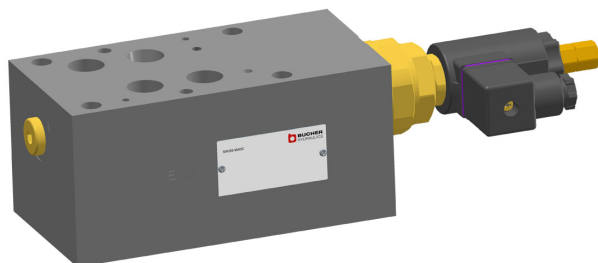


# Pressure-Reducing Valve, ISO Size 07

$Q_{\max} = 250 \text{ l/min}$ ,  $p_{\max} = 350 \text{ bar}$

Sandwich design, electrically operated, seated pilot stage

Series SWDRVPA-5...



- With cartridge valve, type WDRVPA-5...-16...
- Interface to ISO 4401-07-07
- Two-pressure valve, HI/LO
- Inline function in the P line
- Internal pilot-oil drain to port Y
- 4 pressure ranges available
- With pressure-gauge port
- Excellent stability over the whole pressure and flow range
- External cartridge parts are zinc plated and chromited (CrVI-free)
- Sandwich body is zinc-phosphated
- The slip-on coil can be rotated, and it can be replaced without opening the hydraulic envelope
- Various plug-connector systems and voltages are available

## 1 Description

Series SWDRVPA-5... sandwich valves are high performance, electrically operated pressure-reducing valves with a size 07 interface to ISO 4401-07-07. The main components of the valves are a sandwich body (stack-mounting body) and the screw-in cartridge (type WDRVPA-5...-16...). The pressure-reducing cartridge has a seated pilot stage, and the main stage is designed on the sliding-spool principle. Four pressure ranges are available for this inline function in P with internal pilot-oil drain to line Y. Using the external pressure adjustment, the higher reduced pressure  $p_1$  and the lower reduced pressure  $p_2$  can be varied smoothly and independently of one another without opening the hydraulic envelope, and the setting will be maintained at a constant level in the secondary side of the

P line as long as the primary pressure does not fall below that level. Pilot oil is drained to port Y and the secondary pressure setting is therefore unaffected by the tank line pressure or by any fluctuations in it. A pressure-gauge port M (G1/4") is also provided in the secondary circuit. These sandwich valves are used to reduce the system pressure in mobile and industrial applications. The sandwich body is zinc-phosphated. All external parts of the cartridge are zinc-nickel plated to DIN 50 979 and are thus suitable for use in the harshest operating environments. The slip-on coils can be replaced without opening the hydraulic envelope and can be positioned at any angle through 360°. The sandwich body is sealed at its manifold side (the connections side) by means of O-rings fitted in counterbores.

## 2 Technical data

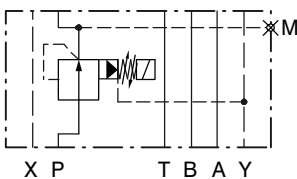
General characteristics	Description, value, unit
Designation	pressure-reducing valve
Design	sandwich design, electrically operated, seated pilot stage
Mounting method	4 x $\varnothing$ 10.5 holes for M10 cap screws 2 x $\varnothing$ 7 holes for M6 cap screws
Size	size 07 interface to ISO 4401-07-07 / DIN 24 340 A16
Weight	8.75 kg
Mounting attitude	unrestricted
Ambient temperature range	-25 °C ... +50 °C

Hydraulic characteristics	Description, value, unit
Maximum operating pressure - in port P - in port Y	350 bar 20 bar
Flow range	1...250 l/min
Nominal pressure ranges	...100 bar, ...160 bar, ...250 bar, ...350 bar
Flow direction	see symbol
Hydraulic fluid	HL and HLP mineral oil to DIN 51 524; for other fluids, please contact BUCHER
Hydraulic fluid temperature range	-25 °C ... +80 °C
Viscosity range	10...500 mm <sup>2</sup> /s (cSt), recommended 15...250 mm <sup>2</sup> /s (cSt)
Minimum fluid cleanliness Cleanliness class to ISO 4406 : 1999	class 20/18/15

Electrical characteristics	Description, value, unit
Supply voltage	12 V DC, 24 V DC 115 V AC, 230 V AC (50 ... 60 Hz)
Supply voltage tolerance	± 10 %
Nominal power consumption	V DC = 27 W V AC = 25 W
Relative duty cycle	100 %
Protection class to ISO 20 653 / EN 60 529	IP 65 / IP 67 / IP 69K, see "Ordering code" (with appropriate mating connector and proper fitting and sealing)
Electrical connection	3-pin square plug to ISO 4400 / DIN 43 650 (standard) for other connectors, see "Ordering code"

### 3 Symbol

Function in P (inline model), with pilot-oil drain to Y



SWDRVPA-5...-P-16...

### 4 Performance graphs



#### IMPORTANT!

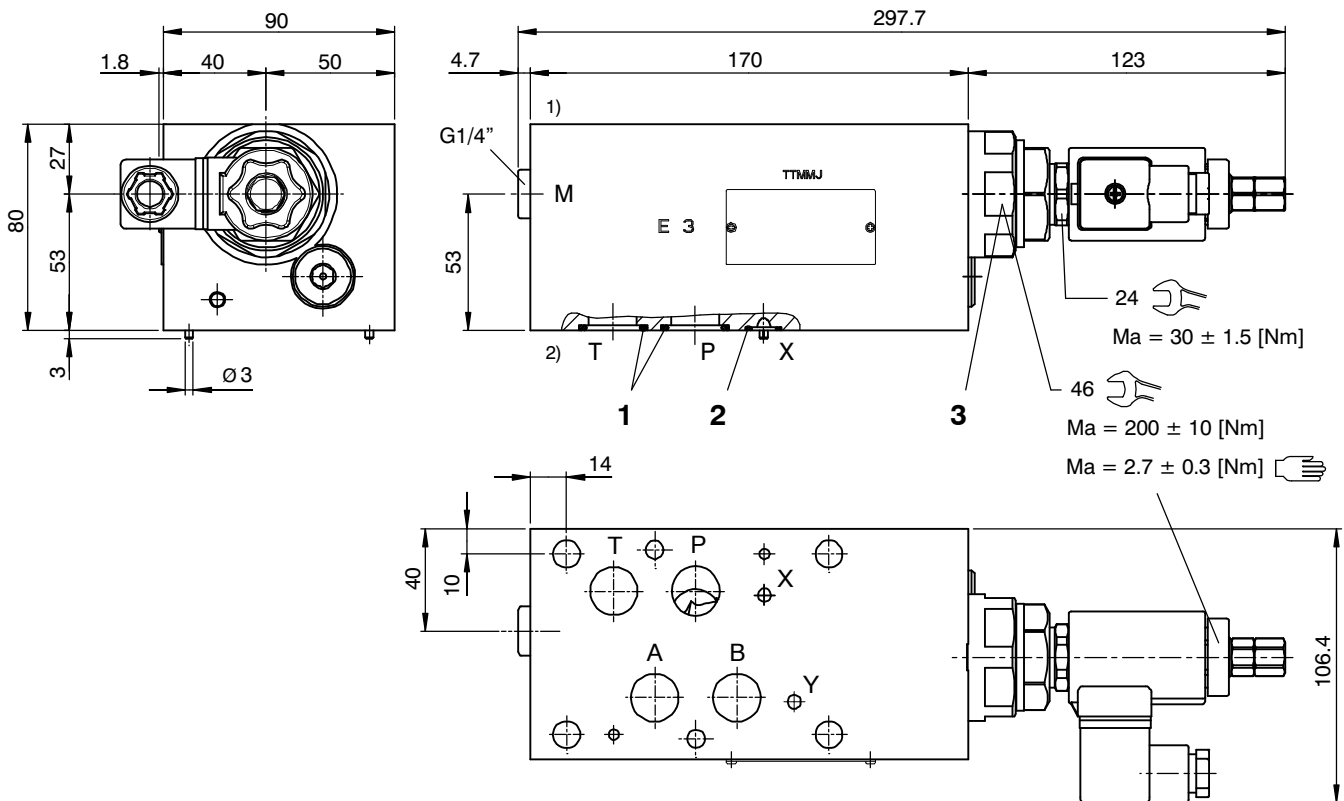
Detailed performance data and other hydraulic characteristics can be found in the data sheet for the pressure-reducing cartridge that is fitted (data sheet ref. no. 400-P-295401-E).



#### ATTENTION!

The performance figures in the data sheet for the cartridge valve refer just to the cartridge itself. Take into account the additional pressure drop in the body into which it is fitted.

## 5 Dimensions & sectional view



- 1) Valve side  
2) Connections side (manifold side)

## 6 Installation information



### IMPORTANT!

When installing the valve, make sure that the mating face (the manifold interface) aligns with the valve interface. Do not confuse the sandwich valve's manifold side and directional-valve side. Information on setting the pressures can be found in the data sheet for the pressure-reducing cartridge that is fitted (ref. no. 400-P-295401-E).



### ATTENTION!

Only qualified personnel with mechanical skills may carry out any maintenance work. Generally, the only work that should ever be undertaken is to check, and possibly replace, the seals. When changing seals, oil or grease the new seals thoroughly before fitting them.

### NBR seal kit no. DS-380-N <sup>3)</sup>

Item	Qty.	Description
1	4	O-ring no. 118 Ø 21.89 x 2.62 N90
2	2	O-ring no. 013 Ø 10,82 x 1,78 N90
3	1	NBR seal kit no. DS-357-N for pressure-reducing cartridge WDRVPA-5...



### IMPORTANT!

- <sup>3)</sup> Seal kit with FKM (Viton) seals, no. DS-380-V

## 7 Ordering code

Ex. 

S	WDRVP	A	-	5	35	-	P	-	16	-	24 VDC	-
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S	= sandwich design	
WDRVP	= electrically operated, pressure reducing, two stage	
A ... Q	= standard model - see relevant data sheets	
Z ... R	= special features - please consult BUCHER	
5	= pressure function 5 (internal pilot-oil drain to Y)	
35	= pressure range ...350 bar	
25	= pressure range ...250 bar	
16	= pressure range ...160 bar	
10	= pressure range ...100 bar	
P	= function in P	
16	= ISO size 07 interface	
(blank)	= NBR (Nitrile) seals (standard)	
V	= FKM (Viton) seals (special seals - please contact BUCHER)	
...	= voltage e.g. 24 (24 V)	
(blank)	= ISO 4400 / DIN 43 650 mating plug (standard, IP 65)	
M100	= without mating DIN plug	
C	= Kostal plug connection (IP 65)	} mating plug not supplied
JT	= Junior Timer radial plug connection (with protection diode, IP65)	
IT	= Junior Timer axial plug connection (with protection diode, IP65)	
D	= Deutsch plug connection DT04-2P (IP 67/69K)	
DT	= Deutsch plug connection DT04-2P (with protection diode, IP 67/69K)	
S	= AMP Superseal 1.5 (IP 67) / Metri-Pack 150 (IP 65)	
F	= flying leads (500 mm)	

## 8 Related data sheets

Reference	(Old no.)	Description
400-P-070101	(i-51)	Size 07 interface to ISO 4401-07-07
400-P-120110	(W-2.141)	Coils for screw-in cartridge valves
400-P-295401	(D-6.56)	El. operated pressure-reducing cartridge, size 16, series WDRVPA-5...
400-P-287101	(D-6.10)	Pilot pressure-relief cartridge, size 1, series WUVA-1LO...

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