



TW **HYDRAULIC** Warehouse

CARTRIDGE VALVES BROCHURE





The Hydraulic Warehouse – Australian Distributor of Quality Hydraulic Brands

The Hydraulic Warehouse is Australia's leading distributor of quality hydraulic brands. Based in Sydney Australia, our stores house over 16,000 products from the world's leading manufacturers.

Our mission is to provide our nationwide network of hydraulic resellers with exceptional quality products at market competitive prices; and to back this up with first-rate product support, outstanding stock availability, and the fastest turnaround time from order placement to delivery.

We stock a broad spectrum of premier brands with which we have long-standing relationships. Respected manufacturers such as Eaton, Vickers, Fairfield, Oil Control, Hydraforce, SAI and MP Filtri look to us to keep their brands prominent in the Australian Marketplace.

The Hydraulic Warehouse recognises the importance that our customers place on service, price and quality. These are our values and this is what you can expect from Australia's premier hydraulic distributor:

- ✓ Quality brands
- ✓ First rate product support
- ✓ Extensive stockholding
- ✓ Competitive prices
- ✓ Rapid order turnaround







We are proud distributors of:



**Ask us about sourcing other brands or special products for your next job.
Call 1300 734 351 or email info@thwsales.com.au.**



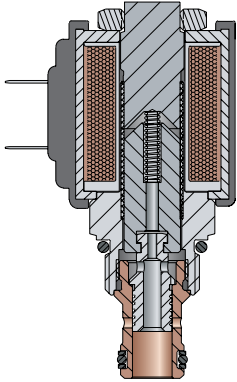
HYDRAFORCE **Index**
High Performance Hydraulic Valves, Manifolds
and Electro-Hydraulic Control Systems

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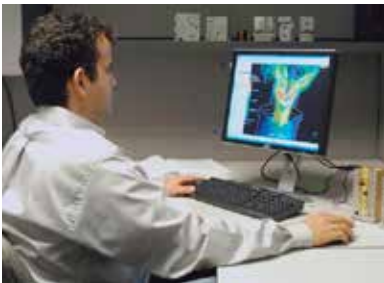


The Industry Leader in Hydraulic Controls



Complete Product Line

HydraForce offers the industry's widest range of high performance hydraulic cartridge valves, manifold assemblies and electronic controls. Their standard product line includes a full range of directional, pressure and flow control valves for flow rates up to 379 lpm/100 gpm and operating pressures up to 420 bar/6090 psi.



Engineering Innovation

HydraForce continues to pioneer the development of proportional and electro-proportional hydraulic valves and controls, as well as a growing family of multi-function valves offering lower-cost, more compact hydraulic circuitry. Hydraforce engineers are highly recognised for their innovative, high quality, cost-effective valve designs and application solutions.



Latest Technology

HydraForce is now offering a full line of electronic vehicle control products that integrate various machine functions into a common J1939 or CAN Data Link control circuit.



Quality and Reliability

HydraForce products are endurance and performance qualified to ensure reliability in the harsh operating conditions of off-highway, material handling and mobile equipment applications. In addition, valves and manifold assemblies are 100% tested prior to shipment, assuring consistent and reliable performance. Valve components are machined within precise tolerances utilising the most advanced CNC equipment. HydraForce is recognised and certified by many global equipment manufacturers for superior product quality and reliability, on-time delivery, and world-class technical standards.



Worldwide Support

HydraForce products are marketed and serviced worldwide by a highly qualified and experienced network of international distributors, supported by factory application engineers and customer support specialists.

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Cartridge Valves

Pressure Control Valves



- Pressure relief, reducing and relieving, unloading and sequencing operations
- Industry common cavity sizes up to -16 (303 lpm/80 gpm)
- Pilot operated, direct-acting, and differential-area pressure regulators for all application conditions
- Operating pressures up to 350 bar/5075 psi
- Optional spring ranges and adjustment styles

Directional Valves



- Industry-common cavity sizes -04, -08, -10, -12, -16, -20 and -42
- Hydraulically piloted or manually-operated directional and logic valves enable circuit flexibility and performance optimisation
- Proportional, piloted 3-position, 4-way directional valves for flow rates up to 170 lpm/45 gpm
- Hardened precision seats, spools and cages for long life and low leakage

Flow Control Valves



- Variable or fixed orifice restrictor valves
- Pressure-compensated flow regulators
- Pressure compensators for restrictive, bypass and priority circuits, with load-sensing system compatibility
- Optional settings and adjustment styles available
- Flow dividers/combiners for cylinder synchronising and anti-stall applications

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Cartridge Valves (Cont.)

Solenoid-Operated On/Off Valves



- Continuous-duty coils with a wide range of voltages, terminations and diode options
- Designed for mobile operating environments including low-voltage, high and low temperatures, and exposed environmental conditions
- Industry-common cavity sizes -07, -08, -10, -12, -16, -20, as well as drop-in-style construction
- Series "E" water/weather-resistant coils with integral connectors rated up to IP69K
- Manual override option on most models

Electro-Proportional Valves



- Designed for reliability in mobile machinery applications and in exposed environmental conditions
- Excellent linearity and low hysteresis
- Hardened precision spools and cages for long life
- Industry-common cavity sizes enable interchangeability with non-proportional valves
- Drop-in-style, sealed, proportional clutch actuation, and piloting valves
- Series "E" water/weather-resistant coils with integral connectors rated up to IP69K

HyPerformance™ H-Series High Pressure Valves up to 350 bar/5075 psi



HyPressure Reliability

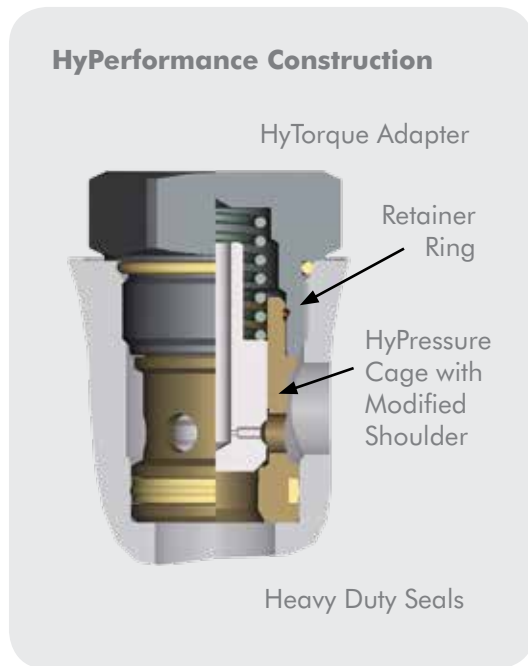
- H-Series valves are qualified at 1 million cycles at 350 bar/5075 psi with pressure excursions to 420 bar/6090 psi for 10% of the duty cycle
- Burst pressure-tested up to 1379 bar/20,000 psi
- Fatigue-tested to 420 bar for 2 million cycles with urethane seals

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Cartridge Valves (Cont.)

HyPerformance™ H-Series High Pressure Valves up to 350 bar/5075 psi (Cont.)



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.

HyFlow - HyHorsepower

- H-Series valves have been released as a family of products ranging from the -08 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 for streamlined and reliable installation. Other seals are available but will change the published life cycle of the valve.

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.
- IP69K-rated E-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 E-Coils provide 1000-hour salt spray protection against red rust corrosion.

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