



HYDRAFORCE

High Performance Hydraulic Cartridge Valves
and Electro-Hydraulic Control Systems



NEW
HYPERFORMANCE[™]
HIGH PRESSURE VALVES

HYPERFORMANCE™

H-Series High Pressure Valves

up to 350 bar / 5075 psi

HydraForce, the world's leading supplier of cartridge valve technology, introduces the new HyPerformance valve series.

These valves are designed to offer the industry's highest level of valve performance, enabling the most reliable application of cartridge technology in high duty cycle, high horsepower and high pressure machine applications.



New H-Series HYPERFORMANCE Valves

The new H-Series HyPerformance™ valves supplement the high-pressure standard valves currently released in the HydraForce catalog. H-Series valves are differentiated by the heavy duty qualification test standard (NFPA T 2.6.1) and the new cavity specification.

FEATURES:

- 350 bar/5075 psi continuous operating pressure.
- 420 bar/6090 psi intermittent 10% duty cycle tested.
- Fatigue tested to 420 bar/6090 psi for 2 million cycles.
- Flows up to 379 lpm/100 gpm.
- 1000 hour salt spray tested.
- IP69K rated solenoid coils.
- Single-piece, high endurance PPDI Urethane seals rated to 135°C (275°F)
- Vibration tested (3-axis) to 20G RMS.

BENEFITS:

High installation torque improves reliability under heavy duty cycle conditions.

Single-piece urethane seals eliminate back-up rings and improve ease-of-installation. Optional fluorocarbon seals with back-up rings are available.

Modified cavity with bottom shoulder, enhances strength and prevents twisting or binding during installation, assuring accurate and consistent performance.

All High Performance Products are tested to the rigorous NFPA T 2.6.1 standard of 900K cycles at 350 bar/5075 psi and 100K at 420 bar/6090 psi to ensure long-life and superior performance throughout the life of your machine.

HYPERFORMANCE™

H-Series High Pressure Valves

up to 350 bar / 5075 psi

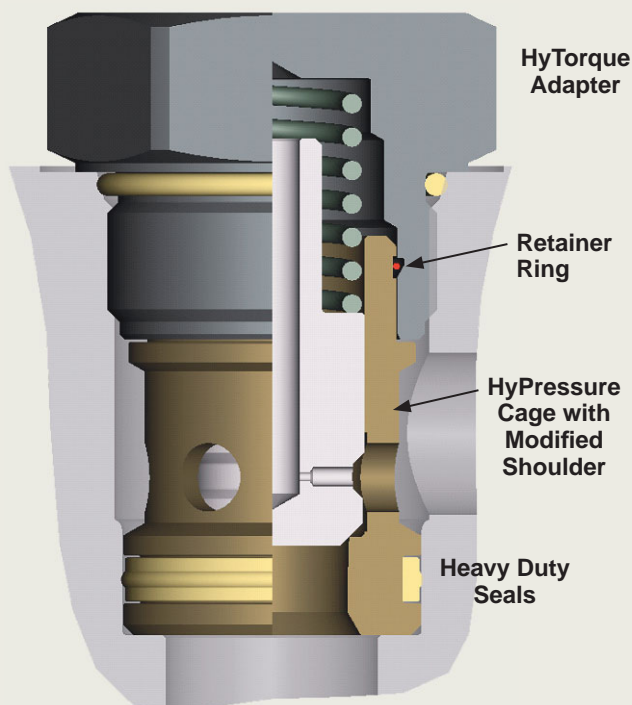
HYPRESSURE Reliability

- H-Series valves are qualified at 1 million cycles at 350 bar / 5075 psi with pressure excursions to 420 bar / 6090 psi for 10% of the duty cycle.
- Burst Pressure tested up to 1379 bar/20,000 psi.
- Fatigue tested to 420 bar for 2 million cycles.

HYPERFORMANCE Cavity

- H-Series valves use a modified standard cavity with a bottom shoulder to support the cage.
- The valve cage is clamped between the adapter and the bottom shoulder in order to strengthen the pressure holding capability of the cartridge.
- The cavity profile is the same as the standard HydraForce profile with the exception of the bottom shoulder. A revised form tool is required in order to control the shoulder depth.

HYPERFORMANCE Construction



Please consult the individual valve catalog pages for details on torque and cavity interchangeability.

HYFLOW – *HYHORSEPOWER*

- H Series valves will be released as a family of products ranging from the -08 common cavity size to the metric -42 cavity with flow ratings up to 379 lpm/100 gpm.

HYSTRENGTH Sealing

- High strength, high temperature rated PPDI Urethane seals provide reliability under heavy duty cycle operation.
- Back-up rings are eliminated providing an easier and more reliable installation.
- Fluorocarbon seals are optional with Teflon® back-up rings.

HYTORQUE Installation

- Installation torques of 3 to 4 times standard screw-in cartridges prevents back-out under heavy cyclic high pressure operation.
- The valve cage is retained in, but not fixed to the adapter in order to prevent distortion or binding during installation.

HYVIBRATION Tolerance

- Valve coils and stem tubes are tested to a 20G RMS 3-axis profile assuring reliability in severe mobile machinery applications.

HY-COIL Integrity

- HydraForce coils are designed for continuous operation at +/- 15% of rated voltage assuring reliable and safe operation under cold temperature, weak battery, and continuous duty conditions.
- E and H Series IP 69K Coils are tested for severe application conditions including thermal shock, water immersion, vibration, dust, high pressure cleaning, severe load cycling, extreme storage temperatures, chemical resistance and humidity.
- H Series valves used with H Series coils provide 1000-hour salt spray protection against red rust corrosion.

HYPERFORMANCE™

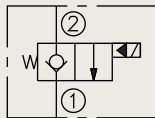
High Pressure Product Line

up to 350 bar / 5075 psi

High Pressure Solenoid Valves

N.C. Poppet

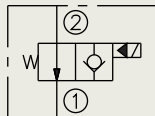
Std. **SF08-20**
27 lpm/7 gpm



HyP **HSV10-20**
75 lpm/20 gpm
Mid 2010

N.O. Poppet

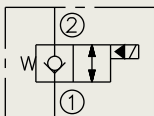
Std. **SF08-21**
39 lpm/10 gpm



HyP **HSV10-21**
75 lpm/20 gpm
Mid 2010

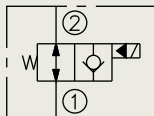
N.C. Reverse Flow

Std. **SF08-22**
23 lpm/6 gpm



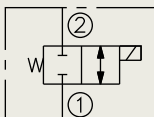
N.O. Reverse Flow

Std. **SF08-23**
30 lpm/8 gpm



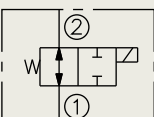
N.C. Spool

HyP **HSV10-24**
30 lpm/8 gpm
Mid 2010



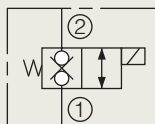
N.O. Spool

HyP **HSV10-25**
30 lpm/8 gpm
Mid 2010



N.C. Blocking/ Poppet

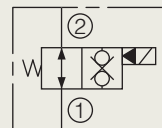
HyP **HSV10-28**
76 lpm/20 gpm
Mid 2010



High Pressure Solenoid Valves (cont'd.)

N.O. Blocking/ Poppet

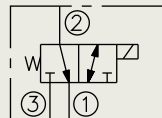
HyP **HSV10-29**
76 lpm/20 gpm
Mid 2010



3-Way Spool

Std. **SV58-30**
15.1 lpm/4 gpm

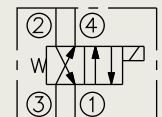
HyP **HSV10-30**
22 lpm/5.8 gpm
Late 2010



4-Way N.O. Spool

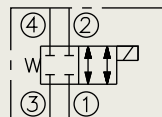
Std. **SV58-40**
11 lpm/3 gpm

HyP **HSV10-40R**
22 lpm/5.8 gpm
Mid 2010



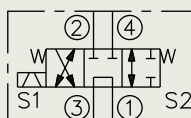
4-Way N.C. Spool

Std. **SV58-41**
17 lpm/4.5 gpm



4-Way 3-Position Spool

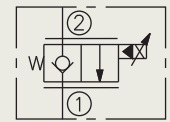
HyP **HSV10-47**
22 lpm/5.8 gpm
Late 2010



High Pressure Electro-Proportional Valves

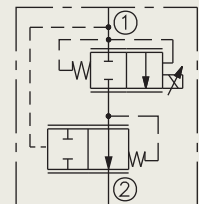
Proportional Directional 2-Way, N.C.

HyP **HSP16-20**
227 lpm/60 gpm
Mid 2010



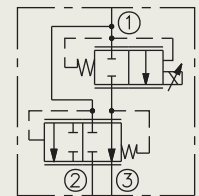
Proportional Flow Control, Restrictive, N.C.

HyP **HPV12-20**
64 lpm/17 gpm
Mid 2010



Proportional Flow Control, Bypass, N.C.

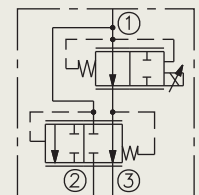
HyP **HPV12-30**
64 lpm/17 gpm
Mid 2010



HyP **HPV16-30**
151 lpm/40 gpm
Late 2010

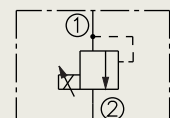
Proportional Flow Control, Bypass, N.O.

HyP **HPV16-31**
79 lpm/21 gpm
Late 2010



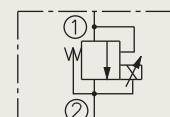
Proportional Pressure Control

Std. **TS58-20**
7.6 lpm/2 gpm



Proportional Pressure Control

Std. **TS58-21F**
1.9 lpm/0.5 gpm



Valves labeled "Std." utilize standard HydraForce valve cavities, are rated at 345 bar/5000 psi, and are available now.

HYPERFORMANCE™

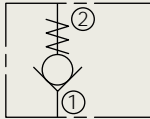
High Pressure Product Line

up to 350 bar / 5075 psi

High Pressure Check & Directional Valves

Poppet, Check

Std. **CV50-20**
57 lpm/15 gpm



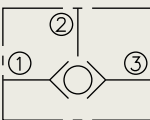
HyP **HCV16-20**
151 lpm/39 gpm
Available Now

HyP **HCV42-M20**

302 lpm/80 gpm
Available Now

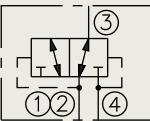
Shuttle

Std. **LS50-30**
30 lpm/8 gpm



Hot Oil Shuttle

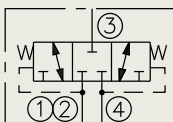
Std. **HS50-42**
22 lpm/6 gpm



Std. **HS52-42**
114 lpm/30 gpm

Hot Oil Shuttle

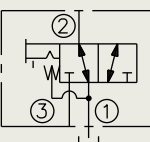
Std. **HS50-43**
45 lpm/12 gpm



Std. **HS52-43**
132 lpm/35 gpm

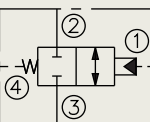
Manual Shift Spring Return

Std. **MP58-30**
25 lpm/6.5 gpm



3-Way Directional

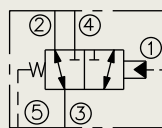
HyP **HPD42-M44**
265 lpm/70 gpm
Mid 2010



High Pressure Directional Valves (cont'd.)

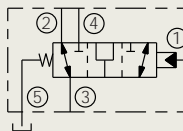
3-Way Directional

Std. **PD42-S50**
265 lpm/70 gpm



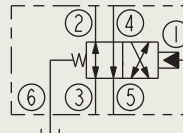
3-Way Directional

HyP **HPD42-S50**
265 lpm/70 gpm
Late 2010



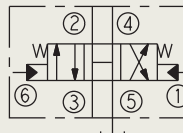
4-Way Directional

HyP **HPD42-S60**
189 lpm/50 gpm
Late 2010



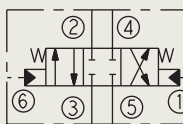
4-Way 3-Pos. N.O.

HyP **HPD42-S67B**
150 lpm/40 gpm
Late 2010



4-Way 3-Pos. N.C.

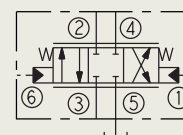
HyP **HPD16-S67C**
95 lpm/25 gpm
Late 2010



High Pressure Proportional Directional Valves

4-Way 3-Pos. N.C. Pilot-Operated

HyP **HPE16-S67C**
90 lpm/24 gpm
Late 2010



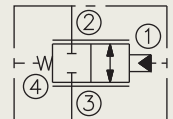
HyP **HPE42-S67C**

150 lpm/40 gpm
Late 2010

High Pressure Proportional Directional Valves (cont'd.)

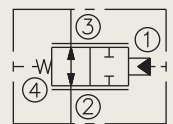
2-Way N.C. Pilot-Operated

HyP **HPE42-M44**
265 lpm/70 gpm
Late 2010



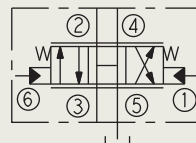
2-Way N.O. Pilot-Operated

HyP **HPE42-M45**
265 lpm/70 gpm
Late 2010



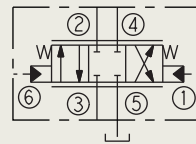
3-Position N.O. Pilot-Operated

HyP **HPE42-S67B**
150 lpm/40 gpm
Late 2010



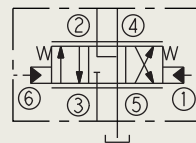
3-Position N.C. Pilot-Operated

HyP **HPE42-S67C**
150 lpm/40 gpm
Late 2010



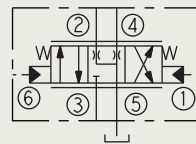
Pilot-Operated Meter-in and Meter-Out

HyP **HPE42-S67D**
170 lpm/45 gpm
Late 2010



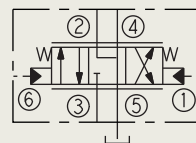
3-Position Pilot-Operated

HyP **HPE42-S67H**
150 lpm/40 gpm
Late 2010



Pilot-Operated Meter-Out Only

HyP **HPE42-S67K**
170 lpm/45 gpm
Late 2010



Valves labeled "Std." utilize standard HydraForce valve cavities, are rated at 345 bar/5000 psi, and are available now.

HYPERFORMANCE™

High Pressure Product Line

up to 350 bar / 5075 psi

High Pressure Vented Logic Elements

Vented Logic

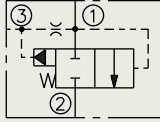
Std. **EV10-S34**
76 lpm/20 gpm

Std. **EV12-S34**
113 lpm/30 gpm

HyP **HEV16-S34**
189 lpm/50 gpm
Mid 2010

Std. **EV20-S34**
379 lpm/100 gpm

HyP **HEV42-S34**
379 lpm/100 gpm
Available Now



High Pressure Piloted Logic Elements (cont'd.)

Pressure Compensating

Std. **EPFR58-S35**
38 lpm/10 gpm

Std. **EPFR50-S35**
76 lpm/20 gpm

Std. **EPFR52-S35**
151 lpm/40 gpm

Pilot-to-Close

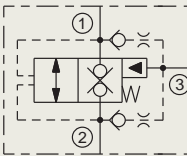
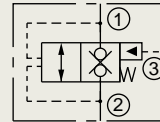
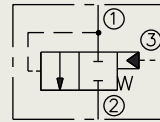
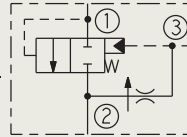
HyP **HEP16-S35**
189 lpm/50 gpm
Mid 2010

Poppet Logic

Std. **EP10-S38**
113 lpm/30 gpm

Checked Logic

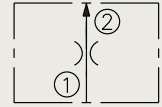
HyP **HEP42-S39**
284 lpm/75 gpm
Available Now



High Pressure Flow Controls

Pressure Compensated, Fixed

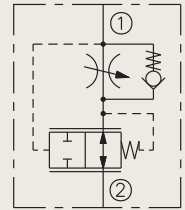
Std. **FR50-20F**
22.7 lpm/6 gpm



Pressure Compensated, Adjustable

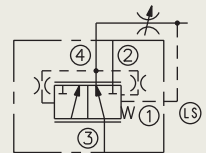
Std. **FR50-23**
11.5 lpm/3 gpm

Std. **FR50-28**
34 lpm/9 gpm



Pressure Compensator with Load Sense

HyP **HEC32-43**
303 lpm/80 gpm
Late 2010

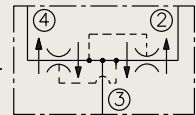


Divider/Combiners

Std. **FD50-45**
19 lpm/5 gpm

Std. **FD52-45**
38 lpm/10 gpm

Std. **FD56-45**
53 lpm/14 gpm



High Pressure Piloted Logic Elements

Piloted Logic

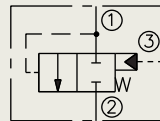
Std. **EP08-S35**
38 lpm/10 gpm

Std. **EP10-S35**
76 lpm/20 gpm

Std. **EP12-S35**
113 lpm/30 gpm

Std. **EP20-S35**
379 lpm/100 gpm

HyP **HEP42-S35**
379 lpm/100 gpm
Available Now



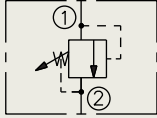
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Complete technical information and New Products at www.hydraforce.com

High Pressure Pressure Controls

Direct-Acting Poppet

Std. **RV58-20**
22 lpm/6 gpm

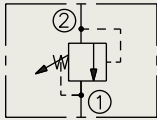


Dynamic Relief

Std. **RVD50-20**
113 lpm/30 gpm

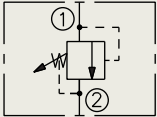
Differential Area Poppet

Std. **RV50-22**
75 lpm/20 gpm



Pilot-Operated Spool

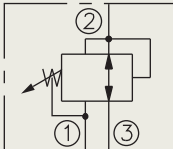
Std. **RV50-26**
113 lpm/30 gpm



Std. **RV52-26**
379 lpm/100 gpm

Pressure Reducing/Relieving

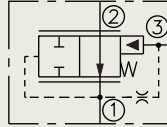
Std. **PRES50-30**
11.4 lpm/3 gpm



High Pressure Pressure Controls (cont'd.)

Pressure Reducing Pilot Element

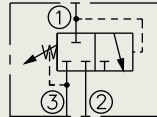
Std. **ER10-S30**
68 lpm/18 gpm



Std. **ER12-S30**
114 lpm/30 gpm

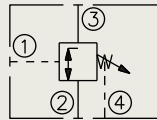
Sequence, Pilot-Operated

Std. **PS50-36**
57 lpm/15 gpm



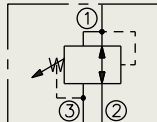
Sequence, Normally Closed

Std. **PS50-40**
22 lpm/6 gpm



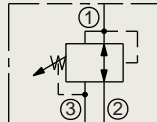
Reducing/Relieving, Pilot Operated

Std. **PR50-36**
56 lpm/15 gpm



Reducing/Relieving, Direct-Acting

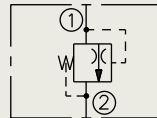
Std. **PR58-38**
19 lpm/5 gpm



Std. **RV50-38**
72 lpm/19 gpm

Thermal Relief

Std. **TR04-B20**



Valves labeled "Std." utilize standard HydraForce valve cavities, are rated at 345 bar/5000 psi, and are available now.



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HYDRAFORCE INC
500 Barclay Blvd.
Lincolnshire, IL 60069
Phone: 847 793 2300
Fax: 847 793 0086

Member: National Fluid Power Assoc.
ISO 9001

HYDRAFORCE HYDRAULICS LTD
St. Stephens Street
Birmingham B6 4RG England
Phone: 0121 333 1800
Fax: 0121 333 1810

Member: British Fluid Power Assoc.
ISO 9001 & ISO 14001

HYDRAFORCE CHINA LLC
Shanghai Representative
Office Unit 606, B&W Tower
No. 28 Xuanhua Rd
Shanghai, 200050, China
Tel: +86 21 3250 6508, 3250 6509
Fax: +86 21 3250 6510
Email: khuang@hydraforce.com

HYDRAFORCE KOREA LLC
#306, Mirim Plaza
1132-1, Jungdong, Wonmigu,
Bucheon, Kyunggido, Korea
Tel: +82 32 328 2170
Fax: +82 32 328 2172
Email: jong-seongl@hydraforce.com

HYDRAFORCE HYDRAULICS - INDIA
Vatika Business Centre
Suite No. 22, Level 5, C Wing
Techpark One, Airport Road
Yerwada, Pune 411006
Maharashtra, India
Tel: +91 020 40111304
Fax: +91 020 40111105
Email: bharatb@hydraforce.com



HydraForce valves meet RoHS environmental requirements restricting the use of cadmium, quick silver, lead hexavalent chrome, polybrominated biphenyl (PPB) or polybrominated diphenyl Ester (PPDE) in products, components and packing materials.
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