

HYDRAULIC SPECIFICATIONS

Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 18/16/13 (Required filtration grade $\beta_{6...10} \geq 75$) see data sheet 1.0-50/2
Viscosity range	12 mm ² /s...320 mm ² /s
Fluid temperature	-20...+70 °C
Peak pressure	$p_{max} = 400$ bar
Nominal pressure ranges	see type code
Min. volume flow	$Q_{min} = 0,2$ l/min
Max. volume flow	$Q_{max} = 20$ l/min for $p_N = 20/40/100/160/200$ bar $Q_{max} = 15$ l/min for $p_N = 63/315$ bar
Leakage volume flow	see characteristics
Repeatability	≤ 3%
Hysteresis	≤ 5%

ELECTRICAL SPECIFICATIONS

Protection class	IP 67 acc. to EN 60 529 with suitable connector and closed electronic housing
Supply voltage	12 VDC or 24 VDC
Ramps	adjustable

Parameterisation Interface	via Fieldbus or USB USB (Mini B for parameterisation with «PASO» (under the closing screw of the housing cover, factory set parameters)
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Analog interface:

Device receptacle (male)	M23, 12-poles
Mating connector	Plug (female), M23, 12-poles (not incl. in delivery)
Preset value signal	Voltage/Current

Fieldbus interface:

Device receptacle supply (male)	M12, 4-poles
Mating connector	Plug (female), M12, 4-poles (not incl. in delivery)
Device receptacle CANopen (male)	M12, 5-poles (acc. to DRP 303-1)
Mating connector	Plug (female), M12, 5-poles (not incl. in delivery)
Device receptacle Profibus (female)	M12, 5-poles B-coded (acc. to IEC 947-5-2)
Mating connector	Plug (male), M12, 5-poles, B-coded (not incl. in delivery)
Preset value signal	Fieldbus


NOTE!

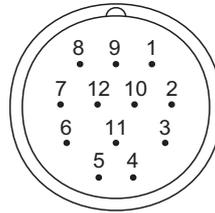
Detailed electrical characteristics and description of «DSV» electronics are shown on data sheet **1.13-75**.

START-UP

Normally there is no need to adjust settings by the customer. The connector has to be wired according to the chapter «Connector wiring diagram».

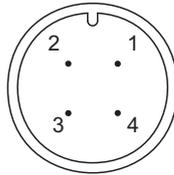
Additional information can be found on our website:
«www.wandfluh.com»

Free-of-charge download of the «PASO»-software and the instruction manual for the «DSV» hydraulic valves as well as the operation instruction **CANopen** eg. **Profibus DP** protocol with device profile DSP-408 for «DSV».

CONNECTOR WIRING DIAGRAM
Analog interface:
Device receptacle (male) X1


- 1 = Supply voltage +
- 2 = Supply voltage 0 VDC
- 3 = Stabilised output voltage
- 4 = Preset value voltage +
- 5 = Preset value voltage -
- 6 = Preset value current +
- 7 = Preset value current -
- 8 = Reserved for extensions
- 9 = Reserved for extensions
- 10 = Enable control (Digital input)
- 11 = Error signal (Digital output)
- 12 = Chassis

Preset value voltage (PIN 4/5) resp. current (PIN 6/7) are selected with set-up and diagnosis software.
Factory setting: Voltage (0...+10 V), (PIN 4/5)

Fieldbus interface:
Device receptacle supply (male) X1

MAIN

- 1 = Supply voltage +
- 2 = Reserved for extensions
- 3 = Supply voltage 0 VDC
- 4 = Chassis

Device receptacle CANopen (male) X3

CAN

- 1 = not connected
- 2 = not connected
- 3 = CAN Gnd
- 4 = CAN High
- 5 = CAN Low

Device receptacle Profibus (female) X3

Profibus

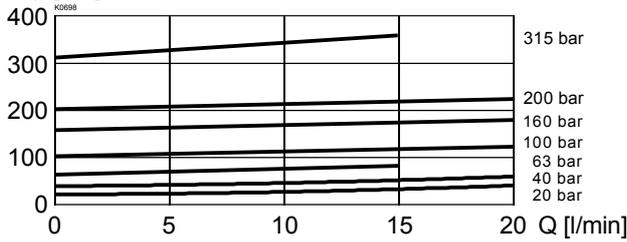
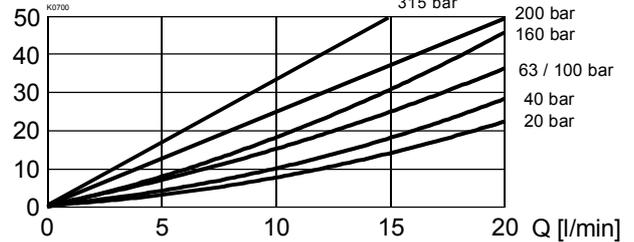
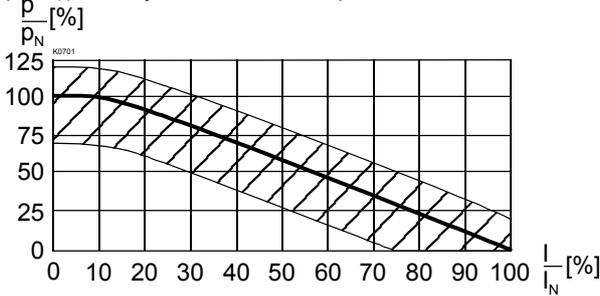
- 1 = VP
- 2 = RxD/TxD - N
- 3 = DGND
- 4 = RxD/TxD - P
- 5 = Shield

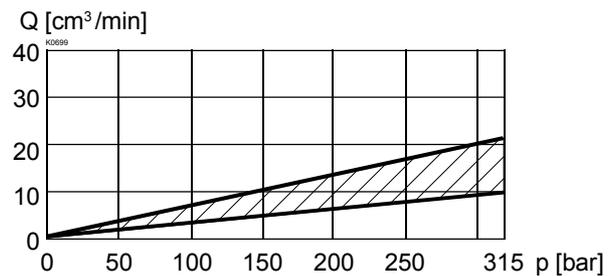
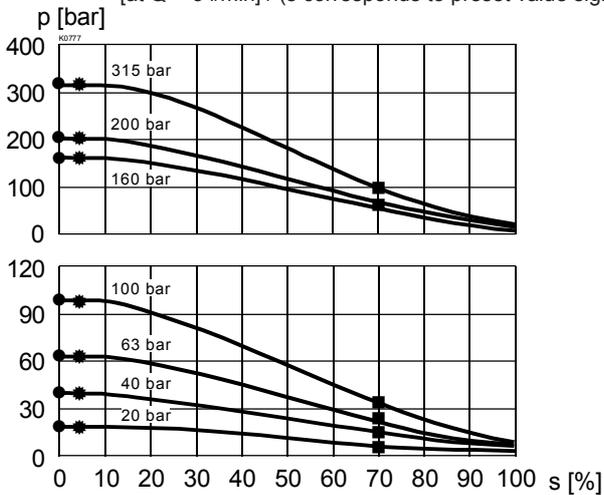
Parameterisation interface (USB, Mini B) X2

Under the closing screw of the housing cover


NOTE!

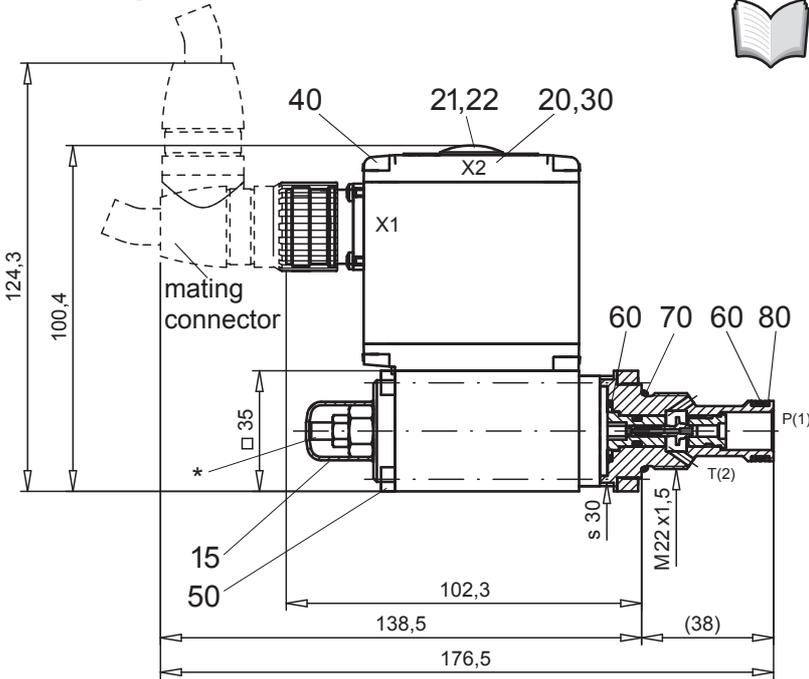
The mating connectors and the cable to adjust the settings are not part of the delivery. To order the cable, look up the article no. in the chapter «Accessories».

CHARACTERISTICS Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$
 $p = f(Q)$ Pressure volume flow characteristics
 p [bar] (Maximum adjustable pressure)

 $p = f(Q)$ Pressure volume flow characteristics
 p [bar] (Minimum adjustable pressure)

 $p = f(I)$ Adjustment of nominal pressure (schematic)

 Adjustable range of nominal pressure, adjusted with set screw under the clamp cap.

 $Q_L = f(p)$ Leakage volume flow characteristics

 $p = f(I)$ Pressure adjustment characteristics
 [at $Q = 5 \text{ l/min}$] / (s corresponds to preset value signal)

Factory settings:

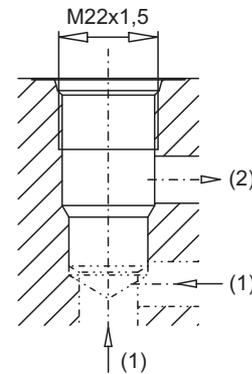
Dither set for optimal hysteresis

- ✱ = Deadband: Solenoid switched off with command preset value signal < 5 %
- = p_N mechanically pre-set at $Q = 5 \text{ l/min}$
- = Limited pressure in port P (1) at 70 % of preset value signal:
 95 bar with pressure range 315 bar
 65 bar with pressure range 200 bar
 56 bar with pressure range 160 bar
 32 bar with pressure range 100 bar
 22 bar with pressure range 63 bar
 14,5 bar with pressure range 40 bar
 6,5 bar with pressure range 20 bar

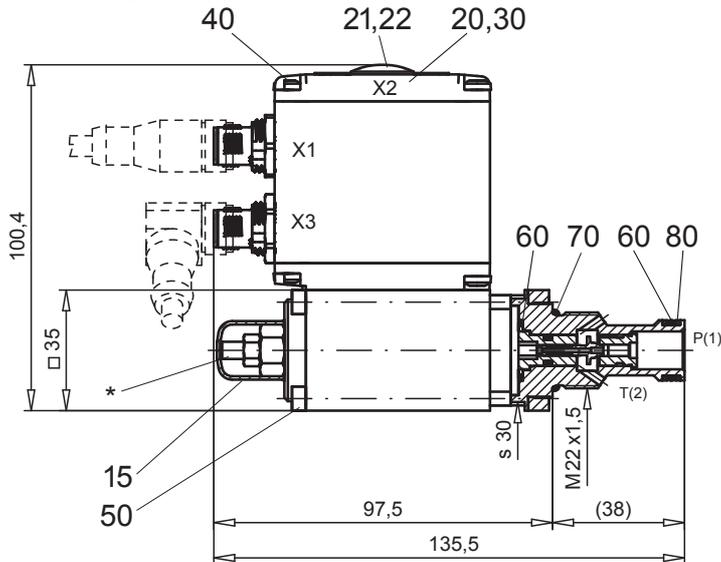
DIMENSIONS / SECTIONAL DRAWINGS
With analog interface

NOTE!

The cable connector is not part of the delivery. Regarding the dimensions see also the connector in the chapter «Accessories».

Cavity drawing according to ISO 7789-22-02-0-98



For detailed cavity drawing and cavity tools see data sheet 2.13-1003

With fieldbus interface

PARTS LIST

Position	Article	Description
15	253.8012	Plug with integrated manual override HB4,5-H44
20	062.0102	Cover
21	223.1317	Dummy plug M16x1,5
22	160.6131	O-ring ID 13,00x1,5
30	072.0021	Gasket 33x2x59,9x2
40	208.0100	Socket head cap screw M4 x 10
50	246.1171	Socket head cap screw M4 x 70 DIN 912
60	160.2140	O-ring ID 14,00x1,78
70	160.2188	O-ring ID 18,77x1,78
80	049.3177	Back-up ring RD 14,6x17,5x1,4

ACCESSORIES

- Cartridge built in: flange and sandwich bodies see register 2.3
 - Set-up software see start-up
 - Cable to adjust the settings through interface USB (from plug type A to Mini B, 3 m) article no. 219.2896
 - Cable connector for analog interface:
 - straight, soldering contact article no. 219.2330
 - 90°, soldering contact article no. 219.2331
- Recommended cable size:**
- Outer diameter 9...10,5 mm
 - Single wire max. 1 mm²
 - Recommended wire size:
 - 0...25 m = 0,75 mm² (AWG18)
 - 25...50 m = 1 mm² (AWG17)

Technical explanation see data sheet 1.0-100E