Stacking Pressure-Reducing Valve, ISO Size 05

Q_{max} = 140 l/min (37 gpm), p_{max} = 350 bar (5000 psi)
Sandwich design, seated pilot stage, electrically operated
Series SWDRVPD…

- With cartridge valve, type WDRVPC-5
- Interface to ISO 4401-05-04
- 2-pressure switching HI / LO
- Inline function in the P, A or B line
- Internal pilot-oil drain to port T
- 3 pressure ranges available
- With pressure-gauge port in function P
- Excellent stability over the whole pressure and flow range
- External cartridge parts are with zinc-nickel plating
- 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 SWDRVPD-5… sandwich valves are high performance, electrically operated pressure-reducing valves with a size 05 interface to ISO 4401-05-04. The main components of the valves are a sandwich body (stack-mounting body) and the screw-in cartridge (type WDRVPC-5…). They have a seated pilot stage and a spool-type main stage. These sandwich valves are used in mobile and industrial applications. In addition, a pressure gauge connection M (G1/4") available on the secondary side in function P. All external parts of the cartridge are zinc-nickel plated according to DIN EN ISO 19 598 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	Stacking-pressure-reducing valve
Design	sandwich design, seated pilot stage, electrically operated
Mounting method	4 x ∅ 6.5 holes for M6 cap screws
Size	size 07 interface to ISO 4401-05-04 / DIN 24 340 A10
Weight	8.75 kg (19.29 lb)
Mounting attitude	unrestricted
Ambient temperature range	-25 °C … +50 °C (-13 °F … +122 °F)
Surface corrosion protection	without

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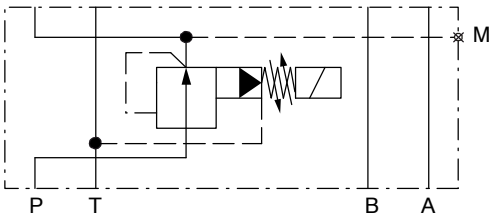
hydraulics

Hydraulic characteristics		Description, value, unit	
Maximum operating pressure	- in port P, A, B - in port T	350 bar 250 bar	(5000 psi) (3600 psi)
Flow range		…140 l/min	(37 gpm)
Nominal pressure ranges		… 350 bar …250 bar …100 bar	(…5000 psi) (…3600 psi) (…1400 psi)
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	(-13 °F … +176 °F)
Viscosity range		10…500 mm^2/s (cSt), recommended 15...250 mm^2/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	DIN EN 175301-803, 3-pin 2 P+E (standard) for other connectors, see “Ordering code”

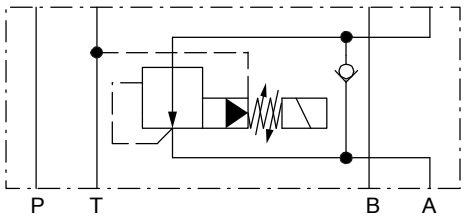
3 Symbol

Function in P



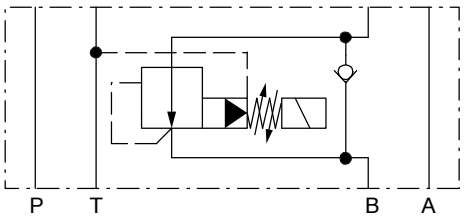
SWDRVPD-…-P-E-10…

Function in A



SWDRVPD-…-AZR-C-10…

Function in B



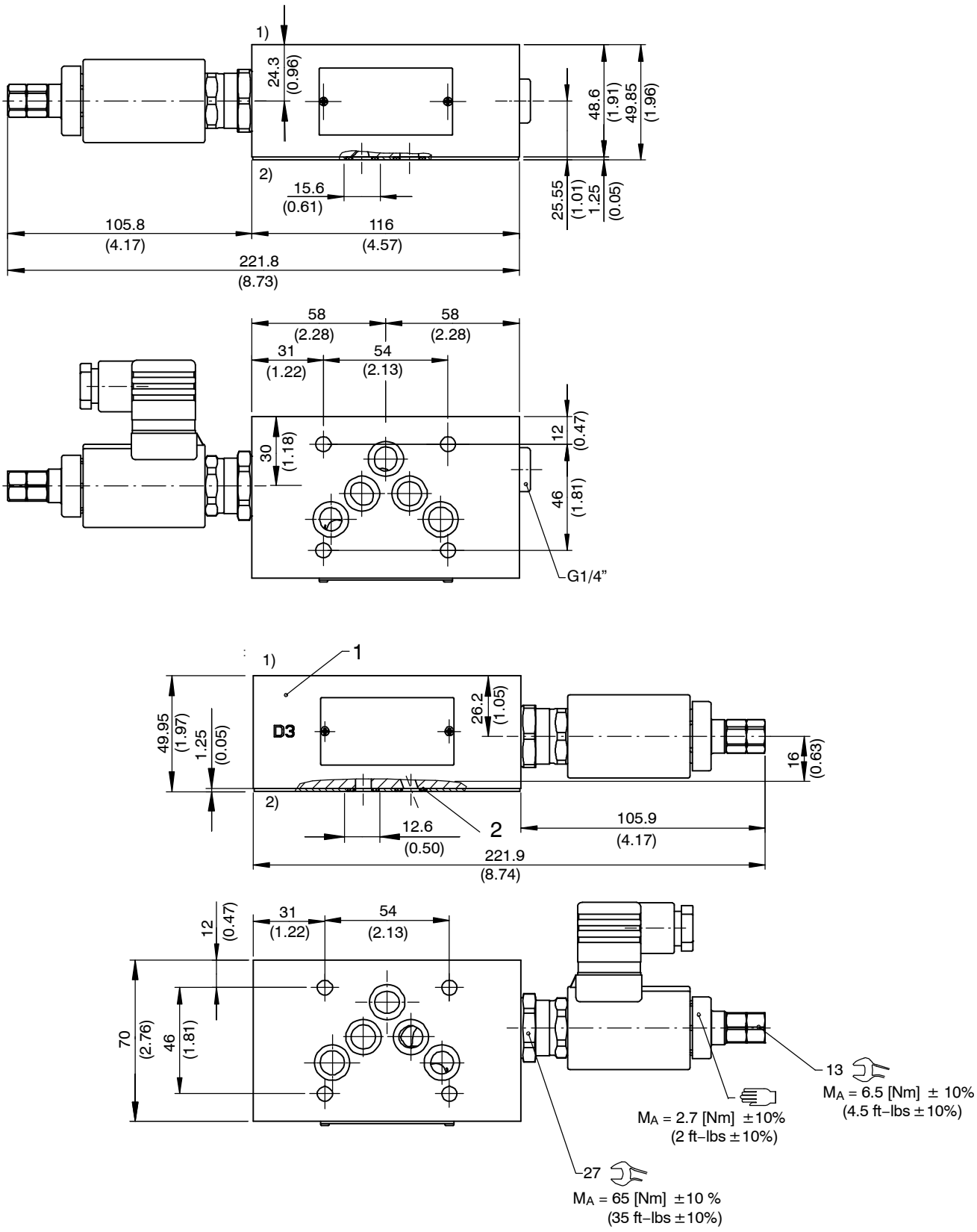
SWDRVPD-…-BZR-D-10…

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-EN).

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-EN).

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-493-N [3)]

Item	Qty.	Description
1	5	O-ring no. 014 ∅ 12,42 x 1,78 N90
2	1	NBR seal kit no. DS-261-N for pressure-reducing cartridge WDRVPC-5…

IMPORTANT!
3) Seal kit with FKM (Viton) seals, no. DS-493-V

7 Ordering code

Ex. S | WDRVP | D - 5 | D | O - 35 - AZR-C - 10 | _ | 24 | D | _

S	=	sandwich design
WDRVP	=	electr. operated, pressure-reducing valve
D ... Q	=	standard model - see relevant data sheets
Z ... R	=	special features - please consult BUCHER
5	=	pressure function 5 (internal pilot-oil drain to T)
D	=	cavity type DD
O	=	de-energized open
35	=	pressure range … 350 bar (…5000 psi)
25	=	pressure range … 250 bar (…3600 psi)
10	=	pressure range … 100 bar (…1400 psi)
P-E	=	function in P stacking body-type E
AZR-C	=	function in A in inlet with bypass check valve, plate type C
BZR-D	=	function in B in inlet with bypass check valve, splate type D
10	=	ISO size 05 interface
(blank)	=	NBR (Nitrile) seals (**standard**)
V	=	FKM (Viton) seals (special seals - please contact BUCHER)
...	=	voltage e.g. **24** (24 V)
D	=	current DC
A	=	current AC
(blank)	=	DIN EN 175301-803 connection with mating plug (**standard, IP 65**)
M100	=	DIN EN 175301-803 connection without mating plug
C	=	Kostal plug connection (IP 65)
JT	=	Junior Timer radial plug connection (with protection diode, IP65)
IT	=	Junior Timer axial plug connection (with protection diode, IP65)
D	=	Deutsch plug connection 45° DT04-2P (IP67/69K)
DT	=	Deutsch plug connection 45° DT04-2P (with protection diode, IP67/69K)
S	=	AMP Superseal 1.5 (IP67) / Metri-Pack 150 (IP65) plug connection
F	=	flying leads (500 mm)

mating plug not supplied

8 Related data sheets

Reference	Description
400-P-050101	Size 05 interface to ISO 4401-05-04
400-P-120110	Coils for screw-in cartridge valves
400-P-290501	El. operated pressure-reducing cartridge, size 10, series WDRVPC-5…

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Classification: 430.305.305.330.330.300