

# 2-way pressure reducing valve, direct operated

**RE 18111-03/08.11**  
Replaces: 06.08

1/8

**Type KRD** (high performance)

Size 2  
Component series B  
Maximum operating pressure 400 bar  
Maximum flow 25 l/min



H7311

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## Features

- Cartridge valve
- Mounting cavity R/ISO 7789-27-01-1-98
- Available in 3 pressure ratings (100, 210 and 315 bar)
- Can be used for many pressure reduction functions without leakage oil drain

Information on available spare parts:  
[www.boschrexroth.com/spc](http://www.boschrexroth.com/spc)

## Ordering code

| KRD    2   A   B / L    V                   |  |  |                   |  |  |  |                                                                               |  |  |
|---------------------------------------------|--|--|-------------------|--|--|--|-------------------------------------------------------------------------------|--|--|
| Pressure reducing valve,<br>direct operated |  |  |                   |  |  |  | V = FKM seals                                                                 |  |  |
| <b>Adjustment type</b>                      |  |  |                   |  |  |  | No code = without pressure pre-adjustment                                     |  |  |
| Rotary knob                                 |  |  | = 1 <sup>1)</sup> |  |  |  | -... = with pressure pre-adjustment <sup>2)</sup>                             |  |  |
| Setscrew with hexagon<br>and protective cap |  |  | = 2               |  |  |  | L = High performance and mounting cavity<br>R/ISO7789-27-01-1-98 (see page 6) |  |  |
| Rotary knob with scale, lockable            |  |  | = 3 <sup>1)</sup> |  |  |  | B = Component series                                                          |  |  |
| <b>Pressure rating</b>                      |  |  |                   |  |  |  | A = Design principle                                                          |  |  |
| 100 bar                                     |  |  | = F               |  |  |  | Seat valve                                                                    |  |  |
| 210 bar                                     |  |  | = L               |  |  |  |                                                                               |  |  |
| 315 bar                                     |  |  | = P               |  |  |  |                                                                               |  |  |
| Size                                        |  |  | = 2               |  |  |  |                                                                               |  |  |

<sup>1)</sup> Only with pressure rating 100 bar ("F")

<sup>2)</sup> Example (pressure adjustment is made with  $q_v = 1$  to 2 l/min):  
– Set to 50 bar: .../L-50 V

## Preferred types

| Pressure rating | Type        | Material number |
|-----------------|-------------|-----------------|
| 100 bar         | KRD2F2AB/LV | R901082845      |
| 210 bar         | KRD2L2AB/LV | R901082849      |
| 315 bar         | KRD2P2AB/LV | R901082857      |

## Function, section, symbol

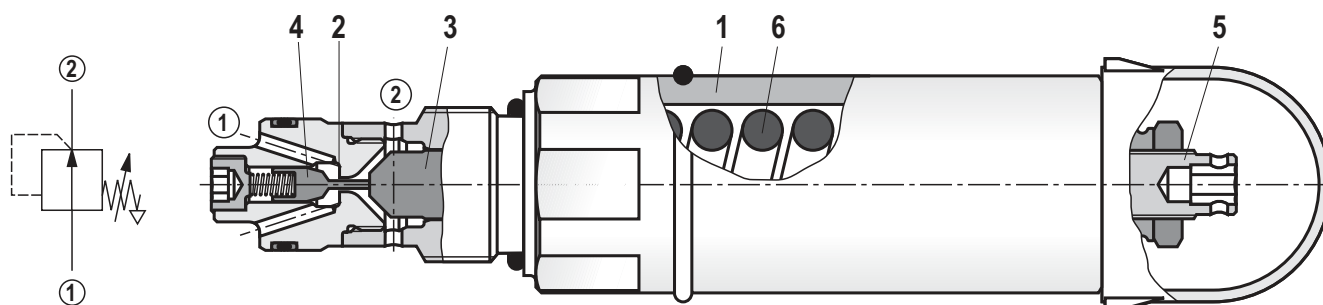
### General

The direct operated 2-way pressure reducing valve type KRD is designed as tight seat valve. It is used for the leakage-free pressure reduction of a working pressure.

It basically comprises of the screw-in housing (1) with spring (6) and adjustment type (5) as well as spool (3), valve seat (2) and closing element (4).

### Function

In the initial position, the valve seat is open. Hydraulic fluid can flow from the main port ① to ②. If the pressure in the main port increases ② to the pressure value set at the adjustment type (5), the closing element (4) closes the connection ① to ②. If the system pressure increases further (main port ①), this will no longer influence the pressure in main port ② (pressure holding function). Pressure losses in main port ② (actuator) will be compensated by the valve.



① = main port 1 (P)

② = main port 2 (A)

**Technical data** (For applications outside these parameters, please consult us!)**general**

|                       |    |     |
|-----------------------|----|-----|
| Weight                | kg | 1   |
| Installation position |    | Any |

**hydraulic**

|                                                                                                                |               |                    |                                  |                                |     |    |
|----------------------------------------------------------------------------------------------------------------|---------------|--------------------|----------------------------------|--------------------------------|-----|----|
| Maximum operating pressure                                                                                     | – Main port ① | bar                | 400                              |                                |     |    |
|                                                                                                                | – Main port ② | bar                | 315                              |                                |     |    |
| Maximum set pressure <sup>1)</sup>                                                                             |               |                    | Rated pressure in A              | Settable minimum pressure in A |     |    |
|                                                                                                                |               |                    | – Pressure rating 100 bar        | bar                            | 100 | 10 |
|                                                                                                                |               |                    | – Pressure rating 210 bar        | bar                            | 210 | 20 |
|                                                                                                                |               |                    | – Pressure rating 315 bar        | bar                            | 315 | 30 |
| Maximum flow                                                                                                   |               | l/min              | 25                               |                                |     |    |
| Maximum permitted leakage in the application/system                                                            |               | l/min              | 1.5                              |                                |     |    |
| Hydraulic fluid                                                                                                |               |                    | See table below                  |                                |     |    |
| Hydraulic fluid temperature range                                                                              |               | °C                 | –20 to +80                       |                                |     |    |
| Viscosity range                                                                                                |               | mm <sup>2</sup> /s | 5 to 1000 (preferably 10 to 100) |                                |     |    |
| Maximum permitted degree of contamination of the hydraulic fluid - cleanliness class according to ISO 4406 (c) |               |                    | Class 20/18/15 <sup>2)</sup>     |                                |     |    |

| Hydraulic fluid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                      | Classification             | Suitable sealing materials | Standards |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------|----------------------------|-----------|
| Mineral oils and related hydrocarbons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      | HL, HLP, HLPD, HVLP, HVLDP | FKM                        | DIN 51524 |
| Environmentally compatible                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | – Insoluble in water | HEES                       | FKM                        | ISO 15380 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                      | HEPR                       | FKM                        |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | – Soluble in water   | HEPG                       | FKM                        | ISO 15380 |
| Flame-resistant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | – Water-free         | HFDU, HFDR                 | FKM                        | ISO 12922 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | – Water-containing   | HFAS                       | FKM                        | ISO 12922 |
| <p> <b>Important information on hydraulic fluids!</b></p> <p>– For more information and data on the use of other hydraulic fluids refer to data sheet 90220 or contact us!</p> <p>– There may be limitations regarding the technical valve data (temperature, pressure range, service life, maintenance intervals, etc.)!</p> <p>– <b>Flame-resistant – water-containing:</b> Maximum pressure differential per control edge 175 bar; otherwise, increased cavitation erosion!<br/>Tank pre-loading &lt; 1 bar or &gt; 20 % of the pressure differential. The pressure peaks should not exceed the maximum operating pressures!</p> |                      |                            |                            |           |

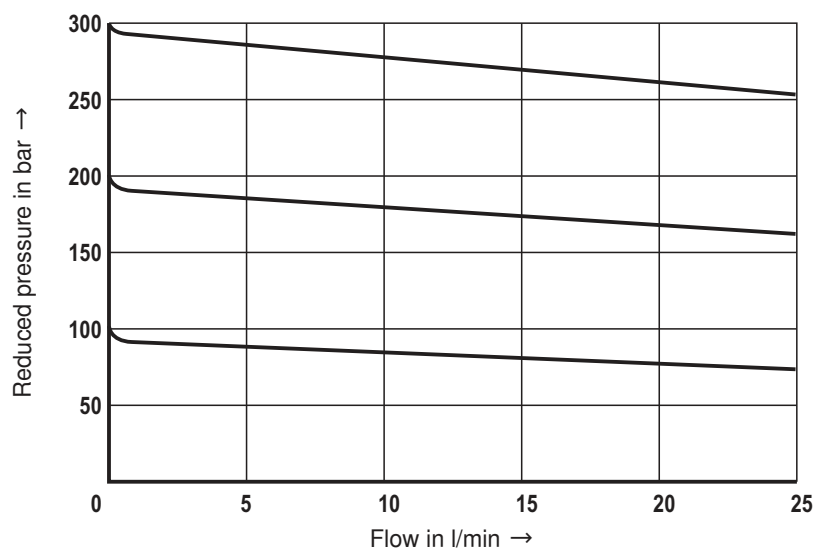
<sup>1)</sup> Exact pressure control at  $p > 20$  bar is possible.

<sup>2)</sup> The cleanliness classes specified for the components must be adhered to in hydraulic systems. Effective filtration prevents faults and at the same time increases the service life of the components.

For selecting the filters, see [www.boschrexroth.com/filter](http://www.boschrexroth.com/filter).

## Characteristic curves (measured with HLP46, $\vartheta_{oil} = 40 \text{ }^{\circ}\text{C} \pm 5 \text{ }^{\circ}\text{C}$ )

### Reduced pressure against the flow



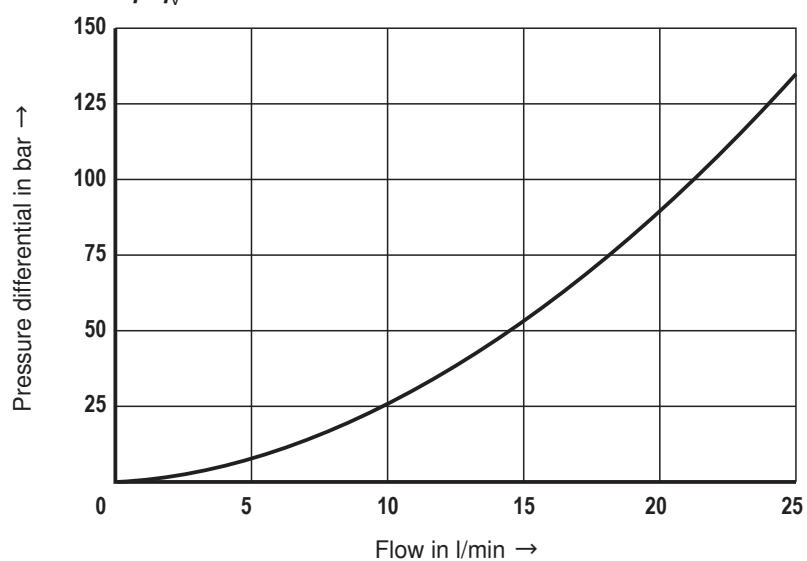
### Notice!

The figures show the  $p-q_v$  characteristic curves of the 3 pressure ratings at the relevant rated pressures.

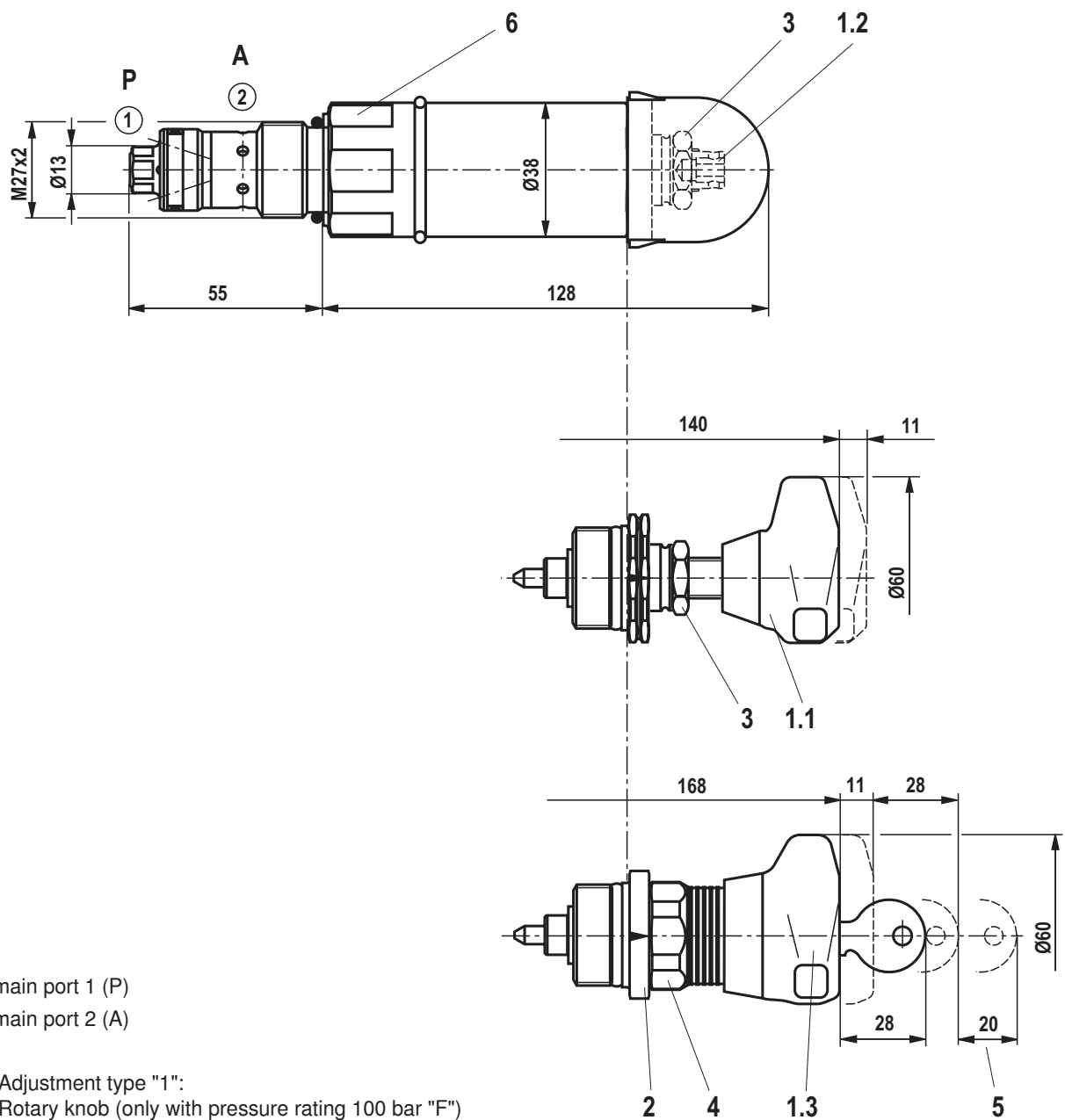
Recommendation for the pressure differential:  $\Delta p \geq 20 \text{ bar}$

### Flow resistance

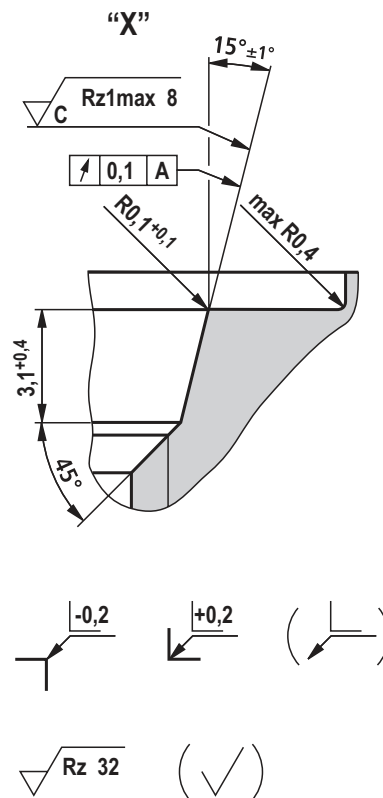
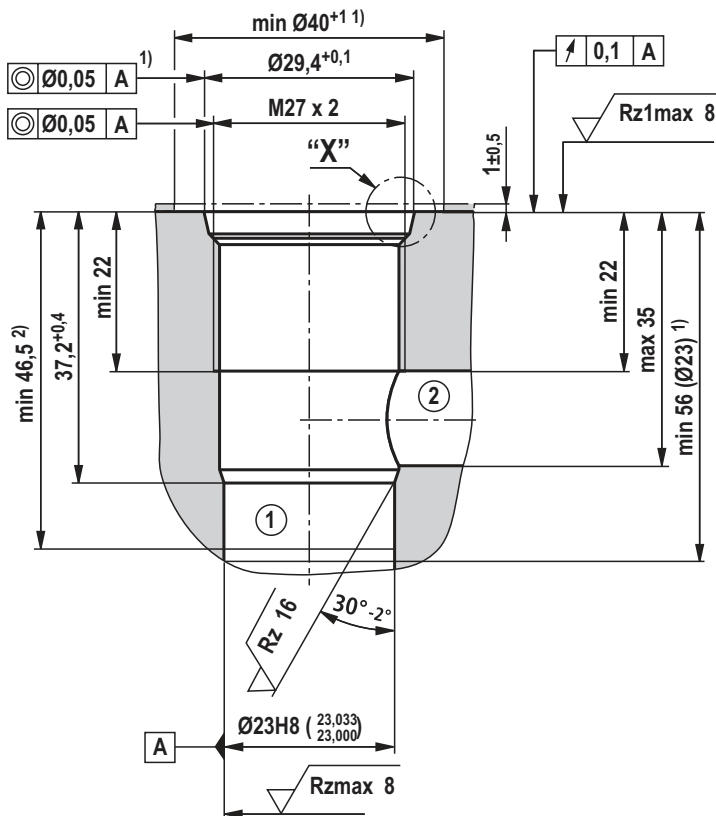
$\Delta p-q_v$  characteristic curves



## Unit dimensions (dimensions in mm)



**Mounting cavity R/ISO 7789-27-01-1-98** (similar to ISO 7789-27-01-0-98):  
2 main ports, thread M27 x 2 (dimensions in mm)



<sup>1)</sup> **Deviating from ISO 7789 27-01-0-98:**

Valves for mounting cavity ISO 7789 27-01-0-98 can be screwed into this bore!

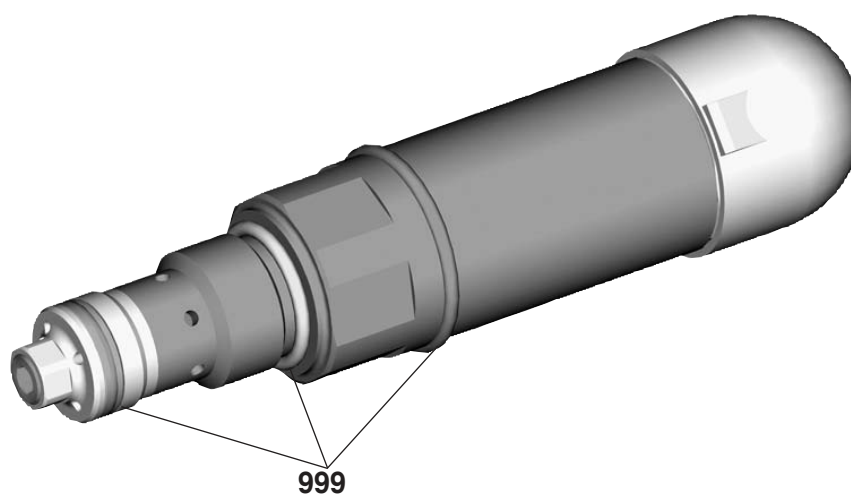
<sup>2)</sup> Depth of fit

① = main port 1 (P)

② = main port 2 (A)

## Available individual components

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| Item | Denomination          | Material no. |
|------|-----------------------|--------------|
| 999  | Seal kit of the valve | R961001402   |

## Notes

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