

High Pressure HP05 Pattern Sandwich Accessory Valves

VSW SERIES
15 gpm (57 L/min) Nominal
8000 psi (560 bar)

VSW Series accessory valves, with the HP05 pattern, operate at pressures to 8000 psi (560 bar). They are installed under Dynex high pressure 6000 Series control valves which use the HP05 mounting interface.

SPECIFICATIONS

Mounting

Special HP05 pattern

Functions

Model VSWRLPT-HP05-10:

P→T Relief;

Model VSWRLABT-HP05-10:

A,B→T Dual Relief;

Model VSWDPT-HP05-*10:

P→T Decompression;

Model VSWDABT-HP05-*10:

A,B→T Dual Decompression;

Model VSWCHAB-HP05-10:

Dual Pilot Operated Check;

Ratio to open the valve is approximately 4:1 at 8000 psi (560 bar).

The valve will unseat when internal pilot pressure reaches about 25% (1/4) of the load pressure.

Rated Pressure

8000 psi (560 bar)

Maximum Drain Port Pressure (Optional Electric Vent Valve)

Standard:

1000 psi (70 bar) dynamic,

3000 psi (210 bar) static;

“D” Option; see model code, page 4:

3000 psi (210 bar) dynamic,

5000 psi (350 bar) static;

Rated Flow

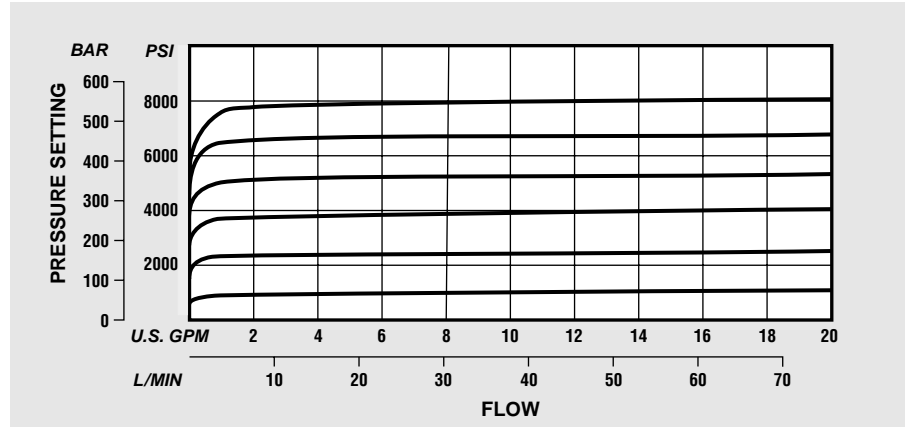
15 gpm (57 L/min)

Seals

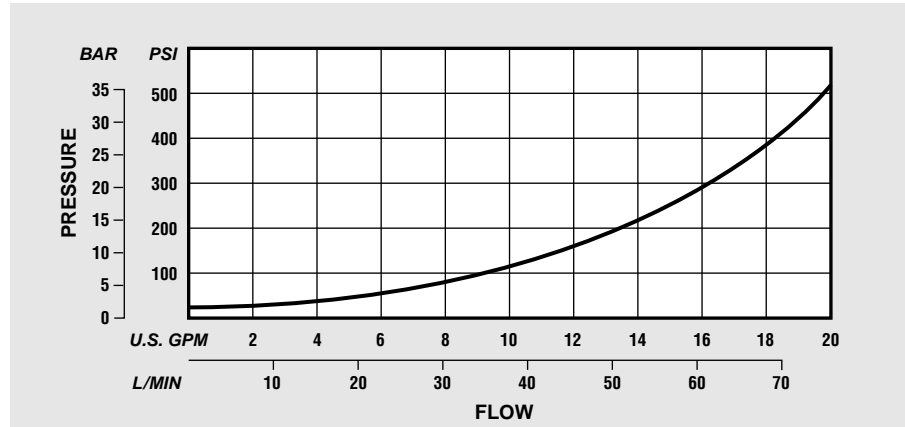
Standard o-rings are fluorocarbon (Viton® or Fluorel®) providing greater fluid compatibility and operation over a wider temperature range.

Optional seals include Buna-N or EPR for use with some phosphate ester fluids. Contact the Dynex sales department for complete ordering information.

RELIEF VALVE PRESSURE CHARACTERISTICS



RELIEF VALVE PRESSURE DROP (VENTED)



TYPICAL PERFORMANCE CURVES

Curves are based on typical performance with the use of 100 SUS (20cSt) petroleum-based fluid at 120° F (50° C).

Curves for relief valve models, showing pressure characteristics and pressure drop, are shown above.

Decompression valve curves, on page 2, can be used to determine the

proper control adjustment setting, to reduce flow surges in the system by metering flow to tank.

The pressure drop curve for check valve models, also on page 2, includes resistance to flow through the directional valve. Model HP05 with Type 3 spool (pressure blocked, “A” and “B” open to tank in the center position) was used to determine typical performance.

Installation And Dimensions

APPLICATION NOTES

Pressure Adjustments

The relief valve pressure is adjusted by turning the handwheel control clockwise to increase pressure. On decompression valves, turning the internal hex adjustment counter-clockwise increases the flow rate metered to tank.

External Drain

External drain is available on relief and decompression valves by specifying the "XD" option (See model code on page 4). The configuration for this function includes plug "10590270", which is factory installed. For in-the-field conversion, contact the Dynex sales department.

Weight (Mass)

Model VSWRLPT-HP05-10:

- Blocked or Remote Vent Port, 13.2 lb (6,0 kg)
- Integral Vent Valve, 21.5 lb (9,8 kg)

Model VSWRLABT-HP05-10:

- Blocked or Remote Vent Port, 19.7 lb (9,0 kg)
- Integral Vent Valves, 36.4 lb (16,5 kg)

Model VSWDPT-HP05-10:

- Blocked or Remote Vent Port, 15.3 lb (6,9 kg)
- Integral Vent Valve, 23.8 lb (10,8 kg)

Model VSWDABT-HP05-10:

- Blocked or Remote Vent Port, 23.9 lb (10,8 kg)
- Integral Vent Valves, 40.7 lb (18,5 kg)

Model VSWCHAB-HP05-10:

- 12.0 lb (26,5 kg)

DIMENSIONS

Dimensions are shown in inches (millimeters in parentheses) and are nominal.

Special Mounting Surface

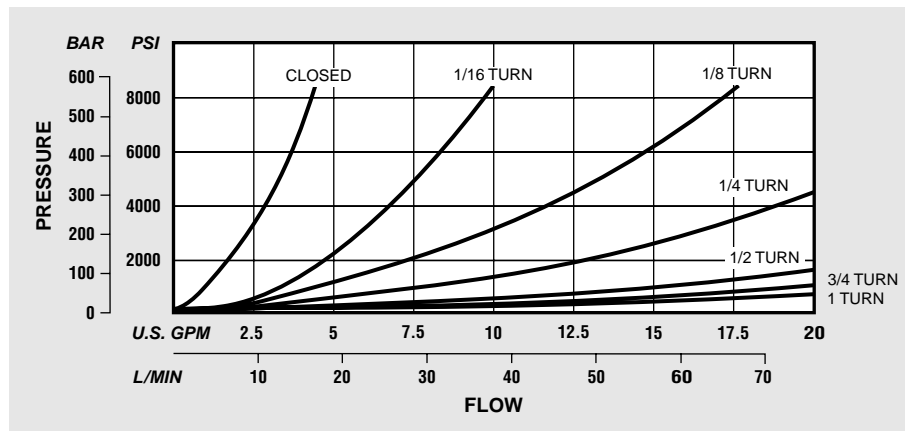
The drawing shows the minimum flush or raised surface required for the special HP05 pattern.

Mounting face must be flat within 0.0004 inch/4.0 inches (0,010 mm/102 mm) with a surface finish of 32 microinch (0,80 µm) AA.

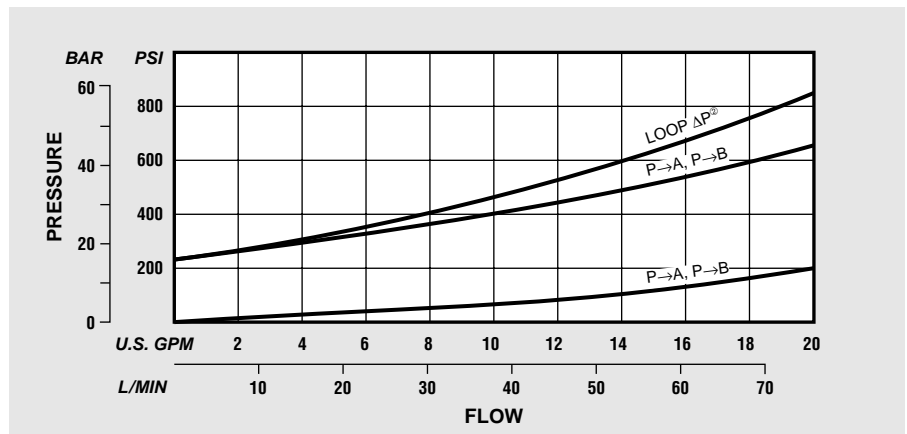
Valve Mounting

Port o-rings are included with valves. Mounting bolts must be ordered separately in kit P31-BK-60. This kit contains four 0.3125-18 U.N.C. Threaded x 3.75 inches (95,2 mm), for mounting one VSW valve under a 6000 Series HP05 pattern valve.

DECOMPRESSION VALVE CONTROL SETTINGS

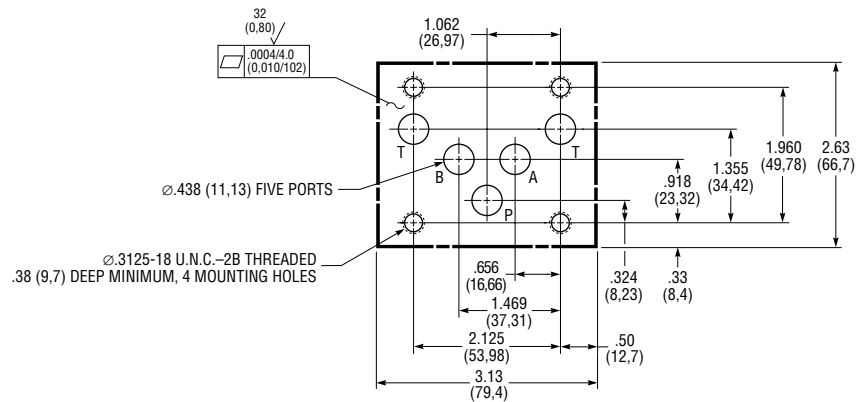


DUAL PILOT OPERATED CHECK VALVE PRESSURE DROP^①



① The curve shown includes resistance to flow through the directional valve. Model HP05 with Type 3 spool (pressure blocked, "A" and "B" open to tank in the center position) used to determine typical performance.

② Loop ΔP is the combined pressure drop through the valve (P→A + B→T or P→B + A→T).

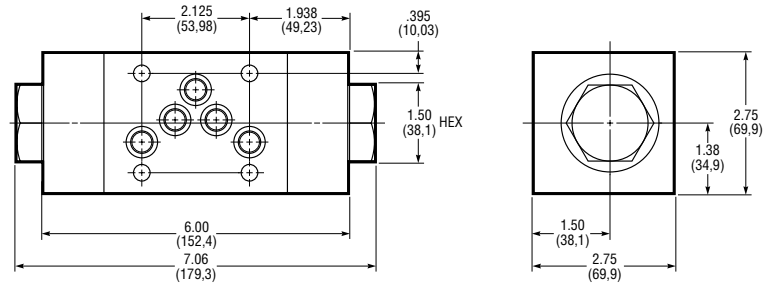


Minimum Mounting Surface, Special HP05 Pattern

VALVE MODEL DIMENSIONS

The drawing at right shows dimensions for the dual pilot operated check valve.

Dimensions for the single function relief and decompression models are shown in the drawings below. The dual function configurations (VSWRLABT and VSWDABT), with two pressure adjustments, are shown printed in gray.



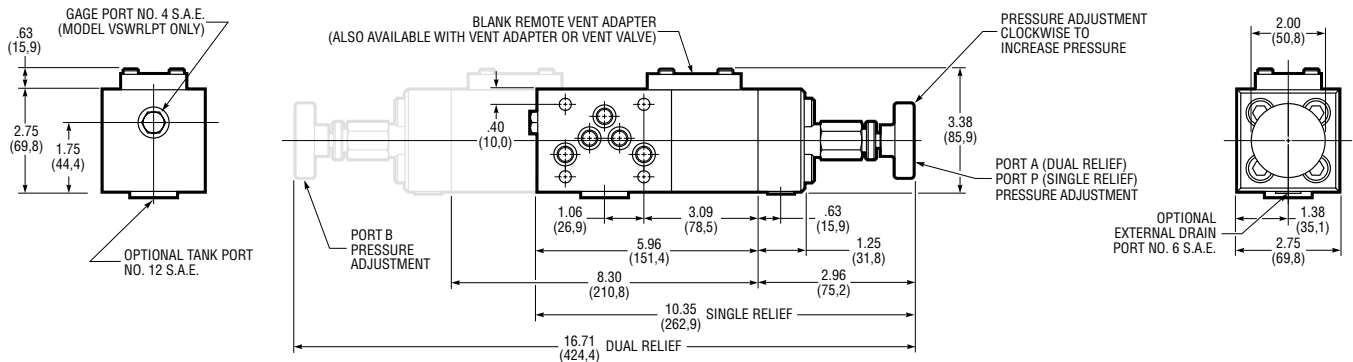
Model VSWCHAB-HP05-*-10 (Dual Pilot Operated Check Valve)

VENTING OPTIONS

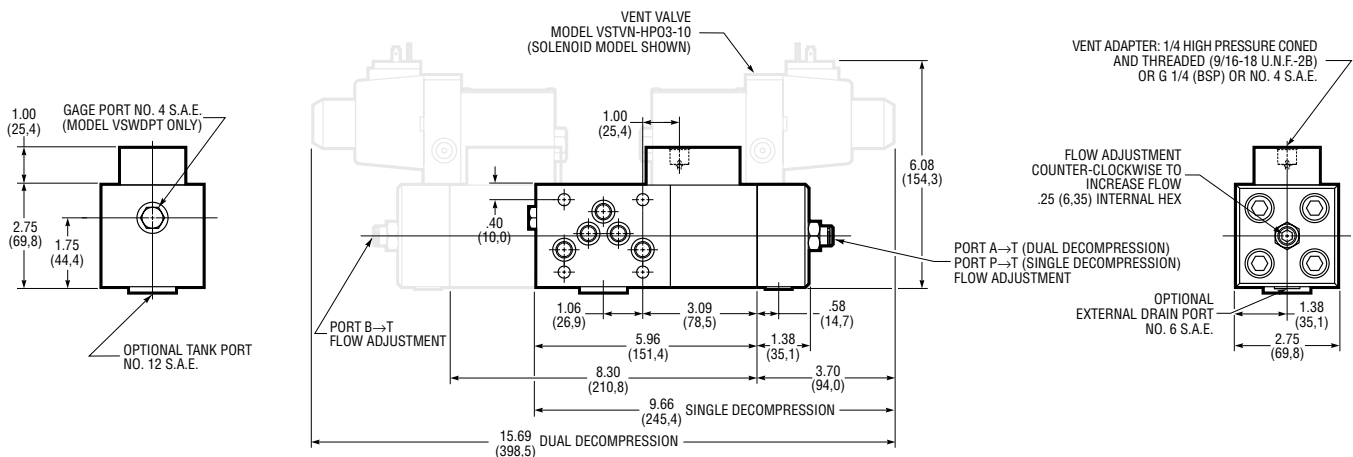
The relief valve drawing shows the standard blocked vent port adapter.

Venting options for both valves are shown in the decompression valve drawing. Options include the remote vent port adapter and the integral vent valve (electric, air or hydraulic). The solenoid option, printed in gray, is shown for reference.

Decompression models must be vented and this option must be specified in model code.



Model VSWRLPT-HP05-*-10 (P→T Relief Valve) and Model VSWRLABT-HP05-*-10 (A, B→T Dual Relief Valve) Shown Printed in Gray



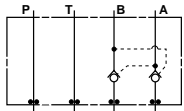
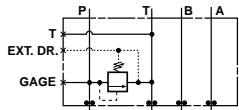
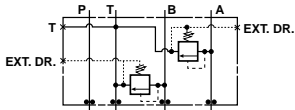
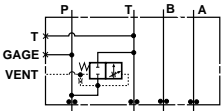
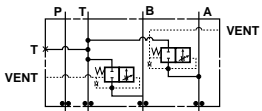
Model VSWDPT-HP05-*-10 (P→T Decompression Valve) and Model VSWDABT-HP05-*-10 (A, B→T Dual Decompression Valve) Shown Printed in Gray

Typical Model Code

VSW RL PT — HP05 — EO CR — 115HA — XD — N — 1 0

Valve Type Sandwich Valve	Mounting Interface HP05 — High Pressure, Special Mounting Pattern	Electric Vent Options PLUG-IN TERMINAL SOLENOIDS: ^① 115HA — Dual Frequency, 115/60, 110/50 230HA — Dual Frequency, 230/60, 220/50 12HD — Direct Current, 12 Volts 24HD — Direct Current, 24 Volts EXPLOSION PROOF: 24EP — Explosion Proof Solenoids, Direct Current, 24 Volts 115EP — Explosion Proof Solenoids, 115/60 110EP — Explosion Proof Solenoids, 110/50 220EP — Explosion Proof Solenoids, 220/50 OPTIONS: D — High Pressure Drain, Maximum: 3000 psi (210 bar) dynamic 5000 psi (350 bar) static M — Hand Actuated Manual Override	Design Number	Modification Number
Function CH — Check Valve RL — Relief Valve D — Decompression Valve		^① Fits DIN Connector Standard 43650 (Hirschmann GDM 209). For other voltages consult the Dynex sales department.	Seals No Code — Viton (Standard) N — Buna-N ^① E — EPR ^①	

^① Contact the Dynex sales department for complete ordering information.

Options		Drain Options	
Check Valve	AB — Dual Pilot Operated Check		No Code — Standard Internal Drain XD — External Drain
Relief Valves	PT — P→T Relief		Vent Options^① No Code — Vent Port Blocked ^② AV — Vent Port (1/4 High Pressure Coned and Threaded, 9/16-18 U.N.F.-2B) ^{③④} BV — Vent Port (1/4 B.S.P.) ^{④⑤} SV — Vent Port (No. 4 S.A.E.) ^④ EO — Electric Vent, Normally Open EC — Electric Vent, Normally Closed AO — Air Vent, Normally Open AC — Air Vent, Normally Closed HO — Hydraulic Vent, Normally Open HC — Hydraulic Vent, Normally Closed CR — Corrosion Resistant Adjustment ^⑥
	ABT — A,B→T Dual Relief		
Decompression Valves	PT — P→T Decompression		
	ABT — A,B→T Dual Decompression		

**For more information
visit our web site:
www.dynexhydraulics.com**

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