

# Check valve type S

NS 6 - 30 |  $p_{max}$  40 MPa |  $Q_{max}$  300 dm<sup>3</sup>/min | WK 433 250



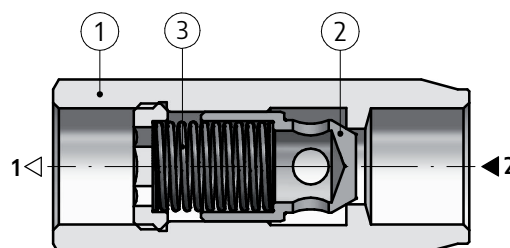
## DATA SHEET - OPERATION MANUAL

### DEVICE CHARACTERISTICS

The S... type check valve is designed for closing hydraulic fluid flow in one direction and opening a free-flow in the opposite direction. The valve is suitable for in-line mounting on pipelines in any working position.

### OPERATION DESCRIPTION

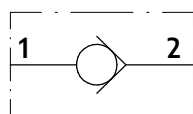
After overcoming the spring **3** force (version with a spring), the pressure of the fluid at the inlet of the valve lifts the poppet **2** that blocks the flow and directs the fluid flow to the outlet. In the opposite direction, the spring and working fluid pushes the poppet **2** to the seat in the housing **1** and closes the flow.



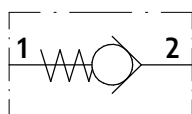
### TECHNICAL PARAMETERS

|                                                                                                                                 |                                                   |
|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| hydraulic fluid                                                                                                                 | mineral oil                                       |
| required cleanliness class of oil                                                                                               | ISO 4406 class 19/17/14                           |
| nominal fluid viscosity                                                                                                         | 37 mm <sup>2</sup> /s at temperature 55 °C        |
| viscosity range                                                                                                                 | 15 ÷ 250 mm <sup>2</sup> /s                       |
| fluid temperature range (in tank)                                                                                               | -20 ÷ 80 °C                                       |
| ambient temperature range                                                                                                       | -20 ÷ 50 °C                                       |
| maximum working pressure                                                                                                        | 40 MPa (NS 6÷15); 35 MPa (NS20÷30)                |
| opening pressure range                                                                                                          | 0,0 ÷ 0,6 MPa (details on page 2)                 |
| maximum flow rate                                                                                                               | 15 ÷ 300 dm <sup>3</sup> /min (details on page 2) |
| maximum leakage                                                                                                                 | 0,25 cm <sup>3</sup> /min (5 drops/min)           |
| weight                                                                                                                          | 0,30 ÷ 4,1 kg (details on page 2)                 |
| filtration                                                                                                                      | recommended using a 15 µm filter                  |
| corrosion protection                                                                                                            | zinc coating (electrogalvanizing)                 |
| assembly and operation requirements at <a href="http://www.operating-conditions.ponar.pl">www.operating-conditions.ponar.pl</a> |                                                   |

### HYDRAULIC DIAGRAM



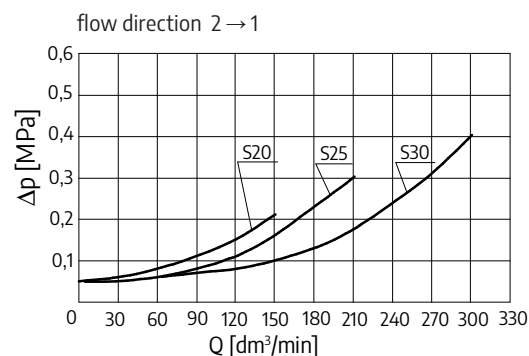
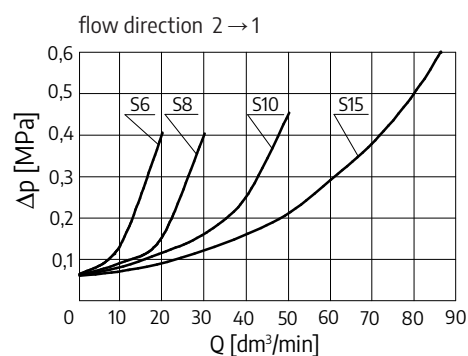
without a spring



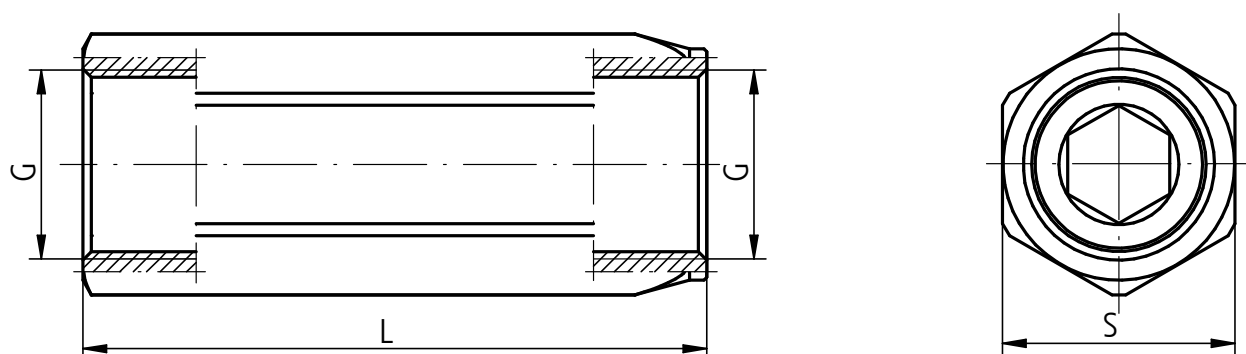
with a spring

### PERFORMANCE CURVES

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



## OVERALL AND CONNECTION DIMENSIONS



| valve  | G                              | L    | S  | $p_{max}$ [MPa] | $Q_{max}$ [dm <sup>3</sup> /min] | weight [kg] |
|--------|--------------------------------|------|----|-----------------|----------------------------------|-------------|
| S6...  | G <sup>1</sup> / <sub>4</sub>  | 55   | 19 | 40              | 15                               | 0,10        |
| S8...  | G <sup>3</sup> / <sub>8</sub>  | 65   | 24 |                 | 30                               | 0,18        |
| S10... | G <sup>1</sup> / <sub>2</sub>  | 75   | 27 |                 | 50                               | 0,23        |
| S15... | G <sup>3</sup> / <sub>4</sub>  | 86,5 | 35 |                 | 90                               | 0,45        |
| S20... | G1                             | 110  | 41 | 35              | 150                              | 0,73        |
| S25... | G1 <sup>1</sup> / <sub>4</sub> | 123  | 55 |                 | 200                              | 1,5         |
| S30... | G1 <sup>1</sup> / <sub>2</sub> | 138  | 60 |                 | 300                              | 1,85        |

## HOW TO ORDER



### 1 nominal size

|        |    |
|--------|----|
| NS6 =  | 6  |
| NS8 =  | 8  |
| NS10 = | 10 |
| NS15 = | 15 |
| NS20 = | 20 |
| NS25 = | 25 |
| NS30 = | 30 |

### 2 type of hydraulic connection

threaded connection = A

### 3 opening pressure

|                              |     |
|------------------------------|-----|
| 0,0 MPa (without a spring) = | 0.0 |
| 0,1 MPa =                    | 1.0 |
| 0,3 MPa =                    | 3.0 |
| 0,45 MPa =                   | 4.5 |
| 0,6 MPa =                    | 6.0 |

### 4 series number

(20÷29) - connection and installation dimensions unchanged = 2X  
series 22 = 22

### 5 further requirements = \*

(to be agreed upon with the manufacturer)

Other valve sizes (NS) available on a separate order – upon consultation with PONAR Wadowice.

Coding example: S6 A 1.0

## CONTACT

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