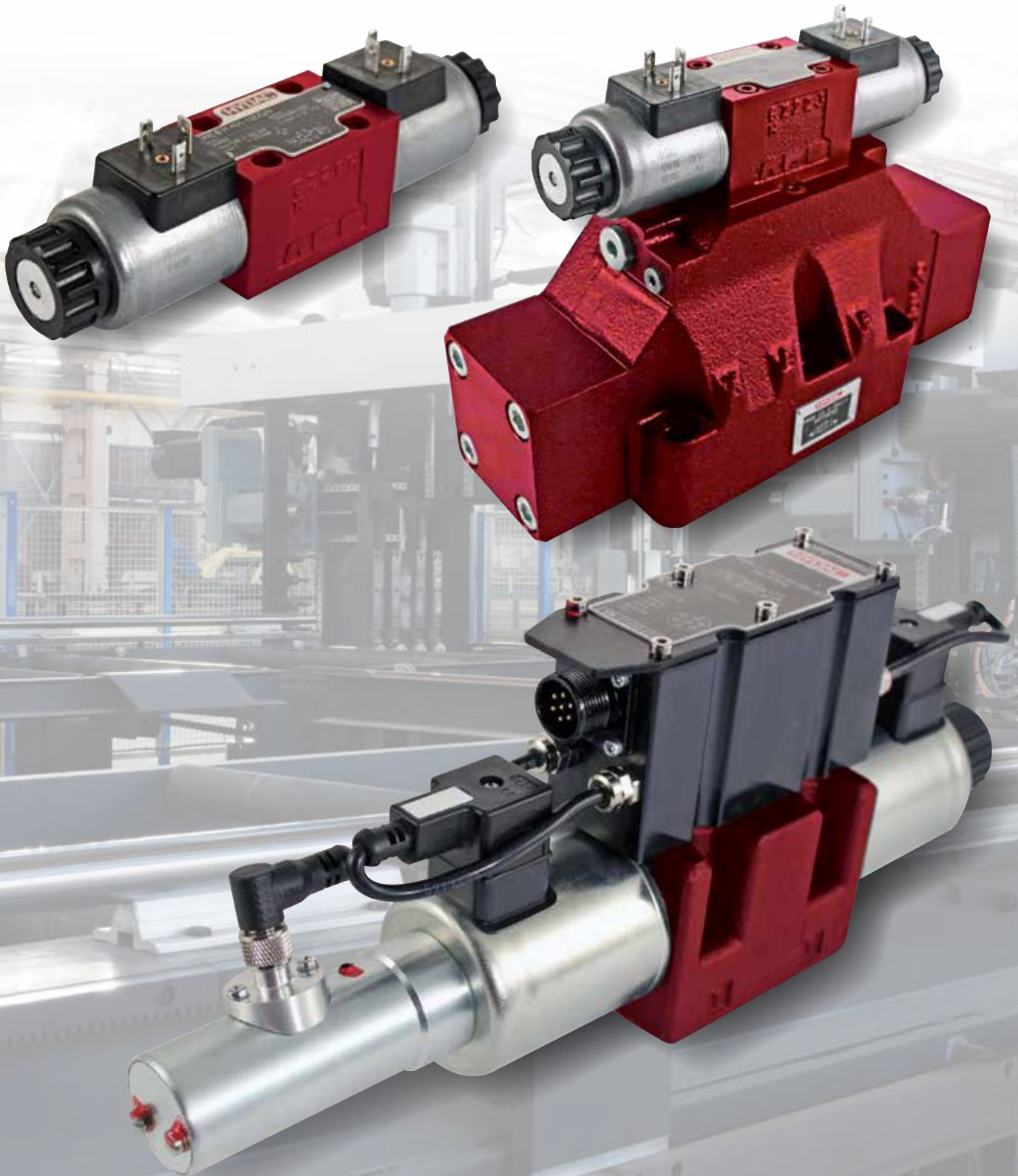


HYDAC INTERNATIONAL

Industrial Valves

Overview of Products



Introduction

Production Facility - **A2**; Industries and Applications - **A3**; Hydraulic Symbols - **A4**

A

Industrial Valves - Directional Control

Direct Operated - Directional Spool Valves 4WE 6, 4WEMH 6, 4WE 10 - **B2**; Directional Poppet Valves 4SE 6, 4WV-700 NG 6 - **B3**; WVH 700, Directional Control Valves - Explosion Proof 4WE 6 XE - **B4**;

Lever Operated - Directional Spool Valves 4WMH 6, 4WMH 10 - **B5**;

Pilot Operated - Two Stage - Directional Spool Valves 4WEH 10, 4WEH 16 - **B6**; 4WEH 25, 4WEH 32 - **B7**; 4WH - **B8**

B

Industrial Valves - Proportional Directional Control

Direct Operated - Proportional Directional Spool Valves P4WE 6, P4WE 10 - **C2**; P4WEE 6, P4WEE 10 - **C3**; P4WERE 6, P4WERE 10 - **C4**;

Proportional Solenoid Pilot Operated - Two Stage - Proportional Directional Spool Valves P4WEH 10, P4WEH 16 - **C5**;

P4WEH 25, P4WEH 32- **C6**;

Proportional Solenoid Pilot Operated - Two Stage On-Board Electronics - Proportional Directional Spool Valves P4WEHE/PHWEHRE 10, P4WEHE/PHWEHRE 16 - **C7**; P4WEHE/PHWEHRE 25, P4WEHE 32 - **C8**

C



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NOTE

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INTRODUCTION

Production Ready Facility!

HYDAC's state-of-the-art production facility has been designed from the ground up to quickly and efficiently produce industrial valves that uphold HYDAC's high quality standards. The entire factory is vertically integrated – we manufacture our own coils, pole tubes, spools and housings and assembly is done in-house. We employ the principles of lean manufacturing in both production and assembly to optimize quality and maintain affordability. For example, the manufacturing flow is a single piece – this allows for quick change-over and a varied choice of valve versions. ¹⁾RFID technology and ²⁾pull by light stream systems are both used to insure the correct parts are installed each time. We then ³⁾100% test each valve using a variable speed drive to guarantee performance. Serialization of this data provides full traceability. Thusly, we are able to offer our customers valves in many different voltage versions, plug versions and manual overrides – even application-specific valves are available – all in a very short turnaround time.



Industries and Applications

Our wide range of components manufactured for hydraulics and electronics—as individual components or complete system solutions—provide almost no limitations to application possibilities.

Quality assurance and cost effectiveness, active participation in research projects together with receptiveness to individual requirements and the best solutions, are opening up more and more new applications world-wide.



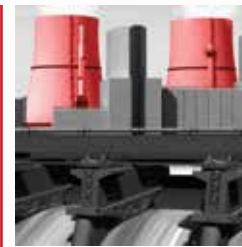
Oil and Gas

- High pressure Bieri axial piston pumps & valves
- Directional control valves
- Cartridge valves
- Filtration
- Coolers



Steel Industry

- Full flow safety valves
- Directional control valves
- Proportional control valves
- Sandwich Modules
- Logic cartridges
- Power units & manifolds
- Valve stands



Power Plants

- Directional control valves
- Proportional control valves
- Manifold assemblies
- Sandwich modules
- Logic cartridges
- Power units and manifolds



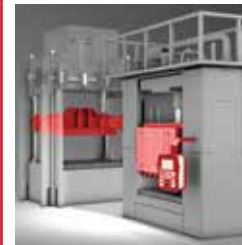
Wind Industry

- Proportional control valves
- Cartridge valves
- Manifolds
- Two Stage filter elements
- Kidney loop systems
- Coolers



Automotive

- Directional control valves
- Proportional control valves
- Sandwich modules
- Coax valves
- KineSys power units
- Standard Power units and manifolds



Presses

- Standard press manifolds
- Die cushion manifolds
- Proportional control valves
- DIN cartridge valves



Marine

- Directional Control valves
- Proportional Control valves
- DC compact power units
- Power units and manifolds
- Filtration
- Coolers



Mining

- Directional Control valves
- Proportional Control valves
- Sandwich Modules
- Power units and manifolds
- Filtration
- Coolers



Waterpower

- Directional Control valves
- Proportional Control valves
- Standard Power units and manifolds
- Filtration



Injection Molding Machines

- Proportional valves
- Directional control valves
- Sandwich modules
- Full flow DIN safety cartridges
- Power units & manifolds



Machine Tool

- Directional Control valves
- Proportional Control valves
- Sandwich Modules
- Coax valves
- KineSys power units
- Standard Power units and manifolds



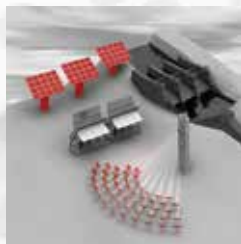
Testing Systems

- Proportional valves
- Directional control valves
- Sandwich modules
- Full flow DIN safety cartridges
- Accumulators
- Power units and manifolds



Paper Industry

- Proportional valves
- Directional control valves
- Sandwich modules
- DIN safety cartridges
- Power units and manifolds
- Coolers



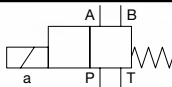
Solar Industry

- Bieri Radial Piston Pumps
- Leak free directional control valves
- Cartridge valves
- Power units
- Coolers

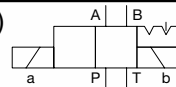
4/2 Directional Spool Valve

Type	Basic Symbol	With Intermediate Position	Type	Basic Symbol	With Intermediate Position
AE			HA		
BE			HB		
C			JA		
D			JB		
DT			KA		
EA			QA		
EB			UA		
GA			Y		
GB			YT		

With Return Spring



With Detent (...-OF)



4/3 Directional Spool Valve

Type	Basic Symbol	With Intermediate Position	Type	Basic Symbol	With Intermediate Position
E			L		
F			M		
G			P		
H			Q		
J			R		
JR			U		
K					

B Directional Control Valves

HYDAC 4/2- and 4/3- directional spool valves of the 4WE 6 and 10 series are direct operated directional valves for hydraulic systems which are used to open and close flow paths. The valves operate by oil-immersed solenoids. During the process, the solenoid pushes the valve's control spool into the respective position to obtain the desired flow path. For higher flow rates, our pilot operated directional control valves 4WEH series utilize a two stage configuration to also open and close flow paths.

Features

- Interface according to DIN 24340 Form A10, ISO 4401-05, CETOP 4.2-4-08-350
- Removable high-performance solenoid coil, no need to open the hydraulic system during replacement
- Coil rotatable by 360°, allows flexible installation
- Electrical connection in several versions available
- Concealed manual override, additional versions available
- Up to 5,075 psi (350 bar) rating

Direct Operated

Directional Spool Valves

Direct Operated with Solenoid Actuation
4WE 6 Series

Features

- Size 6 (D03)
- Maximum working pressure: 5075 psi (350 bar)
- Flow rate: 21 gpm (80 l/min)
- Model Code e.g.: 4WE 6 J A01-24DG/V
- 12, 24, 96 and 205 VDC and 120 VAC coils
- Connector types: DIN, Kostal, AMP, M12 or Deutsch
- Manual override (*recessed pin*) or push button
- Soft-shift option

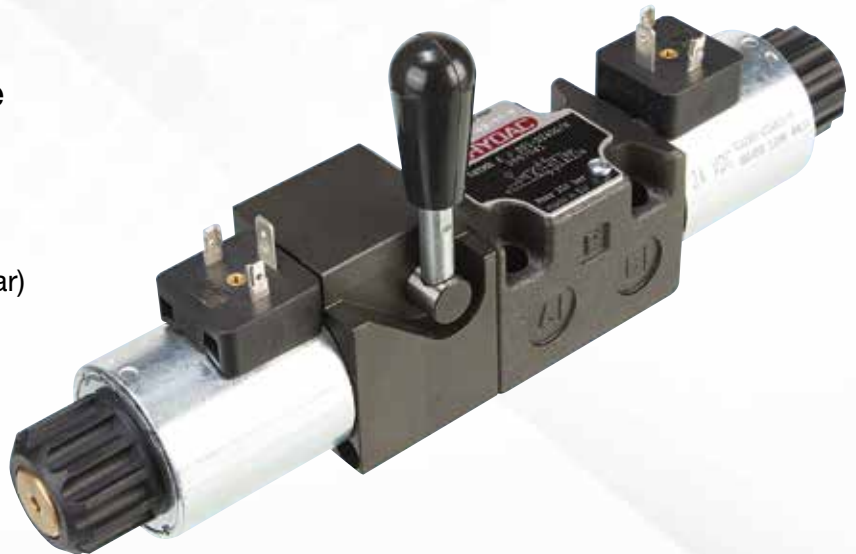


Directional Spool Valves

Direct Operated with combination
Solenoid Actuation & Manual Override
4WEMH 6 Series

Features

- Size 6 (D03)
- Maximum working pressure: 5075 psi (350 bar)
- Flow rate: 26.4 gpm (100 l/min)
- Model Code e.g.: 4WEMH J S01-24DG/V
- 12, 24 VDC
- Connector types: DIN
- Manual override in-line with solenoid



Directional Spool Valves

Direct Operated with Solenoid Actuation
4WE 10 Series

Features

- Size 10 (D05)
- Maximum working pressure: 5075 psi (350 bar)
- Flow rate: 42 gpm (160 l/min)
- Model Code e.g.: 4WE 10 J A01-24DG/V
- 12, 24, 96 and 205 VDC and 120 VAC coils
- Connector types: DIN, Kostal, AMP, M12 or Deutsch
- Manual override (*recessed pin*) or push button
- Soft-shift option



Directional Poppet Valves

Direct Operated with Solenoid Actuation

4WSE 6 Series

Features

- Size 6 (D03)
- **Leak free**
- Hardened seat (*housing and poppet*)
- Maximum working pressure: 5075 psi (350 bar)
- Flow rate: 6.6 gpm (25 l/min)
- Model Code e.g.: 4WSE 6 J A01-24DG/V
- 12, 24, 96 and 205 VDC and 120 VAC coils
- Connector types: DIN, Kostal, AMP, M12 or Deutsch
- Manual override (*recessed pin*) or push button



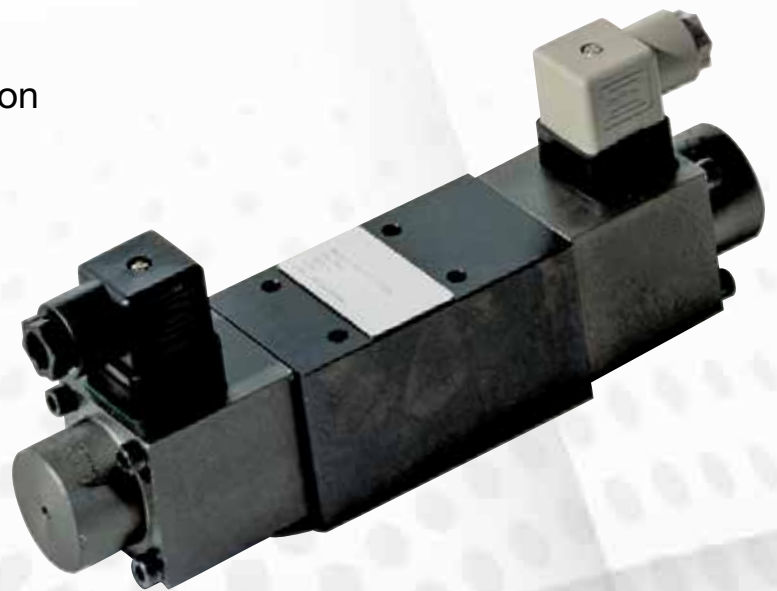
Directional Poppet Valves

Direct Operated with Solenoid Actuation

WV-700 NG 6 Series

Features

- Size 6 (D03)
- **Leak Free**
- Hardened seat (*housing and poppet*)
- Pressure compensated pistons reduces operating forces and power consumption
- **Maximum working pressure: 10150 psi (700 bar)**
- Flow rate: 6.6 gpm (25 l/min)
- Manual override (*recessed pin*) or push button
- Solenoid, pneumatic or manual operated



INDUSTRIAL VALVES - DIRECTIONAL CONTROL

Directional Poppet Valves

Direct Operated with Solenoid Actuation

WVH 700 Series

Features

- Size NG4
- **Leak free**
- Ball and hardened seat (*housing and poppet*)
- **7250 psi (500 bar) or 10150 psi (700 bar)**
- Flow rate: 3 gpm (12 l/min)
- Solenoid 360° rotatable
- Manual override push button
- Solenoid, pneumatic or manual operated



Directional Control Valves

Explosion Proof

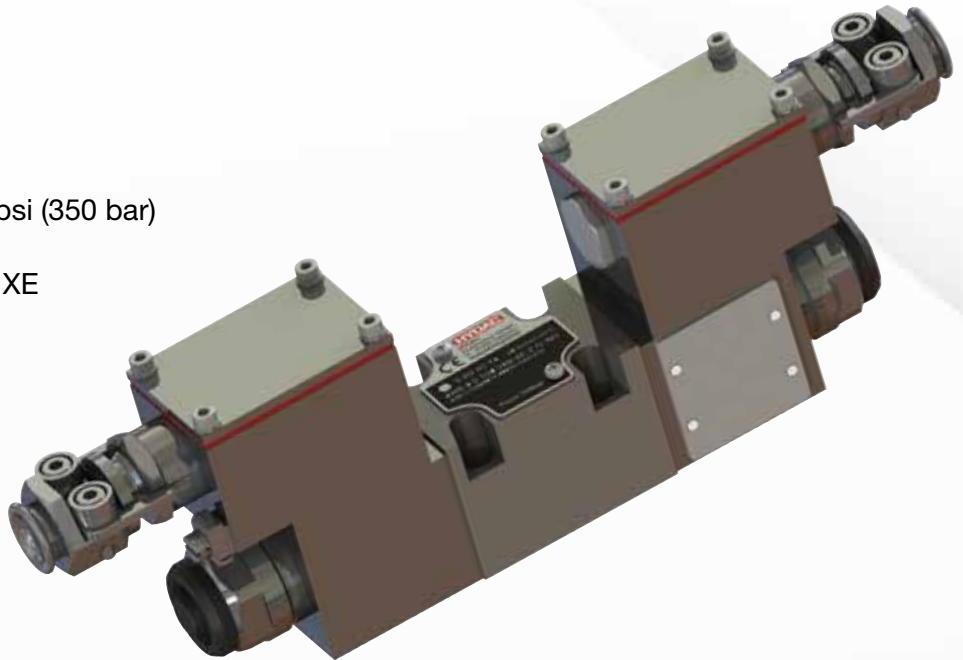
Direct Operated with Solenoid Actuation

4WE 6 XE Series



Features

- Size 6 (D03)
- **ATEX compliant**
- Maximum working pressure: 5075 psi (350 bar)
- Flow rate: 21 gpm (80 l/min)
- Model code e.g.: 4WE 6 J 520 24D XE
- Manual override or push button



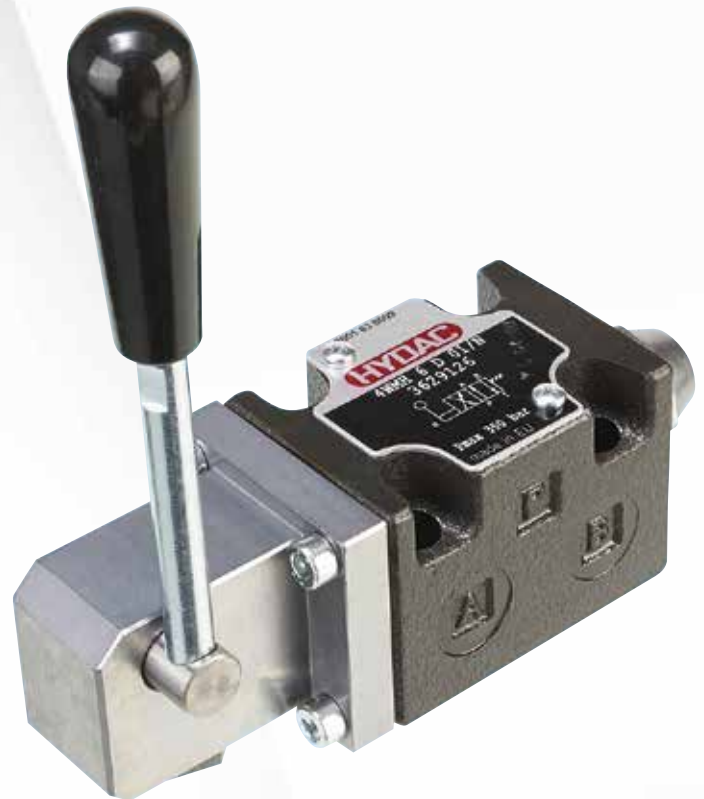
Lever Operated

Directional Spool Valves

Direct Operated with Solenoid Actuation
4WMH 6 Series

Features

- Size 6 (D03)
- Maximum working pressure: 5075 psi (350 bar)
- Flow rate: 20 gpm (75 l/min)
- Model Code e.g.: 4WMH G 01/V
- With or without mechanical detents



Directional Spool Valves

Direct Operated with Solenoid Actuation
4WMH 10 Series

Features

- Size 10 (D05)
- Maximum working pressure: 5075 psi (350 bar)
- Flow rate: 33 gpm (125 l/min)
- Model Code e.g.: 4WMH 10 G 01/V
- With or without mechanical detents



Pilot Operated – Two Stage

Directional Spool Valves

Pilot Operated with Solenoid Actuation
4WEH 10 Series

Features

- Size 10 (D05)
- Maximum working pressure: 4640 psi (320 bar)
- High pressure housing: 6090 psi (420 bar)
- Flow rate: 40 gpm (150 l/min)
- Model code e.g.: 4WEH EI 10 E S01-24DG/V
- 12, 24, 96 and 205 VDC and 120 VAC coils
- Connector types: DIN, Kostal, AMP, M12 or Deutsch
- Manual override (*recessed pin*) or push button
- Various pilot and drain options



Directional Spool Valves

Pilot Operated with Solenoid Actuation
4WEH 16 Series

Features

- Size 16 (D07)
- Maximum working pressure: 4640 psi (320 bar)
- High pressure housing: 6090 psi (420 bar)
- Flow rate: 79 gpm (300 l/min)
- Model code e.g.: 4WEH EI 16 E S01-24DG/V
- 12, 24, 96 and 205 VDC and 120 VAC coils
- Connector types: DIN, Kostal, AMP, M12 or Deutsch
- Manual override (*recessed pin*) or push button
- Various pilot and drain options



Directional Spool Valve

Pilot Operated with Solenoid Actuation

4WEH 25 Series

Features

- Size 25 (D08)
- Maximum working pressure: 4640 psi (320 bar)
- High pressure housing: 6090 psi (420 bar)
- Flow rate: 156 gpm (600 l/min)
- Model code e.g.: 4WEH EI 25 E S01-24DG/V
- 12, 24, 96 and 205 VDC and 120 VAC coils
- Connector types: DIN, Kostal, AMP, M12 or Deutsch
- Manual override (*recessed pin*) or push button
- Various pilot and drain options



Directional Spool Valves

Pilot Operated with Solenoid Actuation

4WEH 32 Series

Features

- Size 32 (D10)
- Maximum working pressure: 4640 psi (320 bar)
- High pressure housing: 420 bar (6090 psi)
- Flow rate: 291 gpm (1100 l/min)
- Model code e.g.: 4WEH EI 32 E S01-24DG/V
- 12, 24, 96 and 205 VDC and 120 VAC coils
- Connector types: DIN, Kostal, AMP, M12 or Deutsch
- Manual override (*recessed pin*) or push button
- Various pilot and drain options



INDUSTRIAL VALVES - DIRECTIONAL CONTROL

Directional Spool Valves

Hydraulically Operated

4WH Series

Features

- Size 10 (D05) through Size 32 (D10)
- Maximum working pressure: 4640 psi (320 bar)
- High pressure housing: 6090 psi (420 bar)
- Flow rate: 40 gpm to 291 gpm
(150 l/min to 1100 l/min)
- Model code e.g.: 4WH 10 E S01/V



C Proportional Directional Control Valves

HYDAC 4/2- and 4/3- proportional directional spool valves of the P4WE 6 and 10 series are direct operated proportional directional valves with variable velocity control for hydraulic systems which are used to open and close flow paths. The controlled nominal flow is proportional to the electrical input signal at the coil. Offered with optional integrated digital electronics, permits a better performance of the valve function. For higher flow rates, our pilot operated proportional directional control valves, P4WEHR series, utilize a two stage configuration to also open and close flow paths.

Features

- Interface according to DIN 24340 Form A10, ISO 4401-05, CETOP 4.2-4-08-350
- Shortened response times
- Reduced hysteresis
- High repeatable accuracy
- Command signals +/- 10V or 4 to 20 mA
- CAN-Open (option)
- Up to 5,075 psi (350 bar) rating

Direct Operated

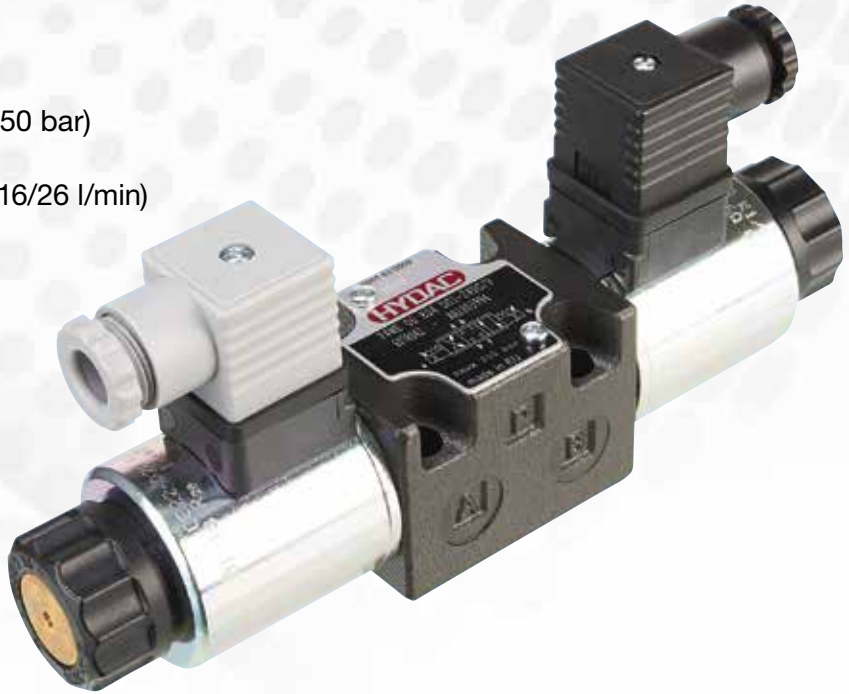
Proportional Directional Spool Valves

Direct Operated w/o Feedback

P4WE 6 Series

Features

- Size 6 (D03)
- Maximum working pressure: 5075 psi (350 bar)
- Maximum flow rate: 10.6 gpm (40 l/min)
- Nominal flow: 1.06/2.1/4.2/6.9 gpm (4/8/16/26 l/min)
- Connector types: DIN



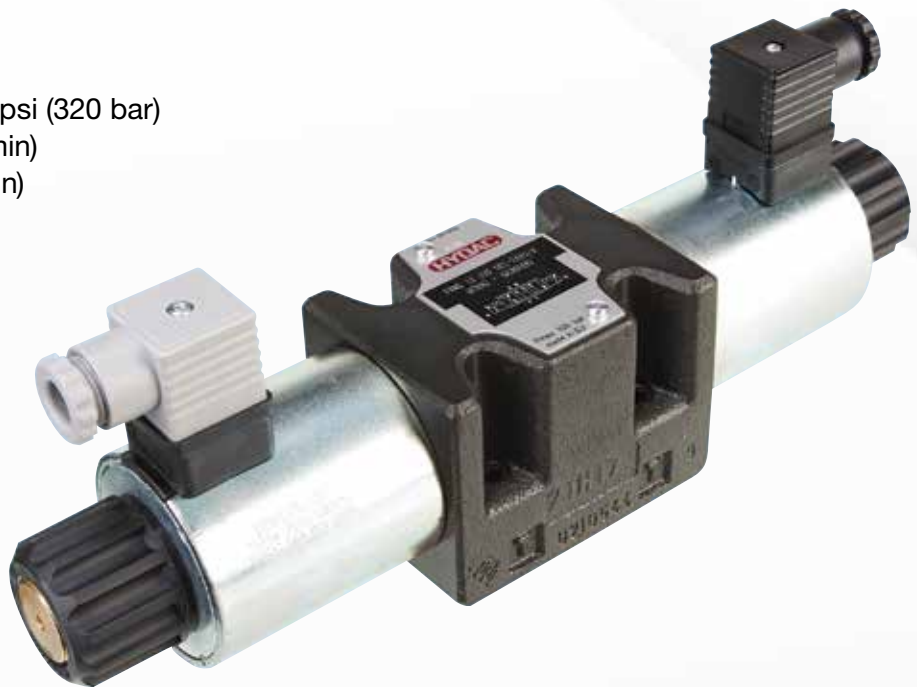
Proportional Directional Spool Valves

Direct Operated w/o Feedback

P4WE 10 Series

Features

- Size 10 (D05)
- Maximum working pressure: 4640 psi (320 bar)
- Maximum flow rate: 24 gpm (90 l/min)
- Nominal flow: 8/16 gpm (30/60 l/min)
- Connector types: DIN



Proportional Directional Spool Valves

Direct Operated with On-board Electronics

P4WEE 6 Series

Features

- Size 6 (D03)
- On-board electronics
- Without feedback
- Maximum working pressure: 5075 psi (350 bar)
- Maximum flow rate: 10.6 gpm (40 l/min)
- Nominal flow: 2.1/4.2/6.9 gpm (8/16/26 l/min)
- Connector types: 7-pin MIL-C-5015G
(DIN EN 175201-804)



Proportional Directional Spool Valves

Direct Operated with On-board Electronics

P4WEE 10 Series

Features

- Size 10 (D05)
- On-board electronics
- Without feedback
- Maximum working pressure: 4640 psi (320 bar)
- Maximum flow rate: 24 gpm (90 l/min)
- Nominal flow: 8/16 gpm (30/60 l/min)
- Connector types: 7-pin MIL-C-5015G
(DIN EN 175201-804)



INDUSTRIAL VALVES - PROPORTIONAL DIRECTIONAL CONTROL

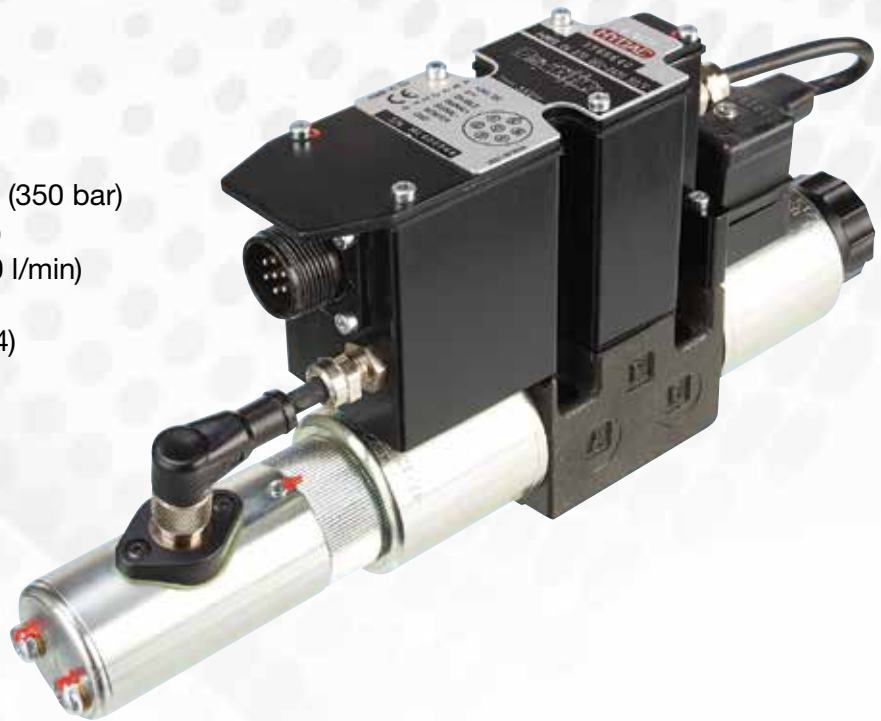
Proportional Directional Spool Valves

Direct Operated with On-board Electronics

P4WERE 6 Series

Features

- Size 6 (D03)
- On-board electronics
- **With LVDT feedback**
- Maximum working pressure: 5075 psi (350 bar)
- Maximum flow rate: 21 gpm (80 l/min)
- Nominal flow 2.1/4.2/6.9 gpm (4/12/30 l/min)
- Connector types: 7-pin MIL-C-5015G
(DIN EN 175201-804)



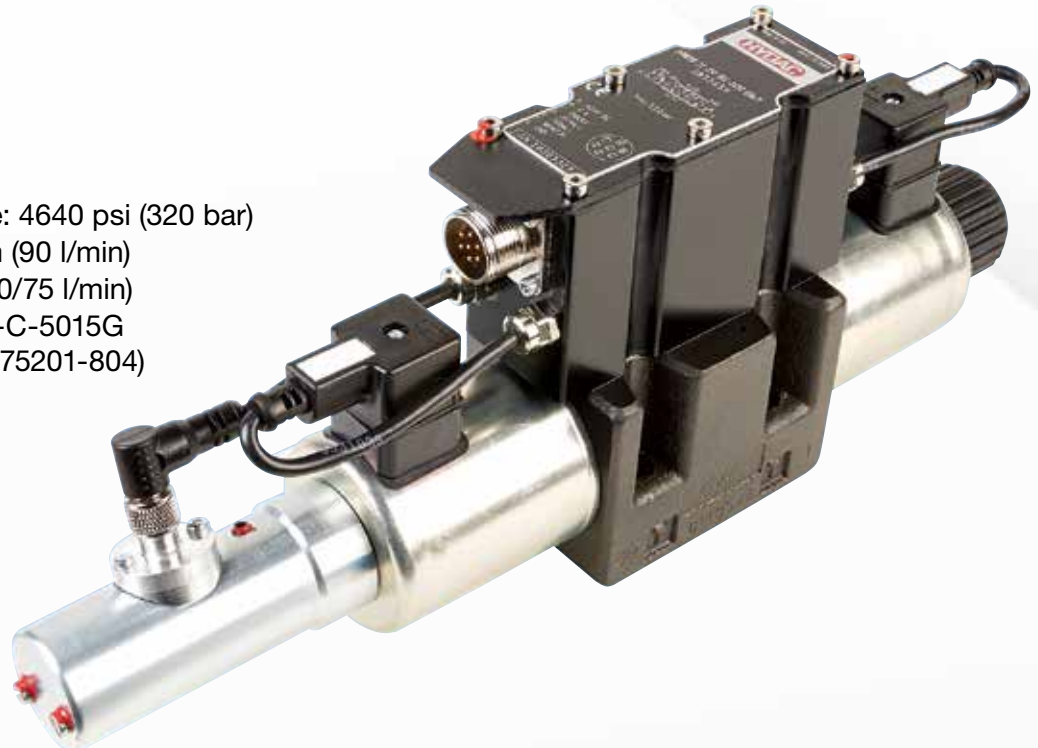
Proportional Directional Spool Valves

Direct Operated with On-board Electronics

P4WERE 10 Series

Features

- Size 10 (D05)
- On-board electronics
- **With LVDT feedback**
- Maximum working pressure: 4640 psi (320 bar)
- Maximum flow rate: 24 gpm (90 l/min)
- Nominal flow: 13/20 gpm (50/75 l/min)
- Connector types: 7-pin MIL-C-5015G
(DIN EN 175201-804)



Proportional Solenoid Pilot Operated – Two Stage

Proportional Directional Spool Valves

P4WEH 10 Series

Features

- Size 10 (D05)
- Maximum working pressure: 5075 psi (350 bar)
- Maximum flow rate: 21 gpm (80 l/min)
- Connector types: DIN
- Manual override (*recessed pin*)



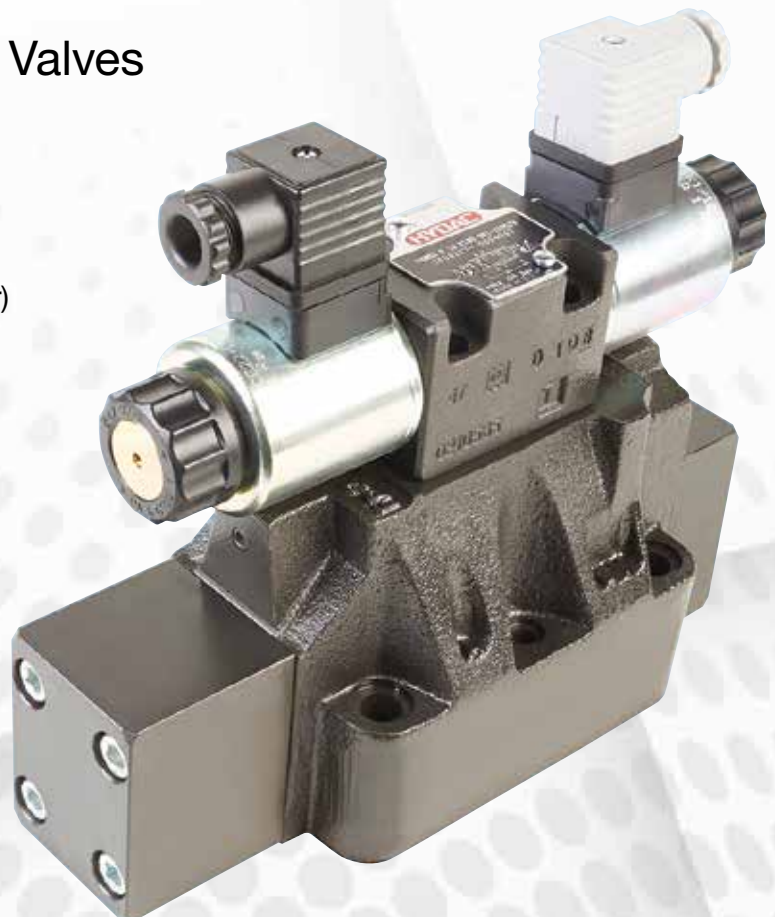
Proportional Directional Spool Valves

Pilot Operated with Solenoid Actuation

P4WEH 16 Series

Features

- Size 16 (D07)
- Maximum working pressure: 5057 psi (350 bar)
- Flow rate: 26 & 40 gpm (100 & 150 l/min)
- Connector types: DIN
- Manual override (*recessed pin*)



INDUSTRIAL VALVES - PROPORTIONAL DIRECTIONAL CONTROL

Proportional Directional Spool Valves

Pilot Operated with Solenoid Actuation

P4WEH 25 Series

Features

- Size 25 (D08)
- Maximum working pressure: 5075 psi (350 bar)
- Flow rate: 53 & 79 gpm (200 & 300 l/min)
- Connector types: DIN



Proportional Directional Spool Valves

Pilot Operated with Solenoid Actuation

P4WEH 32 Series

Features

- Size 32 (D10)
- Maximum working pressure: 5057 psi (350 bar)
- Flow rate: 93 & 132 gpm (350 & 500 l/min)
- Connector types: DIN



Proportional Solenoid Pilot Operated – Two Stage On-Board Electronics

Proportional Directional Spool Valves

P4WEHE 10 Series w/o Position Feedback

P4WEHRE with Position Feedback (LVDT) Main Stage

Features

- Size 10 (D05)
- Maximum working pressure: 5075 psi (350 bar)
- Flow rate: 21 gpm (80 l/min)
- Connector types:
7-pin MIL-C-5015G
(DIN EN 175201-804)



Proportional Directional Spool Valves

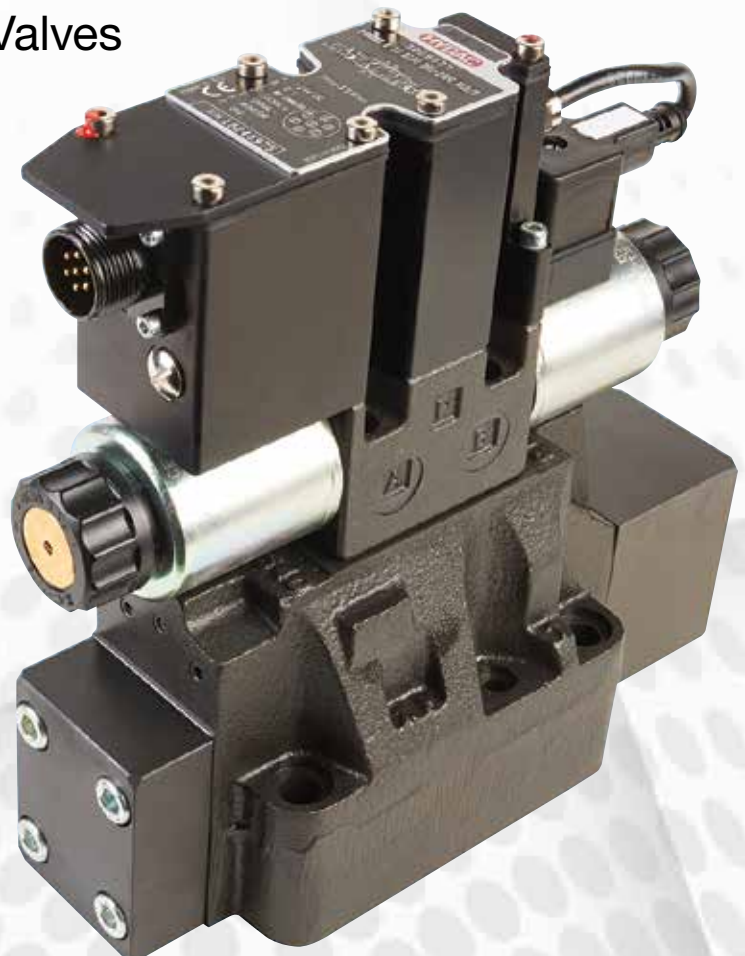
Pilot Operated with Solenoid Actuation

P4WEHE 16 Series w/o Position Feedback

**P4WEHRE with Position Feedback
(LVDT) Main Stage**

Features

- Size 16 (D07)
- Maximum working pressure: 5057 psi (350 bar)
- Flow rate: 26 & 40 gpm (100 & 150 l/min)
- Connector types: 7-pin MIL-C-5015G
(DIN EN 175201-804)



INDUSTRIAL VALVES - PROPORTIONAL DIRECTIONAL CONTROL

Proportional Directional Spool Valves

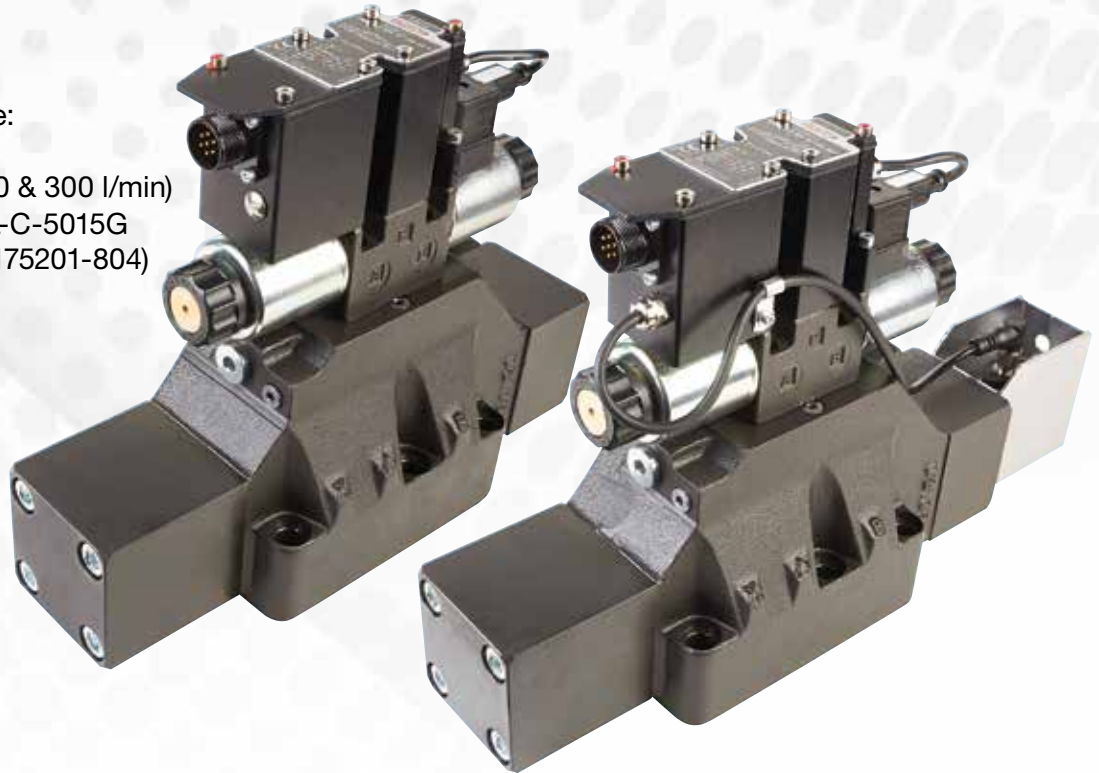
Pilot Operated with Solenoid Actuation

P4WEHE 25 Series w/o Position Feedback

P4WEHRE with Position Feedback (LVDT) Main Stage

Features

- Size 25 (D08)
- Maximum working pressure: 5075 psi (350 bar)
- Flow rate: 53 & 79 gpm (200 & 300 l/min)
- Connector types: 7-pin MIL-C-5015G (DIN EN 175201-804)



Proportional Directional Spool Valves

Pilot Operated with Solenoid Actuation

P4WEHE 32 Series w/o Position Feedback

Features

- Size 32 (D10)
- Maximum working pressure: 5057 psi (350 bar)
- Flow rate: 93 & 132 gpm (350 & 500 l/min)
- Connector types: 7-pin MIL-C-5015G (DIN EN 175201-804)



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Overview Brochure
PN02088157



Filters Catalog
PN02081318



Accumulators Catalog
PN02068195



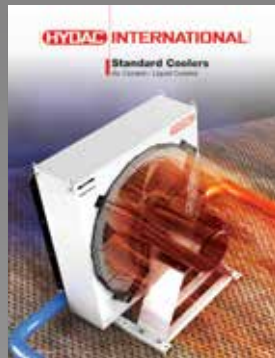
Electronics Catalog*
(online only)



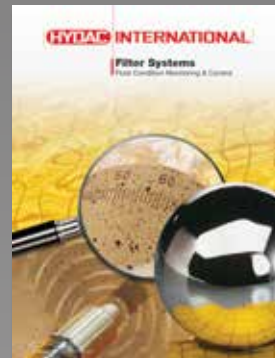
Compact Hydraulics
Catalog - PN02087369



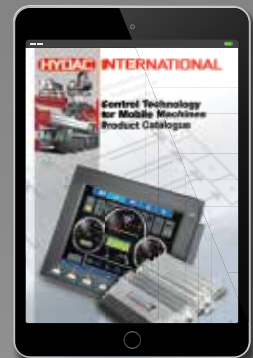
Standard Coolers
Catalog - PN02085359



Filter Systems Catalog
PN02075860



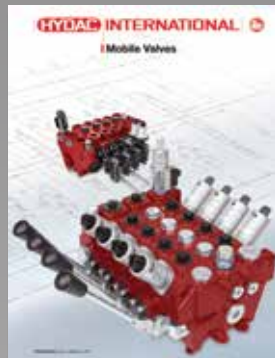
Control Technology*
Catalog (online only)



Accessories Catalog
PN02080105



Mobile Valves Brochure
PN02092408



Hydraulic Cylinders
Brochure (Release: TBD)



Process Technology*
Catalog (online only)



*These catalogs are digital file versions only.

Various market and product brochures are also available for ordering.



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