

Part number:

**HYDROMA**

HYDRAULICKÉ SYSTÉMY

**HIDROMA  
SYSTEMS**

UKŁADY HYDRAULICZNE

**HYDROMA**

ГИДРАВЛИЧЕСКИЕ СИСТЕМЫ

## Hydraulic accumulator cut-off and protection unit type B20

**NS20****up to 36 MPa****WK  
491 810**

07.2016

### DATA SHEET - OPERATION MANUAL

#### APPLICATION

Hydraulic accumulator protection and cut-off unit is used for connecting hydraulic accumulator to the system while meeting safety requirements.

The unit is complied with the regulations of directive 2006/95/WE for the following voltages:

- 50 – 250 V for AC
- 50 – 250 V for DC



#### DESIGN DESCRIPTION

The unit consists of a housing incorporating the following sub-units:

- ball cut-off valve for connecting and disconnecting the accumulator with the hydraulic system
- manual relief valve for safe unloading of accumulator after cut-off
- safety valve for system protection - the valve can be with CE approval or without

If a unit with CE approval valve is ordered, it is set to required pressure and sealed

- solenoid directional valve for electric control of accumulator unloading (in directional valve version)
- threaded flange for connecting the unit to the accumulator (standard flanges enable connecting an EPE accumulator)

#### TECHNICAL DATA

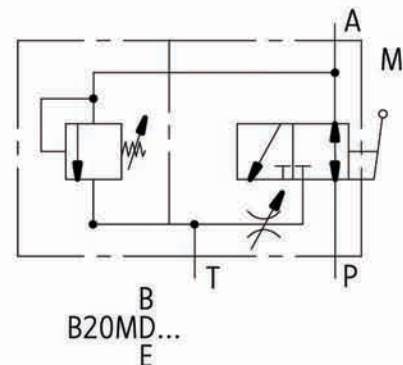
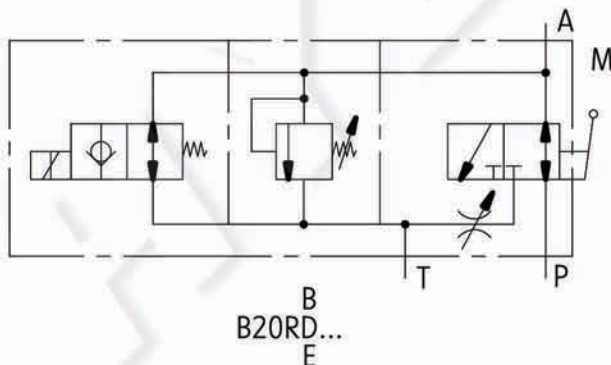
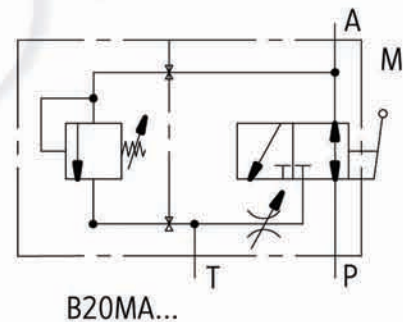
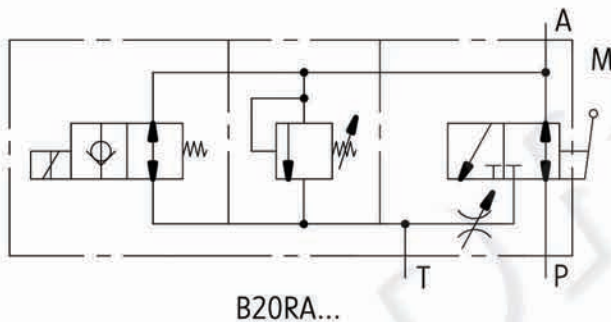
|   |  |                   |
|---|--|-------------------|
| Hydraulic fluid                           | mineral oil  |                   |
| Required fluid cleanliness class          | ISO 4406 class 20/18/15                                |                   |
| Nominal fluid viscosity                   | 37 mm <sup>2</sup> /s at temperature 55 °C             |                   |
| Viscosity range                           | 2,8 up to 380 mm <sup>2</sup> /s                       |                   |
| Fluid temperature range (in a tank)       | recommended  | 40°C up to 55°C   |
|   | max  | -20°C up to +70°C |
| Ambient temperature range (version)       | without solenoid                                       | -20°C up to +70°C |
|   | with solenoid  | -20°C up to +50°C |
| Maximum operating pressure                | 36 MPa   |                   |
| Nominal flow (at v = 6 m/s)               | 150 dm <sup>3</sup> /min                               |                   |
| Housing material                          | steel  |                   |
| Pressure relief valve type                | DBDS10K... acc. to data sheet WK 450 610               |                   |
| Solenoid directional valve type           | 2URED6C1-12/2M1...NZ4... acc. to data sheet WK 493 130 |                   |
| Directional control valve supply voltages | 12V DC; 24V DC or 230V 50Hz                            |                   |
| Nominal solenoid power                    | 26 W   |                   |
| Weight                                    | 6,4 - 6,9 kg   |                   |

## INSTALLATION AND OPERATION REQUIREMENTS

1. Only fully functional and operational unit, properly connected to electrical installation must be used. Connecting or disconnecting the valve to an electrical installation must only be carried out by qualified personnel.
2. Ground connection ( $\perp$ ) must be connected with protective earth wire (PE  $\perp$ ) in supply system according to appropriate instructions.
3. Solenoid plug shall precisely adhere to socket and shall be secured with thread bolt screwed in securely in a place. It is forbidden to operate the valve if the tightness and suitable clamp of cable in the plug gland are not ensured.
4. During the period of operation must be kept fluid viscosity acc. to requirements defined in this Data Sheet - Operation Manual
5. In order to ensure failure free and safe operation the following must be checked:
  - condition of the electrical connection
  - proper working of the valve
  - cleanliness of the hydraulic fluid
6. Due to heating of unit block and solenoid coils to high temp., the unit shall be placed in such way to eliminate the risk of accidental contact with unit during operation or to apply suitable covers acc. to PN - EN ISO 13732 - 1 and PN - EN 4413
7. In order to ensure tightness of unit block, one should take care of dimension of sealing rings, tightening torques and valve operation parameters given in this Data Sheet - Operation Manual
8. A person that operates the unit must be thoroughly familiar with this Data Sheet - Operation Manual.

## DIAGRAMS

Graphic symbol of the protection unit type B20...

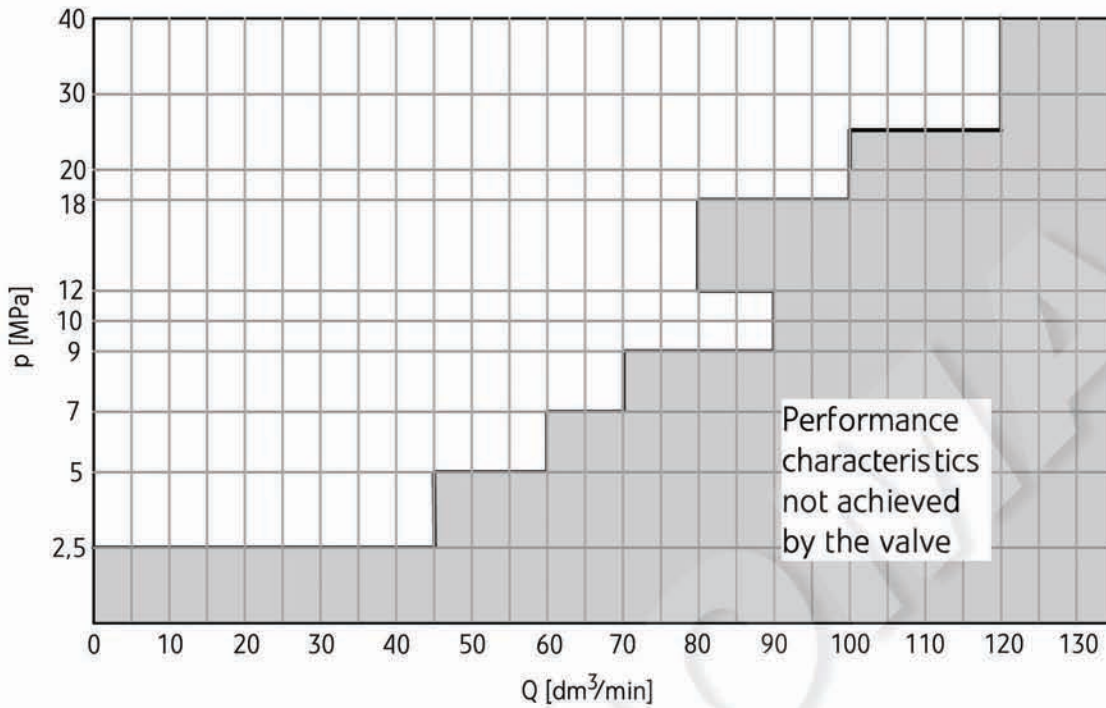


## PERFORMANCE CURVES

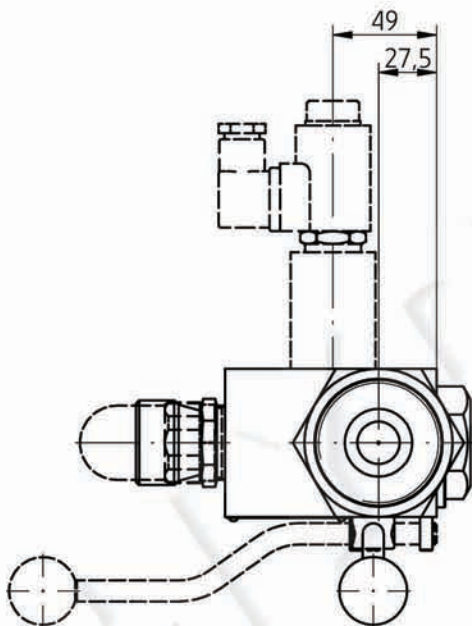
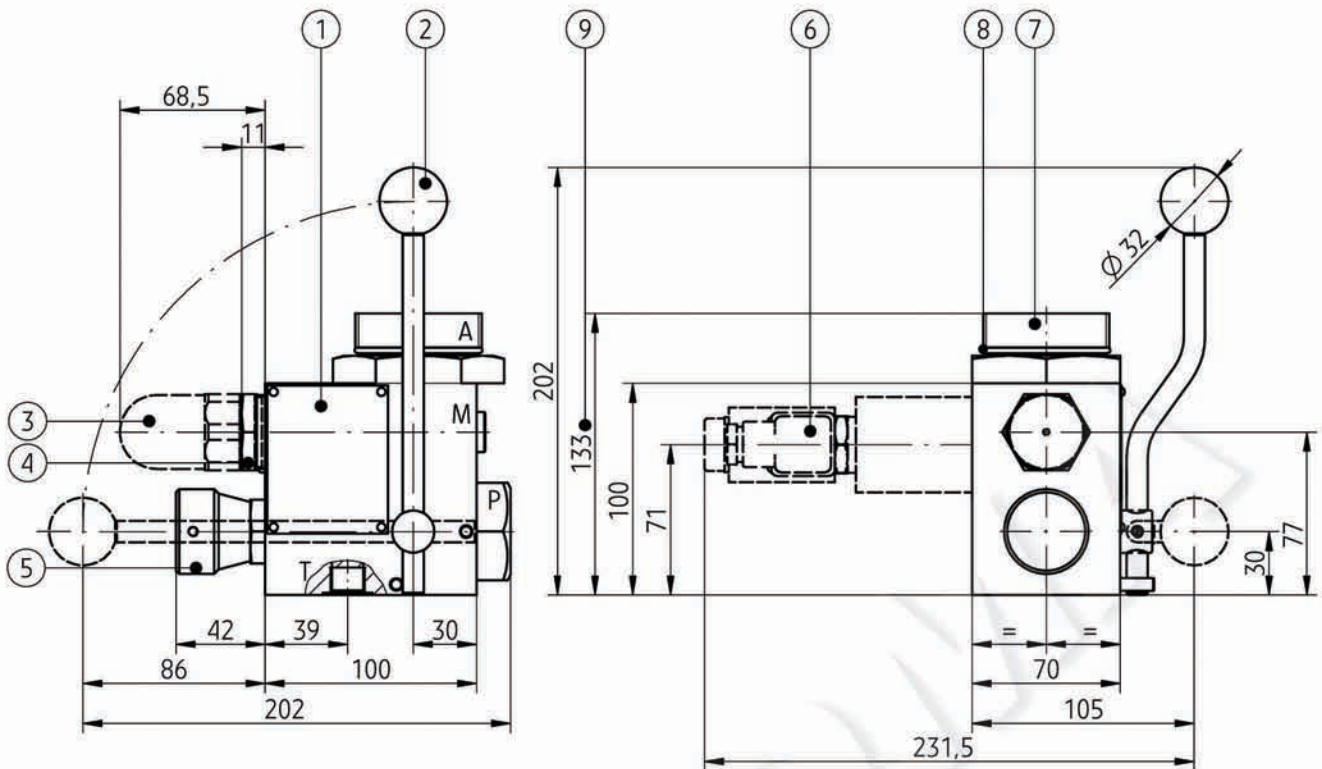
measured at viscosity  $\nu = 41 \text{ mm}^2/\text{s}$  and temperature  $t = 50^\circ\text{C}$

Performance characteristics p-Q for valves NS10

(max discharge capacity of the valve for various pressures of adjustment – operation area of the valve must be within the white area of the diagram)



## OVERALL AND CONNECTION DIMENSIONS



### Connection dimensions

M - pressure guage connection - G1/4

P - pump connection - G3/4

T - tank connection - G3/8

A - accumulator connection: G1 1/4; G2; M50 x 1,5

1 - Unit housing

2 - Accumulator cut-off valve

3 - Safety valve

4 - Plug

5 - Manual relief valve

6 - Pressure shut-off valve

7 - Accumulator connection

8 - Sealing o-ring acc. to table

9 - Overall dimension depending on version - 133 max

|                        |            |            |              |
|------------------------|------------|------------|--------------|
| Accumulator connection | G1 1/4     | G2         | M50 x 1,5    |
| Sealing o-ring         | 17,3 x 2,4 | 22,3 x 2,4 | 37,77 x 2,62 |

## SPOSÓB ZAMAWIANIA

|              |  |  |  |  |  |          |  |          |
|--------------|--|--|--|--|--|----------|--|----------|
| <b>B20</b> / |  |  |  |  |  | <b>R</b> |  | <b>★</b> |
|--------------|--|--|--|--|--|----------|--|----------|

### Relief method

**manual** = **M**  
 manual and electric = **R**

### Control voltage for solenoid

(only version ...R...)  
 12V DC = **G12**  
**24V DC** = **G24**  
**230V AC 50Hz** = **W230R**

### Pressure relief valve type

without valve = **A**  
 with pressure relief valve (no approval) = **B**  
 with pressure relief valve with CE approval = **C**

### Safety valve setting

up to 2,5 MPa = 25  
 up to 5 MPa = 50  
 up to 10 MPa = 100  
 up to 20 MPa = 200  
 up to 31,5 MPa = 315  
 up to 33 MPa = 330  
 up to 36 MPa = 360

For valves with CE approval specify pressure setting  
 (factory setting and sealing)

### Accumulator connections

thread G1 1/4 = **G1**  
**thread G2** = **G**  
 thread M50 x 1,5 = **M**

### Sealing

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

Further requirements in clear text  
 (to be agreed with the manufacturer)

### NOTES:

Accumulator protection unit should be ordered according to the above coding.  
The symbols in bold are the preferred versions available in short delivery time.  
 Coding example: B20/M G24 B 100 G R P