

# 2-way flow control valve type UDRD6

WN 6 |  $p_{max}$  35 MPa |  $Q_{max}$  43 dm<sup>3</sup>/min | WK 420 020



## DATA SHEET - OPERATION MANUAL

### APPLICATION

2-way flow control valve type **UDRD6...** controls fluid flow rate independently of pressure and temperature in direction **A→B** and allows free flow in the opposite direction **B→A** (version with a check valve). The valve may be mounted in a hydraulic circuit in any position.



### DESCRIPTION OF OPERATION

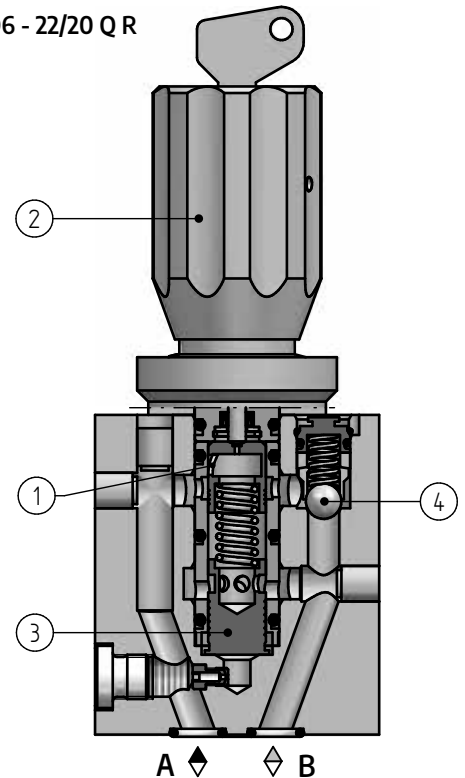
After supplying pressurized oil into line **A** of the valve a flow rate is stabilized at the throttling gap **1**. By rotating handknob **2** clockwise (in range of 10 scale divisions – about 300°) the throttling gap **1** broadens and flow through the valve increases.

Constant flow independent of pressure is held by pressure compensator **3**. Free flow from line **B→A** is ensured by check valve **4** - in version with check valve (version UDRD6 – 22/...R).

#### NOTE:

Change of valve setting under pressure can be difficult – and under higher pressures impossible.

UDRD6 - 22/20 Q R



### TECHNICAL PARAMETERS

hydraulic fluid	mineral oil	
required fluid cleanliness class	ISO 4406 class 20/18/15	
nominal fluid viscosity	37 mm <sup>2</sup> /s at temperature 55 °C	
viscosity range	2,8 ÷ 328 mm <sup>2</sup> /s	
fluid temperature range (in a tank)	recommended	40 ÷ 55 °C
	max.	-20 ÷ 70 °C
ambient temperature range	-20 ÷ 70 °C	
max. operating pressure	35 MPa	
tolerance of flow control for constant pressure and temperature	± 5 %	
min. pressure difference before and behind the valve	1,5 MPa	
flow stability at pressure change	± 5 %	
weight	1,4 kg	

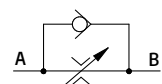
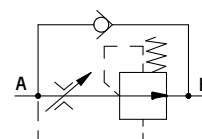
assembly and operation requirements at [www.operating-conditions.ponar.pl](http://www.operating-conditions.ponar.pl)

### DIAGRAMS

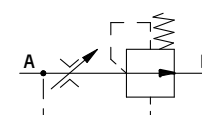
detailed symbol

simplified symbol

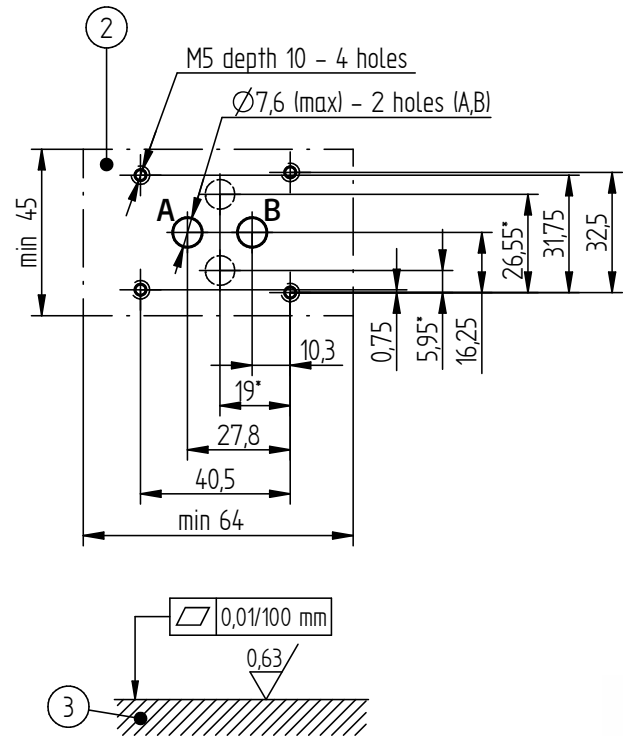
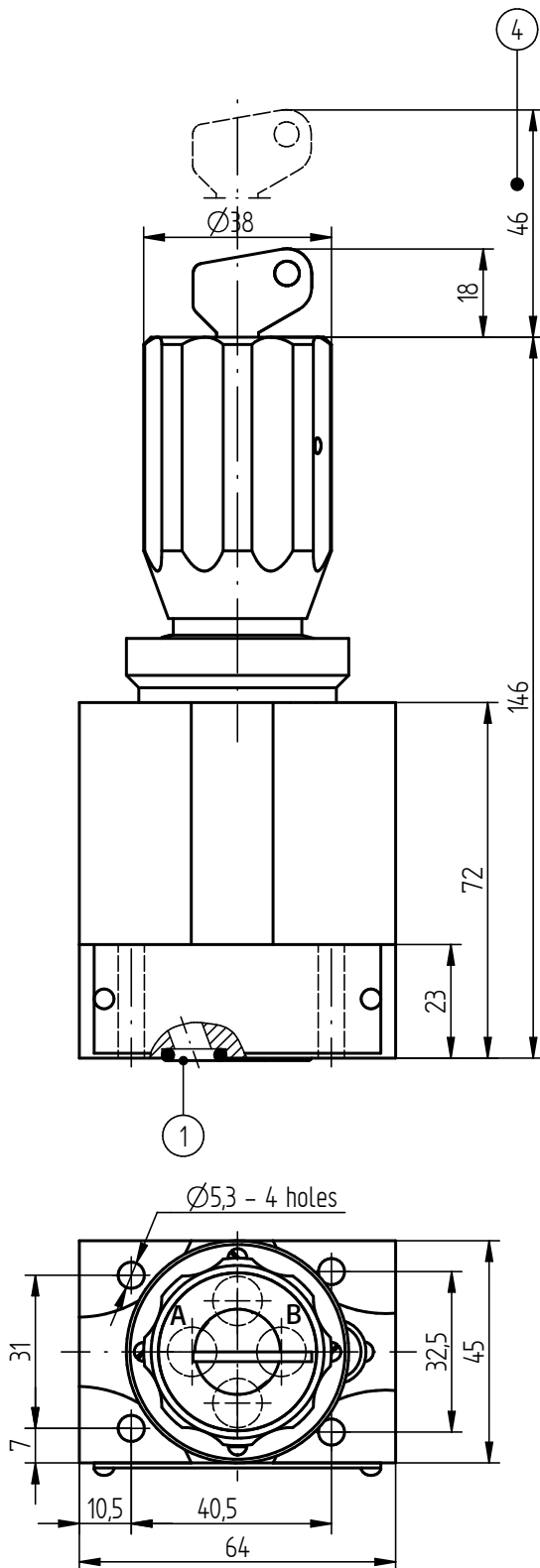
version: UDRD6.../...R...



version: UDRD6.../...M...



## OVERALL AND CONNECTION DIMENSIONS



1. o-ring 9,2 × 1,8 - 4 pcs/kit
2. porting pattern - configuration of surface holes in subplate in accordance with the following standards:
  - CETOP RP 121H - identified by CETOP 4.2-4-03-320 (nominal size CETOP 03)
  - ISO 4401 - identified by ISO 4401-03-02-0-94
- mounting bolts M5 × 30 -10.9 in acc. PN - EN ISO 4762 (PN/M-82302) - 4 pcs/kit  
tightening torque Md = 9 Nm.
- NOTE:**  
(\* ) - dimensions related to the center of counterbores (with sealing rings item 1 - 2 pcs) in housing of flow control valve in order to apply an accordance with CETOP RP 121H, ISO 4401
3. subplate surface required
4. space required to remove the key from the lock of the adjustment

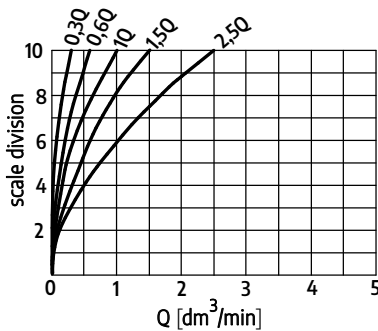
## PERFORMANCE CURVES

measured at viscosity  $\nu = 41 \text{ mm}^2/\text{s}$  and temperature  $t = 50 \text{ }^\circ\text{C}$

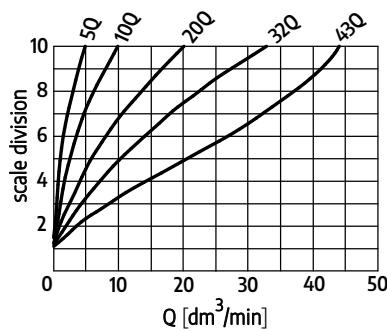
### characteristic of flow in relation to the valve setting

characteristic curves of flow relation to handknob position on scale for flow control valves with different settable flow ranges

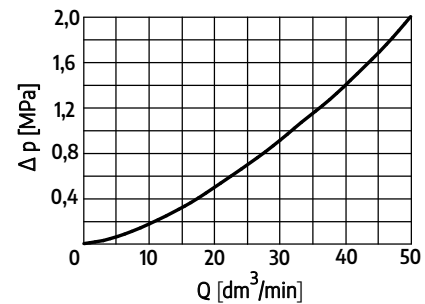
flow direction: **A**→**B**



flow direction: **A**→**B**



flow direction: **B**→**A**



### characteristic of flow resistance

characteristic curves of flow resistance through check valve - version UDRD6-22/...R...

## HOW TO ORDER

UDRD **6** -  /

1            2            3            4            5            6

### 1 nominal size

WN 6 = **6**

### 2 series number

series 22 = **22**  
(20 ÷ 29) connection and installation dimensions unchanged

### 3 flow range A→B

up to 0,3 dm<sup>3</sup>/min = **0,3 Q**  
 up to 0,6 dm<sup>3</sup>/min = **0,6 Q**  
 up to 1,0 dm<sup>3</sup>/min = **1 Q**  
 up to 1,5 dm<sup>3</sup>/min = **1,5 Q**  
 up to 2,5 dm<sup>3</sup>/min = **2,5 Q**  
 up to 5,0 dm<sup>3</sup>/min = **5 Q**  
 up to 10 dm<sup>3</sup>/min = **10 Q**  
 up to 20 dm<sup>3</sup>/min = **20 Q**  
 up to 32 dm<sup>3</sup>/min = **32 Q**  
 up to 43 dm<sup>3</sup>/min = **43 Q**

### 4 version

with check valve = **R**  
 without check valve = **M**

### 5 sealing

NBR (for fluids on mineral oil base) = **∅**  
 FKM (for fluids on phosphate ester base) = **V**

### 6 further requirements = \*

(to be agreed with the manufacturer)

∅ indicates that the box should be left blank.

The flow control valve should be ordered according to the above coding.

The symbols **in bold** are the preferred versions available in short delivery time.

Coding example: **UDRD6 - 22 / 20 Q M**

## SUBPLATES AND MOUNTING BOLTS

Subplates should be ordered according to data sheet WK 496 480.

Symbols of subplates:

**G 341/01** - threaded connections **G 1/4**

G 342/01 - threaded connections G 3/8

G 502/01 - threaded connections G 1/2

Subplates and mounting bolts M5 × 30 - 10,9 to acc. PN -EN ISO 4762 (PN/M-82302) 4 pcs/kit must be ordered separately.

Tightening torque for bolts M<sub>d</sub> = 9 Nm

The symbols **in bold** are the preferred versions available in short delivery time.

## CONTACT

PONAR Wadowice S.A.  
ul. Wojska Polskiego 29  
34-100 Wadowice

tel. +48 33 488 21 00  
[www.ponar-wadowice.pl](http://www.ponar-wadowice.pl)