

# Standard Hydraulic Control Valves Index



## Standard Hydraulic Control Valves

*A Global Leader, Your Single Source, for Hydraulics*

The global leader in the design and manufacture of hydraulic control valves for industrial and mobile applications. Rexroth offers a full line of directional (spool and poppet), proportional, pressure, flow, check, logic cartridges, “sandwich” (modular), and cartridge type valves. No other single source hydraulics supplier offers a breadth of products like Rexroth, backed up by expert hydraulics applications assistance. For demanding hydraulics systems applications — the right choice for advanced hydraulics control valves is Bosch Rexroth.

*To go directly to a specific type click on one of the titles below.*



**Directional Control Valves**



**Flow Control Valves**



**Pressure Control  
Pressure Relief Valves**



**Check / Non-Return Valves**



**Prefill Valves**



**Compact Hydraulic Valves**



**Accessories**



**Subplates**



**General Information**

# Standard Hydraulic Control Valves







## Directional Control Hydraulic Valves

*Unmatched Capability in Directional Control Valves*

Directional control hydraulic valves are the most universally applied products for controlling the start, stop, and direction of fluid flow in a circuit. Rexroth's directional valve technology includes:

- Sliding spool
- Poppet type
- Screw-in cartridge valves
- DIN cavity installations







*Click the data sheet numbers to open the PDF file.*

| Directional Control Valves  |                         |   |                    |            |
|---|-------------------------|---|--------------------|------------|
| Product Photo   | Model                   | Description   | Size               | Data Sheet |
|  | UL 429                  | <b>Directional Control Valve Catalog</b>  |                    | RA 08 316  |
|  | LC..A, LC..B<br>and LFA | <b>Directional Control Valves</b><br>Hydraulics Application: 2-way cartridge valves with directional function     | Sizes 16 to<br>160 | RA 21 010  |
|  | LC..DB<br>and LFA..DB   | <b>Directional Control Valves</b><br>Hydraulics Application: 2-way cartridge valves with pressure relief function | Sizes 16 to<br>100 | RA 21 050  |
|  | WE, WEH<br>and WH       | <b>Accessories for 4/3, 4/2 and 3/2 directional valves</b>  | Sizes 6 to 32      | RE 24 830  |

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| Directional Control Valves – continued  |                   |   |  |  |
|---|-------------------|---|--|--|
| Product Photo   | Model             | Description   | Size   | Data Sheet                                       |
|    | SED and SEW       | <b>Directional Control Valves</b><br>Hydraulics Application: Directional poppet valves, direct operated   | SED Size 6<br>SEW Size 6<br>SED Size 10<br>SEW Size 10 | RE 22 049<br>RE 22 058<br>RE 22 045<br>RE 22 075 |
|    | WMM, WMR, and WMU | <b>Directional Control Valves</b><br>Hydraulics Application: Directional spool valves, direct operated, with mechanical or manual actuation                                   | Size 6<br>Size 10<br>Size 16 to 22                     | RE 22 280<br>RE 22 331<br>RE 22 371              |
|    | WP and WH         | <b>Directional Control Valves</b><br>Hydraulics Application: Directional spool valves, direct operated, with fluidic actuation  | Size 6   | RE 22 282  |
|   | 4WEH and 4WH      | <b>Directional Control Valves</b><br>Hydraulics Application: Directional spool valves, 4/2- and 4/3-way directional valves pilot operated 4WEH, externally pilot operated 4WH | Sizes 10 to 32   | RE 24 751  |
|  | WE                | <b>Directional Control Valves</b><br>Hydraulics Application: Directional spool valves, direct operated, with solenoid   | Size 6<br>Size 10<br>Size 10<br>Size 10                | RE 23 178<br>RE 23 327<br>RE 23 351<br>RA 23 183 |
|  | Z4 WE and Z4 WEH  | <b>Directional Control Valves</b><br>Hydraulics Application: Sandwich plate valves  | Size 6<br>Size 10                                      | RE 23 193<br>RA 24 753                           |

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# Standard Hydraulic Control Valves






## Hydraulic Flow Control

*Widest Range of Flow Control and Throttles*

Flow control valves limit the amount of flow in a main or branch hydraulic circuit. Bosch Rexroth offers both “flow” controls and “throttles,” to satisfy the widest range of OEM and manufacturing system needs. Our flow controls offer an integral hydro-stat and incorporate sharp edged orifices to reduce the effect of temperature and consumer load changes on a field set flow values. Available with rotary knobs and key locks, Rexroth hydraulic flow control valves can be field set, locked, and remain tamper resistant. Throttle valves also incorporate sharp- edged orifices; however, lack of a hydro-stat limits stability in ever-changing load conditions.




*Click the data sheet numbers to open the PDF file.*

| Flow Control Valves   |           |  |   |  |
|---|-----------|--|---|--|
| Product Photo   | Model     | Description  | Size                                    | Data Sheet                                       |
|  | MG and MK | <b>Flow Control Valves</b><br>Hydraulics Application: Throttle valves and throttle check valve use                               | Sizes 6 to 102                          | RE 27 219  |
|  | Z2FS      | <b>Flow Control Valves</b><br>Hydraulics Application: Double throttle check valves in sandwich plate design                      | Size 6<br>Size 10<br>Size 16<br>Size 22 | RE 27 506<br>RE 27 518<br>RE 27 526<br>RE 27 536 |
|  | Z2FSK     | <b>Flow Control Valves</b><br>Hydraulics Application: Double throttle check valves in sandwich plate design (210 bar frame size) | Size 6<br>Size 10                       | RE 27 510<br>RA 27 524                           |

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# Standard Hydraulic Control Valves

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| Flow Control Valves – continued   |                     |   |                   |                        |
|---|---------------------|---|-------------------|------------------------|
| Product Photo   | Model               | Description   | Size              | Data Sheet             |
|  | FD                  | <b>Quick-Q-Meter Flow Control Valves</b><br>Hydraulics Application: Pilot operated check valve, leak-free | Sizes 12 to 32    | RE 27 551              |
|  | 2FRM, 2FRH and 2FRW | <b>Flow Control Valves</b><br>Hydraulics Application: 2-way flow control valves                           | Size 6<br>Size 10 | RE 28 163<br>RA 28 389 |
|  | 2FRM.K              | <b>Flow Control Valves</b><br>Hydraulics Application: 2-way flow control valves                           | Sizes 6 and 10    | RE 28 155              |

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# Standard Hydraulic Control Valves







## Hydraulics Pressure Control/Relief Valves *Pressure Ranges from Minimum to Maximum*

Pressure control valves limit the maximum amount of pressure in a complete or branch hydraulic circuit and provide pressure ranges from minimum to 365 psi (full range), and from minimum to 9,000 + psi.

Defining the maximum system pressure achievable is the role of a relief valve. Even for circuits in which the pump may have an integral maximum pressure control, an independent relief valve provides additional redundancy. Rexroth relief valves define pressure ranges from “minimum” to “maximum;” we do not stack ranges as do competitors.

*Click the data sheet numbers to open the PDF file.*

| Pressure Control and Relief Valves  |                |   |   |                                     |
|---|----------------|---|---|-------------------------------------|
| Product Photo   | Model          | Description   | Size  | Data Sheet                          |
|  | DBD            | <b>Pressure Relief Valve</b><br>Hydraulic Application: Pressure relief valves, direct operated  | Sizes 6 to 30                                       | RE 25 402                           |
|  | ZDB and Z2DB   | <b>Pressure Relief Valve</b><br>Hydraulic Application: Pressure relief valves in sandwich plate design, pilot operated                      | Size 6<br>Size 10                                   | RE 25 751<br>RA 25 761              |
|  | ZDBK and Z2DBK | <b>Pressure Relief Valve</b><br>Hydraulic Application: Pressure relief valves in sandwich plate design, pilot operated (210 bar frame size) | Size 6<br>Size 10                                   | RE 25 754<br>RE 25 764              |
|  | DB, DBW        | <b>Pressure Relief Valve</b><br>Hydraulic Application: Pressure relief valves, pilot operated   | Sizes 6 and 10<br>Sizes 10 to 32<br>Sizes 10 and 25 | RE 25 731<br>RE 25 802<br>RA 25 818 |

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| Pressure Controls – continued   |        |   |                                  |                        |
|---|--------|---|----------------------------------|------------------------|
| Product Photo   | Model  | Description   | Size                             | Data Sheet             |
|    | DZ.D   | <b>Multifunction Valve</b><br>Hydraulic Application: Pressure sequencing valves, direct operated  | Size 6<br>Size 10                | RE 26 076<br>RA 26 099 |
|    | DZ     | <b>Multifunction Valve</b><br>Hydraulic Application: Pressure sequencing valves, pilot operated   | Sizes 10, 25 and 32              | RA 26 391              |
|    | ZDR.D  | <b>Pressure Reducing Valve</b><br>Hydraulic Application: Pressure reducing valves in sandwich plate design, direct operated                         | Size 6<br>Size 10                | RA 26 570<br>RA 26 585 |
|   | DR.DP  | <b>Pressure Reducing Valve</b><br>Hydraulic Application: Pressure reducing valves, direct operated  | Size 6<br>Size 10                | RA 26 564<br>RA 26 580 |
|  | ZDR10V | <b>Pressure Reducing Valve</b><br>Hydraulic Application: Pressure reducing valves in sandwich plate design, pilot operated                          | Size 10                          | RA 26 861              |
|  | ZDRK.V | <b>Pressure Reducing Valve</b><br>Hydraulic Application: Pressure reducing valves in sandwich plate design, pilot operated (210 bar pressure limit) | Size 6<br>Size 10                | RA 26 572<br>RA 26 864 |
|  | 3DR    | <b>Pressure Reducing Valve, pilot operated</b>  | Size 10, 6X<br>Size 16, 5X       | RE 26 915<br>RE 26 928 |
|  | DR     | <b>Pressure Reducing Valve</b><br>Hydraulic Application: Pressure reducing valves, pilot operated   | Size 10, 3X<br>Size 10 to 30, 5X | RE 26 850<br>RA 26 892 |

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# Standard Hydraulic Control Valves






## Hydraulic Check / Non-Return Valves

*A Range of Valves Sizes for your Hydraulics Applications*

Applicable to circuits where fluid flow must move in one direction, Bosch Rexroth in-line, subplate mounted, and cavity type hydraulic check valves in either direct or pilot operated configurations provide line contact seating arrangements to prevent fluid leakage in the undesired direction. Guided poppets in line contact with hardened seats provide a dependable, mechanical “check” function. Plus Rexroth provides a wide range of valve sizes, from a fraction of an inch to several inches in nominal diameter, to give plant operators and OEMs all the options you need to satisfy a broad spectrum of hydraulics application requirements.




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| Check Valves  |       |  |                   |                        |
|---|-------|--|-------------------|------------------------|
| Product Photo   | Model | Description  | Size              | Data Sheet             |
|  | Z1S   | <b>Check Control Valves</b><br>Hydraulics Application: Check valves of sandwich plate design | Size 6<br>Size 10 | RE 21 534<br>RE 21 536 |
|  | S     | <b>Check Valves</b>  | Sizes 6 to 30     | RE 20 375              |
|  | M-SR  | <b>Check Control Valve</b><br>Hydraulics Application: Plug-in check valve                    | Sizes 6 to 30     | RE 20 380              |

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# Standard Hydraulic Control Valves

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| Check Valves – continued  |           |  |   |  |
|---|-----------|--|---|--|
| Product Photo   | Model     | Description  | Size                                    | Data Sheet                                       |
|  | Z2S       | <b>Check Control Valve</b><br>Hydraulics Application: Pilot operated check valves in sandwich plate design                   | Size 6<br>Size 10<br>Size 16<br>Size 22 | RE 21 548<br>RE 21 553<br>RE 21 558<br>RE 21 564 |
|  | Z2SRK     | <b>Check Control Valve</b><br>Hydraulics Application: Pilot operated check valves in sandwich plate design (210 bar version) | Size 6<br>Size 10                       | RE 21 543<br>RE 21 549                           |
|  | SV and SL | <b>Check Control Valve</b><br>Hydraulics Application: Hydraulically pilot operated check valves                              | Sizes 6 to 150                          | RE 21 468  |



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# Standard Hydraulic Control Valves



Hydraulic Prefill Valves

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| Prefill Valves  |                 |   |                                   |                        |
|---|-----------------|---|-----------------------------------|------------------------|
| Product Photo   | Model           | Description   | Size                              | Data Sheet             |
|  | SF              | <b>Pre-fill Valves</b><br>Hydraulics Application: Pilot operated pre-fill valve (check valve)                                       | Sizes 25...80<br>Sizes 125 to 400 | RE 20 485<br>RE 20 482 |
|  | ZSF and<br>ZSFW | <b>Pre-Fill Valve</b><br>Hydraulics Application: Hydraulically pilot operated pre-fill valve (check valve) in sandwich plate design |                                   | RE 20 478              |

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# Standard Hydraulic Control Valves





## Compact Hydraulics

*Compact Valves for Space Efficiency*

Bosch Rexroth offers a full line of valves for hydraulic applications where space challenges are an issue.

- Cartridge solenoid hydraulic valves with 2/2-way and 3/2-way poppet valve operation and with 2/2-way, 3/2-way, and 4/2-way spool operation
- Proportional valves with 2/2-way spool operation
- Proportional pressure relief valves
- Variable volume vane pump

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| Compact Hydraulic Valves  |       |  |               |   |
|---|-------|--|---------------|---|
| Product Photo   | Model | Description  | Size          | Data Sheet                                |
|  | KSDER | <b>Compact Hydraulic Units</b><br>Hydraulics Application: Directional poppet valves, direct operated, with solenoid actuation (high performance) | Size 1        | RE 18 136-2<br>RE 18 136-3                |
|  | KKDER | <b>Compact Hydraulic Units</b><br>Hydraulics Application: Directional spool valves, direct operated, with solenoid actuation (high performance)  | Sizes 1 and 8 | RE 18 136-4<br>RE 18 136-5<br>RE 18 136-6 |

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# Standard Hydraulic Control Valves



## Hydraulics Valve Accessories *Completing Your Hydraulics System*

Not all applications are complete after selecting standard components. For those situations, Rexroth offers a full range of accessory products to complete your hydraulics system. From NFPA port pattern cast iron and aluminum subplates, piston and bourdon tube type pressure switches, gauge isolators to air bleeds and bolt kits, Bosch Rexroth provides complete system solutions not just component selection.

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| Accessories   |                     |  |        |                        |
|---|---------------------|--|--------|------------------------|
| Product Photo   | Model               | Description  | Size   | Data Sheet             |
|  | AF                  | Pressure gauge isolator valves   | Size 6 | RE 50 031              |
|  | HED 1               | Piston type pressure switches  |        | RE 50 040              |
|  | HED 2<br>HED 3      | <b>Bourdon tube pressure switches</b><br>Comes with constant (HED 2) or with infinitely variable switching pressure differential (HED 3) |        | RE 50 045<br>RE 50 050 |
|  | HED 5<br>HED 5...3X | Piston type pressure switches  |        | RE 50 055<br>RE 50 056 |
|  | HED 8               | Piston type pressure switches  |        | RE 50 061              |

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# Standard Hydraulic Control Valves



## Subplates

*Complete solutions*

For hydraulics applications requiring more than a specific standard components, Rexroth NFPA port pattern cast iron and aluminum subplates are a complete solution.

*Click the data sheet numbers to open the PDF file.*

| Subplates   |            |
|---|------------|
| Description   | Data Sheet |
| Size 6 subplate data sheet - DIN 24 340, ISO 4401   | RA 45 052  |
| Size 10 subplate data sheet - DIN 24 340, ISO 4401  | RA 45 054  |
| Size 16 subplate data sheet - DIN 24 340, ISO 4401  | RA 45 056  |
| Size 22 & 25 subplate data sheet - DIN 24 340, ISO 4401   | RA 45 058  |
| Size 32 subplate data sheet - DIN 24 340, ISO 4401  | RA 45 060  |
| Size 10, 20, 30 subplate, pressure controls and pilot operated check valves data sheet - DIN 24 340, ISO 5781 | RA 45 062  |
| Size 10, 20, 30 subplate, relief valves data sheet - DIN 24 340, ISO 6264                                     | RA 45 064  |
| Size 5, 10, 16 subplate, flow controls data sheet - DIN 24 340, ISO 6263                                      | RA 45 066  |

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# Standard Hydraulic Control Valves



## General Information

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| General Information                                     |            |
|---|------------|
| Description   | Data Sheet |
| Industrial valves start-up and maintenance              | RA 07 300  |
| Servo valves start-up and maintenance                   | RE 07 700  |
| Electronic proportional valves start-up and maintenance | RE 07 800  |
| Hydraulic system start-up and maintenance               | RE 07 900  |
| WE 4 and 6 - Summary of electrical connections          | RA 08 000  |
| WE 10 - Summary of electrical connections               | RA 08 002  |
| Connectors for electrically actuated valves and sensors | RE 08 006  |
| Line connectors for valves and sensors                  | RE 08 008  |
| Warranty policy and procedures                          | RA 09 637  |
| Water based & synthetic fire resistant fluids           | RA 09 296  |

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