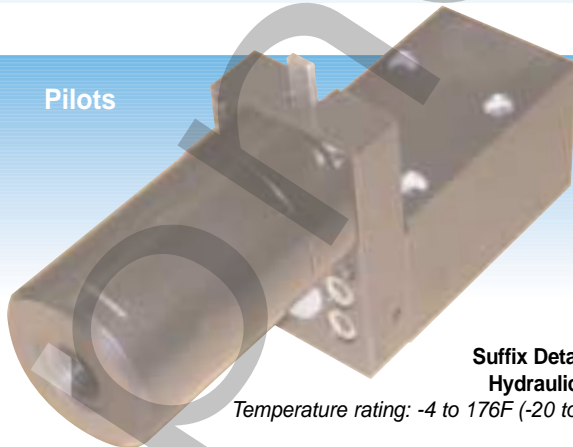
Protection Classification: EEx me II T5/T6
Area Classification: ZONE 1
Ingress Protection: IP65
Voltage: 12 to 125 Volts DC
Power: 3 Watts
Electrical Connection: M20x1.5
Temperature Rating: T6 -4F to 122F (-20C to 50C)
 T5 -4F to 140F (-20C to 60C)

Suffix Detail: XF

General Purpose

Area Classification: None
Ingress Protection: IP54
Voltage: 12 to 250 Volts AC or DC
Power: H2/H3 13 Watts, H6 36 Watts
Electrical Connection: PG9 cord grip
Temperature Rating: -4F to 176F (-20C to 80C)

Pilots



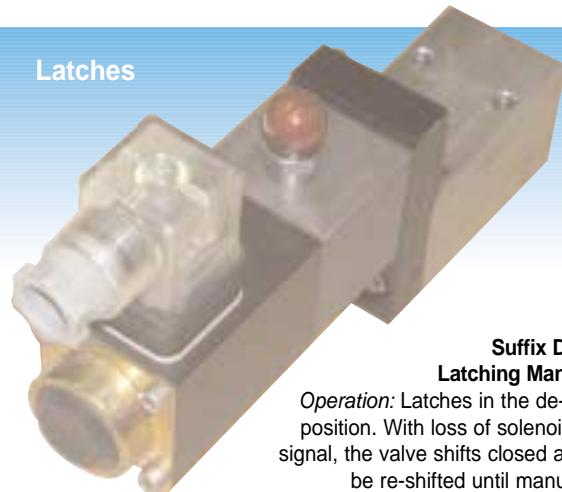
Suffix Detail: HP
Hydraulic Pilot

Temperature rating: -4 to 176F (-20 to 80C)

Suffix Detail: AP
Pneumatic Pilot

Temperature rating: -4 to 176F (-20 to 80C)

Latches



Suffix Detail: LP1
Latching Manual Reset

Operation: Latches in the de-energized position. With loss of solenoid (or pilot) signal, the valve shifts closed and cannot be re-shifted until manually reset.

H Series Quick Reference Part Number Selector

(Part numbers listed below are for standard hydraulic service. For other applications, suffix options are required. Part numbers include valve and actuators only. A manifold is required to complete the assembly part number. See page 6 for manifolds.)

Solenoid actuated

2-Way and 3-Way normally closed 2-position single solenoid, spring return valves

Valve	Function	EEx de Solenoid	EEx d Solenoid	EEx ia Solenoid	EEx me Solenoid	General Purpose Solenoid
H02	2-Way NC	N/A	HSG-20201-XC-* See note 1	HSG-20201-XD-* See note 1	HSG-20201-XE-* See note 1	HSG-20201-XF-* See note 1
	3-Way NC	N/A	HSG-30201-XC-* See note 1	HSG-30201-XD-* See note 1	HSG-30201-XE-* See note 1	HSG-30201-XF-* See note 1
H03	2-Way NC	HSG-20301-XB-* See note 1	HSG-20321-XC-* See note 2	HSG-20321-XD-* See note 2	HSG-20321-XE-* See note 2	HSG-20301-XF-* See note 1
	3-Way NC	HSG-30301-XB-* See note 1	HSG-30321-XC-* See note 2	HSG-30321-XD-* See note 2	HSG-30321-XE-* See note 2	HSG-30301-XF-* See note 1
H06	2-Way NC	HSG-20601-XB-* See note 1	HSG-20621-XC-* See note 2	HSG-20621-XD-* See note 2	HSG-20621-XE-* See note 2	HSG-20601-XF-* See note 1
	3-Way NC	HSG-30601-XB-* See note 1	HSG-30621-XC-* See note 2	HSG-30621-XD-* See note 2	HSG-30621-XE-* See note 2	HSG-30601-XF-* See note 1
H10	2-Way NC	HSG-21031-XB-* See note 3	HSG-21021-XC-* See note 3	HSG-21021-XD-* See note 3	HSG-21021-XE-* See note 3	HSG-21021-XF-* See note 3
	3-Way NC	HSG-31031-XB-* See note 3	HSG-31021-XC-* See note 3	HSG-31021-XD-* See note 3	HSG-31021-XE-* See note 3	HSG-31021-XF-* See note 3

* Must add voltage code. See voltage code on page 6.

Pressure Ratings:

Maximum main body pressure is listed on flow/pressure chart. For higher-pressure hydraulic or pneumatic service select suffix option as required on flow/pressure chart. **Minimum pressures are as follows:**

1. Minimum inlet pressure is 0 psi. Valve is a direct acting design.
2. Minimum inlet pressure is 725 psi (50 bar). Valve is a solenoid-pilot design.
3. Minimum inlet pressure is 1015 psi (70 bar). Valve is a solenoid-pilot design.

All solenoid-operated valves are supplied with manual over-ride. XF solenoid valves are supplied with push button type override. All other valves utilize lever type over-ride. Part numbers reflect normally closed valves. For normally open function change the last digit on the base number from 1 to 2.

Pilot actuated

2-Way and 3-Way normally closed 2-position single pilot, spring return valves

Valve Size	Function	Hydraulic Pilot	Pneumatic Pilot
H02	2-Way, NC	HSP-20201-HP	HSP-20201-AP
	3-Way, NC	HSP-30201-HP	HSP-30201-AP
H03	2-Way, NC	HSP-20301-HP	HSP-20301-AP
	3-Way, NC	HSP-30301-HP	HSP-30301-AP
H06	2-Way, NC	HSP-20601-HP	HSP-20601-AP
	3-Way, NC	HSP-30601-HP	HSP-30601-AP
H10	Consult Factory		

Pressure Rating:

Maximum main body pressure is listed on flow/pressure chart. For higher-pressure hydraulic or pneumatic service select suffix option as required on flow/pressure chart. **Minimum main body pressure for all pilot valves is 0 psi.**

Pilot shift pressure, all sizes: 50 psi (3.4 bar)

Pilot maximum pressure, all sizes: 3050 psi (210 bar)

All pilot operated valves are supplied with manual override. Part numbers reflect normally closed valves. For normally open function change last digit on base number from 1 to 2.

SG = Actuator,
SG = Solenoid operated, spring return
SP = Pilot operated, spring return

XB = Actuator Suffix Options

AP = Pilot Operated valve,
Pneumatic signal
HP = Pilot Operated valve,
Hydraulic signal
XB = Solenoid enclosure,
Protection level EEx de
XC = Solenoid enclosure,
Protection level EEx d
XD = Solenoid enclosure,
Protection level EEx ia
XE = Solenoid enclosure,
Protection level EEx me
XF = Solenoid enclosure,
General purpose,
DIN Connector

3 = Function

2 = 2-Way
3 = 3-Way

03 = Main Valve Size

02 = H02 Size
03 = H03 Size
06 = H06 Size
10 = H10 Size

H
Series
Product
Line

H S G - 3 0 3 0 1 - X B - 3 0 4 - D 0 2 4

VALVE, SAMPLE CODE

1 = Spool Function
1 = Normally Closed
2 = Normally Opened

D024 = Voltage

D024 = 24 Volts, DC
A120 = 120 Volts, 60 Hz.
E110 = 110 Volts, 50 Hz.

Consult factory for other voltages

0 = Solenoid-Pilot Operator
(as determined by actuator)

0 = For Solenoid and pilot valves -
No solenoid-pilot operator required.
2 = For Solenoid valves
H02 Solenoid-pilot operator required.
3 = For Solenoid valves
H03 Solenoid-pilot operator required.
6 = For Solenoid valves
H06 Solenoid-pilot operator required.

304 = Valve Suffix Options

None = 316 stainless steel, std.
AL = Aluminum body materials
304 = Stainless Steel materials
HP2 = Hydraulic service valve,
high pressure ratings
AS = Pneumatic service valve,
standard pressure ratings
AS1 = Pneumatic service valve,
high pressure ratings
LP1 = Latching valve
(consult factory for availability)

H Series ordering codes

How to specify a Versa Series H part number

The bold face captions (shown in color) explain the meaning of the two large sample codes. Alternative codes are shown beneath the captions in black type. Not all options available in all sizes. Please confirm part number with Versa Products Co.

H
Series
Product
Line

3 = Main Valve Size

2 = H02 Size
3 = H03 Size
6 = H06 Size
10 = H10 Size

M = H Series Single Station Manifold.

Consult factory for custom or multi station manifolds.

3 = Function

2 = 2-Way
3 = 3-Way

03 = Size

02 = 1/8
03 = 1/4
04 = 3/8
05 = 1/2
06 = 3/4
07 = 1

1 = Connection Type

Consult factory for Autoclave and SAE.

1 = NPT
2 = 'G'

Material

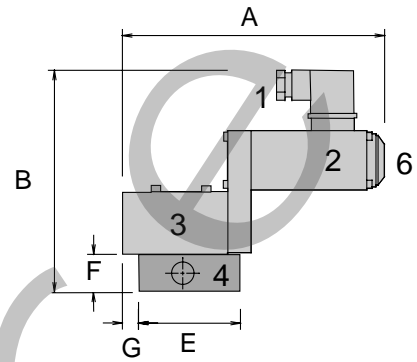
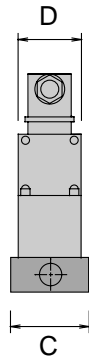
316 = Stainless steel
304 = Stainless steel
AL = Aluminum

MANIFOLD, SAMPLE CODE

H 3 M - 3 0 3 1 - 3 1 6

H Series dimensions

Solenoid Actuated – General Purpose Area Classification

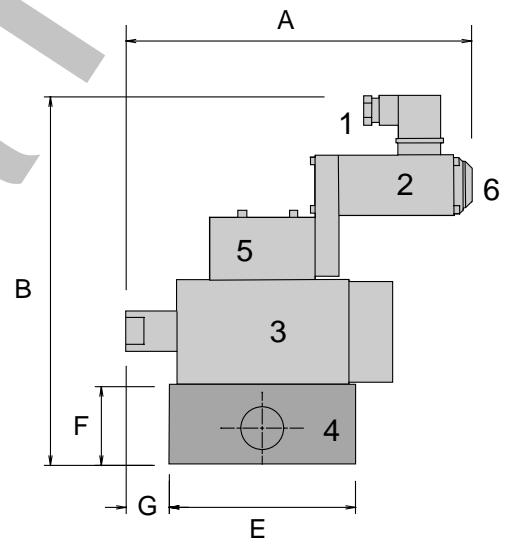
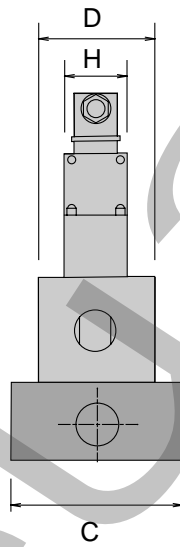


Valve Base Number	A		B		C		D		E		F		G	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
HSG-30201-XF	5.04	128	6.38	162	1.97	50	1.57	40	2.36	60	1.18	30	0.12	3
HSG-30301-XF	6.08	154.5	5.67	144	1.97	50	1.57	40	2.56	65	1.18	30	0.31	8
HSG-30601-XF	7.36	187	6.18	157	1.97	50	1.97	50	2.76	70	1.18	30	0.47	12

Notes:

Dimensions are for reference purposes only. Consult factory for layout drawings and actual dimensioning for exact valve selected as product dimensions change with options selected.

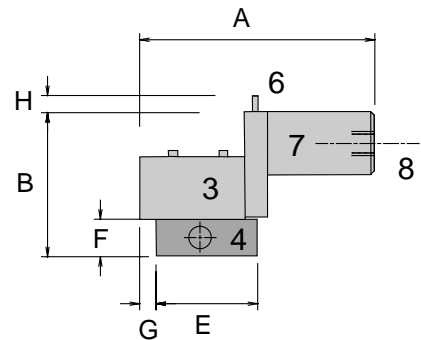
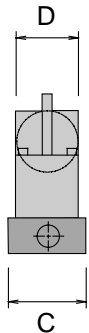
Valves are shown on single station 3-way sub-plates. 2-way function does not change overall sizes. Manual overrides for the -XF solenoid option are push button style. All other solenoid options utilize a lever style override (similar to override on pilot actuated valves).



Valve Base Number	A		B		C		D		E		F		G		H	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
HSG-31021-XF	7.89	200.5	9.84	250	4.33	110	2.76	70	4.72	120	1.97	50	1.56	39.5	1.57	40

Legend:

- Conduit Entry 1
- Solenoid Enclosure 2
- Main Valve Body 3
- Manifold 4
- Solenoid-Pilot Valve 5
- Manual Over-ride 6
- Pilot Actuator 7
- Pilot Port 8



Valve Base Number	A		B		C		D		E		F		G		H	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
HSP-30201-AP	5.16	131	4.41	112	1.97	50	1.57	40	2.36	60	1.18	30	0.00	0	0.41	10.5
HSP-30301-AP	5.91	150	3.94	100	1.97	50	1.57	40	2.65	65	1.18	30	0.31	8	0.41	10.5
HSP-30601-AP	6.30	160	4.21	107	1.97	50	1.97	50	2.76	70	1.18	30	0.35	9	0.41	10.5