

# Stacking Pressure-Relief Valve, ISO Size 05

$Q_{max} = 140 \text{ l/min (36 gpm)}$ ,  $p_{max} = 350 \text{ bar (5000 psi)}$   
 Sandwich design, electrically operated, seated pilot stage  
 Series SWUVPOD-1..., SWUVPLD-1...



- With cartridge valve, type WUVP\_C-1...-10...
- Interface to ISO 4401-05-04
- Bypass circuit ON/OFF
- 2-pressure switching HI/LO
- Bypass function in the PT, AT, BT or ABT connection
- Internal pilot-oil drain to port T
- 4 pressure ranges available
- Excellent stability over the whole pressure and flow range
- External cartridge parts are 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 SWUVP\_D-1... sandwich valves are high performance, electrically operated pressure-relief 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 WUVP\_C-1...). They have a seated pilot stage and a spool-type main stage. These sandwich valves are used in mobile and industrial applica-

tions. 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

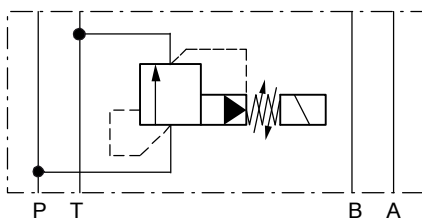
General characteristics		Description, value, unit	
Designation		Stacking-pressure-relief valve	
Design		sandwich design, electrically operated, seated pilot stage	
Mounting method		4 x Ø 5,4 holes for M5 cap screws	
Size		size 05 interface to ISO 4401-05-04 / DIN 24 340 A10	
Weight	function PT	3,50 kg	(7.72 lb)
	function AT, BT	3.30 kg	(7.28 lb)
	function ABT	3.80 kg	(8.38 lb)
Mounting attitude		unrestricted	
Ambient temperature range		-25 °C ... +50 °C (-13 °F ... +122 °F)	
Surface corrosion protection		without	
Hydraulic characteristics		Description, value, unit	
Maximum operating pressure	- in ports P, A, B	350 bar	(5000 psi)
	- in port T	250 bar	(3600 psi)
Maximum flow rate		140 l/min (36 gpm)	
Nominal pressure ranges		...100 bar, ...160 bar, ...250 bar, ...350 bar (...1400 psi, ...2300 psi, ...3600 psi, ...5000 psi)	
Flow direction		see symbol	

Hydraulic characteristics	Description, value, unit
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 <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	DIN EN 175301-803, 3-pin 2 P+E (standard) for other connectors, see "Ordering code"

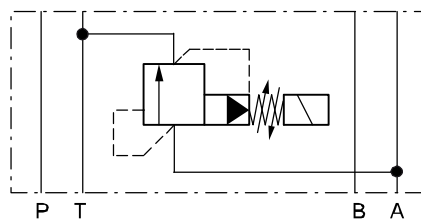
### 3 Symbol

Function in PT, AT, BT or ABT (bypass model)

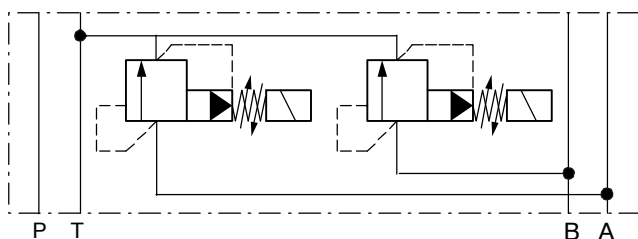
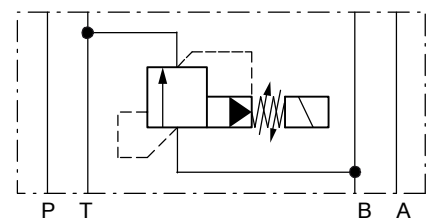
SWUVP\_D-1...-PT-10...



SWUVP\_D-1...-AT-10...



SWUVP\_D-1...-BT-10...



SWUVP\_D-1...-ABT--J-10...

### 4 Performance graphs



#### IMPORTANT!

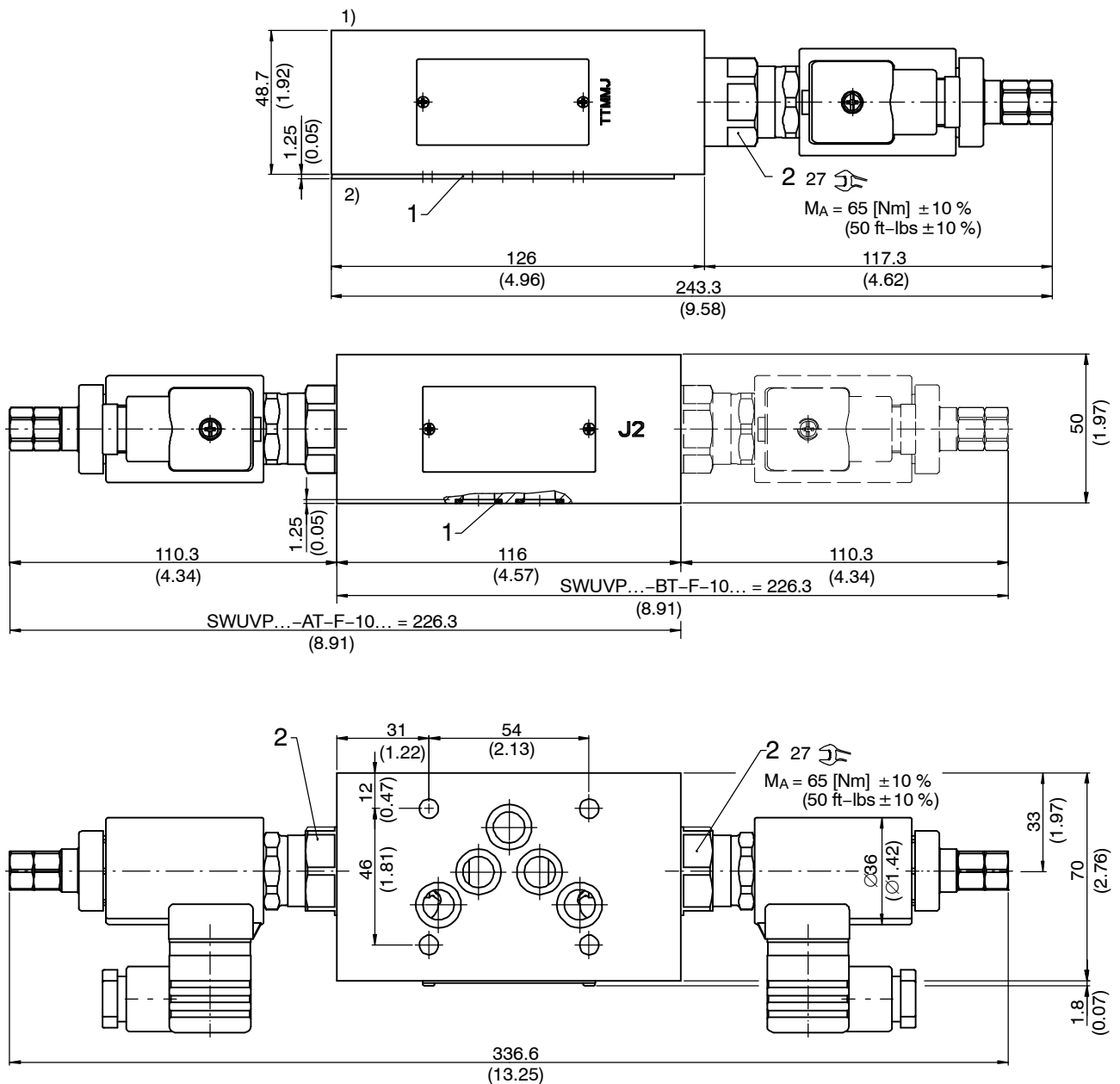
Detailed performance data and other hydraulic characteristics can be found in the data sheet for the pressure-relief cartridge that is fitted (data sheet ref. no. 400-P-290101-E).



#### 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-relief cartridge that is fitted (ref. no. 400-P-290101-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-066-N <sup>3)</sup>

Item	Qty.	Description
1	5	O-ring no. 014 Ø 12,42 x 1,78 N90
2	1	NBR seal kit no. DS-261-N for pressure-relief cartridge WUVP_C-10...



### IMPORTANT!

<sup>3)</sup> Seal kit with FMK (Viton) seals, no. DS-066-V

## 7 Ordering code

Ex. **S** **WUVP** **\_** **D** - **1** **C** **O** - **35** - **PT-FB** - **10** **\_** **24** **\_** **\_**

- S = sandwich design
- WUVP = electr. pressure relief, two stage
- O = for unloading duty (ON/OFF)
- L = for two-pressure duty (HI/LO)
- D ... Q = standard model - see relevant data sheets
- Z ... R = special features - please consult BUCHER
- 1 = pressure function 1 (internal pilot-oil drain to T)
- C = cavity type DC
- O = normally open
- 35 = pressure range ...350 bar
- 25 = pressure range ...250 bar
- 16 = pressure range ...160 bar
- 10 = pressure range ...100 bar
- PT-FB = function from P to T, body-type FB
- AT-F = function from A to T, body-type F
- BT-FA = function from B to T, body-type FA
- ABT-J = function from A and B to T, body-type J
- 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-290101	Electrically operated pressure-relief cartridge, size 10, series WUVP_C-1...

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Classification: 430.305.300.305.330.300