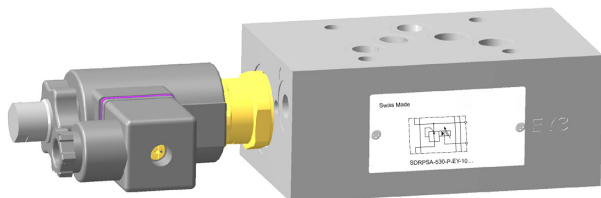


Proportional Pressure-Reducing Valve, ISO Size 05

$Q_{\max} = 120 \text{ l/min}$, $p_{\max} = 315 \text{ bar}$
 Sandwich design, seated pilot stage
 Series SDRPSA-5...



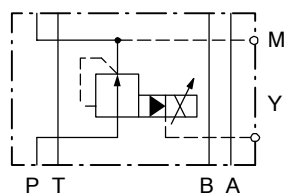
- With cartridge valve, type DRPSA-5D...-10...
- Interface to ISO 4401-05-04
- 5 pressure ranges available
- With pressure-gauge port
- External pilot-oil drain
- Very stable operation
- External cartridge parts are with zinc-nickel plating
- The slip-on coil can be rotated, and it can be replaced without opening the hydraulic envelope
- Various plug-connector systems and voltages are available

1 Description

Series SDRPSA-5... sandwich valves are high performance, proportional pressure-reducing valves with a size 05 interface to 4401-05-04. The main components of the valves are a sandwich body (stack-mounting body) and the screw-in, proportional pressure-reducing cartridge, type DRPSA-5D...-10. These sandwich valves are used to reduce the system pressure in mobile and industrial applications. 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 a seal plate that is supplied with the valve.

2 Symbol



SDRPSA-5 ... -P-EY-10...

3 Technical data

| General characteristics | Description, value, unit |
|------------------------------|--|
| Designation | proportional pressure-reducing valve |
| Design | sandwich design, seated pilot, spool-type main stage |
| Mounting method | 4 x Ø 6.5 holes for M6 cap screws |
| Size | size 05 interface to ISO 4401-05-04 / DIN 24 340 A10 |
| Weight | 3.25 kg |
| Mounting attitude | unrestricted |
| Ambient temperature range | -25 °C ... +50 °C |
| Surface corrosion protection | without |

| Hydraulic characteristics | Description, value, unit |
|---|--|
| Maximum operating pressure | 315 bar |
| Flow range | ...120 l/min |
| Nominal pressure ranges | ...60 bar, ... 100 bar, ...160 bar, ...250 bar, ...315 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 ... +70 °C |
| Viscosity range | 15...380 mm ² /s (cSt), recommended 20...130 mm ² /s (cSt) |
| Minimum fluid cleanliness Cleanliness class to ISO 4406 : 1999 | class 18/16/13 |

| Electrical characteristics | Description, value, unit |
|---|---|
| Supply voltage | 12 V DC, 24 V DC |
| Supply voltage tolerance | ± 10 % |
| Control current | 12 V = 0...1400 mA, 24 V = 0...750 mA |
| Power consumption at max. control current | max. 19 W |
| Coil resistance R - cold value at 20 °C - max. warm value | 12 V = 5.8 Ω / 24 V = 21 Ω 12 V = 8.6 Ω / 24 V = 32 Ω |
| Recommended PWM frequency (dither) | 200 Hz |
| Hysteresis with PWM | 2...4 % I _N |
| Reversal error with PWM | 1...3 % I _N |
| Sensitivity with PWM | ≤ 1 % I _N |
| Reproducibility with PWM | < 2 % p _N |
| 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" |

4 Performance graphs



IMPORTANT!

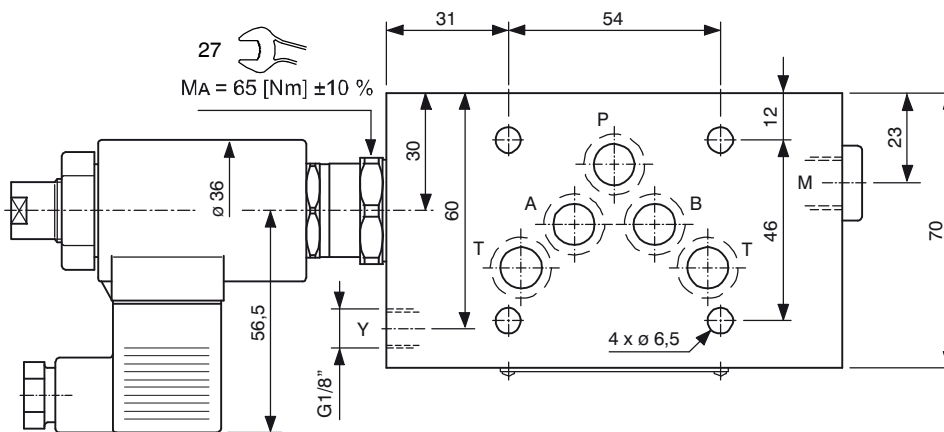
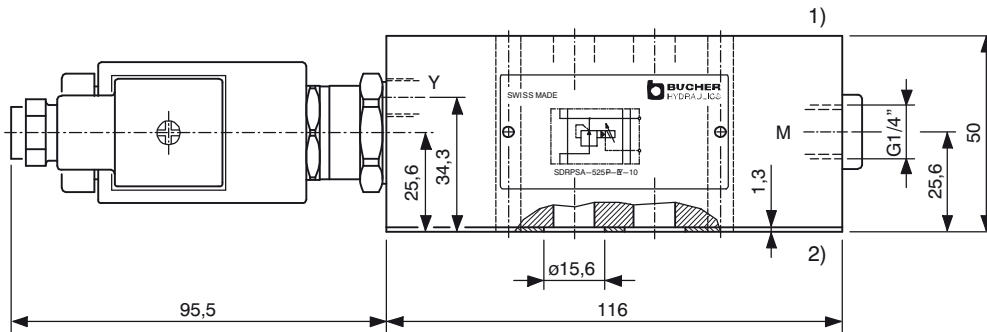
Detailed performance data and other hydraulic characteristics can be found in the data sheet for the proportional pressure-reducing cartridge that is fitted (data sheet ref. no. 400-P-581501-E).



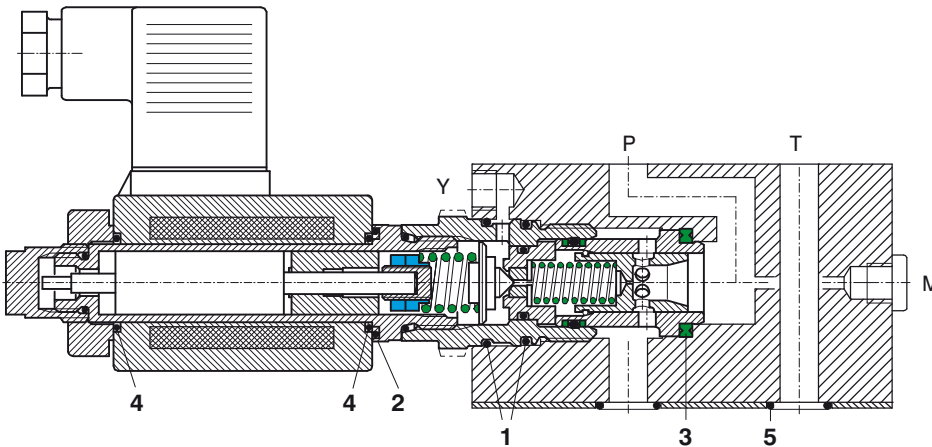
ATTENTION!

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)
 Y Pilot-oil drain (to tank without back-pressure)
 M Pressure-gauge port (with G 1/4" threaded plug, ED VSTI)



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. No adjustments are necessary, since the cartridges are set in the factory.



ATTENTION!

To achieve the proportional pressure-reducing cartridge's maximum performance rating, fit the solenoid coil as shown (with the plug pins at the left). Use the specified tightening torque when fitting the cartridge.



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.

Seal kit no. DS-339-N

| Item | Qty. | Description |
|------|------|---|
| 1 | 2 | O-ring no. 020 \varnothing 21.95 x 1.78 N90 |
| 2 | 1 | O-ring \varnothing 18.00 x 2.00 Viton |
| 3 | 1 | Seal ring \varnothing 22.10 / 16.50 x 2,50 |
| 4 | 2 | O-ring \varnothing 16.00 x 2.00 Viton |
| 5 | 5 | O-ring no. 014 \varnothing 12.42 x 1.78 N90 |

7 Ordering code

Ex.

| | | | | | | | | | | | | | | | | | | |
|---|-----|---|---|---|---|----|---|---|---|----|---|----|---|--|----|---|---|--|
| S | DRP | S | A | - | 5 | 30 | - | P | - | EY | - | 10 | - | | 24 | D | - | |
|---|-----|---|---|---|---|----|---|---|---|----|---|----|---|--|----|---|---|--|

| | |
|---------|---|
| S | = sandwich valve |
| DRP | = pressure-reducing cartridge, two stage |
| S | = standard solenoid (proportional) |
| A ... Q | = standard model - see relevant data sheets |
| Z ... R | = special features - please consult BUCHER |
| 5 | = pressure function 5 (external pilot drain to Y) |
| 30 | = pressure range ...315 bar |
| 25 | = pressure range ...250 bar |
| 16 | = pressure range ...160 bar |
| 10 | = pressure range ...100 bar |
| 06 | = pressure range ... 60 bar |
| P | = function in P |
| EY | = sandwich body type |
| 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 | (Old no.) | Description |
|--------------|--------------|---|
| 400-P-050101 | (i-41) | Size 05 interface to ISO 4401-05-04 |
| 400-P-120110 | (W-2.141) | Coils for screw-in cartridge valves |
| 400-P-581501 | (P-51.4 A_2) | Proportional pressure-reducing valve, size 10, series DRPSA-5D...-10... |
| 400-P-810901 | (G-45) | Seal plate, type DB-10 |

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Classification: 430.305.305.330.315.310