

Characteristics

The D1VW with explosion proof solenoids is based on the standard D1VW series. The specific solenoid design allows the usage in hazardous environments.

The explosion proof class is

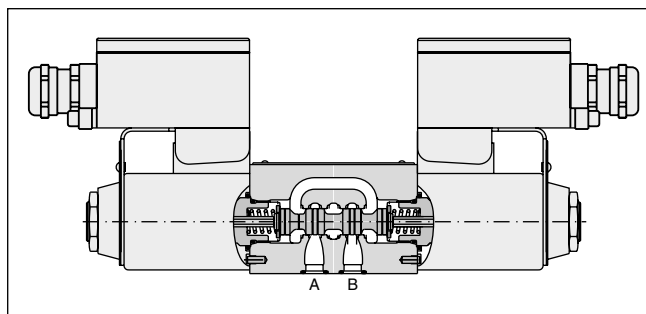
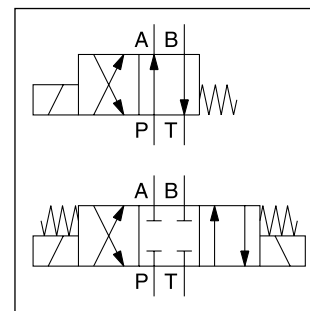
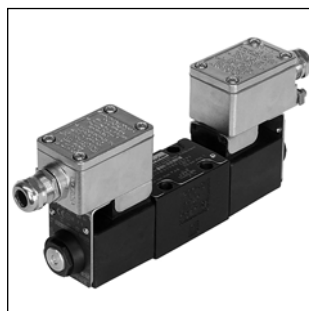
CE Ex II 2 G
Ex e mb IIC T4 Gb

for use in zone 1 and 2 (according to ATEX). Additionally the solenoids are IECEx compliant.

All explosion proof solenoids are DC design. The valves for AC operate with integrated rectifier.

For further explosion proof valves please refer to catalogue MSG11-3343/UK.

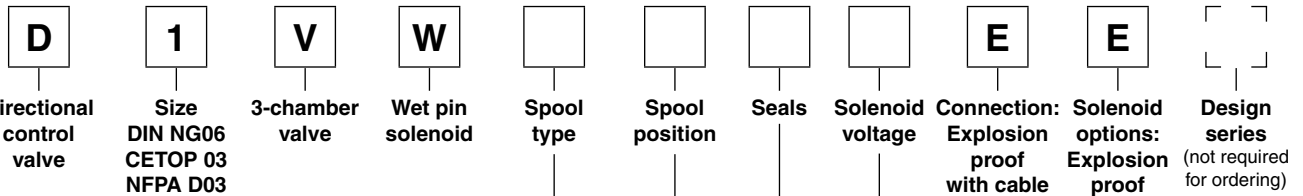
Download of the PDF file at www.parker.com/ISDE, see "Support".



Technical data

| General | | | | |
|----------------------------|---|---------------------|-----------|-----------|
| Design | Directional spool valve | | | |
| Actuation | Solenoid | | | |
| Size | DIN NG06 / CETOP 03 / NFPA D03 | | | |
| Mounting interface | DIN 24340 A6 / ISO 4401 / CETOP RP 121-H / NFPA D03 | | | |
| Mounting position | unrestricted, preferably horizontal | | | |
| Ambient temperature | [°C] -20 ... +60 | | | |
| MTTF _D | [years] 150 | | | |
| Weight | [kg] 1.8 (1 solenoid), 2.7 (2 solenoids) | | | |
| Hydraulic | | | | |
| Max. operating pressure | [bar] P, A B: 350; T: 210 | | | |
| Fluid | Hydraulic oil according to DIN 51524 | | | |
| Fluid temperature | [°C] -20 ... +60 | | | |
| Viscosity permitted | [cSt] / [mm ² /s] 2.8 ... 400 | | | |
| Viscosity recommended | [cSt] / [mm ² /s] 30 ... 80 | | | |
| Filtration | ISO 4406 (1999); 18/16/13 | | | |
| Flow max. | [l/min] 60 (see shift limits) | | | |
| Leakage at 50 bar | [ml/min] Up to 10 per flow path, depending on spool | | | |
| Static / Dynamic | | | | |
| Step response at 95 % | [ms] Energized: 32 (DC), 40 (AC) De-energized: 40 (DC), 75 (AC) | | | |
| Electrical characteristics | | | | |
| Duty ratio | 100 % ED; CAUTION: coil temperature up to 135 °C possible | | | |
| Max. switching frequency | [1/h] 15000 (DC), 7200 (AC) | | | |
| Protection class | CE Ex II 2 G, Ex e mb IIC T4 Gb, IP66 (plugged and mounted correctly) | | | |
| | Code | J | N | P |
| Supply voltage / ripple | [V] | 24 V = | 230/50 Hz | 110/50 Hz |
| Tolerance supply voltage | [%] | ±10 | ±10 | ±10 |
| Current consumption | [A] | 1.0 | 0.12 | 0.25 |
| Power consumption | [W] | 24 | 24 | 24 |
| Solenoid connection | Box with M20x1.5 entry for cable glands. Solenoid identification as per ISO 9461. | | | |
| Wiring min. | [mm ²] | 3 x 1.5 recommended | | |
| Wiring length max. | [m] | 50 recommended | | |

With electrical connections the protective conductor (PE \perp) must be connected according to the relevant regulations.



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| 3 position spools | |
|-------------------|------------|
| Code | Spool type |
| | a 0 b |
| 001 | |
| 002 | |
| 003 | |
| 004 | |
| 005 | |
| 006 | |
| 007 | |
| 008 ¹⁾ | |
| 009 ¹⁾ | |
| 010 | |
| 011 | |
| 014 | |
| 015 | |
| 016 | |
| 021 | |
| 022 | |
| 081 | |
| 082 | |
| 102 | |

| 2 position spools | |
|-------------------|------------|
| Code | Spool type |
| | a b |
| 020 | |
| 026 | |
| 030 | |
| 101 | |

| Code | Voltage |
|------|-------------|
| J | 24 V= |
| P | 110 V 50 Hz |
| N | 230 V 50 Hz |

| Code | Seals |
|------|-------|
| N | NBR |
| V | FPM |

| 3 position spools | | |
|-------------------|----------------|--|
| Code | Spool position | |
| C | | 3 positions. Spring offset in position "0". Operated in position "a" or "b". |
| | Standard | Spool type 008, 009 |
| E | | 2 positions. Spring offset in position "0". Operated in position "a". |
| | | Operated in position "b". |
| K | | 2 positions. Spring offset in position "0". Operated in position "b". |
| | | Operated in position "a". |

| 2 position spools | | |
|-------------------|----------------|---|
| Code | Spool position | |
| B | | 2 positions. Spring offset in position "b". Operated in position "a". |
| D | | 2 positions. Operated in position "a" or "b". No center or offset position. |
| H | | 2 positions. Spring offset in position "a". Operated in position "b". |

¹⁾ Consider specific spool position.

Further spool types, styles, and combinations on request.

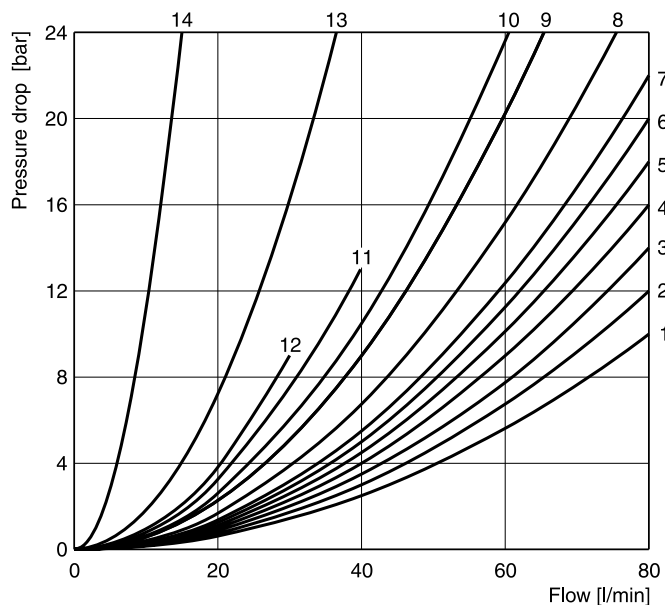
The flow curve diagram shows the flow versus pressure drop curves for all spool types. The relevant curve number for each spool type, operating position and flow direction is given in the table below.

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| Spool | Position "b" | | | Position "a" | | | Position "0" | | | | |
|-------|--------------|-----|-----|--------------|-----|-----|--------------|-----|-----|-----|-----|
| | P-A | B-T | P-B | P-B | A-T | P-A | P-A | P-B | A-T | B-T | P-T |
| 001 | 2 | 2 | | 2 | 2 | | | | | | |
| 002 | 1 | 4 | | 1 | 4 | | 1 | 1 | 5 | 5 | 2 |
| 003 | 3 | 4 | | 3 | 6 | | | | 7 | | |
| 004 | 2 | 3 | | 2 | 3 | | | | 7 | 7 | |
| 005 | 2 | 2 | | 2 | 2 | | 12 | | | | |
| 006 | 1 | 4 | | 1 | 4 | | 7 | 7 | | | |
| 007 | 3 | 2 | | 2 | 2 | | | 3 | | 2 | 7 |
| 010 | 3 | | | 3 | | | | | | | |
| 011 | 2 | 2 | | 2 | 2 | | | | 14 | 14 | |
| 014 | 3 | 2 | | 2 | 2 | | 3 | | 2 | | 7 |
| 015 | 3 | 6 | | 3 | 4 | | | | | 7 | |
| 016 | 2 | 2 | | 2 | 2 | | | 12 | | | |
| 020B | 4 | 4 | | 2 | 3 | | | | | | |
| 026B | 4 | | | 4 | | | | | | | |
| 030B | 2 | 3 | | 1 | 2 | | | | | | |
| 081 | 13 | 13 | | 13 | 13 | | | | | | |
| 082 | 13 | 13 | | 13 | 13 | | | | 1) | 1) | |
| 101B | 11 | 10 | | 10 | 9 | | | | | | |
| 102 | 1 | 4 | | 1 | 4 | | 5 | 5 | 8 | 8 | 6 |
| | P-B | A-T | | P-A | B-T | | P-A | P-B | A-T | B-T | P-T |
| 008 | 4 | 5 | | 4 | 5 | | | | | | 9 |
| 009 | 5 | 5 | | 6 | 7 | | | | | | 7 |

| Spool | Position "b" | | | Position "a" | | |
|-------|--------------|-----|-----|--------------|-----|-----|
| | P-A | P-B | A-B | P-B | A-T | |
| 021 | 2 | 4 | | 4 | 2 | |
| | P-A | B-T | | P-A | P-B | A-B |
| 022 | 6 | 2 | | 5 | 2 | |

Flow curve diagram



All characteristic curves measured with HLP46 at 50 °C.

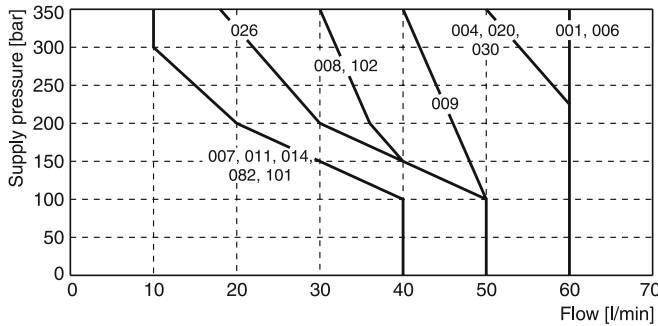
1) Only for pressure compensation, no high flow possible.

The diagram below specifies the shift limits for valves with AC and DC solenoids. The specifications apply to a viscosity of 40 mm²/s and balanced flow conditions. The

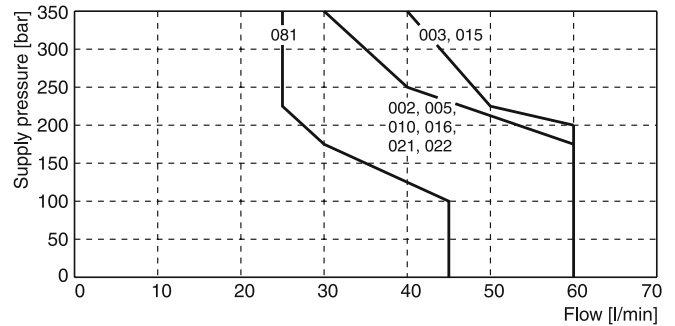
shift limits can be considerably lower at unbalanced flow conditions. To avoid flow rates beyond the shift limits, a plug-in orifice can be inserted in the P-port.

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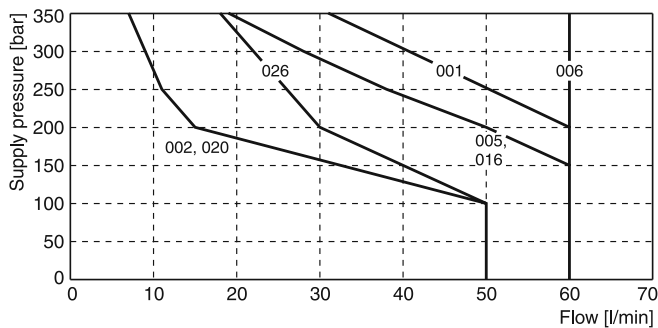
Shift limit diagram with DC solenoid



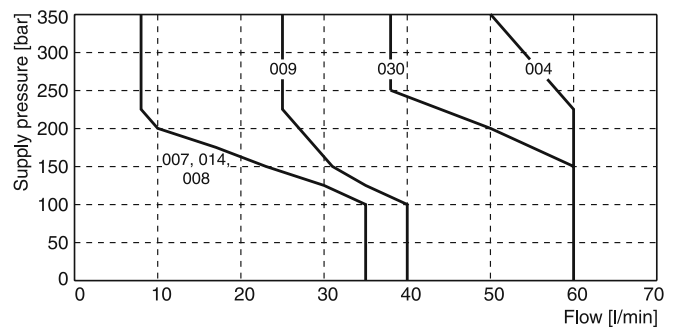
Measured with HLP46 at 50 °C, 90 % U_{nom} and warm solenoids



Shift limit diagram with AC solenoid



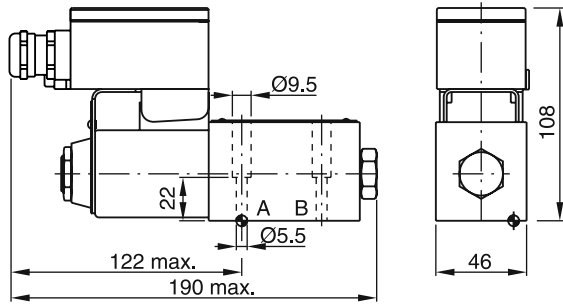
Measured with HLP46 at 50 °C, 95 % U_{nom} and warm solenoids



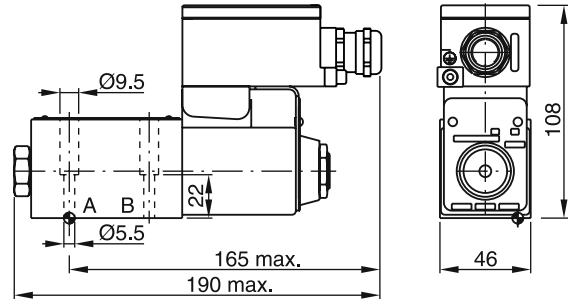
Dimensions

Dimensions

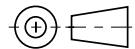
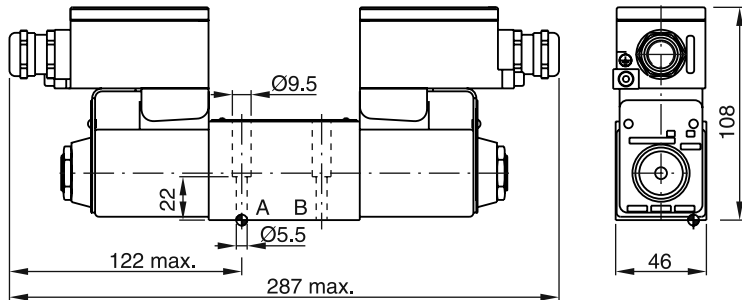
B, E -style





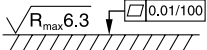


H, K -style



C, D -style



| Surface finish |  Kit |  4x M5x30 ISO 4762-12.9 |  7.6 Nm ±15 % |  Kit NBR |
|--|---|--|---|--|
|  $\sqrt{R_{max}6.3}$ $\square 0.01/100$ | BK375 | | | NBR: SK-D1VW-N-91 FPM: SK-D1VW-V-91 |