

# 2017 CARTRIDGE CATALOGUE

New Zealand



# Hydraulic Specialties Ltd - 2017 Cartridge Catalogue

**Effective 1<sup>st</sup> April 2017**

**All prices listed are quoted in \$NZ and are G.S.T. exclusive.**

- This edition is an update from the 2012 version.
- Whilst every effort is made to hold prices steady, list prices are subject to change without prior notice.
- Where two manifold port sizes are listed the assembly price is for the smaller and may cost more for the larger port size.
- All performance and specification figures are taken from the latest possible literature and may vary from older literature versions.
- It is the responsibility of the system designer to determine suitability of the component.
- A commissioning, assembly or product conversion fee may apply.
- Product pictures shown are indicative only. Actual products may differ from that shown.
- Product contained in the cartridge catalogue is offered subject to Hyspecs' normal terms and conditions of sale.
- A restocking fee may apply on goods returned for credit.
- All manifolds priced are for aluminium unless otherwise stated. For steel manifolds an extra charge may apply.
- For high pressure (240+ bar) Hyspecs recommends steel manifolds.
- Pressure or flow setting charges may apply.
- Solenoid valves are priced with flying leads (DC only) unless otherwise stated. AC coils are DIN plug only. Hirschman / DIN plugs are not included in the price.
- Where needed banjo bolts are included in the price.

## Introduction

### About Hydraulic Cartridge Manifolds

For over 40 years Hyspecs have offered comprehensive high quality hydraulic cartridge valves for the mobile and industrial equipment markets. We are designing and manufacturing cartridge manifolds using an extensive range of cartridges from HydraForce, Command Controls, Eaton and Sun to meet virtually any need encountered in machine design for flow rates of 0.4 to 1700 l/min.

Cartridge valving offers hydraulic system design engineers and customers an unlimited range of integral circuit design possibilities. With the extensive range of cartridges available, entire system valving can be housed in one manifold, saving on hoses & fittings, installation time and space. Having all of the valves in one block also eliminates possible leakage points and the chance of failure.

This catalogue aims to introduce just some of the cartridge valves we now have available and help design engineers and customers to use these common valves in different applications effectively. We also custom design and manufacture cartridge manifolds to suit particular customer requirements usually incorporating several valve functions in one manifold.

### How To Use The Catalogue

This catalogue is edited on the base of valve functions – Pressure Controls, Flow Controls, Directional Controls, Solenoid Valves, Motion Controls, Proportional Valves, Excavator Valving, and Cetop Subplates/Modules. From the CONTENTS index, you can locate the valves with the functions you are looking for. In the valves, you can choose one suitable for your particular application – flow rate, pressure, ratio, ports.

*For example, you can find Single Pilot Operated Check Valves on page C4. However, for 25 l/min, 220 bar and 2:1 pilot ratio, HS1030P6 manifold with two PC10-32 cartridges is the best choice. 75 x 65 x 37mm shows the dimension of the manifold only. The cartridge numbers listed in this catalogue have been abbreviated for simplicity of description. Please consult Hyspecs for the full cartridge code and cartridge options.*

#### HS1030P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PC10-30	22	240	Ratio 4:1, 3-ports	3/8"-1/2"	\$ 232.00
PC10-32	30	240	Ratio 2:1, 3-ports	3/8"-1/2"	\$ 267.00
PC10-38	45	240	Ratio 3:1, thermal RV	3/8"-1/2"	\$ 305.00
HS1030P6 or P8 manifold only \$ 132.00					

#### All the ports are clearly shown in the catalogue as;

Accum = Accumulator

C1, C2= Cylinder

D = Drain

M1, M2 = Motor

Pi, Po = Pressure in, out

RP1, RP2 = Reduced pressure

V, V1, V2 = Valve

Br = Brake

Cf = Controlled flow

Elel, EleR = Elevator in, return

Mh, Mp = Motor hold, pilot

Pil, pp = Pilot

T = Tank

Vh, Vp = Valve hold, pilot

By = Bypass

Ch, Cp = Cylinder hold, pilot

FlrI, FlrR = Floor in, return

P, P1, P2, P3 = Pressure

R = Return

x = plugged

## How To Order

HS 1020 P8 \* \* \*\*S - RV10-22

<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">HS</div> <div style="margin-bottom: 10px;">1020</div> <div style="margin-bottom: 10px;">P8</div> <div style="margin-bottom: 10px;">*</div> <div style="margin-bottom: 10px;">*</div> <div style="margin-bottom: 10px;">**S</div> <div style="margin-bottom: 10px;">- RV10-22</div> </div>	<b>Cartridge</b>		
	<b>Block material</b>	Omit	Aluminium (240 bar max pressure)
		S	Steel (350 bar max pressure)
		**	Additional functions, <i>Consult Hyspecs</i>
	<b>Cavity quantity</b>	B - Z	For anything with 2 cavities or more (omit for 1)
		"X"	<i>Consult Hyspecs</i>
	<b>Manifold layout</b>	Omit	Standard manifolds
		"X"	<i>Consult Hyspecs</i>
	<b>Block porting</b>	P4	1/4" BSPP
		P6	3/8" BSPP
		P8	1/2" BSPP
		P12	3/4" BSPP
		P16	1" BSPP
		U9	9/16" UN 'O'-Ring
U14		7/8" UN 'O'-Ring	
U17		1 1/16" UN 'O'-Ring	
<b>Block cavity &amp; series number</b>	0000 to 2999	General purpose configuration	
	3000 to 9999	Special purpose configuration - <i>Consult Hyspecs</i>	
<b>Hyspecs series cartridge manifolds</b>			

- **Maximum operating pressure of block and cartridge combinations is limited to the component with lowest operating pressure rating.**
- Cartridge blocks and valves can be custom designed for a specific application or ordered as an 'off the shelf' item for more common functions. Price and delivery for custom designed blocks are available on application.
- Modification on manifolds will be identified by reversion code at the end of the manifold part number, e. g. \_B or \_C.
- **NOTE:** The cartridge numbers listed in this catalogue have been abbreviated for simplicity of description. Please consult Hyspecs for the full cartridge code and cartridge options.

## Contents

### Common Formulae and Conversions

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ii	Pumps and Motors Formulae – Metric Units
iii	Flow / Volume Conversion Table
iv	Power Conversion Table
v	Pressure Conversion Table
vi	Torque Conversion Table

### Technical

Vii	Orifice Disc Sizing Guide
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### A – Pressure Controls

A1	Relief Valves
A21	Pressure Reducing/Relieving Valves
A23	Sequence Valves

### B – Flow Controls

B1	Two/Three Port
B10	Auto-Pilot Steering Valves
B11	Sequence Flow Controls
B12	Flow Dividers/Combiners
B13	Solenoid Defeatable Valves
B14	Hoist & Roller Spreader Valves

### C – Directional Valves

C1	Check Valves
C4	Pilot-operated Check Valves
C8	Shuttle Valves
C10	External Pilot Operated
C15	Manually Operated – Rotary
C16	Manually Operated – Push/Pull

### D - Solenoid Valves

### E – Motion Controls

E1	Counterbalance Valves
E17	Regenerative Valves

## **F – Proportional Valves**

F1	Relief Valves
F3	Pressure Reducing/Relieving Valves – Solenoid Operated
F4	Flow Controls – Solenoid Operated
F10	Directional Valves – Pilot Operated
F11	Directional Valves – Solenoid Operated
F15	Proportional Valve Controllers

## **G – Excavator Valving**

G1	Hyspecs Excavator Valving
G24	Excavator Valving Accessories

## **H – Cetop Subplates & Modules**

H1	Cetop Subplates – How to Order
H2	Cetop 3 Subplates
H14	Cetop 3 Modules
H23	Cetop 5 Subplates
H33	Cetop 5 Modules

## **I – HydraForce Coils & Cartridge/Coil Installation**

I1	Standard and Proportional Valve Coils
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## Cylinders And Actuators Formulae - Metric Units

Symbol	Description	Units
Q	Flow Rate	l/min
A	Net Area	cm <sup>2</sup>
v	Piston Speed	m/sec
F	Force	N
p	Pressure	Bar

Symbol	Description	Units
D	Cylinder Bore Ø	cm
d	Rod Diameter	cm
V	Volume	litres
L	Stroke Length	cm
t	Stroke Time	sec

**Net Area Piston Side:**  $A = \frac{\pi \times D^2}{4}$

**Net Area Rod Side:**  $A = \frac{\pi}{4} \times (D^2 - d^2)$

**Cylinder Force:**  $F = A \times p \times 10$

**Cylinder Volume:**  $V = \frac{A \times L}{1000}$

**Required Flow:**  $Q = A \times v \times 6$

**Stroke Time:**  $t = \frac{0.06 \times A \times L}{Q}$

**Or Stroke Time:**  $t = \frac{60 \times V}{Q}$

**Power:**  $P = \frac{F \times V}{1000}$

## Pumps & Motors Formulae – Metric Units

Symbol	Description	Units
Q	Flow Rate	l/min
V	Displacement	cc
n	Shaft Speed	rpm
P	Power	kW
T	Torque	Nm

Symbol	Description	Units
p	Pressure	Bar
v	Vehicle Speed	km/hr
r	Rolling radius	m
G	Gear Reduction	

**Power - Pump:** 
$$P = \frac{Q \times P}{600}$$

**Power - Motor:** 
$$P = \frac{T \times n}{9549}$$

**Flow:** 
$$Q = \frac{V \times n}{1000}$$

**Torque:** 
$$T = \frac{p \times V}{20 \times \pi}$$



## Flow / Volume Conversion Table

### Exact Conversions

- 1 LPM = 0.264 GPM (U.S)
- 1 LPM = 0.221 GPM (Imp)
- 1 GPM (U.S.) = 3.785 LPM
- 1 GPM (Imp) = 4.524 LPM
- 1 m<sup>3</sup> = 1000 Litres
- 1 Litre = 1000 cm<sup>3</sup>
- 1 cm<sup>3</sup> = 0.061 in<sup>3</sup>
- 1 in<sup>3</sup> = 16.39 cm<sup>3</sup>

### Approximate Conversion Table

LPM	GPM (U.S)	GPM (Imperial)
1	0.3	0.2
5	1.3	1.1
10	2.6	2.2
15	4.0	3.3
20	5.3	4.4
25	6.6	5.5
30	7.9	6.6
35	9.2	7.7
40	10.6	8.8
45	11.9	9.9
50	13.2	11.1
55	14.5	12.2
60	15.9	13.3
65	17.2	14.4
70	18.5	15.5
75	19.8	16.6
80	21.1	17.7
85	22.5	18.8
90	23.8	19.9
95	25.1	21.0
100	26.4	22.1
110	29.1	24.3
120	31.7	26.5
130	34.3	28.7
140	37.0	30.9

## Power Conversion Table

### Exact Conversions

- 1 kW = 1.341 HP
- 1 HP = 0.7457 kW
- 1 cal/s = 4.1868 watts
- 1 kW = 56.92 Btu/min

### Approximate Conversion Table

kW	HP	cal/s	Btu/min
0.33	0.4	79	19
0.50	0.7	119	28
0.75	1.0	179	43
1	1.3	239	57
2	2.7	478	114
3	4.0	717	171
4	5.4	955	228
5	6.7	1194	285
8	10.7	1911	455
10	13.4	2388	569
15	20.1	3583	854
20	26.8	4777	1138
25	33.5	5971	1423
30	40.2	7165	1708
35	46.9	8359	1992
40	53.6	9554	2277
45	60.3	10748	2561
50	67.1	11942	2846
55	73.8	13136	3131
60	80.5	14330	3415
65	87.2	15525	3700
70	93.9	16719	3984
75	100.6	17913	4269
80	107.3	19107	4554
85	114.0	20301	4838

## Pressure Conversion Table

### Exact Conversions

- 1 Bar = 14.50 PSI
- 1 Bar = 100.00 kPa
- 1 Bar = 0.1 MPa
- 1 Bar = 1.02 kg/cm<sup>2</sup>
- 1 PSI = 0.0690 Bar
- 1 PSI = 6.895 kPa
- 1 PSI = 0.0069 MPa
- 1 PSI = 0.07 kg/cm<sup>2</sup>

### Approximate Conversion Table

PSI	Bar	kPa	MPa
100	6.9	690	0.7
200	13.8	1379	1.4
300	20.7	2069	2.1
400	27.6	2759	2.8
500	34.5	3448	3.4
1000	69.0	6897	6.9
1250	86.2	8621	8.6
1500	103.4	10345	10.3
1750	120.7	12069	12.1
2000	137.9	13793	13.8
2250	155.2	15517	15.5
2500	172.4	17241	17.2
2750	189.7	18966	19.0
3000	206.9	20690	20.7
3250	224.1	22414	22.4
3500	241.4	24138	24.1
3750	258.6	25862	25.9
4000	275.9	27586	27.6
4250	293.1	29310	29.3
4500	310.3	31034	31.0
4750	327.6	32759	32.8
5000	344.8	34483	34.5
5500	379.3	37931	37.9
6000	413.8	41379	41.4
10000	689.7	68966	69.0

## Torque Conversion Table

### Exact Conversions

- 1 Nm = 0.7376 ft-lbs
- 1 Nm = 8.851 in-lbs
- 1 Nm = 0.102 kgm
- 1 ft-lbs = 1.356 Nm
- 1 in-lbs = 0.113 Nm
- 1 kgm = 9.807 Nm

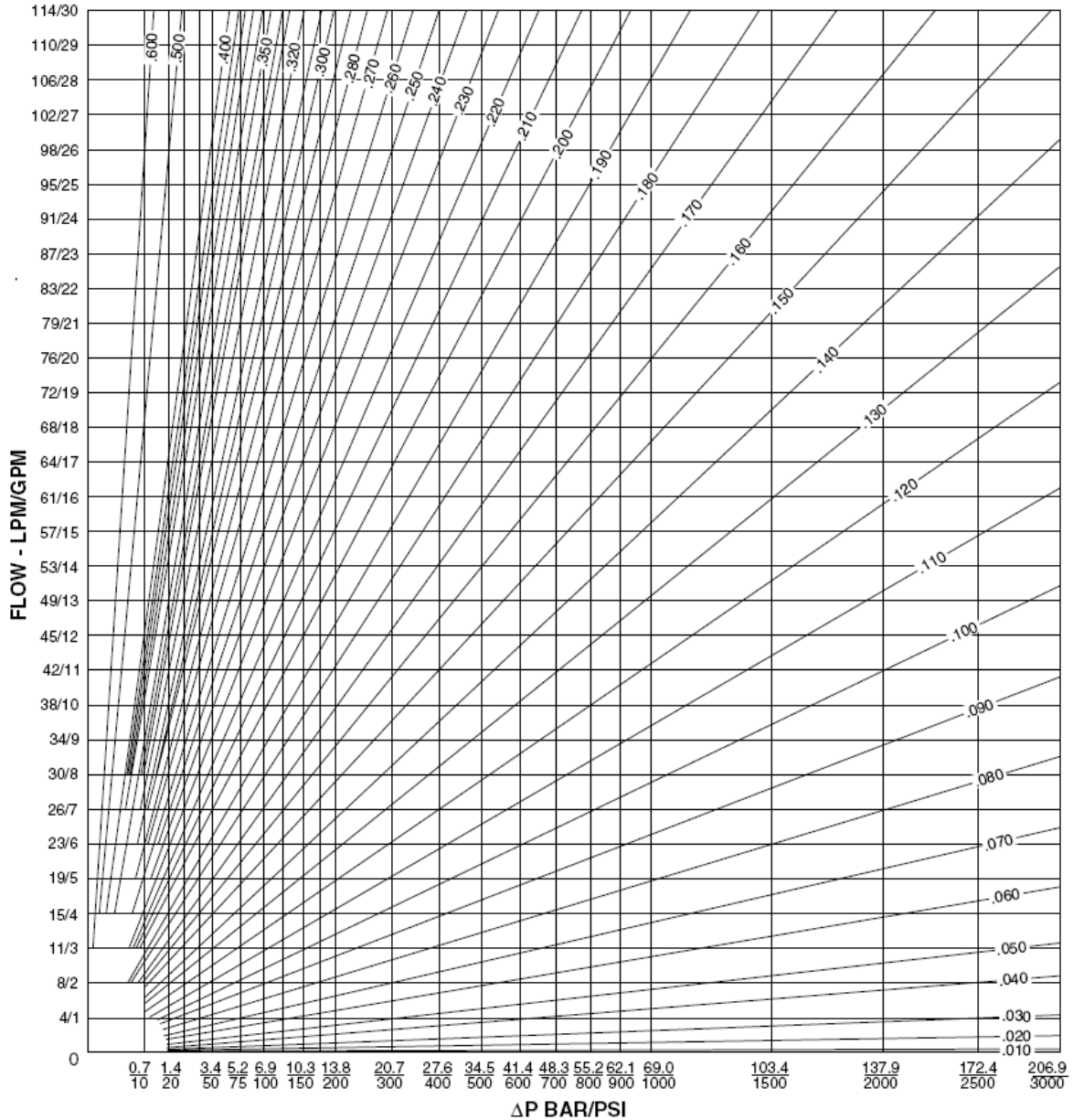
### Approximate Conversion Table

Nm	ft-lbs	in-lbs	kgm
1	0.7	8.9	0.1
2	1.5	17.7	0.2
3	2.2	26.6	0.3
4	3.0	35.4	0.4
5	3.7	44.3	0.5
10	7.4	88.5	1.0
12	8.9	106.2	1.2
14	10.3	123.9	1.4
16	11.8	141.6	1.6
18	13.3	159.3	1.8
20	14.8	177.0	2.0
25	18.4	221.3	2.6
30	22.1	265.5	3.1
35	25.8	309.8	3.6
40	29.5	354.0	4.1
45	33.2	398.3	4.6
50	36.9	442.6	5.1
75	55.3	663.8	7.7
100	73.8	885.1	10.2
150	110.6	1327.7	15.3
200	147.5	1770.2	20.4
300	221.3	2655.3	30.6
400	295.0	3540.4	40.8
500	368.8	4425.5	51.0
600	442.6	5310.6	61.2

## Orifice Disc Sizing Guides

### ORIFICE DISC SIZING GUIDE (Inches)

Curves represent orifice disc drill-thru diameters.

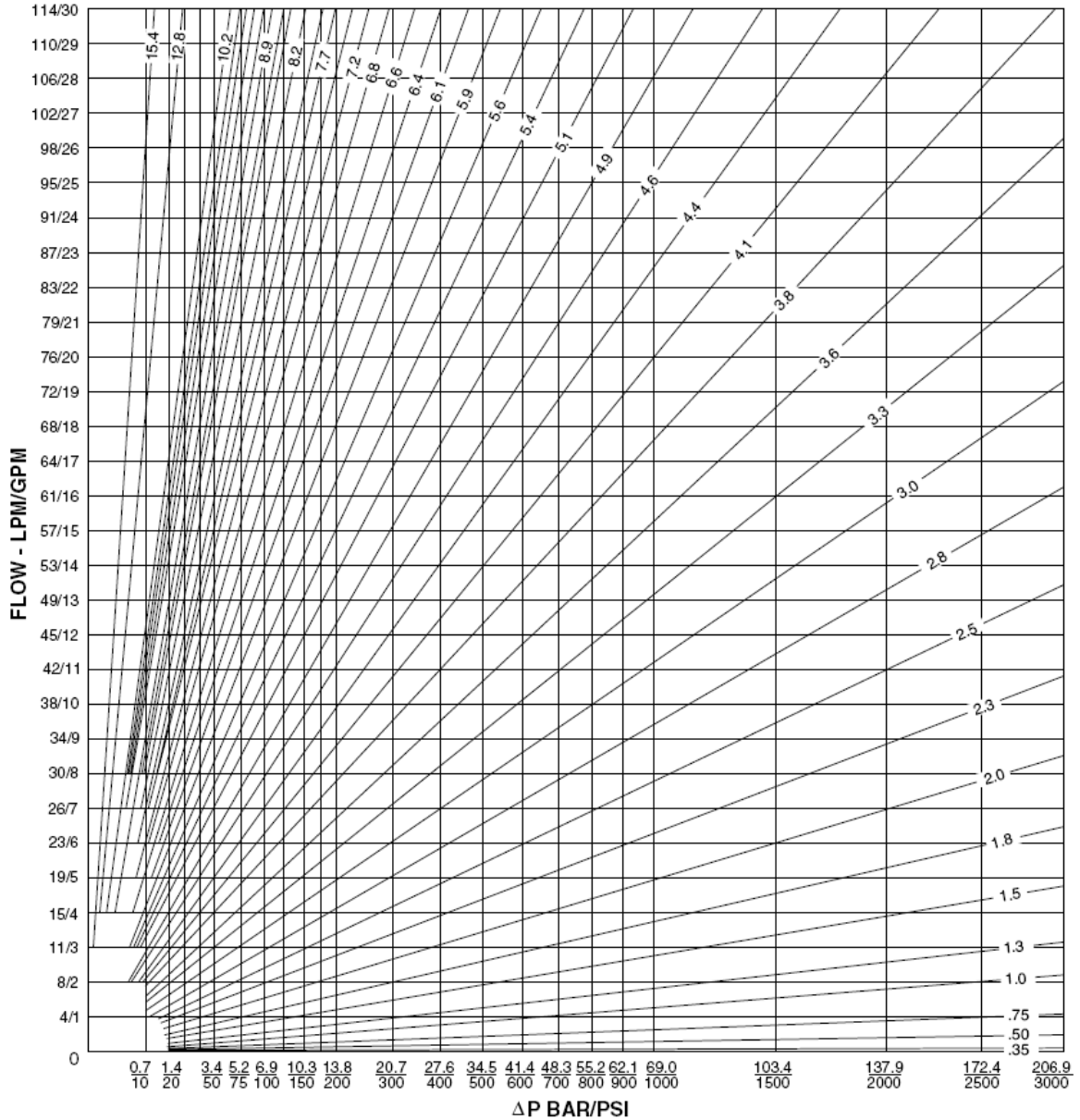


Note: Table is calculated at 32 cSt (150 SSU) oil at 40°C. Values will change with viscosity changes.

## Orifice Disc Sizing Guides (Continued)

### ORIFICE DISC SIZING GUIDE (mm)

Curves represent orifice disc drill-thru diameters.



Note: Table is calculated at 32 cSt (150 SSU) oil at 40°C. Values will change with viscosity changes.

**Guide extracted from Hydraforce Technical Catalogue 2004/2005**

## Contents Section A – Pressure Controls

### **A1 Relief Valves**

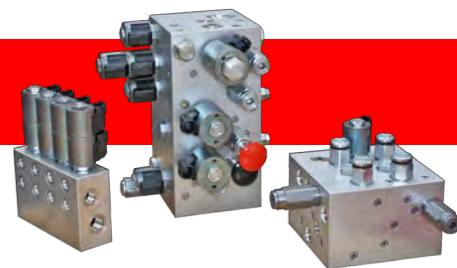
A1	2-Port
A3	3-Port
A6	4-Port Cross Line
A7	5-Port Cross Line
A10	Solenoid Ventable
A11	S.A.E. Pad Mounted
A12	S.A.E. Pad Mounted with Dump
A13	European Pad Mounted
A14	Banjo Bolt Mounted - Single Relief
A15	Banjo Bolt Mounted – Dual Relief (Cross Line)
A18	Cross Line With Flushing - Hydrostatic Transmission
A20	Hot Oil Flushing Valves

### **A21 Pressure Reducing & Relieving Valves**

### **A23 Sequence Valves**

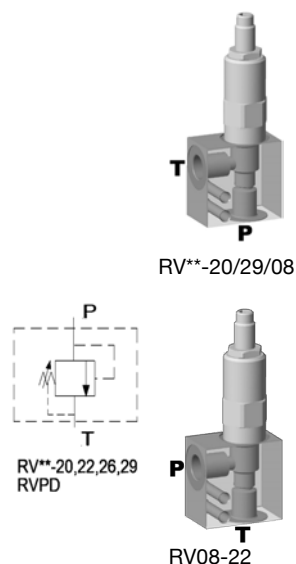
A23	Single
A25	Dual
A25	Hi-Low Double Pump Sequence Valves
A26	Accumulator Unloading Valves

## Relief Valves



### 2-Port Relief Valves

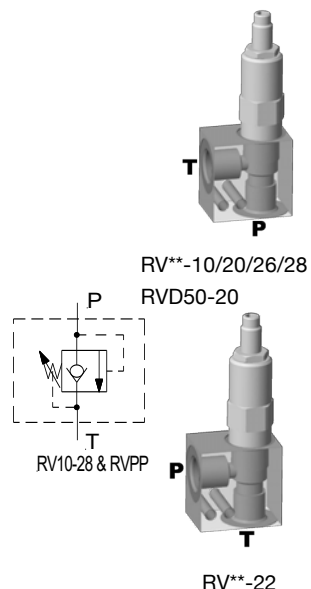
#### HS0820P4\_B or HS0820P6\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV08-20	22	276*	Direct act. Poppet	1/4"-3/8"	\$ 178.00
RV58-20	22	350*	Direct act. Poppet	1/4"-3/8"	\$ 183.00
RV08-22	30	248*	Differential Poppet	1/4"-3/8"	\$ 178.00
RVPD-08	7.6	350*	Direct Acting, Pilot Control	1/4"-3/8"	\$ 178.00
RV08-29	1.9	240	Direct Acting, Pilot Control	1/4"-3/8"	\$ 178.00
HS0820P4_B or HS0820P6_B manifold only \$ 78.00					
HS0820P4S_B or HS0820P6S_B steel manifold only \$ 132.00					

- Manifold dimensions, 50 x 50 x 32mm (excluding cartridge)
- \* Requires steel block over 240 bar

#### HS1020P6\_B or P8\_B

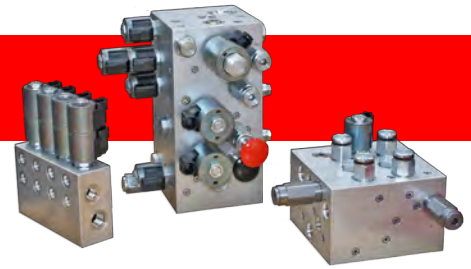


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-20	38	228	Direct act. Poppet	3/8"-1/2"	\$ 209.00
RVD50-20	115	350*	Direct act. Poppet	3/8"-1/2"	\$ 286.00
RV10-26	115	240	Pilot-Operated	3/8"-1/2"	\$ 228.00
RV50-26	115	350*	Pilot-Operated	3/8"-1/2"	\$ 243.00
RV10-22	115	240	Differential Poppet	3/8"-1/2"	\$ 209.00
RV50-22	76	350*	Differential Poppet	3/8"-1/2"	\$ 243.00
RVPD-10	8.5	350*	Direct Acting, Pilot Control	3/8"-1/2"	\$ 206.00
RV10-28	115	240	Pilot-Op./Free Rev.	3/8"-1/2"	\$ 243.00
RVPP-10	100	350*	Pilot-Op./Free Rev. Anti-Cav**	3/8"-1/2"	\$ 259.00
HS1020P6_B or P8_B manifold only \$ 86.00					
HS1020P6S_B or P8S_B steel manifold only \$ 132.00					

- Manifold dimensions, 50 x 50 x 35mm (excluding cartridge)
- \* Requires steel block over 240 bar
- \*\* Consult Hyspecs for anti-cav performance

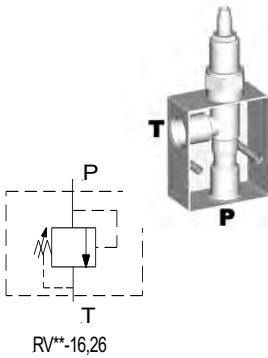


## Relief Valves



### 2-Port Relief Valves

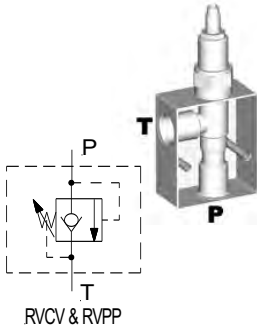
#### HS1220P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV12-26	185	207	Pilot-Operated	3/4"	\$ 335.00
RV52-26	185	350*	Pilot-Operated	3/4"	\$ 365.00
HS1220P12 manifold only \$ 155.00 HS1220P12S steel manifold only \$ 210.00					

- Manifold dimensions, 90 x 75 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar

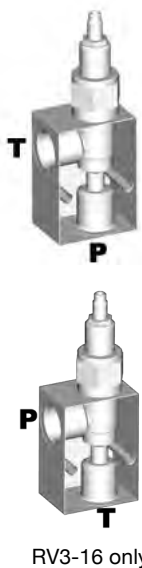
#### HS1221P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RVPP-12	227	350*	Pilot-Operated & anti cav	3/4"	\$ 385.00
HS1221P12 manifold only \$ 155.00 HS1221P12S steel manifold only \$ 230.00					

- Manifold dimensions, 75 x 75 x 41mm (excluding cartridge)
- \* Requires steel block over 240 bar

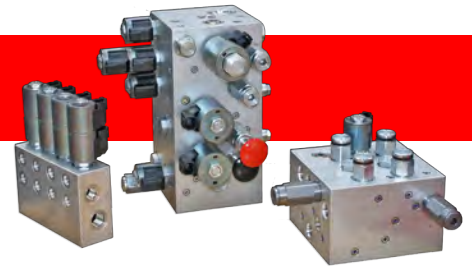
#### HS1620P12 or P16



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV16-26	300	240	Pilot-Operated	3/4" - 1"	\$ 450.00
RV56-26	380	350*	Pilot Operated	3/4" - 1"	\$ 494.00
RV5-16	300	350*	Pilot-Operated	3/4" - 1"	\$ 480.00
RV3-16	300	350*	Differential Poppet	3/4" - 1"	\$ 459.00
RVCV56-20	115	420*	Direct act. Poppet & anti cav	3/4" - 1"	\$ 454.00
HS1620P12 or P16, manifold only \$ 189.00 or \$ 207.00 HS1620P12S or P16S, steel manifold only \$ 255.00 or \$ 290.00					

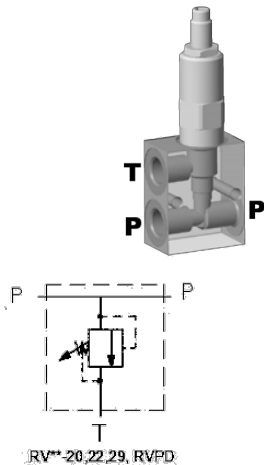
- Manifold dimensions, 100 x 70 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar

## Relief Valves



### 3-Port Relief Valves

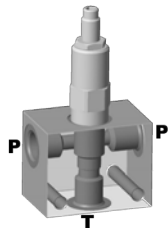
#### HS0820P6N\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV08-20	22	275*	Direct act. Poppet	3/8"	\$ 213.00
RV58-20	22	350*	Differential Poppet	3/8"	\$ 218.00
RVPD-08	7.6	350*	Direct Acting, Pilot Control	3/8"	\$ 213.00
RV08-29	1.9	240	Direct Acting, Pilot Control	3/8"	\$ 213.00
HS0820P6N_B manifold only \$ 113.00					

- Manifold dimensions, 62 x 50 x 32mm (excluding cartridge)
- \* Requires steel block over 240 bar – *contact Hyspecs* for pricing

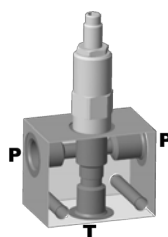
#### HS0820P4T\_B or P6T\_B



Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV08-22	30	240	Differential Poppet	1/4"-3/8"	\$ 213.00
HS0820P4T_B, P6T_B manifold only \$ 113.00					

- Manifold dimensions, 75 x 55 x 40mm (excluding cartridge)

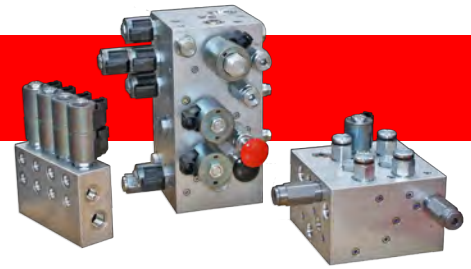
#### HS1020P6T\_B or P8T\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-22	115	240	Differential Poppet	3/8"-1/2"	\$ 225.00
RV50-22	76	350*	Differential Poppet	3/8"-1/2"	\$ 259.00
HS1020P6T_B, P8T_B manifold only \$102.00					

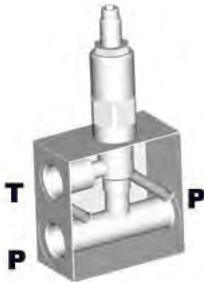
- Manifold dimensions, 75 x 60 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – *contact Hyspecs* for pricing

## Relief Valves

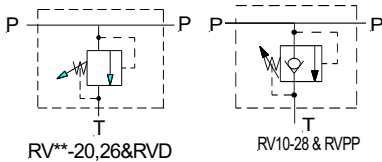


### 3-Port Relief Valves

#### HS1020P8N or P12N

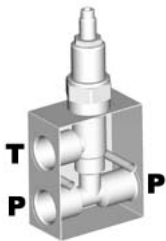


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-20	38	228	Direct act, Poppet	1/2"-3/4"	\$ 225.00
RV10-26	115	240	Pilot-Operated	1/2"-3/4"	\$ 244.00
RV10-28	115	240	Pilot-Op./Free Rev.	1/2"-3/4"	\$ 259.00
RV50-26	115	350*	Pilot-Operated	1/2"-3/4"	\$ 259.00
RVPP-10	100	350*	Pilot-Op./Free Rev. Anti-Cav**	1/2"-3/4"	\$ 275.00
RVD50-20	115	350*	Poppet, low pressure rise	1/2"-3/4"	\$ 302.00
HS1020P8N or P12N, manifold only \$ 102.00 or \$ 127.00 HS1020P8NS, steel manifold only \$ 183.00					



- Manifold dimensions, 80 x 75 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar
- \*\* Consult Hyspecs for anti-cav performance

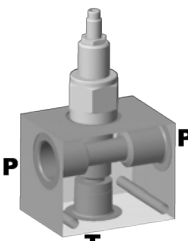
#### HS1220P12N



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV12-26	185	207	Pilot-Operated	3/4"	\$ 346.00
RV52-26	185	350*	Pilot-Operated	3/4"	\$ 376.00
HS1220P12N manifold only \$ 166.00					

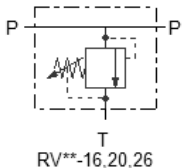
- Manifold dimensions, 90 x 75 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar – *contact Hyspecs for pricing*

#### HS1620P12T\_B or P16T\_B

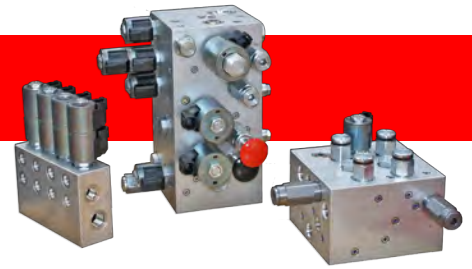


Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV3-16	300	350*	Differential Poppet	3/4" - 1"	\$ 482.00
HS1620P12T_B or P16T_B manifold only \$ 212.00 or \$ 223.00 HS1620P12TS_B steel manifold only \$ 315.00					

- Manifold dimensions, 100 x 80 x 75mm (excluding cartridge)
- \* Requires steel block over 240 bar

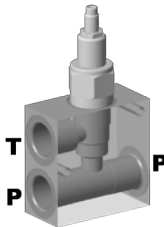


## Relief Valves

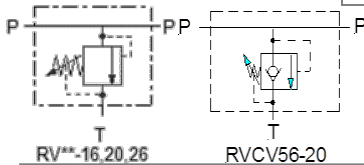


### 3-Port Relief Valves

#### HS1620P16N



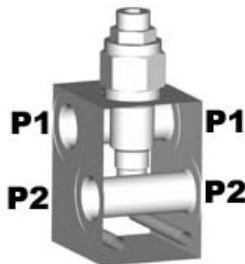
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV16-26	300	240	Pilot-Operated	1"	\$ 473.00
RV5-16	300	350*	Pilot-Operated	1"	\$ 503.00
RV56-26	380	350*	Pilot Operated	1"	\$ 517.00
RVCV56-20	115	420*	Direct act. Poppet & anti cav	1"	\$ 477.00
HS1620P16N manifold only \$ 212.00					



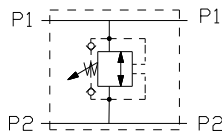
- Manifold dimensions, 100 x 100 x 50 mm (excluding cartridge)
- \* Requires steel block over 240 bar – contact Hyspecs for pricing

### 4-Port Cross Line Relief Valves

#### HS1020P8F or 12F

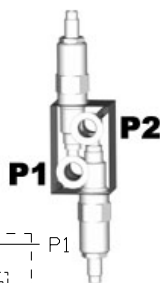


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price P8
RVBD-10	76	350*	Differential poppet	1/2"- 3/4"	\$ 312.00
CR10-28	60	240	Differential poppet	1/2"- 3/4"	\$ 391.00
HS1020P8F or 12F manifold only \$ 127.00 or \$ 200.00 HS1020P8FS or 12FS steel manifold only \$ 189.00 or \$ 264.00					

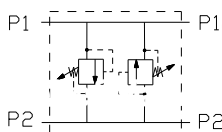


- Manifold dimensions, 76 x 60 x 50mm for 1/2" and 75 x 75 x 50mm for 3/4" (excluding cartridge)
- \* Requires steel block over 240 bar

#### HS1020P6X

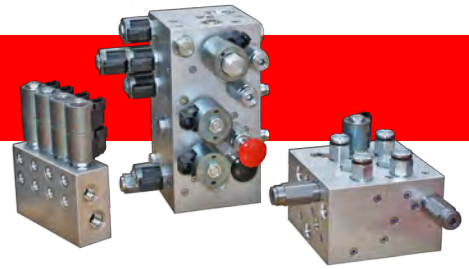


Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-20 x 2	38	228	Direct acting poppet	3/8"	\$ 406.00
HS1020P6X manifold only \$ 160.00					



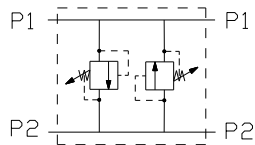
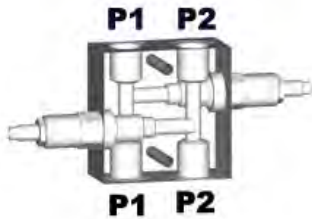
- Manifold dimensions, 75 x 50 x 37mm (excluding cartridge)

# Relief Valves



## 4-Port Cross Line Relief Valves

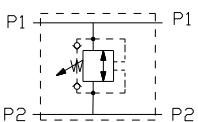
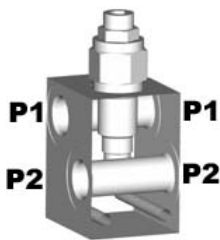
### HS1020P8Y or P12Y



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-20 x 2	38	228	Direct acting poppet	1/2"- 3/4"	\$ 446.00
RV10-22 x 2	115	240	Differential poppet	1/2"- 3/4"	\$ 446.00
RV5A-10 x 2	114	350*	Pilot operated	1/2" - 3/4"	\$ 488.00
HS1020P8Y or P12Y manifold only \$ 200.00 HS1020P8YS steel manifold only \$ 330.00					

- Manifold dimensions, 100 x 100 x 50mm (excluding cartridge)
- \* Require steel block over 240 bar

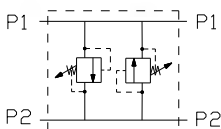
### HS1220P12F



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RVBD-12	152	350*	Differential poppet	3/4"	\$ 490.00
HS1220P12F manifold only \$ 200.00 HS1220P12FS steel manifold only \$ 281.00					

- Manifold dimensions, 110 x 75 x 60mm (excluding cartridge)
- \* Requires steel block over 240 bar

### HS1620U21X



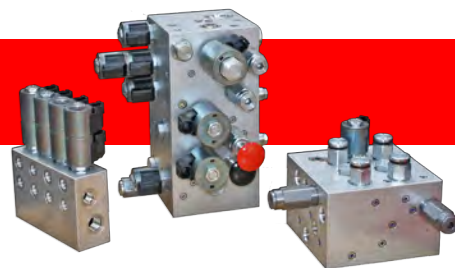
Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV3-16 x 2	300	350*	Differential poppet	1 5/16"	\$ 882.00
RV5-16 x 2	300	350*	Pilot-operated	1 5/16"	\$ 924.00
HS1620U21X manifold only \$ 342.00 HS1620U21XS steel manifold only \$ 567.00					

- Manifold dimensions, 110 x 100 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar

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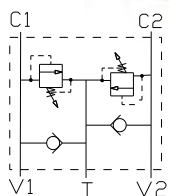
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## Relief Valves



### 5-Port Cross Line Relief Valves

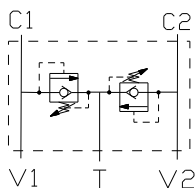
#### HS1020P8W



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-20 x 2 +CV10-20 x 2	38	228	Direct acting poppet	1/2"	\$ 582.00
RVD50-20 x 2 +CV50-20 x 2	56	350*	Poppet, low pressure rise	1/2"	\$ 778.00
HS1020P8W manifold only \$ 266.00					

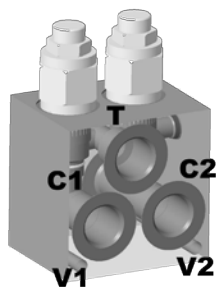
- Manifold dimensions, 100 x 100 x 40mm (excluding cartridge)
- Consult Hyspecs for anti-cav performance
- \* Requires steel block over 240 bar – *contact Hyspecs for pricing*

#### HS1020P8ZB or P12ZB or HS1020P8ZB\_B\*\*



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price P8
RVPP-10 x 2	100	350*	Pilot operated with in-built check	1/2"- 3/4"	\$ 524.00
Alloy manifold only HS1020P8ZB or P12ZB ( \$ 178.00 or \$ 207.00 ) or HS1020P8ZB_B ( \$178.00 ) Steel manifold only HS1020P8ZBS or P12ZBS ( \$264.00 or \$ 315.00 ) or HS1020P8ZBS_B ( \$264.00 )					

- Manifold dimensions, 80 x 75 x 50mm for P8 and 100 x 75 x 50mm for P12 and 75 x 75 x 60mm for Version B (excluding cartridges)
- \* Requires steel block over 240 bar – *contact Hyspecs for pricing*
- \*\* Version B – main ports centre distance 37mm
- Consult Hyspecs for anti-cav performance

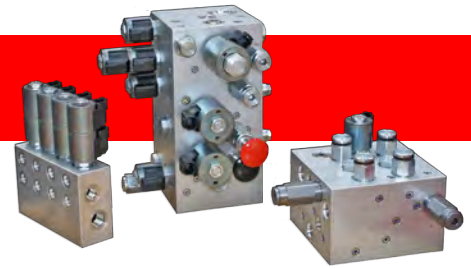


Version B

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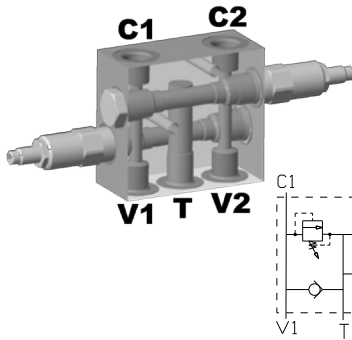
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# Relief Valves

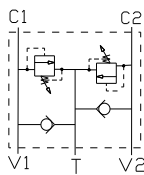


## 5-Port Cross Line Relief Valves

### HS1020P8ZDS

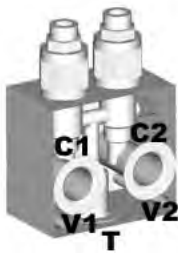


Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV50-22 x 2 + CV50-20	76	350	Differential relief	1/2"	\$696.00
HS1020P8ZDS manifold only \$270.00					

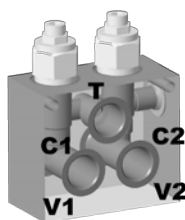
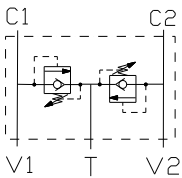


- Manifold dimensions 110 x 100 x 50mm
- Steel manifold
- Contact Hyspecs for anti-cav performance

### HS1220P12ZB or HS1220P12ZB\_B\*\*



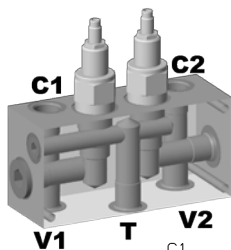
Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price P8
RVPP-12 x 2	227	350*	Pilot operated with in-built check	3/4"	\$ 772.00
HS1220P12ZB or HS1220P12ZB_B manifold only \$ 312.00					
HS1220P12ZBS or HS1220P12ZBS_B steel manifold only \$ 490.00					



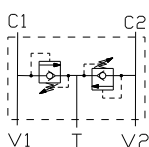
Version B

- Manifold dimensions 115 x 100 x 48mm for P12ZB and 115 x 100 x 60mm for P12ZB\_B (Version B) (excluding cartridges)
- \* Requires steel block over 240 bar
- \*\* Version B – main ports centre distance 46mm
- Consult Hyspecs for anti-cav performance

### HS1620P12ZB2S\*

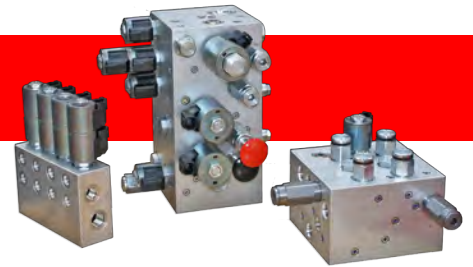


Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price P8
RVCV56-20 x 2	115	420	Direct acting with in-built check	3/4"	\$920.00
HS1620P12ZB2S manifold only \$450.00					



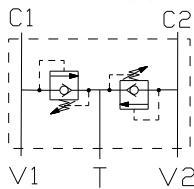
- Consult Hyspecs for anti-cav performance
- Steel manifold
- \*Non-common stock item – Contact Hyspecs for lead time

## Relief Valves



### 5-Port Cross Line Relief Valves

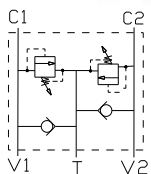
#### HS1620P12ZBS or P16ZBS\*



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price P8
RVCV56-20 x 2	115	420	Direct acting with in-built check	3/4" -1"	\$ 990.00
HS1620P12ZBS or P16ZBS manifold only \$ 520.00					

- Manifold dimensions 135 x 100 x 50mm (excluding cartridges)
- Consult Hyspecs for anti-cav performance
- Steel manifold
- \*Non-common stock item – *Contact Hyspecs* for lead time

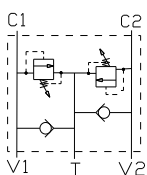
#### HS1220P12W or P16W



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV12-26 x 2 +CV12-20 x 2	150	207	Pilot-operated	3/4"-1"	\$ 998.00
HS1220P12W or P16W manifold only \$ 504.00					

- Manifold dimensions, 130 x 115 x 50mm (excluding cartridge)
- Consult Hyspecs for anti-cav performance

#### HS1620P16WS



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV56-26 x 2 +CV11-16 x 2	300*	350	Pilot-operated	1"	\$ 1991.00
HS1620P16WS manifold only \$ 845.00					

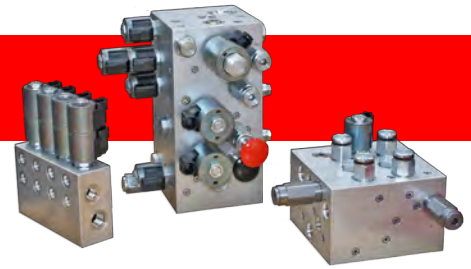
- Manifold dimensions, 150 x 150 x 70mm (excluding cartridge)
- Steel manifold
- Consult Hyspecs for anti-cav performance
- \* Relieving flow rating only. CV11-12 is rated 114LPM

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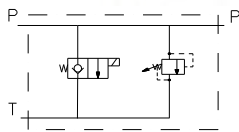
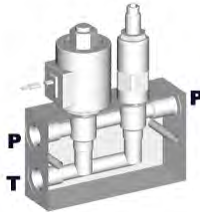


## Relief Valves



### Solenoid Ventable

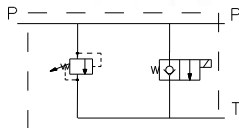
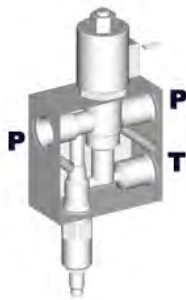
#### HS6186P8BE



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-22 + SV10-20	115	240	Vents max 57 l/min, <u>normally closed</u>	1/2"	\$ 505.00
RV10-22 + SV10-21	115	207	Vents max 68 l/min, <u>normally open</u>	1/2"	\$ 535.00
HS6186P8BE manifold only \$ 205.00					

- Manifold dimensions, 125 x 75 x 37mm (excluding cartridge)
- Requires AC coil and DIN plug – Add \$ 71.00

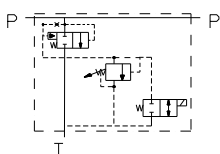
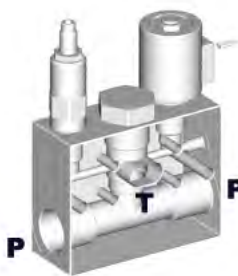
#### HS6194P12BE\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-26 + SV16-20	115	240	Full ventable, <u>normally closed</u>	3/4"	\$ 713.00
RV10-26 + SV16-21	115	207	Full ventable, <u>normally open</u>	3/4"	\$ 733.00
HS6194P12BE_B manifold only \$ 264.00					

- Manifold dimensions, 100 x 100 x 50mm (excluding cartridge)
- AC coil and DIN plug – Add \$ 71.00

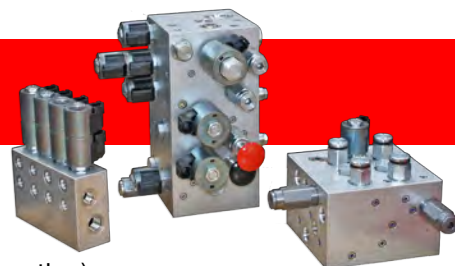
#### HS6188P16CE\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports	Assembly Price
EV16-S34 + RVPD-08 + SV08-20	190	207	Vented logic, Pil. Op. by Dif. P, <u>normally closed</u>	P- 1"BSPP T - C61 SAE1"	\$ 746.00
EV16-S34 + RVPD-08 + SV08-21	190	207	Vented logic, Pil. Op. by Dif. P, <u>normally open</u>	P- 1"BSPP T - C61 SAE1"	\$ 781.00
HS6188P12CE_B or P16CE_B manifold only \$ 327.00					

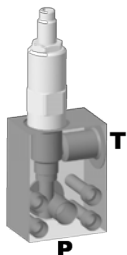
- Manifold dimensions, 125 x 100 x 50mm (excluding cartridge)
- Requires AC coil and DIN plug – Add \$ 71.00

## Relief Valves



### S.A.E. Pad Mounted

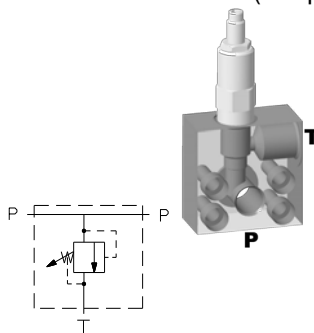
**HS7302P8AS** (For pump or cylinder with Code 61 SAE 1/2" pad mounting)



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RVD50-20	115	350	Direct Acting	P - 3/8" T- 1/2"	\$ 385.00
HS7302P6AS steel manifold only \$ 220.00					

- Manifold dimensions, 75 x 55 x 37mm (excluding cartridge)
- Can be used as sandwich valve

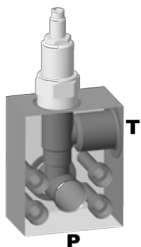
**HS7303P8BS** (For pump or cylinder with Code 61 SAE 3/4" pad mounting)



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-26	115	240	Pilot-Operated	1/2"	\$ 339.00
RVD50-20	115	350	Poppet type	1/2"	\$ 395.00
HS7303P8BS manifold only \$ 230.00					

- Manifold dimensions, 80 x 75 x 37mm (excluding cartridge)
- Can be used as sandwich valve
- Steel manifold

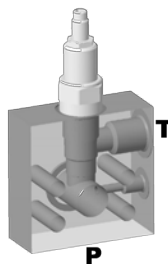
**HS7304P12CS\*** (For pump or cylinder with Code 61 SAE 1" pad mounting)



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV12-26	185	240	Pilot-Operated	3/4"	\$ 460.00
RV52-26	185	320	Pilot-Operated	3/4"	\$ 490.00
HS7304P12CS manifold only \$ 310.00					

- Manifold dimensions, 100 x 80 x 50mm (excluding cartridge)
- Can be used as sandwich valve
- \*Steel manifold. Non-common stock item – *Contact Hyspecs*

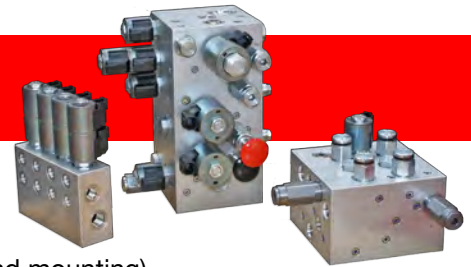
**HS7312CS\*** (For pump or cylinder with Code 62 SAE 1" pad mounting)



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV12-26	185	240	Pilot-Operated	3/4"	\$580.00
RV52-26	185	350	Pilot-Operated	3/4"	\$610.00
HS7312P12CS manifold only \$ 460.00					

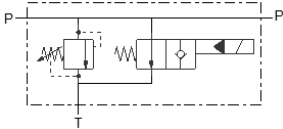
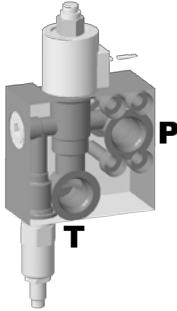
- Manifold dimensions, 100 x 100 x 40mm (excluding cartridge)
- Can be used as sandwich valve
- \*Steel Manifold. Non-common stock item – *Contact Hyspecs*

## Relief Valves



### S.A.E. Pad Mounted with Dump

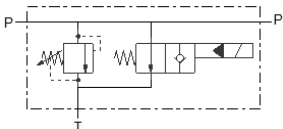
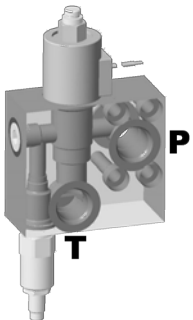
**HS7311U17BBES\*** (For pump or cylinder with Code 61 SAE 3/4" pad mounting)



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV10-26 + SV16-21	115	207	Pilot-Operated	1 1/16"	\$947.00
RVD50-20 + SV13-16-O*	115	350	Pilot-Operated	1 1/16"	\$POA
HS7311U17BBES manifold only \$ 442.00					

- Manifold dimensions, 105 x 100 x 50mm (excluding cartridge)
- Steel Manifold
- \*Non-common stock item – *Contact Hyspecs* for lead time

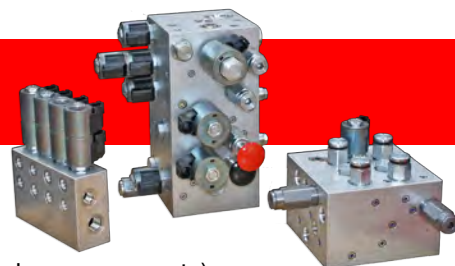
**HS7310U17CBES\*** (For pump or cylinder with Code 61 SAE 1" pad mounting)



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV10-26 + SV16-21	115	207	Pilot-Operated	1 1/16"	\$991.00
RVD50-20 + SV13-16-O*	115	320	Pilot-Operated	1 1/16"	\$POA
HS7310U17CBES manifold only \$ 486.00					

- Manifold dimensions, 110 x 100 x 50mm (excluding cartridge)
- Steel Manifold
- \*Non-common stock item – *Contact Hyspecs* for lead time

## Relief Valves



### European Pad Mounted

**HS6710U7A** (For group 1 gear pumps with 26mm PCD pad mounted pressure ports)



Cartridge	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV08-20	22	240	Direct act. Poppet	7/16"	\$ 232.00
HS6710U7A manifold only \$ 132.00					

- Manifold dimensions, 75 x 46 x 37mm (excluding cartridge)

**HS6713P6B\_B** (For group 1 & 2 gear pumps with 30mm PCD pad mounted pressure ports)



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-22	115	240	Differential Poppet	P - 1/4" T - 3/8"	\$ 323.00
HS6713P6B_B manifold only \$ 200.00					

- Manifold dimensions, 80 x 50 x 50mm (excluding cartridge)

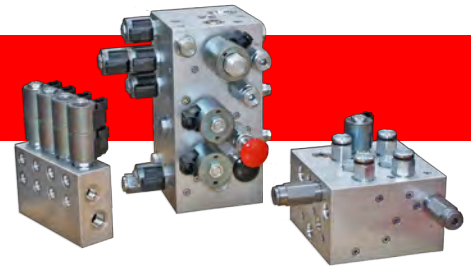
**HS6716P8C\_B** (For group 3 gear pumps with 40mm PCD pad mounted pressure ports)



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-26	115	240	Pilot-Operated	1/2"	\$ 354.00
HS6716P8C_B manifold only \$ 212.00					

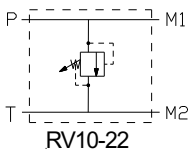
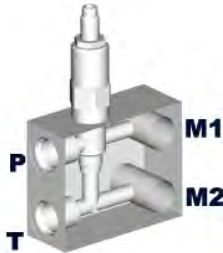
- Manifold dimensions, 80 x 75 x 37mm (excluding cartridge)

## Relief Valves



### Banjo Bolt Mounted - Single Relief

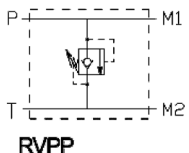
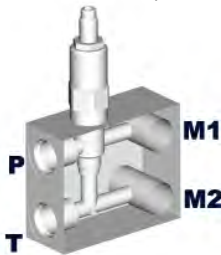
**HS7001U14A** (for Char-Lynn H, S & T Series)



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV10-22	76	190	<b>1.8" centre</b> , 7/8" banjo bolts (BB-14L x 2)	7/8"	\$ 399.00
RVPP-10	76	190	<b>1.8" centre</b> , 7/8" banjo bolts (BB-14L x 2) Free-reverse flow for anti-cavitation	7/8"	\$ 449.00
HS7001U14A manifold only \$ 184.00					

- Example is for RV10-22, Swap P & T for RVPP-10
- Manifold dimensions, 99 x 80 x 39mm (excluding cartridge)

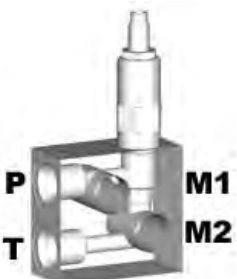
**HS7007U14L** (For 2" Centre Motors)



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV10-22	76	240	<b>2" centre</b> , 7/8" banjo bolts (BB-14L x 2)	7/8"	\$ 399.00
RVPP-10	76	240	<b>2" centre</b> , 7/8" banjo bolts (BB-14L x 2), Free-reverse flow for anti-cavitation	7/8"	\$ 449.00
HS7007U14L manifold only \$ 184.00					

- Example is for RV10-22, Swap P & T for RVPP-10
- Manifold dimensions, 99 x 80 x 39mm (excluding cartridge)

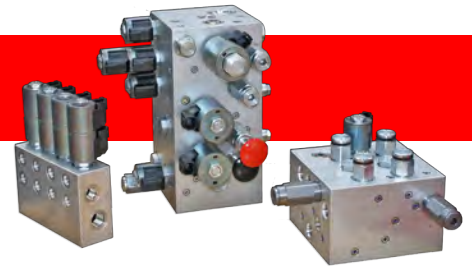
**HS7013U14C** (For Char-Lynn 2000 Series)



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV10-22	115	240	7/8" banjo bolts (BB-14L x 2)	7/8"	\$ 415.00
RVPP-10	100	310*	7/8" banjo bolts (BB-14L x 2)	7/8"	\$ 465.00
HS7013U14C manifold only \$ 200.00					

- Manifold dimensions 80 x 75 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar – Contact Hyspecs for pricing

## Relief Valves

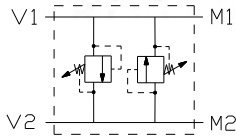


### Banjo Bolt Mounted – Dual Relief (Cross Line)

**HS7003U14AX** (for Char-Lynn H, S & T Series)



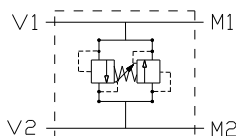
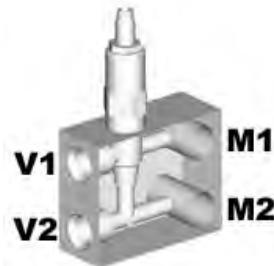
**V1/M1 V2/M2**



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV08-22 x 2	30	190	<b>1.8" centre,</b> 7/8" ported banjo bolts (BB- 14T x 2)	7/8" on banjo bolts	\$ 454.00
HS7003U14AX manifold only \$ 140.00					

- Manifold dimensions, 80 x 75 x 39mm (excluding cartridge)

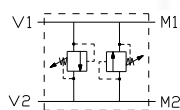
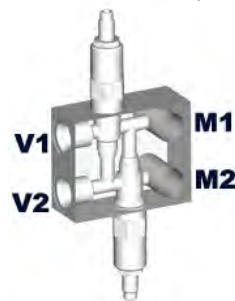
**HS7001U14A** (for Char-Lynn H, S & T Series)



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RVBD-10	76	190	<b>1.8" centre,</b> 7/8" banjo bolts (BB-14L x 2)	7/8"	\$ 460.00
CR10-28	60	190	<b>1.8" centre,</b> 7/8" banjo bolts (BB-14L x 2), factory preset	7/8"	\$ 474.00
HS7001U14A manifold only \$ 184.00					

- Manifold dimensions, 99 X 80 X 39mm (excluding cartridge)

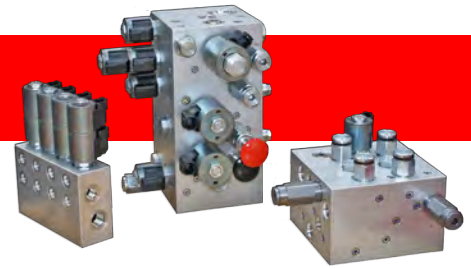
**HS7002U14AX** (for Char-Lynn H, S & T Series)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV10-22 x 2	76	190	<b>1.8" centre,</b> 7/8" banjo bolts (BB-14L x 2)	7/8"	\$ 550.00
HS7002U14AX manifold only \$ 212.00					

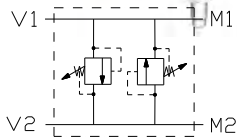
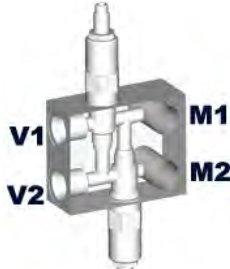
- Manifold dimensions, 99 x 80 x 39mm (excluding cartridge)

## Relief Valves



### Banjo Bolt Mounted – Dual Relief (Cross Line)

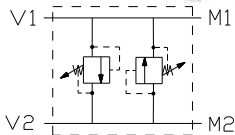
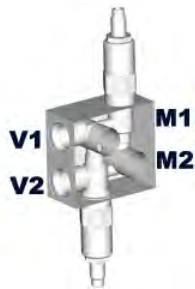
**HS7008U14LX** (For 2" Centre Motors)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV10-22 x 2	110	240	<b>2" centre, 7/8" banjo bolts (BB-14L x 2)</b>	7/8"	\$ 550.00
HS7008U14LX manifold only \$ 212.00					

- Manifold dimensions, 99 x 90 x 39mm (excluding cartridge)

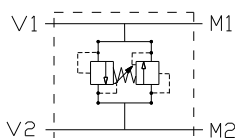
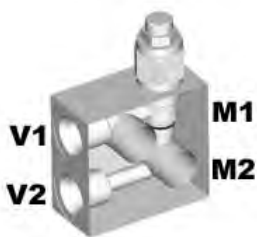
**HS7012U14CX** (for Char-Lynn 2000 Series)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV10-22 x 2	110	240	7/8" banjo bolts (BB-14L x 2)	7/8"	\$ 561.00
HS7012U14CX manifold only \$ 223.00					

- Manifold dimensions, 80 x 75 x 39mm (excluding cartridge)

**HS7013U14C** (for Char-Lynn 2000 Series)



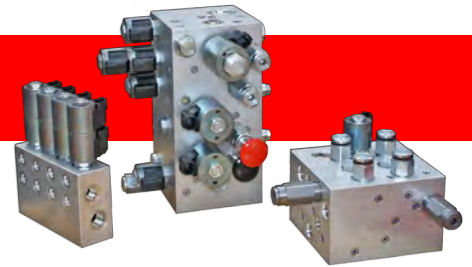
Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RVBD-10	76	310*	7/8" banjo bolts (BB-14L x 2)	7/8"	\$ 477.00
CR10-28	60	240	7/8" banjo bolts (BB-14L x 2), factory preset	7/8"	\$ 486.00
HS7013U14C manifold only \$ 200.00					

- Manifold dimensions, 80 x 75 x 39mm (excluding cartridge)
- \* Requires steel block over 240 bar – contact Hyspecs for pricing

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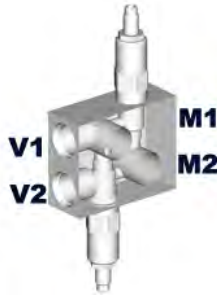
Auckland | Taupo | Christchurch | Nelson | Melbourne | Brisbane

## Relief Valves



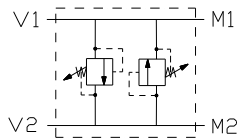
### Banjo Bolt Mounted – Dual Relief (Cross Line)

**HS7022U17EX** (for Char-Lynn 4000 Series)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV10-22 x 2	110	240	1 1/16" banjo bolts (BB-17H x 2)	1 1/16"	\$ 694.00
HS7022U17EX manifold only \$ 252.00					

- Manifold dimensions, 99 x 80 x 39mm (excluding cartridge)

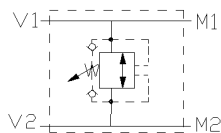


**HS7033U21GX** (for Char-Lynn 6000 Series)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RVBD-12	152	280*	1 5/16" banjo bolts (BB-21L x 2)	1 5/16"	\$ 785.00
HS7033U21GX manifold only \$ 285.00					

- Manifold dimensions, 110 x 100 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – *contact Hyspecs* for pricing

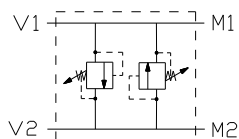


**HS7035U21GX** (for Char-Lynn 6000 Series)



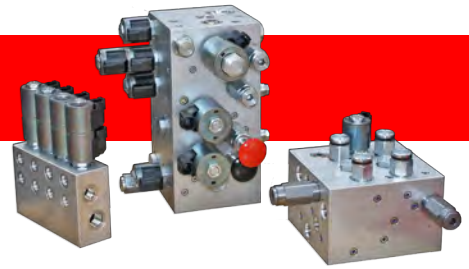
Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV11-12 x 2	190	310*	1 5/16" banjo bolts (BB-21L x 2)	1 5/16"	\$ 891.00
HS7035U21GX manifold only \$ 293.00					

- Manifold dimensions, 110 x 100 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – *contact Hyspecs* for pricing



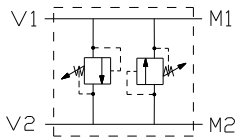


## Relief Valves



### Banjo Bolt Mounted – Dual Relief (Cross Line)

HS7045U21IX (for Char-Lynn 10000 Series)

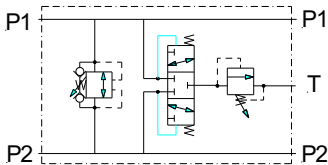
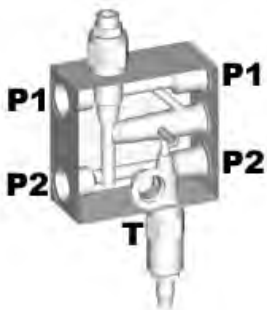


Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RV11-12 x 2	190	275*	1 5/16" banjo bolts (BB-21L x 2)	1 5/16"	\$ 993.00
HS7044U21IX manifold only \$ 395.00					

- Manifold dimensions, 125 x 125 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – *contact Hyspecs* for pricing

### Cross Line With Flushing – Hydrostatic Transmission

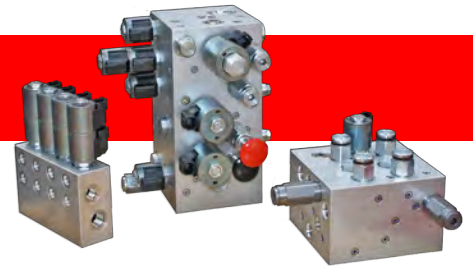
HS6451U14C



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
RVBD-10 + RV08-20 + HS50-43	76	350*	22 l/min flushing	P* - 7/8" T - 3/4"	\$ 913.00
HS6451U14C manifold only \$ 418.00					

- Manifold dimensions, 105 x 100 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – *contact Hyspecs* for pricing

## Relief Valves



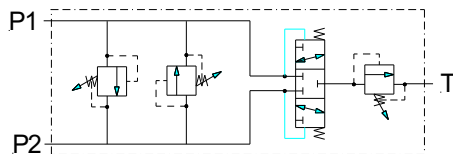
### Cross Line With Flushing – Hydrostatic Transmission

#### HS6454P16D\*

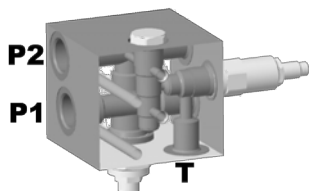


Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV11-12 x 2 + RV10-26 + HS52-43	185	350**	115 l/min flushing	1"	\$ 1531.00
HS6454P16D manifold only \$ 521.00					

- Manifold dimensions, 170 x 130 x 60mm (excluding cartridge)
- \* Non-common stock item – *Contact Hyspecs* for lead time
- \*\* Requires steel block over 240 bar – *contact Hyspecs* for pricing

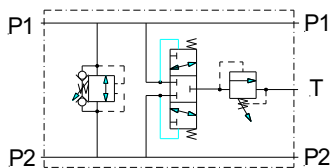


#### HS6456P12CS

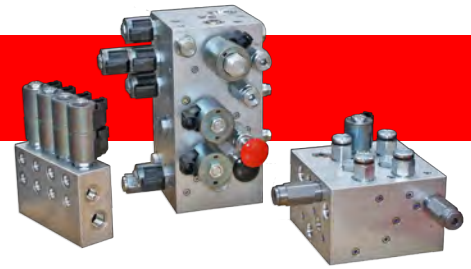


Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RVBD-12 + RV10-20 + HS50-43	152	350	38 l/min flushing	3/4"	\$956.00
HS6456P12CS manifold only \$438.00					

- Manifold dimensions, 100 x 100 x 88mm (excluding cartridge)
- Steel manifold

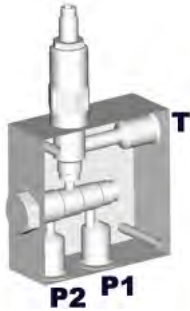


## Relief Valves



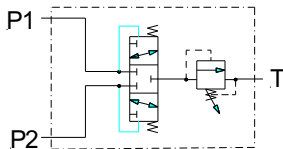
### Hot Oil Flushing Valves

#### HS9168P8BR

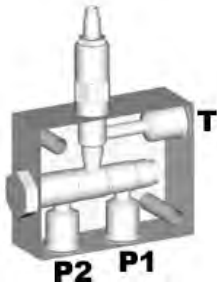


Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
HS50-43 + RV10-20	38	350*	Steel block option	1/2"	\$ 545.00
HS9168P8BR manifold only \$ 212.00 HS9168P8BRS steel manifold only \$ 321.00					

- Manifold dimensions, 100 x 100 x 40mm (excluding cartridge)
- \* Requires steel block over 240 bar

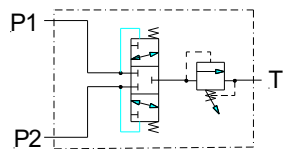


#### HS9169P12BR

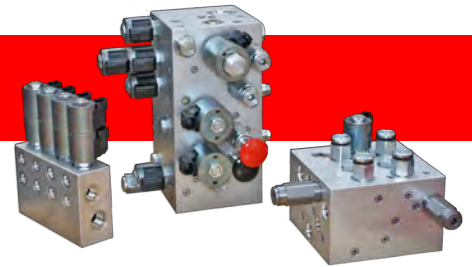


Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
HS52-43 + RV10-26	115	350*	Steel block option	3/4"	\$ 871.00
HS9169P12BR manifold only \$ 304.00					

- Manifold dimensions, 125 x 100 x 45mm (excluding cartridge)
- \* Requires steel block over 240 bar – *contact Hyspecs for pricing*

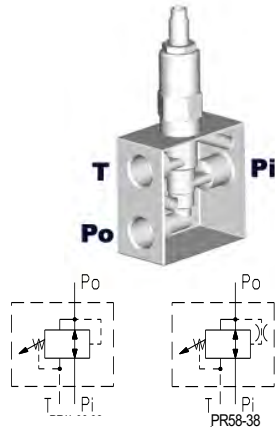


## Pressure Reducing Valves



### Pressure Reducing And Relieving Valves

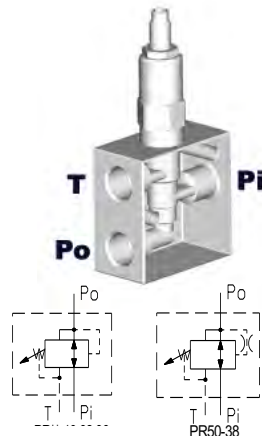
#### HS0830P4 or P6



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PR08-32	11	240	Direct acting Reducing to 151 bar	1/4"-3/8"	\$ 279.00
PR58-38	19	350*	Direct acting Internal damping for enhanced stability	1/4"-3/8"	\$ 334.00
HS0830P4 or P6 manifold only \$ 127.00 HS0830P4S or P6S steel manifold only \$ 183.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar

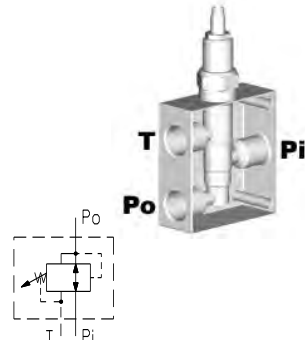
#### HS1030P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PR10-32	30	207	Direct acting Reducing to 145 bar	3/8"-1/2"	\$ 284.00
PR10-36	56	240	Direct acting Reducing to 207 bar	3/8"-1/2"	\$ 347.00
PR50-36	56	350*	Direct acting Reducing to 345 bar	3/8"-1/2"	\$ 353.00
PR50-38	72	350*	Direct acting Internal damping for enhanced stability	3/8"-1/2"	\$ 402.00
HS1030P6 or P8 manifold only \$ 132.00 HS1030P6S or P8S steel manifold only \$ 175.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar

#### HS1230P12



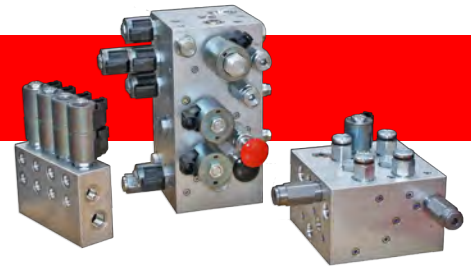
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PR12-36	189	276	Pilot operated Reducing to 207 bar	3/4"	\$ 462.00
PRV12-12	114	350*	Pilot operated, 10-350 bar	3/4"	P.O.A
HS1230P12 manifold only \$ 241.00 HS1230P12S steel manifold only \$ 355.00					

- Manifold dimensions, 99 x 75 x 39mm (excluding cartridge)
- \* Requires steel block over 240 bar

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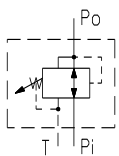
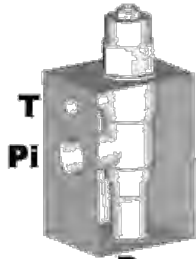
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## Pressure Reducing Valves



### Pressure Reducing And Relieving Valves

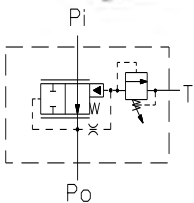
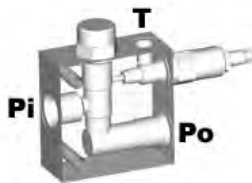
**HS4505P12S**



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PPHB-LWN	160	350	Pilot operated, reducing to 315 bar	3/4"	\$ 1191.00
HS4505P12S manifold only \$ 593.00					

- Manifold dimensions, 110 x 75 x 62mm (excluding cartridge)
- Steel block

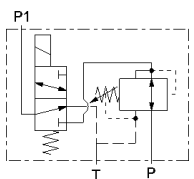
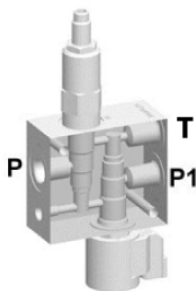
**HS7503U17BS**



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
ER12-S30 + RV58-20	114	350	Pilot operated	1 1/16"	\$ 588.00
HS7503U17BS manifold only \$ 280.00					

- Manifold dimensions, 100 x 100 x 45mm (excluding cartridge)
- Steel block

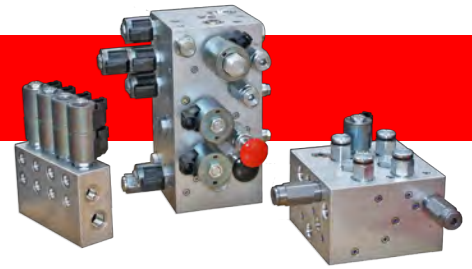
**HS7504P6BE (For brake release or pilot control)**



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
PR58-38 + SV08-30	19	350*	With solenoid selector	3/8"	\$ 851.00
HS7504P6BE manifold only \$ 521.00					

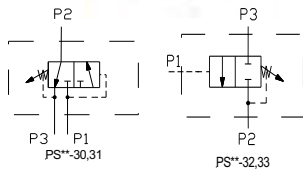
- Manifold dimensions, 85 x 75 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar - contact Hyspecs for pricing

## Sequence Valves



### Single Sequence Valves

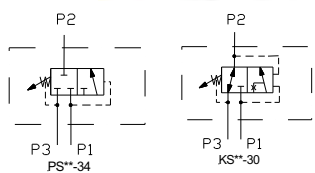
#### HS0830P4 or P6



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PS08-30	22	240	Int.pilot & drain, NC	1/4"-1/2"	\$ 272.00
PS08-32	19	240	Ext.pilot/Int.drain, NC	1/4"-1/2"	\$ 272.00
PS08-35	19	240	Ext.pilot/Int.drain, NO	1/4"-1/2"	\$ 272.00
HS0830P4 or P6 manifold only \$ 127.00					

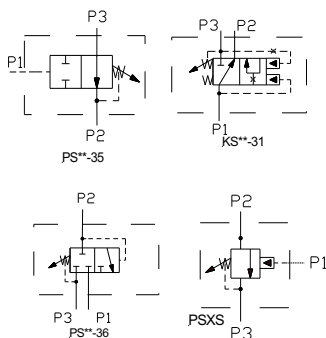
- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)

#### HS1030P6 or P8

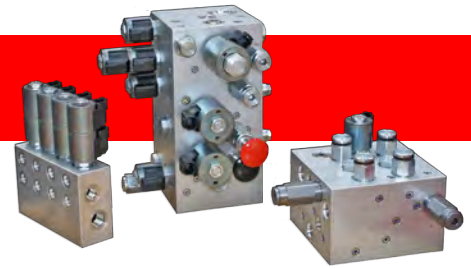


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PS10-30	38	207	Int.pilot & drain, NC	3/8"-1/2"	\$ 282.00
PS10-31	38	240	Int.pilot & drain, NC	3/8"-1/2"	\$ 282.00
PS10-32	38	207	Ext.pilot/Int.drain, NC	3/8"-1/2"	\$ 282.00
PS10-33	22	240	Ext.pilot/Int.drain, NC	3/8"-1/2"	\$ 282.00
PS10-34	56	207	Int.pilot & drain, NC	3/8"-1/2"	\$ 282.00
PS10-35	38	207	Ext.pilot/Int.drain, NO	3/8"-1/2"	\$ 292.00
PS10-36	56	240	Int.pilot/Ext.drain, NC	3/8"-1/2"	\$ 292.00
PS50-36	56	350*	Int.pilot/Ext.drain, NC	3/8"-1/2"	\$ 315.00
KS10-30	11	207	Kick-down, Int. pilot	3/8"-1/2"	\$ 355.00
KS10-31	19	207	Kick-down, Int. pilot	3/8"-1/2"	\$ 355.00
PSXS-10	46	350*	Ext.pilot/Int.drain, NC	3/8"-1/2"	\$ 322.00
HS1030P6 or P8 manifold only \$ 132.00					
HS1030P6S or P8S steel manifold only \$ 175.00					

- Manifold dimensions, 75 x 75 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar

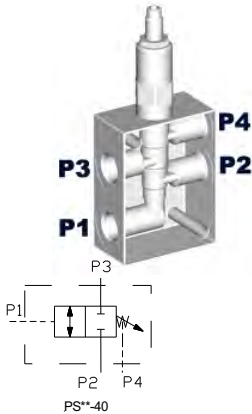


## Sequence Valves



### Single Sequence Valves

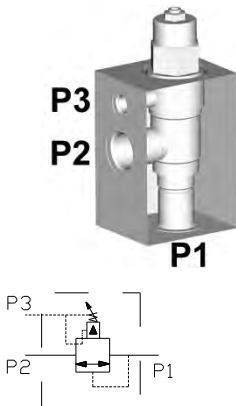
#### HS1040P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PS10-40	38	240	Ext.pilot & drain, NC	3/8"-1/2"	\$ 357.00
PS10-41	38	240	Ext.pilot & drain, NO	3/8"-1/2"	\$ 357.00
PS10-43	38	240	Ext.pilot/Int.drain, NO	3/8"-1/2"	\$ 357.00
PS50-40	38	350*	Ext.pilot & drain, NC Steel block	3/8"-1/2"	\$ 373.00
HS1040P6 or P8 manifold only \$ 150.00 HS1040P6S or P8S steel manifold only \$ 185.00					

- Manifold dimensions, 99 x 65 x 39mm (excluding cartridge)
- \* Requires steel block over 240 bar

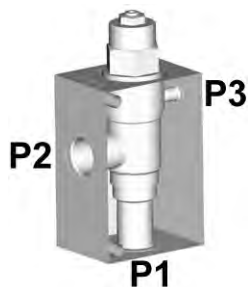
#### HS4505P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RSHC-LWN*	240	350**	Internal pilot, external drain, NC	3/4" 1/4" P3	\$ 795.00
HS4505P12 manifold only \$ 395.00 HS4505P12S steel manifold only \$ 593.00					

- Manifold dimensions, 110 x 75 x 62.5mm (excluding cartridge)
- \* Non-common stock item – Contact Hyspecs for lead time
- \*\* Requires steel block over 240 bar

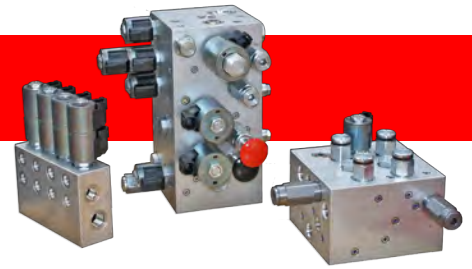
#### HS4506P16S



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RSJC-LWN*	480	350	Internal pilot, external drain, NC, steel	1" 1/4" P3	\$ 1490.00
HS4506P16S manifold only \$ 675.00					

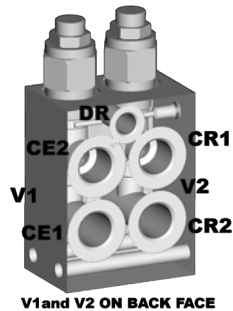
- Manifold dimensions, 150 x 100 x 75mm (excluding cartridge)
- Steel block
- \* Non-common stock item – Contact Hyspecs for lead time

## Sequence Valves

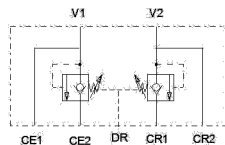


### Dual Sequence Valves

HS7703P8B



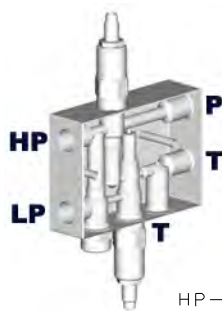
Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PSVP-10 x 2	76	350*	Poppet with free rev.	1/2"	\$ 707.00
HS7703P8B manifold only \$ 257.00					



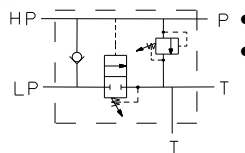
- Manifold dimensions, 100 x 90 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – contact Hyspecs for pricing

### Hi-Low Double Pump Sequence Valves

HS7890P8C\_B

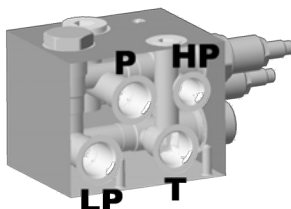


Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PS10-32 + RV10-22 + CV10-24	110	207	The valve unloads second pump flow, LP (35 l/min max) at preset pressure.	3/8"	\$ 594.00
HS7890P8C_B manifold only \$ 257.00					

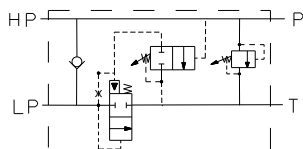


- Manifold dimensions, 125 x 100 x 50mm (excluding cartridge)
- HP and LP flow are combined until pressure setting of PS10-32 is reached and then LP is unloaded. Includes main relief. Block one T port not needed.

HS7856P12DR



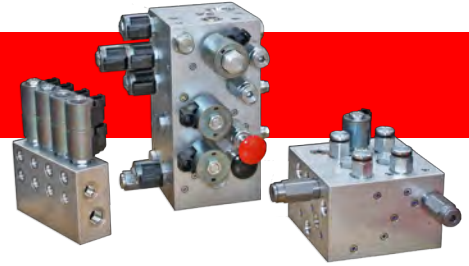
Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
EV12-S34 + PS08-32 + RV12-26 + CV12-20	170	240	The valve unloads second pump flow, LP (150 l/min max) at preset pressure.	3/4"-1"	\$ 1099.00
HS7856P12DR \$ 493.00					



- Manifold dimensions, 135 x 100 x 50mm (excluding cartridge)
- HP and LP flow are combined until pressure setting of PS08-32 is reached and then LP is unloaded. Includes main relief.

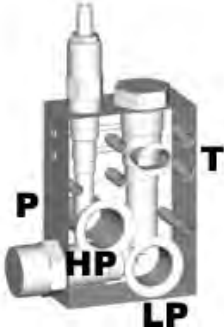


## Sequence Valves

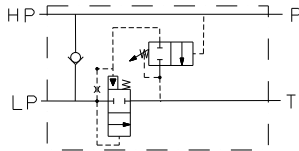


### Hi-Low Double Pump Sequence Valves

HS7898P16C



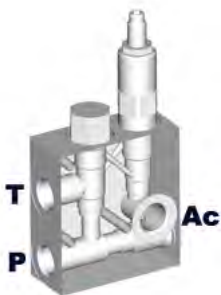
Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
EV16-S34 + PS10-32 + CV16-20	300	207	The valve unloads second pump flow, LP (180 l/min max) at preset pressure.	1"	\$ 1157.00
HS7898P16C manifold only \$ 664.00					



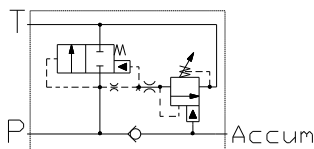
- Manifold dimensions, 145 x 100 x 50mm (excluding cartridge)
- HP and LP flow are combined until pressure setting of PS10-32 is reached and then LP is unloaded.

### Accumulator Unloading Valves

HS7916P8CC



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
EV10-S34 + UP10-31 + CV10-20	75	207	Ratio between loading and reloading P is 75 to 85%	1/2"	\$ 724.00
HS7916P8CC manifold only \$ 223.00					



- Manifold dimensions, 99 x 90 x 39mm (excluding cartridges)

## Contents Section B – Flow Controls

### **B1 Two Port Flow Controls**

- B1 Non Compensated
- B2 Pressure Compensated

### **B4 Three Port Flow Controls (Pressure Compensated)**

### **B6 Three Port Flow Controls with Relief Valve (Pressure Compensated)**

### **B8 Three Port Flow Controls - Priority-on-Demand**

### **B10 Auto-Pilot Steering Valves**

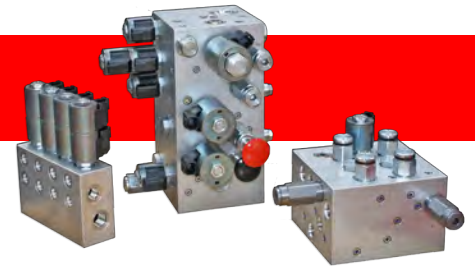
### **B11 Sequence Flow Controls**

### **B12 Flow Dividers/Combiners**

### **B13 Solenoid Defeatable Valves**

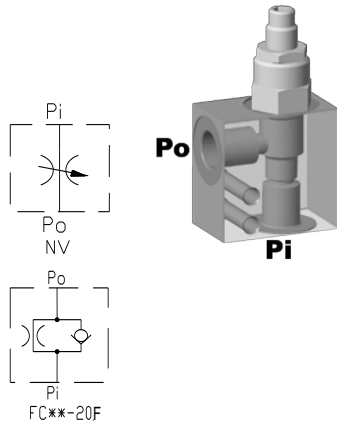
### **B14 Hoist & Roller Spreader Control Valves**

## Two Port Flow Controls



### Non Compensated

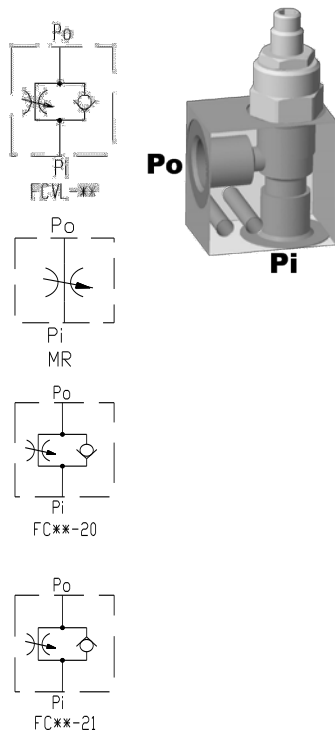
#### HS0820P4\_B or P6\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
NV08-20	42	240	3.5 turns	1/4"-3/8"	\$ 143.00
NV08-21E	55	240	8 turns and positive shutoff	1/4"-3/8"	\$ 158.00
FC08-20F	45	240	Fixed orifice check	1/4"-3/8"	\$ 168.00
NV08-23	38	240	Fine adjustment	1/4"-3/8"	\$ 153.00
FCVL-08-F	38	350*	Free reverse check	1/4"-3/8"	\$ 198.00
HS0820P4_B or P6_B manifold only \$ 78.00 HS0820P4S_B or P6S_B steel manifold only \$ 132.00					

- Manifold dimensions, 50 x 32mm (excluding cartridge)
- \* Requires steel block over 240 bar

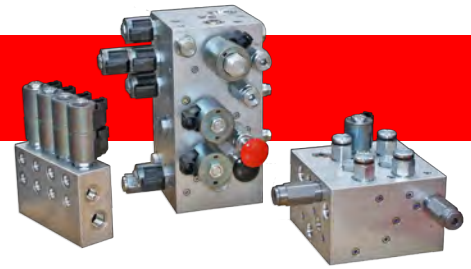
#### HS1020P6\_B or P8\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
NV10-20	57	240	3.5 turns	3/8"-1/2"	\$ 156.00
NV10-21E	57	240	9 turns and positive shutoff	3/8"-1/2"	\$ 176.00
NV10-22	60	240	5.5 turns lockable	3/8"-1/2"	\$ 176.00
MR10-20	49	240	Manual rotary and ten position detent	3/8"-1/2"	\$ 214.00
FC10-20	45	240	3 turns and free reverse check. CCW to increase flow	3/8"-1/2"	\$ 186.00
FC10-21	60	240	2 turns and free reverse check. CW to increase flow	3/8"-1/2"	\$ 186.00
FCVL-10-F	68	350*	Free reverse check	3/8"-1/2"	\$ 186.00
HS1020P6_B or P8_B manifold only \$ 86.00 HS1020P6S_B or P8S_B steel manifold only \$ 132.00					

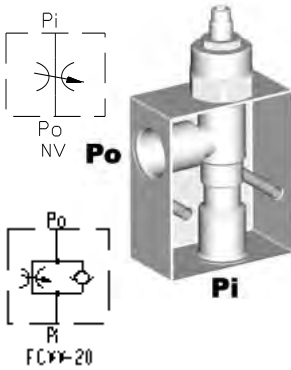
- Manifold dimensions, 50 x 50 x 35mm (excluding cartridge)
- \* Requires steel block over 240 bar

## Two Port Flow Controls



### Non Compensated

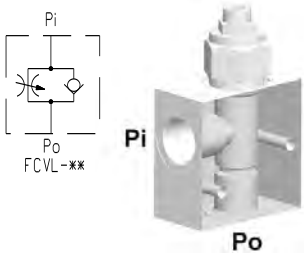
#### HS1220P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
NV12-20	130	240	4.5 turns	3/4"	\$ 285.00
FC12-20	130	240	5 turns and free reverse check	3/4"	\$ 287.00
HS1220P12 manifold only \$ 155.00					

- Manifold dimensions, 90 x 75 x 40mm (excluding cartridge)

#### HS1221P12

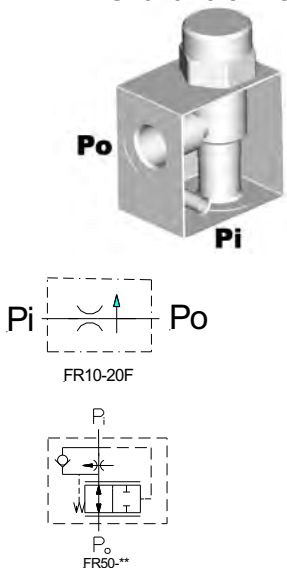


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FCVL-12-F	136	350*	Free reverse check	3/4"	\$ 295.00
HS1221P12 manifold only \$ 155.00 HS1221P12S manifold only \$ 230.00					

- Manifold dimensions, 75 x 75 x 40mm (excluding cartridge)
- \* Requires steel block over 240 bar

### Pressure Compensated

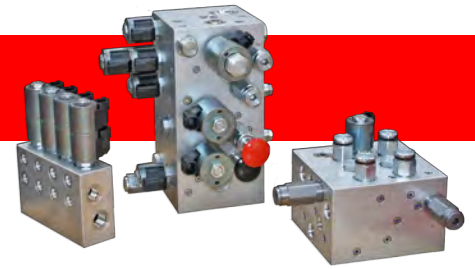
#### HS1020P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FR10-20F	22	240	Preset orifice	3/8"-1/2"	\$ 178.00
FR50-23	11.5	350*	Adjustable from 0.4 l/min	3/8"-1/2"	\$ 289.00
FR50-28	34	350*	Adjustable from 0.8 l/min	3/8"-1/2"	\$ 298.00
HS1020P6 or P8 manifold only \$ 86.00 HS1020P6S or P8S steel manifold only \$ 132.00					

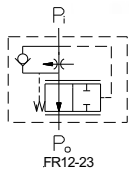
- Manifold dimensions, 50 x 50 x 35mm (excluding cartridge)
- \* Requires steel block over 240 bar

## Two Port Flow Controls



### Pressure Compensated

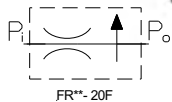
#### HS1220P12



Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FR12-20F	55	240	Preset orifice	3/4"	\$ 333.00
FR12-23	77	240	Full range adjustable, block mod. needed	3/4"	\$ 405.00
HS1220P12 manifold only \$ 155.00					

- Manifold dimensions, 90 x 75 x 40mm (excluding cartridge)

#### HS1620P16

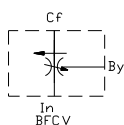
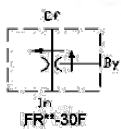
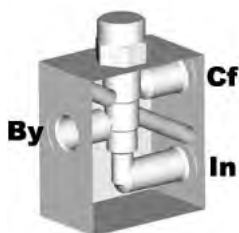


Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FR16-20F	113	240	Preset orifice	3/4" -1"	\$ 392.00
HS1620P12 or P16 manifold only \$ 189.00 or \$ 207.00					

- Manifold dimensions, 100 x 70 x 50mm (excluding cartridge)

### Three Port Flow Controls

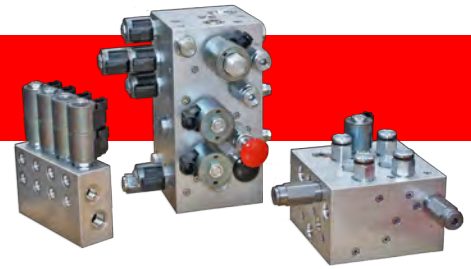
#### HS1030P6 or P8



Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FR10-30F	38	240	Preset orifice and 22.7 l/min max regulated	3/8"-1/2"	\$ 233.00
BFCV-10	45	350*	Preset orifice with 30% adjustment	3/8"-1/2"	\$ 337.00
HS1030P6 or P8 manifold only \$ 132.00					
HS1030P6S or P8S steel manifold only \$ 175.00 or \$ 212.00					

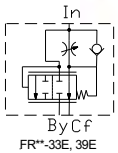
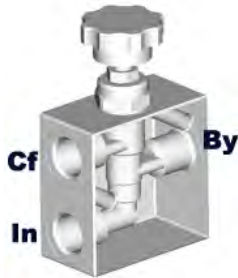
- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar

## Three Port Flow Controls



### Pressure Compensated

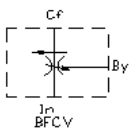
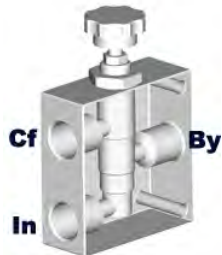
#### HS1030P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FR10-33E	20	240	3 port R.F: 0-11 l/min 2 port R.F: 0-9 l/min Full range adjustable	3/8"-1/2"	\$ 344.00
FR10-39E	57	240	3 port R.F: 0-38 l/min 2 port R.F: 0-34 l/min Full range adjustable	3/8"-1/2"	\$ 344.00
HS1030P6 or P8 manifold only \$ 132.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)

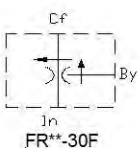
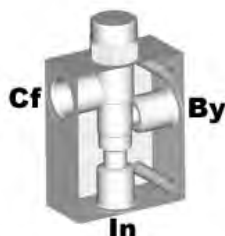
#### HS1230P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FR12-33E	114	240	3 port R.F: 0-68 l/min 2 port R.F: 0-45 l/min Full range adjustable	3/4"	\$ 562.00
FR12-30F	95	240	Preset orifice and 49 l/min regulated	3/4"	\$ 391.00
BFCV-12	76	350*	Preset orifice with 30% adjustment	3/4"	\$ 456.00
HS1230P12 manifold only \$ 241.00 HS1230P12 steel manifold only \$ 355.00					

- Manifold dimensions, 100 x 75 x 39mm (excluding cartridge)
- \* Requires steel block over 240 bar

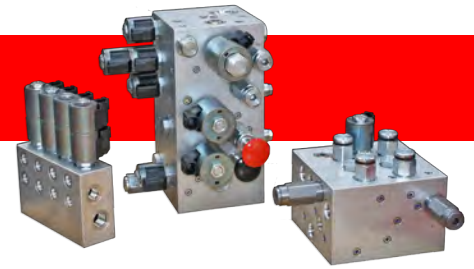
#### HS1630P16



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FR16-30F	190	240	Preset orifice and 130 l/min regulated	1"	\$ 484.00
HS1630P16 manifold only \$ 264.00					

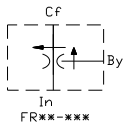
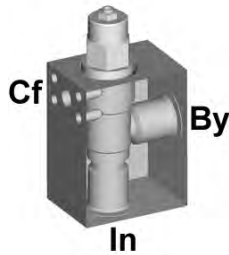
- Manifold dimensions, 125 x 100 x 50mm (excluding cartridge)

## Three Port Flow Controls



### Pressure Compensated

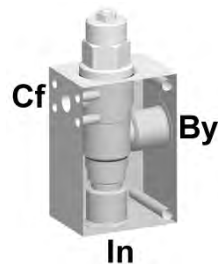
#### HS17AP16\*



Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FREA-LAN*	240	350**	Priority 100 l/min preset with $\pm 25\%$ adjustment	1" & 1/2" code 61 Cf port	\$ 740.00
HS17AP16 manifold only \$ 380.00					

- Manifold dimensions, 110 x 85 x 62mm (excluding cartridge)
- \* Non-common stock item – *Contact Hyspecs* for lead time
- \*\* Requires steel block over 240 bar

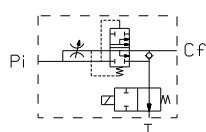
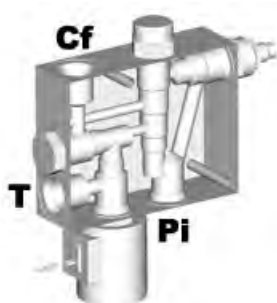
#### HS19AP20\*



Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FRFA-LAN	480	350**	Priority 200 l/min preset with $\pm 25\%$ adjustment	1 1/4" & 3/4" code 62 Cf port	\$ 1060.00
HS19AP20 manifold only \$ 415.00					

- Manifold dimensions, 150 x 100 x 75mm (excluding cartridge)
- \* Non-common stock item – *Contact Hyspecs* for lead time
- \*\* Requires steel block over 240 bar

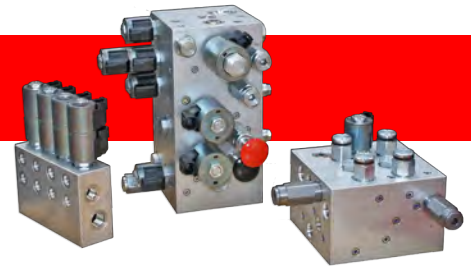
#### HS8216U14DE (2 speed control)



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
NV10-20 + EC10-40 + CV10-20 + SV10-24(NC)* or + SV10-25(NO)*	57	207	2-speed control, solenoid operated, 38 l/min max when bypass open to T	7/8"	\$ 782.00 (NC) \$ 795.00 (NO)
HS8216U14DE manifold only \$ 380.00					

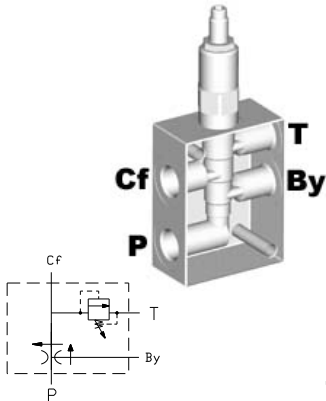
- Manifold dimensions, 125 x 100 x 40mm (excluding cartridge)
- \* Priced with flying leads DC coil

## Three Port Flow Controls with Relief Valve



### Pressure Compensated

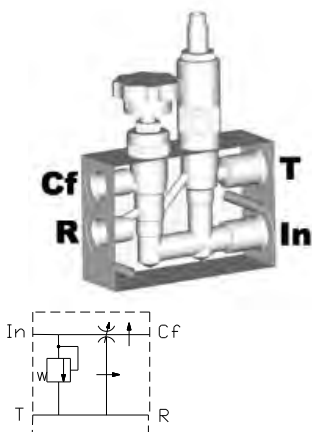
#### HS1040P6 or P8



Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FRRV10-41F	38	207	19 l/min max regulated flow, fixed orifice, adjustable relief valve	3/8"-1/2"	\$ 391.00
HS1040P6 or P8 manifold only \$ 150.00					

- Manifold dimensions, 99 x 75 x 39mm (excluding cartridge)

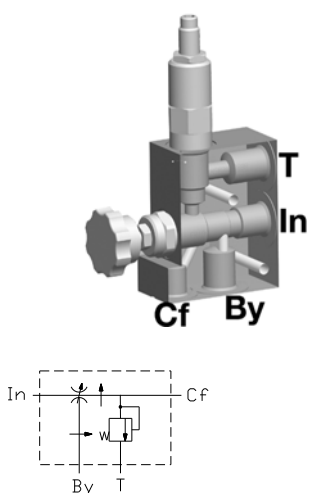
#### HS8270P8BR



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FR10-33E +RV10-20	20	240	Full range adjustable. 12 l/min regulated. Relieve to tank.	In&T-1/2" Cf&R-3/8"	\$ 581.00
FR10-39E +RV10-26	57	240	Full range adjustable. 34 l/min regulated. Relieve to tank.	In&T-1/2" Cf&R-3/8"	\$ 600.00
HS8270P8BR manifold only \$ 246.00					

- Manifold dimensions, 110 x 75 x 37mm (excluding cartridge)

#### HS8214P8BR

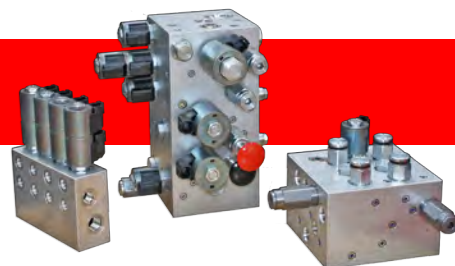


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FR10-33E +RV10-20	29	240	Full range adjustable. 12 l/min regulated. Relieve to tank.	1/2"	\$ 519.00
FR10-39E +RV10-20	57	240	Full range adjustable. 34 l/min regulated. Relieve to tank.	1/2"	\$ 519.00
HS8214P8BR manifold only \$ 184.00					

- Manifold dimensions, 99 x 80 x 39mm (excluding cartridge)

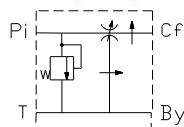
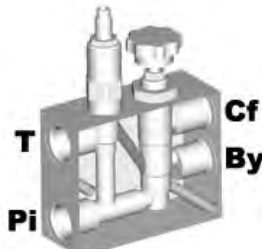


## Three Port Flow Controls with Relief Valve



### Pressure Compensated

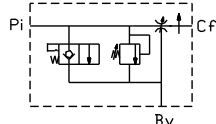
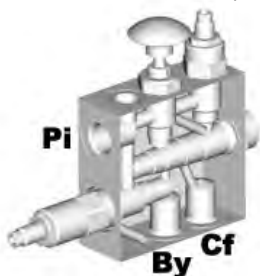
**HS8212P12BR** (with relief)



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
FR12-33E + RV10-26	76	240	68 l/min regulated flow	3/4"	\$ 847.00
HS8212P12BR manifold only \$ 384.00					

- Manifold dimensions, 125 x 100 x 50mm (excluding cartridge)

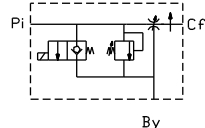
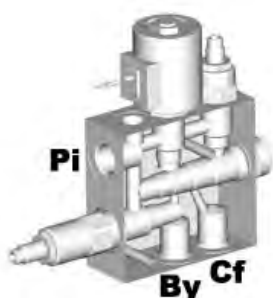
**HS8209P8DR** (with manual dump & relief)



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
NV10-20 + EC10-40 + RV10-22 + MP10-20	57	207	38 l/min regulated <b>3.5 turns</b> , relief and manual dump to bypass	1/2"	\$ 835.00
HS8209P8DR manifold only \$ 384.00					

- Manifold dimensions, 105 x 99 x 49mm (excluding cartridge)

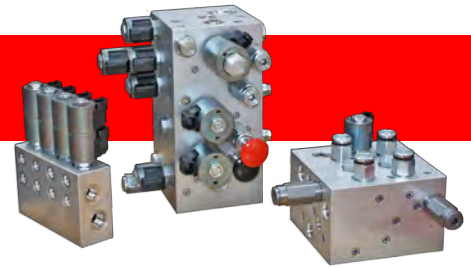
**HS8209P8DR** (with solenoid dump & relief)



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
NV10-20 + EC10-40 + RV10-22 + SV10-20*	57	207	38 l/min regulated <b>3.5 turns</b> , relief and solenoid dump to bypass	1/2"	\$ 881.00
MR10-20 + EC10-40 + RV10-22 + SV10-20*	57	207	38 l/min regulated <b>1/2 turn only</b> , relief and solenoid dump to bypass	1/2"	\$ 939.00
HS8209P8DR manifold only \$ 384.00					

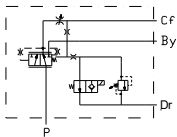
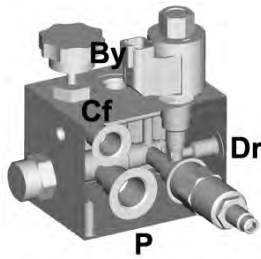
- Manifold dimensions, 105 x 99 x 39mm (excluding cartridge)
- \* DC flying leads coil included, contact Hyspecs for other coils

## Three Port Flow Controls – Priority-On-Demand



### Pressure Compensated

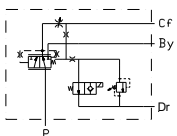
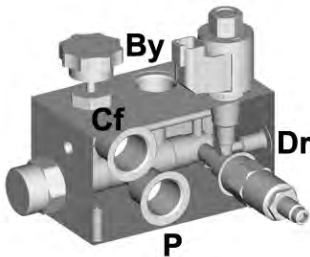
#### HS8206P8DRE



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
NV08-21E + EC10-43 + RV08-29 + <b>SV08-21*</b>	45	240	Priority 34 l/min, relief and solenoid control on Cf port, NO	P - 1/2" Cf & By - 3/8" Dr - 1/4"	\$ 881.00
HS8206P8DRE manifold only \$ 345.00					

- Manifold dimensions, 100 x 75 x 75mm (excluding cartridge)
- \* DC flying leads coil included, contact Hyspecs for other coils

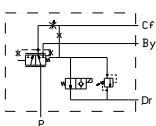
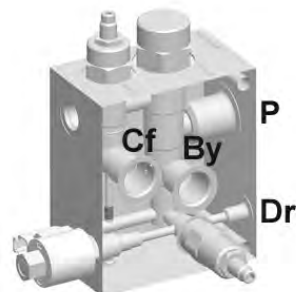
#### HS8211P12DRE



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
NV10-21E + EC12-43 + RV08-29 + <b>SV08-21*</b>	114	240	Priority 57 l/min, relief and solenoid control on Cf port, NO	3/4" Dr - 1/4"	\$ 1029.00
HS8211P12DRE manifold only \$ 405.00					

- Manifold dimensions, 135 x 75 x 75mm (excluding cartridge)
- \* DC flying leads coil included, contact Hyspecs for other coils

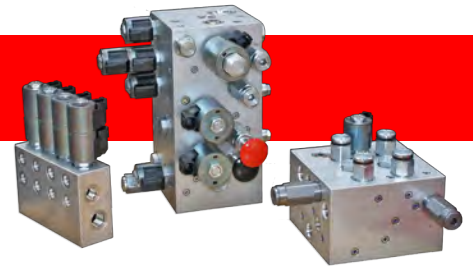
#### HS8217P16DRE



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
NV12-20 + EC16-43 + RV08-29 + <b>SV08-21*</b>	190	240	Priority 95 l/min, relief and solenoid control on Cf port, NO	P - 1" Cf & By - 3/4" Dr - 1/4"	\$ 1199.00
HS8217P16DRE manifold only \$ 495.00					

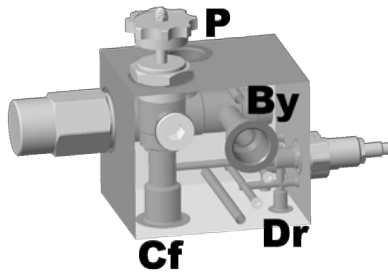
- Manifold dimensions, 150 x 126 x 75mm (excluding cartridge)
- \* DC flying leads coil included, contact Hyspecs for other coils

## Three Port Flow Controls – Priority-On-Demand

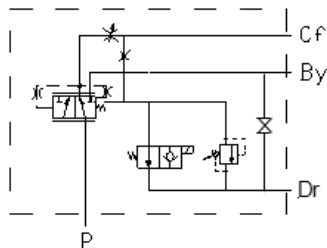


### Pressure Compensated

HS8221P16DRE\*

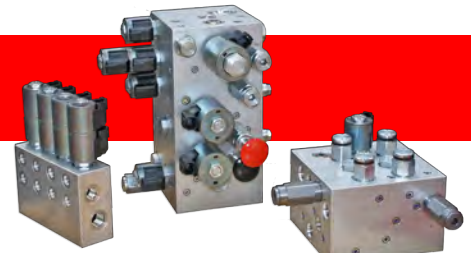


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
NV1-20 + EC42-M43 +RV08-29 + <b>SV08-20**</b>	303	210	Priority 260 l/min, relief and solenoid control on Cf, NC	1" Dr – 1/4"	\$ 1906.00
NV1-20 + EC42-M43 +RV08-29 + <b>SV08-21**</b>	303	210	Priority 260 l/min, relief and solenoid control on Cf, NO	1" Dr – 1/4"	\$ 1922.00
HS8221P16DRE manifold only \$ 738.00					

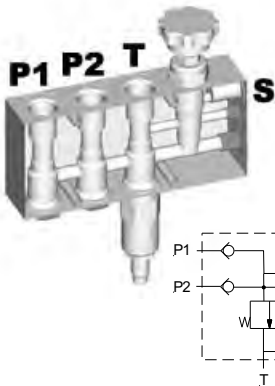


- Manifold dimensions, 150 x 126 x 125mm (excluding cartridge)
- Option to connect Dr to By port via M6 plug removal.
- \* Non-common stock item – *Contact Hyspecs* for lead time
- \*\* DC flying leads coil included, contact Hyspecs for other coils

## Auto-Pilot Steering Valves



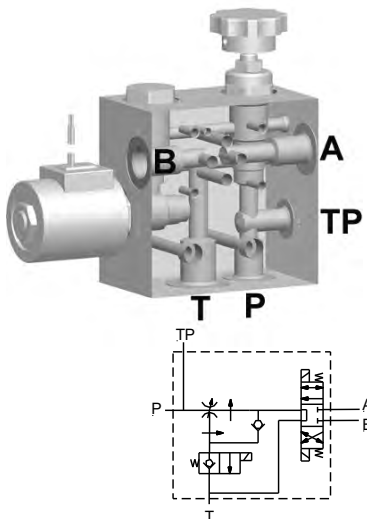
**HS8210P8DR**



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FR10-39E + RV10-22 + CV10-20 x 2	57	240	Two pump inlets, 38 l/min regulated flow	1/2"	\$ 916.00
HS8210P8DR manifold only \$ 481.00					

- Manifold dimensions, 160 x 75 x 37mm (excluding cartridge)

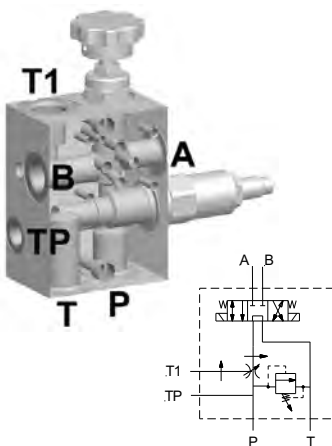
**HS31SFE**



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price NH
FR10-39E + SWH-G02- C6 + CV10-20 + SV10-20* (N.H) or SV10-21* (N.L)	57	240	Two speed by solenoid changeover, 38 l/min regulated flow	1/2" TP-1/4"	\$ 1158.00
HS31SFE manifold only \$ 452.00					

- Manifold dimensions, 100 x 100 x 60mm (excluding cartridge)
- SWH-G02-C6 cetop 3 valve included but not shown
- \* DC flying leads coil included, contact Hyspecs for other coils

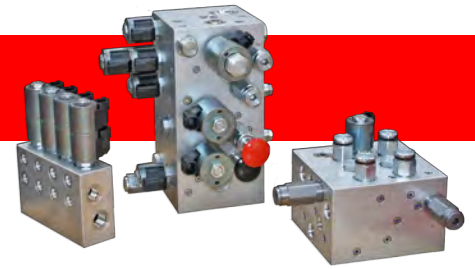
**HS31SFR**



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FR10-39 +SWH-G02-C6 +RV10-22	57	240	Built in relief, bypass can be used, 38 l/min regulated flow	1/2" TP-1/4"	\$ 1047.00
HS31SFR manifold only \$ 452.00					

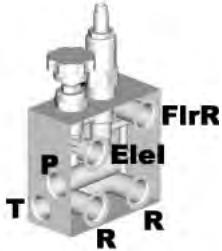
- Manifold dimensions, 100 x 75 x 50mm (excluding cartridge)
- SWH-G02-C6 cetop 3 valve included but not shown
- T1 is bypass flow and can be used for auxiliary functions

## Sequence Flow Controls

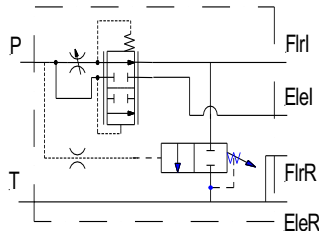


### Feed Out Wagon Valves

#### HS8768P8B

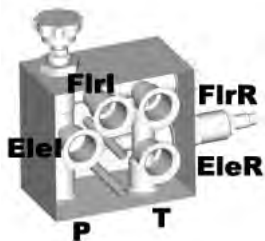


Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
FR10-39E + PS10-32 + Orifice	57	240	38 l/min regulated flow, parallel version	1/2"	\$ 588.00
HS8768P8B manifold only \$ 212.00					

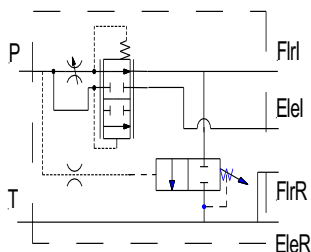


- Manifold dimensions, 105 x 100 x 50mm (excluding cartridge)

#### HS8769P12B

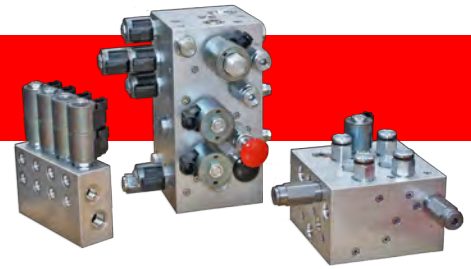


Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
EV10-S34 + PS08-32 + FR12-33 + Orifice	100	240	68 l/min regulated flow, parallel version	3/4"	\$ 1290.00
HS8769P12B manifold only \$ 660.00					

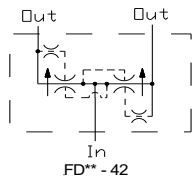
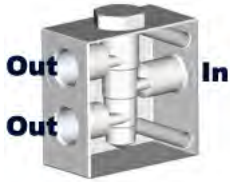


- Manifold dimensions, 125 x 115 x 75mm (excluding cartridge)

## Flow Dividers/Combiners



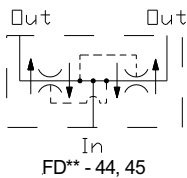
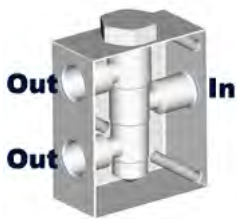
### HS1040P6D or P8D



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FD50-44	38*	350**	Multi-function, high performance	3/8"-1/2"	\$ 315.00
FD50-45	45*	350**	Cylinder and motor synchronization in both directions	3/8"-1/2"	\$ 332.00
HS1040P6D or P8D manifold only \$ 143.00					
HS1040P8DS steel manifold only \$ 155.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- \* Specify input flow rate for higher accuracy
- \*\* Requires steel block over 240 bar

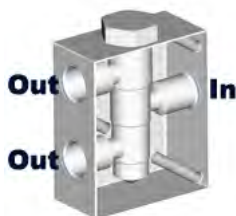
### HS1240P12D



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FD52-45	90*	350**	Cylinder and motor synchronization in both directions	3/4"	\$ 541.00
HS1240P12D manifold only \$ 241.00					

- Manifold dimensions, 130 x 99 x 39mm (excluding cartridge)
- \* Specify input flow rate for higher accuracy
- \*\* Requires steel block over 240 bar - Contact Hyspecs for pricing

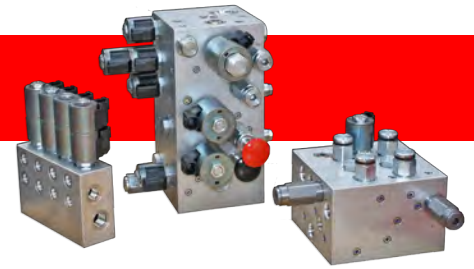
### HS1640P12D or 16D



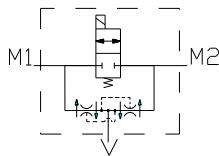
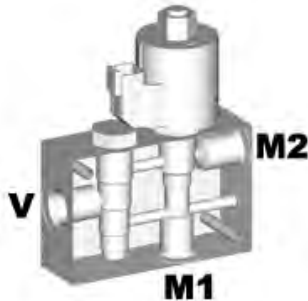
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
FD56-45	150*	350**	Cylinder and motor synchronization in both directions	3/4"-1"	\$ 630.00
HS1640P12D or 16D manifold only \$ 264.00 or \$ 277.00					

- Manifold dimensions, 120 x 100 x 50mm (excluding cartridge)
- \* Specify input flow rate for higher accuracy
- \*\* Requires steel block over 240 bar - Contact Hyspecs for pricing

## Solenoid Defeatable Valves



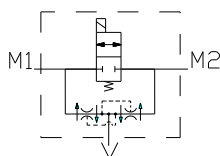
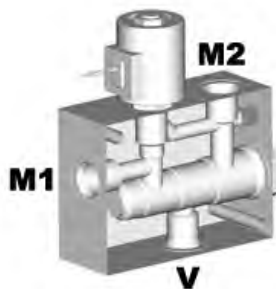
**HS8921P8BE**



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
FD50-45 +SV10-24**	45*	207	Solenoid normally closed	1/2"	\$ 641.00
FD50-45 +SV10-25**	45*	207	Solenoid normally open	1/2"	\$ 654.00
HS8921P8BE manifold only \$ 281.00					

- Manifold dimensions, 115 x 75 x 37mm (excluding cartridge)
- \* Specify input flow rate for higher accuracy
- \*\* DC flying leads coil included, contact Hyspecs for other coils

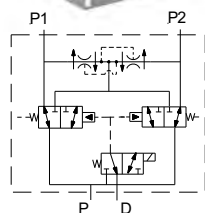
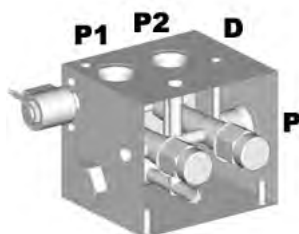
**HS8923P12BE**



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
FD16-45 +SV10-24**	150*	207	Solenoid normally closed	3/4"	\$ 892.00
FD16-45 +SV10-25**	150*	207	Solenoid normally open	3/4"	\$ 905.00
HS8923P12BE manifold only \$ 355.00					

- Manifold dimensions, 135 x 100 x 50mm (excluding cartridge)
- \* Specify input flow rate for higher accuracy
- \*\* DC flying leads coil included, contact Hyspecs for other coils

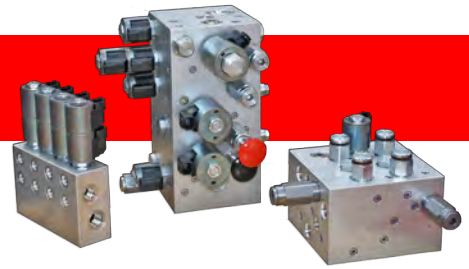
**HS8699U21DE\***



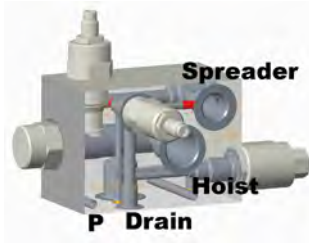
Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
2 x PD12-40 + FD16-45 + SV08-30***	230**	207	Defeatable both ways	1 5/16"	\$ 1733.00
HS8699U21DE manifold only \$ 675.00					

- Manifold dimensions, 145 x 125 x 125mm (excluding cartridge)
- \* Non-common stock item – Contact Hyspecs for lead time
- \*\* Specify input flow rate for higher accuracy
- \*\*\* DC flying leads coil included, contact Hyspecs for other coils

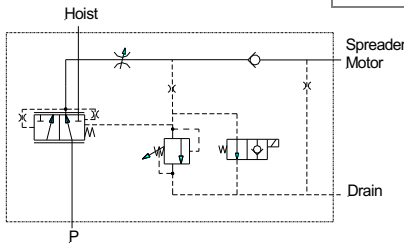
## Hoist & Roller Spreader Control Valves



### HS8303P12ERE



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
NV10-20A* + EC12-43 + RV08-20 + SV08-21 + CV10-20-0-N-100**	110 in	207	Load sense, solenoid start/stop and relief on roller spreader, 50 l/min max for spreader	P - 3/4" S & H - 1/2" Dr - 1/4"	\$ 1317.00
HS8303P12ERE manifold only \$ 658.00					

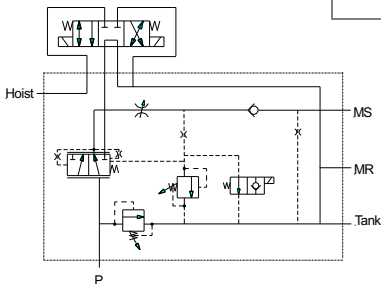


- Manifold dimensions, 125 x 90 x 75mm (excluding cartridge)
- DC flying leads coil included, contact Hyspecs for other coil options
- \* SP10-24 can be used for remote spreader speed control
- \*\* SV10-28 will be used if EC12-43-0-N-160 is used for high flow

### HS8307P16FRE\*



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
NV10-20A** + EC12-43 + RV10-26 + RV08-20 + SV08-21 + CV10-20-0-N-100***	110 in	207	Load sense, solenoid start/stop and relief on roller spreader, 50 l/min max for spreader, Cetop 5 (not included) interface for hoist	P&Hoist - 3/4" MS&MR - 1/2" T - 1" TP - 1/4"	\$ 1658.00
HS8307P16FRE manifold only \$ 870.00					



- Manifold dimensions, 155 x 100 x 100mm (excluding cartridge)
- DC flying leads coil included, contact Hyspecs for other coil options
- \* Non-common stock item – Contact Hyspecs for lead time
- \*\* SP10-24 can be used for remote spreader speed control
- \*\*\* SV10-28 will be used if EC12-43-0-N-160 is used for high flow



## Contents Section C – Directional Valves

### **C1 Check Valves**

- C1 Single Direct Acting
- C3 Anti-Cavitation

### **C4 Pilot-operated Check Valves**

- C4 Single Pilot Operated
- C6 Double Pilot Operated

### **C8 Shuttle Valves**

- C8 Ball Shuttle Valves
- C9 Brake Release Valves

### **C10 External Pilot Operated**

- C10 2 Way, 2 Position
- C11 2 Way or 3 Way, 2 Position
- C13 3 Way or 4 Way, 2 or 3 Position
- C14 Parallel-Series Valves

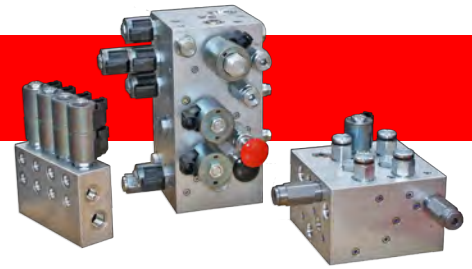
### **C15 Manually Operated - Rotary**

- C15 3 Way, 2 or 3 Position

### **C16 Manually Operated – Push / Pull**

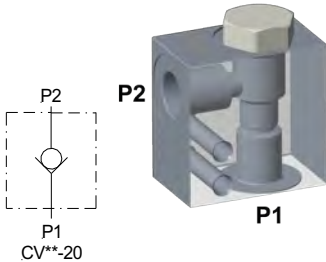
- C16 2 Way, 2 Position
- C16 3 Way, 2 Position
- C17 4 Way, 2 Position
- C17 4 Way, 3 Position

## Check Valves



### Single Direct Acting

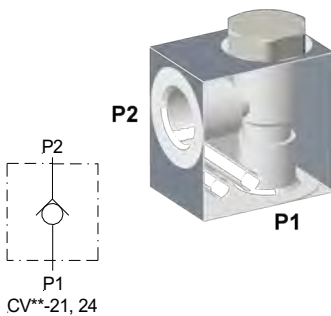
#### HS0820P4\_B or P6\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CV08-20	30	240	Guided	1/4"-3/8"	\$ 123.00
CV08-21	30	240	Guided, Reversed	1/4"-3/8"	\$ 138.00
HS0820P4_B or P6_B manifold only \$ 78.00					

- Manifold dimensions, 50 x 50 x 32mm (excluding cartridge)

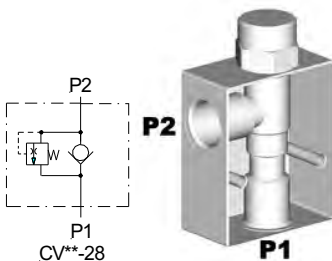
#### HS1020P6\_B or P8\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CV10-20	75	240	Guided	3/8"-1/2"	\$ 136.00
CV50-20	75	350*	Guided, HP	3/8"-1/2"	\$ 166.00
CV10-24	56	240	Guided, Reversed	3/8"-1/2"	\$ 146.00
CV10-28	45	240	With thermal relief	3/8"-1/2"	\$ 186.00
HS1020P6_B or P8_B manifold only \$ 86.00 HS1020P6S_B or P8S_B steel manifold only \$ 132.00					

- Manifold dimensions, 50 x 50 x 35mm (excluding cartridge)
- \* Requires steel block over 240 bar

#### HS1220P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CV12-20	95	240	Guided	3/4"	\$ 255.00
CV12-21	113	240	Guided, Reversed	3/4"	\$ 265.00
HS1220P12 manifold only \$ 155.00					

- Manifold dimensions, 100 x 75 x 50mm (excluding cartridge)

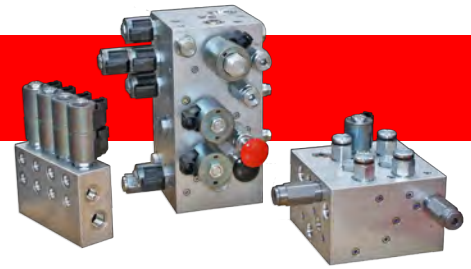
#### HHS1220P12S



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
HCV12-20	95	350	HyPerformance	3/4"	\$ 295.00
HHS1220P12S manifold only \$ 175.00					

- Manifold dimensions, 100 x 75 x 50mm (excluding cartridge)
- Steel manifold

## Check Valves



### Single Direct Acting

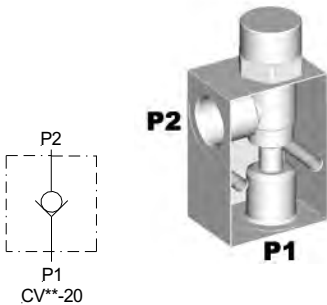
#### HS1620P12 or P16



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CV16-20	150	240	Guided	3/4"-1"	\$ 332.00
HS1620P12 or P16 manifold only \$ 189.00 or \$ 207.00					

- Manifold dimensions, 100 x 75 x 50mm (excluding cartridge)

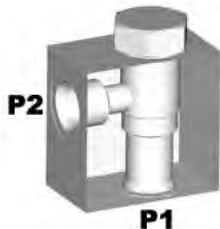
#### HHS1620P16S



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
HCV16-20	150	350	HyPerformance	1"	\$420.00
HHS1620P16S Manifold only \$250.00					

- Manifold dimensions, 100 x 75 x 50mm (excluding cartridge)
- Steel manifold

#### HS4220U21

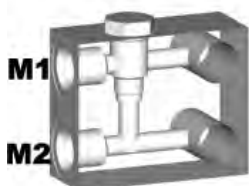


Cartridge	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CV42-M20	378	240	Guided	1 5/16"	\$ 450.00
HS4220U21 manifold only \$ 235.00					

- Manifold dimensions, 100 x 100 x 60mm (excluding cartridge)

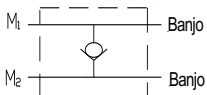
### Anti-Cavitation – Banjo Bolt Motor Mounted

#### HS7001U14A (H, S & T Series)

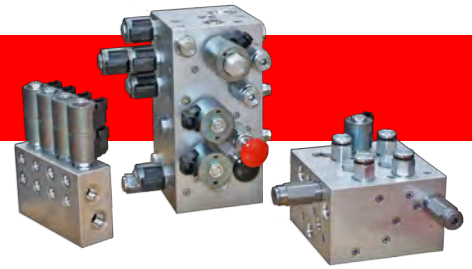


Cartridge	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CV10-20	75	190	1.8" Centre, 7/8" bolts BB-14L x 2	7/8"	\$ 326.00
HS7001U14A manifold only \$ 184.00					

- Manifold dimensions, 90 x 80 x 39mm (excluding cartridge)

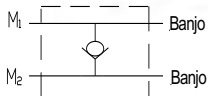


## Check Valves



### Anti-Cavitation – Banjo Bolt Motor Mounted

#### HS7013U14C (2000 Series)



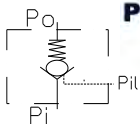
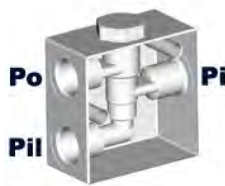
Cartridge	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CV10-20	75	240	Charlynn 2000 series 7/8" banjo bolts BB-14L	7/8"	\$ 342.00
HS7013U14C manifold only \$ 200.00					

- Manifold dimensions, 80 x 75 x 39mm (excluding cartridge)

### Pilot-operated Check Valves

#### Single Pilot Operated

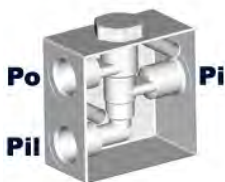
#### HHS0830P6S



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
HPC08-30	38	350	Ratio 3:1, 3-ports	3/8"	\$ 265.00
HHS0830P6S manifold only \$ 175.00					

- Manifold dimensions 75 x 65 x 37mm (excluding cartridge)
- \* Steel block

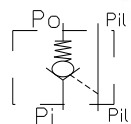
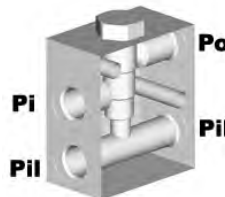
#### HS0830P4 or P6



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PC08-30	18	240	Ratio 3:1, 3-ports	1/4"-3/8"	\$ 217.00
HS0830P4 or P6 manifold only \$ 127.00					

- Manifold dimensions 75 x 60 x 37mm for P4, 75 x 65 x 37mm for P6 (excluding cartridge)

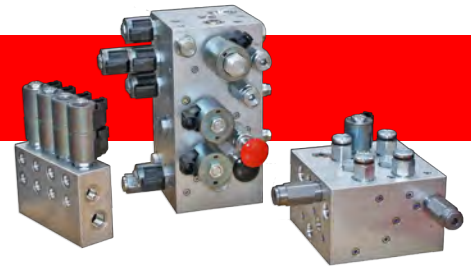
#### HS0830P6N



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PC08-30	18	240	Ratio 3:1, 4-ports	3/8"	\$ 270.00
HS0830P6N manifold only \$ 180.00					

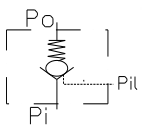
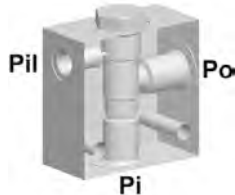
- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)

## Pilot Operated Check Valves



### Single Pilot Operated

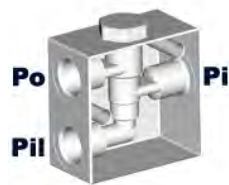
#### HS1025P8 or P12



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
POCI-10	76	350*	Ratio 3:1, 3-ports	1/2"-3/4"	\$ 318.00
HS1025P8 manifold only \$ 178.00, P12 \$184.00 HS1025P8S steel manifold only \$ 218.00					

- Manifold dimensions 75 (80 for P12) x 75 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar

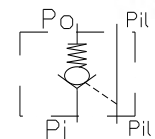
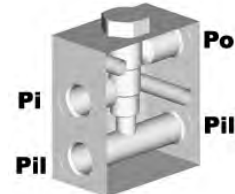
#### HS1030P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PC10-30	22	240	Ratio 4:1, 3-ports	3/8"-1/2"	\$ 232.00
PC10-32	30	240	Ratio 2:1, 3-ports	3/8"-1/2"	\$ 267.00
PC10-38	45	240	Ratio 3:1, thermal RV	3/8"-1/2"	\$ 305.00
HS1030P6 or P8 manifold only \$ 132.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)

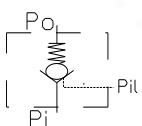
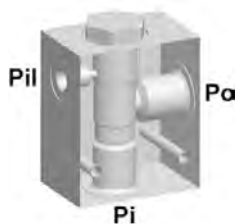
#### HS1030P6N or P8N



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PC10-30	22	240	Ratio 4:1, 4-ports	3/8"-1/2"	\$ 280.00
PC10-32	30	240	Ratio 2:1, 4-ports	3/8"-1/2"	\$ 285.00
PC10-38	45	240	Ratio 3:1, thermal RV	3/8"-1/2"	\$ 353.00
HS1030P6N or P8N manifold only \$ 180.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)

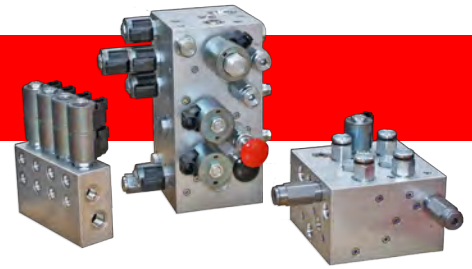
#### HS1225P12



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
POCI-12	132	350*	Ratio 3:1, 3-ports	3/4"	\$ 423.00
HS1225P12 manifold only \$ 223.00 HS1225P12S steel manifold only \$ 338.00					

- Manifold dimensions 90 x 75 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar

## Pilot Operated Check Valves



### Single Pilot Operated

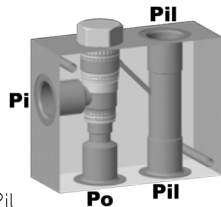
#### HS4504P8A\_B or P8A\_B



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CKCD-XAN	60	350*	Ratio 3:1 3/8"	1/2"	\$ 297.00
HS4504P6A_B or P8A_B manifold only \$ 147.00					
HS4504P8AS_B steel manifold only \$ 220.00					

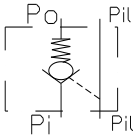
- Manifold dimensions, 75.5 x 75 x 45mm (excluding cartridge)
- \* Requires steel block over 240 bar

#### HS4502P12A

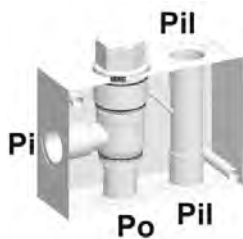


Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CKED-XAN	120	350*	Ratio 3:1	3/4"	\$ 470.00
HS4502P12A manifold only \$ 290.00					
HS4502P12AS steel manifold only \$ 330.00					

- Manifold dimensions, 125 x 100 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar



#### HS4503P12A



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CKGD-XAN	240	350*	Ratio 3:1	3/4"	\$ 560.00
HS4503P12A manifold only \$ 330.00					

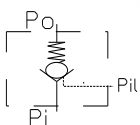
- Manifold dimensions, 140 x 100 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – *contact Hyspecs for pricing*

#### HS4506P16A

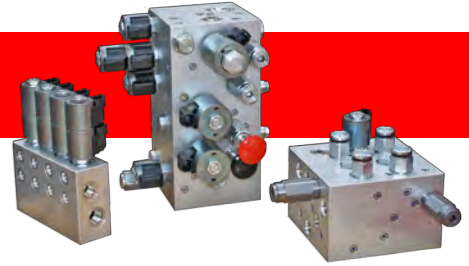


Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CKID-XAN	480	350*	Ratio 3:1	1", 1/4" Pil	\$ 935.00
HS4506P16A manifold only \$ 395.00					
HS4506P16AS steel manifold only \$ 575.00					

- Manifold dimensions, 150 x 100 x 75mm (excluding cartridge)
- \* Requires steel block over 240 bar

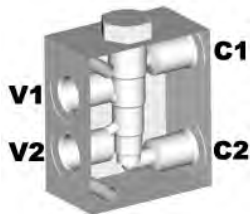


## Pilot Operated Check Valves



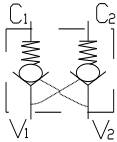
### Double Pilot Operated

#### HS0840P6-2

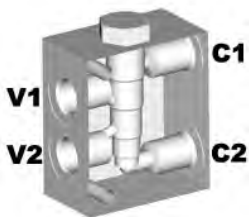


Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
DC08-40	19	240	Ratio 3:1	3/8"	\$ 335.00
HS0840P6-2 manifold only \$ 160.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)



#### HS1040P6-2



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
DC10-40	30	240	Ratio 3:1	3/8"	\$ 341.00
HS1040P6-2 manifold only \$ 161.00					

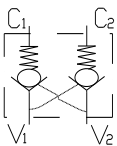
- Manifold dimensions, 90 x 75 x 37mm (excluding cartridge)

#### HS9110P8B

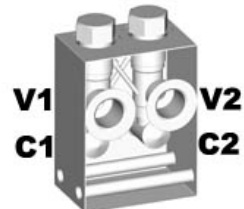


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
POCI-10 x 2	76	350*	Ratio 3:1	1/2"	\$ 568.00
HS9110P8B manifold only \$ 288.00					

- Manifold dimensions, 100 x 75 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – contact Hyspecs for pricing



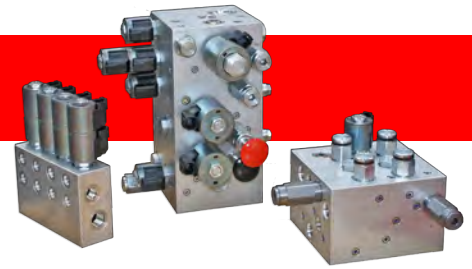
#### HS4605P8B



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CKCD x 2	60	350*	Ratio 3:1	1/2"	\$ 489.00
HS4605P8B manifold only \$ 189.00					
HS4605P8BS steel manifold only \$ 285.00					

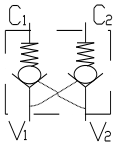
- Manifold dimensions, 100 x 75 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar

## Pilot Operated Check Valves



### Double Pilot Operated

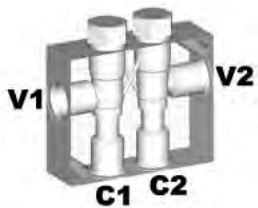
#### HS4611P6B or P8B



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CKCD x 2	60	350*	Ratio 3:1	1/2"	\$ 480.00
HS4611P6B or P8B manifold only \$180.00					

- Manifold dimensions, 75 x 75 x 40mm for HS4611P6B and 80 x 75 x 50mm for HS4611P8B (excluding cartridges)
- \* Requires steel block over 240 bar – *contact Hyspecs* for pricing

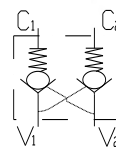
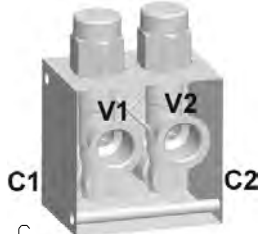
#### HS4602P12B



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CKED x 2	120	350*	Ratio 3:1	3/4"	\$ 660.00
HS4602P12B manifold only \$ 300.00					

- Manifold dimensions, 120 x 99 x 39mm (excluding cartridge)
- \* Requires steel block over 240 bar – *contact Hyspecs* for pricing

#### HS4607P12B



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
POCI-12 x 2	132	350*	Ratio 3:1	3/4"	\$ 670.00
HS4607P12B manifold only \$ 270.00					
HS4607P12BS steel manifold only \$ 452.00					

- Manifold dimensions, 100 x 100 x 75mm (excluding cartridge)
- \* Requires steel block over 240 bar

#### HS4603P16B

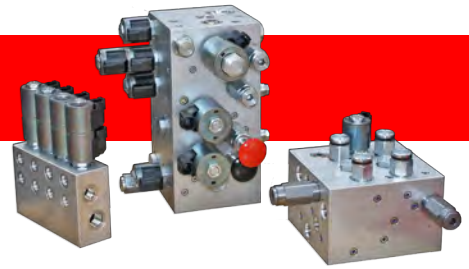


Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CKGD x 2	240	350*	Ratio 3:1	1"	\$ 956.00
HS4603P16B manifold only \$ 483.00					

- Manifold dimensions, 165 x 125 x 60mm (excluding cartridge)
- \* Requires steel block over 240 bar – *contact Hyspecs* for pricing

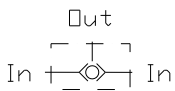
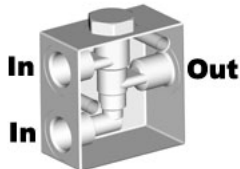


## Shuttle Valves



### Load Shuttle Valves

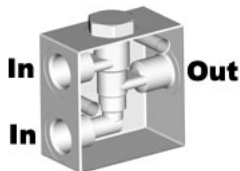
#### HS0830P4 or P6



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
LS08-30	19	240	Ball Type	1/4"-3/8"	\$ 196.00
BDSV-08	11	350*	Ball Type, HP	1/4"-3/8"	\$ 187.00
HS0830P4 or P6 manifold only \$ 127.00					
HS0830P4S or P6S steel manifold only \$ 183.00					

- Manifold dimensions, 75 x 60 x 37mm for P4, 75 x 65 x 37 for P6 (excluding cartridge)
- \* Requires steel block over 240 bar

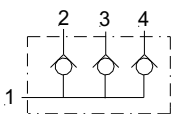
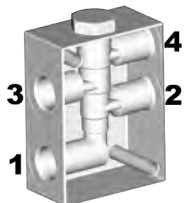
#### HS1030P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
LS10-30	30	240	Ball Type	3/8"-1/2"	\$ 201.00
LS50-30	30	350*	Ball Type, HP	3/8"-1/2"	\$ 222.00
HS1030P6 or P8 manifold only \$ 132.00					
HS1030P6S or P8S steel manifold only \$ 175.00 or \$ 212.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar

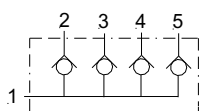
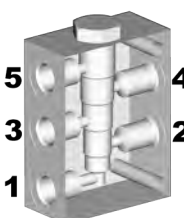
#### HS1040P6 or P8



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
LS10-40	1.89	240	Load shuttle network	3/8"-1/2"	\$ 259.00
HS1040P6 or P8 manifold only \$ 150.00					

- Manifold dimensions, 99 x 65 x 39mm (excluding cartridge)

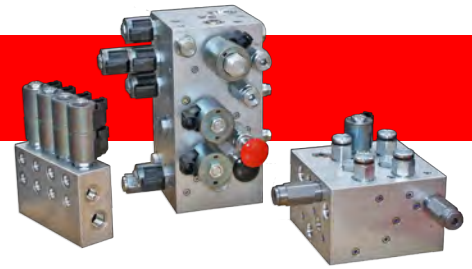
#### HS1050P6 or P8



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
LS10-50	1.89	240	Load shuttle network	3/8"-1/2"	\$ 395.00
HS1050P6 or P8 manifold only \$ 252.00					

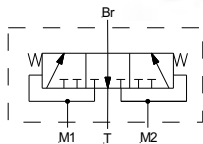
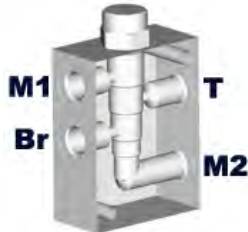
- Manifold dimensions, 99 x 75 x 39mm (excluding cartridge)

## Shuttle Valves



### Brake Release Valves

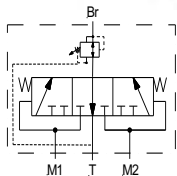
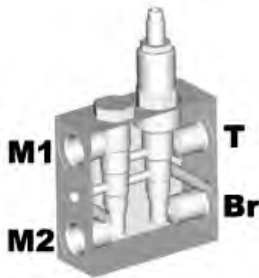
#### HS1040P6 or P8



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
BV10-40	8	240	Spool type	3/8"-1/2"	\$ 357.00
HS1040P6 or P8 manifold only \$ 150.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)

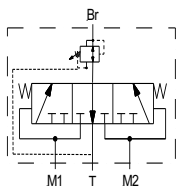
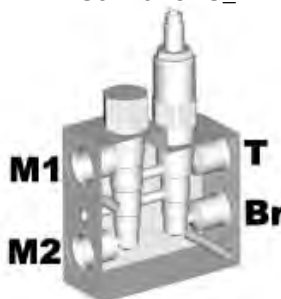
#### HS9201P8P



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
BV10-40 + PR10-32	8	207	Designed for brake system operated on reduced pressure	1/2"	\$ 754.00
HS9201P8P manifold only \$ 395.00					

- Manifold dimensions, 100 x 100 x 39mm (excluding cartridge)

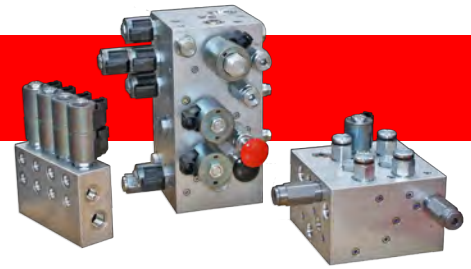
#### HS9210P8PS\_B



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
HBV10-40 + PR50-36	8	350	Steel block	1/2"	\$ 913.00
HS9210P8PS_B manifold only \$ 452.00					

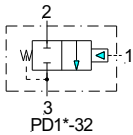
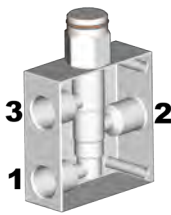
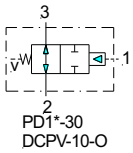
- Manifold dimensions, 100 x 100 x 39mm (excluding cartridge)

## External Pilot Operated



### 2 Way, 2 Position

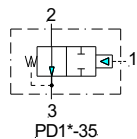
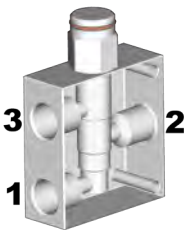
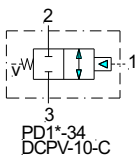
#### HS1030P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PD10-30	38	240	N.O. & external vent	3/8"-1/2"	\$ 284.00
PD10-32	38	240	N.C. & internal vent	3/8"-1/2"	\$ 284.00
PD10-34	38	240	N.C. & external vent	3/8"-1/2"	\$ 284.00
PD10-35	38	240	N.O. & internal vent	3/8"-1/2"	\$ 270.00
DCPV-10-0	38	350*	N.O. & external vent	3/8"-1/2"	\$ 312.00
DCPV-10-C	38	350*	N.C. & internal vent	3/8"-1/2"	\$ 312.00
HS1030P6 or P8 manifold only \$ 132.00					
HS1030P6S or P8S steel manifold only \$ 175.00 or \$ 212.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar

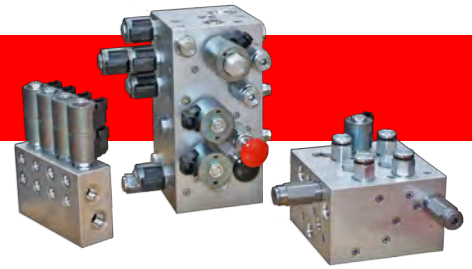
#### HS1230P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PD12-30	115	240	N.O. & external vent	3/4"	\$ 468.00
PD12-32	115	240	N.C. & internal vent	3/4"	\$ 468.00
PD12-34	115	240	N.C. & external vent	3/4"	\$ 468.00
PD12-35	115	240	N.O. & internal vent	3/4"	\$ 456.00
HS1230P12 manifold only \$ 241.00					

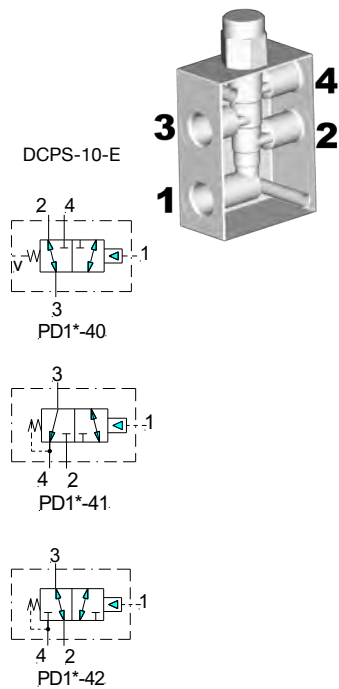
- Manifold dimensions, 99 x 75 x 39mm (excluding cartridge)

## External Pilot Operated



### 2 Way Or 3 Way, 2 Position

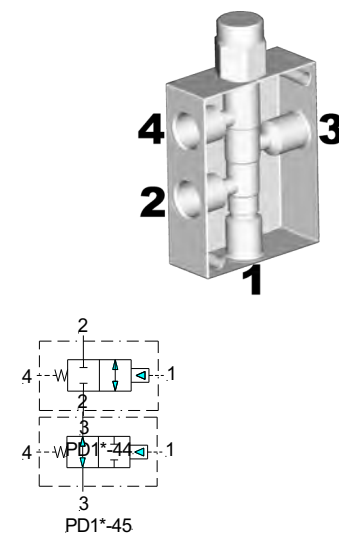
#### HS1040P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PD10-40	38	240	3-way & external vent	3/8"-1/2"	\$ 321.00
PD10-41	45	240	3-way & internal vent	3/8"-1/2"	\$ 302.00
PD10-42	38	240	3-way & internal vent	3/8"-1/2"	\$ 302.00
PD10-44	34	240	2-way, N.C. ext. vent	3/8"-1/2"	\$ 302.00
PD10-45	45	240	2-way, N.O. ext. vent	3/8"-1/2"	\$ 302.00
DCPS-10-E	46	350*	3-way & external vent	3/8"-1/2"	\$ 330.00
HS1040P6 or P8 manifold only \$ 150.00 HS1040P6S or P8S steel manifold only \$ 185.00					

- Manifold dimensions, 99 x 65 x 39mm (excluding cartridge)
- \* Requires steel block over 240 bar

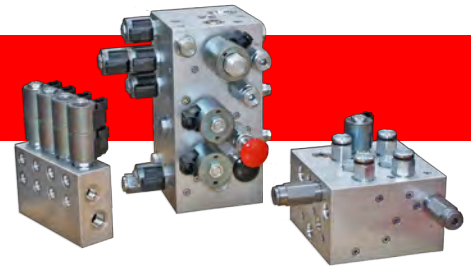
#### HS1240P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PD12-40	115	240	3-way & external vent	3/4"	\$ 509.00
PD12-41	115	240	3-way & internal vent	3/4"	\$ 509.00
PD12-42	115	240	3-way & internal vent	3/4"	\$ 509.00
PD12-44	115	240	2-way, N.C. ext. vent	3/4"	\$ 509.00
PD12-45	115	240	2-way, N.O. ext. vent	3/4"	\$ 509.00
HS1240P12 manifold only \$ 252.00					

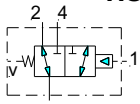
- Manifold dimensions, 130 x 99 x 39mm (excluding cartridge)

## External Pilot Operated



### 2 Way or 3 Way, 2 Position

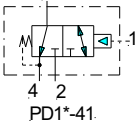
#### HS1640P12 or P16



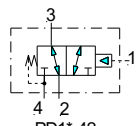
PD1\*-40



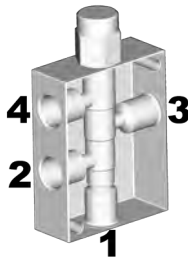
DCPS-16-E



PD1\*-41



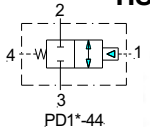
PD1\*-42



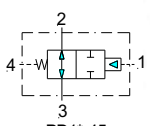
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PD16-40	170	240	3-way & external vent	3/4"-1"	\$ 590.00
PD16-41	170	240	3-way & internal vent	3/4"-1"	\$ 590.00
PD16-42	170	240	3-way & internal vent	3/4"-1"	\$ 590.00
PD16-44	170	240	2-way, N.C. ext. vent	3/4"-1"	\$ 590.00
PD16-45	170	240	2-way, N.O. ext. vent	3/4"-1"	\$ 590.00
DCPS-16-E	136	350*	3-way & external vent	3/4"-1"	\$ 646.00
HS1640P12 or P16 manifold only \$ 286.00					

- Manifold dimensions, 135 x 100 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – *contact Hyspecs* for pricing

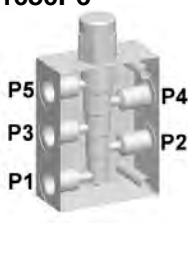
#### HS1050P6



PD1\*-44



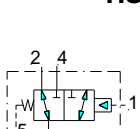
PD1\*-45



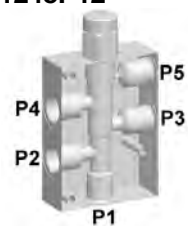
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PD10-50	30	240	3-way & ported vent	1/2"	\$ 467.00
HS1050P6 manifold only \$ 252.00					

- Manifold dimensions, 100 x 75 x 39mm (excluding cartridge)

#### HS1245P12



PD1\*-50

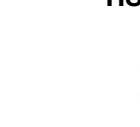


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PD12-S50	95	240	3-way & ported vent	3/4"	\$ 610.00
HS1245P12 manifold only \$ 310.00					

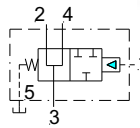
- Manifold dimensions, 139 x 99 x 39mm (excluding cartridge)

### 3 Way, 2 Position

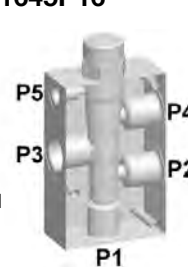
#### HS1645P16\*



PD1\*-S50



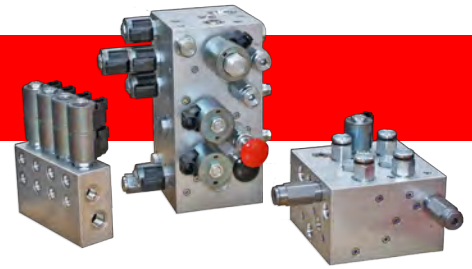
PD1\*-S51



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PD16-S50*	170	240	3-way & ported vent	1", 1/4" P5	\$ 725.00
PD16-S51*	151	240	3-way & all N.O.	1", 1/4" P5	\$ 800.00
HS1645P16 manifold only \$ 405.00					

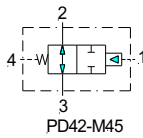
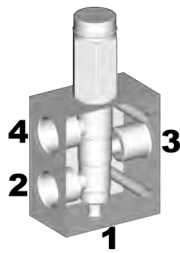
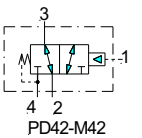
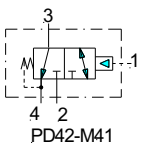
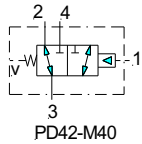
- Manifold dimensions, 160 x 100 x 50mm (excluding cartridge)
- \* Non-common stock item – *Contact Hyspecs* for lead time

## External Pilot Operated



### 3 Way Or 4 Way, 2 Position

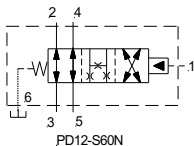
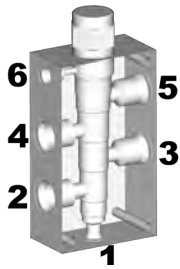
#### HS4240P20S



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PD42-M40	265	350	3 way, 2 position, external vent	1 1/4" 1/4" Pil	\$ 1357.00
PD42-M41*	265	350	3 way, 2 position, internal vent	1 1/4" 1/4" Pil	\$ 1333.00
PD42-M42*	265	350	3 way, 2 position, internal vent	1 1/4" 1/4" Pil	\$ 1333.00
PD42-M45*	265	350	3 way, 2 position, external vent	1 1/4" 1/4" Pil	\$ 1333.00
HS4240P20S manifold only \$ 733.00					

- Manifold dimensions, 145 x 125 x 75mm (excluding cartridge)
- Steel manifold
- \* Non-common stock item – *Contact Hyspecs* for lead time

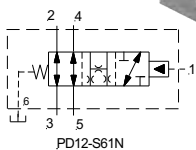
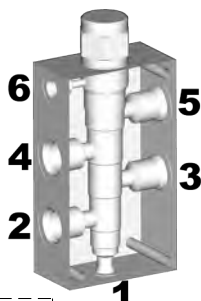
#### HS1255U17\*



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
PD12-S60N	56	240	4 way, 2 position, external drain	1 1/16" 1/4" T & Pil	\$ 635.00
PD12-S61N*	56	240	4 way, 2 position, external drain	1 1/16" 1/4" T & Pil	\$ 635.00
HS1255U17 manifold only \$ 360.00					

- Manifold dimensions, 160 x 100 x 50mm (excluding cartridge)
- \* Non-common stock item – *Contact Hyspecs* for lead time

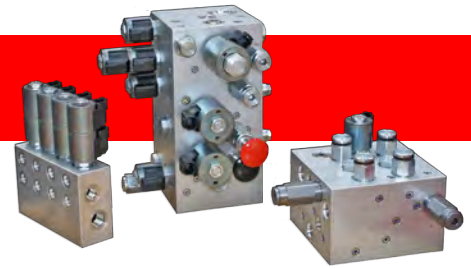
#### HS1655U17



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
PD16-S60N	151	240	4 way, 2 position, external drain	1 1/16" 1/4" T & Pil	\$ 745.00
PD16-S61N	151	240	4 way, 2 position, external drain	1 1/16" 1/4" T & Pil	\$ 745.00
HS1655U17 manifold only \$ 436.00					

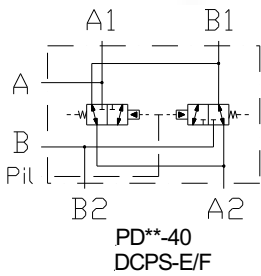
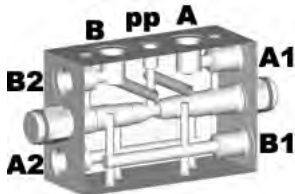
- Manifold dimensions, 177 x 100 x 55mm (excluding cartridge)

## External Pilot Operated



### Parallel-Series Valves

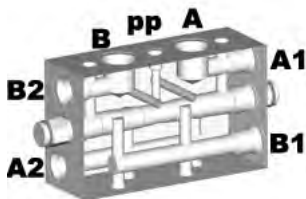
#### HS9380P8B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PD10-40 x 2	38	240	Series-parallel, 1/4" pilot port	1/2" PP 1/4"	\$ 925.00
DCPS-10-E x 2	46	350*	Series-parallel, 1/4" pp open on changeover	1/2" PP 1/4"	\$ 943.00
HS9380P8B manifold only \$ 583.00					

- Manifold dimensions, 150 x 100 x 60mm (excluding cartridge)
- \*Requires steel block over 240 bar – contact Hyspecs for pricing

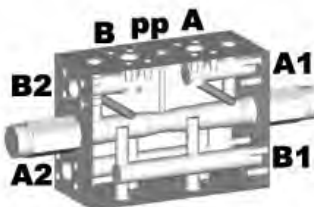
#### HS9381U17B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PD12-40 x 2	115	240	Series-parallel, 1/4" pilot port	3/4" PP 1/4"	\$ 1150.00
HS9381U17B manifold only \$ 636.00					

- Manifold dimensions, 210 x 126 x 75mm (excluding cartridge)

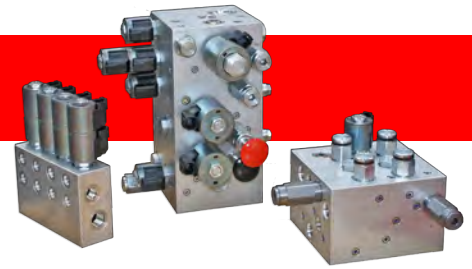
#### HS9382T20BS



Cartridge Options	Q max l/min	P max bar	Notes	Ports SAE	Assembly Price
PD42-M40 x2	265	350	Series-parallel, 3/8" pilot port,	1 1/4" code 62 PP 1/4" BSPP	\$ 2963.00
HS9382BS manifold only \$ 1715.00					

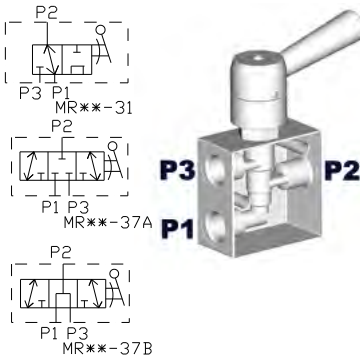
- Manifold dimensions, 280 x 200 x 126mm (excluding cartridge)
- Steel manifold

## Manually Operated - Rotary



### 3 Way, 2 Or 3 Position

#### HS1030P6 or P8

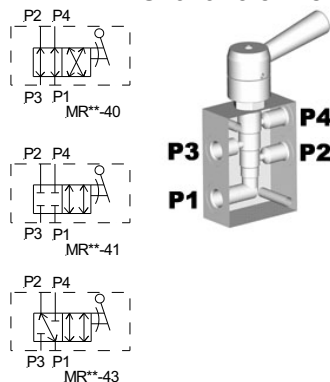


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
MR10-31	38	240	3-way, 2-position	3/8"-1/2"	\$ 442.00
MR10-37A	38	240	3-way, 3-position, closed centre	3/8"-1/2"	\$ 486.00
MR10-37B	38	240	3-way, 3-position, open centre	3/8"-1/2"	\$ 486.00
HS1030P6 or P8 manifold only \$ 132.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)

### 4 Way, 2 Position

#### HS1040P6 or P8

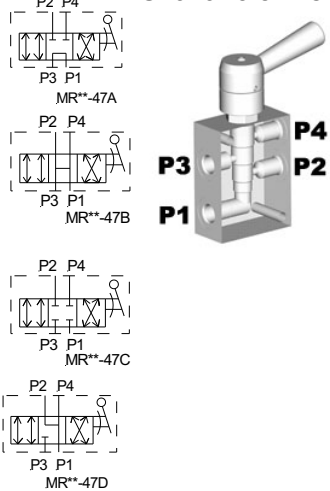


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
MR10-40	11	240	4-way, 2-position, normally open	3/8"-1/2"	\$ 529.00
MR10-41	11	240	4-way, 2-position, normally closed	3/8"-1/2"	\$ 540.00
MR10-43	11	240	4-way, 2 position	3/8"-1/2"	\$ 540.00
HS1040P6 or P8 manifold only \$ 150.00					

- Manifold dimensions, 99 x 65 x 39mm (excluding cartridge)

### 4 Way, 3 Position

#### HS1040P6 or P8

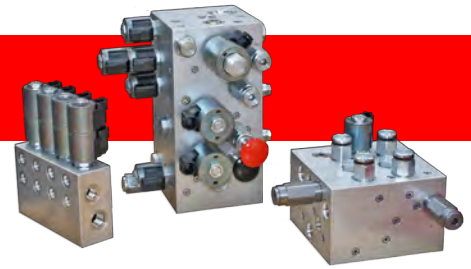


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
MR10-47A	11	240	4-way, 3-position, tandem centre	3/8"-1/2"	\$ 578.00
MR10-47B	11	240	4-way, 3-position, open centre	3/8"-1/2"	\$ 578.00
MR10-47C	11	240	4-way, 3-position, closed centre	3/8"-1/2"	\$ 578.00
MR10-47D	11	240	4-way, 3-position, motor spool	3/8"-1/2"	\$ 578.00
HS1040P6 or P8 manifold only \$ 150.00					

- Manifold dimensions, 99 x 65 x 39mm (excluding cartridge)

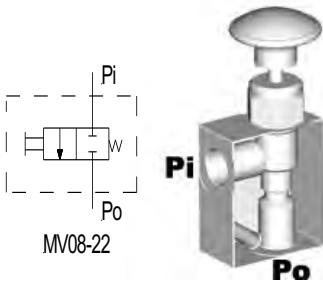


## Manually Operated - Push / Pull



### 2 Way, 2 Position

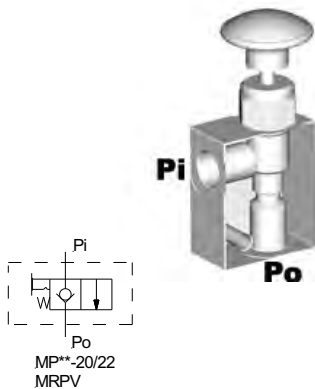
#### HS0820P4 or P6



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
MV08-22	38	207	Push to open, spring return	1/4"-3/8"	\$ 179.00
MP08-20	53	207	Pull to open, spring return	1/4"-3/8"	\$ 216.00
HS0820P4 or P6 manifold only \$ 78.00					

- Manifold dimensions, 50 x 32mm (excluding cartridge)

#### HS1020P6 or P8

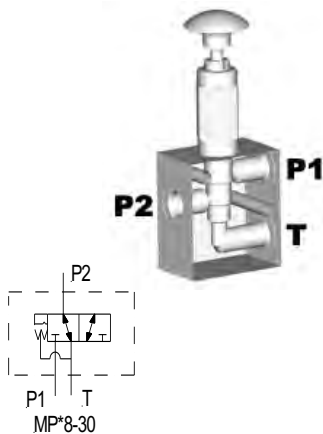


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
MP10-20	57	207	Pull to open, detent spring return	3/8"-1/2"	\$ 224.00
MP10-22	57	207	Pull to open, spring return, detent, higher tank press. (28bar)	3/8"-1/2"	\$ 266.00
MRPV-10	70	350*	Pull to open, spring return	3/8"-1/2"	\$ 226.00
HS1020P6 or P8 manifold only \$ 86.00 HS1020P6S or P8S steel manifold only \$ 132.00					

- Manifold dimensions, 50 x 50 x 35mm (excluding cartridge)
- \*Requires steel block over 240 bar

### 3 Way, 2 Position

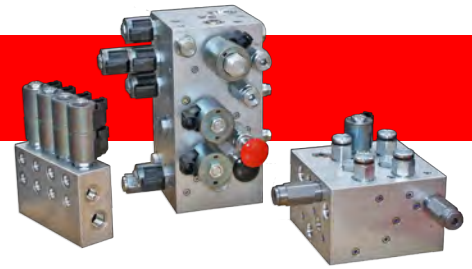
#### HS0830P4 or P6



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
MP08-30	25	240	Pull to shift, spring return, detent	1/4"-3/8"	\$ 311.00
MP58-30*	25	350**	Pull to shift, spring return, detent	1/4"-3/8"	\$ 342.00
HS0830P4 or P6 manifold only \$ 127.00 HS0830P4S or P6S steel manifold only \$ 183.00					

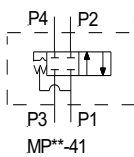
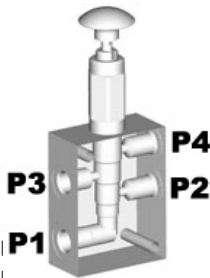
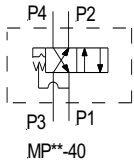
- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- \* Non-common stock item – Contact Hyspecs for lead time
- \*\* Requires steel block over 240 bar

## Manually Operated - Push / Pull

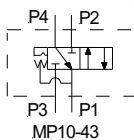
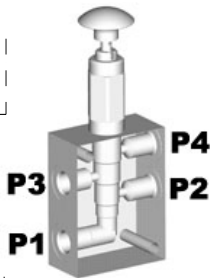
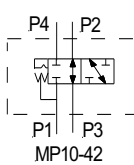


### 4 Way, 2 Position

#### HS0840P4 or P6



#### HS1040P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
MP08-40	12	240	Pull to shift, spring return, N.O, detent	1/4"-3/8"	\$ 309.00
MP08-41*	12	240	Pull to shift, spring return, N.C, detent	1/4"-3/8"	\$ 309.00
HS0840P4 or P6 manifold only \$ 138.00					

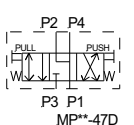
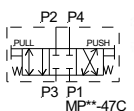
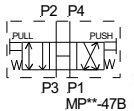
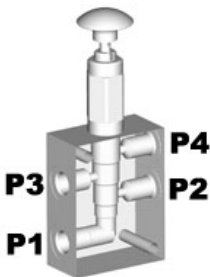
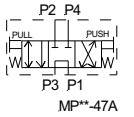
- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)

Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
MP10-40	23	207	Pull to shift, spring return, N.O, detent	3/8"-1/2"	\$ 368.00
MP10-41*	23	207	Pull to shift, spring return, N.C, detent	3/8"-1/2"	\$ 368.00
MP10-42*	34	240	Pull to shift, spring return, detent	3/8"-1/2"	\$ 368.00
MP10-43*	34	207	Pull to shift, spring return, detent	3/8"-1/2"	\$ 368.00
MD10-40	38	207	Push to shift, spring return, N.O	3/8"-1/2"	\$ 368.00
HS1040P6 or P8 manifold only \$ 150.00					

- Manifold dimensions, 99 x 65 x 39mm (excluding cartridge)

### 4 Way, 3 Position

#### HS1040P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
MP10-47A	15	207	Pull/push to shift, spring return, TC	3/8"-1/2"	\$ 345.00
MP10-47B*	11	207	Pull/push to shift, spring return, OC	3/8"-1/2"	\$ 345.00
MP10-47C*	23	207	Pull/push to shift, spring return, CC	3/8"-1/2"	\$ 345.00
MP10-47D*	23	207	Pull/push to shift, spring return, MS	3/8"-1/2"	\$ 345.00
HS1040P6 or P8 manifold only \$ 150.00					

- Manifold dimensions, 99 x 65 x 39mm (excluding cartridge)
- \* Non-common stock item – Contact Hyspecs for lead time

## Contents Section D – Solenoid Valves

**D1 2 Way, 2 Position**

**D9 3 Way, 2 Position**

**D11 4 Way, 2 Position**

**D13 4 Way, 3 Position**

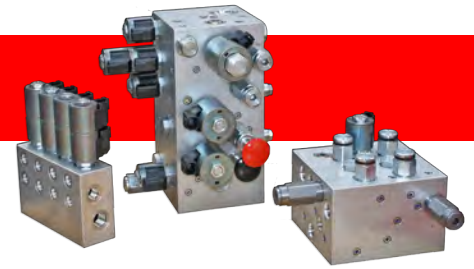
**D14 5 Way, 3 Position**

**D15 6 Way, 2 Position**

**D16 Single Acting Cylinder Lift / Lower Valves**

**D17 Start / Stop Valves – Motor Banjo Bolt Mounted**

## Solenoid Valves

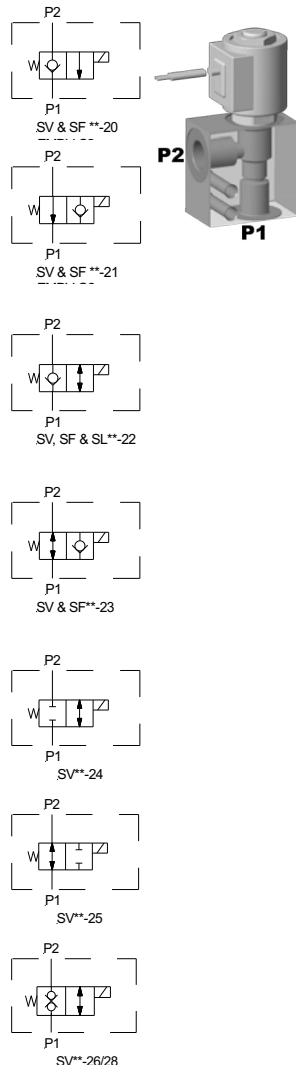


Solenoid valves are priced with flying leads (DC only) unless otherwise stated. AC coils are DIN plug only. Reliable, long-life, environmentally-hardened E coils are available with different connection options and prices.

Hirschman / DIN or Deutsch plugs are not included in the price.

### 2 Way, 2 Position

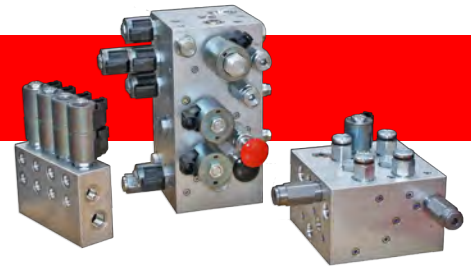
#### HS0820P4\_B or HS0820P6\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SV08-20	30	207	N.C. poppet, one way	1/4"-3/8"	\$ 214.00
SF08-20	27	350*	High Pressure	1/4"-3/8"	\$ 239.00
SV08-21	38	207	N.O. poppet, one way	1/4"-3/8"	\$ 244.00
SF08-21	38	350*	High pressure	1/4"-3/8"	\$ 296.00
SV08-22	30	207	N.C. poppet, both ways	1/4"-3/8"	\$ 229.00
SF08-22	23	350*	High pressure	1/4"-3/8"	\$ 299.00
SV08-23	30	207	N.O. poppet, both ways	1/4"-3/8"	\$ 279.00
SF08-23	38	350*	High pressure	1/4"-3/8"	\$ 313.00
SV08-24	17	207	N.C. spool, both ways	1/4"-3/8"	\$ 214.00
SV08-25	9	207	N.O. spool, both ways	1/4"-3/8"	\$ 224.00
SV08-26	2	207	N.C. blocking both ways	1/4"-3/8"	\$ 224.00
SV38-26	3.4	207	N.C. blocking both ways	1/4"-3/8"	\$ 284.00
SV08-28	11	207	N.C. blocking both ways	1/4"-3/8"	\$ 242.00
SV38-28	19	207	N.C. blocking both ways Size coil	1/4"-3/8"	\$ 395.00
HS0820P4_B or HS0820P6_B manifold only \$ 78.00 HS0820P4S_B or HS0820P6S_B steel manifold only \$ 132.00					

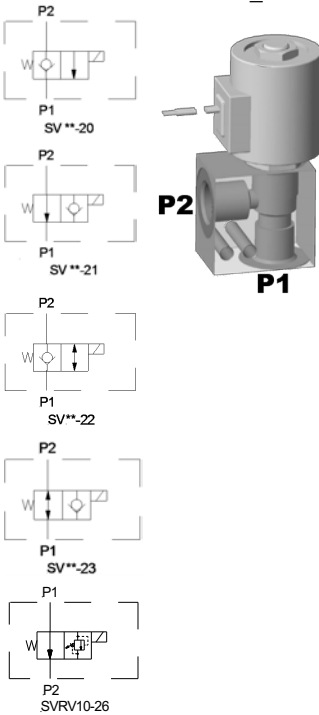
- Manifold dimensions, 50 x 50 x 32mm (excluding cartridge)
- \*Requires steel block over 240 bar
- Manual override available for most cartridges

# Solenoid Valves



## 2 Way, 2 Position

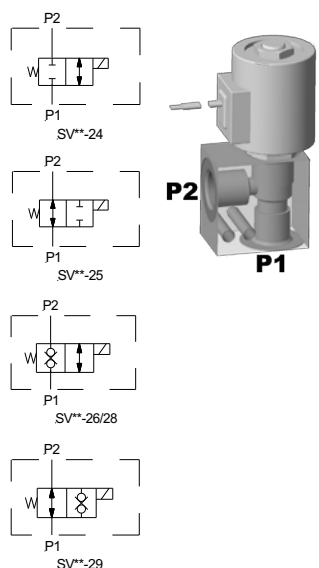
### HS1020P6\_B or HS1020P8\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SV10-20	57	240	N.C. poppet, one way	3/8"-1/2"	\$ 270.00
SV10-21	68	207	N.O. poppet, one way	3/8"-1/2"	\$ 309.00
SV10-22	57	240	N.C. poppet, both ways	3/8"-1/2"	\$ 275.00
SV10-23	68	207	N.O. poppet, both ways	3/8"-1/2"	\$ 321.00
SV10-24	57	207	N.C. spool, both ways	3/8"-1/2"	\$ 257.00
SV10-25	23	207	N.O. spool, both ways	3/8"-1/2"	\$ 270.00
SV10-28	76	240	N.C. blocking both ways	3/8"-1/2"	\$ 314.00
SV10-29	76	207	N.O. blocking both ways	3/8"-1/2"	\$ 332.00
SVRV10-26	83	297*	N.O. spool with fixed relief when closed	3/8"-1/2"	\$ 383.00
HS1020P6_B or HS1020P8_B manifold only \$ 86.00 HS1020P6S_B or HS1020P8S_B steel manifold only \$ 132.00					

- Manifold dimensions, 50 x 50 x 35mm (excluding cartridge)
- Manual override available for most cartridges
- \*Requires steel block over 240 bar

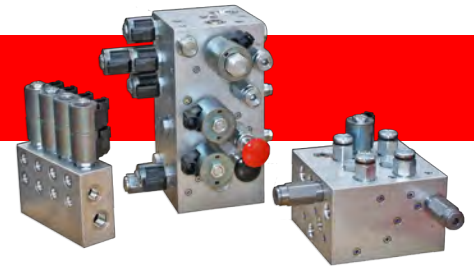
### HHS1020P8S



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
HSV10-20	76	350	N.C. poppet, one way	1/2"	\$ 380.00
HSV10-21	76	350	N.O. poppet, one way	1/2"	\$ 449.00
HSV10-22*	76	350	N.C. poppet, both ways	1/2"	\$ 392.00
HSV10-23*	76	350	N.O. poppet, both ways	1/2"	\$ 445.00
HSV10-24*	30	350	N.C. spool, both ways	1/2"	\$ 400.00
HSV10-25*	30	350	N.O. spool, both ways	1/2"	\$ 410.00
HSV10-28*	76	350	N.C. poppet, bi-directional blocking	1/2"	\$ 600.00
HSV10-29*	76	350	N.O. poppet, bi-directional blocking	1/2"	\$ 640.00
HHS1020P8S manifold only \$ 115.00					

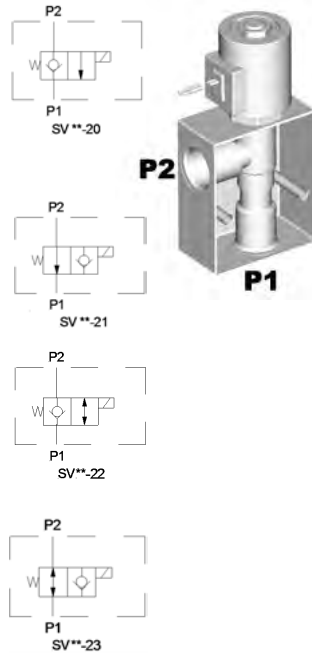
- E coil required
- Manifold dimensions, 50 x 50 x 35mm (excluding cartridge)
- Manual override available for most cartridges
- High performance cavity steel manifold
- HSV circuit diagram same as corresponding SV diagram
- \* Non-common stock item - Contact Hyspecs for lead time

## Solenoid Valves



### 2 Way, 2 Position

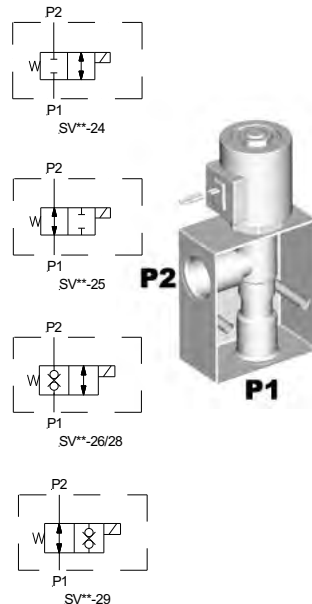
#### HS1220P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SV12-20	114	240	N.C. poppet, one way	3/4"	\$ 427.00
SV12-21	114	240	N.O. poppet, one way	3/4"	\$ 464.00
SV12-22	114	240	N.C. poppet, both ways	3/4"	\$ 439.00
SV12-23	114	240	N.O. poppet, both ways	3/4"	\$ 628.00
SV12-24*	76	240	N.C. spool, both ways	3/4"	\$ 602.00
SV12-25*	76	240	N.O. spool, both ways	3/4"	\$ 625.00
SV12-28	114	240	N.C. poppet, bi-directional blocking	3/4"	\$ 452.00
SV12-29	114	240	N.O. poppet, bi-directional blocking	3/4"	\$ 469.00
HS1220P12 manifold only \$ 155.00					

- Manifold dimensions, 85 x 75 x 50mm (excluding cartridge)
- Manual override available for most cartridges
- \* **Special 12-size E-coil**

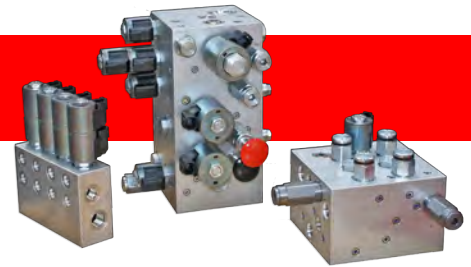
#### HHS1220P12S



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
HSV12-20	114	350	N.C. poppet, one way	3/4"	\$ 500.00
HSV12-21	114	350	N.O. poppet, one way	3/4"	\$ 565.00
HSV12-22*	114	350	N.C. poppet, both ways	3/4"	\$ 515.00
HSV12-23*	114	350	N.O. poppet, both ways	3/4"	\$ 650.00
HSV12-28*	114	350	N.C. poppet, bi-directional blocking	3/4"	\$ 665.00
HSV12-29*	114	350	N.O. poppet, bi-directional blocking	3/4"	\$ 700.00
HHS1220P12S manifold only \$ 200.00					

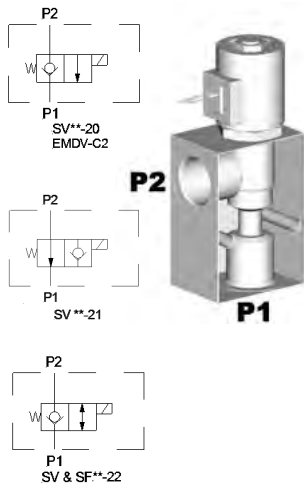
- E coil required
- Manifold dimensions, 75 x 75 x 40mm (excluding cartridge)
- Manual override available for most cartridges
- High performance cavity steel manifold
- HSV circuit diagram same as corresponding SV diagram
- \* Non-common stock item - Contact Hyspecs for lead time

# Solenoid Valves



## 2 Way, 2 Position

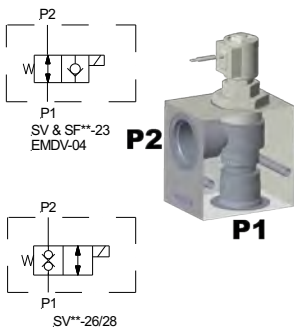
### HS1620P12 or P16



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SV16-20	151	240	N.C. poppet, one way	3/4"-1"	\$ 518.00
SV16-21	132	207	N.O. poppet, one way	3/4"-1"	\$ 550.00
SV16-22	151	240	N.C. poppet, both ways	3/4"-1"	\$ 521.00
SV16-23	132	207	N.O. poppet, both ways	3/4"-1"	\$ 561.00
EMDV-16-C2	190	350*	N.C. pilot operated poppet	3/4"-1"	\$ 639.00
EMDV-16-O4	190	350*	N.O. pilot operated poppet	3/4"-1"	\$ 699.00
HS1620P12 or P16 manifold only \$ 189.00 or \$ 207.00					
HS1620P16S steel manifold only \$ 290.00					

- Manifold dimensions, 100 x 70 x 50mm (excluding cartridge)
- Manual override available for most cartridges
- \*Requires steel block over 240 bar

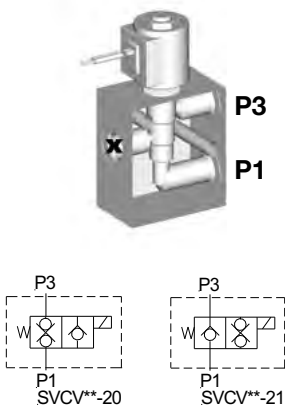
### HS2020U21S



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
SF20-22	303	350	N.C. poppet, 08 coil	1 5/16"	\$ 855.00
SF20-23	303	350	N.O. poppet, 08 coil	1 5/16"	\$ 912.00
SV20-28*	303	207	N.C. poppet, 12 E coil	1 5/16"	\$ 1237.00
HS2020U21S manifold only \$ 464.00					

- Manifold dimensions, 100 x 100 x 75mm (excluding cartridge)
- Steel manifold
- \* Non-common stock item - Contact Hyspecs for lead time

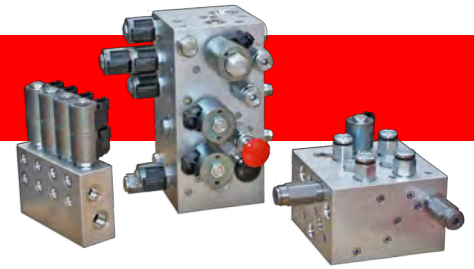
### HS0830P4 or P6



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SVCV08-20	23	207	N.C. poppet with outlet flow check	1/4"-3/8"	\$ 323.00
SVCV08-21*	23	207	N.O. poppet with outlet flow check		\$348.00
HS0830P4 or P6 manifold only \$ 127.00					

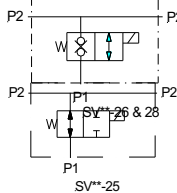
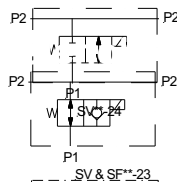
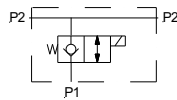
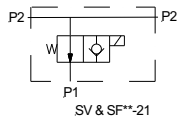
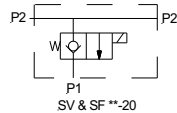
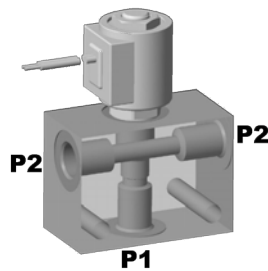
- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- Manual override available for most cartridges
- \* Non-common stock item - Contact Hyspecs for lead time

## Solenoid Valves



### 2 Way, 2 Position

HS0820P4T\_B or HS0820P6T\_B

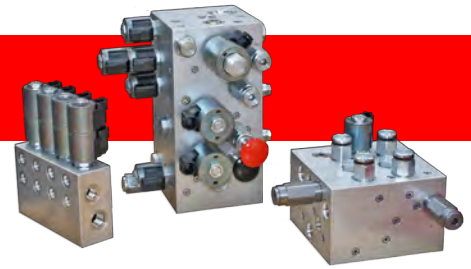


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SV08-20	30	207	N.C. poppet, one way	1/4"-3/8"	\$ 249.00
SF08-20	27	350*	High Pressure	1/4"-3/8"	\$ 274.00
SV08-21	38	207	N.O. poppet, one way	1/4"-3/8"	\$ 279.00
SF08-21	38	350*	High pressure	1/4"-3/8"	\$ 331.00
SV08-22	30	207	N.C. poppet, both ways	1/4"-3/8"	\$ 264.00
SF08-22	23	350*	High pressure	1/4"-3/8"	\$ 334.00
SV08-23	30	207	N.O. poppet, both ways	1/4"-3/8"	\$ 314.00
SF08-23	38	350*	High pressure	1/4"-3/8"	\$ 348.00
SV08-24	17	207	N.C. spool, both ways	1/4"-3/8"	\$ 249.00
SV08-25	9	207	N.O. spool, both ways	1/4"-3/8"	\$ 259.00
SV08-26	2	207	N.C. blocking both ways	1/4"-3/8"	\$ 259.00
SV38-26	3.4	207	N.C. blocking both ways	1/4"-3/8"	\$ 319.00
SV08-28	11	207	N.C. blocking both ways	1/4"-3/8"	\$ 277.00
SV38-28	19	207	N.C. blocking both ways	1/4"-3/8"	\$ 430.00
HS0820P4T_B or P6T_B manifold only					\$ 113.00

- Manifold dimensions, 75 x 50 x 40mm (excluding cartridge)
- Manual override available for most cartridges
- \*Requires steel block over 240 bar – *contact Hyspecs for pricing*

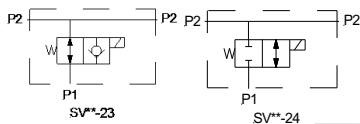
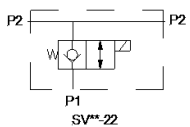
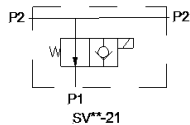
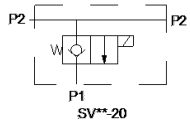
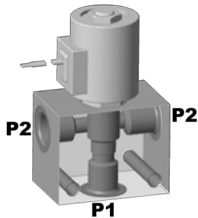


# Solenoid Valves



## 2 Way, 2 Position

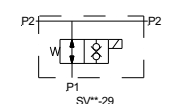
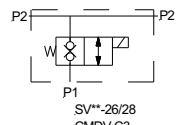
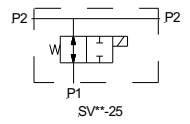
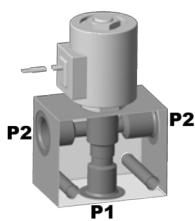
### HS1020P6T\_B or HS1020P8T\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SV10-20	57	240	N.C. poppet, one way	3/8"-1/2"	\$ 286.00
SV10-21	68	207	N.O. poppet, one way	3/8"-1/2"	\$ 325.00
SV10-22	57	240	N.C. poppet, both ways	3/8"-1/2"	\$ 291.00
SV10-23	68	207	N.O. poppet, both ways	3/8"-1/2"	\$ 337.00
SV10-24	57	207	N.C. spool, both ways	3/8"-1/2"	\$ 273.00
SV10-25	23	207	N.O. spool, both ways	3/8"-1/2"	\$ 286.00
SV10-28	76	240	N.C. poppet blocking bi-directional	3/8"-1/2"	\$ 330.00
SV10-29	76	207	N.O. poppet blocking bi-directional	3/8"-1/2"	\$ 348.00
HS1020P6T_B or P8T_B manifold only \$ 102.00					

- Manifold dimensions, 75 x 60 x 37mm (excluding cartridge)
- \*Requires steel block over 240 bar – *contact Hyspecs* for pricing
- Manual override available for most cartridges

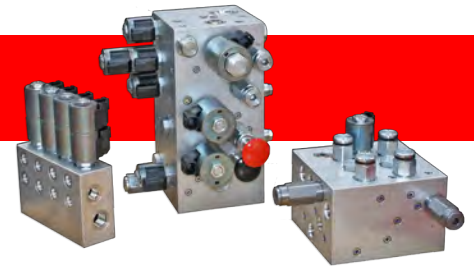
### HHS1020P8TS



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
HSV10-20	76	350	N.C. poppet, one way	1/2"	\$ 395.00
HSV10-21	76	350	N.O. poppet, one way	1/2"	\$ 464.00
HSV10-22*	76	350	N.C. poppet, both ways	1/2"	\$ 407.00
HSV10-23*	76	350	N.O. poppet, both ways	1/2"	\$ 460.00
HSV10-24*	30	350	N.C. spool, both ways	1/2"	\$ 415.00
HSV10-25*	30	350	N.O. spool, both ways	1/2"	\$ 425.00
HSV10-28*	76	350	N.C. poppet, bi-directional blocking	1/2"	\$ 615.00
HSV10-29*	76	350	N.O. poppet, bi-directional blocking	1/2"	\$ 655.00
HHS1020P8TS manifold only \$ 130.00					

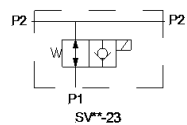
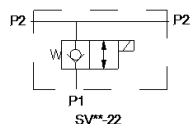
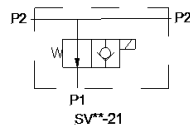
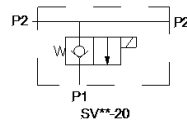
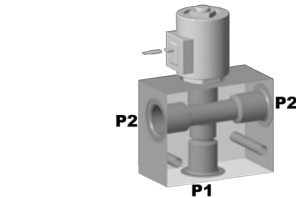
- E coil required
- Manifold dimensions, 75 x 60 x 37mm (excluding cartridge)
- Manual override available for most cartridges
- High performance cavity steel manifold
- HSV circuit diagram same as corresponding SV diagram
- \* Non-common stock item - *Contact Hyspecs* for lead time

## Solenoid Valves



### 2 Way, 2 Position

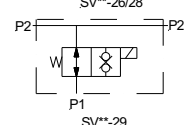
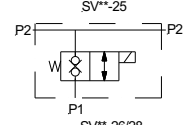
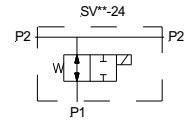
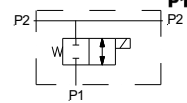
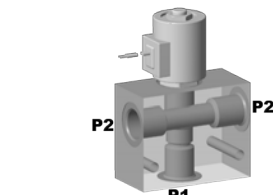
#### HS1220P12T\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SV12-20	114	240	N.C. poppet, one way	3/4"	\$ 444.00
SV12-21	114	240	N.O. poppet, one way	3/4"	\$ 481.00
SV12-22	114	240	N.C. poppet, both ways	3/4"	\$ 456.00
SV12-23	114	240	N.O. poppet, both ways	3/4"	\$ 645.00
SV12-24*	76	240	N.C. spool, both ways	3/4"	\$ 619.00
SV12-25*	76	240	N.O. spool, both ways	3/4"	\$ 642.00
SV12-28	114	240	N.C. poppet, bi-directional blocking	3/4"	\$ 469.00
SV12-29	114	240	N.O. poppet, bi-directional blocking	3/4"	\$ 486.00
HS1220P12T_B manifold only \$ 172.00					

- Manifold dimensions, 100 x 80 x 50mm (excluding cartridge)
- Manual override available for most cartridges
- \* Special size 12 E-coil

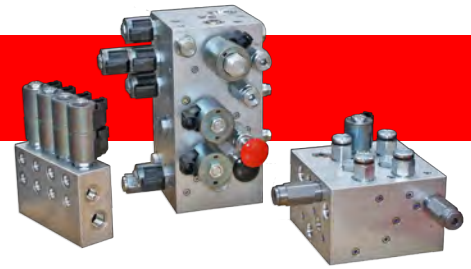
#### HHS1220P12TS



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
HSV12-20	114	350	N.C. poppet, one way	3/4"	\$ 575.00
HSV12-21	114	350	N.O. poppet, one way	3/4"	\$ 640.00
HSV12-22*	114	350	N.C. poppet, both ways	3/4"	\$ 590.00
HSV12-23*	114	350	N.O. poppet, both ways	3/4"	\$ 725.00
HSV12-28*	114	350	N.C. poppet, bi-directional blocking	3/4"	\$ 740.00
HSV12-29*	114	350	N.O. poppet, bi-directional blocking	3/4"	\$ 775.00
HHS1220P12TS manifold only \$ 210.00					

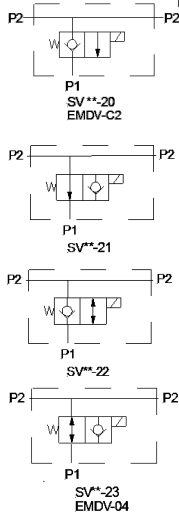
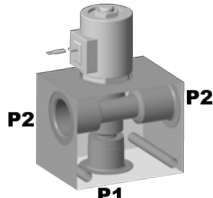
- E coil required
- Manifold dimensions, 100 x 80 x 50mm (excluding cartridge)
- Manual override available for most cartridges
- Steel manifold
- HSV circuit diagram same as corresponding SV diagram
- \* Non-common stock item - Contact Hyspecs for lead time

# Solenoid Valves



## 2 Way, 2 Position

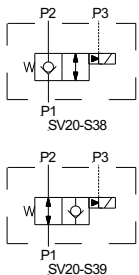
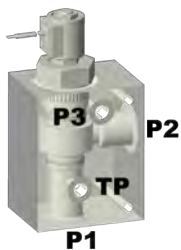
### HS1620P12T\_B or HS1620P16T\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SV16-20	151	240	N.C. poppet, one way	3/4"-1"	\$ 541.00
SV16-21	132	207	N.O. poppet, one way	3/4"-1"	\$ 573.00
SV16-22	151	240	N.C. poppet, both ways	3/4"-1"	\$ 544.00
SV16-23	132	207	N.O. poppet, both ways	3/4"-1"	\$ 584.00
EMDV-16-C2	190	350*	N.C. pilot operated poppet	3/4"-1"	\$ 662.00
EMDV-16-O4	190	350*	N.O. pilot operated poppet	3/4"-1"	\$ 722.00
HS1620P12T_B or P16T_B manifold only \$ 212.00 or \$ 223.00 HS1620P12TS_B steel manifold only \$ 315.00					

- Manifold dimensions, 100 x 80 x 50mm (excluding cartridge)
- \*Requires steel block over 240 bar
- Manual override available for most cartridges

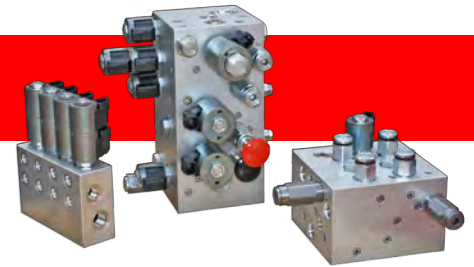
### HS2025P16



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SV20-S38	378	293*	N.C. pilot operated poppet, 1/4" pilot	1", 1/4" P3 &	\$ 793.00
SV20-S39	378	293*	N.O. pilot operated poppet, 1/4" pilot	TP	\$ 842.00
HS2025P16 manifold only \$ 378.00					

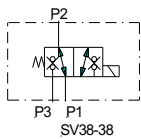
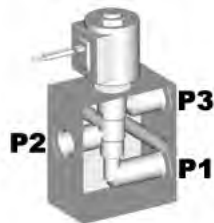
- Manifold dimensions, 126 x 100 x 75mm (excluding cartridge)
- \*Requires steel block over 240 bar – contact Hyspecs for pricing
- Size 8 coil
- TP port on P1

## Solenoid Valves

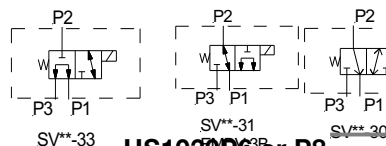


### 3 Way, 2 Position

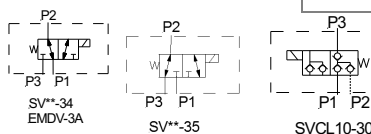
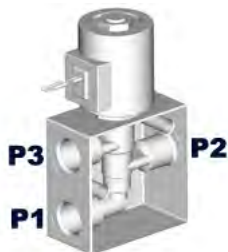
#### HS0830P4 or P6



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SV08-30	15	207	Common at 2	1/4"-3/8"	\$ 305.00
SV58-30	15	350*	High pressure	1/4"-3/8"	\$ 375.00
SV08-31	11	207	Common at 1	1/4"-3/8"	\$ 305.00
SV08-33	11	207	Common at 1	1/4"-3/8"	\$ 305.00
SV08-35	11	207	Common at 2	1/4"-3/8"	\$ 305.00
SV38-38	11	207	Common at 2, double blocking	1/4"-3/8"	\$ 415.00
HS0830P4 or P6 manifold only \$ 127.00 HS0830P4S or P6S steel manifold only \$ 183.00					



#### HS1030P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SV10-31	23	207	Common at 1	3/8"-1/2"	\$ 327.00
SV10-33	19	207	Common at 1	3/8"-1/2"	\$ 339.00
SV10-34	23	207	Common at 2	3/8"-1/2"	\$ 342.00
EMDV-10-3B	30	350*	Common at 1	3/8"-1/2"	\$ 452.00
SVCL10-30	57	240	N.C. with L.S. check	3/8"-1/2"	\$ 342.00
HS1030P6 or P8 manifold only \$ 132.00 HS1030P6S or P8S steel manifold only \$ 175.00 or \$ 212.00					

#### HS1230P12

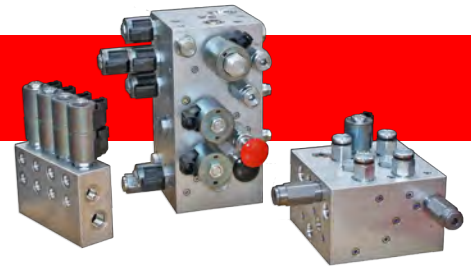


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SV12-31	65	240	Common at 1	3/4"	\$ 732.00
SV12-33	65	240	Common at 1	3/4"	\$ 684.00
SV12-34	65	240	Common at 2	3/4"	\$ 732.00
EMDV-12-3A	60	350*	Common at 2	3/4"	\$ 686.00
EMDV-12-3B	60	350*	Common at 1	3/4"	\$ 691.00
HS1230P12 manifold only \$ 241.00 HS1230P12S steel manifold only \$ 355.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- \*Requires steel block over 240 bar
- Manual override available for most cartridges

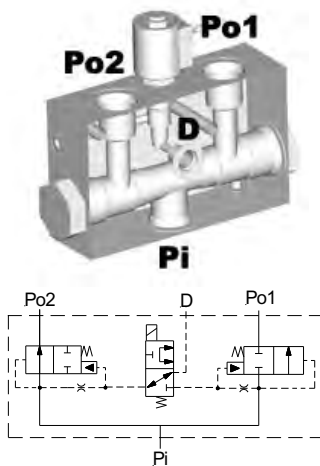
- Manifold dimensions, 100 x 75 x 37mm (excluding cartridge)
- \*Requires steel block over 240 bar
- Manual override available for most cartridges
- Size 12 E Coil for SV12

## Solenoid Valves



### 3 Way, 2 Position

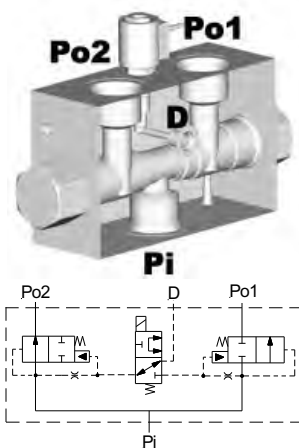
**HS9396U17C**



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
EV16-S34 x 2 + SV08-31	190	207	Flow from P to A or B only. Drain port (9/16"UNO) must be connected directly to tank.	1 1/16" D 9/16"	\$ 1093.00
HS9396U17C manifold only \$ 515.00					

- Manifold dimensions, 160 x 100 x 50mm (excluding cartridges)

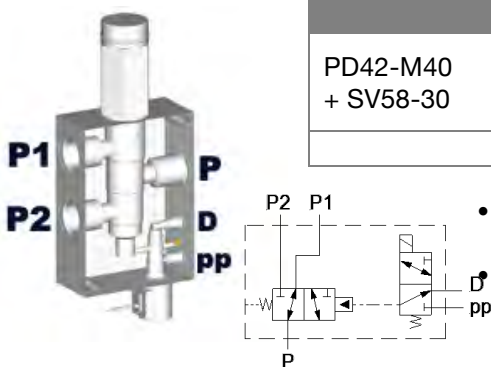
**HS9397U26C**



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
EV20-S34 x 2 + SV08-31	380	207	Flow from P to A or B only. Drain port (9/16"UNO) must be connected directly to tank.	1 5/8" D 9/16"	\$ 1408.00
HS9397U26C manifold only \$ 530.00					

- Manifold dimensions, 200 x 125 x 75mm (excluding cartridges)

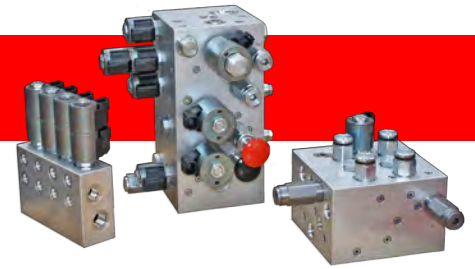
**HS9603P16BS**



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PD42-M40 + SV58-30	265	350	Flow both ways	1" D& PP 1/4"	\$ 1587.00
HS9603P16BS manifold only \$ 715.00					

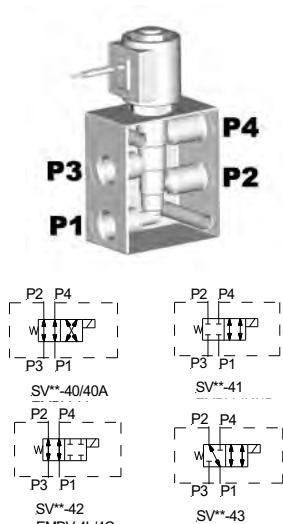
- Manifold dimensions, 170 x 100 x 75mm (excluding cartridges)  
Steel manifold

## Solenoid Valves



### 4 Way, 2 Position

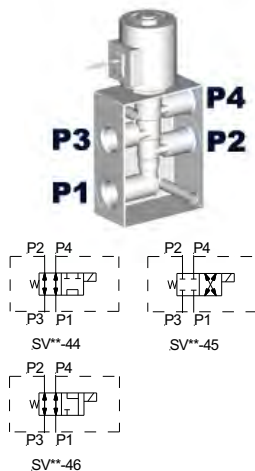
#### HS0840P4 or P6



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SV08-40	11	207	Cross over	1/4"-3/8"	\$ 337.00
SV58-40	11	350*	High pressure	1/4"-3/8"	\$ 337.00
SV08-41	13	207	N.C.	1/4"-3/8"	\$ 337.00
SV58-41	13	350*	High pressure, N.C.	1/4"-3/8"	\$ 424.00
SV08-42	11	207	N.O.	1/4"-3/8"	\$ 337.00
SV08-43	11	207	P4 to P1 N.O.	1/4"-3/8"	\$ 337.00
SV08-44	11	207	N.O. to tandem	1/4"-3/8"	\$ 337.00
SV08-45	11	207	N.C. to cross open	1/4"-3/8"	\$ 337.00
SV08-46	11	207	N.O. to motor spool	1/4"-3/8"	\$ 337.00
HS0840P4 or P6 manifold only \$ 138.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- \*Requires steel block over 240 bar – *contact Hyspecs* for pricing

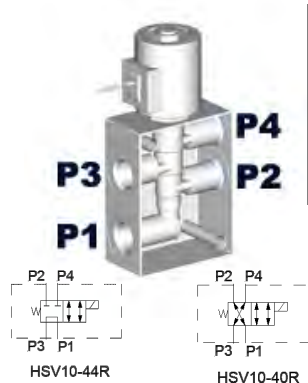
#### HS1040P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SV10-40	23	207	Cross over, open on changeover	3/8"-1/2"	\$ 365.00
SV10-40A	38	207	Cross over, closed on changeover	3/8"-1/2"	\$ 365.00
SV10-41	23	207	N.C.	3/8"-1/2"	\$ 365.00
SV10-42	23	207	N.O.	3/8"-1/2"	\$ 373.00
SV10-43	23	207	4 to 1 N.O.	3/8"-1/2"	\$ 373.00
SV10-44	23	207	N.O. to tandem	3/8"-1/2"	\$ 362.00
HS1040P6 or P8 manifold only \$ 150.00					

- Manifold dimensions, 100 x 65 x 37mm (excluding cartridge)

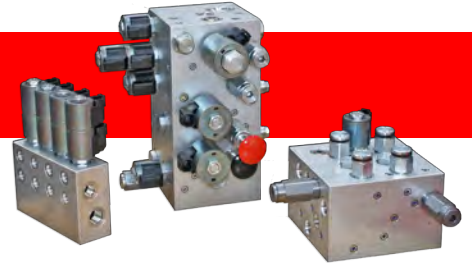
#### HHS1040P8S



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
HSV10-40R*	23	350	Reverse cross over	1/2"	\$ 480.00
HSV10-44R*	37	350	Tandem when de-energised	1/2"	\$ 480.00
HHS1040P8S manifold only \$160.00					

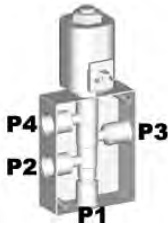
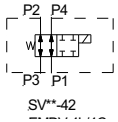
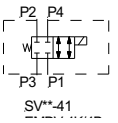
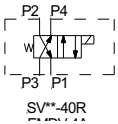
- E coil required
- Manifold dimensions, 100 x 65 x 37mm (excluding cartridge)
- High performance cavity steel manifold
- *HSV circuit diagram same as corresponding SV diagram*
- \* Non-common stock item - *Contact Hyspecs* for lead time

## Solenoid Valves



### 4 Way, 2 Position

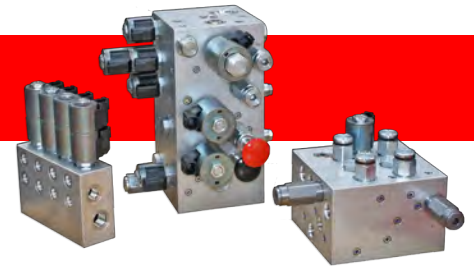
#### HS1240P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SV12-40R	65	240	Reverse cross over	3/4"	\$ 751.00
SV12-41	65	240	N.C.	3/4"	\$ 755.00
SV12-42*	65	240	N.O.	3/4"	\$ 692.00
HS1240P12 manifold only \$ 252.00					

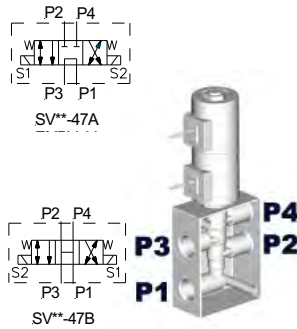
- Manifold dimensions, 130 x 100 x 37mm (excluding cartridge)
- Size 12 E Coil
- \* Non-common stock item - *Contact Hyspecs* for lead time

## Solenoid Valves

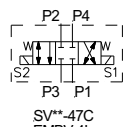


### 4 Way, 3 Position

#### HS0840P4 or P6

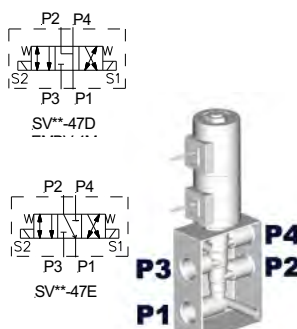


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SV08-47A	4	207	Tandem centre	1/4"-3/8"	\$ 451.00
SV08-47B	11	207	Open centre	1/4"-3/8"	\$ 451.00
SV08-47C	11	207	Closed centre (CC)	1/4"-3/8"	\$ 451.00
SV08-47D	11	207	Motor spool (MS)	1/4"-3/8"	\$ 451.00
SV08-47E	11	207	P & B blocked, A to T in neutral	1/4"-3/8"	\$ 451.00
HS0840P4 or P6 manifold only \$ 138.00					



- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)

#### HS1040P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SV10-47A	19	240	Tandem centre	3/8"-1/2"	\$ 557.00
SV10-47B	23	207	Open centre	3/8"-1/2"	\$ 557.00
SV10-47C	23	240	Closed centre (CC)	3/8"-1/2"	\$ 541.00
SV10-47D	23	207	Motor spool (MS)	3/8"-1/2"	\$ 541.00
SV10-47E	30	250	P & B blocked, A to T in neutral	3/8"-1/2"	\$ 605.00
SV10-47F	15	240	Tandem centre	3/8"-1/2"	\$ 605.00
HS1040P6 or P8 manifold only \$ 150.00					

- Manifold dimensions, 99 x 65 x 39mm (excluding cartridge)

#### HHS1040P8S

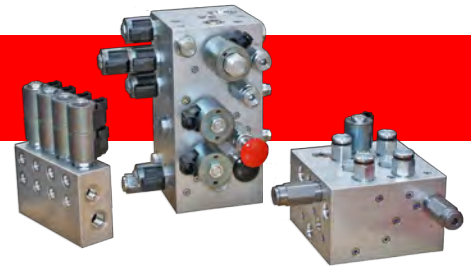


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
HSV10-47C	38	350	Closed centre (CC)	1/2"	\$ 785.00
HSV10-47D	34	350	Motor spool (MS)	1/2"	\$ 785.00
HHS1040P8S manifold only \$ 160.00					

- E coil required
- Manifold dimensions, 99 x 65 x 39mm (excluding cartridge)
- HyPerformance Steel manifold
- HSV circuit diagram same as corresponding SV diagram

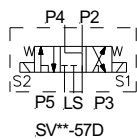
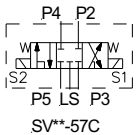
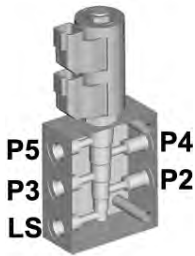


## Solenoid Valves



### 5 Way, 3 Position, with Load Sense Port or Power Beyond

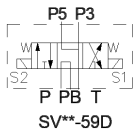
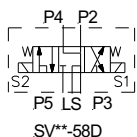
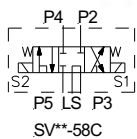
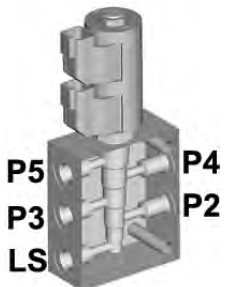
#### HS0850P4 or P6\*



Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SV08-58C*	13	240	Closed centre load sense vents at neutral	1/4"-3/8"	\$ 622.00
SV08-58D	13	240	Motor spool load sense vents at neutral	1/4"-3/8"	\$ 622.00
HS0850P4 or P6 manifold only \$ 245.00					

- Manifold dimensions 100 x 75 x 37mm (excluding cartridge)
- The assembly price includes leadwires coils
- \* Non-common stock item - *Contact Hyspecs* for lead time
- Optional load sense check valve disc CVD08 (\$34) can be fit into the bottom of SV08

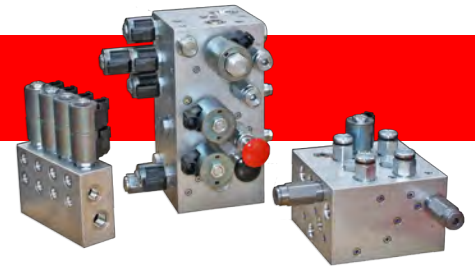
#### HS1050P6\_B or P8\_B



Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SV10-57C	20	250*	Closed centre with closed load sense port	3/8"-1/2"	\$ 623.00
SV10-57D	20	250*	Motor spool with closed load sense port	3/8"-1/2"	\$ 623.00
SV10-58C	30	250*	Closed centre load sense vents At neutral	3/8"-1/2"	\$ 727.00
SV10-58D	30	250*	Open centre load sense vents at neutral	3/8"-1/2"	\$ 727.00
SV10-59D**	15	207	Motor spool with power beyond	3/8"-1/2"	\$ POA
HS1050P6_B or P8_B manifold only \$ 252.00					

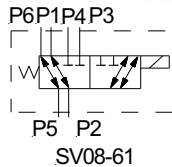
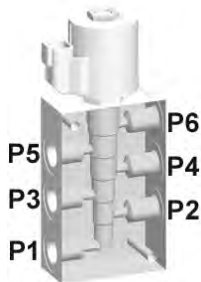
- Manifold dimensions, 110 x 75 x 39mm (excluding cartridge)
- The assembly price includes leadwires coils
- \*Requires steel block over 240 bar – *contact Hyspecs* for pricing
- \*\*Non common stock item – *contact Hyspecs* for lead time
- Optional load sense check valve disc CVD10 (\$38) can be fit into the bottom of SV10

## Solenoid Valves



### 6 Way, 2 Position

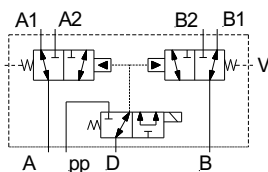
HS1060P6 or P8\*



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SV80-61*	7.6	207	6 port selector	3/8"-1/2"	\$ 597.00
HS1060P6 or P8 manifold only \$ 280.00					

- Manifold dimensions, 120 x 75 x 37mm (excluding cartridges)
- \* Non-common stock item – *Contact Hyspecs* for lead time
- The assembly price includes leadwires coils

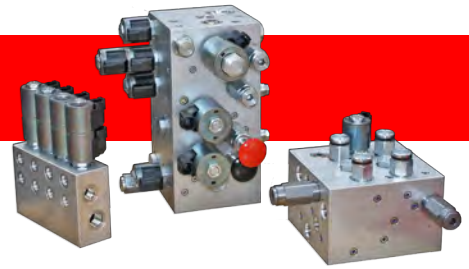
HS9606P16CS



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PD42-M40 x 2 + SV08-31	260	350	6 port selector	1" ¼" D & pp	\$ 2569.00
HS9606P16CS manifold only \$ 1143.00					

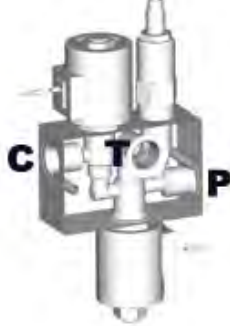
- Manifold dimensions, 150 x 150 x 100mm (excluding cartridges)
- Steel manifold
- Spring chamber vents to atmosphere

# Solenoid Valves

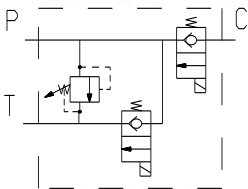


## Single Acting Cylinder Lift / Lower Valves

**HS9604P8C**



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SV10-20 x 2 + RV10-26	56	240	Normally up	1/2"	\$ 800.00
SV10-20 + SV10-21 + RV10-26	56	207	Normally hold	1/2"	\$ 839.00
HS9604P8C manifold only \$ 257.00					

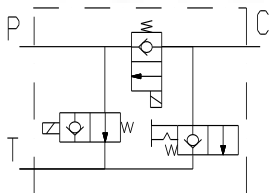


- Manifold dimensions, 99 x 65 x 39mm (excluding cartridges)

**HS9607P6C**

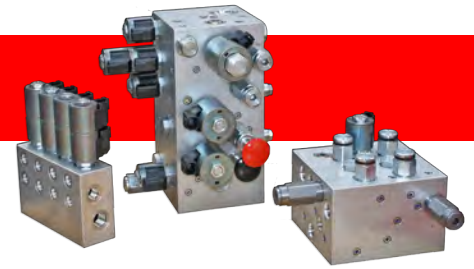


Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SV10-20 + SV10-21 + MP10-20	56	207	Manual override	3/8"	\$ 802.00
HS9607P6C manifold only \$ 257.00					



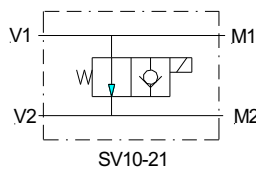
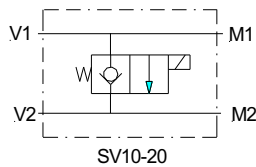
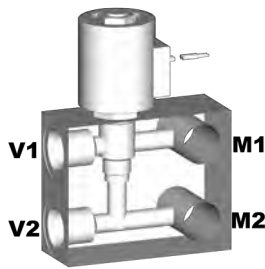
- Manifold dimensions, 110 x 75 x 37mm (excluding cartridges)

## Solenoid Valves



### Start / Stop Valves - Motor Banjo Bolt Mounted

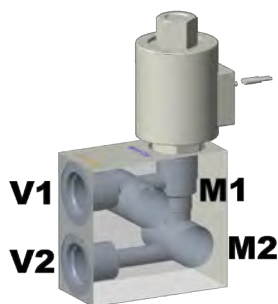
#### HS7001U14A



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
SV10-20	56	190	1.8" port centre, suits H S & T series, N.C. 7/8" banjo bolts (BB-14L x 2)	7/8"	\$ 460.00
SV10-21	56	190	1.8" port centre, suits H S & T series, N.O. 7/8" banjo bolts (BB-14L x 2)	7/8"	\$ 499.00
HS7001U14A manifold only \$ 184.00					

- Manifold dimensions, 99 x 80 x 39mm (excluding cartridge)

#### HS7013U14A



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
SV10-20	56	240	Suits 2000 series, N.C. 7/8" banjo bolts (BB-14L x 2)	7/8"	\$ 460.00
SV10-21	68	207	Suits 2000 series, N.O. 7/8" banjo bolts (BB-14L x 2)	7/8"	\$ 499.00
HS7013U14A manifold only \$ 184.00					

- Manifold dimensions, 80 x 75 x 39mm (excluding cartridge)

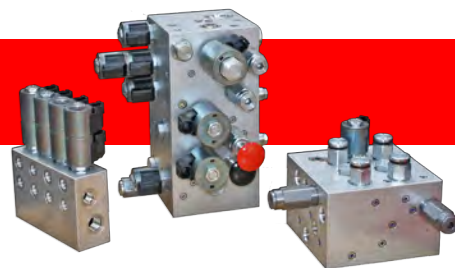
## Contents Section E – Motion Controls

### **E1 Counterbalance Valves**

- E1 Single In-Line
- E2 Single In-Line With Brake Release
- E3 Double In-Line
- E6 Double In-Line With Brake Release
- E7 Single Pad Mounted
- E9 Double Pad Mounted
- E11 Banjo Bolt Mounted – Char-Lynn H, S & T Series
- E13 Banjo Bolt Mounted – Char-Lynn 2000 Series
- E14 Banjo Bolt Mounted – Char-Lynn 4000 Series
- E15 Banjo Bolt Mounted – Char-Lynn 6000 Series
- E16 Banjo Bolt Mounted – Char-Lynn 10000 Series
- E16 Banjo Bolt Mounted – Motor Torque Limiting Valves

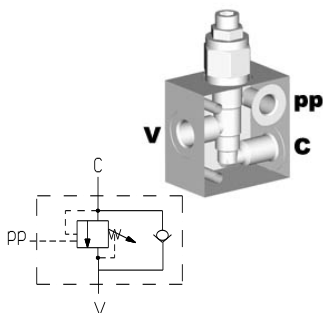
### **E17 Regenerative Valves**

## Counterbalance Valves



### Single In-Line

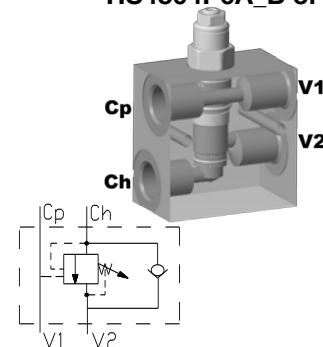
#### HS4508P6A



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBPA-08	38	350*	4:1 pilot ratio	3/8"	\$ 287.00
HS4508P6A manifold only \$ 132.00					

- Manifold dimensions, 62.5 x 62.5 x 38mm (excluding cartridge)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

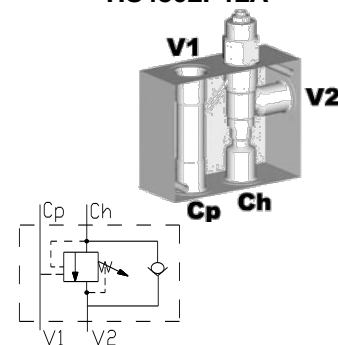
#### HS4504P6A\_B or P8A\_B



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBCG-LJN	60	350*	4.5:1 pilot ratio	3/8"-1/2"	\$ 317.00
CBCH-LJN	60	350*	10:1 pilot ratio	3/8"-1/2"	\$ 337.00
HS4504P6A_B or P8A_B manifold only \$ 147.00					
HS4504P6AS_B or P8AS_B steel manifold only \$ 220.00					

- Manifold dimensions, 75.5 x 75 x 45mm (excluding cartridge)
- \* Requires steel block over 240 bar

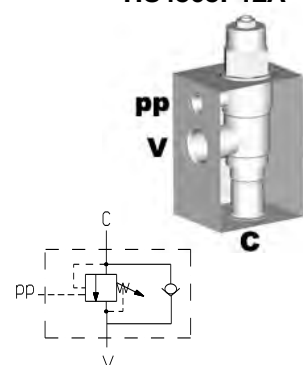
#### HS4502P12A



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBEG-LJN	120	350*	4.5:1 pilot ratio	3/4"	\$ 440.00
CBEH-LJN	120	350*	10:1 pilot ratio	3/4"	\$ 460.00
HS4502P12A manifold only \$ 180.00					
HS4502P12AS steel manifold only \$ 330.00					

- Manifold dimensions, 125 x 100 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar

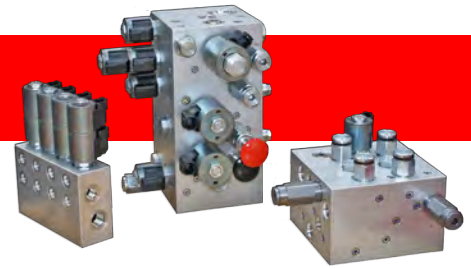
#### HS4505P12A



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBGG-LJN	240	350*	4.5:1 pilot ratio	3/4" & 1/4"	\$ 750.00
HS4505P12A manifold only \$ 300.00					
HS4505P12AS steel manifold only \$ 593.00					

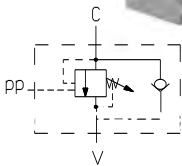
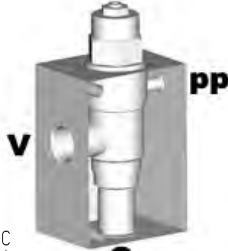
- Manifold dimensions, 110 x 75 x 62.5mm (excluding cartridge)
- \* Requires steel block over 240 bar

## Counterbalance Valves



### Single In-Line

HS4506P16S

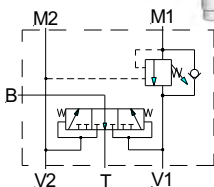
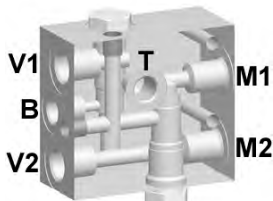


Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBIG-LJN	480	350	4.5:1 pilot ratio	1" & 1/4" pp	\$ 1675.00
HS4506P16S manifold only \$ 675.00					

- Manifold dimensions, 150 x 100 x 75mm (excluding cartridge)
- Steel block

### Single In-Line With Brake Release

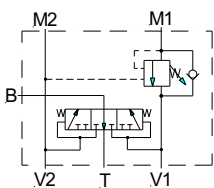
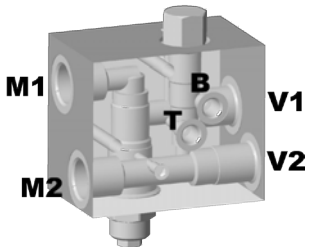
HS4513P8BB\_B



Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBCG-LJN + HBV10-40	60	350*	4.5:1 ratio, brake release	1/2" 1/4" B, T	\$ 631.00
HS4513P8BB_B manifold only \$ 241.00					

- Manifold dimensions, 110 x 100 x 50mm (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

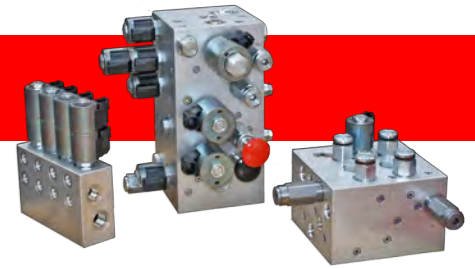
HS4527P12BB



Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBEG-LJN +HBV10-40	120	350*	4.5:1 ratio, brake release	3/4" 1/4" B, T	\$ 744.00
HS4527P12BB manifold only \$ 264.00					

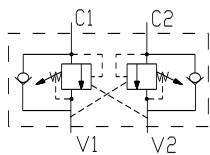
- Manifold dimensions, 115 x 100 x 75mm (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

## Counterbalance Valves



### Double In-Line

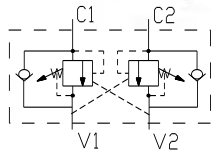
#### HS4608P6B



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBPA-08 x 2	38	350*	4:1 pilot ratio	3/8"	\$ 499.00
HS4608P6B manifold only \$ 189.00					
HS4608P6BS steel manifold only \$ 264.00					

- Manifold dimensions, 75 x 70 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar

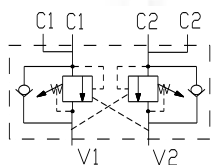
#### HS4605P8B



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBCG-LJN x 2	60	350*	4.5:1 pilot ratio, compact design	1/2"	\$ 529.00
CBCH-LJN x 2	60	350*	10:1 pilot ratio, compact design	1/2"	\$ 569.00
HS4605P8B manifold only \$ 189.00					
HS4605P8BS steel manifold only \$ 285.00					

- Manifold dimensions, 100 x 75 x 50mm (excluding cartridges)
- \* Requires steel block over 240 bar

#### HS4606P8B

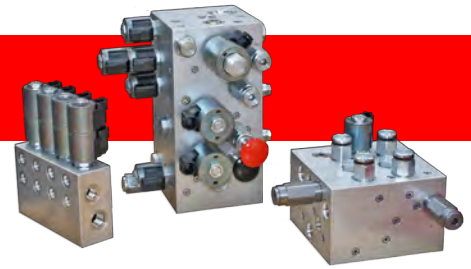


Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBCG-LJN x 2	60	350*	4.5:1 pilot ratio, through ports on C	1/2"	\$ 579.00
CBCH-LJN x 2	60	350*	10:1 pilot ratio, through ports on C	1/2"	\$ 619.00
HS4606P8B manifold only \$ 239.00					

- Manifold dimensions, 100 x 75 x 50mm (excluding cartridges)
- \* Requires steel block over 240 bar

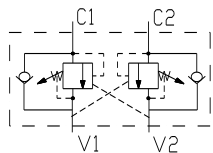
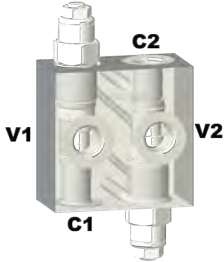


## Counterbalance Valves



### Double In-Line

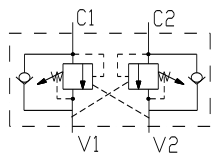
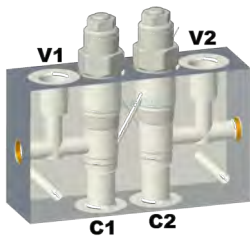
#### HS4611P6B or P8B



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBCG-LJN x 2	60	350*	4.5:1 pilot ratio, compact design	3/8" - 1/2"	\$ 520.00
CBCH-LJN x 2	60	350*	10:1 pilot ratio, compact design	3/8" - 1/2"	\$ 560.00
HS4611P6B or P8B manifold only \$180.00					

- Manifold dimensions, 75 x 75 x 40mm for HS4611P6B and 80 x 75 x 50mm for HS4611P8B (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

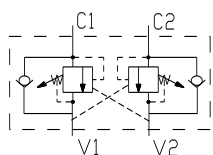
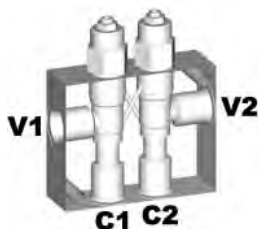
#### HS4613P6B\*



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBCG-LJN x 2	60	350**	4.5:1 pilot ratio, compact design	3/8"	\$ 520.00
CBCH-LJN x 2	60	350**	10:1 pilot ratio, compact design	3/8"	\$ 560.00
HS4613P6B manifold only \$180.00					

- Manifold dimensions, 125 x 75 x 40mm (excluding cartridges)
- \* Non-common stock item - Contact Hyspecs for lead time
- \*\* Requires steel block over 240 bar – call Hyspecs for pricing

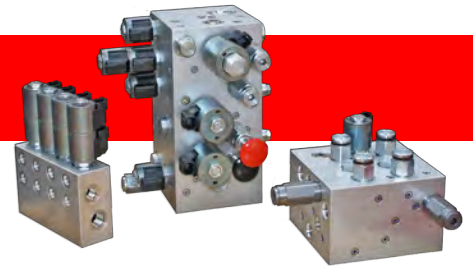
#### HS4602P12B



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBEG-LJN x 2	120	350*	4.5:1 pilot ratio	3/4"	\$ 785.00
CBEH-LJN x 2	120	350*	10:1 pilot ratio	3/4"	\$ 825.00
HS4602P12B manifold only \$ 265.00					

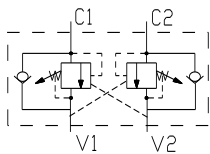
- Manifold dimensions, 120 x 99 x 39mm (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

## Counterbalance Valves



### Double In-Line

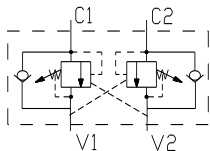
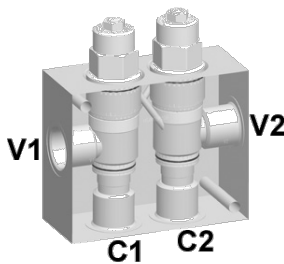
#### HS4615P12B\*



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBEG-LJN x 2	120	350**	4.5:1 pilot ratio	3/4"	\$ 785.00
CBEH-LJN x 2	120	350**	10:1 pilot ratio	3/4"	\$ 825.00
HS4615P12B manifold only \$ 265.00					

- Manifold dimensions, 100 x 80 x 75mm (excluding cartridges)
- \* Non-common stock item - *Contact Hyspecs for lead time*
- \*\* Requires steel block over 240 bar – *call Hyspecs for pricing*

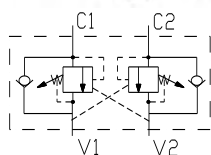
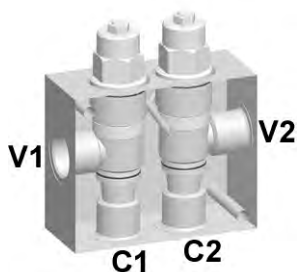
#### HS4603P16B



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBGG-LJN x 2	240	350*	4.5:1 pilot ratio	1"	\$ 1300.00
HS4603P16B manifold only \$ 400.00					

- Manifold dimensions, 165 x 125 x 60mm (excluding cartridges)
- \* Requires steel block over 240 bar – *call Hyspecs for pricing*

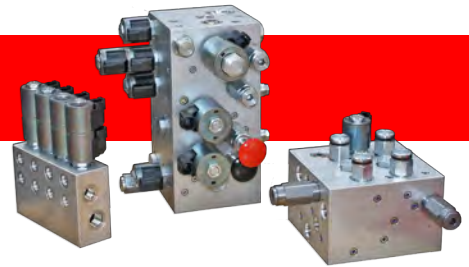
#### HS4609P20B



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBIG-LJN x 2	480	350*	4.5:1 pilot ratio	1.25"	\$ 2670.00
HS4609P20B manifold only \$ 670.00					

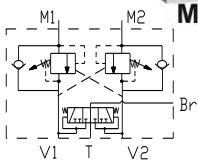
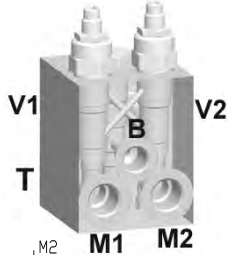
- Manifold dimensions, 180 x 150 x 75mm (excluding cartridges)
- \* Requires steel block over 240 bar – *call Hyspecs for pricing*

## Counterbalance Valves



### Double In-Line With Brake Release

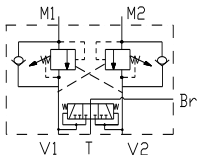
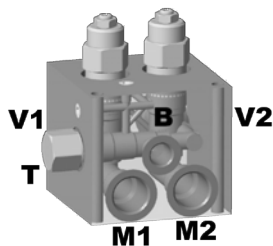
HS4514P8CB\_B



Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBCG-LJN x 2 + HBV10-40	60	350*	4.5:1 ratio, brake release	1/2" 1/4" B, T	\$ 892.00
HS4514P8CB_B manifold only \$ 332.00					

- Manifold dimensions, 95 x 75 x 75mm (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

HS4528P12CB\*

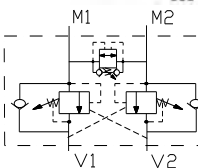


Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBEG-LJN x 2 + HBV10-40	120	350**	4.5:1 ratio, brake release	3/4" 1/4" B, T	\$ 1140.00
HS4528P12CB manifold only \$ 400.00					

- Manifold dimensions, 100 x 100 x 95mm (excluding cartridges)
- \* Non-common stock item - Contact Hyspecs for lead time
- \*\* Requires steel block over 240 bar – call Hyspecs for pricing

### Double In-Line With Cross-Line Relief

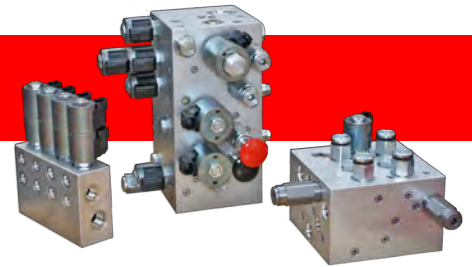
HS4638P6CR



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBPA-08 X 2 + RVBD-08	38	350*	4:1 pilot ratio	3/8"	\$ 778.00
HS4638P6CR manifold only \$ 293.00					

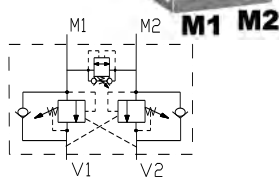
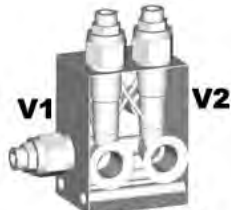
- Manifold dimensions, 75 x 62 x 50mm (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

## Counterbalance Valves



### Double In-Line With Cross-Line Relief

HS4639P8CR

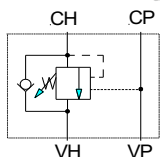
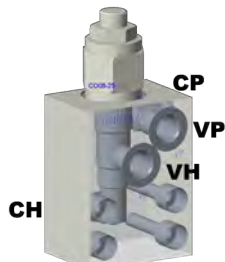


Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBCG-LJN X 2 + RVBD-10	60	350*	4.5:1 pilot ratio	1/2"	\$ 825.00
HS4639P8CR manifold only \$ 300.00					

- Manifold dimensions, 100 x 75 x 60mm (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

### Single Pad Mounted

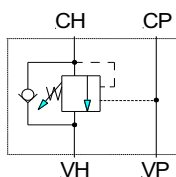
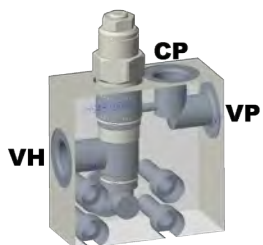
HS4802P4A



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBPA-08	38	350*	4:1 pilot ratio, code 61 SAE 1/2"	1/4"	\$ 305.00
HS4802P4A manifold only \$ 150.00					

- Manifold dimensions, 75 x 55 x 40mm (excluding cartridge)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

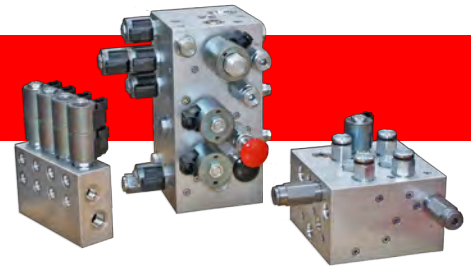
HS4803P6A\*\*



Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBCG-LJN	60	350*	4.5:1 pilot ratio, code 61 SAE 1/2"	3/8"	\$ 335.00
CBCA-LHN	60	280*	3:1 pilot ratio, code 61 SAE 1/2"	3/8"	\$355.00
HS4803P6A manifold only \$ 165.00					

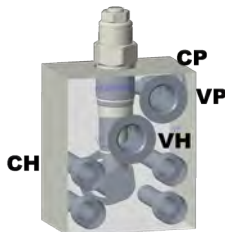
- Manifold dimensions, 75 x 75 x 35mm (excluding cartridge)
- \* Requires steel block over 240 bar – call Hyspecs for pricing
- \*\* Non-common stock item - Contact Hyspecs for lead time

## Counterbalance Valves

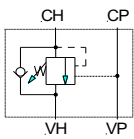


### Single Pad Mounted

#### HS4804P6B

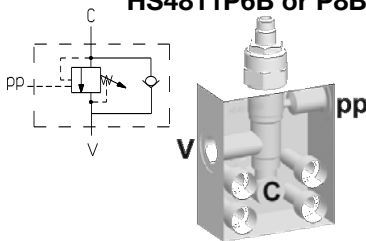


Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBCG-LJN	60	350*	4.5:1 pilot ratio, code 61 SAE 3/4"	3/8"- 1/2"	\$ 382.00
CBCA-LHN	60	280*	3:1 pilot ratio, code 61 SAE 3/4"	3/8"- 1/2"	\$402.00
HS4804P6B \$ 212.					
HS4811P6B or P8B manifold only \$ 212.00					



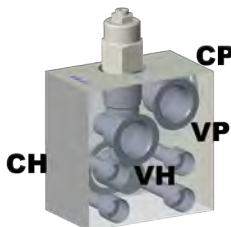
- Manifold dimensions, 90 x 75 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

#### HS4811P6B or P8B

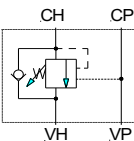


- Manifold dimensions, 90 x 75 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

#### HS4813P12C\*

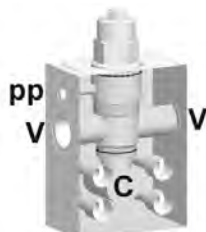


Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBEG-LJN	120	320**	4.5:1 pilot ratio, code 61 SAE 1"	3/4"	\$ 610.00
CBEA-LHN	120	280**	3:1 pilot ratio Code 61 SAE 1"	3/4"	\$ 630.00
HS4813P12C manifold only \$ 350.00					

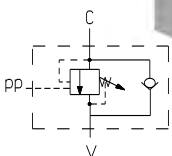


- Manifold dimensions, 100 x 100 x 60mm (excluding cartridge)
- \*Non-common stock item - Contact Hyspecs for lead time
- \*\*Requires steel block over 240 bar – call Hyspecs for pricing

#### HS4815P16E

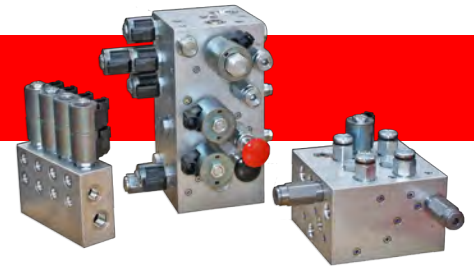


Cartridge	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBIG-LJN	480	210	4.5:1 pilot ratio, code 61 SAE 1.5"	1", 1/4" pp	\$ 1470.00
HS4815P16E manifold only \$ 470.00					



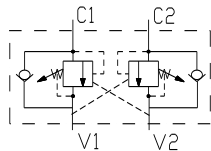
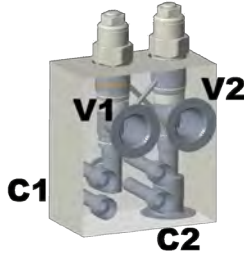
- Manifold dimensions, 170 x 124 x 75mm (excluding cartridge)

## Counterbalance Valves



### Double Pad Mounted

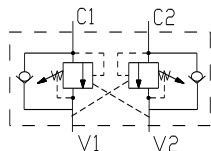
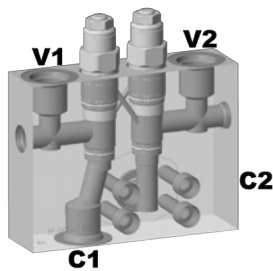
#### HS4819P8AD



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBCG-LJN x 2	60	350*	4.5:1 pilot ratio, code 61 SAE 1/2"	1/2"	\$ 650.00
CBCA-LHN x 2	60	280*	3:1 pilot ratio, code 61 SAE 1/2"	1/2"	\$ 690.00
HS4819P8AD manifold only \$ 310.00					

- Manifold dimensions, 100 x 90 x 50mm (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

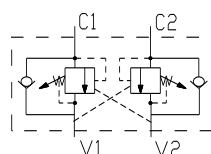
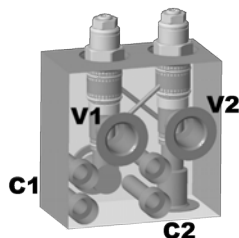
#### HS4835U14AD\*



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBCG-LJN x 2	60	350**	4.5:1 pilot ratio, code 61 SAE 1/2"	7/8"	\$ 670.00
CBCA-LHN x 2	60	280**	3:1 pilot ratio, code 61 SAE 1/2"	7/8"	\$ 710.00
HS4835U14AD manifold only \$ 330.00					

- Manifold dimensions, 130 x 100 x 37mm (excluding cartridges)
- \* Non-common stock item - Contact Hyspecs for lead time
- \*\* Requires steel block over 240 bar – call Hyspecs for pricing

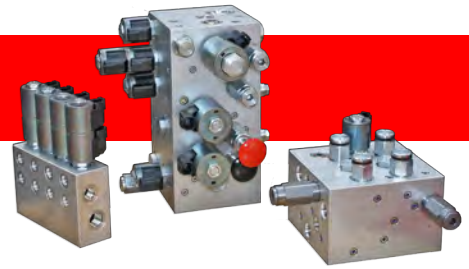
#### HS4830P8BD\*



Cartridges	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
CBCG-LJN x 2	60	350**	4.5:1 pilot ratio, code 61 SAE 3/4"	1/2"	\$ 670.00
CBCA-LHN x 2	60	280**	3:1 pilot ratio, code 61 SAE 3/4"	1/2"	\$ 710.00
HS4830P8BD manifold only \$ 330.00					

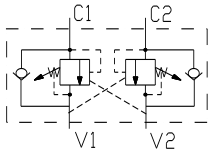
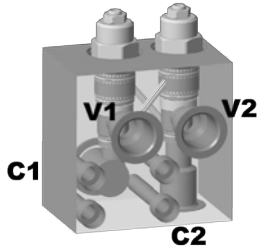
- Manifold dimensions, 100 x 100 x 55mm (excluding cartridges)
- \* Non-common stock item - Contact Hyspecs for lead time
- \*\* Requires steel block over 240 bar – call Hyspecs for pricing

## Counterbalance Valves



### Double Pad Mounted

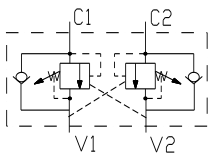
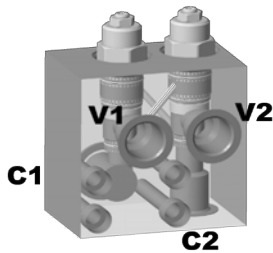
#### HS4832P12CD\*



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBEG-LJN x 2	120	320**	4.5:1 pilot ratio, code 61 SAE 1"	3/4"	\$ 925.00
CBEA-LHN x 2	120	280**	3:1 pilot ratio, code 61 SAE 1"	3/4"	\$ 965.00
HS4832P12CD manifold only \$ 405.00					

- Manifold dimensions, 110 x 100 x 75mm (excluding cartridges)
- \* Non-common stock item - *Contact Hyspecs for lead time*
- \*\* Requires steel block over 240 bar – *call Hyspecs for pricing*

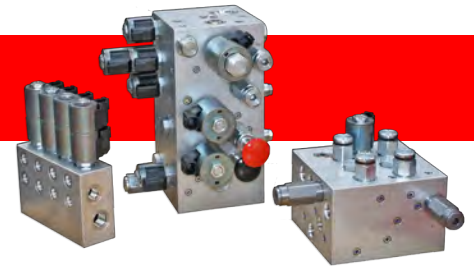
#### HS4828P12CDS



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBEG-LJN x 2	120	350	4.5:1 pilot ratio, code 62 SAE 1"	3/4"	\$ 945.00
CBEA-LHN x 2	120	280	3:1 pilot ratio, code 62 SAE 1"	3/4"	\$ 995.00
HS4828P12CD manifold only \$ 425.00					

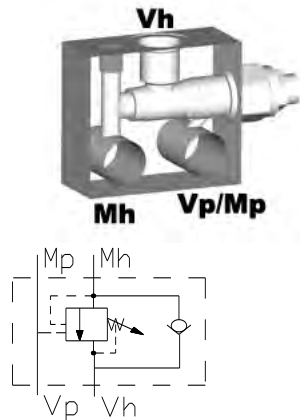
- Manifold dimensions, 126 x 105 x 75mm (excluding cartridges)
- Steel block

## Counterbalance Valves



### Banjo Bolt Mounted – Char-Lynn H, S & T Series – 1.8” Centre

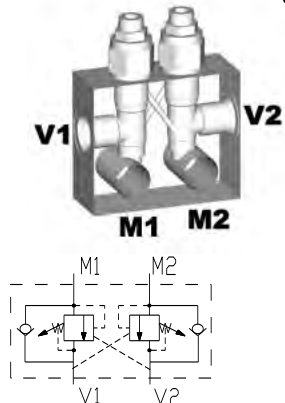
#### HS4701U14A (Single C/B)



Cartridge	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBCG-LJN	60	190	4.5:1 pilot ratio, Vp port on banjo bolt, BB-14T+14L	7/8"	\$ 457.00
CBCH-LJN	60	190	10:1 pilot ratio, Vp port on banjo bolt, BB-14T+14L	7/8"	\$ 477.00
HS4701U14A manifold only \$ 195.00					

- Manifold dimensions, 85 x 75 x 37mm (excluding cartridge)

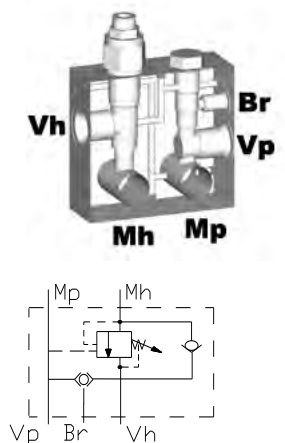
#### HS4702U14AD (Double C/B)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBCG-LJN x 2	60	190	4.5:1 pilot ratio, BB-14L x 2	7/8"	\$ 649.00
CBCH-LJN x 2	60	190	10:1 pilot ratio, BB-14L x 2	7/8"	\$ 689.00
HS4702U14AD manifold only \$ 217.00					

- Manifold dimensions, 99 x 90 x 39mm (excluding cartridges)

#### HS4703U14AL\_B (Single C/B with shuttle for brake release)

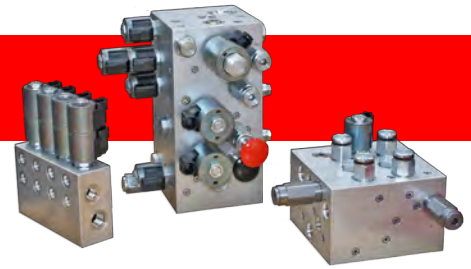


Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBCG-LJN + LS08-30	60	190	4.5:1 pilot ratio, BB-14L x 2	7/8" & 7/16" Br	\$ 595.00
HS4703U14AL_B manifold only \$ 264.00					

- Manifold dimensions, 105 x 99 x 39mm (excluding cartridges)

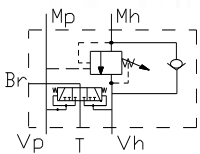
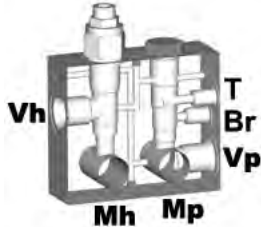


## Counterbalance Valves



### Banjo Bolt Mounted – Char-Lynn H, S & T Series – 1.8” Centre

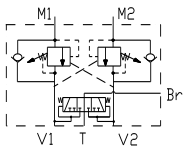
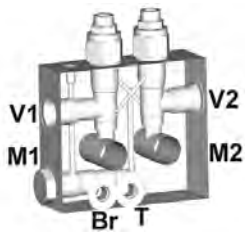
#### HS4705U14AB\_B (Single C/B with brake release valve)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBCG-LJN + BV10-40	60	190	4.5:1 pilot ratio BB-14L x 2	7/8" & 7/16" Br & T	\$ 789.00
HS4705U14AB_B manifold only \$ 320.00					

- Manifold dimensions, 115 x 99 x 39mm (excluding cartridges)

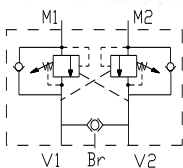
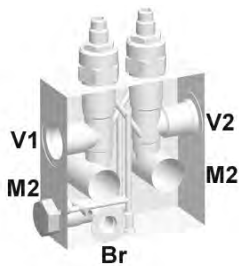
#### HS4706U14AB (Double C/B with brake release valve)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBCG-LJN x 2 + BV10-40	60	190	4.5:1 pilot ratio BB-14L x 2	7/8" & 7/16" Br & T	\$ 999.00
HS4706U14AB manifold only \$ 360.00					

- Manifold dimensions, 125 x 110 x 42mm (excluding cartridges)

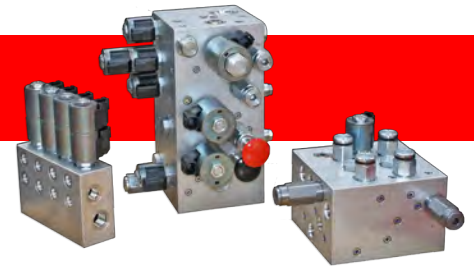
#### HS4708U14AE (Double C/B with shuttle for brake release)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBCG-LJN x 2 + LS08-30	60	190	4.5:1 pilot ratio BB-14L x 2	7/8" & 7/16" Br	\$ 833.00
HS470U14AE manifold only \$ 332.00					

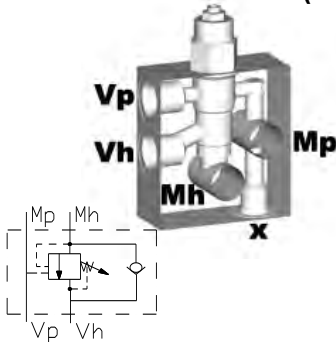
- Manifold dimensions, 110 x 99 x 39mm (excluding cartridges)

## Counterbalance Valves



### Banjo Bolt Mounted – Char-Lynn 2000 Series

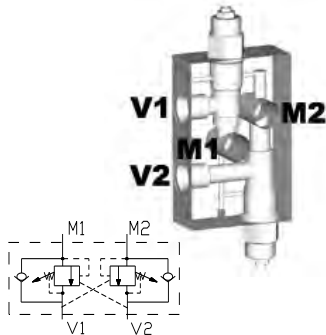
#### HS4711U14C (Single C/B)



Cartridge	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBEG-LJN	115	310*	4.5:1 pilot ratio BB-14L x 2	7/8"	\$ 559.00
CBEH-LJN	115	310*	10:1 ratio BB-14L x 2	7/8"	\$ 579.00
HS4711U14C manifold only \$ 207.00					

- Manifold dimensions, 90 x 90 x 39mm (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

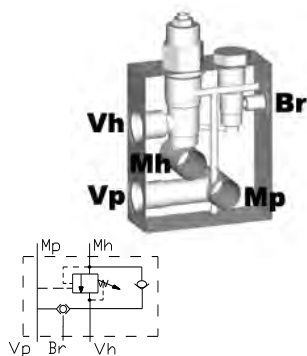
#### HS4712U14CD (Double C/B)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBEG-LJN x 2	115	310*	4.5:1 pilot ratio BB-14L x 2	7/8"	\$ 927.00
CBEH-LJN x 2	115	310*	10:1 ratio BB-14L x 2	7/8"	\$ 967.00
HS4712U14CD manifold only \$ 315.00					

- Manifold dimensions, 140 x 90 x 39mm (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

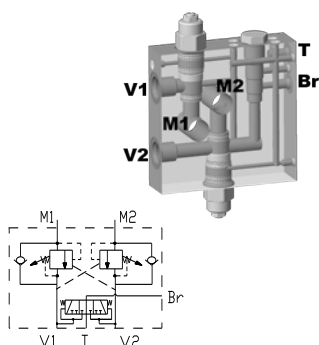
#### HS4713U14CL\_B (Single C/B with shuttle for brake release)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBEG-LJN + LS08-30	115	240	4.5:1 pilot ratio BB-14L x 2	7/8" & 7/16" Br	\$ 736.00
HS4713U14CL_B manifold only \$ 315.00					

- Manifold dimensions, 120 x 100 x 39mm (excluding cartridges)

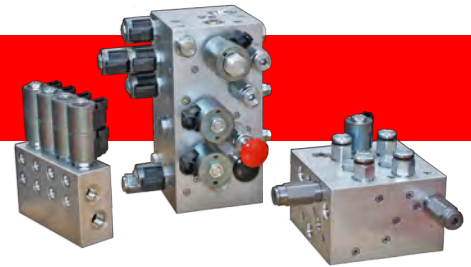
#### HS4715U14CB (Double C/B with brake release valve)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBEG-LJN x 2 + BV10-40	115	240	4.5:1 pilot ratio BB-14L x 2	7/8" & 7/16" Br & T	\$ 1397.00
HS4715U14CB manifold only \$ 578.00					

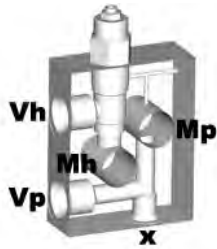
- Manifold dimensions, 150 x 150 x 39mm (excluding cartridges)

## Counterbalance Valves

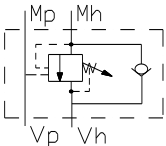


### Banjo Bolt Mounted – Char-Lynn 4000 Series

#### HS4721U17E (Single C/B)

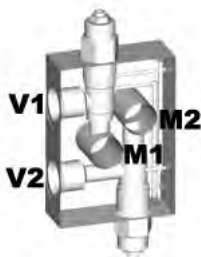


Cartridge	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBEG-LJN	115	310*	4.5:1 pilot ratio BB-17H x 2	1 1/16"	\$ 735.00
CBEH-LJN	115	310*	10:1 ratio BB-17H x 2	1 1/16"	\$ 755.00
HS4721U17E manifold only \$ 343.00					

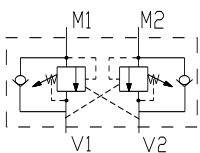


- Manifold dimensions, 125 x 99 x 39mm (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

#### HS4722U17ED (Double C/B)

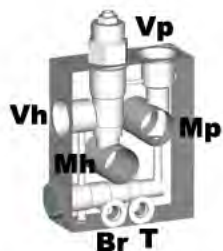


Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBEG-LJN x 2	115	310*	4.5:1 pilot ratio BB-17H x 2	1 1/16"	\$ 1150.00
CBEH-LJN x 2	115	310*	10:1 ratio BB-17H x 2	1 1/16"	\$ 1190.00
HS4722U17ED manifold only \$ 498.00					

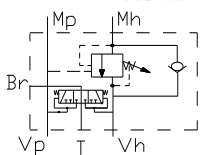


- Manifold dimensions, 140 x 99 x 39mm (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

#### HS4723U17EB (Single C/B with brake release valve)

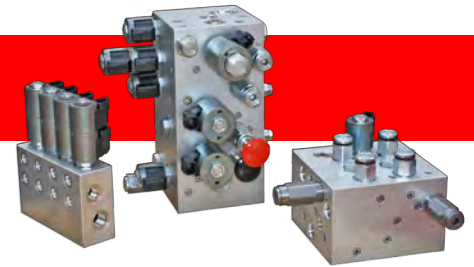


Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBEG-LJN + BV10-40	115	240	4.5:1 pilot ratio BB-17H x 2	1 1/16" & 7/16" Br & T	\$ 934.00
HS4723U17EB manifold only \$ 335.00					



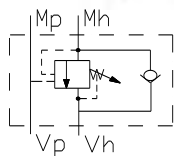
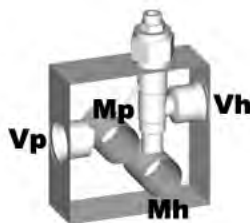
- Manifold dimensions, 125 x 100 x 42mm (excluding cartridges)

## Counterbalance Valves



### Banjo Bolt Mounted – Char-Lynn 6000 Series

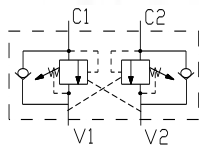
#### HS4734U21G (Single C/B)



Cartridge	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBEG-LJN	120	310*	4.5:1 pilot ratio BB-21L x 2	1 5/16"	\$ 860.00
CBEH-LJN	120	310*	10:1 pilot ratio BB-21L x 2	1 5/16"	\$ 880.00
HS4734U21G manifold only \$ 390.00					

- Manifold dimensions, 125 x 100 x 50mm (excluding cartridge)
- \* Requires steel block – call Hyspecs for pricing

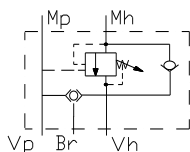
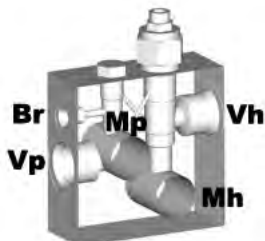
#### HS4735U21GD\* (Double C/B)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBEG-LJN x 2	120	310**	4.5:1 pilot ratio BB-21L x 2	1 5/16"	\$ 1245.00
CBEH-LJN x 2	120	310**	10:1 pilot ratio BB-21L x 2	1 5/16"	\$ 1285.00
HS4735U21GD manifold only \$ 515.00					

- Manifold dimensions, 150 x 130 x 50mm (excluding cartridges)
- \* Non-common stock item - Contact Hyspecs for lead time
- \*\* Requires steel block over 240 bar – call Hyspecs for pricing

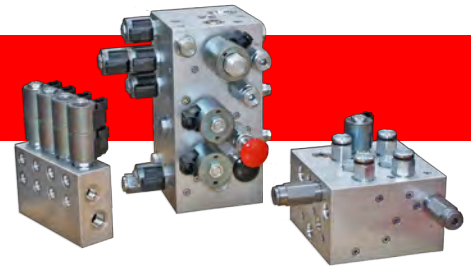
#### HS4736U21GL\* (Single C/B with shuttle for brake release)



Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBEG-LJN + LS08-30	120	240	4.5:1 pilot ratio BB-21L x 2	1 5/16" & 9/16" Br	\$ 939.00
HS4736U21GL manifold only \$ 400.00					

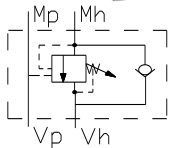
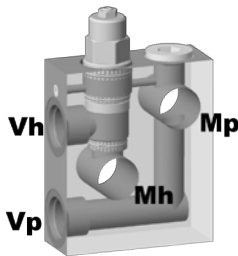
- Manifold dimensions, 125 x 125 x 50mm (excluding cartridges)
- \* Non-common stock item - Contact Hyspecs for lead time

## Counterbalance Valves



### Banjo Bolt Mounted – Char-Lynn 10000 Series

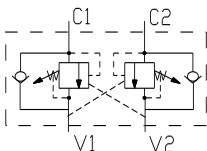
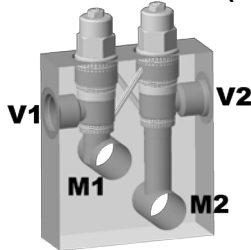
#### HS4741U21I (Single C/B)



Cartridge	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBGG-LJN	240	275*	4.5:1 pilot ratio BB-21L x 2	1 5/16"	\$ 1060.00
HS4741U21I manifold only \$ 400.00					

- Manifold dimensions, 151 x 126 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

#### HS4742U21ID (Double C/B)

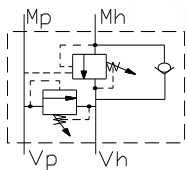
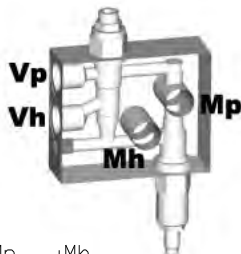


Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBGG-LJN x 2	240	275*	4.5:1 pilot ratio BB-21L x 2	1 5/16"	\$ 1570.00
HS4742U21ID manifold only \$ 460.00					

- Manifold dimensions, 175 x 151 x 50mm (excluding cartridges)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

### Banjo Bolt Mounted – Motor Torque Limiting Valves

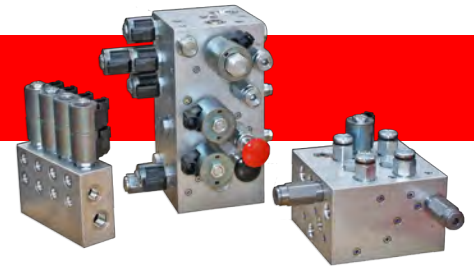
#### HSM4789U14CR (For Char-Lynn 2000 series motors)



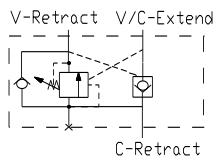
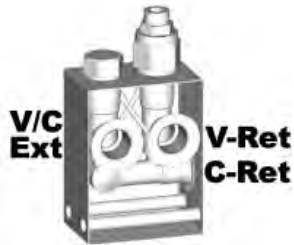
Cartridges	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
CBGG-LJN + RV10-26	60	240	4.5:1 pilot ratio BB-14L x 2	7/8"	\$ 746.00
HSM4789U14CR manifold only \$ 342.00					

- Manifold dimensions, 120 x 99 x 39mm (excluding cartridges)

## Regenerative Valves



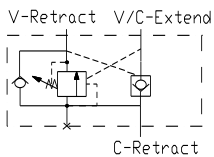
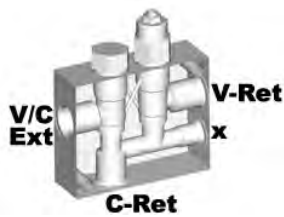
**HS4681P8B**



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBCA-LHN + CODA-XBN	60	240	Pressure sensing – 350-1200 psi adj.	1/2"	\$ 655.00
HS4681P8B manifold only \$ 281.00					

- Manifold dimensions, 100 x 75 x 50mm (excluding cartridges)

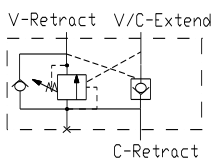
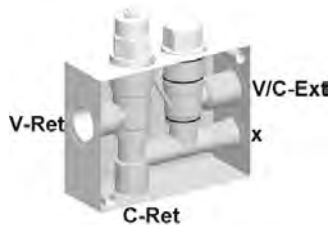
**HS4682P12B\***



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBEA-LHN* + COFA-XAN*	120	240	Pressure sensing – 350-1200 psi adj.	3/4"	\$ POA
HS4682P12B* manifold only \$ 380.00					

- Manifold dimensions, 120 x 99 x 39mm (excluding cartridges)
- \* Non-common stock item - Contact Hyspecs for lead time

**HS4683P16B\***



Cartridges	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
CBGA-LHN* + COHA-XAN*	240	240	Pressure sensing – 350- 1200 psi adj.	1"	\$ POA
HS4683P16B manifold only \$ 460.00					

- M
- Manifold dimensions, 160 x 126 x 60mm (excluding cartridges)
- \* Non-common stock item - Contact Hyspecs for lead time

## Contents Section F – Proportional Valves

### **F1 Relief Valves – Solenoid Operated**

- F1 2-Port
- F2 3-Port

### **F3 Pressure Reducing/Relieving Valves – Solenoid Operated**

- F3 Single
- F3 Double

### **F4 Flow Controls – Solenoid Operated**

- F4 2-Port Pressure Non-Compensated
- F6 2-Port Pressure Compensated
- F8 3-Port Pressure Compensated

### **F10 Directional Valves – Pilot Operated**

- F10 2 Way, 3 Way or 4 Way, 2 Position

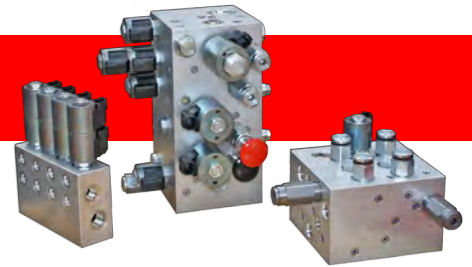
### **F11 Directional Valves – Solenoid Operated**

- F11 3 Way, 2 Position
- F11 4 Way, 2 Position
- F12 4 Way, 3 Position
- F13 5 Way, 3 Position

### **F14 Proportional Valve Controllers**

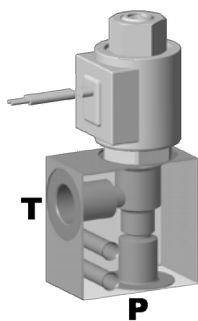
- F14 Programmable Valve Drivers – Coil & Remote Mounted
- F15 Amplifier Plugs
- F16 Electronic Control Units

## Relief Valves – Solenoid Operated



### 2-Port

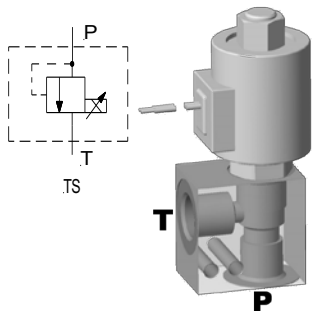
#### HS0820P4\_B or P6\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
TS08-20	12	34.5	Direct acting, Inc.	1/4"-3/8"	\$ 388.00
TS38-20	12	240	Direct acting, Inc.	1/4"-3/8"	\$ 399.00
TS58-20	7.6	350*	High Pressure, Inc.	1/4"-3/8"	\$ 574.00
TS38-21	1.1	240	Direct acting, Dec.	1/4"-3/8"	\$ 528.00
TS08-27	19	240	Pilot operated, Dec.	1/4"-3/8"	\$ 417.00
HS0820P4_B or P6_B manifold only \$ 78.00					
HS0820P4S_B or P6S_B steel manifold only \$ 132.00					

- Manifold dimensions, 50 x 50 x 32mm (excluding cartridge)
- \* Requires steel block over 240 bar

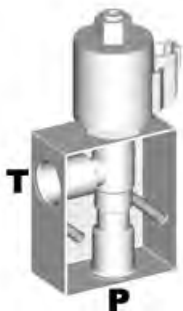
#### HS1020P6\_B or P8\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
TS10-26	100	240	Pilot operated, Inc.	3/8"-1/2"	\$ 535.00
TS10-27	100	240	Pilot operated, Dec.	3/8"-1/2"	\$ 535.00
ERVD-10	3.8	350*	Direct acting, Inc.	3/8"-1/2"	\$ 631.00
ERVP-10	95	350*	Pilot operated, Inc.	3/8"-1/2"	\$ 661.00
HS1020P6_B or P8_B manifold only \$ 86.00					
HS1020P6S_B or P8S_B steel manifold only \$ 132.00					

- Manifold dimensions, 50 x 50 x 35mm (excluding cartridge)
- \* Requires steel block over 240 bar

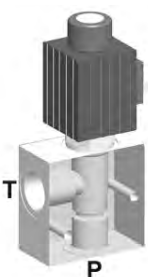
#### HS1220P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
TS12-26	200	240	Pilot operated, Inc.	3/4"	\$ 741.00
TS12-27*	200	240	Pilot operated, Dec.	3/4"	\$ 752.00
HS1220P12 manifold only \$ 155.00					

- Manifold dimensions, 90 x 75 x 50mm (excluding cartridge)
- \*Non-common stock item – Contact Hyspecs for lead time

#### HS1221P12

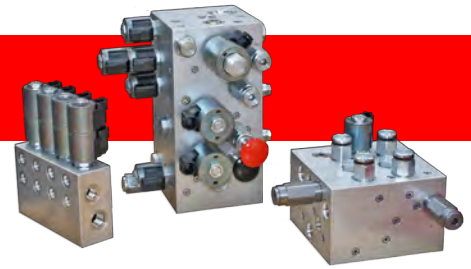


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
ERVP-12	227	350*	Pilot operated, Inc.	3/4"	\$ 805.00
HS1221P12 manifold only \$ 155.00					
HS1221P12S steel manifold only \$ 230.00					

- Manifold dimensions, 75 x 75 x 40mm (excluding cartridge)
- \* Requires steel block over 240 bar

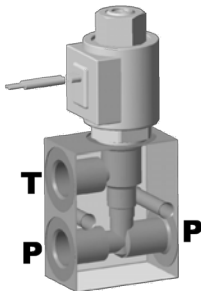


## Relief Valves – Solenoid Operated

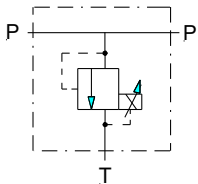


### 3-Port

#### HS0820P6N\_B

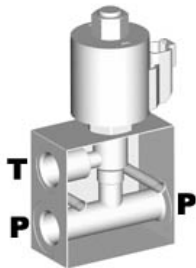


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
TS08-20	12	34.5	Direct acting, Inc.	3/8"	\$ 423.00
TS38-20	12	240	Direct acting, Inc.	3/8"	\$ 434.00
TS58-20	7.6	350*	Direct acting, Inc.	3/8"	\$ 609.00
TS38-21	1.1	240	Direct acting, Dec.	3/8"	\$ 563.00
TS08-27	19	240	Pilot operated, Dec.	3/8"	\$ 452.00
HS0820P6N_B manifold only \$ 113.00					



- Manifold dimensions, 62 x 50 x 30mm (excluding cartridge)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

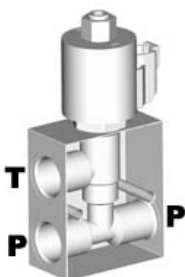
#### HS1020P8N or P12N



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
TS10-26	100	240	Pilot operated, Inc.	1/2"-3/4"	\$ 551.00
TS10-27	100	240	Pilot operated, Dec.	1/2"-3/4"	\$ 551.00
ERVD-10	3.8	350*	Direct acting, Inc.	1/2"-3/4"	\$ 627.00
ERVV-10	95	350*	Pilot operated, Inc.	1/2"-3/4"	\$ 657.00
HS1020P8N or P12N manifold only \$ 102.00 or \$ 127.00 HS1020P8NS steel manifold only \$ 183.00					

- Manifold dimensions, 80 x 75 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar

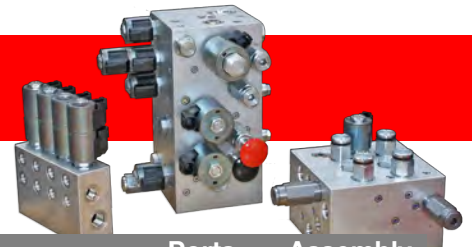
#### HS1220P12N



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
TS12-26	200	240	Pilot operated, Inc.	3/4"	\$ 752.00
TS12-27*	200	240	Pilot operated, Dec.	3/4"	\$ 752.00
HS1220P12N manifold only \$ 166.00					

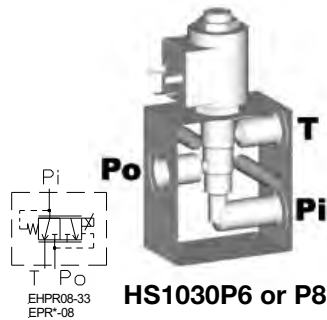
- Manifold dimensions, 90 x 75 x 37mm (excluding cartridge)
- \*Non-common stock item – Contact Hyspecs for lead time

## Pressure Reducing Valves – Solenoid Operated



### Single

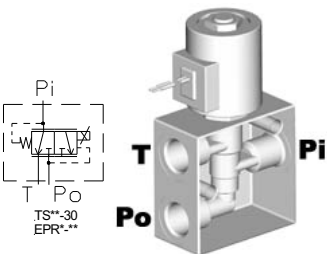
#### HS0830P4 or P6



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
EHPR08-33	15	207	Direct acting, Inc. 0-26 bar	1/4"-3/8"	\$ 488.00
HS0830P4 or P6 manifold only \$ 127.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)

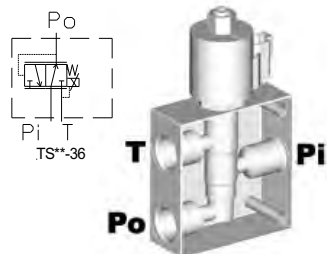
#### HS1030P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
TS10-36	60	240	Pilot operated, Inc. 6.9-207 bar	3/8"-1/2"	\$ 781.00
EPRS-10	46	350*	Pilot operated, Inc., 3.5-350 bar	3/8"-1/2"	\$ 722.00
HS1030P6 or P8 manifold only \$ 132.00 HS1030P6S or P6S steel manifold only \$ 175.00 or \$ 212.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- \* Requires steel block over 240 bar

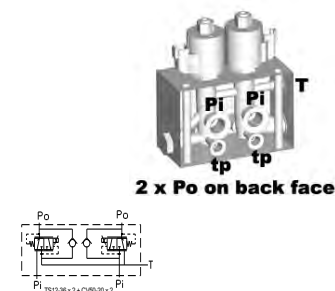
#### HS1230P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
TS12-36	189	276*	Pilot operated, Inc. 6.9-207 bar	3/4"	\$ 773.00
TS12-37F**	190	276*	Pilot operated, Dec. 276-6.9 bar	3/4"	\$ 798.00
EPRS-12	91	350*	Pilot operated, Inc. 3.5-350 bar	3/4"	\$ 911.00
HS1230P12 manifold only \$ 241.00 HS1230P12S steel manifold only \$ 355.00					

- Manifold dimensions, 99 x 75 x 39mm (excluding cartridge)
- \* Requires steel block over 240 bar
- \*\*Non-common stock item – Contact Hyspecs for lead time

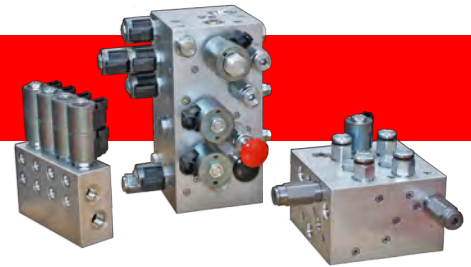
#### HS7512P8DC (Double)



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
TS12-36 x 2 + CV50-20 x 2	189**	276*	Free reverse flow	1/2"	\$ 2045.00
HS7512P8DC manifold only \$ 761.00 HS7512P8DCS steel manifold only \$ 961.00					

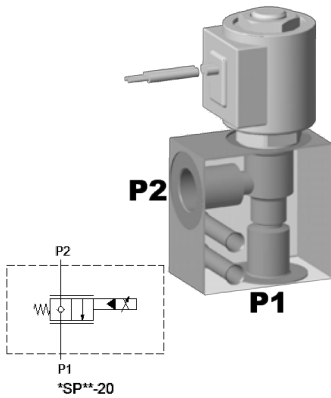
- Manifold dimensions, 150 x 100 x 75mm (excluding cartridge)
- \*\*Special conditions apply to the flow
- \* Requires steel block over 240 bar

## Flow Controls – Solenoid Operated



### 2-Way, Two Port Non-Compensated

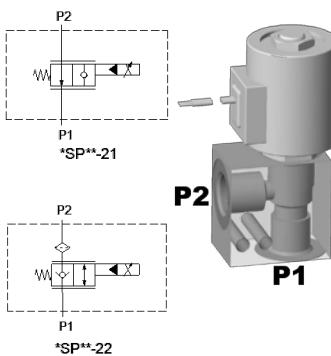
#### HS0820P4\_B or P6\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SP08-22	30	207	Poppet, N.C., Bi-Dir.	1/4"-3/8"	\$ 369.00
SP08-24	11.4	207	Spool-Type, N.C.	1/4"-3/8"	\$ 414.00
SP08-25	15	207	Spool-Type, N.O.	1/4"-3/8"	\$ 349.00
HS0820P4_B or P6_B manifold only \$ 78.00					
HS0820P4S_B or P6S_B steel manifold only \$ 132.00					

- Manifold dimensions, 50 x 50 x 32mm (excluding cartridge)
- \* Requires steel block over 240 bar

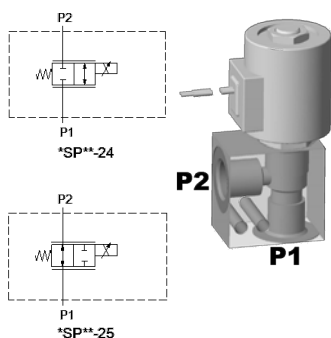
#### HS1020P6\_B or P8\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SP10-20	68	250*	Poppet-Type, N.C.	3/8"-1/2"	\$ 368.00
SP10-21	60	250*	Poppet-Type, N.O.	3/8"-1/2"	\$ 393.00
SP10-24	26.5	207	Spool-Type, N.C.	3/8"-1/2"	\$ 483.00
SP10-25	18.9	207	Spool-Type, N.O.	3/8"-1/2"	\$ 428.00
HS1020P6_B or P8_B manifold only \$ 86.00					
HS1020P6S_B or P8S_B steel manifold only \$ 132.00					

- Manifold dimensions, 50 x 50 x 35mm (excluding cartridge)
- \* Requires steel block over 240 bar

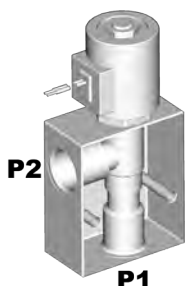
#### HHS1020P8S



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
HSP10-20	53	350	Poppet-Type, N.C.	1/2"	\$ 470.00
HSP10-21	53	350	Poppet-Type, N.O.	1/2"	\$ 540.00
HHS1020P8S manifold only \$ 115.00					

- Manifold dimensions, 50 x 50 x 35mm (excluding cartridge)
- High performance cavity steel manifold
- EL coil IP69K

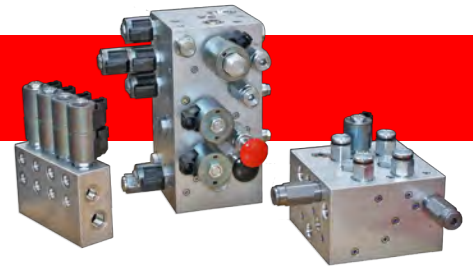
#### HS1220P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SP12-20	100	250*	Poppet-Type, N.C.	3/4"	\$ 467.00
SP12-21	200	250*	Poppet-Type, N.O.	3/4"	\$ 577.00
HS1220P12 manifold only \$ 155.00					

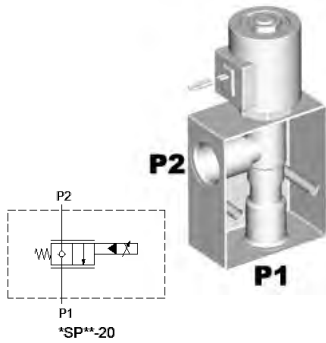
- Manifold dimensions, 90 x 75 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

## Flow Controls – Solenoid Operated



### 2-Way, Two Port Non-Compensated

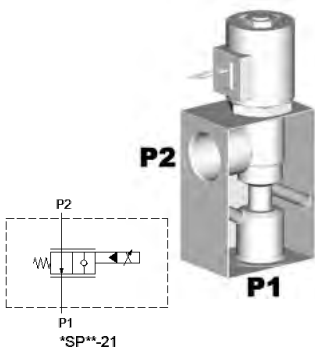
#### HHS1220P12S



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
HSP12•20 M	84	350	Poppet-Type, N.C.	3/4"	\$ 655.00
HHS1220P12S manifold only \$ 200.00					

- 
- Manifold dimensions, 90 x 75 x 50mm (excluding cartridge)
- High performance cavity steel manifold
- EL coil IP69K

#### HS1620P12 or P16



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SP16-20	150	250*	Poppet-Type, N.C.	3/4" - 1"	\$ 532.00
SP16-21	150	250*	Poppet-Type, N.O.	3/4" - 1"	\$ 601.00
HS1620P12 or P16 manifold only \$189 or \$ 207.00					
HS1620P16S steel manifold only \$ 290.00					

- 
- Manifold dimensions, 100 x 70 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar

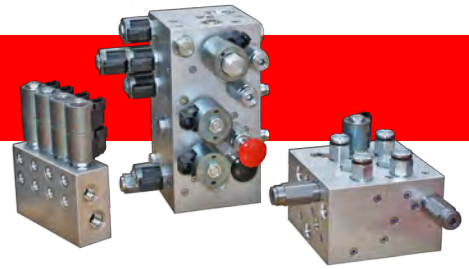
#### HHS1620P16S\*



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
HSP16-20*	150	350	Poppet-Type, N.C.	1"	\$ 785.00
HSP16-21*	150	350	Poppet-Type, N.O.	1"	\$ 760.00
HHS1620P16S manifold only \$ 260.00					

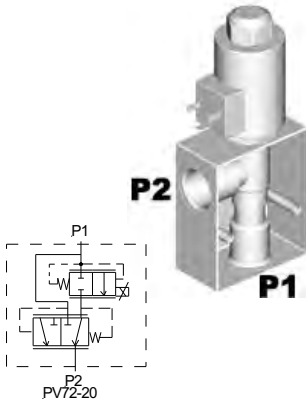
- 
- Manifold dimensions, 100 x 70 x 50mm (excluding cartridge)
- High performance cavity steel manifold
- EL coil IP69K
- \*Non-common stock item – Contact Hyspecs for lead time

## Flow Controls – Solenoid Operated



### 2-Way, Two Port Pressure Compensated

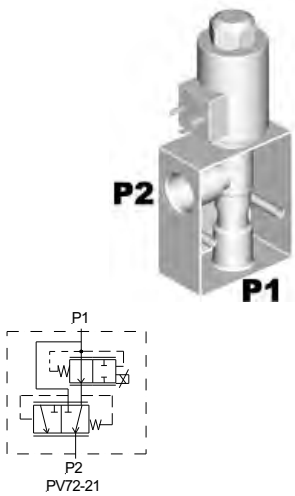
#### HS1220P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PV72-20	64	240	Normally closed	3/4"	\$ 694.00
PV72-21	56	240	Normally open	3/4"	\$ 694.00
HS1220P12 manifold only \$ 155.00					

- Manifold dimensions, 90 x 75 x 50mm (excluding cartridge)
- 70 Size coil

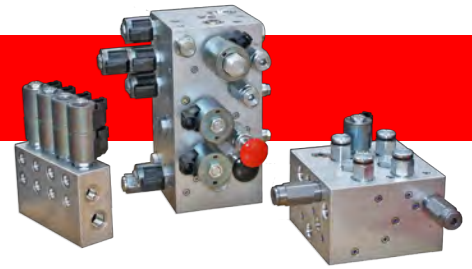
#### HHS1220P12S



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
HPV12-20*	68	350	Normally closed	3/4"	\$ 755.00
HPV12-21*	61	350	Normally open	3/4"	\$ 755.00
HHS1220P12S manifold only \$ 200.00					

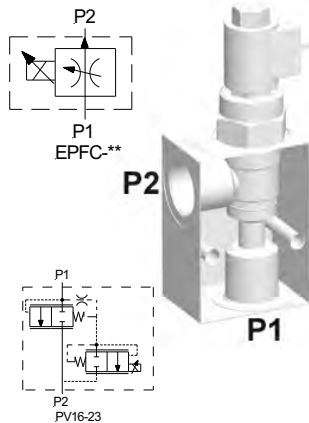
- Manifold dimensions, 90 x 75 x 50mm (excluding cartridge)
- High performance cavity steel manifold
- HPV12 circuit same as PV72 as above
- 10 Size EG coil IP69K
- \*Non-common stock item – Contact Hyspecs for lead time

## Flow Controls – Solenoid Operated



### Two Port Pressure Compensated

HS1620P12 or P16

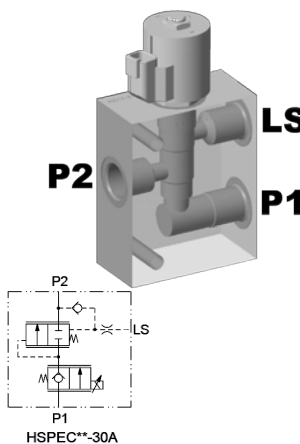


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PV16-23	170	240	Non-compensated, N.C.	3/4"-1"	\$ 1140.00
EPFC-16	76	350*	Pressure compensated, N.C.	3/4"-1"	\$ 1104.00
HS1620P12 or P16 manifold only \$ 189.00 & \$ 207.00 HS1620P16S steel manifold only \$ 290.00					

- Manifold dimensions, 100 x 70 x 50mm (excluding cartridge)
- \* Requires steel block over 240 bar – call Hyspecs for pricing

### Two Port with Integral Post-Pressure Compensation

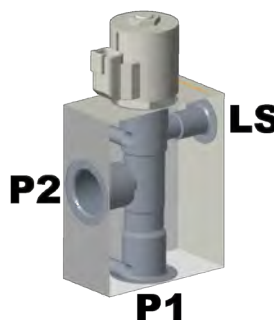
HHS1230P12S



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
HSPEC12-30AT	70	350	Integral load-sense	3/4"	\$ 935.00
HHS1230P12S Manifold only \$ 290.00					

- Manifold dimensions, 125 x 100 x 50mm (excluding cartridge)
- High performance cavity steel manifold
- Size 10 ER coil
- Mount the manifold to allow coil at or under horizontal line

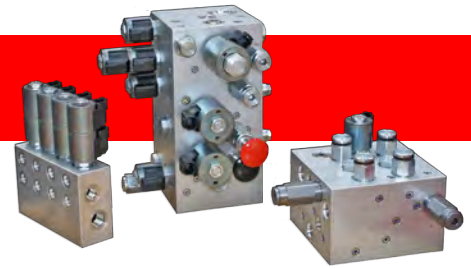
HSPEC1630P16S\*



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
HSPEC16-30AT	132	350	Integral load-sense	1" LS 1/4"	\$ 1105.00
HSPEC1630P16S Manifold only \$ 360.00					

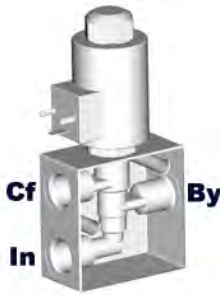
- Manifold dimensions, 125 x 100 x 50mm (excluding cartridge)
- High performance cavity steel manifold
- Size 10 ER coil
- Mount the manifold to allow coil at or under horizontal line
- \*Non-common stock item – Contact Hyspecs for lead time

## Flow Controls – Solenoid Operated



### Three Port Pressure Compensated

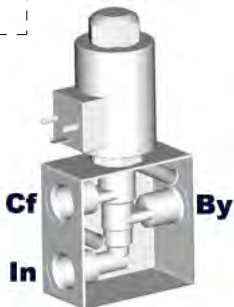
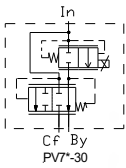
#### HS0830P6



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PV08-30	23	240	0-11 l/min R.F. 2-port block by-pass, N.C.	1/4"-3/8"	\$ 605.00
PV08-31	23	240	0-11 l/min R.F. 2-port block by-pass, N.O.	1/4"-3/8"	\$ 605.00
HS0830P4 or P6 manifold only \$ 127.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- Size 08 EHPR DG coil

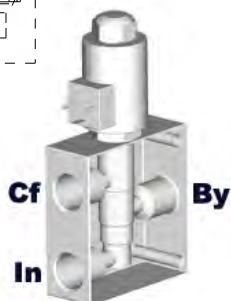
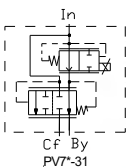
#### HS1030P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PV70-30	50	240	3-port R.F: 0-30 l/min, 2-port R.F: 0-26 l/min block by-pass, N.C.	3/8"-1/2"	\$ 728.00
PV70-31	50	240	3-port R.F: 0-30 l/min, 2-port R.F: 0-26 l/min block by-pass, N.O.	3/8"-1/2"	\$ 728.00
HS1030P6 or P8 manifold only \$ 132.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- 70 size coil

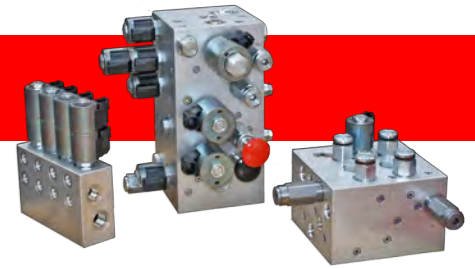
#### HS1230P12



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PV72-30	114	240	3-port R.F: 0-64 l/min, 2-port R.F: 0-46 l/min block by-pass, N.C.	3/4"	\$ 945.00
PV72-31	114	240	3-port R.F: 0-53 l/min, 2-port R.F: 0-42 l/min block by-pass, N.O.	3/4"	\$ 945.00
HS1230P12 manifold only \$ 241.00					

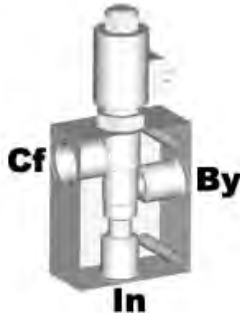
- Manifold dimensions, 100 x 75 x 50mm (excluding cartridge)
- 70 size coil

## Flow Controls – Solenoid Operated

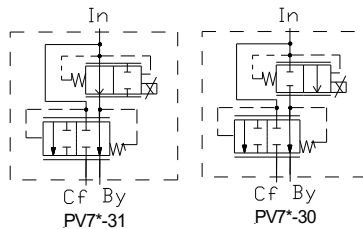


### Three Port Pressure Compensated

#### HS1630P12

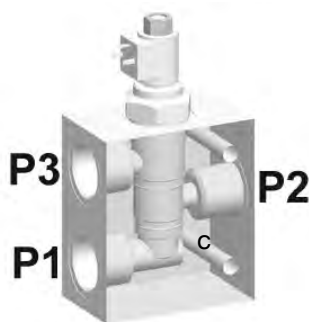


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PV76-30AM	150	240	3-port R.F: 0-95 l/min 2-port R.F: 0-85 l/min block by-pass, N.C.	3/4"-1"	\$ 1120.00
PV76-31AM*	150	240	3-port R.F: 0-76 l/min 2-port R.F: 0-80 l/min block by-pass, N.O.	3/4"-1"	\$ 1120.00
HS1630P12 or P16 manifold only \$ 264.00					



- Manifold dimensions, 125 x 100 x 50mm (excluding cartridge)
- 70 size coil
- \*Non-common stock item – Contact Hyspecs for lead time

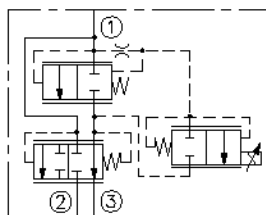
#### HS4230P20\*



Cartridge	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PV42-M30*	225	240	3-port R.F: 0-190 l/min 2-port R.F: 0-130 l/min block by-pass, N.C.	1 1/4"	\$ 1150.00
HS4230P20 manifold only \$ 345.00					

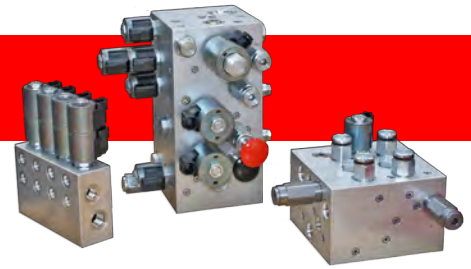
- Manifold dimensions, 145 x 125 x 75mm (excluding cartridge)
- Size 08 EHPR DG coil
- \*Non-common stock item – Contact Hyspecs for lead time

USASI/ISO:



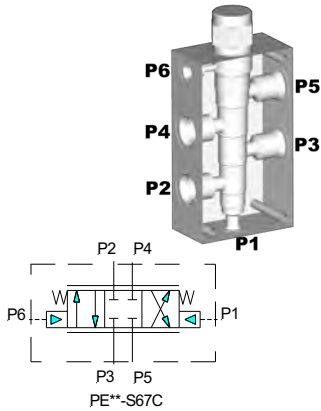


## Directional Valves – Pilot Operated



### 4 Way, 3 Position

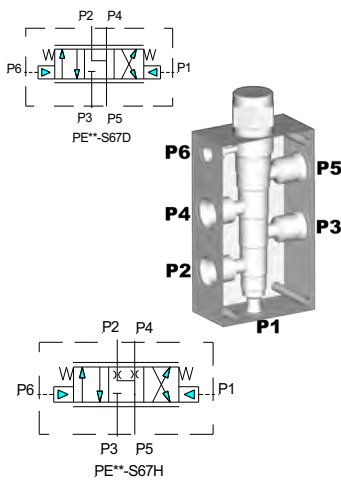
#### HS1255U17\*\*



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
PE12-S67C	45	350*	Closed centre	1 1/16"	\$ 680.00
PE12-S67D**	45	350*	Meter in and out		\$ 680.00
PE12-S67H**	45	350*	Restrict motor spool	P1&P6	\$ 680.00
PE12-S67K**	45	350*	Meter in only	9/16"	\$ 680.00
HS1255U17 manifold only \$ 360.00					

- Manifold dimensions, 150 x 100 x 50mm (excluding cartridge)
- \*Requires steel block over 240 bar – *contact Hyspecs* for pricing
- \*\* Non-common stock item – *Contact Hyspecs* for lead time

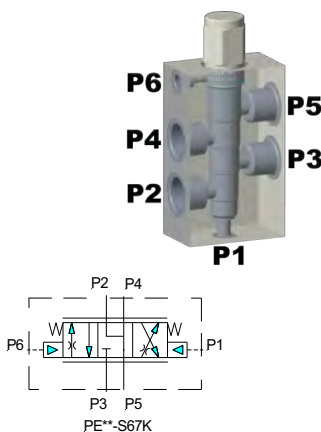
#### HS1655U17



Cartridge Options	Q max l/min	P max bar	Notes	Ports UNO	Assembly Price
PE16-S67C	90	350*	Closed centre	1 1/16"	\$ 740.00
PE16-S67D	90	350*	Meter in and out		\$ 740.00
PE16-S67H**	90	350*	Restrict motor spool	P1&P6	\$ 740.00
PE16-S67K**	90	350*	Meter in only	9/16"	\$ 740.00
HS1655U17 manifold only \$ 436.00					

- Manifold dimensions, 177 x 125 x 75mm (excluding cartridge)
- \*Requires steel block over 240 bar – *contact Hyspecs* for pricing
- \*\* Non-common stock item – *Contact Hyspecs* for lead time

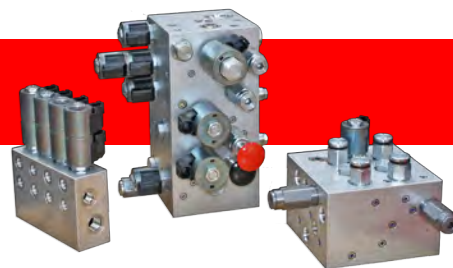
#### HS4255P20S\*



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
PE42-S67C	170	350	Closed centre	1 1/4"	\$ 1079.00
PE42-S67D	170	350	Meter in and out		\$ 1079.00
PE42-S67H*	170	350	Restrict motor spool	P1&P6	\$ 1079.00
PE42-S67K*	170	350	Meter in only	3/8"	\$ 1079.00
HS4255P20S manifold only \$ 575.00					

- Manifold dimensions, 210 x 125 x 75mm (excluding cartridge)
- Steel manifold
- \* Non-common stock item – *Contact Hyspecs* for lead time

## Directional Valves – Solenoid Operated

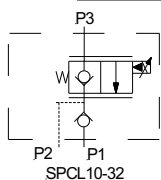
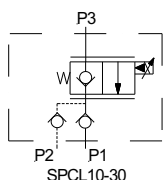


### 3 Way, 2 Position

HS1030P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SPCL10-30	57	250*	With check isolated load sense	3/8"-1/2"	\$ 434.00
SPCL10-32	57	250*	With check non-isolated load sense	3/8"-1/2"	\$ 399.00
HS1030P6 or P8 manifold only \$ 132.00 HS1030P6S or P8S steel manifold only \$ 175.00 or \$ 212.00					



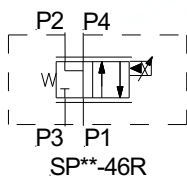
- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- \*Requires steel block over 240 bar

### 4 Way, 2 Position

HS0840P4 or P6

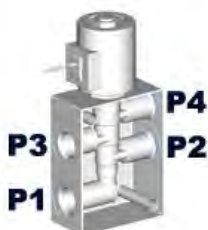


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SP08-46R*	11	240	2 position, normally motor spool	1/4"-3/8"	\$ 429.00
HS0840P4 or P6 manifold only \$ 138.00					



- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)
- \* Non-common stock item – *Contact Hyspecs* for lead time

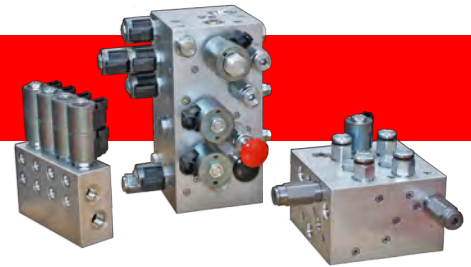
HS1040P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SP10-46R*	23	240	2 position, normally motor spool	3/8"-1/2"	\$ 472.00
HS1040P6 or P8 manifold only \$ 150.00					

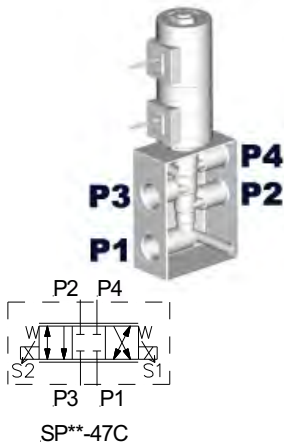
- Manifold dimensions, 99 x 65 x 39mm (excluding cartridge)
- \* Non-common stock item – *Contact Hyspecs* for lead time

## Directional Valves – Solenoid Operated



### 4 Way, 3 Position

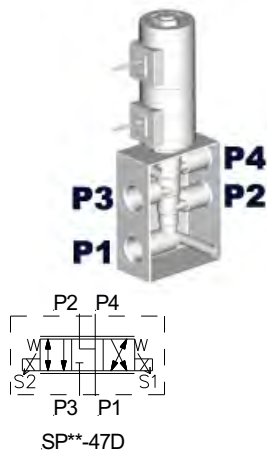
#### HS0840P4 or P6



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SP08-47C	11	240	3 position, spool type, closed centre	1/4"-3/8"	\$ 476.00
SP08-47D	11	240	3 position, spool type, motor spool	1/4"-3/8"	\$ 476.00
SP08-47CL	7	240	Low flow version	1/4"-3/8"	\$ 494.00
SP08-47DL	7	240	Low flow version	1/4"-3/8"	\$ 494.00
HS0840P4 or P6 manifold only \$ 138.00					

- Manifold dimensions, 75 x 65 x 37mm (excluding cartridge)

#### HS1040P6 or P8



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
SP10-47C	23	240	3 position, spool type, closed centre	3/8"-1/2"	\$ 717.00
SP10-47D	23	207	3 position, spool type, motor spool	3/8"-1/2"	\$ 717.00
HS1040P6 or P8 manifold only \$ 150.00					

- Manifold dimensions, 99 x 65 x 39mm (excluding cartridge)

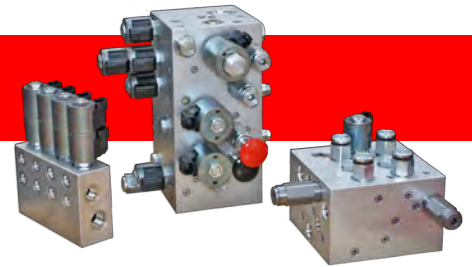
#### HHS1040P8S



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
HSP10-47C*	33	350	3 position, spool type, closed centre	1/2"	\$ 717.00
HSP10-47D*	35	350	3 position, spool type, motor spool	1/2"	\$ 717.00

- Manifold dimensions, 99 x 65 x 39mm (excluding cartridge)
- Steel manifold
- \*Same circuit as SP cartridges. Non-common stock item – Contact Hyspecs for lead time

## Directional Valves – Solenoid Operated

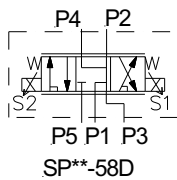
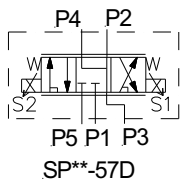


### 5 Way, 3 Position

HS0850P6\*



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SP08-57D*	9.5	240	Load sense, motor spool	1/4" - 3/8"	\$ 704.00
SP08-58D*	15	240	Motor spool with brake release	1/4" - 3/8"	\$ 704.00
HS0850P6 manifold only \$ 252.00					

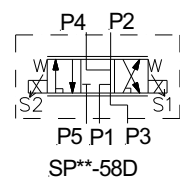
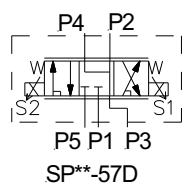
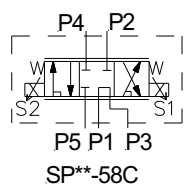
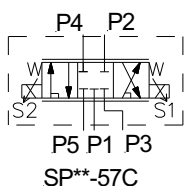


- Manifold dimensions, 100 x 75 x 37mm (excluding cartridge)
- \*Non common stock item – Contact Hyspecs for lead time
- Optional load sense check valve disc CVD08 (\$34) can be fit into the bottom of SP08

### HS1050P6\_B or P8\_B

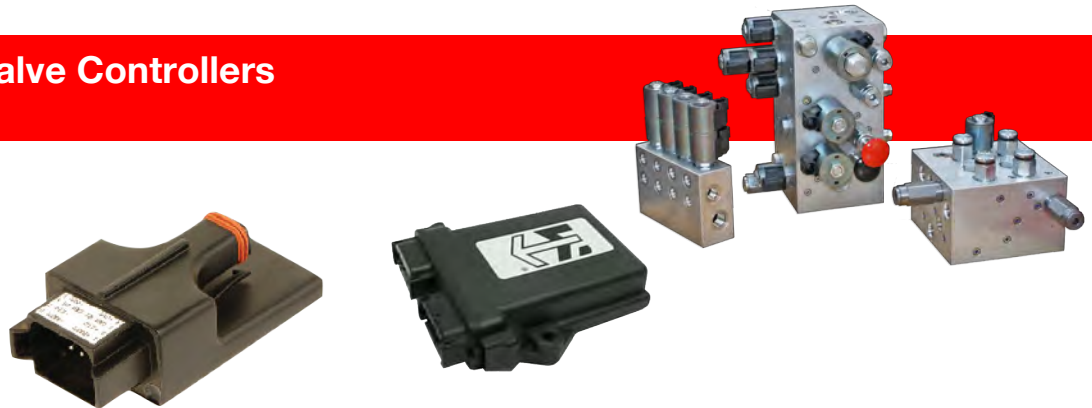


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
SP10-57C**	23	250*	Load sense, closed centre	3/8" - 1/2"	\$ 670.00
SP10-58C	23	250*	Brake release, closed centre	3/8" - 1/2"	\$ 670.00
SP10-57D	23	250*	Load sense, motor spool	3/8" - 1/2"	\$ 670.00
SP10-58D	23	250*	Motor spool with brake release	3/8" - 1/2"	\$ 670.00
HS1050P6_B or P8_B manifold only \$ 252.00					



- Manifold dimensions, 110 x 65 x 39mm (excluding cartridge)
- \*Requires steel block over 240 bar – contact Hyspecs for pricing
- \*\*Non common stock item – Contact Hyspecs for lead time
- Optional load sense check valve disc CVD10 (\$38) can be fit into the bottom of SP10

## Proportional Valve Controllers



### Hydraforce Programmable Valve Drivers - Coil & Remote Mounted

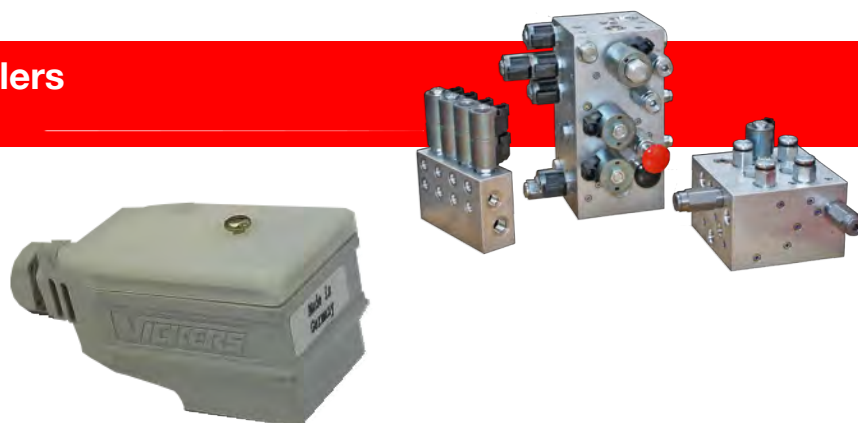
The CE-qualified, compact plug-in style, microprocessor based, valve driver designed for use in hydraulic proportional valve applications.

- Configurable to drive either one or two coils using SAE J1939 CAN input or an independent voltage, current, or resistance signal.
- The EVDR-0201 is designed to proportionally control one or two coils to a user-defined metering profile

Part	Description	List
4204800	EVDR-0101A -single plug-in style valve driver	\$ 350.00
4204700	EVDR-0201A - up to 2 configurable inputs & 2 outputs (2A max.)	\$ 760.00
4204740	ECDR-0201A – CAN capable dual/single plug-in valve driver	\$ 615.00
4208230	ECDR-0203A – CAN capable 3 inputs configurable to multiple settings 2 outputs (1 PWM closed loop and 1 PWM open loop)	\$ 810.00
4208560	ECDR-0506A – CAN capable 6 inputs configurable to multiple settings 5 outputs (4 PWM closed loop and 1 PWM open loop)	\$ 955.00
4001953	Connector kit DT06-4S	\$ 35.00
4001955	Connector kit DT06-8SA (gold)	\$ 60.00
4001956	Connector kit (grey)	\$ 80.00
4001965	Connector kit (black)	\$ 95.00

- Contact Hyspecs for connector kit required

## Proportional Valve Controllers



### Eaton Amplifier Plugs

Proportional Power plugs, conforming to ISO 4400/DIN 43650 interface, are designed for compact, electronic control of non-feedback hydraulic proportional and switching valves. This plug/valve combination offers an easy to use, cost-effective alternative to traditional rack mounted machine controls. Din plug mounting, protection to IP67.

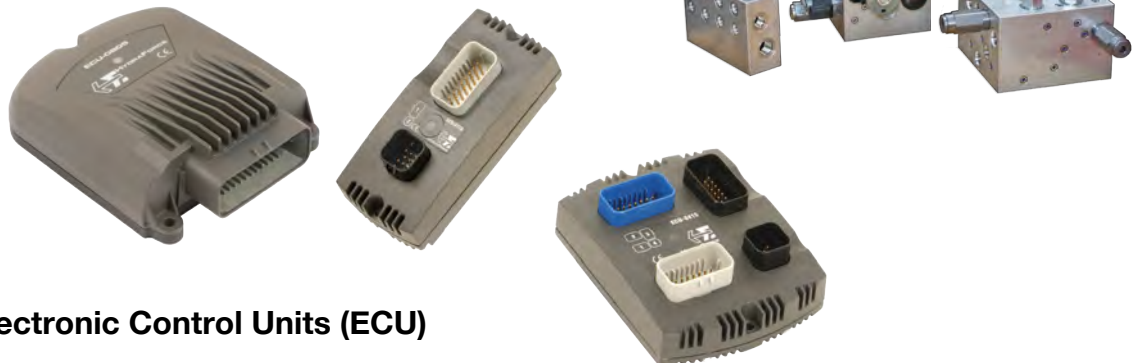
Proportional Power Plugs are available in the following configurations:

Type C plugs offer “soft switch” control. Using built in ramps for discrete “on/off” signals, soft switch power plugs with proportional valves help to reduce hydraulic system shocks, improving machine usability and extending life

Type D and K plugs are controlled with a standard analog command signals, (0-10V and 4-20mA respectively.)

Part	Model Code	Function	Power Supply	Command Signal	Ramp Time	Max O/P Current	List
02-326009	EHH-AMP-702-C-20	Soft Shift	24VDC	24VDC	50ms - 5s	1.6 Amps	\$ 429.00
02-326010	EHH-AMP-702-D-20	Prop	24VDC	0-10V	50ms - 5s	1.6 Amps	\$ 502.00
02-326012	EHH-AMP-702-K-20	Prop	24VDC	4-20mA	50ms - 5s	1.6 Amps	\$ 502.00
02-326013	EHH-AMP-712-D-20	Prop	12VDC	0-10V	50ms - 5s	3.0 Amps	\$ 502.00

## Proportional Valve Controllers



### Hydraforce Electronic Control Units (ECU)

CoreTek ECUs are general-purpose programmable controllers that can be used as stand-alone controllers or integrated with other CAN networked devices.

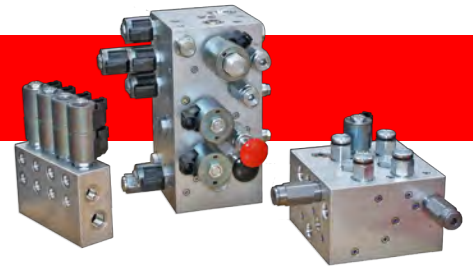
These controllers are designed to withstand the environmental demands of mobile off-highway equipment applications.

They feature flexible input and output configuration and are capable of driving up to 3.0 amps per output pin.

Part	Description	List
4000350	ECU-0809 - up to 17 total inputs & 8 outputs (configurable)	\$ 1060.00
4000351	ECU-0710 - up to 20 total inputs & 7 outputs (configurable)	\$ 1345.00
4000352	ECU-2415 - up to 49 total inputs & 24 outputs (configurable)	\$ 2055.00
4000355	ECU-2032 - up to 52 total inputs & 20 outputs (configurable)	\$ 2055.00
4000356	ECU-2820 - up to 52 total inputs & 28 outputs (configurable)	\$ 2055.00
4000360	Ampseal connector 23 pin black	\$ 65.00
4000361	Ampseal connector 23 pin grey	\$ 65.00
4000362	Ampseal connector 23 pin blue	\$ 65.00
4000363	Ampseal connector 8 pin black	\$ 30.00
4000381	Ampseal connector 35 pin	\$ 65.00
4000364	Ampseal socket (each)	\$ 3.00
4000369	Ampseal socket (100 pack)	\$ 290.00
4000365	Ampseal sealing plug (each)	\$ 1.00
4000370	Ampseal sealing plug (100 pack)	\$ 70.00
4000371	USB-CAN adaptor	\$ 2035.00

- Contact Hyspecs for connector kit required.

## Contents Section G – Excavator Valving & Accessories



### G1 Excavator Valving

- G1 Introduction
- G3 HS9501 - Pilot Valve
- G4 HS9501 - Quickhitch Valve – Double Acting
- G5 HS9502 - Tilt Control Valve (Low Flow)
- G6 HS9503 - Quickhitch Valve – Single Acting
- G7 HS9504 - Tilt & Thumb Valve (Low Flow)
- G8 HS9505 - Tilt Only With 5-Port Relief (Low Flow)
- G9 HS9506 - Load Sense Tilt Only with 5-Port Relief (Medium Flow)
- G10 HS9507 - Quickhitch, Tilt & Thumb Valve (Low Flow)
- G11 HS9508 - Quickhitch & Tilt with 5-Port Relief (Low Flow)
- G12 HS9509 - Quickhitch & Tilt with Cross-line Relief (Low Flow)
- G13 HS9512 - Thumb Control or Tilt (High Flow)
- G14 HS9515 - Two Stage Pilot Control of Main Spool
- G15 HS9516 - Tilt Control, with Cross-line Relief (Medium Flow)
- G16 HS9518 – Two Inlets, Quickhitch & Thumb Tilt Valve (High Flow)
- G17 HS9521 - Load Sense Tilt Control with Dual Counterbalance
- G18 HS9525 – Proportional Pilot Control
- G19 HS9526/HS9527 – Joystick Pattern Charger
- G20 A/HS8222P12GRCS – Dual Pump Flow Sharing Valve
- G21 A/HS8223P16GRCS – Dual Pump Higher Flow Sharing Valve
- G22 SAFEX™ Valves – Excavator Host Burst Safety Valves

### G24 Excavator Valving Accessories

- G24 Multi Function Ergonomic Handles

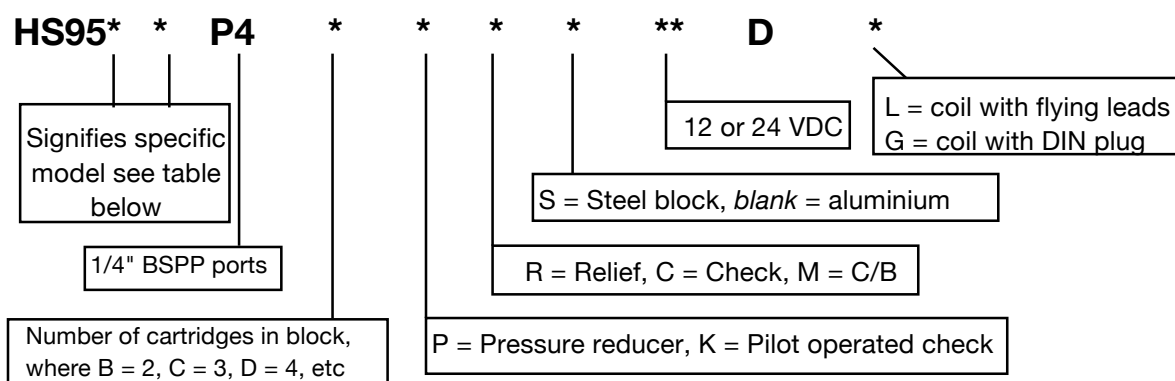


## Excavator Valving - Hyspecs

### Introduction

- **Custom designed cartridge valve manifolds, designed specifically to control excavator attachments.**
- **Features:**
  - Compact design allows valving to be positioned in confined spaces where others do not fit.
  - Manifold design minimises oil leakage paths
  - Reliable low current draw solenoids provide millions of cycle lifetime
  - Hardened spools and cages for longer life
  - All work ports are located on single block face
  - Can be operated continuously in temperatures up to 100°C without challenging the coils insulation.
  - Integral pressure reducing/relieving valves guard against pressure spikes and thermal shock.
  - Low pressure drops
- **Material:**
  - Aluminium or steel for pressures up to 240 bar and 350 bar respectively.
  - All steel blocks are nickel plated to protect your investment.

### Model Order Code



Code	Main Purpose	Valves Included
HS9501P4BP**D*	Piloting of main spool	Pressure reducer, 3 position solenoid valve
HS9501P4BPS**D*	Quickhitch	Pressure reducer, 2 position solenoid valve
HS9502P4CPS**D*	Tilt bucket (S/A or equal area ram/s)	Pressure reducer, 3 position solenoid valve, 4-port cross line relief valve
HS9503P4BK**D*	S/A Quickhitch	2 position solenoid valve, pilot operated check valve
HS9504P4EPS**D*	Tilt bucket (S/A or equal area ram/s) & Thumb	Pressure reducer, 3 position solenoid valve, 4-port cross line relief valve, Cetop 3, 5-port cross line relief valve
HS9505P4DPS**D*	Tilt bucket (D/A ram/s)	Pressure reducer, 3 position solenoid valve, 5-port cross line relief valve
HS9506P4EPRS**D*	Load sense Tilt bucket (D/A ram/s)	Pressure reducer, Load sensing 3 position solenoid valve, 5-port cross line relief valve

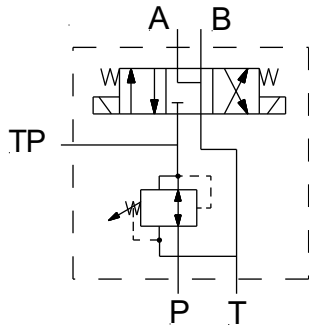
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## Excavator Valving - Hyspecs

Code	Main Purpose	Valves Included
<b>HS9507P4FPS**D*</b>	Tilt (S/A or equal area ram/s), Quickhitch & Thumb	Pressure reducer, 2 & 3 position solenoid valves, 4-port cross line relief valve, Cetop 3, 5-port cross line relief valve
<b>HS9508P4EPS**D*</b>	Quickhitch & Tilt (Low Flow) with 5 port relief	Pressure reducer, 2 & 3 position solenoid valves 5-port cross line relief for Tilt.
<b>HS9509P4DPS**D*</b>	Quickhitch & Tilt (Low Flow) with X-line relief	Pressure reducer, 2 & 3 position solenoid valves cross line relief for Tilt.
<b>HS9512CPRS**</b>	Thumb or Tilt Control (High Flow)	Pressure reducer, Cetop 3 solenoid valve, 5-port relief valve.
<b>HS9515P4CP**D*</b>	Two stage pilot control of main spool	Pressure reducer, 3-position solenoid valve and 2-position 3 way solenoid valve
<b>HS9516P4CPS**D*</b>	Tilt control, high flow	Pressure reducer, 3-position solenoid valve, cross line relief
<b>HS9518P6GPRCSD*</b>	Two Inlets, Quickhitch & Thumb or Tilt Valve	Pressure reducer, Cetop 3 solenoid valve, 5-port relief valve, 2-position 4 way solenoid and check valves
<b>HS9521P6FPMS**D*</b>	Load sense tilt control with dual counterbalance	Pressure reducer, Cetop 3, load sense check and double counterbalance valve
<b>HS9525P4BP</b>	Proportional pilot control	Two proportional pressure reducing/relieving valves
<b>HS9526U7C</b>	Joystick pattern changer between Hitachi & ISO	Three 2- position 4-way solenoid valves
<b>HS9527U7C</b>	Joystick pattern changer with manual override between Hitachi & ISO	Three size 10 2-position 4-way solenoid valves with manual override
<b>A/HS8222P12GRCS</b>	Dual Pump Flow Sharing Valve	Designed up to 190 LPM attachment. The valve will deliver priority flow from each main pump to the attachment depending on demand from load sensing line.
<b>A/HS8223P16GRCS</b>	Dual Pump Flow Sharing Valve	Designed for higher flow (up to 150 x 2 LPM) attachment. The valve will deliver priority flow from each main pump to the attachment depending on demand from load sensing line.

## Excavator Valving - Hyspecs

### HS9501 - Pilot Valves



- Pilot valves are used to provide pilot pressure to the auxiliary spool on an excavator. Auxiliary spools are often used to attach rotating grapples. This valve gives the operator fingertip control of that new attachment. A pressure reducer/reliever provides the user with a means of setting up the desired flow with proportional auxiliary spools.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9501P4BP**DL	Pilot valve, aluminium, flying leads	11	207	12 or 24	\$ 693.00
HS9501P4BP**DG	Pilot valve, aluminium, DIN plug with LED	11	207	12 or 24	\$ 777.00

\*\* Denotes coil voltage

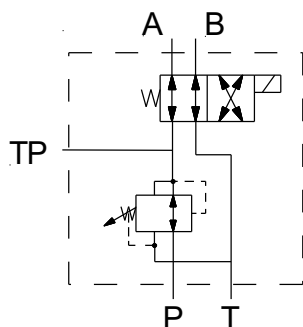
- Valve includes alloy manifold block, 1 x 4-way 3-position solenoid cartridge valve and coils and 1 x pressure reducer/reliever.
- 5 ports, A, B, P, T and TP, all 1/4" BSPP
- Valve overall dimensions, 248mm x 63mm x 51mm (L x W x H)
- Electro-proportional directional cartridge option is available – *Consult Hyspecs*

Spare Components	Description	List
HS9501P4BP_B	Pilot manifold, aluminium	\$ 228.00
PR10-32A-0-N-04 or	Pressure reducer/reliever (5.5 – 27.6bar)	\$ 152.00
PR10-32A-0-N-08	Pressure reducer/reliever (13.8 – 55.2bar)	\$ 152.00
SV08-47D-0-N-0	4-way, 3-position solenoid valve (P blocked, A & B to T in neutral)	\$ 221.00
6306012	12 VDC coil, 8 size, DIN plug	\$ 69.00
6306024	24 VDC coil, 8 size, DIN plug	\$ 69.00
6302012	12 VDC coil, 8 size, flying leads	\$ 46.00
6302024	24 VDC coil, 8 size, flying leads	\$ 46.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

- E coils and other terminations available – *Consult Hyspecs*

## Excavator Valving - Hyspecs

### HS9501 - Quick Hitch Valves – Double Acting



- Quick hitch valves are used to clamp, hold and release excavator attachments via a quick hitch cylinder at the end of the excavator boom.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9501P4BPS**DL	Quick hitch valve, steel, flying leads	11	350	12 or 24	\$ 693.00
HS9501P4BPS**DG	Quick hitch valve, steel, DIN plug with LED	11	350	12 or 24	\$ 766.00

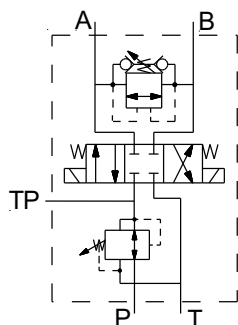
\*\* Denotes coil voltage

- Valve includes steel manifold block, 1 x 4-way 2-position solenoid valve and coil and a pressure reducer/reliever.
- 5 ports, A, B, P, T and TP, all 1/4" BSPP
- Valve overall dimensions, 208mm x 63mm x 51mm (L x W x H)

Spare Components	Description	List
HS9501P4BPS_B	Quick hitch manifold, steel	\$ 304.00
PR50-36A-0-P-50	Pressure reducer/reliever (207 - 350bar)	\$ 221.00
SV08-40-0-N-0	4-way, 2-position solenoid valve	\$ 153.00
6306012	12 VDC coil, 8 size, DIN plug	\$ 69.00
6306024	24 VDC coil, 8 size, DIN plug	\$ 69.00
6302012	12 VDC coil, 8 size, flying leads	\$ 46.00
6302024	24 VDC coil, 8 size, flying leads	\$ 46.00
<b>SV58-40-0-P-0</b>	<b>For pressures above 207bar</b>	\$153.00
6356012	12 VDC coil, 10 size, DIN plug	\$ 75.00
6356024	24 VDC coil, 10 size, DIN plug	\$ 75.00
6352012	12 VDC coil, 10 size, flying leads	\$ 57.00
6352024	24 VDC coil, 10 size, flying leads	\$ 57.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

## Excavator Valving - Hyspecs

### HS9502 – Tilt Control Valves (Low Flow)



- Designed to control a Tilt Bucket with single acting or equal area ram/s.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9502P4CPS**DL	Tilt valve, steel, flying leads, in-built 4-port x-line protection	11	350	12 or 24	\$ 1041.00
HS9502P4CPS**DG	Tilt valve, steel, DIN plug with LED, in-built 4-port x-line protection	11	350	12 or 24	\$ 1125.00

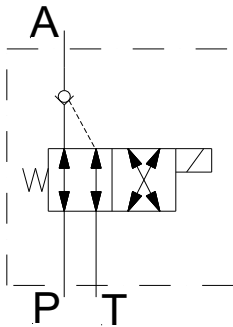
\*\* Denotes coil voltage

- Valve includes steel manifold block, 1 x 4-way 3-position solenoid cartridge valve and coils, 1 x bi-directional relief valve and 1 x pressure reducer/reliever.
- 5 ports, A, B, P, T and TP, all 1/4" BSPP
- Valve overall dimensions, 248mm x 63mm x 51mm (L x W x H)
- Electro-proportional directional cartridge option is available – *Consult Hyspecs*

Spare Components	Description	List
HS9502P4CPS	Tilt manifold, steel	\$ 332.00
RVBD-08-N-S-0-50	Bi-directional relief valve	\$ 175.00
PR50-36A-0-P-50	Pressure reducer/reliever (maximum setting 207bar)	\$ 221.00
SV08-47C-0-N-0	4-way, 3-position solenoid valve (All ports blocked in neutral)	\$ 221.00
6306012	12 VDC coil, 8 size, DIN plug	\$ 69.00
6306024	24 VDC coil, 8 size, DIN plug	\$ 69.00
6302012	12 VDC coil, 8 size, flying leads	\$ 46.00
6302024	24 VDC coil, 8 size, flying leads	\$ 46.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

## Excavator Valving - Hyspecs

### HS9503 - Quick Hitch Valves - Single Acting



- Single acting quick hitch valves are used to clamp, hold and release excavator attachments via a single acting quick hitch cylinder at the end of the excavator boom.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9503P4BK**DL	S/A Quick hitch valve, aluminium, flying leads	11	207	12 or 24	\$ 593.00
HS9503P4BK**DG	S/A Quick hitch valve, aluminium, DIN plug with LED	11	207	12 or 24	\$ 635.00

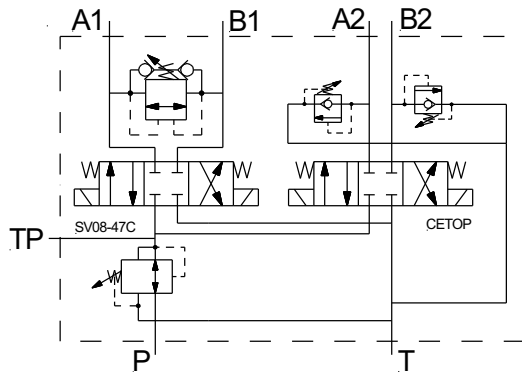
\*\* Denotes coil voltage

- Valve includes steel manifold block, 1 x 3-way 2-position solenoid valve and coil and a pilot operated check valve.
- 3 ports, A, P and T, 1/4" BSPP
- Valve overall dimensions, 85mm x 37mm x 124mm (L x W x H)

Spare Components	Description	List
HS9503P4BK	Quick hitch manifold, aluminium	\$ 304.00
SV08-40-0-N-0	3-way, 2-position solenoid valve	\$ 153.00
PC08-30-0-N-0	Pilot operated check valve	\$ 101.00
6306012	12 VDC coil, 8 size, DIN plug	\$ 69.00
6306024	24 VDC coil, 8 size, DIN plug	\$ 69.00
6302012	12 VDC coil, 8 size, flying leads	\$ 46.00
6302024	24 VDC coil, 8 size, flying leads	\$ 46.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

## Excavator Valving - Hyspecs

### HS9504 - Tilt (Low Flow) & Thumb Valves



- Designed to control a Tilt Bucket with single acting or equal area ram/s and Thumb.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9504EPS**DL	Tilt & thumb valve, steel, flying leads, in-built 4-port and 5-port x-line protection	11 & 60	350	12 or 24	\$ 2340.00
HS9504EPS**DG	Tilt & thumb valve, steel, DIN plug with LED, in-built 4-port and 5-port x-line protection	11 & 60	350	12 or 24	\$ 2424.00

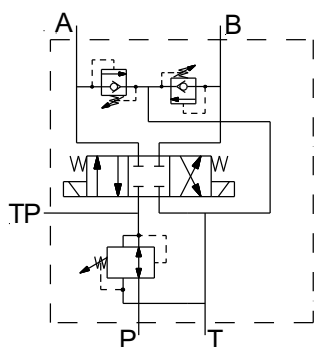
\*\* Denotes coil voltage

- Valve includes steel manifold block, 1 x 4-way 3-position solenoid cartridge valve and coils, 1 x Cetop 3 valve, 1 x bi-directional relief valve, 2 x relief valves with anti-cav, and 1 x pressure reducer/reliever.
- P (3/8" BSPP) & T(1/2" BSPP); TP, A1 & B1 (1/4" BSPP) and A2 & B2 (3/8" BSPP)
- Valve overall dimensions, 250mm x 220mm x 180mm (L x W x H)
- Electro-proportional directional cartridge option is available – *Consult Hyspecs*

Spare Components	Description	List
HS9504EPS_B	Tilt and thumb manifold, steel	\$ 1042.00
RVBD-08-N-S-0-50	Bi-directional relief valve	\$ 175.00
RVPP-10-N-S-0-50	Relief valve with anti-cavitation protection (3.5 – 315bar)	\$ 180.00
PR50-38A-0-P-33	Pressure reducer/reliever (55 – 207bar)	\$ 270.00
SV08-47C-0-N-0	4-way, 3-position solenoid valve (All ports blocked in neutral)	\$ 221.00
SWH-G02-C2-D**	Cetop 3 valve, 4-way, 3-position solenoid valve (All ports blocked in neutral) *Use Eaton Cetop for higher pressure POA.	\$ 243.00
6306012	12 VDC coil, 8 size, DIN plug	\$ 69.00
6306024	24 VDC coil, 8 size, DIN plug	\$ 69.00
6302012	12 VDC coil, 8 size, flying leads	\$ 46.00
6302024	24 VDC coil, 8 size, flying leads	\$ 46.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

## Excavator Valving - Hyspecs

### HS9505 - Tilt with 5-Port Relief (Low Flow)



- Designed to control a Tilt Bucket with a differential area cylinder.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9505P4DPS**	Tilt valve, steel, flying leads, in-built 5-port x-line protection	11	350	12 or 24	\$ 1474.00
HS9505P4DPS**	Tilt valve, steel, DIN plug with LED, in-built 5-port x-line protection	11	350	12 or 24	\$ 1561.00

\*\* Denotes coil voltage

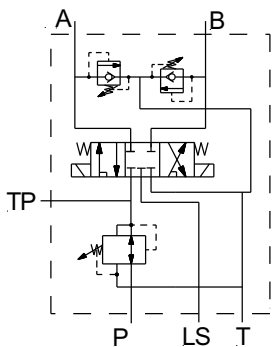
- Valve includes steel manifold block, 1 x 4-way 3-position solenoid cartridge valve and coils, 2 x relief valves with anti-cav, and 1 x pressure reducer/reliever.
- 5 ports, A, B, P, T and TP, all 1/4" BSPP
- Valve overall dimensions, 248mm x 75mm x 117mm (L x W x H)
- Electro-proportional directional cartridge option is available – *Consult Hyspecs*

Spare Components	Description	List
HS9505P4DPS_B	Tilt with 5-port relief manifold, steel	\$ 567.00
RVPP-10-N-S-0-50	Relief valve with anticav protection (3.5 – 207bar)	\$ 180.00
PR50-36A-0-P-50	Pressure reducer/reliever (maximum setting 207bar)	\$ 221.00
SV08-47C-0-N-0	4-way, 3-position solenoid valve (All ports blocked in neutral)	\$ 221.00
6306012	12 VDC coil, 8 size, DIN plug	\$ 69.00
6306024	24 VDC coil, 8 size, DIN plug	\$ 69.00
6302012	12 VDC coil, 8 size, flying leads	\$ 46.00
6302024	24 VDC coil, 8 size, flying leads	\$ 46.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00



## Excavator Valving - Hyspecs

### HS9506 - Load Sense Tilt or Thumb with 5-Port Relief (Medium Flow)



- Designed to control a tilt bucket with a double acting cylinder with in-built load sensing.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9506DPRS**DL	Tilt valve, steel, flying leads, in-built 5-port x-line protection, load sense	23	350	12 or 24	\$ 1401.00
HS9506DPRS**DG	Tilt valve, steel, DIN plug with LED, in-built 5-port x-line protection, load sense	23	350	12 or 24	\$ 1485.00

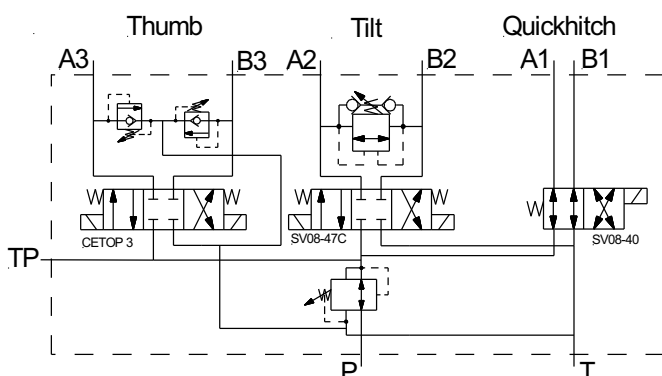
\*\* Denotes coil voltage

- Valve includes steel manifold block, 1 x 5-way 3-position solenoid cartridge valve and coils, 2 x relief valves with anti-cav, 1 x pressure reducer/reliever cartridge
- 6 ports, A, B, P, TP, LS -1/4" BSPP and T -3/8" BSPP
- Valve overall dimensions, 213mm x 75mm x 154mm (L x W x H)
- Electro-proportional directional cartridge option is available – Consult Hyspecs

Spare Components	Description	List
HS9506DPRS_B	Tilt with 5-port relief manifold, steel	\$ 485.00
RVPP-10-N-S-0-50	Relief valve with anti-cavitation protection (3.5 – 250bar)	\$ 180.00
PR50-36A-0-P-50	Pressure reducer/reliever (maximum setting 250bar)	\$ 221.00
SV10-57C-0-N-0	5-way, 3-position solenoid valve (All ports blocked in neutral)	\$ 257.00
6356012	12 VDC coil, 10 size, DIN plug	\$ 75.00
6356024	24 VDC coil, 10 size, DIN plug	\$ 75.00
6352012	12 VDC coil, 10 size, flying leads	\$ 57.00
6352024	24 VDC coil, 10 size, flying leads	\$ 57.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

## Excavator Valving - Hyspecs

### HS9507 - Quickhitch, Tilt (Low Flow) & Thumb Valves



- Designed to control a Quickhitch, Tilt Bucket with single acting or equal area ram/s and a Thumb.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9507FPS**DL	Quickhitch, tilt & thumb valve, steel, flying leads, in-built 4-port and 5-port x-line protection	11 & 60	350	12 or 24	\$ 2617.00
HS9507FPS**DG	Quickhitch, tilt & thumb valve, steel, DIN plug with LED, in-built 4-port and 5-port x-line protection	11 & 60	350	12 or 24	\$ 2743.00

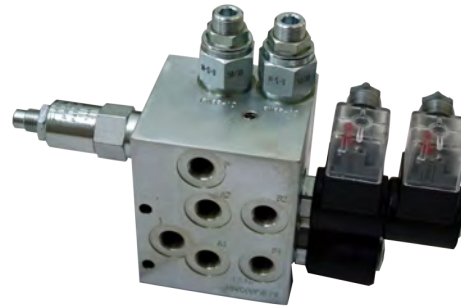
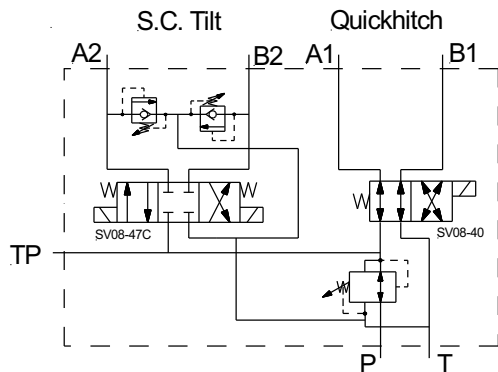
\*\* Denotes coil voltage

- Valve includes steel manifold block, 1 x 4-way 3-position solenoid cartridge valve and coils, 1 x Cetop 3 valve, 1 x 4-way 2-position solenoid cartridge valve and coil, 1 x bi-directional relief valve, 2 x relief valves with anti-cav, and 1 x pressure reducer/reliever.
- 9 ports, P, A3, B3 – 3/8" BSPP, A1, B1, A2, B2, TP – 1/4" BSPP, T – 1/2" BSPP
- Valve overall dimensions, 150mm x 170mm x 180mm (L x W x H)
- Electro-proportional directional cartridge option is available – *Consult Hyspecs*

Spare Components	Description	List
HS9507FPS_B	Quickhitch, tilt and thumb manifold, steel	\$ 1120.00
RVBD-08-N-S-0-50	Bi-directional relief valve (3.5 – 207bar)	\$ 175.00
RVPP-10-N-S-0-50	Relief valve with anti-cavitation protection (3.5 – 315bar)	\$ 180.00
PR50-38A-0-P-33	Pressure reducer/reliever (maximum setting 207bar)	\$ 270.00
SV08-40-0-N-0	4-way, 2-position solenoid valve	\$ 153.00
SV08-47C-0-N-0	4-way, 3-position solenoid valve (All ports blocked in neutral)	\$ 221.00
SWH-G02-C2-D**	Cetop 3 valve, 3-position (All ports blocked in neutral)	\$ 243.00
6306012	12 VDC coil, 8 size, DIN plug	\$ 69.00
6306024	24 VDC coil, 8 size, DIN plug	\$ 69.00
6302012	12 VDC coil, 8 size, flying leads	\$ 46.00
6302024	24 VDC coil, 8 size, flying leads	\$ 46.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

## Excavator Valving - Hyspecs

### HS9508 - Quickhitch & Tilt (Low Flow) with 5-Port Relief



- Designed to control a Quickhitch and Tilt Bucket with a double acting ram/s.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9508P4EPS**DL	Quickhitch and tilt valve, steel, flying leads, in-built 5-port x-line protection	11	350	12 or 24	\$ 1876.00
HS9508P4EPS**DG	Quickhitch and tilt valve, steel, DIN plug with LED, in-built 5-port x-line protection	11	350	12 or 24	\$ 2002.00

\*\* Denotes coil voltage

- Valve includes steel manifold block, 1 x 4-way 3-position solenoid cartridge valve and coils, 1 x 4-way 2-position solenoid cartridge valve and coil, 2 x relief valves with anti-cav, and 1 x pressure reducer/reliever.
- 7 ports, P, TP, T, A1, B1, A2 & B2 all 1/4" BSPP
- Valve overall dimensions, 248mm x 100mm x 137mm (L x W x H)
- Electro-proportional directional cartridge option is available – *Consult Hyspecs*

Spare Components	Description	List
HS9508P4EPS_B	Quickhitch and tilt with 5-port relief manifold, steel	\$ 767.00
RVPP-10-N-S-0-50	Relief valve with anti-cavitation protection (3.5 – 207bar)	\$ 180.00
PR50-36A-0-P-50	Pressure reducer/reliever (maximum setting 207bar)	\$ 221.00
SV08-40-0-N-0	4-way, 2-position solenoid valve	\$ 153.00
SV08-47C-0-N-0	4-way, 3-position solenoid valve (All ports blocked in neutral)	\$ 221.00
6306012	12 VDC coil, 8 size, DIN plug	\$ 69.00
6306024	24 VDC coil, 8 size, DIN plug	\$ 69.00
6302012	12 VDC coil, 8 size, flying leads	\$ 46.00
6302024	24 VDC coil, 8 size, flying leads	\$ 46.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

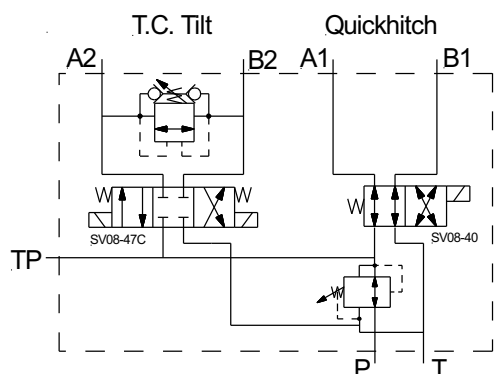
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**G11 Excavator Valving & Accessories**

## Excavator Valving - Hyspecs

### HS9509 - Quickhitch & Tilt (Low Flow)



- Designed to control a Quickhitch and Tilt Bucket with twin single acting or equal area ram/s.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9509P4DPS**DL	Quickhitch and tilt valve, steel, flying leads, in-built 4-port x-line protection	2 x 11	350	12 or 24	\$ 1620.00
HS9509P4DPS**DG	Quickhitch and tilt valve, steel, DIN plug with LED, in-built 4-port x-line protection	2 x 11	350	12 or 24	\$ 1746.00

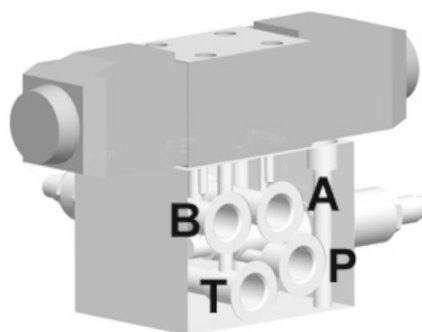
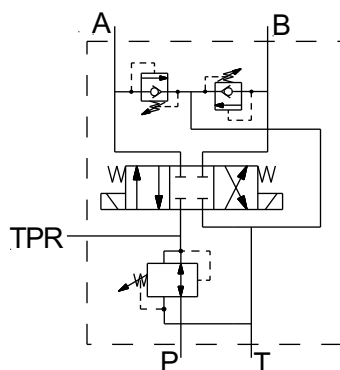
\*\* Denotes coil voltage

- Valve includes steel manifold block, 1 x 4-way 3-position solenoid cartridge valve and coils, 1 x 4-way 2-position solenoid cartridge valve and coil, 1 x bi-directional relief valve and 1 x pressure reducer/reliever.
- 7 ports, P, T, TP, 2 x A & B, all 1/4" BSPP
- Valve overall dimensions, 248mm x 100mm x 105mm (L x W x H)
- Electro-proportional directional cartridge option is available – *Consult Hyspecs*

Spare Components	Description	List
HS9509P4DPS_B	Quickhitch and tilt with 5-port relief manifold, steel	\$ 658.00
RVBD-08-N-S-0-50	Bi-directional relief valve (3.5 – 207bar)	\$ 175.00
PR50-36A-0-P-50	Pressure reducer/reliever (maximum setting 207bar)	\$ 221.00
SV08-40-0-N-0	4-way, 2-position solenoid valve	\$ 153.00
SV08-47C-0-N-0	4-way, 3-position solenoid valve (All ports blocked in neutral)	\$ 221.00
6306012	12 VDC coil, 8 size, DIN plug	\$ 69.00
6306024	24 VDC coil, 8 size, DIN plug	\$ 69.00
6302012	12 VDC coil, 8 size, flying leads	\$ 46.00
6302024	24 VDC coil, 8 size, flying leads	\$ 46.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

## Excavator Valving - Hyspecs

### HS9512 - Thumb or Tilt Control (High Flow)



- Designed to control a thumb via a D/A cylinder.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9512CPRS**	Thumb control of a single D/A cylinder, steel manifold, 5-port x-line protection	60	350	12 or 24	\$ 1577.00

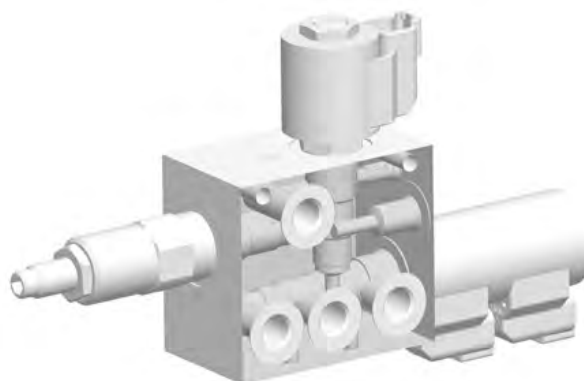
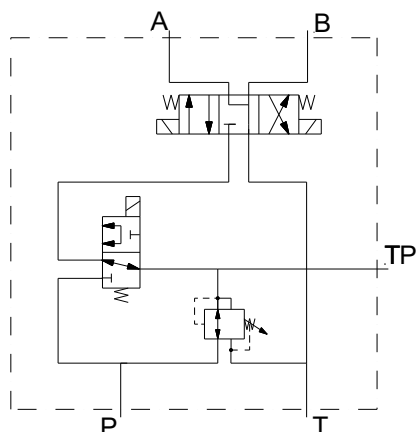
\*\* Denotes coil voltage

- Valve includes steel manifold block, 1 x Cetop 3 valve, 2 x relief valves with anti-cav and 1 x pressure reducer/reliever.
- 5 ports, P, T, A & B – 3/8" BSPP, TPR – 1/4" BSPP
- Electro-proportional directional valve option is available – *Consult Hyspecs*

Spare Components			List
HS9512CPRS	Thumb manifold, steel		\$ 767.00
RVPP-10-N-S-0-50	Relief valve with anti-cavitation protection (3.5 – 315bar)		\$ 180.00
PR50-38A-0-P-33	Pressure reducer/reliever (55 – 228bar)		\$ 270.00
SWH-G02-C2-D**	Cetop 3 valve, 4-way, 3-position solenoid valve (All ports blocked in neutral)		\$ 243.00

## Excavator Valving - Hyspecs

### HS9515 - Two Stage Pilot Control of Main Spool



- Designed to control the main spool of an excavator, partial flow or full flow.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9515P4CP**DL	Pressure reducer, 3 position solenoid valve and 2 position 3 way solenoid selector, flying leads	11	207	12 or 24	\$ 938.00
HS9515P4CP**DG	Pressure reducer, 3 position solenoid valve and 2 position 3 way solenoid selector, DIN plug with LED	11	207	12 or 24	\$ 1064.00

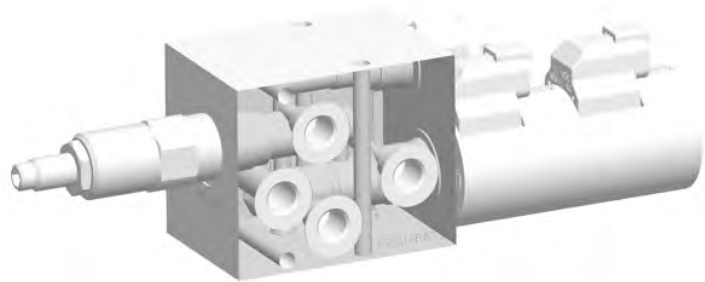
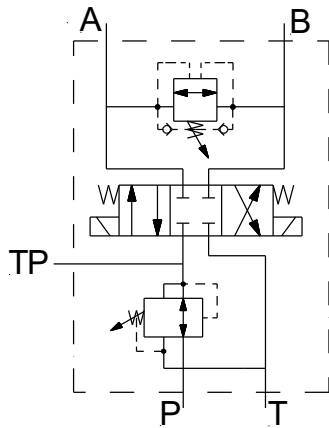
\*\* Denotes coil voltage

- Valve includes aluminium manifold, 1 x 3-way 2-position solenoid cartridge with coils and 1 x pressure reducer/reliever.
- 5 ports, P, T, A, B & TP, all 1/4" BSPP
- Valve overall dimensions, 299mm x 122mm x 50mm (L x W x H)

Spare Components	Description	List
HS9515P4CP	Two stage pilot control manifold, aluminium	\$ 295.00
PR10-32A-0-N-04 or PR10-32A-0-N-08	Pressure reducer/reliever (5.5 – 27.6bar) Pressure reducer/reliever (13.8 – 55.2bar)	\$ 152.00 \$ 152.00
SV08-47D-0-N-0	4-way, 3-position solenoid valve	\$ 221.00
SV08-31-0-N-0	3-way, 2-position solenoid valve	\$132.00
6306012	12 VDC coil, 8 size, DIN plug	\$ 69.00
6306024	24 VDC coil, 8 size, DIN plug	\$ 69.00
6302012	12 VDC coil, 8 size, flying leads	\$ 46.00
6302024	24 VDC coil, 8 size, flying leads	\$ 46.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

## Excavator Valving - Hyspecs

### HS9516 - Tilt Control (Medium Flow)



- Designed to control a Tilt Bucket with larger single acting or equal area ram/s.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9516P4CPS**DL	Pressure reducer, 3 position solenoid valve, cross line relief, flying leads	23	350	12 or 24	\$ 1145.00
HS9516P4CPS**DG	Pressure reducer, 3 position solenoid valve, cross line relief, DIN plug with LED	23	350	12 or 24	\$ 1229.00

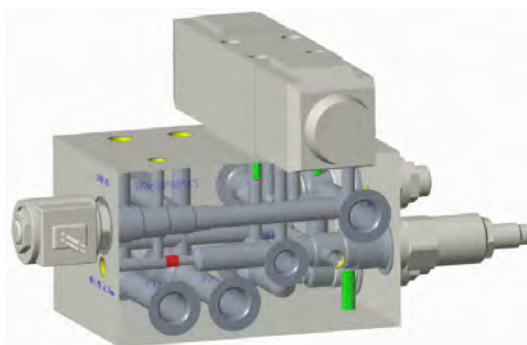
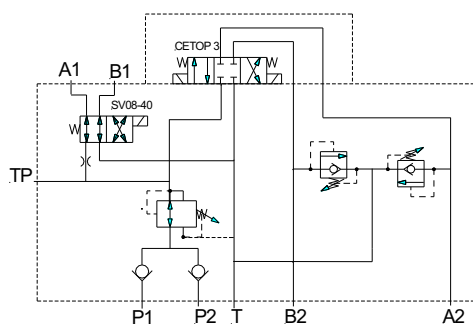
\*\* Denotes coil voltage

- Valve includes steel manifold, 1 x 4-way 3-position solenoid cartridge and coil, 1 x bi-directional relief valve and 1 x pressure reducer/reliever.
- 5 ports, P, T, TP, A & B, all 1/4" BSPP
- Valve overall dimensions, 254mm x 75mm x 62.5mm (L x W x H)

Spare Components	Description	List
HS9516P4CPS_B	Tilt control, high flow manifold, steel	\$ 380.00
PR50-36A-0-P-50	Pressure reducer/reliever (maximum setting 207bar)	\$ 221.00
SV10-47C-0-N-0	4-way, 3-position solenoid valve	\$ 277.00
RVBD-08-N-S-0-50	B-directional relief valve	\$ 175.00
6356012	12 VDC coil, size 10, DIN plug	\$ 75.00
6356024	24 VDC coil, size 10, DIN plug	\$ 75.00
6352012	12 VDC coil, size 10, flying leads	\$ 57.00
6352024	24 VDC coil, size 10, flying leads	\$ 57.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

## Excavator Valving - Hyspecs

### HS9518 - Two Inlets, Quickhitch & Thumb or Tilt Valve (High Flow)



- Designed to control a Quickhitch and Thumb (single D/A ram) or Tilt (High Flow).

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9518P6GPR S**DL	Two inlets, Quickhitch & thumb valve, checks, pressure reducer, 2 & 3 position solenoid valves (cetop3 for thumb), 5-port cross line relief valve on the thumb, steel, flying leads	11 & 60	350	12 or 24	\$ 2269.00
HS9518P6GPR S**DG	Two inlets, Quickhitch & thumb valve, checks, pressure reducer, 2 & 3 position solenoid valves (cetop3 for thumb), 5-port cross line relief valve on the thumb, steel, DIN plug with LED	11 & 60	350	12 or 24	\$ 2311.00

\*\* Denotes coil voltage

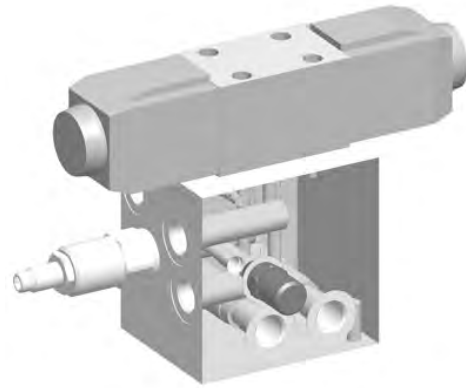
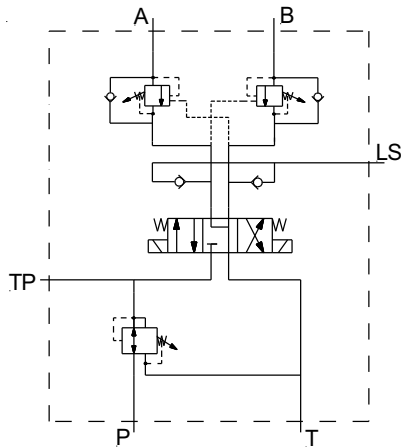
- Valve includes steel manifold block, 1 x Cetop 3 valve, 1 x 4-way 2-position solenoid cartridge valve and coil, 2 x relief valves with anti-cavitation, 2 x check valves, and 1 x pressure reducer/reliever.
- 8 ports, P1, P2, T, A2 & B2 -3/8"BSPP, TP, A1 & B1 - 1/4"BSPP
- Electro-proportional directional cartridge option is available – *Consult Hyspecs*
- Valve overall dimensions, 276mm x 109mm x 170mm (L x W x H)

Spare Components			List
HS9518P6GPRS	Quickhitch, tilt and thumb manifold, steel		\$ 1100.00
RVPP-10-N-S-0-50	Relief valve with anti-cavitation protection		\$ 180.00
PR50-38A-0-P-33	Pressure reducer/reliever		\$ 270.00
SV08-40-0-N-0	4-way, 2-position solenoid valve		\$ 153.00
CV50-20	High pressure check valve		\$ 92.00
SWH-G02-C2-D**	Cetop 3 valve, 4-way, 3-position solenoid valve (All ports blocked in neutral)		\$ 243.00
6306012	12 VDC coil, 8 size, DIN plug		\$ 69.00
6306024	24 VDC coil, 8 size, DIN plug		\$ 69.00
6302012	12 VDC coil, 8 size, flying leads		\$ 46.00
6302024	24 VDC coil, 8 size, flying leads		\$ 46.00
ISOL-30R	DIN plug to suit DC coils		\$ 19.00



## Excavator Valving - Hyspecs

### HS9521 - Load Sense Tilt or Thumb Control with Dual Counterbalance



- Designed to control a high flow tilt bucket or thumb with built-in load sense & dual counterbalance.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9521P6FPMS**DG	Pressure reducer, Cetop 3, load sense checks, double counterbalance valves, DIN plug with LED	60	350	12 or 24	\$ 1461.00

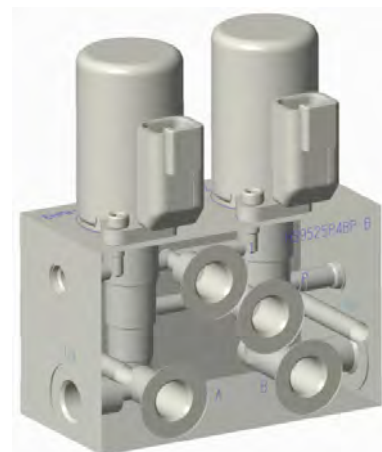
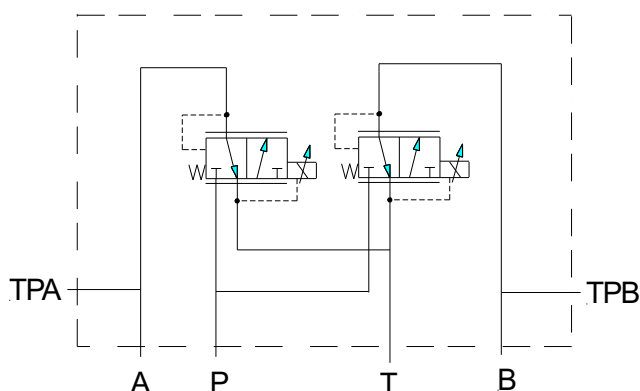
\*\* Denotes coil voltage

- Valve includes steel manifold, 1 x Cetop 3 valve, 2 x counterbalance valves, 2 x check valves and 1 x pressure reducer/reliever.
- 6 ports, P, T A & B – 3/8" BSPP; LS & TP – 1/4" BSPP
- Valve overall dimensions, 179mm x 123mm x 165mm (L x W x H)

Spare Components	Description	List
HS9521P6FPMS_B	Load sense tilt control with dual counterbalance manifold, steel	\$ 575.00
CBCG-LJN	Counterbalance valve	\$ 298.00
PR50-38A-0-P-33	Pressure reducer/reliever (55 – 228bar)	\$ 270.00
CV04-20	Load sense check valve	\$ 46.00
SWH-G02-C4-D**	Cetop 3 valve, 3-position solenoid valve (P blocked, A & B to T in neutral)	\$ 243.00
NWH-02-D**	12 or 24 VDC coil, DIN plug	\$ 80.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

## Excavator Valving - Hyspecs

### HS9525 – Proportional Pilot Control



- Designed to provide proportional pilot pressure to the auxiliary spool on an excavator to supply proportional flow to attachments.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9525P4BP**	Proportional pilot valve Aluminium, Deutsch connector	18	240	12 or 24	\$ 854.00

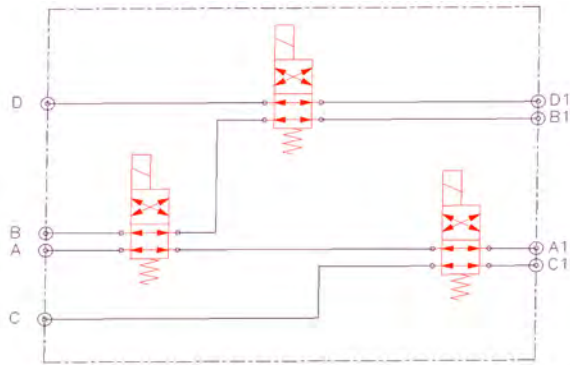
\*\* Denotes coil voltage

- Valve includes alloy manifold block, 2 x proportional reducing/relieving drop-in-style valves with coils and matching Deutsch connectors
- 6 ports, A, B, TPA, TPB, P & T, all 1/4 " BSPP
- Valve overall Dimensions: 120mm x 100mm x 50mm
- Plug-In style dual/single valve driver EVDR-0201 as a controller option
- Refer proportional valve controller page for controller options

Spare Components	Description	List
HS9525P4BP_B	Proportional pilot manifold aluminium	\$ 240.00
EHPR98-T38B-**ER	Proportional reducing/relieving with coil (0 – 57bar)	\$ 285.00
4001417	Deutsch mating connector	\$ 22.00

## Excavator Valving - Hyspecs

### HS9526/HS9527 – Joystick Pattern Changer



- Designed for joystick pattern changer between Hitachi and ISO.

Model	Description	Q max l/min	P max bar	Voltage DC	List
HS9526U7C**DL	Three 08, size 2 position, 4 way solenoid valves, flying leads	11	207	12 or 24	\$ 1032.00
HS9526U7C**DG	Three 08, size 2 position, 4 way solenoid valves, DIN plug with LED	11	207	12 or 24	\$ 1158.00
HS9527U7C**DL	Three size 10, 2 position, 4 way solenoid valves with manual override, flying leads	23	207	12 or 24	\$ 1437.00
HS9527U7C**DG	Three size 10, 2 position, 4 way solenoid valves with manual override, DIN plug with LED	23	207	12 or 24	\$ 1548.00

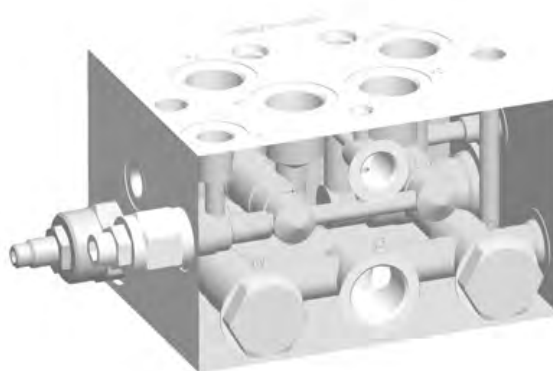
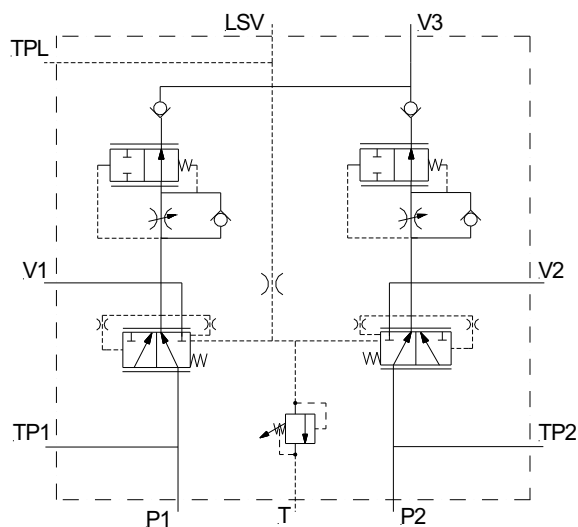
\*\* Denotes coil voltage

- Valve includes aluminium manifold block, 3 x 4-way, 2 position solenoid cartridges and coils
- 8 ports, A, B, C, D & A1, B1, C1, D1, all 7/16" UNO
- Valve overall Dimensions: HS9526 122mm x 120mm x 50mm
- HS9527 178mm x 150mm x 75mm

Spare Components	Description	List
HS9526U7C	Joystick pattern changer size 8 manifold aluminium	\$ 435.00
HS9527U7C	Joystick pattern changer size 10 manifold aluminium	\$ 510.00
SV08-40-0-N-0	4-way, 2 position solenoid valve	\$ 153.00
SV10-40M-0-N-0	4-way, 2 position solenoid valve with manual override	\$ 252.00
63060**	12 or 24 VDC coil, 8 size, DIN plug	\$ 69.00
63020**	12 or 24 VDC coil, 8 size, flying leads	\$ 46.00
63560**	12 or 24 VDC coil, 10 size, DIN plug	\$ 75.00
63520**	12 or 24 VDC coil, 10 size, flying leads	\$ 57.00
ISOL-30R	DIN plug to suit DC coils	\$ 19.00

## Excavator Valving - Hyspecs

### A/HS8222P12GRCS - Dual Pump Flow Sharing Valve



- Designed for high flow (up to 190 LPM) attachment. The valve will deliver priority flow from each main pump to port the attachment (port V3) depending on demand from load sensing line.

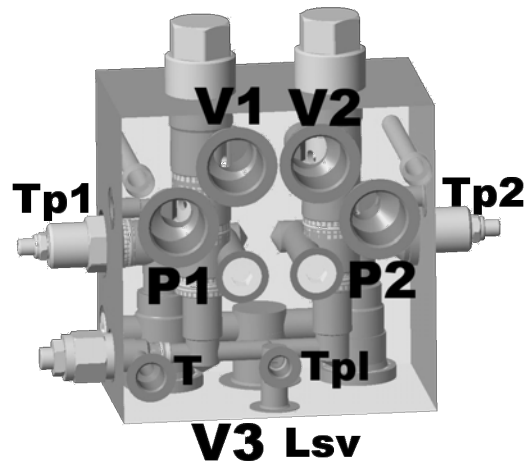
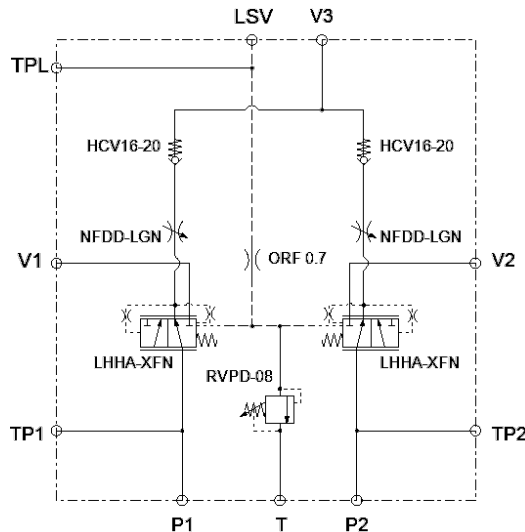
Model	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
A/HS8222P12GRCS	130 x 2 Input	350	Load sense on demand with maximum flow and pressure limiter	3/4" main ports, 3/8" load sense and tank ports, 1/4" test ports	\$ 2263.00

- Manifold dimensions, 165 x 126 x 100mm (excluding cartridges)

Spare Components	Description	List
HS8222P12GRCS	Dual pump flow sharing manifold, steel	\$ 1065.00
FCVL-12	Flow control to limit maximum flow taking	\$ 145.00
EC12-43-0-N-160	Priority-on-demand pressure compensator	\$ 257.00
CV11-12	Check valve (02-172411)	\$ 147.00
RVPD-08	Relief valve (3.5 – 350bar)	\$ 105.00

## Excavator Valving - Hyspecs

### A/HS8223P16GRCS - Dual Pump Higher Flow Sharing Valve



- Designed for higher flow (up to 150 x 2 LPM) attachment. The valve will deliver priority flow from each main pump to the attachment (port V3) depending on demand from load sensing line.

Model	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
A/HS8223P16GRCS	240 x 2 Input	350	Load sense on demand with maximum flow and pressure limiter	1" main ports, 3/8" load sense and tank ports, 1/4" test ports	\$ 3160.00

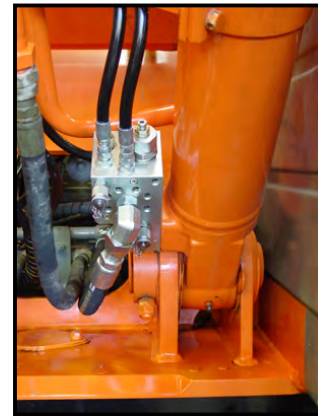
- Manifold dimensions, 176 x 176 x 110mm (excluding cartridges)

Spare Components	Description	List
HS8223P16GRCS*	Dual pump flow sharing manifold, steel	\$1450.00
NFDD-LGN*	Flow control to limit maximum flow taking	\$100.00
LHHA-XFN*	Pressure compensator	\$540.00
HCV16-20	Check valve	\$165.00
RVPD-08	Relief valve (3.5 – 350bar)	\$105.00

- \* Non-common stock item - Contact Hyspecs for lead time

## Excavator Valving – Hyspecs

### SAFEX™ Valve



SAFEX™ valves are designed to be mounted directly to the boom and/or the stick (arm) cylinders of hydraulic excavators. With the correct installation and adjustment these valves prevent uncontrolled lowering of the boom/stick cylinders in the event of a hose burst, thereby becoming part of the load holding and lowering system designed to comply with **AS 1418.8 / ISO 8643**.

Model	Port Size			Max. Press. In bar (psi)	Rated Flow Per Valve lpm	List
	C	V	E/EP, PIL, DR			
A/HS4541P6CRS	BSPP 3/8"	BSPP 3/8"	1/4" BSPP	350 (5000)	30	\$ 785.00
A/HS4542P8CRS	BSPP 1/2"	BSPP 1/2"	1/4" BSPP	350 (5000)	90	\$ 845.00
A/HS4543P12CRS	BSPP 3/4"	BSPP 3/4"	1/4" BSPP	400 (5800)	180	\$ 875.00
A/HS4543U21CRS	UNO 1 5/16"	UNO 1 5/16"	1/4" BSPP	350 (5000)	180	\$ 875.00
A/HS4882BCRS	SAE 3/4" C61&62	SAE 3/4" C61&62	1/4" BSPP	350 (5000)	90	\$ 1148.00
A/HS4883BCRS	SAE 3/4" C61&62	SAE 3/4" C61&62	1/4" BSPP	350 (5000)	180	\$ 1180.00
A/HS4884BCRS	SAE 3/4" C61&62	SAE 3/4" C61&62	1/4" BSPP	350 (5000)	300	\$ 1459.00
A/HS4885BCRS	SAE 3/4" C61&62	SAE 3/4" C61&62 Long tail	1/4" BSPP	350 (5000)	180	\$ 1295.00
A/HS4886CCRS	SAE 1" C61	SAE 1" C61&62	1/4" BSPP	350 (5000)	180	\$ 1220.00
A/HS4887CCRS	SAE 1" C62	SAE 1" C61&62	1/4" BSPP	400 (5800)	180	\$ 1220.00
A/HS4888CCRS	SAE 1" C62	SAE 1" C61&62	1/4" BSPP	400 (5800)	300	\$ 1584.00
A/HS4889CCRS	SAE 1" C62	SAE 1" C61&62 Long Tail	1/4" BSPP	400 (5800)	180	\$ 1290.00
A/HS4890DCRS	SAE 1.25" C62	SAE 1.25" C62	1/4" BSPP	400 (5800)	300	\$ 1685.00
A/HS4891ECRS	SAE 1.5" C62	SAE 1.5" C62	1/4" BSPP	400 (5800)	300	\$ 1775.00
A/HS4847BCRS	SAE 3/4" C61&62	SAE 3/4" C62	1/4" BSPP	350 (5000)	180	\$ 1245.00
A/HS4848CDRS	SAE 1" C62	SAE 1" C62	1/4" BSPP	400 (5800)	360	\$ 1848.00

(continued over page)

## Excavator Valving – Hyspecs

### SAFEX™ Valve (*continued*)

#### Features and Benefits

- Designed to meet the Australian Safety Regulations for Excavators and complies with ISO 8643.
- Compact design with dual code SAE 61 and 62 ports.
- Relief valve with screen is included for cylinder protection (full flow).
- Duplicated valve (V), pilot (PIL) ports allow the valves to be fitted to either side. End pilot (PIL) and drain (DR) ports make it easy to connect.
- E/TP port on the valves can be used for initial bleed off, a test point to set the relief, manual lowering, and equalizing two boom cylinders.
- Assembled from top quality standard cartridges, which can be purchased in any major city around the world.
- Manufactured by HYSPECS and HYTECH.
- Steel manifolds and Nickel plated
- Tamper proof capable.

**IMPORTANT:** It is the owner's responsibility to ensure that these valves are installed and set correctly in order to comply with the safety standards. Incorrect installation and/or adjustment could result in severe injury, disability or death!

**NB. Contact Hyspecs for Safex Valve technical data sheets and setup procedure.**

## Excavator Valving Accessories - Walvoil



### Multi-Function Ergonomic Handles

- Quickhitch, tilt and thumb valves require switching gear to allow the operator control.
- Walvoil remote handles provide this control, with their various switching and handle options.
- M12 mounting adaptor
- Quenching diodes must be used on rocker switches for DC operation.

### Handles

Code	Model	Description	Suggested Use	Rating	Price
5IMP200000	Series 10	Type X (ON)/OFF push button,	Quick hitch	6A Resistive 4A Inductive @30VDC	\$ 75.00
5IMP600000	Series 10	Type T 3-position rocker switch ON/OFF/ON, spring centre	Tilt	6A Resistive 4A Inductive @30VDC	\$ 75.00
2IM4000235	H series	Ergonomic type 2 ON/OFF push buttons	Tilt	2A Resistive @12VDC	\$ 225.00
2IM4000003	H series	Ergonomic type 3 ON/OFF push buttons	Quick hitch, tilt or thumb	2A Resistive @12VDC	\$ 260.00
2IM4000221	H series	Ergonomic type 3 ON/OFF push buttons	Tilt and thumb	2A Resistive @12VDC	\$ 320.00
5IMP032012	V series	Ergonomic type 1 ON/OFF push buttons	Quick hitch	4A Resistive @24VDC	\$ 115.00



## Contents Section H – Cetop Subplates & Modules

### H1 Cetop Subplates & Modules – How to Order

#### H2 Cetop 3 Subplates

H2	Single Station
H4	Two Station Parallel
H5	Two Station Series
H5	Two Station Load Sense
H6	Three Station Parallel
H7	Three Station Series
H7	Three Station Load Sense
H8	Four Station Parallel
H9	Four Station Series
H9	Four Station Load Sense
H10	Five Station Parallel
H11	Five Station Series
H11	Five Station Load Sense
H12	Six Station Parallel
H13	Six Station Load Sense
H13	Seven Station Parallel

#### H14 Cetop 3 Modules

H14	Pressure Relief
H16	Pressure Reducing / Relieving
H17	Flow Control
H20	Load Control
H22	Load Sense

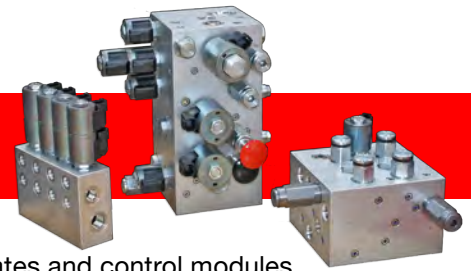
#### H23 Cetop 5 Subplates

H23	Single Station
H25	Two Station Parallel
H26	Two Station Series
H26	Two Station Load Sense
H27	Three Station Parallel
H28	Three Station Series
H28	Three Station Load Sense
H29	Four Station Parallel
H30	Four Station Series
H30	Four Station Load Sense
H31	Five Station Parallel
H32	Five Station Series
H32	Five Station Load Sense

#### H33 Cetop 5 Modules

H33	Pressure Relief
H35	Flow Control
H37	Load Control

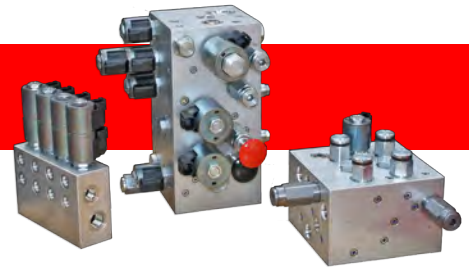
## Cetop Subplates & Modules - How To Order



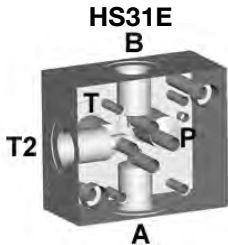
- Hyspecs has an extensive range of standard CETOP 3 and 5 sub-plates and control modules. These are designed to suit the majority of applications. Hyspecs offers series or parallel configuration for up to 7 stations. Sub-plates are machined for two pressure ranges: - up to 240 and 350 bar. Cetop 7 and 8 subplates are also available but not listed in this catalogue.

<b>HS</b>	<b>32</b>	<b>SR</b>	<b>D</b>	<b>S</b>						
					<b>Material</b>	Omit	Aluminium ( <b>240</b> bar max. pressure)			
						S	Steel ( <b>350</b> bar max. pressure)			
					<b>Option</b>	Omit	Without cavity			
						D	Dump valve for subplates / Dual functions on A & B for modules			
						P	Acting port for modules			
						A				
						B				
					<b>Option</b>	Omit	Without cavity			
						R	Relief valve			
						F	Flow control			
						P	Pressure reducing valve			
						T	P&T through ports			
						L	Load sense module			
					<b>Design</b>	P	Parallel			
						S	Series			
						L	Load sense			
						M	Module			
					<b>Number of stations</b>	1 to 7				
					<b>Cetop Size</b>	3	Cetop 3			
						Subplate Ports:	P & T	1/2" BSPP		
							A & B	3/8" BSPP		
						5	Cetop 5			
						Subplate Ports:	P & T	3/4" BSPP		
							A & B	1/2" BSPP		
<b>Hyspecs series cartridge manifolds</b>										

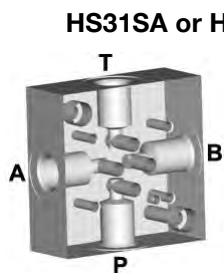
## Cetop 3 Subplates



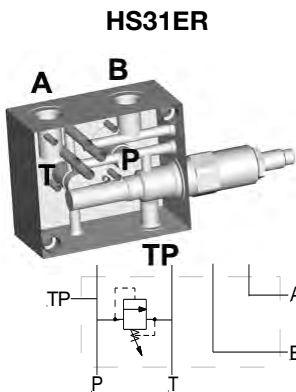
### Single Station



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
N/A	240	P & T on bottom, A, B & T2 on three sides	3/8"	\$ 184.00
Manifold Dimensions: 75 x 64 x 37 mm				

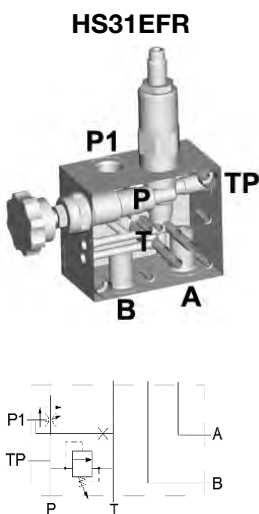


Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
N/A	240	Alloy sub side ports	3/8"	\$ 184.00
N/A	350	Steel sub side ports		\$ 196.00
Manifold Dimensions: 75 x 75 x 30 mm				



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22	240	P & T on bottom, A & B on one side, TP other side, relief on P	3/8" TP 1/4"	\$ 364.00
Manifold Dimensions : 100 x 85 x 50 mm. HS31ER manifold only \$ 241.00				

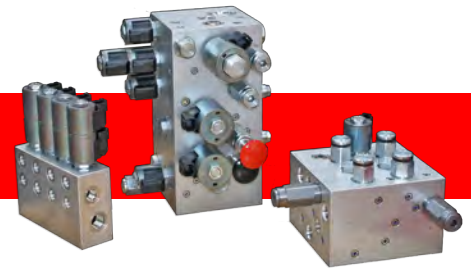
- Suitable for tank top mount



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-22 +FR10-39E	57	240	P & T on bottom, A, B on one side. Compensated priority flow control valve (0-38LPM reg.) on P can be used as bypass (P1) or plugged for variable pump. TP & relief on P.	3/8" TP 1/4"	\$ 628.00
Manifold Dimensions: 90 x 75 x 50 mm. HS31ERF manifold only \$ 293.00					

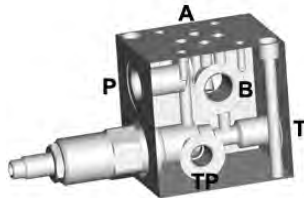
- Suitable for tank top mount

## Cetop 3 Subplates

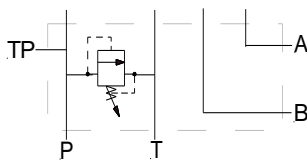


### Single Station

#### HS31PR

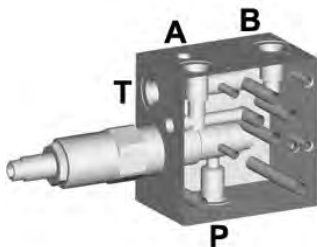


Cartridge Options	P max bar	Notes	Ports BSPP	Assembly Price
RV10-22	240	P, A & T on each side, B and TP on one side. Relief on P.	3/8" TP 1/4"	\$ 341.00
Manifold Dimensions: 75 x 60 x 75 mm. HS31PR manifold only \$ 218.00				

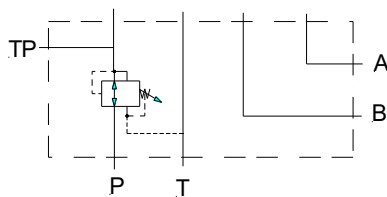


HS31SFE and HS31SFR - refer to Auto-Pilot Steering Valves, page B11.

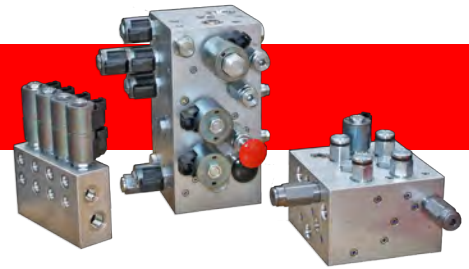
#### HS31SPS\_B



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
PR50-36	56	350	P & T on each side, A & B on one side. Pressure reducing relieving valve on P. Steel subplate.	P & T 3/8" A & B 1/4"	\$ 478.00
Manifold Dimensions: 75.5 x 75.5 x 50 mm. HS31SPS_B manifold only \$ 257.00					

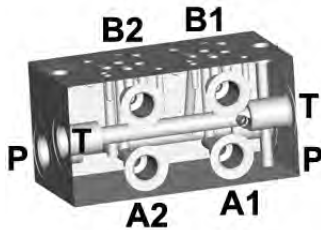


## Cetop 3 Subplates

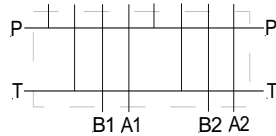


### Two Station - Parallel

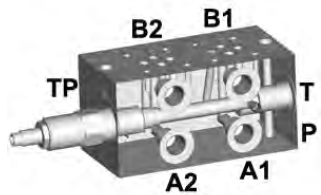
#### HS32PT



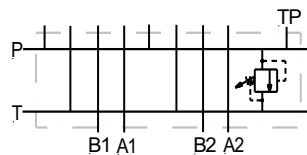
Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
N/A	240	P & T (1/2") through two ends. All A & B ports (3/8") on one side.	3/8"-1/2"	\$ 389.00
Manifold Dimensions: 145 x 75 x 75 mm				



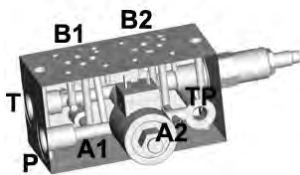
#### HS32PR



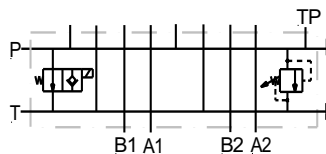
Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22	240	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP (1/4") port on other side. Relief on P.	1/4"-1/2"	\$ 512.00
Manifold Dimensions: 145 x 75 x 75 mm. HS32PR manifold only \$ 389.00				



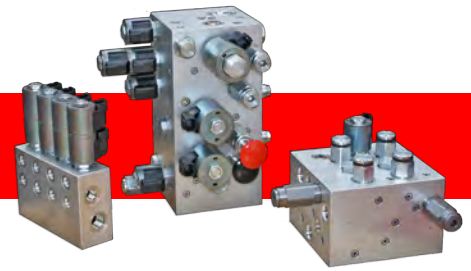
#### HS32PRD



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22 +SV10-21	207	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP (1/4") port on other side. Relief and N.O. solenoid valve on P.	1/4"-1/2"	\$ 826.00
Manifold Dimensions: 145 x 75 x 75 mm. HS32PRD manifold only \$ 480.00				

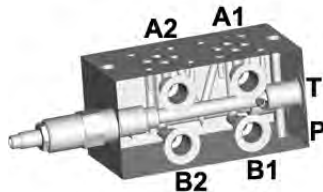


## Cetop 3 Subplates

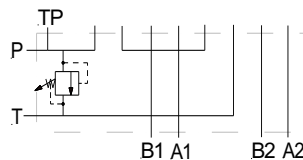


### Two Station – Series

HS32SR

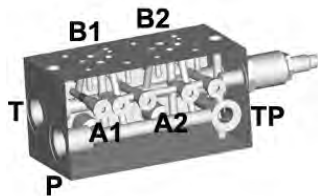


Cartridge Options	P max bar	Notes	Ports BSPP	Assembly Price
RV10-22	240	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP (1/4") port on other side. Relief on P.	1/4"- 1/2"	\$ 512.00
Manifold Dimensions: 145 x 75 x 75 mm. HS32SR manifold only \$ 389.00				

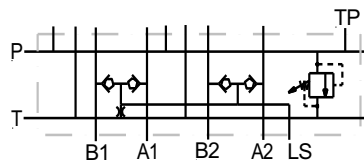


### Two Station – Load Sense

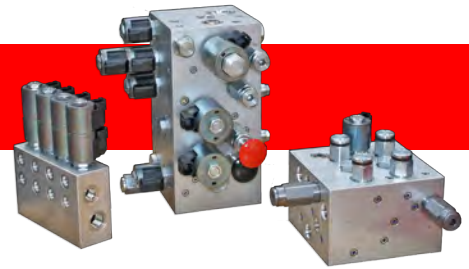
HS32LR



Cartridge Options	P max bar	Notes	Ports BSPP	Assembly Price
RV10-22 + 4 x CV04-20	240	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Four load sense checks. Relief on P. 0.4 mm bleed orifice.	1/4"- 1/2"	\$ 765.00
Manifold Dimensions: 145 x 75 x 75 mm. HS32LR manifold only \$ 458.00				

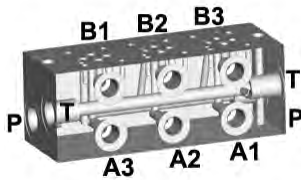


## Cetop 3 Subplates

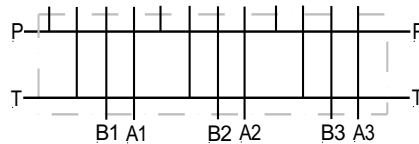


### Three Station – Parallel

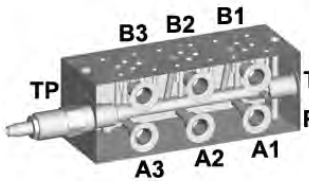
**HS33PT**



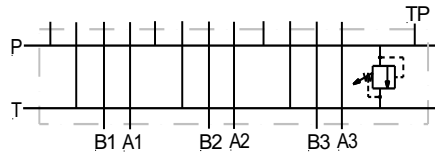
Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
N/A	240	P & T (1/2") through two ends. All A & B ports (3/8") on one side.	3/8"-1/2"	\$ 481.00
Manifold Dimensions: 200 x 75 x 75 mm				



**HS33PR**



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22	240	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Relief on P.	1/4"-1/2"	\$ 604.00
Manifold Dimensions: 200 x 75 x 75 mm. HS33PR manifold only \$ 481.00				

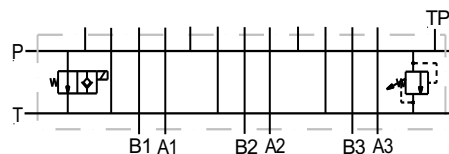


**HS33PRD**

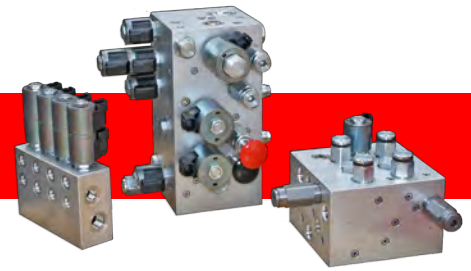
A & B ports on back



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22 + SV10-21	207	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Relief and N.O. solenoid valve on P.	1/4"-1/2"	\$ 918.00
Manifold Dimensions: 200 x 75 x 75 mm. HS33PRD manifold only \$ 572.00				

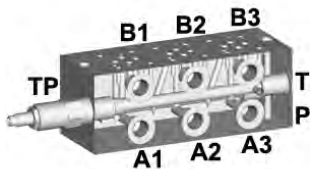


## Cetop 3 Subplates

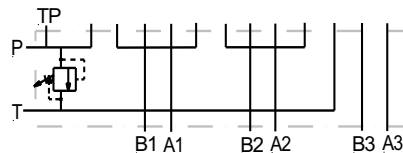


### Three Station – Series

HS33SR



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22	240	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Relief on P.	1/4"- 1/2"	\$ 604.00
Manifold Dimensions: 200 x 75 x 75 mm. HS33SR manifold only \$ 481.00				

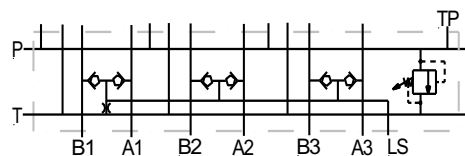


### Three Station – Load Sense

HS33LR

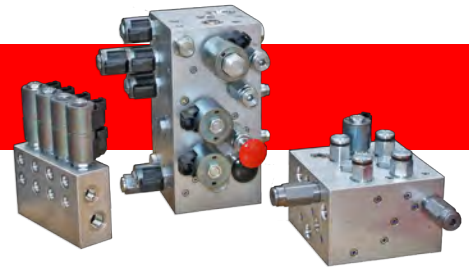


Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22 + 6 x CV04-20	240	P & T (1/2") on one end. LS port (1/4") on other end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Four load sense checks. Relief on P. 0.4 mm bleed orifice.	1/4"- 1/2"	\$ 1040.00
Manifold Dimensions: 200 x 75 x 75 mm. HS33LR manifold only \$ 641.00				



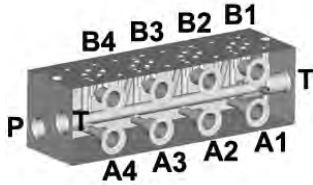


## Cetop 3 Subplates

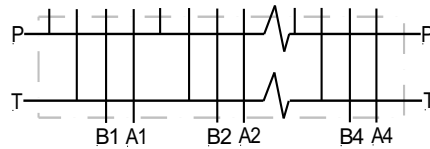


### Four Station – Parallel

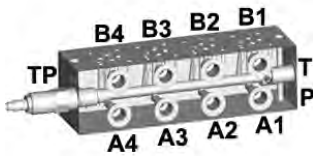
HS34PT



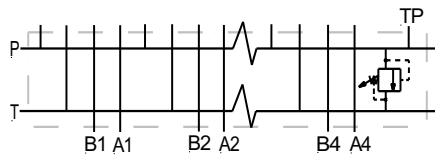
Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
N/A	240	P & T (1/2") through two ends. All A & B ports (3/8") on one side.	3/8"-1/2"	\$ 629.00
Manifold Dimensions: 255 x 75 x 75 mm				



HS34PR



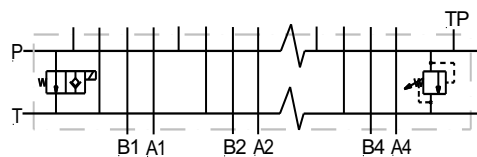
Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22	240	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Relief on P.	1/4"-1/2"	\$ 752.00
Manifold Dimensions: 255 x 75 x 75 mm. HS34PR manifold only \$ 629.00				



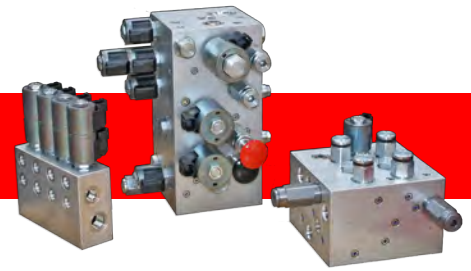
HS34PRD



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22 + SV10-21	207	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Relief and N.O. solenoid valve on P.	1/4"-1/2"	\$ 1066.00
Manifold Dimensions: 255 x 75 x 75 mm. HS34PRD manifold only \$ 720.00				

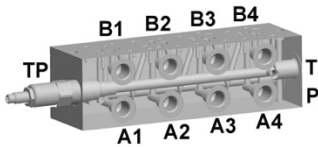


## Cetop 3 Subplates

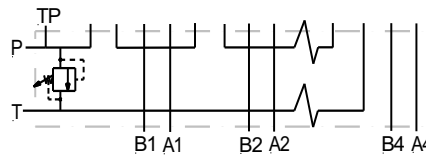


### Four Station – Series

HS34SR



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22	240	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Relief on P.	1/4"-1/2"	\$ 752.00
Manifold Dimensions: 255 x 75 x 75 mm. HS34SR manifold only \$ 629.00				

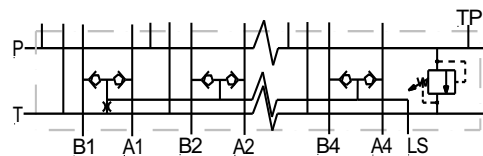


### Four Station – Load Sense

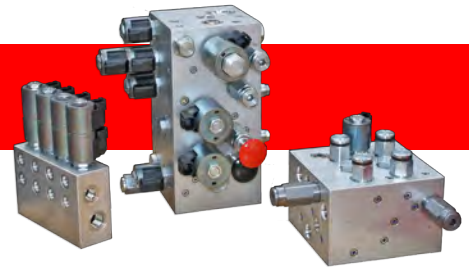
HS34LR



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22 + 8 x CV04-20	240	P & T (1/2") on one end. LS port (1/4") on other end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Four load sense checks. Relief on P. 0.4 mm bleed orifice.	1/4"-1/2"	\$ 1315.00
Manifold Dimensions: 255 x 75 x 75 mm. HS34LR manifold only \$ 824.00				

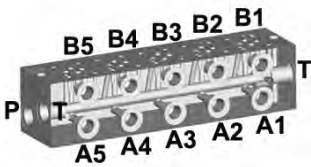


## Cetop 3 Subplates

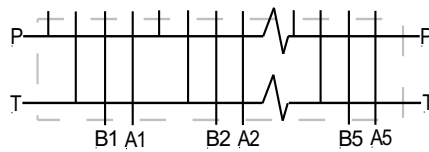


### Five Station – Parallel

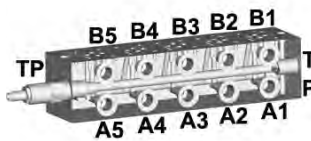
#### HS35PT



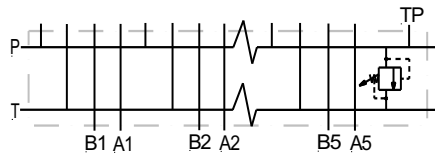
Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
N/A	240	P & T (1/2") through two ends. All A & B ports (3/8") on one side.	3/8"-1/2"	\$ 756.00
Manifold Dimensions: 310 x 75 x 75 mm				



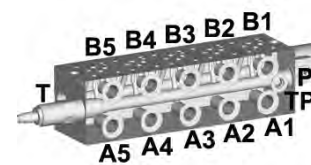
#### HS35PR



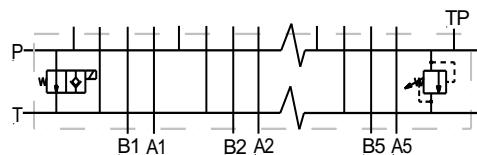
Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22	240	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Relief on P.	1/4"-1/2"	\$ 879.00
Manifold Dimensions: 310 x 75 x 75 mm. HS35PR manifold only \$ 756.00				



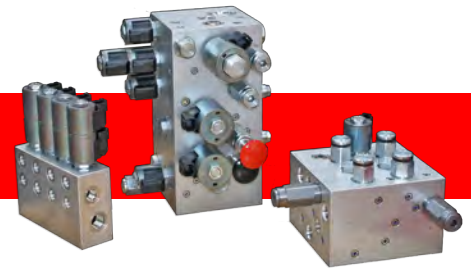
#### HS35PRD



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-20 + SV10-21	207	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Relief and N.O. solenoid valve on P.	1/4"-1/2"	\$ 1193.00
Manifold Dimensions: 310 x 75 x 75 mm. HS35PRD manifold only \$ 847.00				

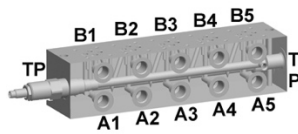


## Cetop 3 Subplates

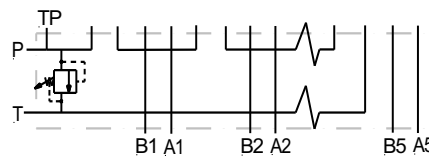


### Five Station – Series

#### HS35SR



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22	240	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Relief on P.	1/4"-1/2"	\$ 879.00
Manifold Dimensions: 310 x 75 x 75 mm. HS35SR manifold only \$ 756.00				

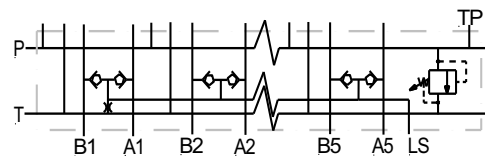


### Five Station – Load Sense

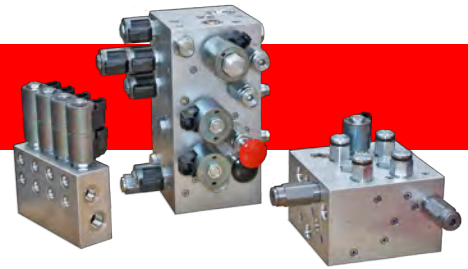
#### HS35LR



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22 + 10 x CV04-20	240	P & T (1/2") on one end. LS port (1/4") on other end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Four load sense checks. Relief on P. 0.4 mm bleed orifice.	1/4"-1/2"	\$ 1591.00
Manifold Dimensions: 310 x 75 x 75 mm. HS35LR manifold only \$ 1008.00				

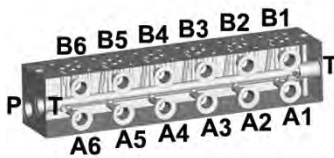


## Cetop 3 Subplates

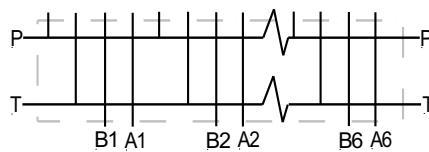


### Six Station – Parallel

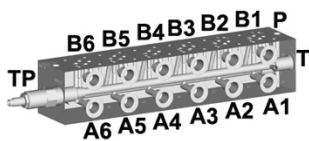
#### HS36PT



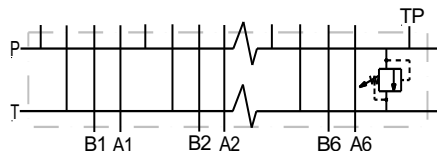
Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
N/A	240	P & T (1/2") through two ends. All A & B ports (3/8") on one side.	3/8"-1/2"	\$ 881.00
Manifold Dimensions: 365 x 75 x 75 mm				



#### HS36PR



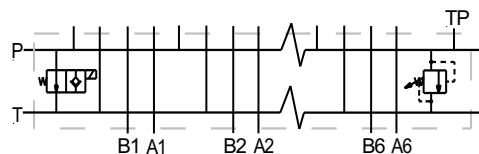
Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22	240	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Relief on P.	1/4"-1/2"	\$ 1004.00
Manifold Dimensions: 365 x 75 x 75 mm. HS36PR manifold only \$ 881.00				



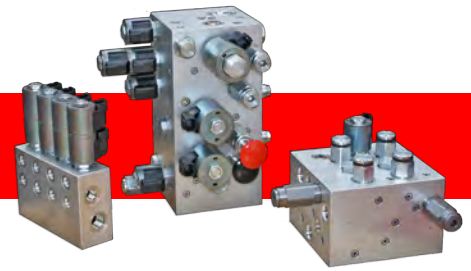
#### HS36PRD



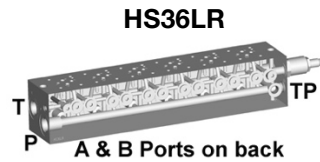
Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22 +SV10-21	207	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Relief and N.O. solenoid valve on P.	1/4"-1/2"	\$ 1318.00
Manifold Dimensions: 365 x 75 x 75 mm. HS36PRD manifold only \$ 972.00				



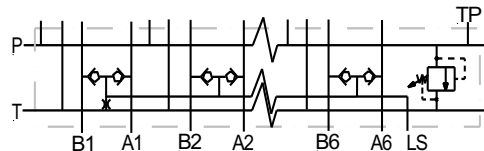
## Cetop 3 Subplates



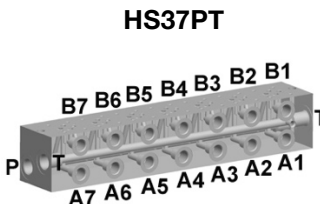
### Six Station – Load Sense



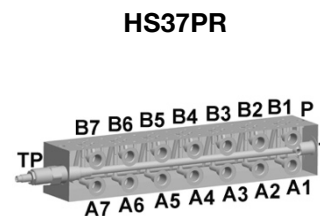
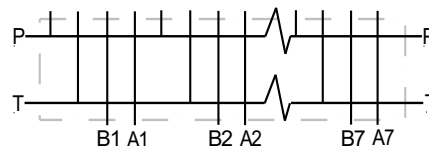
Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22 +12 x CV04-20	240	P & T (1/2") on one end. LS port (1/4") on other end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Four load sense checks. Relief on P. 0.4 mm bleed orifice.	1/4"-1/2"	\$ 1842.00
Manifold Dimensions: 365 x 75 x 75 mm. HS35LR manifold only \$ 1167.00				



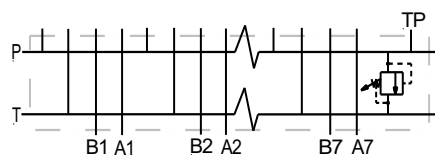
### Seven Station – Parallel



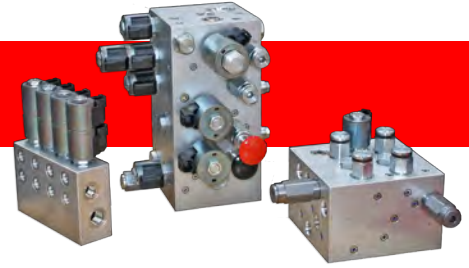
Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
N/A	240	P & T (1/2") through two ends. All A & B ports (3/8") on one side.	3/8"-1/2"	\$ 985.00
Manifold Dimensions: 420 x 75 x 75 mm				



Cartridge Options	P max bar	Notes	Ports BSP	Assembly Price
RV10-22	240	P & T (1/2") on one end. All A & B ports (3/8") on one side. TP port (1/4") on other side. Relief on P.	1/4"-1/2"	\$ 1108.00
Manifold Dimensions: 420 x 75 x 75 mm. HS37PR manifold only \$ 985.00				



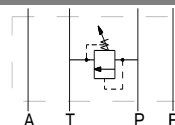
## Cetop 3 Modules



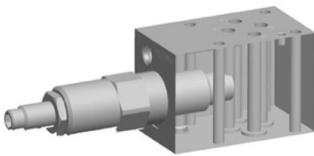
### Pressure Relief

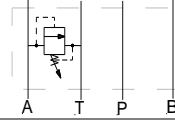
#### HS31MRP\_B



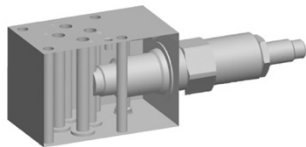
Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
RV10-20	38	228	P to T relief		\$ 350.00
RV10-26	60	240			\$ 369.00
Manifold Dimensions : 90 x 46 x 50 mm. HS31MRP_B manifold only \$ 227.00					

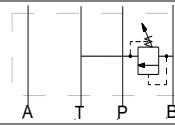
#### HS31MRA\_B



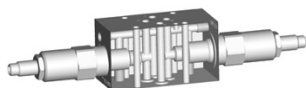
Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
RV10-20	38	228	A to T relief		\$ 350.00
RV10-26	60	240			\$ 369.00
Manifold Dimensions: 75 x 46 x 50 mm. HS31MRA_B manifold only \$ 227.00					

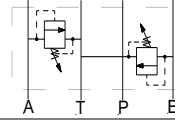
#### HS31MRB\_B



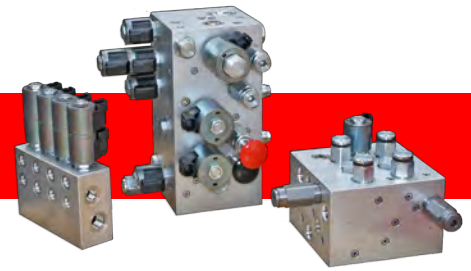
Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
RV10-20	38	228	B to T relief		\$ 350.00
RV10-26	60	240			\$ 369.00
Manifold Dimensions: 75 x 46 x 50 mm. HS31MRB_B manifold only \$ 227.00					

#### HS31MRD\_B



Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
RV10-20 x 2	38	240	A & B to T relief		\$ 492.00
Manifold Dimensions : 90 x 46 x 50 mm. HS31MRD_B manifold only \$ 246.00					

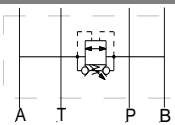
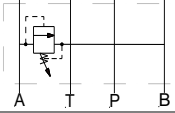
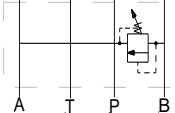
## Cetop 3 Modules



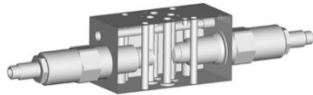
### Pressure Relief

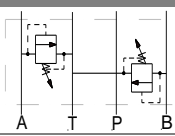
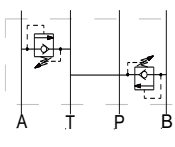
#### HS31MRX\_B



Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
RVBD-10	75	240	A & B cross line relief		\$ 412.00
RV10-20	38	228	A to B relief		\$ 350.00
RV10-22	80	240	B to A relief		\$ 350.00
Manifold Dimensions : 75 x 46 x 50 mm. HS31MRX_B manifold only \$ 227.00					

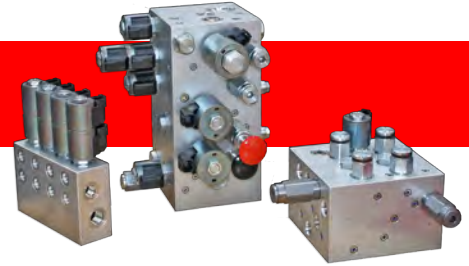
#### HS31MRW\_B



Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
2 x RV10-20	38	228	A & B to T relief		\$ 503.00
2 x RVPP-10	80	240	A and B to T relief and over-run check T to A & B		\$ 617.00
Manifold Dimensions : 96 x 46 x 50 mm HS31MRW_B manifold only \$ 257.00					



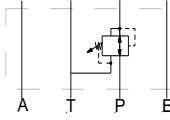
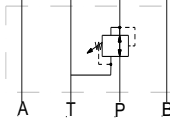
## Cetop 3 Modules



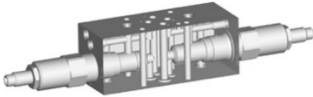
### Pressure Reducing / Relieving

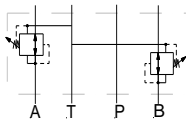
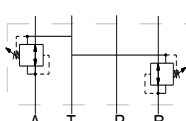
#### HS31MPP\_B



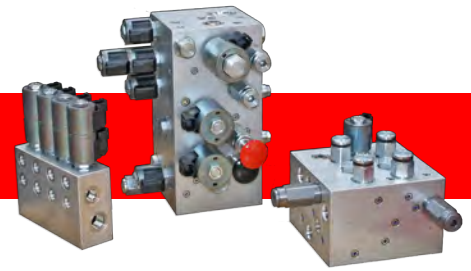
Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
PR10-32	30	207	Pressure reducing on P and relieving to T		\$ 484.00
PR10-36	56	240	Pressure reducing on P and relieving to T		\$ 547.00
Manifold Dimensions: 80 x 46 x 50 mm HS31MPP_B manifold only \$ 332.00					

#### HS31MPAB\_B



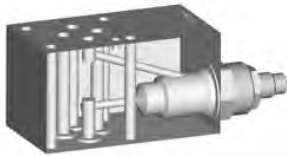
Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
2 x PR10-32	30	207	Pressure reducing on A & B and relieving to T		\$ 756.00
2 x PR10-36	56	240	Pressure reducing on A & B and relieving to T		\$ 882.00
Manifold Dimensions: 125 x 46 x 50 mm. HS31MPAB_B manifold only \$452.00					

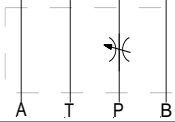
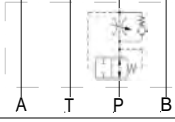
## Cetop 3 Modules



### Flow Control

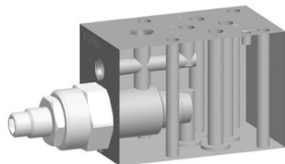
#### HS31MNP\_B

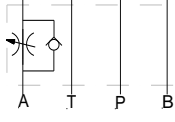
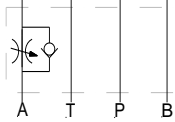
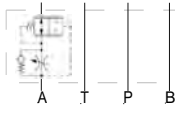


Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
NV10-20	45	240	Single needle valve meter-in on P		\$ 282.00
FR50-28	34	350*	Pressure compensated flow control on P.		\$ 424.00
Manifold Dimensions: 90 x 46 x 50 mm. HS31MNP_B manifold only \$ 212.00					

- \* Requires steel block over 240 bar – contact Hyspecs for pricing

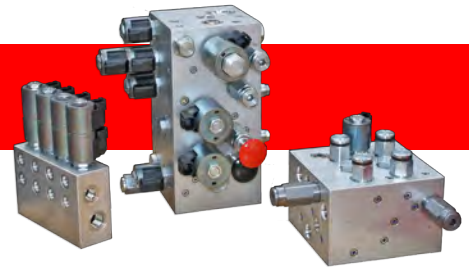
#### HS31MNA\_B



Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
FC10-21	57	240	Single needle valve with free reverse flow on A – meter out		\$ 292.00
FC10-20	45	240	Single needle valve with free reverse flow on A – meter in		\$ 292.00
FR50-28	34	350*	Pressure compensated flow control on A – meter out		\$ 404.00
Manifold Dimensions: 75 x 46 x 50 mm. HS31MNA_B manifold only \$ 192.00					

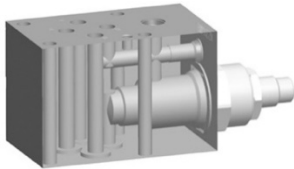
- \* Requires steel block over 240 bar – contact Hyspecs for pricing

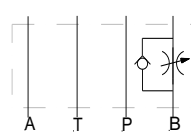
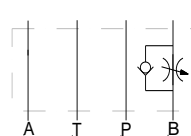
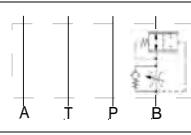
## Cetop 3 Modules



### Flow Control

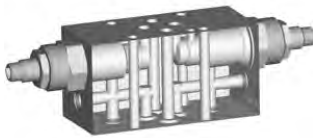
#### HS31MNB\_B

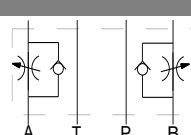
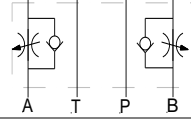



Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
FC10-21	57	240	Single needle valve with free reverse flow on B – meter out		\$ 292.00
FC10-20	45	240	Single needle valve with free reverse flow on B – meter in		\$ 292.00
FR50-28	34	350*	Pressure compensated flow control on B – meter out		\$ 404.00
Manifold Dimensions: 75 x 46 x 50 mm. HS31MNB_B manifold only \$ 192.00					

- \* Requires steel block over 240 bar – contact Hyspecs for pricing

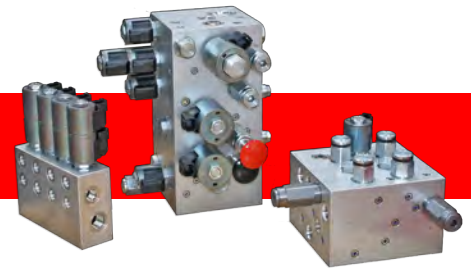
#### HS31MND\_B



Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
2 x FC10-20	45	240	Dual needle valve with free reverse flow – meter out		\$ 412.00
2 x FC10-21	57	240	Dual needle valve with free reverse flow – meter in		\$ 412.00
2 x FR50-28	34	350*	Pressure compensated dual flow control – meter in		\$ 636.00
Manifold Dimensions: 96 x 46 x 50 mm. HS31MND_B manifold only \$ 212.00					

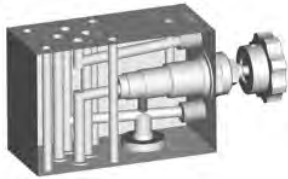
- \* Requires steel block over 240 bar – contact Hyspecs for pricing

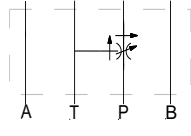
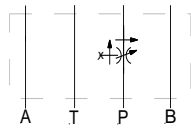
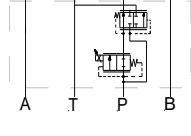
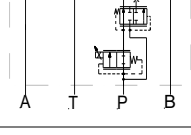
## Cetop 3 Modules



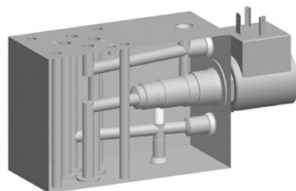
### Flow Control

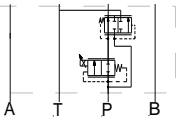
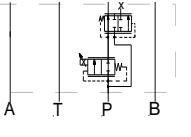
#### HS31MFP\_B



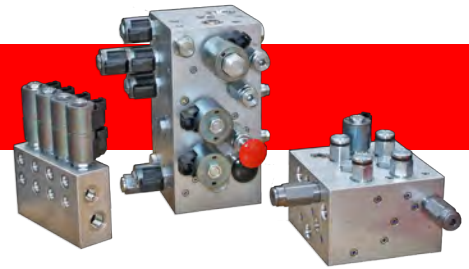
Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
FR10-39A	57	240	Pressure compensated priority flow control valve meter-in on P. Full range adjustment, regulated flow 0 – 38LPM.		\$ 618.00
			Bypass can be plugged for restricted flow control valve on P. Regulated flow 0 – 34LPM		
PV70-30	50	240	Proportional pressure compensated flow control on P with Bypass to T.		\$ 1014.00
			Bypass can be plugged for restrictive flow on P.		
Manifold Dimensions: 110 x 46 x 75 mm. HS31MFP_B manifold only \$ 418.00					

#### HS3108MFP\_B



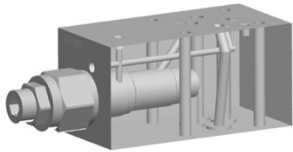
Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
PV08-30	23	240	Low flow proportional pressure compensated flow control on P. Regulated flow: Bypass open 11.4LPM, bypass blocked 11.4LPM		\$ 896.00
					
Manifold Dimensions: 110 x 46 x 75 mm. HS3108MFP_B manifold only \$ 418.00					

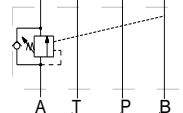
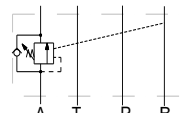
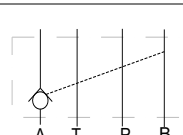
## Modules



### Load Control

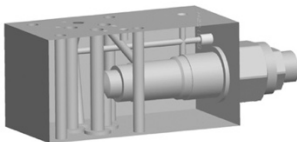
#### HS31MMA\_B

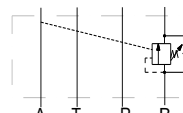
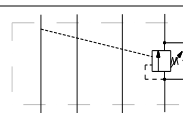
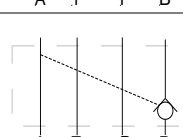


Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
CBCG	60	350*	Counterbalance on port A, pilot from B. 4.5:1 ratio.		\$ 487.00
CBCH	60	350*	Counterbalance on port A, pilot from B. 10:1 ratio.		\$ 507.00
CKCD	60	350*	Pilot operated check holds on port A, pilot from B. 3:1 ratio.		\$ 467.00
Manifold Dimensions: 100 x 46 x 50mm HS31MMA_B manifold only \$ 317.00					

- \* Requires steel block over 240 bar – *contact Hyspecs for pricing*

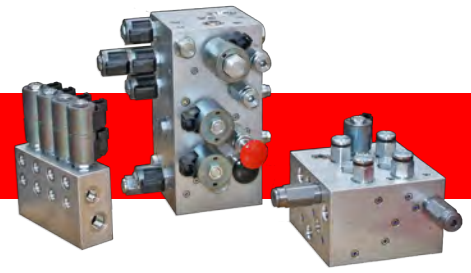
#### HS31MMB\_B



Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
CBCG	60	350*	Counterbalance on port B, pilot from A. 4.5:1 ratio.		\$ 487.00
CBCH	60	350*	Counterbalance on port B, pilot from A. 10:1 ratio.		\$ 507.00
CKCD	60	350*	Pilot operated check holds on port B, pilot from A. 3:1 ratio.		\$ 467.00
Manifold Dimensions: 100 x 46 x 50 mm HS31MMB_B manifold only \$317.00					

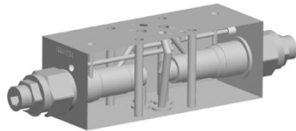
- \* Requires steel block over 240 bar – *contact Hyspecs for pricing*

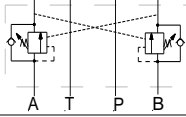
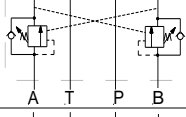
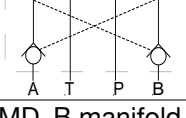
## Cetop 3 Modules



### Load Control

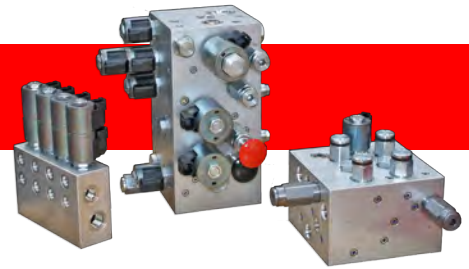
#### HS31MMD\_B



Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
CBCG x 2	60	350*	Dual counterbalance. 4.5:1 ratio.		\$ 792.00
CBCH x 2	60	350*	Dual counterbalance. 10:1 ratio		\$ 832.00
CKCD x 2	60	350*	Dual pilot operated check. 3:1 ratio.		\$ 752.00
Manifold Dimensions: 136 x 46 x 50 mm HS31MMD_B manifold only \$452.00					

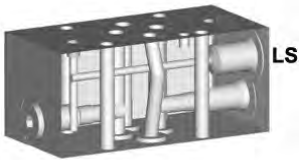
- \* Requires steel block over 240 bar – contact Hyspecs for pricing

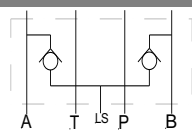
## Cetop 3 Modules



### Load Sense

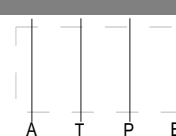
#### HS31ML\_B



Cartridge Options	P max bar	Notes	Circuit	Assembly Price
CV04-20 x 2	240	Dual load sense module. LS port 1/4" BSPP.		\$ 316.00
Manifold Dimensions: 90 x 46 x 50 mm. HS31ML manifold only \$ 224.00				


#### HS31MTS



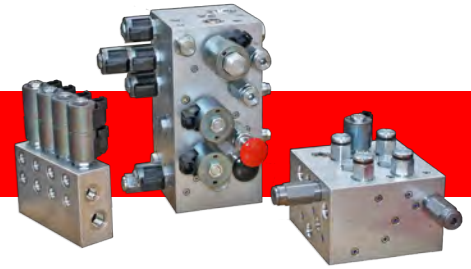
Cartridge Options	P max bar	Notes	Circuit	Assembly Price
N/A	350	Extension module, all ports through module		\$ 195.00
Manifold Dimensions: 70 x 46 x 50 mm.				

#### HS31MTP\_B



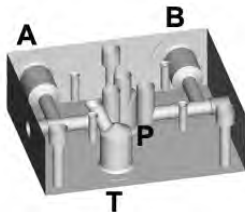
Cartridge Options	P max bar	Notes	Circuit	Assembly Price
N/A	240	Test point on P module TP - 1/4" BSPP		\$ 185.00
Manifold Dimensions: 70 x 46 x 50 mm.				

## Cetop 5 Subplates



### Single Station

HS51E



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
N/A	120	240	P & T on bottom, A & B on one side	1/2"	\$ 195.00
Manifold Dimensions: 120 x 99 x 39 mm					

- Suitable for tank top mount

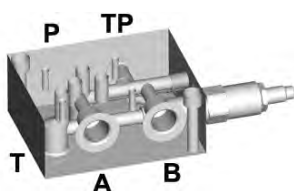
HS51SA



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
N/A	120	240	P & T on one side, A & B on opposite side	1/2"	\$ 205.00
Manifold Dimensions: 126 x 100 x 50 mm					

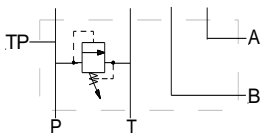
- Suitable for tank top mount

HS51ER



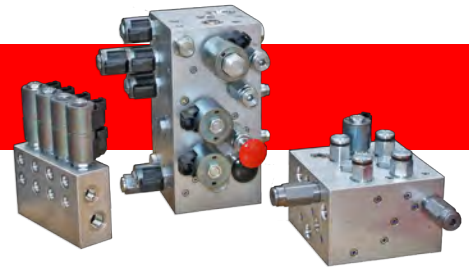
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-22	114	240	P & T on bottom, A & B on one side (1/2"), TP (1/4") other side. Relief on P.	1/4"-1/2"	\$ 427.00
Manifold Dimensions: 125 x 100 x 50 mm. HS51ER manifold only \$ 304.00					

- Suitable for tank top mount



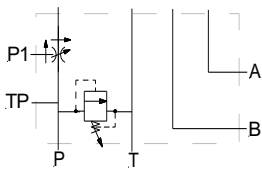
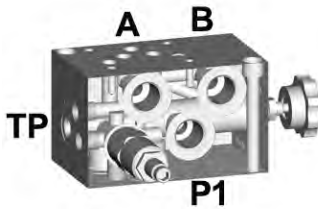


## Cetop 5 Subplates



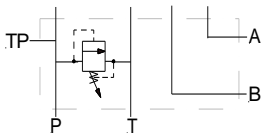
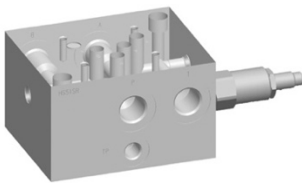
### Single Station

#### HS51ERF



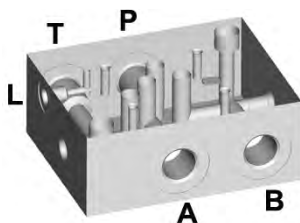
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-26 +FR12-33E	114	240	Compensated priority flow control valve (0-68LPM reg.) on P. Bypass flow can be used and plugged (0-45LPM reg. for variable pump). P & T on bottom, A & B and Bypass on one side. Relief on P.	1/2"	\$ 858.00
Manifold Dimensions: 125 x 75 x 75 mm. HS51ERF manifold only \$ 395.00					

#### HS51SR



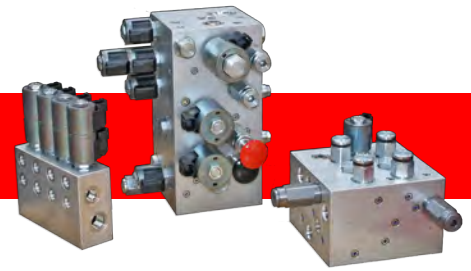
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-26	114	240	P & T on one side, A & B opposite side (1/2"). TP (1/4") on one side. Relief on P.	1/4"-1/2"	\$ 447.00
Manifold Dimensions: 125 x 100 x 75 mm. HS51SR manifold only \$ 305.00					

#### HS51SS



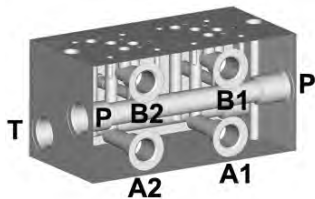
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
N/A	120	350	Steel subplate. P & T on one side, A & B opposite side (1/2"). L drain port for proportional valves -7/16" UNO.	1/4"-1/2"	\$ 220.00
Manifold Dimensions: 125 x 100 x 50 mm					

## Cetop 5 Subplates

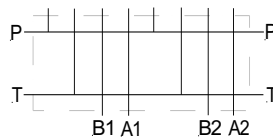


### Two Station - Parallel

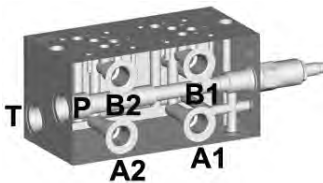
HS52PT



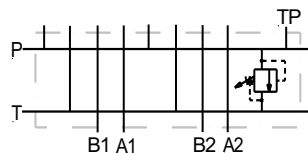
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
N/A	120	240	P & T (3/4") through two ends. All A & B ports (1/2") on one side.	1/2"-3/4"	\$ 615.00
Manifold Dimensions: 198 x 100 x 100 mm					



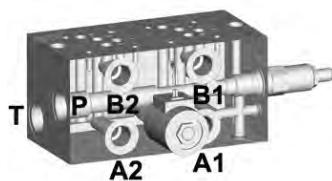
HS52PR



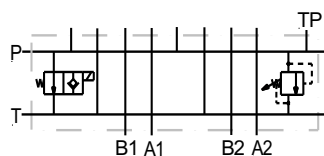
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-26	114	240	P & T (3/4") on one end. All A & B ports (1/2") on one side. TP port (1/4") on other side. Relief on P.	1/4"-3/4"	\$ 806.00
Manifold Dimensions: 198 x 100 x 100 mm. HS52PR manifold only \$ 664.00					



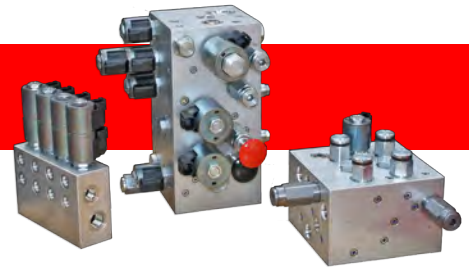
HS52PRD



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-26 +SV12-21	114	240	P & T (3/4") on one end. All A & B ports (1/2") on one side. TP port (1/4") on other side. Relief and N.O. solenoid valve on P.	1/4"-3/4"	\$ 1206.00
Manifold Dimensions: 198 x 100 x 100 mm. HS52PRD manifold only \$ 755.00					

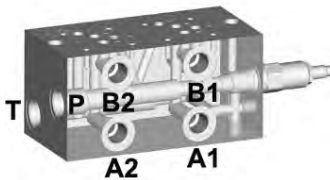


## Cetop 5 Subplates

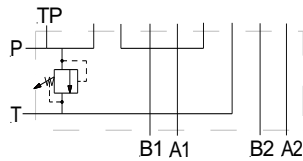


### Two Station – Series

HS52SR

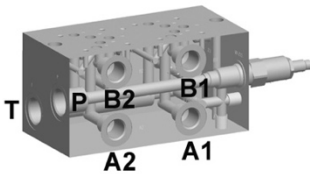


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-26	114	240	P & T (3/4") on one end. All A & B ports (1/2") on one side. TP (1/4") port on other side. Relief on P.	1/4"-3/4"	\$ 806.00
Manifold Dimensions: 198 x 100 x 100 mm. HS52SR manifold only \$ 664.00					

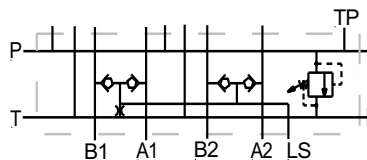


### Two Station – Load Sense

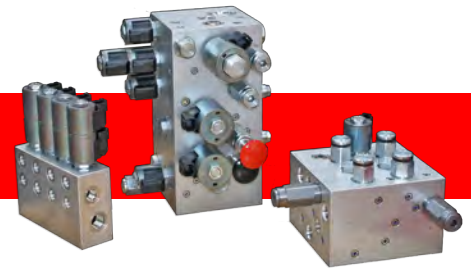
HS52LR



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-26 + 4 x CV04-20	114	240	P & T (3/4") on one end. LS port (1/4") on other end. All A & B ports (1/2") on one side. TP port (1/4") on other side. Four load sense checks. Relief on P. 0.4 mm bleed orifice.	1/4"-3/4"	\$ 1082.00
Manifold Dimensions: 198 x 100 x 100 mm. HS52LR manifold only \$ 756.00					

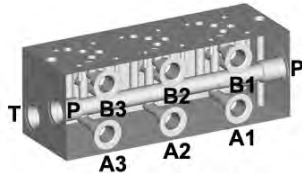


## Cetop 5 Subplates



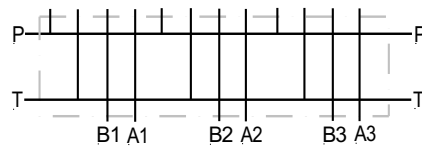
### Three Station – Parallel

HS53PT

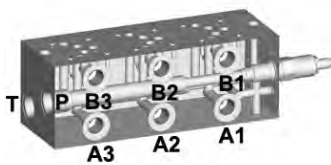


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
N/A	120	240	P & T (3/4") through two ends. All A & B ports (1/2") on one side.	1/2"-3/4"	\$ 685.00

Manifold Dimensions: 280 x 100 x 100 mm

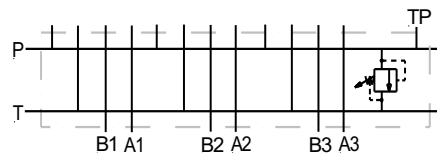


HS53PR

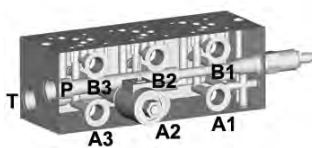


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-26	114	240	P & T (3/4") on one end. All A & B ports (1/2") on one side. TP port (1/4") on other side. Relief on P.	1/4"-3/4"	\$ 875.00

Manifold Dimensions: 280 x 100 x 100 mm. HS53PR manifold only \$ 733.00

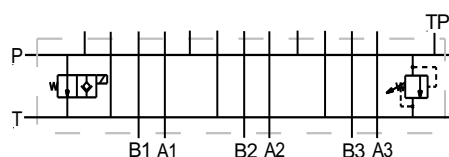


HS53PRD

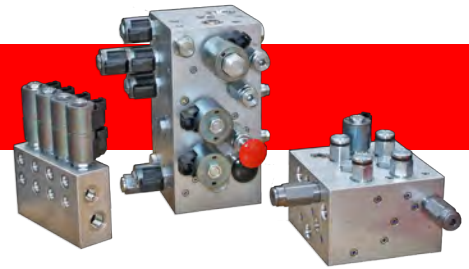


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-26 +SV12-21	114	240	P & T (3/4") on one end. All A & B ports (1/2") on one side. TP port (1/4") on other side. Relief and N.O. solenoid valve on P.	1/4"-3/4"	\$ 1275.00

Manifold Dimensions: 280 x 100 x 100 mm. HS53PRD manifold only \$ 824.00

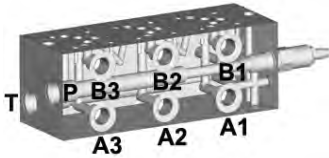


## Cetop 5 Subplates

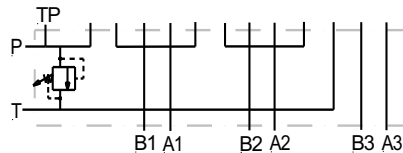


### Three Station – Series

#### HS53SR

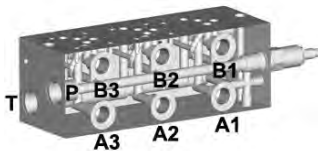


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-26	114	240	P & T (3/4") on one end. All A & B ports (1/2") on one side. TP (1/4") port on other side. Relief on P.	1/4"-3/4"	\$ 875.00
Manifold Dimensions: 280 x 100 x 100 mm. HS53SR manifold only \$ 733.00					

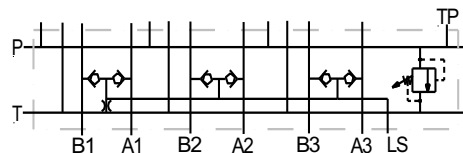


### Three Station – Load Sense

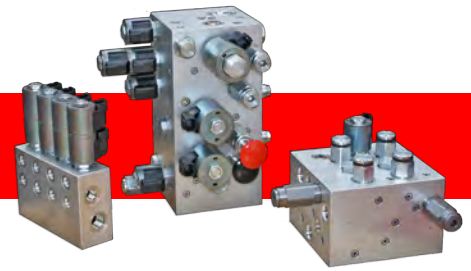
#### HS53LR



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-26 + 6 x CV04-20	114	240	P & T (3/4") on one end. LS port (1/4") on other end. All A & B ports (1/2") on one side. TP port (1/4") on other side. Four load sense checks. Relief on P. 0.4 mm bleed orifice.	1/4"-3/4"	\$ 1311.00
Manifold Dimensions: 280 x 100 x 100 mm. HS53LR manifold only \$ 893.00					

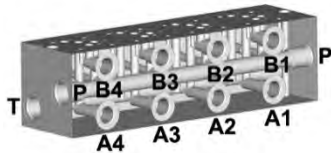


## Cetop 5 Subplates

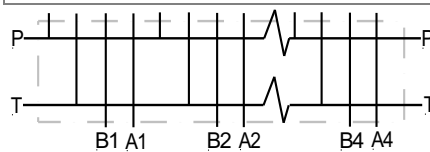


### Four Station – Parallel

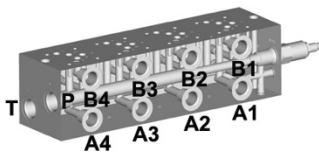
#### HS54PT



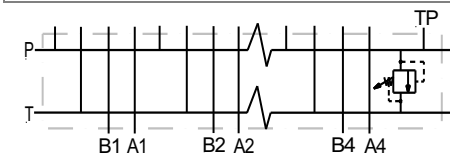
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
N/A	120	240	P & T (3/4") through two ends. All A & B ports (1/2") on one side.	1/2"-3/4"	\$ 800.00
Manifold Dimensions: 362 x 100 x 100 mm					



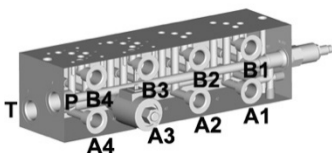
#### HS54PR



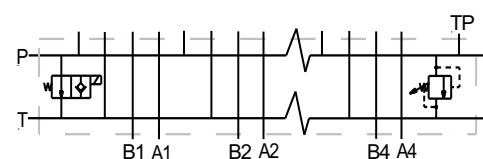
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-26	114	240	P & T (3/4") on one end. All A & B ports (1/2") on one side. TP port (1/4") on other side. Relief on P.	1/4"-3/4"	\$ 1012.00
Manifold Dimensions: 362 x 100 x 100 mm. HS54PR manifold only \$ 870.00					



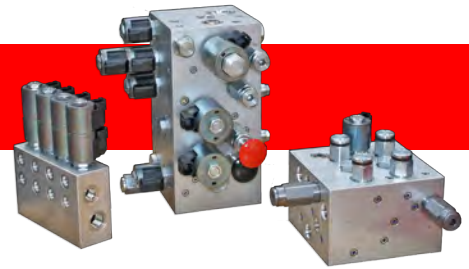
#### HS54PRD



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-26 + SV12-21	114	240	P & T (3/4") on one end. All A & B ports (1/2") on one side. TP port (1/4") on other side. Relief and N.O. solenoid valve on P.	1/4"-3/4"	\$ 1412.00
Manifold Dimensions: 362 x 100 x 100 mm. HS54PRD manifold only \$ 961.00					

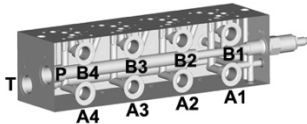


## Cetop 5 Subplates

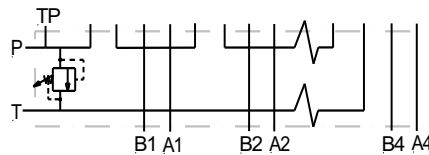


### Four Station – Series

#### HS54SR

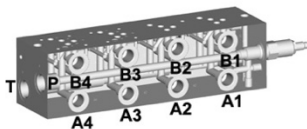


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-26	114	240	P & T (3/4") on one end. All A & B ports (1/2") on one side. TP (1/4") port on other side. Relief on P.	1/4"-3/4"	\$ 1012.00
Manifold Dimensions: 362 x 100 x 100 mm. HS54SR manifold only \$ 870.00					

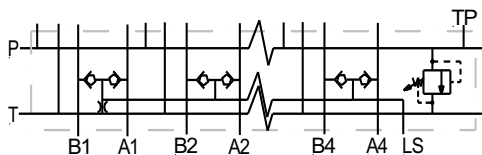


### Four Station – Load Sense

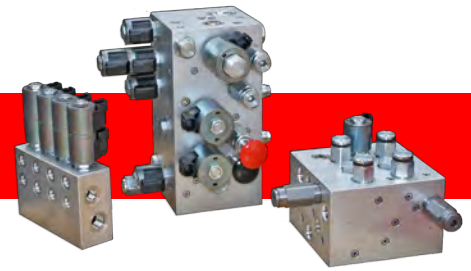
#### HS54LR



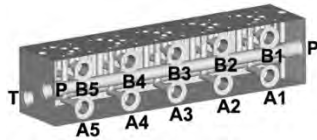
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-26 + 8 x CV04-20	114	240	P & T (3/4") on one end. LS port (1/4") on other end. All A & B ports (1/2") on one side. TP port (1/4") on other side. Four load sense checks. Relief on P. 0.4 mm bleed orifice.	1/4"-3/4"	\$ 1620.00
Manifold Dimensions: 362 x 100 x 100 mm. HS54LR manifold only \$ 1110.00					



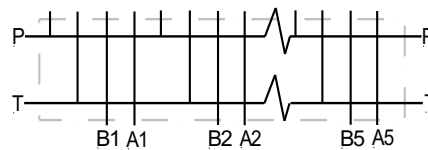
## Cetop 5 Subplates



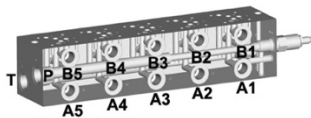
### Five Station – Parallel HS55PT



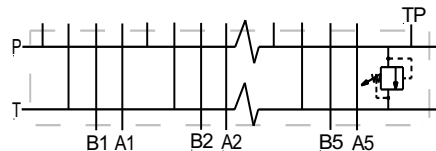
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
N/A	120	240	P & T (3/4") through two ends. All A & B ports (1/2") on one side.	1/2"-3/4"	\$ 910.00
Manifold Dimensions: 444 x 100 x 100 mm.					



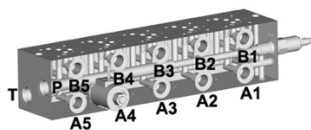
### HS55PR



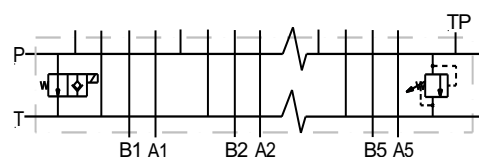
Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-26	114	240	P & T (3/4") on one end. All A & B ports (1/2") on one side. TP port (1/4") on other side. Relief on P.	1/4"-3/4"	\$ 1127.00
Manifold Dimensions: 444 x 100 x 100 mm. HS55PR manifold only \$ 985.00					



### HS55PRD

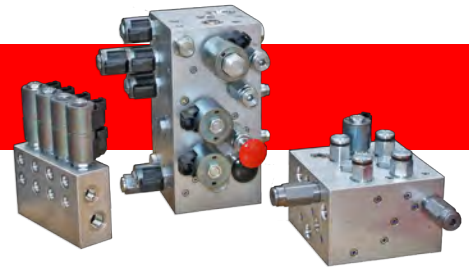


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSPP	Assembly Price
RV10-26 + SV12-21	114	240	P & T (3/4") on one end. All A & B ports (1/2") on one side. TP port (1/4") on other side. Relief and N.O. solenoid valve on P.	1/4"-3/4"	\$ 1527.00
Manifold Dimensions: 444 x 100 x 100 mm HS55PRD manifold only \$ 1076.00					



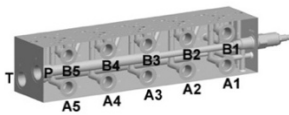


## Cetop 5 Subplates

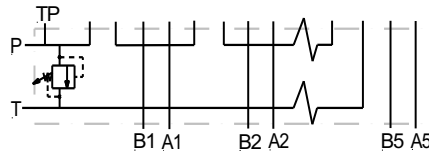


### Five Station – Series

#### HS55SR

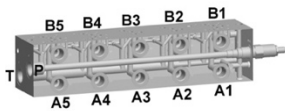


Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-26	114	240	P & T (3/4") on one end. All A & B ports (1/2") on one side. TP (1/4") port on other side. Relief on P.	1/4"-3/4"	\$ 1127.00
Manifold Dimensions: 444 x 100 x 100 mm. HS55SR manifold only \$ 985.00					

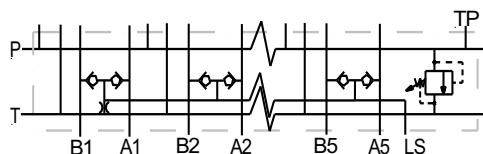


### Five Station – Load Sense

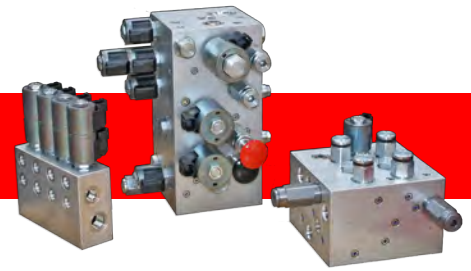
#### HS55LR



Cartridge Options	Q max l/min	P max bar	Notes	Ports BSP	Assembly Price
RV10-26 + 10 x CV04-20	114	240	P & T (3/4") on one end. LS port (1/4") on other end. All A & B ports (1/2") on one side. TP port (1/4") on other side. Four load sense checks. Relief on P. 0.4 mm bleed orifice.	1/4"-3/4"	\$ 1747.00
Manifold Dimensions: 444 x 100 x 100 mm. HS55LR manifold only \$ 1145.00					

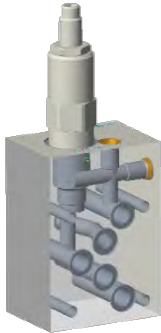


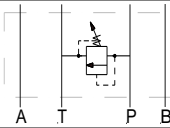
## Cetop 5 Modules



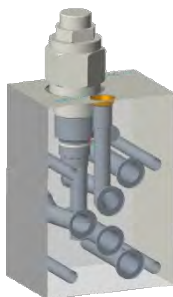
### Pressure Relief

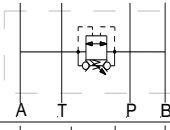
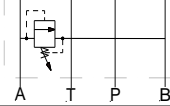
#### HS51MRP\_B



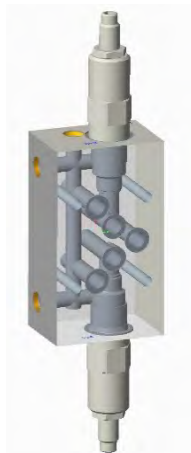
Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
RV10-26	110	240	P to T relief		\$ 442.00
Manifold Dimensions : 100 x 70 x 50 mm. HS51MRP_B manifold only \$ 300.00					

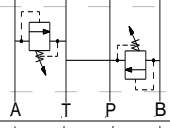
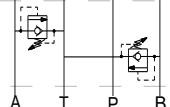
#### HS51MRX\_B



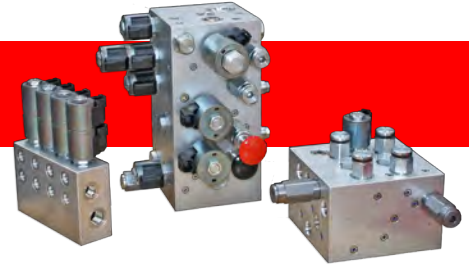
Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
RVBD-10	75	240	A & B cross line relief		\$ 495.00
RV10-22	110	240	A to B relief		\$ 433.00
Manifold Dimensions : 100 x 70 x 50 mm. HS51MRX_B manifold only \$ 310.00					

#### HS51MRW\_B



Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
RV10-26 x 2	110	240	A & B to T relief		\$ 674.00
RVPP-10 x 2	100	240	A & B to T relief and over-run check T to A & B		\$ 736.00
Manifold Dimensions : 125 x 70 x 50 mm. HS51MRW_B manifold only \$ 390.00					

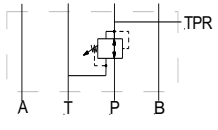
## Cetop 5 Modules



### Pressure Reducing / Relieving

HS51MPP\_B

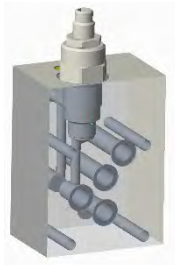


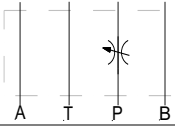
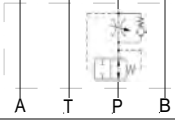
Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
PR50-38	70	350*	Pressure reducing on P and relieving to T		\$ 571.00
Manifold Dimensions : 125 x 70 x 50 mm. HS51MPP_B manifold only \$ 350.00					

- \* Requires steel block over 240 bar – *contact Hyspecs* for pricing
- TPR port 1/4"BSPP at the opposite end of cartridge

### Flow Control

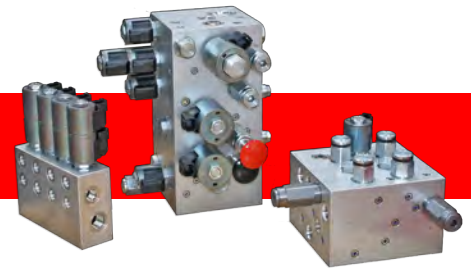
HS51MNP\_B



Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
NV10-20	45	240	Single needle valve meter- in on P		\$ 370.00
FR50-28	34	350*	Pressure compensated flow control on P		\$ 512.00
Manifold Dimensions : 100 x 70 x 50 mm. HS51MNP_B manifold only \$ 300.00					

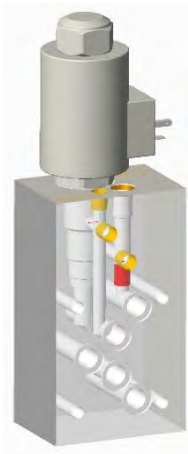
- \* Requires steel block over 240 bar – *contact Hyspecs* for pricing

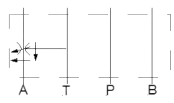
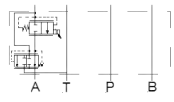
## Cetop 5 Modules



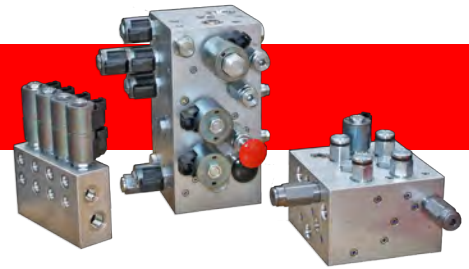
### Flow Control

#### HS51MFA\_B



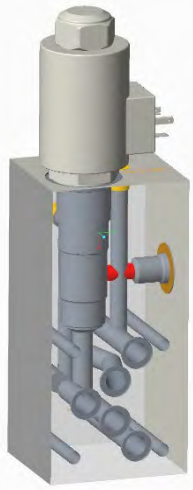
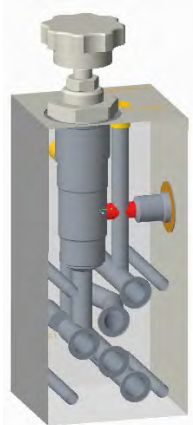
Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
FR10-39E	57	240	Pressure compensated priority flow control valve meter-in on A. Full range adjustment, regulated flow 0 – 38LPM.  Bypass can be plugged (red) for restricted flow control valve on A. Regulated flow 0 – 34LPM		\$ 562.00
PV70-30	50	240	Proportional pressure compensated flow control on A with Bypass to T.  Bypass can be plugged (red) for restrictive flow on A.		\$ 946.00
Manifold Dimensions : 125 x 70 x 50 mm. HS51MFA_B manifold only \$ 350.00					

## Cetop 5 Modules



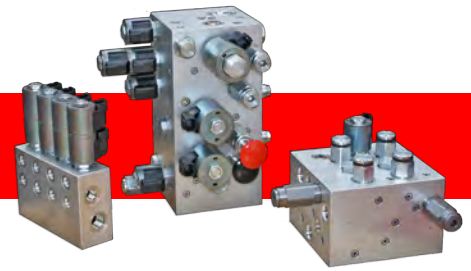
### Flow Control

#### HS51MFP\_B



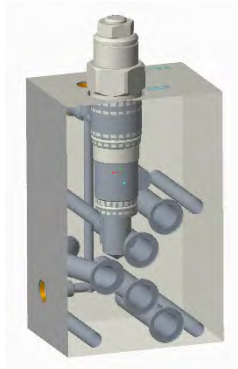
Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
FR12-33	100	240	<p>Pressure compensated priority flow control valve meter-in on P. Full range adjustment, regulated flow 0 – 68LPM.</p> <p>Bypass can be plugged for restricted flow control valve on P. Regulated flow 0 – 45LPM</p>		\$ 721.00
PV72-30	100	240	<p>Proportional pressure compensated flow control on P with Bypass to T.</p> <p>Bypass can be plugged for restrictive flow on P. Regulated flow 0 – 53LPM</p>		\$ 1104.00
Manifold Dimensions : 150 x 70 x 65 mm. HS51MFP_B manifold only \$ 400.00					

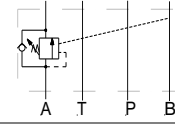
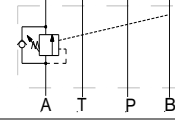
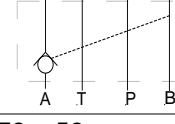
## Cetop 5 Modules



### Load Control

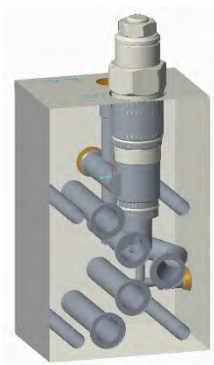
#### HS51MMA

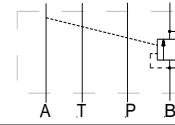
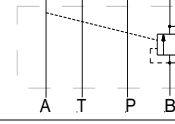
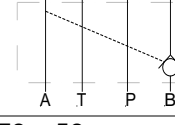


Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
CBCG	60	350*	Counterbalance on port A, pilot from B. 4.5:1 ratio.		\$ 495.00
CBCH	60	350*	Counterbalance on port A, pilot from B. 10:1 ratio.		\$ 515.00
CKCD	60	350*	Pilot operated check holds on port A, pilot from B. 3:1 ratio.		\$ 475.00
Manifold Dimensions : 110 x 70 x 50mm. HS51MMA manifold only \$ 325.00					

- \* Requires steel block over 240 bar – contact Hyspecs for pricing

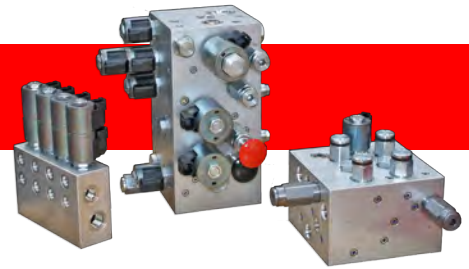
#### HS51MMB



Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
CBCG	60	350*	Counterbalance on port B, pilot from A. 4.5:1 ratio.		\$ 495.00
CBCH	60	350*	Counterbalance on port B, pilot from A. 10:1 ratio.		\$ 515.00
CKCD	60	350*	Pilot operated check holds on port B, pilot from A. 3:1 ratio.		\$ 475.00
Manifold Dimensions : 110 x 70 x 50mm. HS51MMB manifold only \$ 325.00					

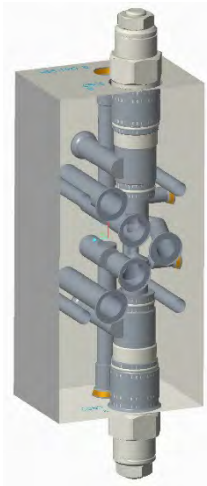
- \* Requires steel block over 240 bar – contact Hyspecs for pricing

## Cetop 5 Modules



### Load Control

#### HS51MMD\_B

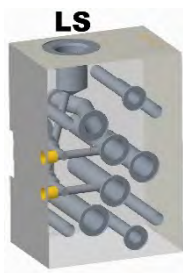


Cartridge Options	Q max l/min	P max bar	Notes	Circuit	Assembly Price
CBCG x 2	60	350*	Dual counterbalance. 4.5:1 ratio.		\$ 790.00
CBCH x 2	60	350*	Dual counterbalance. 10:1 ratio		\$ 830.00
CKCD x 2	60	350*	Dual pilot operated check. 3:1 ratio.		\$ 750.00
Manifold Dimensions : 150 x 70 x 50mm. HS51MMD_B manifold only \$ 450.00					

- \* Requires steel block over 240 bar – contact Hyspecs for pricing

### Load Sense

#### HS51ML\_B



Cartridge Options	P max bar	Notes	Circuit	Assembly Price
CV04-20 x 2	240	Dual load sense module. LS port 1/4 " BSPP.		\$ 344.00
Manifold Dimensions : 100 x 70 x 50mm. HS51ML_B manifold only \$ 252.00				

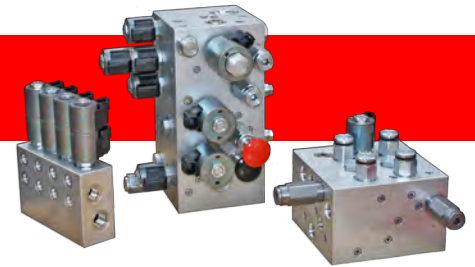
## Contents Section I – Standard and Proportional Valve Coils

### **I1 Standard and Proportional Valve Coils**

- I1 Benefits of using Hydraforce Standard Coils
- I2 Series 08, 80, 98 Coil Information
- I2 Series 10, 12, 16, 38, 58 Coil Information
- I3 Size 70 Coil Information
- I3 Series EHPR08 Coil Information
- I4 Coil Pricing
- I5 E Waterproof/Weather Resistant Coils
- I6 08-Size Series E Coils
- I7 10-Size Series E Coils
- I8 70-Size Series E Coils
- I8 EHPS-Size Series E Coils
- I9 12-Size Series E Coils
- I10 E Coil Pricing
- I11 Coil Installation
- I12 Hirschman Plug Wiring

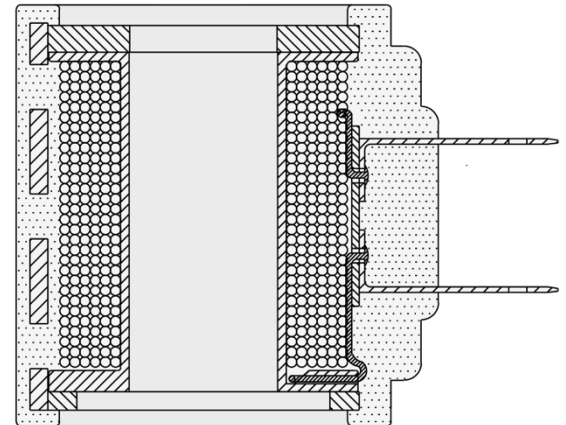


## Standard and Proportional Valve Coils



### Benefits of using Hydraforce Standard Coils

- High Quality Materials**  
 HydraForce coils are made with high quality, Class H magnetwire and insulation materials.
- More Ampere Turns**  
 More copper wire turns deliver more magnetic ux per current input.
- Rugged Casing**  
 Coils are housed in a durable 30% glass- lled thermoplastic casing, providing a rigid base for coil terminations.
- Superior Frame Density**  
 Thick iron surrounds the copper winding, increasing the coil's ux density and therefore its power as an electromagnet.
- Multiple Termination Options**  
 HydraForce offers many standard types of electrical connections, and will consider OEM requests for special terminations.
- DC Windings**  
 All windings are DC. AC service coils are internally full-wave-recti ed, so cartridges are voltage-interchangeable and do not exhibit AC "buzz" or suffer burn-out due to partial armature shift. HydraForce DC coils are UL Listed under File #AU2326.
- Heat Rise**  
 Rather than using heat sinks or external cooling methods, HydraForce uses larger coils for lower heat rise, stronger electromagnetic force and longer coil life. HydraForce coils canbe operated continuously at ambient temperatures to 100°C without challenging the coil's insulation system.
- Custom Coils**  
 HydraForce can provide windings precisely-tailored for special OEM applications. Some of the common windings are listed on the following page. Consult the factory if these do not meet your requirements.



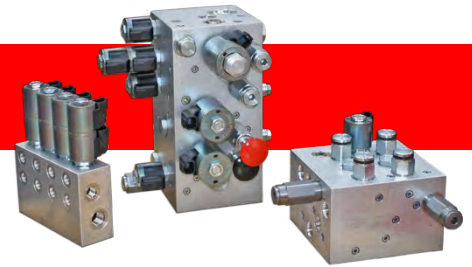
08, 80 Size Coil Data (14.7 Watts)		
Volts	Resistance (DC) @ 20°C Ohms	Initial Current Draw Amps
<b>DC Service</b>		
6*	2.46	2.44
10	6.8	1.47
12	9.8	1.22
20*	27.2	0.74
24	39.3	0.61
30*	61.4	0.49
36	88.3	0.41
48	156.6	0.31
72*	352.4	0.20
<b>AC Service</b>		
24	31.2	0.61
115	765.5	0.13
230	3035.0	0.06

10, 38, 58, 12, 52, 16, 56 Size Coil Data (20 Watts)		
Volts	Resistance (DC) @ 20°C Ohms	Initial Current Draw Amps
<b>DC Service</b>		
6*	1.8	3.33
10	4.8	2.08
12	7.2	1.67
20*	19.0	1.05
24	28.8	0.83
30*	43.2	0.69
36	64.8	0.56
48	110.2	0.44
72*	249.8	0.29
<b>AC Service</b>		
24	23.6	0.83
115	568.0	0.17
230	2304.0	0.09

70 Size Coil Data Proportional Coil Data		
Volts	Resistance (DC) @ 20°C Ohms	Nominal I-Max. Current Draw Amps
12	5.0	1.50
24	20.0	0.75

EHPR Coil Data Proportional Coil Data		
Volts	Resistance (DC) @ 20°C Ohms	Nominal I-Max. Current Draw Amps
10	3.1	1.50
12	5.4	1.20
20	12.5	0.75
24	21.7	0.60

## Standard and Proportional Valve Coils

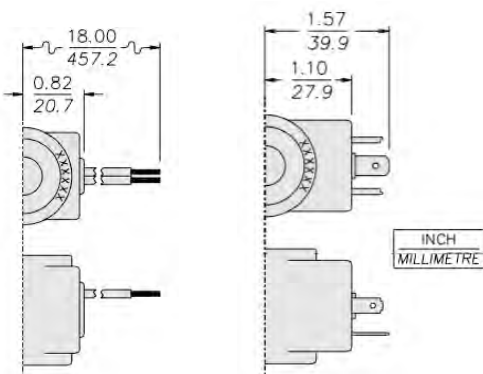


### Coil Information

- AC service coils are internally rectified, and can be used in 50 or 60 cycle (Hz) lines.
- Special voltages and terminations are available for OEM applications; consult factory.
- Coil should always be installed with lettering facing up.
- Standard coils are not hermetically sealed. For applications requiring water- or weather-resistant coils, see page 3.400.1
- AC voltage service with transient surges over 1000 volts may require that a varistor be placed in parallel at the coil.
- EG option coils do not use ground terminal. Pins 1 and 2 are not polarity-sensitive.

Voltage	Varistor Part No.	Joule Rating Required
115	GE: V150LA10A Siemens: S10R150 or equivalent	45 minimum
230	GE: V250LA40A Siemens: S20R250 or equivalent	130 minimum

### Series 08, 80, 88, 98 Coil Information

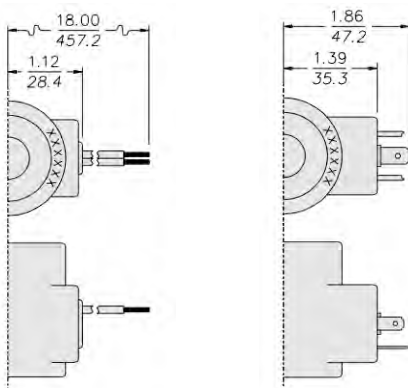


**L**  
Dual Leads  
18 Gauge

**G**  
DIN 43650  
Connector

Voltage	Part Number Suffix	
	L	G
12 VDC	6302012	6306012
24 VDC	6302024	6306024
36 VDC	6302036	6306036
*24 VAC	-	6316024
115* VAC	-	6316115
*230 VAC	-	6316230

### Series 10, 12, 16, 38, 58 Coil Information

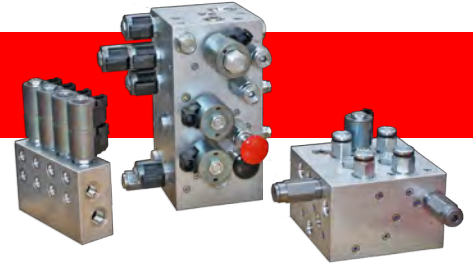


**L**  
Dual Leads  
18 Gauge

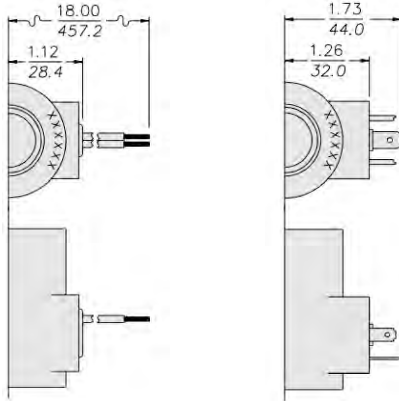
**G**  
DIN 43650  
Connector

Voltage	Part Number Suffix	
	L	G
12 VDC	6352012	6356012
24 VDC	6352024	6356024
36 VDC	6352036	6356036
*24 VAC	-	6366024
115* VAC	-	6366115
*230 VAC	-	6366230

## Standard and Proportional Valve Coils



### Size 70 Coil Information

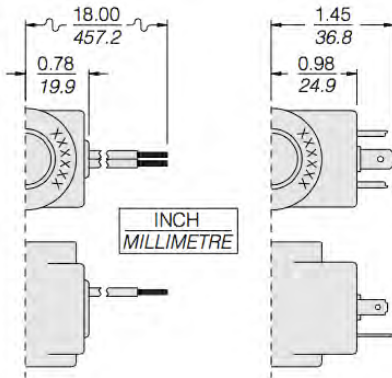


**L**  
Dual Leads  
18 Gauge

**G**  
DIN 43650  
Connector

Voltage	Part Number Suffix	
	L	G
12 VDC	6507212	6507612
24 VDC	6507224	6507624

### Series EHPR08 Coil Information

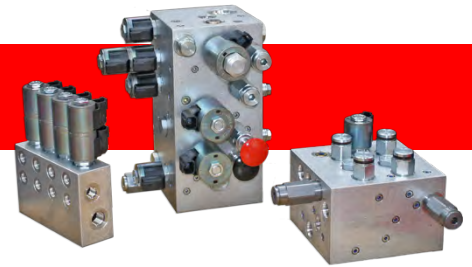


**L**  
Dual Leads  
18 Gauge

**G**  
DIN 43650  
Connector

Voltage	Part Number Suffix	
	L	G
12 VDC	6451212	6451612
24 VDC	6451224	6451624

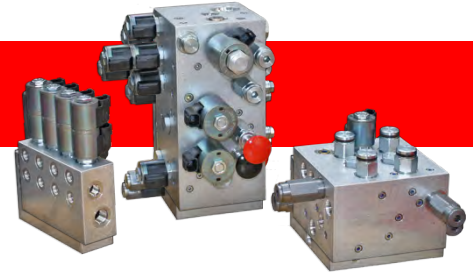
## Standard and Proportional Valve Coils



### Coil Pricing

Part Number	Valve Coils	Suffix	List
6302012	Series 08,80,88,98 Coil	L	\$ 46.00
6302024	Series 08,80,88,98 Coil	L	\$ 46.00
6302036	Series 08,80,88,98 Coil	L	\$ 69.00
6306012	Series 08,80,88,98 Coil	G	\$ 69.00
6306024	Series 08,80,88,98 Coil	G	\$ 69.00
6306036	Series 08,80,88,98 Coil	G	\$ 75.00
6316024	Series 08,80,88,98 Coil	G	\$ 98.00
6316115	Series 08,80,88,98 Coil	G	\$ 98.00
6316230	Series 08,80,88,98 Coil	G	\$ 98.00
6352012	Series 10,12,16,38,58 Coil	L	\$ 57.00
6352024	Series 10,12,16,38,58 Coil	L	\$ 57.00
6352036	Series 10,12,16,38,58 Coil	L	\$ 75.00
6356012	Series 10,12,16,38,58 Coil	G	\$ 75.00
6356024	Series 10,12,16,38,58 Coil	G	\$ 75.00
6356036	Series 10,12,16,38,58 Coil	G	\$ 95.00
6366024	Series 10,12,16,38,58 Coil	G	\$109.00
6366115	Series 10,12,16,38,58 Coil	G	\$109.00
6366230	Series 10,12,16,38,58 Coil	G	\$ 109.00
6507212	Size 70 Coil	L	\$ 75.00
6507224	Size 70 Coil	L	\$ 75.00
6507612	Size 70 Coil	G	\$ 75.00
6507624	Size 70 Coil	G	\$ 75.00
6451212	Series EHPR08 Coil	L	\$ 52.00
6451224	Series EHPR08 Coil	L	\$ 52.00
6451612	Series EHPR08 Coil	G	\$ 52.00
6451624	Series EHPR08 Coil	G	\$ 52.00

## Standard and Proportional Valve Coils



### E Water-Proof / Weather-Resistant Coils

New Series E coils are the latest innovation in coil technology from Hydraforce. They are designed to meet the demanding requirements of mobile and industrial applications where weather resistance is required. Models with Deutsch DT and Metri-Pack® integral connectors and new dual leadwire models meet or exceed all IP69K standards for weather resistance, offering superior reliability under the most demanding conditions. Series E coils have passed what is known in the construction, agricultural and mobile equipment markets as the “Thermal Shock Dunk Test.”

Series E coils feature a new, fully encapsulated coil winding technology. Deutsch and Metri-Pack® connectors are molded into the coil encapsulation, assuring IP69K weather resistance. An external metal shell serves as the element to concentrate the magnetic flux for the coil winding and also functions as a rugged container for the coil. No O-rings or waterproofing kits are required.

Models are available to fit most HydraForce valves. In most applications, these coils can be used to retrofit HydraForce valves already in field operation and will offer superior weather resistance.

- **Thermal Shock Dunk Test Rated**

Series E coils with leadwires, Deutsch DT and Metri-Pack® connectors have passed what is known in the construction, agricultural and mobile equipment markets as the “Thermal Shock Dunk Test.”

- **Easy Installation**

No O-rings, external sealing, or waterproofing kits required.

- **IP69K Rated with Integral Connectors and with New Dual Leadwires**

Models with Deutsch DT and Metri-Pack® connectors as well as the new dual leadwire models are rated for IP69K. DIN and dual spade connections are rated for IP65.

- **Fully Encapsulated Windings**

Coils are fully encapsulated for zero leak paths when ordered with integral connector options.

- **Field Retrofit-able**

In most cases, Series E coils can be used to replace existing coils on HydraForce valves already in operation.

- **Rugged Metal Shell**

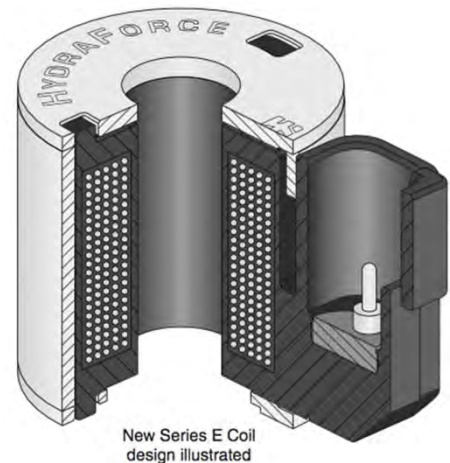
The rugged external metal shell provides exceptional protection against physical damage, ensuring durability under harsh operating conditions. It is salt spray rated for 1000 hours per ASTM B117 specifications.

- **High Temperature Operation**

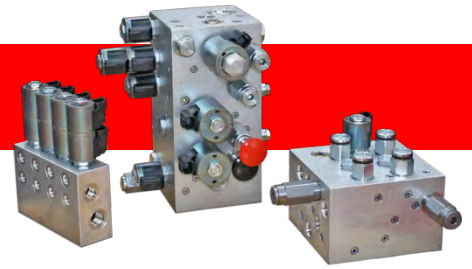
Class N 200°C (392°F) rated magnet wire and insulation materials allow high temperature operation and ensure long life under demanding conditions. Continuous-duty operation up to 100°C and 115% of nominal voltage.

- **Shock Resistant**

Integral grommet for Deutsch DT connectors increases durability under conditions of high random shock.

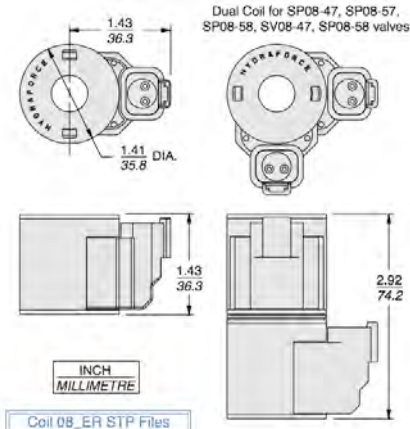


## Standard and Proportional Valve Coils



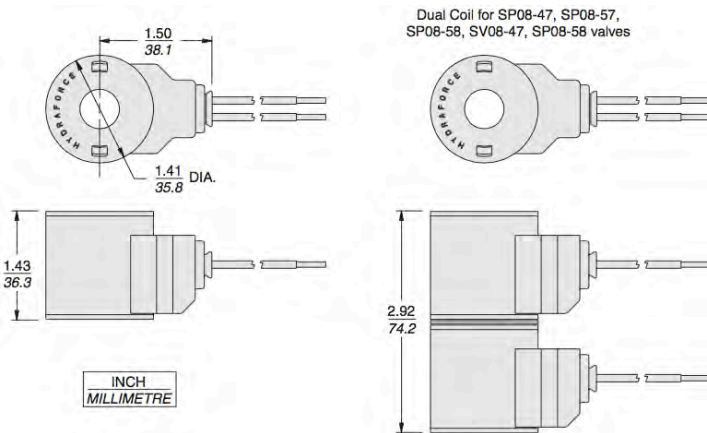
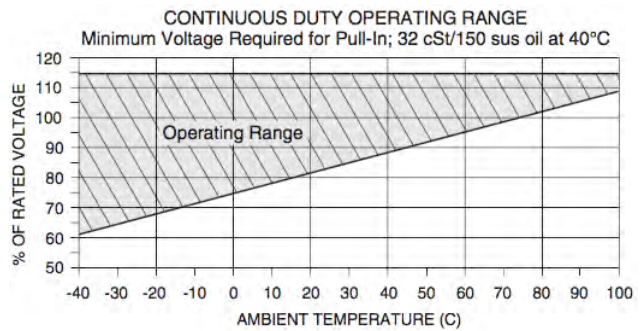
### 08-Size Series E Coils

(also for use 98-size screw-in spool-type valves)



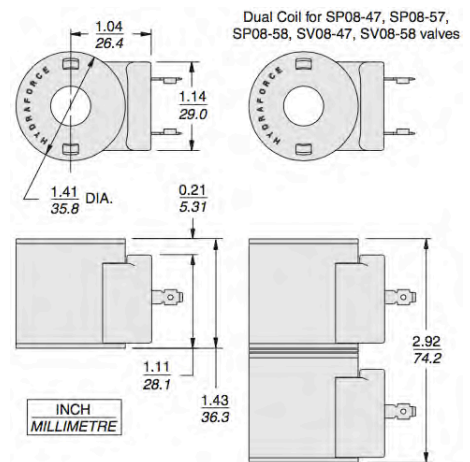
#### ER

**IP69K Rated 08-Size Coil**  
Thermal Shock Dunk Test Rated Coil  
Deutsch DT04-2P Connector



#### EL

**IP69K Rated 08-Size Coil**  
Thermal Shock Dunk Test Rated Coil

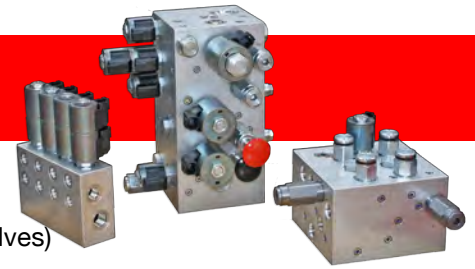


#### EG

**IP65 Rated 08-Size Coil; DIN 43650 Connector**  
IP67 rated if used with sealed mating connector and gasket

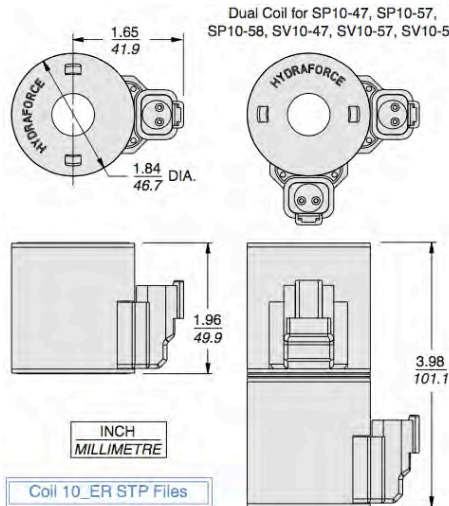
ER Coil Part No.	EL Coil 18" Wire Part No.	EG Coil Part No.	Operating Voltage	Resistance at 20°C	Initial Current Draw	Power	Coil Weight
4303612	4305112	4305862	12 VDC	8.8 ohms	1.4 amps	17.2 watts	136g
4303624	4305124	4305864	24 VDC	33.8 ohms	0.7 amps	16.6 watts	136g

# Standard and Proportional Valve Coils

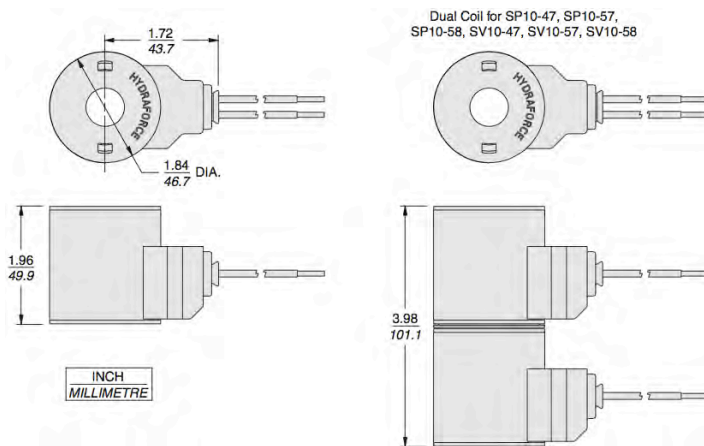
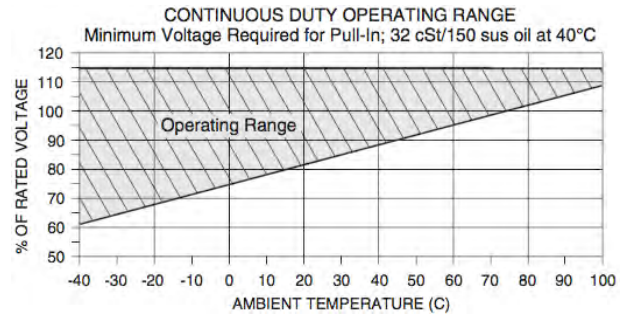


## 10-Size Series E Coils

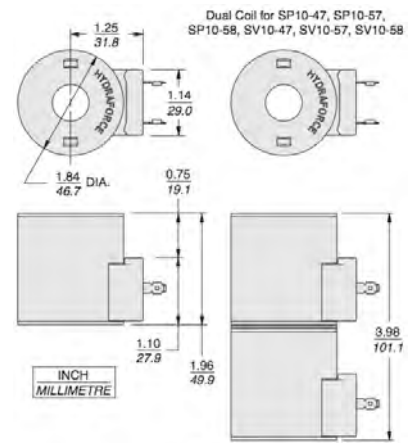
(also for use on 12,16, 20, 38 & 58 size poppet valve and 90-size spool valves)



**ER**  
**IP69K Rated 10-Size Coil**  
**Thermal Shock Dunk Test Rated Coil**  
**Deutsch DT04-2P Connector**



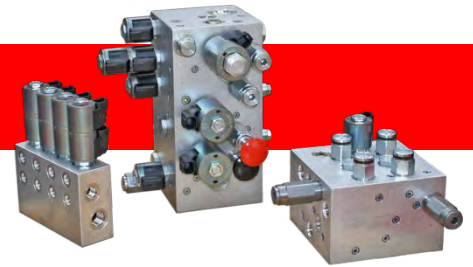
**EL**  
**IP69K Rated 10-Size Coil — Thermal Shock Dunk Test Rated Coil**



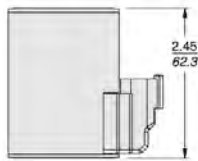
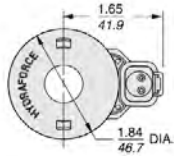
**EG**  
**IP65 Rated 10-Size Coil; DIN 43650 Connector**

ER Coil Part No.	EL Coil 18" Wire Part No.	EG Coil Part No.	Operating Voltage	Resistance at 20°C	Initial Current Draw	Power	Coil Weight
4303712	4305712	4305882	12 VDC	7.1 ohms	1.7 amps	20.5 watts	408g
4303724	4305724	4305884	24 VDC	28.5 ohms	0.8 amps	18.2 watts	408g

## Standard and Proportional Valve Coils



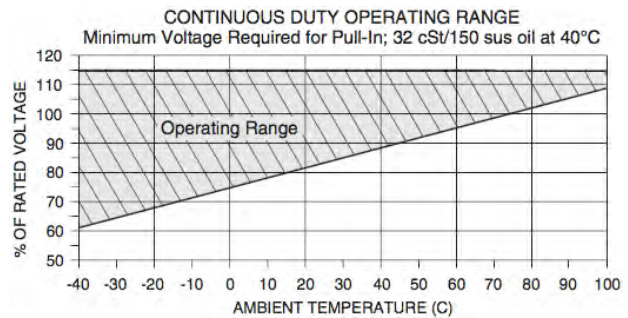
### 70-Size Series E Coils



INCH  
MILLIMETRE

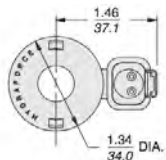
**ER**

IP69K Rated 70-Size Coil  
Thermal Shock Dunk Test Rated Coil  
Deutsch DT04-2P Connector



ER Coil Part No.	Operating Voltage	Resistance at 20°C	Initial Current Draw	Power	Coil Weight
4303212	12 VDC	4.5 ohms	2.7 amps	32.8 watts	408g
4303224	24 VDC	17.9 ohms	1.3 amps	30.3 watts	408g

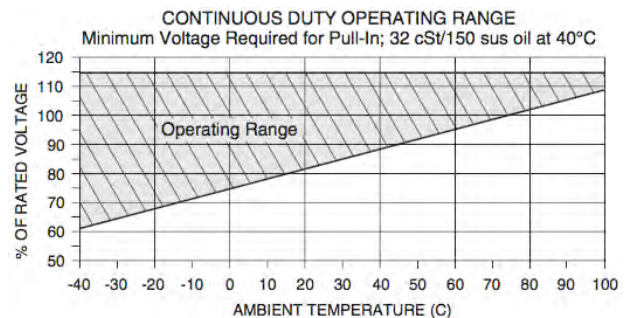
### EHPS-Size Series E Coils



INCH  
MILLIMETRE

**ER**

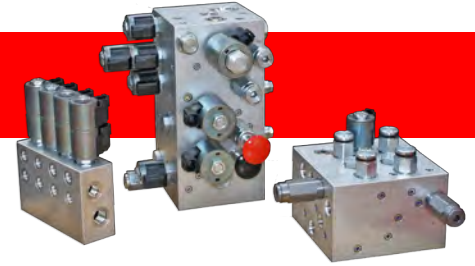
IP69K Rated 08-Size Coil  
Thermal Shock Dunk Test Rated Coil  
Deutsch DT04-2P Connector  
Mating Connector: Deutsch No. DT06-2S  
HF Part No. 4001417



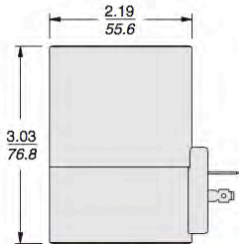
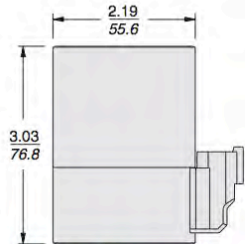
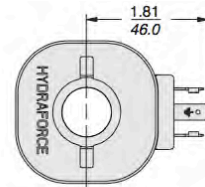
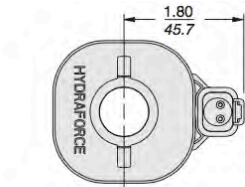
ER Coil Part No.	Operating Voltage	Resistance at 20°C	Initial Current Draw	Power	Coil Weight
4304712	12 VDC	5.4 ohms	2.2 amps	26.1 watts	136g
4304724	24 VDC	21.7 ohms	1.1 amps	26.3 watts	136g



## Standard and Proportional Valve Coils



### 12-Size Series E Coils



Coil 12\_ER STP Files

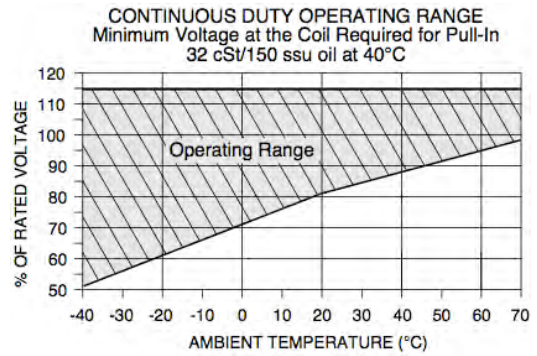
Coil 12\_EG STP Files

#### ER

**IP69K Rated 12-Size Coil**  
**Thermal Shock Dunk Test Rated**  
**Deutsch DT04-2P Connector**

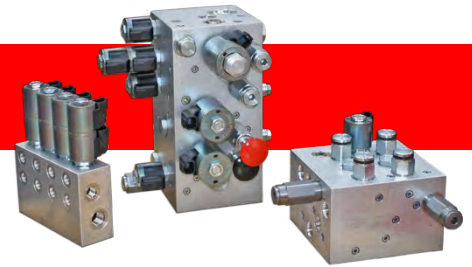
#### EG

**IP65 Rated 12-Size Coil**  
**DIN 43650 Connector**  
 Can be IP67 rated if used with



ER Coil Part No.	EG Coil Part No.	Operating Voltage	Resistance at 20°C	Initial Current Draw	Power	Coil Weight
4301212	6956012	12 VDC	4.6 ohms	2.6 amps	31.1 watts	1 kg
4301224	6956024	24 VDC	18.3 ohms	1.3 amps	31.0 watts	1 kg

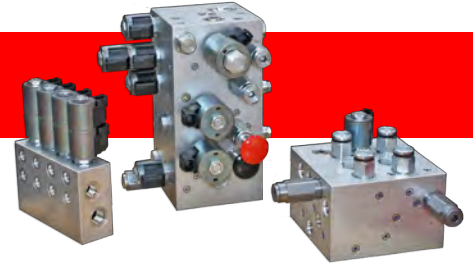
## Standard and Proportional Valve Coils



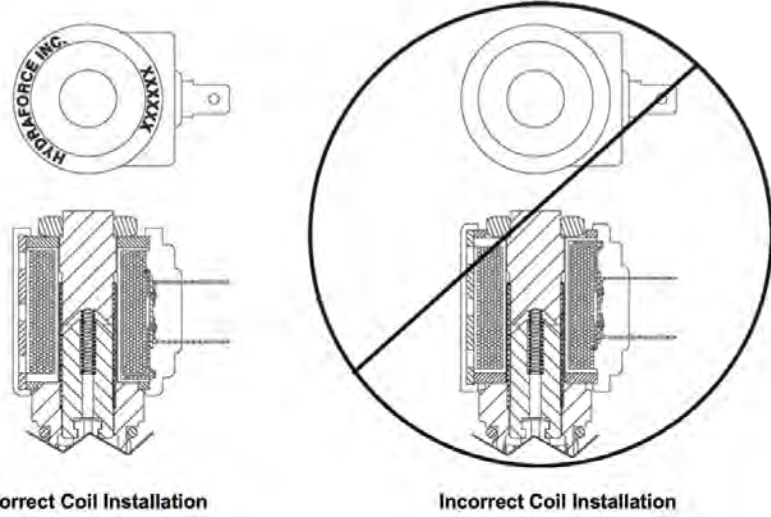
### E Coil Pricing

Part Number	Valve Coils	Suffix	List
4303612	08-Size Series E Coils	ER	\$ 69.00
4303624	08-Size Series E Coils	ER	\$ 69.00
4305112	08-Size Series E Coils	EL	\$ 57.00
4305124	08-Size Series E Coils	EL	\$ 57.00
4305862	08-Size Series E Coils	EG	\$ 69.00
4305864	08-Size Series E Coils	EG	\$ 69.00
4303712	10-Size Series E Coils	ER	\$ 75.00
4303724	10-Size Series E Coils	ER	\$ 75.00
4305712	10-Size Series E Coils	EL	\$ 65.00
4305724	10-Size Series E Coils	EL	\$ 65.00
4305882	10-Size Series E Coils	EG	\$ 75.00
4305884	10-Size Series E Coils	EG	\$ 75.00
4303212	70-Size Series E Coils	ER	\$ 75.00
4303224	70-Size Series E Coils	ER	\$ 75.00
4304712	EHPS-Size Series E Coil	ER	\$ 46.00
4304724	EHPS-Size Series E Coil	ER	\$ 46.00
4301212	12-Size Series E Coils	ER	\$ 138.00
4301224	12-Size Series E Coils	ER	\$ 138.00
6956012	12-Size Series E Coils	EG	\$ 138.00
6956024	12-Size Series E Coils	EG	\$ 138.00

# Standard and Proportional Valve Coils



## Coil Installation



Correct Coil Installation

Incorrect Coil Installation

Figure 1: Source Hydraforce <http://www.hydraforce.com/Techref/Ref-pdf/9-020-1.pdf> 2015/07/22

## Torque Values

**Cartridge Installation Torque**  
Listed by valve size, then in alpha-numeric order by valve model number - refer to Catalog if your valve's torque setting is not listed here.

General Guidelines			Special Torque Values for Specified Cartridge Valves					
Valve Size	Ft-lbs	Nm	Model	Ft-lbs	Nm	Model	Ft-lbs	Nm
04	12-14	16.3-19.0	CP42-M4X	65-75	88.4-102	PR50-38	25-27	33.9-36.6
04-BX	4-5	5.4-6.8	CV50-20	24-26	32.6-35.4	PRES50-30	50-55	67.8-74.6
07, 08, 09	19-21	25.8-28.5	EC08	19-21	25.8-28.5	PV42-M30	65-75	88.4-102
58	24-26	32.5-35.3	EC10-40	33-37	44.7-50.2	RVCV56-20	147-153	199.3-207.4
10	24-26	32.5-35.3	EC12-42, -43	73-77	99-104.4	RVD50	47-53	63.7-71.9
50	33-37	44.7-50.2	EC16-32, -42, -43	98-101.7	132.8-138.3	GRVD50, RVD50-20	47-53	63.7-71.9
12	33-37	44.7-50.2	EC42-M40, -M42, -M43	65-75	88.4-102	SF20-22, -23	65-75	88.4-102
52	46-54	62.4-73.2	ED56-42, -43	98-102	132.8-138.2	SP08-57D (M)	25-30	33.9-40.7
16	46-54	62.4-73.2	EPFR50-S35	24-26	32.6-35.4	SP10-20, -21, -24	33-37	44.7-50.2
56	33-37	44.7-50.2	EPFR52-S35	33-37	44.7-50.2	SV12-24, -25, -31, -33, -34, -40R, -41, -42, -60	52-60	70.7-81.3
20	65-75	88.1-101.7	EPFR58-35	19-20	25.8-28.5	SV38-20, -26, -28, -30, -31J, -38	19-21	25.8-28.5
42M20	110-130	149.1-176.3	EV58-34	19-21	25.8-28.5	SV58-20, -21, -21P, -25, -30, -40, -41	19-21	25.8-28.5
			FD50-44, -45	46-54	63.4-73.2	SV80-61	24-26	32.6-35.4
			FD52-45	73-77	99-104.4	SV88-20	19-21	25.8-28.5
			FD56-44, -45	98-102	132.8-138.3	SVCL10-30, -32	33-37	44.7-50.2
			FR16-20F	98-102	132.8-138.3	TS38-20, -21	19-21	25.8-28.5
			FR50-20F, -23, -28	33-37	44.7-50.2	TS80-30	24-25	32.6-33.9
			HS50-42, -43	24-26	32.5-35.4	TS90-31	24-25	32.6-33.9
			HS52-42, -43	33-37	44.7-50.2	TS98-30, 31	24-25	32.6-33.9
			LS50-30	24-26	32.6-35.4			
			PE42-S67X	65-75	88.4-102			

**Drop-In Valves - Mounting Screw Torque**

Model Code	Screw Part No.	Torque
SV98-T39, T40	4000039	2.2-3 ft. lb./ 3-4 Nm
TS98-T34		
EHPR98-T33, T35, T38	4001015	0.9-1.1 ft.lb./ 1.2-1.5 Nm

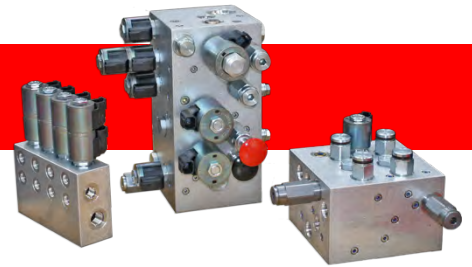
  

**Adjustment Option A, B, C, L Style Nut/Cap Torque**

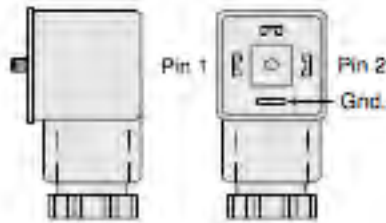
Model Code	Nut/Cap Part No.	Torque
CR, FC, FR, FRRV, KS, NV, PR, PS, RV, RVCV, RVD, UP	7004400	5-7 ft. lb./ 6.8-9.5 Nm
	7006700	
	7006750	
	7046100	
	7054670	

Figure 2: Source Hydraforce <http://www.hydraforce.com/Techref/Ref-pdf/9-020-1.pdf> 2015/07/22

## Standard and Proportional Valve Coils



### Hirschman Plug Wiring (DIN)



**DIN 43650**  
Cable Gland PG 9  
(7 mm nominal cable diameter)  
HF Part No. 6110002  
or Cable Gland PG 11  
(9 mm nominal cable diameter)  
HF Part No. 6110005

**Figure 3:** Source Hydraforce <http://www.hydraforce.com/electro/Elec-pdf/3-200-1.pdf> 2015/07/22

## Rules - Of - Thumb

- For every 1 kW of drive, the equivalent of 5 lpm @ 100 Bar can be produced
- To idle a pump when it is unloaded will require about 5% of its full rated power.

## Fluid Power Formulas

- For a pump/motor,  
Torque (Nm) = Power (kW) x 9543 / Speed (rpm)
- Force developed by a cylinder,  
Force (N) = Bore Area (cm<sup>2</sup>) x Pressure (Bar) x 10

## Conversions

- 1 U.S. gallon = 231 in<sup>3</sup> = 3.785 L
- 1 L = 0.2642 U.S. gallon = 61.0303 in<sup>3</sup>
- 1 in<sup>3</sup> = 16.387 cc
- 1 Imperial gallon = 1.2 U.S. gallon
- 1 Bar at sea level = 14.504 PSI
- 1 HP = 0.746 kW
- 1 Atmosphere = 1.013 Bar
- 1 km/h = 0.62 mph
- 1 m = 3.28 ft = 39.37 in
- 1 Nm = 0.7376 foot-lbs

## Some Common Fluid Power Symbols



Fixed Pump



Var. Displ. Pump



Fixed Motor



Prime Mover



3-Position, 4-way valve



Relief Valve



Pressure Reducing Valve



Fixed orifice



Gauge



Accumulator



Cooler



Filter



Needle Valve



Flow Control



Check Valve



Cylinder



Auckland | Taupo | Christchurch | Nelson | Melbourne | Brisbane



Auckland



Christchurch



Melbourne



Brisbane

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