

On/off valves

Isolator valves

Valves that block the flow in one direction safely and leakage-free and simultaneously allow for free flow in the opposite direction (check valves and prefill valves).

Directional valves

Valves controlling the flow direction and thus the direction of movement or rotation of hydraulic actuators (directional seat valves or spool valves, direct operated or pilot operated).

Pressure valves

Valves having a pre-determined effect on the operating pressure in a system or a part of a system (pressure relief valves, pressure sequence valves, pressure cut-off valves and pressure reducing valves).

Flow control valves

Valves controlling the flow and thus the speed of hydraulic actuators (throttle valves and flow control valves).

Directional cartridge valves

2-way cartridge valves are elements that have been designed for a compact block design. The power part is installed in a receiving hole of the manifold according to ISO 7368 and closed with a control cover.



Check valves

Z1S



Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ One- and two-channel blocking function
- ▶ Perfect leak-tightness due to poppet made of high-performance plastic
- ▶ Corrosion-resistant surface on request

- ▶ Size 6
- ▶ Component series 4X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 40 l/min

Product description

The valve type Z1S is a direct operated check valve in sandwich plate design. It is used for the leakage-free blocking in one direction and allows for free flow in the opposite direction.

Its characteristic feature is the check valve installation set made of high-performance plastic. This permanently ensures high leak-tightness even at low operating pressures. In addition, the use of the valve with different hydraulic fluids is facilitated by the lack of internal seals.

More detailed information:
Data sheet 21534

Technical data

Operating pressure	p_{\max}	bar	350
Cracking pressure		bar	0.5/1.5/3/5
Flow	$q_{V\max}$	l/min	40

Check valves

Z1S



- ▶ Size 10
- ▶ Component series 4X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 100 l/min

Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ One- and two-channel blocking function
- ▶ Perfect leak-tightness due to poppet made of high-performance plastic
- ▶ Corrosion-resistant surface on request

Product description

The valve type Z1S is a direct operated check valve in sandwich plate design. It is used for the leakage-free blocking in one direction and allows for free flow in the opposite direction.

Its characteristic feature is the check valve installation set made of high-performance plastic. This permanently ensures high leak-tightness even at low operating pressures. In addition, the use of the valve with different hydraulic fluids is facilitated by the lack of internal seals.

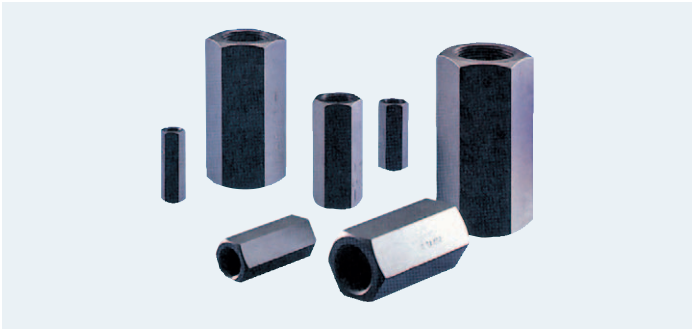
More detailed information:

Data sheet 21537

Technical data

Operating pressure	p_{\max}	bar	350
Cracking pressure		bar	0.5/3/5
Flow	$q_{V \max}$	l/min	100

Check valves S



Features

- For threaded connection
- Leakage-free blocking in one direction
- Different cracking pressures
- Optional surface coating

- Size 6 ... 30
- Maximum operating pressure 315 bar
- Maximum flow 450 l/min

Product description

The valve type S is a direct operated check valve in seat design. It is used for the leakage-free blocking in one direction and allows for free flow in the opposite direction.

More detailed information:
Data sheet 20375

Technical data

Size			6	8	10	15	20	25	30
Operating pressure	p_{\max}	bar	315	315	315	315	315	315	315
Cracking pressure		bar	Without spring; 0.5/1.5/3/5						
Flow	$q_{V\max}$	l/min	18	36	60	150	250	350	450

Check valves, pilot operated Z2S



- ▶ Size 6
- ▶ Component series 6X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 60 l/min

Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ For the leakage-free blocking of one or two actuator ports
- ▶ Different cracking pressures
- ▶ With pre-opening

Product description

The valve type Z2S is a pilot operated check valve in sandwich plate design. It is used for the leakage-free blocking of one or two actuator ports, also in case of longer standstill times.

Due to the two-stage structure with increased control open ratio, safe unloading is also possible with lower pilot pressure.

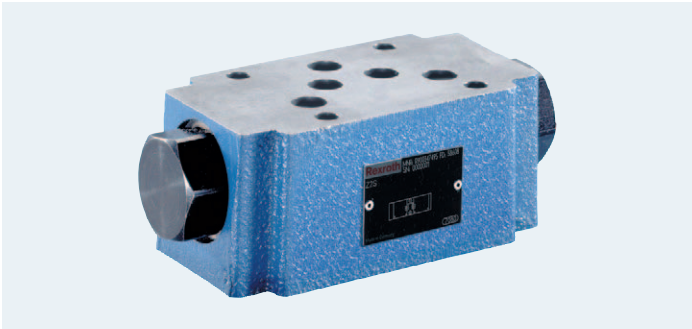
More detailed information:

Data sheet 21548

Technical data

Operating pressure	p_{\max}	bar	315
Cracking pressure		bar	1.5/3/6
Flow	$q_{V\max}$	l/min	60

Check valves, pilot operated Z2S



Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ For the leakage-free blocking of one or two actuator ports
- ▶ Different cracking pressures
- ▶ With pre-opening

- ▶ Size 10
- ▶ Component series 3X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 120 l/min

Product description

The valve type Z2S is a pilot operated check valve in sandwich plate design. It is used for the leakage-free blocking of one or two actuator ports, also in case of longer standstill times.

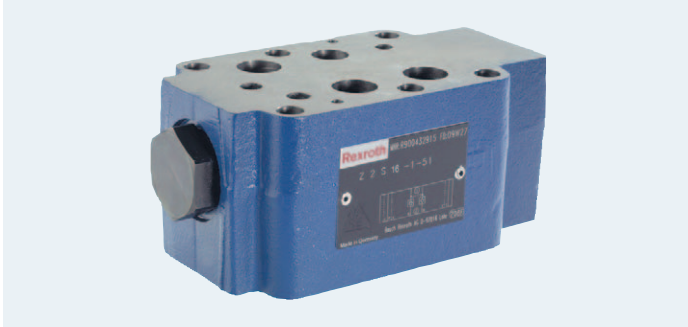
Due to the two-stage structure with increased control open ratio, safe unloading is also possible with lower pilot pressure.

More detailed information:
Data sheet 21553

Technical data

Operating pressure	p_{\max}	bar	315
Cracking pressure		bar	1.5/3/6/10
Flow	$q_{V\max}$	l/min	120

Check valves, pilot operated Z2S



- ▶ Size 16
- ▶ Component series 5X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 300 l/min

Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ For the leakage-free blocking of one or two actuator ports
- ▶ Different cracking pressures
- ▶ With pre-opening

Product description

The valve type Z2S is a pilot operated check valve in sandwich plate design. It is used for the leakage-free blocking of one or two actuator ports, also in case of longer standstill times.

Due to the two-stage structure with increased control open ratio, safe unloading is also possible with lower pilot pressure.

More detailed information:

Data sheet 21558

Technical data

Operating pressure	p_{\max}	bar	315
Cracking pressure		bar	3/5/7.5/10
Flow	$q_{V\max}$	l/min	300

Check valves, pilot operated Z2S



Features

- Sandwich plate valve
- Porting pattern according to ISO 4401
- For the leakage-free blocking of one or two actuator ports
- Different cracking pressures
- With pre-opening

- Size 25
- Component series 5X
- Maximum operating pressure 315 bar
- Maximum flow 450 l/min

Product description

The valve type Z2S is a pilot operated check valve in sandwich plate design. It is used for the leakage-free blocking of one or two actuator ports, also in case of longer standstill times.

Due to the two-stage structure with increased control open ratio, safe unloading is also possible with lower pilot pressure.

More detailed information:
 Data sheet 21564

Technical data

Operating pressure	p_{\max}	bar	315
Cracking pressure		bar	3/5/7.5/10
Flow	$q_{V\max}$	l/min	450

Check valves, pilot operated SL



- ▶ Size 6
- ▶ Component series 6X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 60 l/min

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 4401 and ISO 5781
- ▶ Pilot oil return external
- ▶ With or without pre-opening
- ▶ Different cracking pressures

Product description

The valve type SL is a pilot operated check valve in seat design. It is used for the leakage-free blocking of one actuator port.

Due to the pre-opening, there is a damped decompression of the pressurized liquid. Thus, possible switching shocks are avoided.

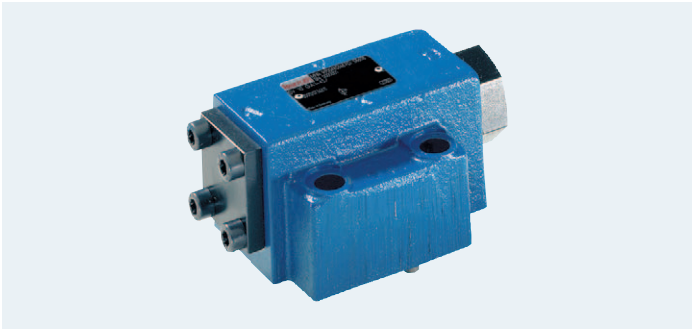
More detailed information:

Data sheet 21460

Technical data

Operating pressure	p_{\max}	bar	315
Pilot pressure	p_{St}	bar	5 ... 315
Cracking pressure		bar	1.5/3/6/10
Flow	$q_{V \max}$	l/min	60

Check valves, pilot operated SV



Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 5781
- ▶ For threaded connection
- ▶ With or without pre-opening
- ▶ Different cracking pressures

- ▶ Size 10 and 32
- ▶ Component series 4X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 550 l/min

Product description

The valve type SV is a pilot operated check valve in seat design. It is used for the leakage-free blocking of one actuator port.

Due to the pre-opening, there is a damped decompression of the pressurized liquid. Thus, possible switching shocks are avoided.

More detailed information:
Data sheet 21468

Technical data

Size			10	32
Operating pressure	p_{\max}	bar	315	315
Pilot pressure	p_{St}	bar	5 ... 315	5 ... 315
Cracking pressure		bar	1.5/3/6/10	2.5/5/8/10
Flow	$q_{V\max}$	l/min	150	550

Check valves, pilot operated SL



- ▶ Size 10 ... 32
- ▶ Component series 4X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 550 l/min

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 5781
- ▶ For threaded connection
- ▶ With or without pre-opening
- ▶ Different cracking pressures

Product description

The valve type SL is a pilot operated check valve in seat design. It is used for the leakage-free blocking of one actuator port.

Due to the pre-opening, there is a damped decompression of the pressurized liquid. Thus, possible switching shocks are avoided.

More detailed information:

Data sheet 21468

Technical data

Size			10	20	32
Operating pressure	p_{\max}	bar	315	315	315
Pilot pressure	p_{St}	bar	5 ... 315	5 ... 315	5 ... 315
Cracking pressure		bar	1.5/3/6/10	2.5/5/7.5/10	2.5/5/8/10
Flow	$q_{V \max}$	l/min	150	350	550

Directional seat valves, direct operated, with solenoid actuation

SED



- ▶ Size 6
- ▶ Component series 1X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 25 l/min

Features

- ▶ 2/2-, 3/2- or 4/2-directional version
- ▶ Porting pattern according to ISO 4401
- ▶ Blocked connection is leak-tight
- ▶ Solenoids with detachable coil
- ▶ The coil can be changed without having to open the pressure-tight chamber
- ▶ Safe switching with longer standstill periods under pressure

Product description

The valve type SED is a direct operated directional seat valve with solenoid actuation. It controls start, stop and direction of the flow.

Directional seat valves connect or isolate the connections by lowering or raising a sealing element (poppet, ball). Isolation is leakage-free.

More detailed information:
Data sheet 22049

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	25

Directional seat valves, direct operated, with solenoid actuation SED



- ▶ Size 10
- ▶ Component series 1X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 40 l/min

Features

- ▶ 3/2- or 4/2-directional version
- ▶ Porting pattern according to ISO 4401
- ▶ Blocked connection is leak-tight
- ▶ Solenoids with detachable coil
- ▶ The coil can be changed without having to open the pressure-tight chamber
- ▶ Safe switching with longer standstill periods under pressure

Product description

The valve type SED is a direct operated directional seat valve with solenoid actuation. It controls start, stop and direction of the flow. Directional seat valves connect or isolate the connections by lowering or raising a sealing element (poppet, ball). Isolation is leakage-free.

More detailed information:
Data sheet 22045

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	40

Directional seat valves, direct operated, with solenoid actuation SEW



- ▶ Size 6
- ▶ Component series 3X
- ▶ Maximum operating pressure 420/630 bar
- ▶ Maximum flow 25 l/min

Features

- ▶ 2/2-, 3/2- or 4/2-directional version
- ▶ Porting pattern according to ISO 4401
- ▶ Blocked connection is leak-tight
- ▶ Solenoids with detachable coil
- ▶ The coil can be changed without having to open the pressure-tight chamber
- ▶ Safe switching with longer standstill periods under pressure

Product description

The valve type SEW is a direct operated directional seat valve with solenoid actuation. It controls start, stop and direction of the flow.

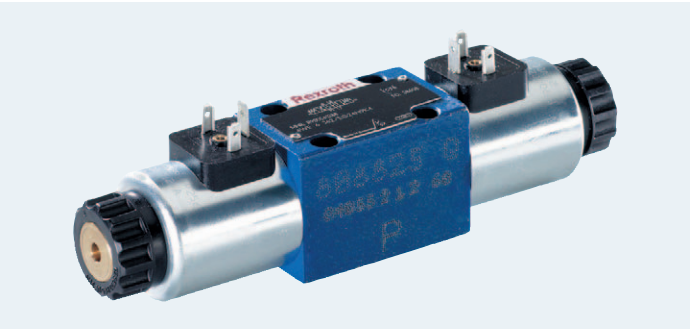
Directional seat valves connect or isolate the connections by lowering or raising a sealing element (poppet, ball). Isolation is leakage-free.

More detailed information:
 Data sheet 22058

Technical data

Operating pressure	p_{\max}	bar	420/630
Flow	$q_{V\max}$	l/min	25

Directional spool valves, direct operated, with solenoid actuation WE



- ▶ Size 6
- ▶ Component series 6X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 80 l/min

Features

- ▶ 4/3-, 4/2- or 3/2-directional version
- ▶ High-power solenoid
- ▶ Porting pattern according to ISO 4401
- ▶ Wet-pin DC or AC solenoids with detachable coil
- ▶ The coil can be changed without having to open the pressure-tight chamber
- ▶ Spool position monitoring

Product description

The valve type WE is a direct operated directional spool valve with solenoid actuation. It controls start, stop and direction of the flow.

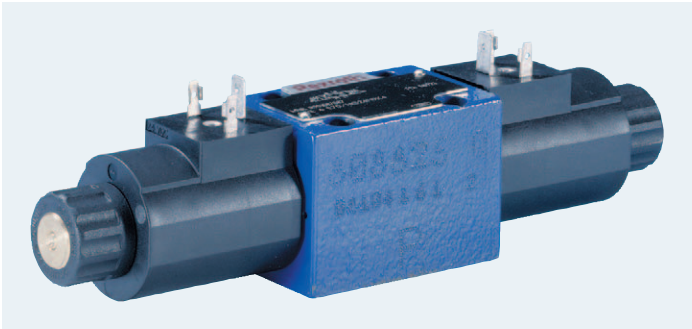
Directional spool valves connect or isolate the connections by moving a control spool in a housing bore.

More detailed information:
Data sheet 23178

Technical data

Operating pressure	p_{\max}	bar	350
DC flow	$q_{V\max}$	l/min	80
AC flow	$q_{V\max}$	l/min	60

Directional spool valves, direct operated, with solenoid actuation WE



- ▶ Size 6
- ▶ Component series 7X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 60 l/min

Features

- ▶ 4/3-, 4/2- or 3/2-directional version
- ▶ Standard solenoid
- ▶ Porting pattern according to DIN 24340 form A
- ▶ Wet-pin DC solenoids
- ▶ The coil can be changed without having to open the pressure-tight chamber

Product description

The valve type WE is a direct operated directional spool valve with solenoid actuation. It controls start, stop and direction of the flow.

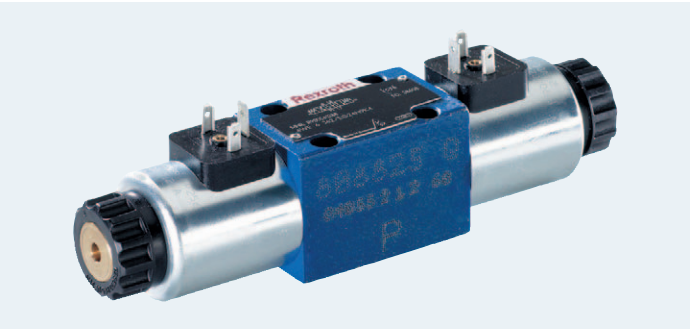
Directional spool valves connect or isolate the connections by moving a control spool in a housing bore.

More detailed information:
Data sheet 23164

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	60

Directional spool valves, direct operated, smoothly switching, with solenoid actuation WE . .73...A12



- ▶ Size 6
- ▶ Component series 6X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 60 l/min
- ▶ Smooth switching behavior

Features

- ▶ 4/2- or 4/3-directional version
- ▶ Porting pattern according to ISO 4401
- ▶ Wet-pin DC solenoids with detachable coil
- ▶ The coil can be changed without having to open the pressure-tight chamber

Product description

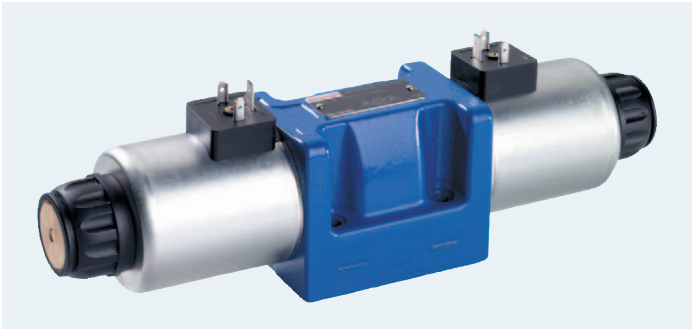
The valve type WE . .73...A12 is a direct operated directional spool valve with solenoid actuation and smooth switching behavior. It controls start, stop and direction of the flow. By means of structural design of the control spools and solenoids, switching shocks occurring when activating and deactivating the valves are significantly reduced. Directional spool valves connect or isolate the connections by moving a control spool in a housing bore.

More detailed information:
Data sheet 23183

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	60

Directional spool valves, direct operated, with solenoid actuation WE



- ▶ Size 10
- ▶ Component series 5X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 150 l/min

Features

- ▶ 4/3-, 4/2- or 3/2-directional version
- ▶ High-power solenoid
- ▶ Porting pattern according to ISO 4401
- ▶ Wet-pin DC solenoids with detachable coil
- ▶ The coil can be changed without having to open the pressure-tight chamber
- ▶ Central connection possible via double mating connector

Product description

The valve type WE is a direct operated directional spool valve with solenoid actuation. It controls start, stop and direction of the flow.

Directional spool valves connect or isolate the connections by moving a control spool in a housing bore.

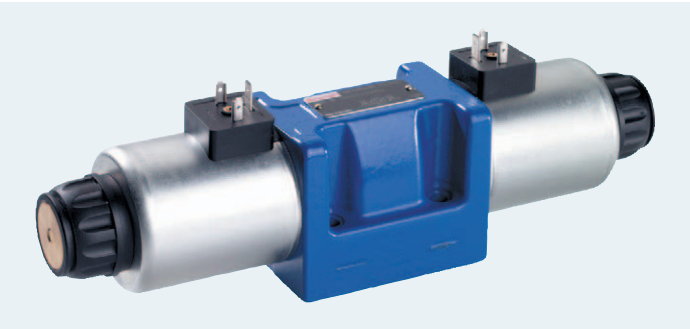
More detailed information:
Data sheet 23340

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	150

Directional spool valves, direct operated, with solenoid actuation

5-.WE



- ▶ 5-chamber version
- ▶ Size 10
- ▶ Component series 5X
- ▶ Maximum operating pressure 420 bar
- ▶ Maximum flow 150 l/min

Features

- ▶ 4/3-, 4/2- or 3/2-directional version
- ▶ High-power solenoid
- ▶ Porting pattern according to ISO 4401
- ▶ Wet-pin DC solenoids with detachable coil
- ▶ The coil can be changed without having to open the pressure-tight chamber
- ▶ Central connection possible via double mating connector
- ▶ Spool position monitoring

Product description

The valve type 5-.WE is a direct operated 5-chamber directional spool valve with solenoid actuation influencing the switching time. It controls start, stop and direction of the flow.

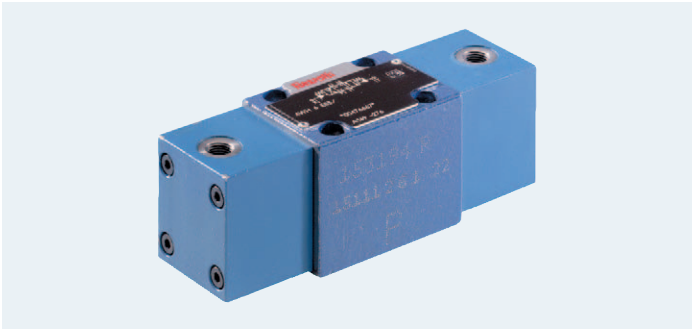
Directional spool valves connect or isolate the connections by moving a control spool in a housing bore.

More detailed information:
Data sheet 23352

Technical data

Operating pressure	p_{\max}	bar	420
Flow	$q_{V\max}$	l/min	150

Directional spool valves, direct operated, with fluidic actuation WH and WP



- Size 6
- Component series 5X
- Maximum operating pressure 315 bar
- Maximum flow 60 l/min

Features

- 4/3-, 4/2- or 3/2-directional version
- Porting pattern according to ISO 4401
- Types of actuation:
 - Pneumatic
 - Hydraulic
- Spool position monitoring

Product description

The valve type WH/WP is a direct operated directional spool valve with hydraulic/pneumatic operation. It controls start, stop and direction of the flow.

Directional spool valves connect or isolate the connections by moving a control spool in a housing bore.

More detailed information:
Data sheet 22282

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	60

Directional spool valves, direct operated, with mechanical or manual actuation WMR, WMRZ, WMU, WMM, WMD and WMDA



- ▶ Size 6
- ▶ Component series 5X, 6X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 60 l/min

Features

- ▶ 4/3-, 4/2- or 3/2-directional version
- ▶ Porting pattern according to ISO 4401
- ▶ Types of actuation:
 - Roller plunger
 - Hand lever
 - Rotary knob
 - Lockable rotary knob
- ▶ Spool position monitoring

Product description

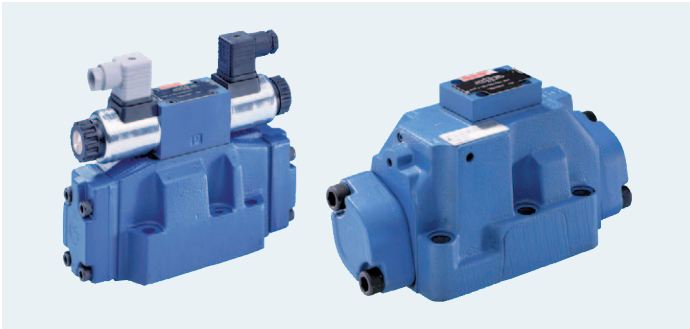
The valve type WM is a direct operated directional spool valve with mechanical or manual operation. It controls start, stop and direction of the flow. Directional spool valves connect or isolate the connections by moving a control spool in a housing bore.

More detailed information:
Data sheet 22280

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	60

Directional spool valves, pilot operated, with hydraulic or electro-hydraulic actuation WH and WEH



- ▶ Size 10 ... 32
- ▶ Component series 4X, 6X, 7X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 1100 l/min

Features

- ▶ 4/3-, 4/2- or 3/2-directional version
- ▶ Porting pattern according to ISO 4401
- ▶ Types of actuation:
 - Electro-hydraulic
 - Hydraulic
- ▶ Spring or pressure centering, spring end position or hydraulic end position
- ▶ Stroke setting at main valve
- ▶ Switching time adjustment and spool position monitoring

Product description

The valve type WEH is a pilot operated directional spool valve with electro-hydraulic actuation, type WH with hydraulic actuation. It controls start, stop and direction of the flow.

Directional spool valves connect or isolate the connections by moving a control spool in a housing bore.

More detailed information:
Data sheet 24751

Technical data

Size			10	16	(22)	25	32
Operating pressure	p_{\max}	bar	350/280	350/280	350/280	350	350/280
Flow	$q_{V \max}$	l/min	160	300	450	650	1100

Pressure relief valves, direct operated DBD



- ▶ Size 6 ... 30
- ▶ Component series 1X
- ▶ Maximum operating pressure 630 bar
- ▶ Maximum flow 330 l/min

Features

- ▶ For subplate mounting
- ▶ For threaded connection
- ▶ As screw-in cartridge valve
- ▶ Adjustment types:
 - Bushing with hexagon and protective cap
 - Rotary knob/hand wheel
 - Lockable rotary knob
- ▶ Type-examination tested safety valves according to Pressure Equipment Directive 97/23/EC

Product description

The valve type DBD is a direct operated pressure relief valve in seat design. It is used to limit a system pressure (inlet pressure) to a specified maximum value. If this adjustable maximum value is reached, the pressure relief valve will return the excessive flow to the tank.

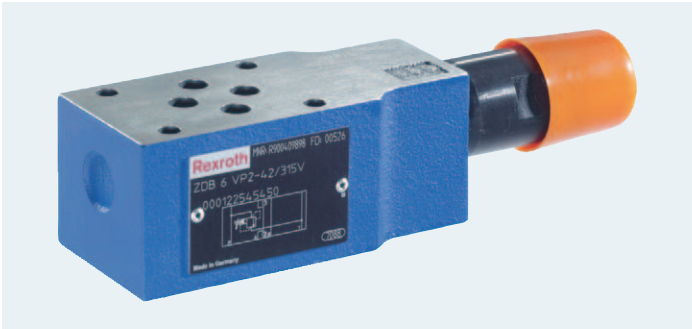
More detailed information:

Data sheet 25402

Technical data

Size			6	8	10	15	20	25	30
Operating pressure	p_{\max}	bar	400	400	630	400	400	315	315
Flow	$q_{V \max}$	l/min	50	120	120	250	250	330	330

Pressure relief valves, pilot operated ZDB and Z2DB



- ▶ Size 6
- ▶ Component series 4X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 60 l/min

Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ 1 or 2 pressure valve cartridges
- ▶ 4 pressure ratings
- ▶ 5 directions of action, optional
- ▶ Adjustment types:
 - Rotary knob
 - Bushing with hexagon and protective cap
 - Lockable rotary knob with scale
 - Rotary knob with scale

Product description

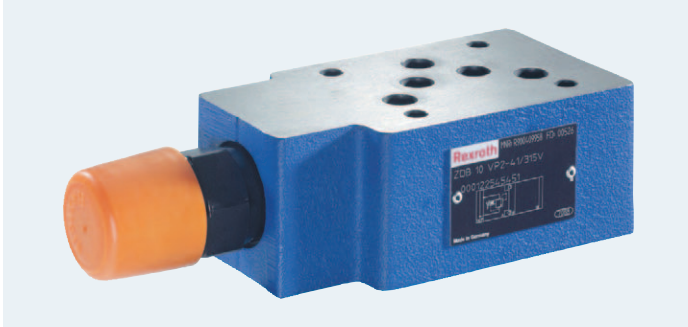
The valve type Z.DB is a pilot operated pressure relief valve in sandwich plate design. It is used to limit a system pressure (inlet pressure) to a specified maximum value. If this adjustable maximum value is reached, the pressure relief valve will return the excessive flow to the tank.

More detailed information:
Data sheet 25751

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V \max}$	l/min	60

Pressure relief valves, pilot operated ZDB and Z2DB



- ▶ Size 10
- ▶ Component series 4X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 100 l/min

Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ 1 or 2 pressure valve cartridges
- ▶ 4 pressure ratings
- ▶ 6 circuit options
- ▶ Adjustment types:
 - Rotary knob
 - Bushing with hexagon and protective cap
 - Lockable rotary knob with scale
 - Rotary knob with scale

Product description

The valve type Z.DB is a pilot operated pressure relief valve in sandwich plate design. It is used to limit a system pressure (inlet pressure) to a specified maximum value. If this adjustable maximum value is reached, the pressure relief valve will return the excessive flow to the tank.

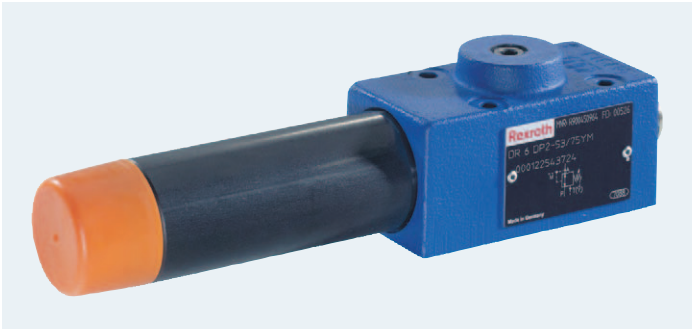
More detailed information:

Data sheet 25761

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V \max}$	l/min	100

Pressure reducing valves, direct operated DR



Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 4401
- ▶ 5 pressure ratings
- ▶ Adjustment types:
 - Rotary knob
 - Grub screw with hexagon and protective cap
 - Lockable rotary knob with scale
 - Rotary knob with scale
- ▶ Check valve, optional

- ▶ Size 6
- ▶ Component series 5X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 60 l/min

Product description

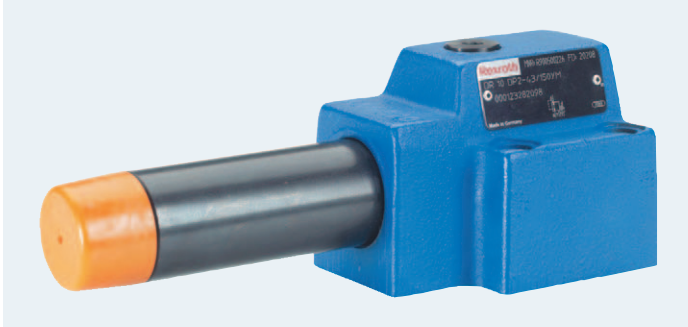
The valve type DR is a direct operated pressure reducing valve in 3-way version. It is used to keep the output pressure (actuator pressure, secondary pressure) at a constant value that lies below the variable pressure in the main circuit (inlet pressure, primary pressure).

More detailed information:
Data sheet 26564

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	60

Pressure reducing valves, direct operated DR



- ▶ Size 10
- ▶ Component series 4X
- ▶ Maximum operating pressure 210 bar
- ▶ Maximum flow 80 l/min

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 5781
- ▶ 4 pressure ratings
- ▶ Adjustment types:
 - Rotary knob
 - Grub screw with hexagon and protective cap
 - Lockable rotary knob with scale
 - Rotary knob with scale
- ▶ Check valve, optional

Product description

The valve type DR is a direct operated pressure reducing valve in 3-way version. It is used to keep the output pressure (actuator pressure, secondary pressure) at a constant value that lies below the variable pressure in the main circuit (inlet pressure, primary pressure).

More detailed information:

Data sheet 26580

Technical data

Operating pressure	p_{\max}	bar	210
Flow	$q_{V \max}$	l/min	80

Pressure reducing valves, direct operated

ZDR



- ▶ Size 6
- ▶ Component series 4X
- ▶ Maximum operating pressure 210 bar
- ▶ Maximum flow 50 l/min

Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ 4 pressure ratings
- ▶ Adjustment types:
 - Rotary knob
 - Bushing with hexagon and protective cap
 - Lockable rotary knob with scale
 - Rotary knob with scale
- ▶ Pressure reduction in channel A, B or P
- ▶ Check valve, optional

Product description

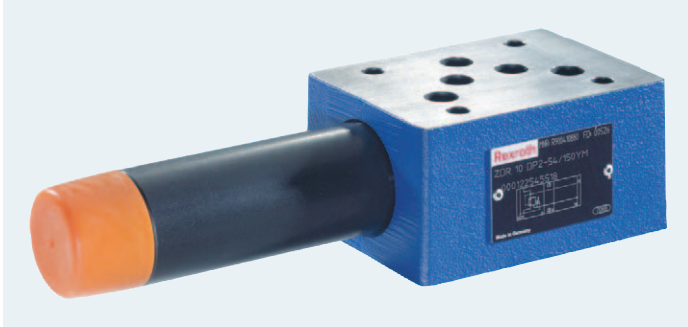
The valve type ZDR is a direct operated pressure reducing valve in sandwich plate design. It is used to keep the output pressure (actuator pressure, secondary pressure) at a constant value that lies below the variable pressure in the main circuit (inlet pressure, primary pressure).

More detailed information:
 Data sheet 26570

Technical data

Operating pressure	p_{\max}	bar	210
Flow	$q_{V\max}$	l/min	50

Pressure reducing valves, direct operated ZDR



- ▶ Size 10
- ▶ Component series 5X
- ▶ Maximum operating pressure 210 bar
- ▶ Maximum flow 80 l/min

Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ 4 pressure ratings
- ▶ Adjustment types:
 - Rotary knob
 - Bushing with hexagon and protective cap
 - Lockable rotary knob with scale
 - Rotary knob with scale
- ▶ Pressure reduction in channel A, B or P
- ▶ Check valve, optional

Product description

The valve type ZDR is a direct operated pressure reducing valve in sandwich plate design. It is used to keep the output pressure (actuator pressure, secondary pressure) at a constant value that lies below the variable pressure in the main circuit (inlet pressure, primary pressure).

More detailed information:

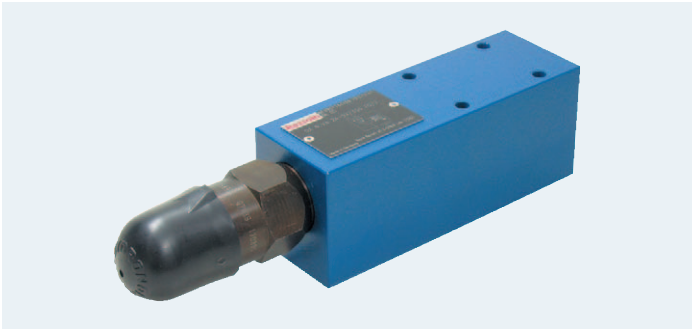
Data sheet 26585

Technical data

Operating pressure	p_{\max}	bar	210
Flow	$q_{V \max}$	l/min	80

Pressure cut-off valves, pilot operated

DA



- ▶ Size 6
- ▶ Component series 5X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 40 l/min

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 4401
- ▶ 4 pressure ratings
- ▶ Adjustment type: Bushing with hexagon and protective cap
- ▶ Switching pressure differential adjustable (10 % ... 50 % of the nominal value)

Product description

The valve type DA is a pilot operated pressure cut-off valve with steplessly adjustable switching pressure differential. It is used to switch the pump flow to depressurized circulation as soon as the pressure accumulator has reached its charging pressure.

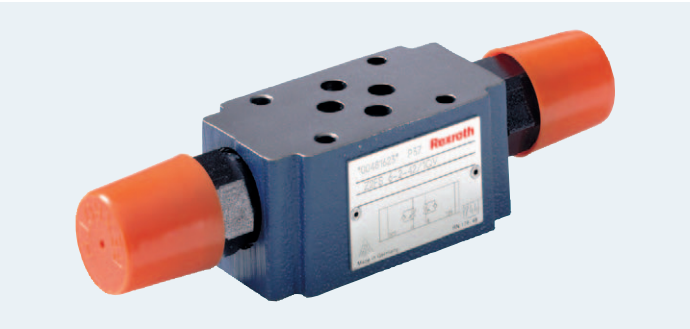
More detailed information:
Data sheet 26405

Technical data

Operating pressure	p_{\max}	bar	210
Flow	$q_{V\max}$	l/min	40

Throttle check valves

Z2FS



- ▶ Size 6
- ▶ Component series 4X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 80 l/min

Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ Adjustment types:
 - Setscrew with lock nut and protective cap
 - Lockable rotary knob with scale
 - Spindle with internal hexagon and scale
 - Rotary knob with scale
- ▶ For supply or discharge throttling

Product description

The valve type Z2FS is a throttle check valve in sandwich plate design. It is used for the main or pilot flow limitation of one or two actuator ports.

Two throttle check valves aligned symmetrically to each other limit flows in one direction and allow free return flow in the opposite direction.

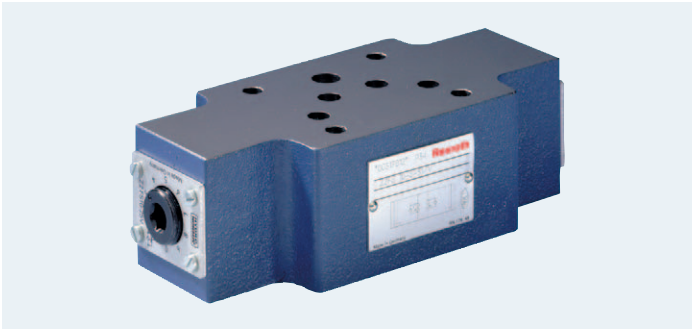
More detailed information:
Data sheet 27506

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	80

Throttle check valves

Z2FS



Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ Adjustment types:
 - Lockable rotary knob with scale
 - Spindle with internal hexagon and scale
 - Rotary knob with scale
- ▶ For supply or discharge throttling

- ▶ Size 10
- ▶ Component series 3X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 160 l/min

Product description

The valve type Z2FS is a throttle check valve in sandwich plate design. It is used for the main or pilot flow limitation of one or two actuator ports.

Two throttle check valves aligned symmetrically to each other limit flows in one direction and allow free return flow in the opposite direction.

More detailed information:
Data sheet 27518

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	160

Throttle check valves

Z2FS



Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ Adjustment type: Spindle with internal hexagon
- ▶ For supply or discharge throttling

- ▶ Size 16
- ▶ Component series 3X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 250 l/min

Product description

The valve type Z2FS is a throttle check valve in sandwich plate design. It is used for the main or pilot flow limitation of one or two actuator ports.

Two throttle check valves aligned symmetrically to each other limit flows in one direction and allow free return flow in the opposite direction.

More detailed information:
Data sheet 27526

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	250

Throttle check valves

Z2FS



Features

- Sandwich plate valve
- Porting pattern according to ISO 4401
- Adjustment type: Spindle with internal hexagon
- For supply or discharge throttling

- Size 25
- Component series 3X
- Maximum operating pressure 350 bar
- Maximum flow 360 l/min

Product description

The valve type Z2FS is a throttle check valve in sandwich plate design. It is used for the main or pilot flow limitation of one or two actuator ports.

Two throttle check valves aligned symmetrically to each other limit flows in one direction and allow free return flow in the opposite direction.

More detailed information:
Data sheet 27536

Technical data

Operating pressure	p_{\max}	bar	350
Flow	$q_{V\max}$	l/min	360

Throttle and throttle check valves MG and MK



- ▶ Size 6 ... 30
- ▶ Component series 1X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 400 l/min

Features

- ▶ For pipeline installation
- ▶ Pressure- and viscosity-dependent
- ▶ Typ MG: Throttling in both directions of flow
- ▶ Typ MK: Throttling in one direction of flow, free flow in opposite direction

Product description

The valve types MG and MK are pressure- and viscosity-dependent throttle and throttle check valves. In type MG valves, flow is throttled in both directions. By rotating the sleeve, the cross-section of the throttling point can be steplessly changed. In type MK valves, the integrated check valve only throttles the flow in one direction.

More detailed information:
Data sheet 27219

Technical data

Size			6	8	10	15	20	25	30
Operating pressure	p_{\max}	bar	315	315	315	315	315	315	315
Flow	$q_{V\max}$	l/min	15	30	50	120	200	300	400

2-way flow control valves

2FRM



Features

- ▶ For subplate mounting
- ▶ Porting pattern according to DIN 24340 form A
- ▶ External closing of the pressure compensator, optional
- ▶ As threaded connection for control panel installation
- ▶ Check valve, optional
- ▶ Adjustment types:
 - Rotary knob with scale
 - Lockable rotary knob with scale

- ▶ Size 6
- ▶ Component series 3X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 32 l/min

Product description

The valve type 2FRM is a 2-way flow control valve with mechanical operation. It is used for maintaining a constant flow, independent of pressure and temperature. In order to control a flow through the valve in both directions, a rectifier sandwich plate type Z4S may be fitted below the flow control valve.

More detailed information:
Data sheet 28163

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	32

2-way flow control valves

2FRM, 2FRH and 2FRW



- ▶ Size 10 and 16
- ▶ Component series 3X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 160 l/min

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 6263
- ▶ Types of actuation:
 - Mechanical
 - Hydraulic
 - Electro-hydraulic
- ▶ Pressure compensator stroke limitation for reducing the start-up jump, optional

Product description

The valve type 2FR is a 2-way flow control valve with mechanical, hydraulic or electro-hydraulic operation. It is used for maintaining a constant flow, independent of pressure and temperature.

In order to control a flow through the valve in both directions, a rectifier sandwich plate type Z4S may be fitted below the flow control valve.

More detailed information:
Data sheet 28389

Technical data

Size			10	16
Operating pressure	p_{\max}	bar	315	315
Flow	$q_{V\max}$	l/min	50	160

2-way cartridge valves, directional function LC (cartridge valves) and LFA (control cover)



- ▶ Size 16 ... 160
- ▶ Component series 2X, 6X, 7X
- ▶ Maximum operating pressure 420 bar
- ▶ Maximum flow 25,000 l/min

Features

- ▶ Standard installation according to ISO 7368 (up to size 100)
- ▶ Standard area ratios 2:1 and 14.3:1
- ▶ "High flow" by default
- ▶ Valve poppet with and without damping nose

Product description

The 2-way cartridge valve basically consists of an installation kit (LC) and a control cover (LFA).

The installation kit with connections A and B is installed into the manifold in a receiving hole standardized according to ISO 7368 and closed with a control cover. In most cases, the control cover is simultaneously the connection from the control side of the installation kit to the pilot control valves.

More detailed information:
 Data sheet 21010

Technical data

Size			16	25	32	40	50	63	80	100	125	160
Operating pressure	p_{\max}	bar	420	420	420	420	420	420	420	420	420	420
Flow	$q_{V \max}$	l/min	320	800	1300	2200	2900	4000	6200	10600	16000	25000

2-way cartridge valves, pressure function LC (installation kit) and LFA (control cover)



- ▶ Size 16 ... 100
- ▶ Component series 6X, 7X
- ▶ Maximum operating pressure 420 bar
- ▶ Maximum flow 7000 l/min

Features

- ▶ Attachment possibility for directional seat valve, directional spool valve or combination
- ▶ Manual and/or electric-proportional pressure adjustment possible
 - Integrated in the control cover
 - Separate pilot control valve
 - Diverse combination possibilities
- ▶ Different cracking pressures
- ▶ Variable nozzle fittings

Product description

The 2-way cartridge valve basically consists of an installation kit (LC) and a control cover (LFA).

The installation kit with connections A and B is installed into the manifold in a receiving hole standardized according to ISO 7368 and closed with a control cover. In most cases, the control cover is simultaneously the connection from the control side of the installation kit to the pilot control valves.

More detailed information:

Data sheet 21050

Technical data

Size			16	25	32	40	50	63	80	100
Operating pressure	p_{\max}	bar	420	420	420	420	420	420	420	420
Flow	$q_{V \max}$	l/min	300	450	600	1000	2000	2500	5500	7000

Proportional servo valves

Proportional valves

Proportional valves are used as directional valves, pressure valves and flow control valves. With their integrated electronics (OBE) they reduce the required wiring and simplify the handling while at the same time providing exact reproducibility and a low manufacturing tolerance.

High-response valves

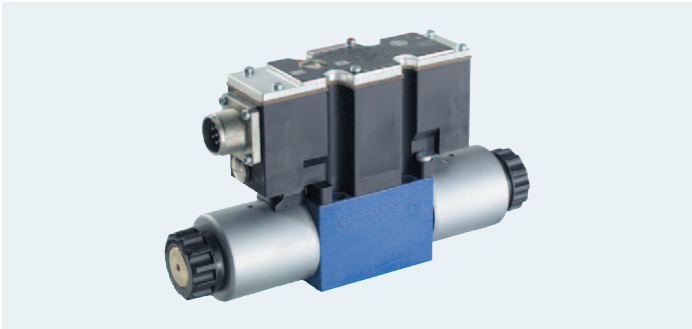
High-response valves are compact and robust. They boast high dynamics and closed-loop accuracy in position, velocity, pressure and force control applications.

Servo valves

Servo valves are hydraulically pilot operated 2- or 3-step directional valves. Thanks to their high dynamics they are mainly used to control position, force or pressure and velocity.



Proportional directional valves, direct operated, without electrical position feedback 4WRA and 4WRAE



- ▶ Size 6 ... 10
- ▶ Component series 2X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 75 l/min

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 4401
- ▶ Control of flow direction and size
- ▶ With integrated electronics (OBE) (type 4WRAE)
- ▶ Spring-centered control spool

Product description

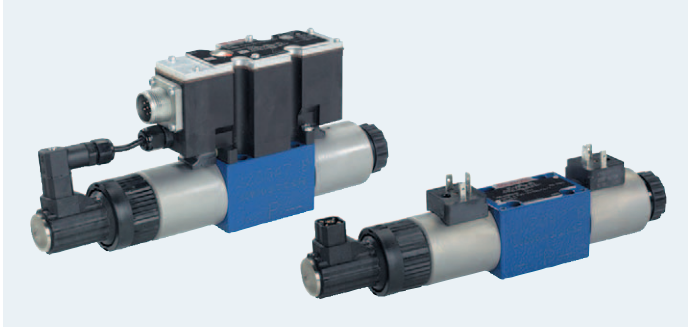
The valve type 4WRA(E) is a direct operated proportional directional valve for subplate mounting. Operation is effected by means of proportional solenoids. The solenoids are either controlled via external or via integrated electronics (OBE).

More detailed information:
 Data sheet 29055

Technical data

Size			6	10
Operating pressure	p_{\max}	bar	315	315
Rated flow	$q_{V\text{ nom}}$	l/min	7/15/30	30/60
Maximum hysteresis		%	≤ 5	≤ 5
Range of inversion		%	≤ 1	≤ 1
Response sensitivity		%	≤ 0.5	≤ 0.5
OBE operating voltage	U	V	24	24
OBE command value signal	U	V	±10	±10
	I	mA	4 ... 20	4 ... 20
Control electronics (type WRA)		Card, analog	VT-VSPA2-1	VT-VSPA2-1
		Card, digital	VT-VSPD-1	VT-VSPD-1
		Module, analog	VT-MSPA2-1	VT-MSPA2-1

Proportional directional valves, direct operated, with electrical position feedback 4WRE and 4WREE



- ▶ Size 6 ... 10
- ▶ Component series 2X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 180 l/min

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 4401
- ▶ Control of flow direction and size
- ▶ With electrical position feedback
- ▶ With integrated electronics (OBE) (type 4WREE)
- ▶ Spring-centered control spool

Product description

The valve type 4WRE(E) is a direct operated proportional directional valve with electrical position feedback for subplate mounting.

Operation is effected by means of proportional solenoids. The solenoids are either controlled via external or via integrated electronics (OBE).

More detailed information:

Data sheet 29061

Technical data

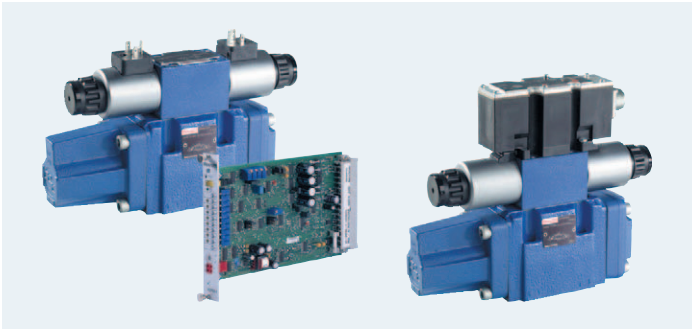
Size			6	10
Operating pressure	p_{\max}	bar	315	315
Rated flow	$q_{V \text{ nom}}$	l/min	4/8/16/32	25/50/75
Maximum hysteresis		%	≤ 0.1	≤ 0.1
Range of inversion		%	≤ 0.05	≤ 0.05
Response sensitivity		%	≤ 0.05	≤ 0.05
OBE operating voltage	U	V	24	24
OBE command value signal	U	V	±10	±10
	I	mA	4 ... 20	4 ... 20
Control electronics (type WRE)	"4/3"	Card, analog	VT-VRPA2-1	VT-VRPA2-2
		Card, digital	VT-VRPD-2	VT-VRPD-2
		Module, analog	VT-MRPA2-1	VT-MRPA2-1
	"4/2"	Card, analog	VT-MRPA1-1	VT-MRPA1-1

For order details regarding the GoTo products, see page 143.

RE 01500, 2014-05, **Bosch Rexroth AG**

Proportional directional valves, pilot operated, without electrical position feedback

4WRZ(E)



- ▶ Size 10 ... 52
- ▶ Component series 7X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 2800 l/min

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 4401
- ▶ With integrated electronics (OBE) with type 4WRZEM
- ▶ Pilot control by means of a 3-way pressure reducing valve
- ▶ Spring-centered main control spool with anti-rotation feature
- ▶ Different control spool overlaps possible

Product description

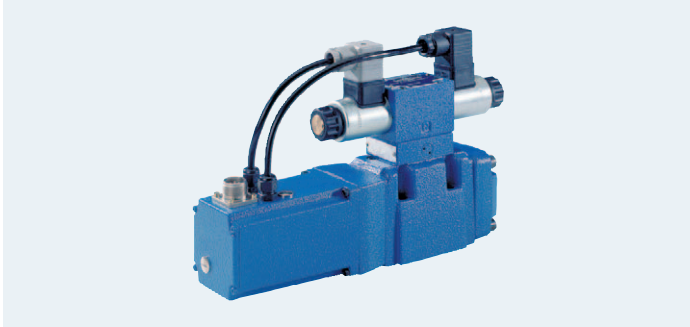
The valve type 4WRZ(E) is a pilot operated proportional directional valve for subplate mounting. Operation is effected by means of proportional solenoids. The solenoids are either controlled via external or via integrated electronics (OBE).

More detailed information:
Data sheet 29115

Technical data

Size			10	16	25	32	52
Operating pressure (port P)	p_{max}	bar	315	350	350	350	350
Rated flow	$q_{V\ nom}$	l/min	25, 50, 85	100, 125, 150, 180	220, 325	360, 520	1000
Maximum hysteresis		%	6	6	6	6	6
OBE operating voltage	U	V	24	24	24	24	24
OBE command value signal	U	V	±10	±10	±10	±10	±10
	I	mA	4 ... 20	4 ... 20	4 ... 20	4 ... 20	4 ... 20
Control electronics (type WRZ)		Card, analog	VT-VSPA2-1				
		Card, digital	VT-VSPD-1				
		Module, analog	VT 11118				

Proportional directional valves, pilot operated, with integrated electronics (OBE) and electrical position feedback 4WRKE



- ▶ Size 10 ... 35
- ▶ Component series 3X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 3000 l/min

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 4401
- ▶ With integrated electronics (OBE)
- ▶ Pilot control by means of a 3-way proportional directional valve
- ▶ Spring-centered main control spool
- ▶ Different control spool overlaps possible

Product description

The valve type 4WRKE is a pilot operated proportional directional valve for subplate mounting. Operation is effected by means of proportional solenoids. The solenoids are controlled via integrated electronics (OBE).

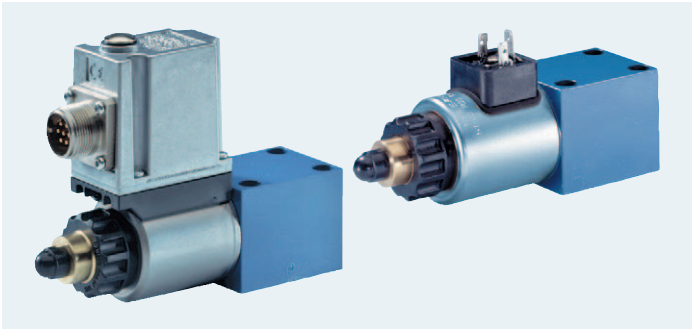
More detailed information:

Data sheet 29075

Technical data

Size			10	16	25	27	32	35
Operating pressure	p_{\max}	bar	315	350	350	210	350	350
Rated flow	$q_{V \text{ nom}}$	l/min	25, 50, 100	125, 200	220, 350	500	400, 600	1000
Maximum hysteresis		%	1	1	1	1	1	1
OBE operating voltage	U	V	24	24	24	24	24	24
OBE command value signal	U	V	±10	±10	±10	±10	±10	±10
	I	mA	4 ... 20, ±10	4 ... 20, ±10	4 ... 20, ±10	4 ... 20, ±10	4 ... 20, ±10	4 ... 20, ±10

Proportional pressure relief valves, direct operated, without/with integrated electronics (OBE) DBET(E)



Features

- For subplate mounting
- Porting pattern according to ISO 4401
- Valve for limiting a system pressure
- With integrated electronics (OBE) with type DBETE
- Low manufacturing tolerance of the command value pressure characteristic curve

- Size 6
- Component series 6X
- Maximum operating pressure 420 bar
- Maximum flow 2 l/min

Product description

The valve type DBET(E) is a direct operated pressure relief valve in seat design.

Operation by means of a proportional solenoid with central thread and detachable coil. The solenoids are either controlled via external or via integrated electronics (OBE). Dependent on the electric command value, the system pressure to be limited can be steplessly set.

More detailed information:
Data sheet 29162

Technical data

Operating pressure	p_{max}	bar	420
Flow	q_{Vmax}	l/min	2
Maximum hysteresis		%	< 4
Step response 0 ... 100 %	$T_u + T_R$	ms	80
Step response 100 ... 0 %	$T_u + T_R$	ms	80
OBE operating voltage	U	V	24
Control electronics (type DBET)	U	V	0 ... 10
	I	mA	4 ... 20
	Card, analog		VT-VSPA1-2
	Card, digital		VT-VSPD-1
	Module, analog		VT-MSPA1-1
	Connector, analog		VT-SSPA1-1

Proportional pressure relief valves, pilot operated DBEM(E)



- ▶ Size 10 ... 32
- ▶ Component series 7X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 700 l/min

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 6264
- ▶ Valve for limiting a system pressure
- ▶ Integrated electronics (OBE) for type DBEME
- ▶ Low manufacturing tolerance of the command value pressure characteristic curve
- ▶ Valve and control electronics from a single source
- ▶ Maximum pressure limitation

Product description

The valve type DBEM(E) is a pilot operated pressure relief valve.

Operation by means of a proportional solenoid with central thread and detachable coil. The solenoid is either controlled via external or via integrated electronics (OBE). Dependent on the electric command value, the system pressure to be limited can be steplessly set.

More detailed information:

Data sheet 29361

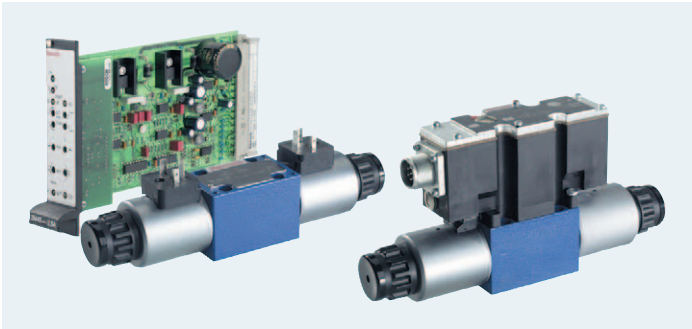
Technical data

Size			10	25	32
Operating pressure	p_{\max}	bar	350	350	350
Flow	$q_{V \max}$	l/min	275	550	700
Maximum hysteresis		%	≤ 5	≤ 5	≤ 5
Step response 10 to 90 %	$T_u + T_g$	ms	100	100	100
Step response 90 to 10 %	$T_u + T_g$	ms	100	100	100
OBE operating voltage	U	V	24	24	24
OBE command value signal	U	V	0 ... 10	0 ... 10	0 ... 10
	I	mA	4 ... 20	4 ... 20	4 ... 20
Control electronics (type DBEM)		Card, analog	VT-VSPA1-2	VT-VSPA1-2	VT-VSPA1-2
		Card, digital	VT-VSPD-1	VT-VSPD-1	VT-VSPD-1
		Module, analog	VT-MSPA1-1	VT-MSPA1-1	VT-MSPA1-1
		Connector, analog	VT-SSPA1-1	VT-SSPA1-1	VT-SSPA1-1

For order details regarding the GoTo products, see page 144.

RE 01500, 2014-05, **Bosch Rexroth AG**

Proportional pressure reducing valves, direct operated DREP(E)



- Size 6
- Component series 2X
- Maximum operating pressure 100 bar
- Maximum flow 15 l/min

Features

- For subplate mounting
- Porting pattern according to ISO 4401
- Valve for controlling pressure and direction of a flow
- With integrated electronics (OBE) with type DREPE
- Spring-centered control spool
- Manual override, optional

Product description

The valve type DREP(E) is a direct operated pressure reducing valve.

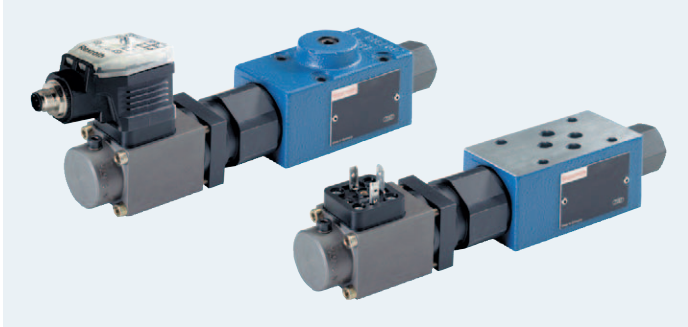
Operation by means of a proportional solenoid with central thread and detachable coil. The solenoids are either controlled via external or via integrated electronics (OBE).

More detailed information:
 Data sheet 29184

Technical data

Operating pressure	p_{\max}	bar	100
Flow	$q_{V\max}$	l/min	15
Maximum hysteresis		%	5
OBE operating voltage	U	V	24
OBE command value signal	U	V	±10
	I	mA	4 ... 20
Control electronics (type DREP)		Card, analog	VT-VSPD1
		Module, analog	VT 11118

Proportional pressure reducing valves, pilot operated DRE(E) and ZDRE(E)



- ▶ Size 6
- ▶ Component series 1X
- ▶ Maximum operating pressure 210 bar (DRE); 315 bar (ZDRE)
- ▶ Maximum flow 30 l/min

Features

- ▶ For subplate mounting
- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ Valve for pressure reduction in ports A and P1 with pressure limitation
- ▶ Integrated electronics (OBE) with type DREE and ZDREE
- ▶ Low manufacturing tolerance of the command value pressure characteristic curve

Product description

The valve types DRE(E) and ZDRE(E) are electrically pilot operated 3-way pressure reducing valves with pressure limitation of the actuator.

Operation is effected by means of one proportional solenoid. The solenoid is either controlled via external or via integrated electronics (OBE).

More detailed information:

Data sheet 29175

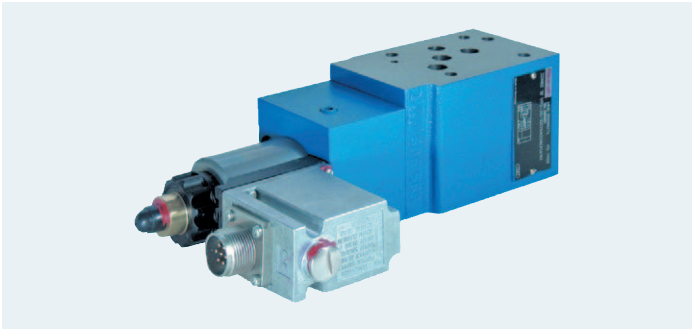
Technical data

Operating pressure	p_{\max}	bar	210
Flow	$q_{V\max}$	l/min	30
Maximum hysteresis		%	±2.5
OBE operating voltage	U	V	24
OBE command value signal	U	V	0 ... 10
	I	mA	4 ... 20
Control electronics (type DRE and ZDRE)		Card, analog	VT-VSPA1-10
		Card, digital	VT-VSPD-1
		Module, analog	VT-MSPA1-10

For order details regarding the GoTo products, see page 144.

RE 01500, 2014-05, **Bosch Rexroth AG**

Proportional pressure reducing valves, pilot operated ZDRE(E)



- ▶ Size 10
- ▶ Component series 2X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 80 l/min

Features

- ▶ Sandwich plate valve
- ▶ Porting pattern according to ISO 4401
- ▶ Valve for reducing a system pressure
- ▶ With integrated electronics (OBE) with type ZDREE
- ▶ Linear pressure/command value characteristic curve

Product description

The valve type ZDRE(E) is an electrically pilot operated 3-way pressure reducing valve with pressure limitation of the actuator.

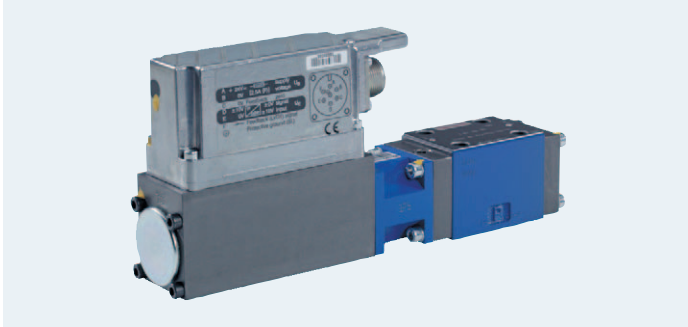
Operation is effected by means of one proportional solenoid. The solenoid is either controlled via external or via integrated electronics (OBE).

More detailed information:
 Data sheet 29279

Technical data

Operating pressure	p_{\max}	bar	315
Flow	$q_{V\max}$	l/min	80
Maximum hysteresis		%	±3
OBE operating voltage	U	V	24
OBE command value signal	U	V	0 ... 10
	I	mA	4 ... 20
Control electronics (type ZDRE)		Card, analog	VT-VSPA1-11
		Card, digital	VT-VSPD-1
		Module, analog	VT-MSPA1-11

Proportional pressure reducing valves, pilot operated, with integrated electronics (OBE) and position feedback DREBE



- ▶ Size 6
- ▶ Component series 1X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 40 l/min

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 4401
- ▶ Valve for reducing a system pressure
- ▶ With integrated electronics (OBE)

Product description

The valve type DREBE is a pilot operated 3-way pressure reducing valve.

It is actuated by a position-controlled proportional solenoid with integrated electronics (OBE). Depending on the command value, the pressure in A (actuator) can be steplessly set and reduced.

More detailed information:

Data sheet 29195

Technical data

Operating pressure (P)	p_{\max}	bar	315
Operating pressure (T)	p_{\max}	bar	250
Flow	$q_{V \max}$	l/min	40
Maximum hysteresis		%	≤ 1
OBE operating voltage	U	V	24
OBE command value signal	U	V	0 ... 10
	I	mA	4 ... 20

Directional control valves, direct operated, with electrical position feedback 4WRPEH



- Size 6
- Component series 2X ¹⁾
- Maximum operating pressure 315 bar
- Maximum flow 40 l/min ($\Delta p = 70$ bar)

Features

- For subplate mounting
- Porting pattern according to ISO 4401
- Control of flow
- Electrical position feedback and integrated electronics (OBE), calibrated in the plant
- Flow characteristics with linear or inflected characteristic curve
- Preferred position when switched off, optional

Product description

The valve type 4WRPEH is a single-side direct operated, 4/4-directional control valve with electrical position feedback and integrated electronics (OBE) in control spool and sleeve design. The directional control valve is used in force, position, velocity and pressure control applications.

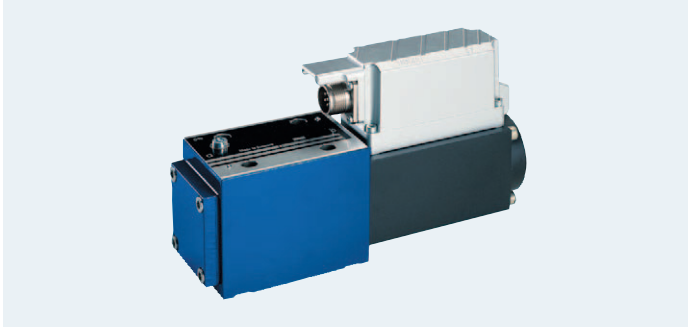
More detailed information:
Data sheet 29035

Technical data

Operating pressure	p_{max}	bar	315
Rated flow	$q_{V\ nom}$	l/min	2/4/12/15/24/25/40
Maximum hysteresis		%	< 0.2
OBE operating voltage	U	V	24
OBE command value signal	U	V	±10
	I	mA	4 ... 20

¹⁾ Component series 3X (data sheet 29121) available from September 2014

Directional control valves, direct operated with electrical position feedback 4WRPEH



- ▶ Size 10
- ▶ Component series 2X
- ▶ Maximum operating pressure 315 bar
- ▶ Maximum flow 100 l/min ($\Delta p = 70$ bar)

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 4401
- ▶ Control of flow direction and size
- ▶ Electrical position feedback and integrated electronics (OBE), calibrated in the plant
- ▶ Flow characteristics with linear or inflected characteristic curve
- ▶ Preferred position when switched off, optional

Product description

The valve type 4WRPEH is a single-side direct operated, 4/4-directional control valve with electrical position feedback and integrated electronics (OBE) in control spool and sleeve design. The directional control valve is used in force, position, velocity and pressure control applications.

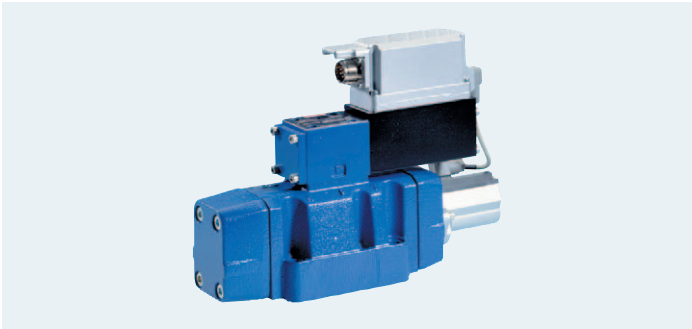
More detailed information:

Data sheet 29037

Technical data

Operating pressure	p_{\max}	bar	315
Rated flow	$q_{V \text{ nom}}$	l/min	50/100
Maximum hysteresis		%	< 0.2
OBE operating voltage	U	V	24
OBE command value signal	U	V	±10
	I	mA	4 ... 20

Directional control valves, pilot operated, with integrated electronics (OBE) and electrical position feedback 4WRLE



- ▶ Size 10 ... 35
- ▶ Component series 3X
- ▶ Maximum operating pressure 350 bar
- ▶ Maximum flow 3500 l/min

Features

- ▶ For subplate mounting
- ▶ Porting pattern according to ISO 4401
- ▶ Control of flow direction and size
- ▶ Pilot control valve and main stage are position-controlled
- ▶ Flow characteristics with linear or progressive characteristic curve
- ▶ Preferred position when switched off

Product description

The valve type 4WRLE is a pilot operated 4/3-directional control valve with electrical position feedback and integrated electronics (OBE). The pilot control valve is a position-controlled type 4WRPEH valve.

More detailed information:
 Data sheet 29088, 29089

Technical data

Size			10	16	25	35
Operating pressure	p_{\max}	bar	350	350	350	350
Rated flow	$q_{V\text{ nom}}$	l/min	40/50/55/70/80/85	90/120/150/180/200	300/350/370/430	1000/1100
Maximum hysteresis		%	0.1	0.1	0.1	0.1
Frequency (phase frequency characteristic -90° , signal $U_e = \pm 5\%$)	f	Hz	45	45	50	20
OBE operating voltage	U	V	24	24	24	24
OBE command value signal	U	V	± 10	± 10	± 10	± 10
	I	mA	4 ... 20	4 ... 20	4 ... 20	4 ... 20