

DIAPHRAGM SENSING PRESSURE REDUCING VALVES P20DS

DESCRIPTION

The ADCA P20DS is a series of direct acting, spring loaded, diaphragm sensing balanced plug pressure reducing valves. These regulators are particularly suitable for general purpose applications where low flow and high temperatures are involved and have been especially designed for use with steam.

MAIN FEATURES

- Compact design.
- Robust stainless steel diaphragm.
- Non-rising adjustment knob.
- Balanced valve plug.
- Completely machined from solid bar stock material.

- OPTIONS:**
- Leakage line connection.
 - Gauge connection on body.
 - Different soft valves for liquids and gases.
 - Top cap (adjustment screw with cover).
 - Degreased for oxygen application.
 - Connection for external sensing line.
 - Panel mounting.

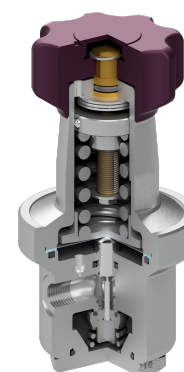
- USE:** Steam, compressed air and other gases compatible with the construction.

- AVAILABLE MODELS:** P20DS – stainless steel, diaphragm sensing.

- SIZES:** 1/4" to 1/2"; DN 15.

- CONNECTIONS:** Female threaded ISO 7 Rp, ISO 228 or NPT.
Flanged EN 1092-1 PN 40.
Flanged ASME B16.5 Class 150 or 300.

- INSTALLATION:** Horizontal or vertical installation.
See IMI – Installation and maintenance instructions.

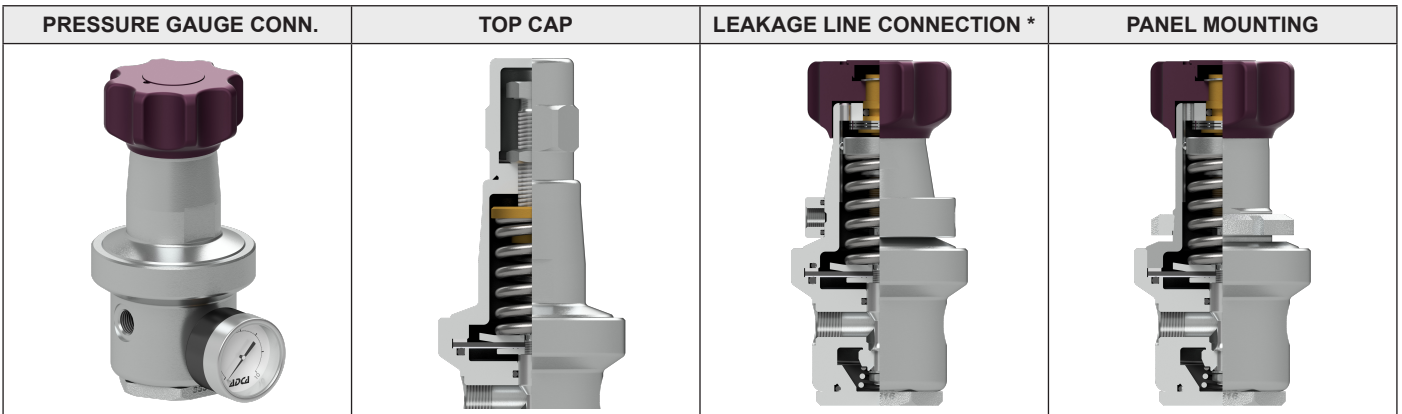


| CE MARKING – GROUP 2 (PED – European Directive) | |
|---|----------|
| PN 25 | Category |
| 1/4" to 1/2" – DN 15 | SEP |

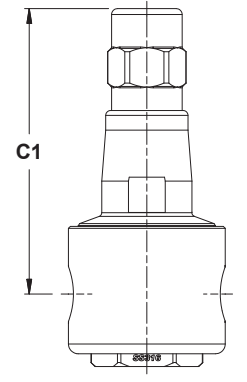
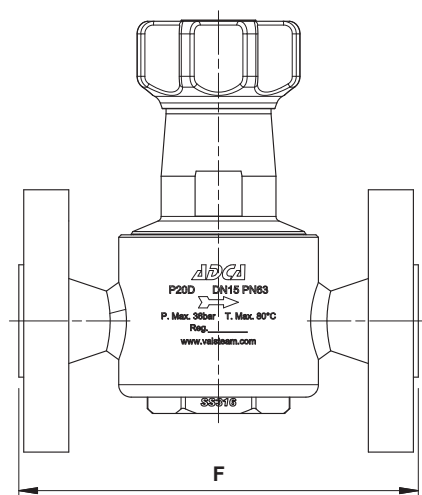
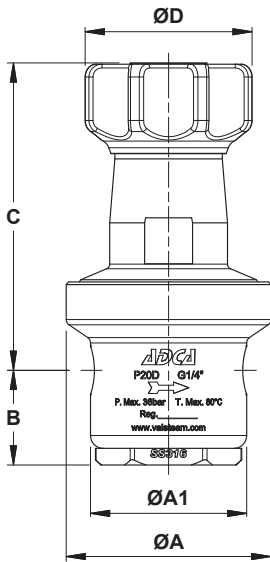
| FLOW RATE COEFFICIENTS (m ³ /h) | | | |
|--|------|------|--------------|
| SIZE | 1/4" | 3/8" | 1/2" – DN 15 |
| Kvs | 1,2 | 1,8 | 1,8 |

| LIMITING CONDITIONS | | | |
|---------------------------------|---------|---------|--------|
| Valve model | P20DS | | |
| Body design conditions | Cl. 150 | Cl. 300 | PN 40 |
| Max. upstream pressure | 14 bar | 14 bar | 14 bar |
| Max. downstream pressure | 8 bar | | |
| Min. downstream pressure | 0,2 bar | | |
| Max. design temperature | 200 °C | | |
| Max. recommended reducing ratio | 10:1 | | |

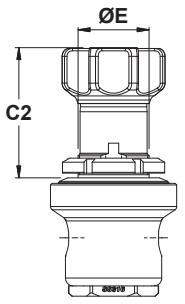
OPTIONS



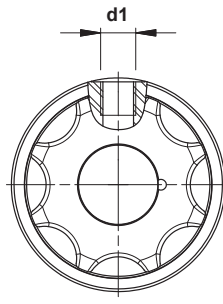
* Not recommended with medium temperatures higher than 80 °C.



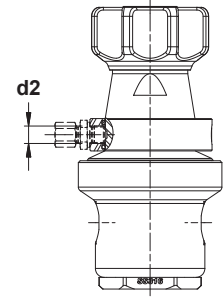
Optional top cap



Optional panel mounting version



Optional pressure gauge connection



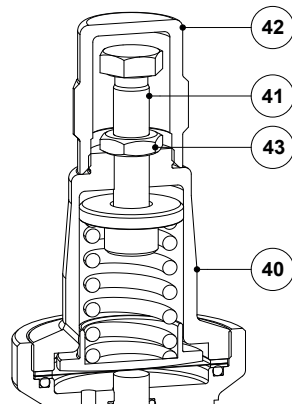
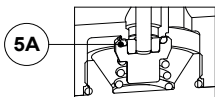
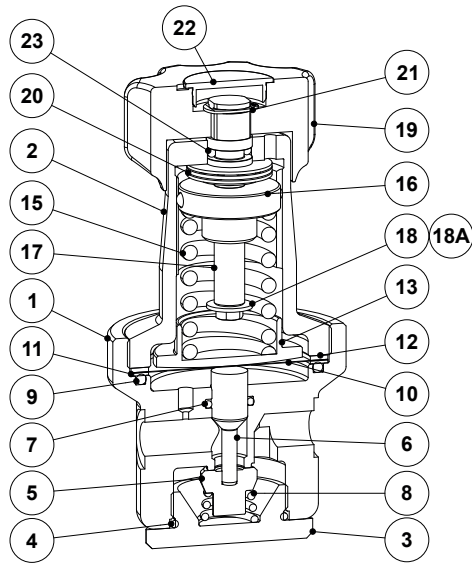
Optional leakage line connection

DIMENSIONS (mm)

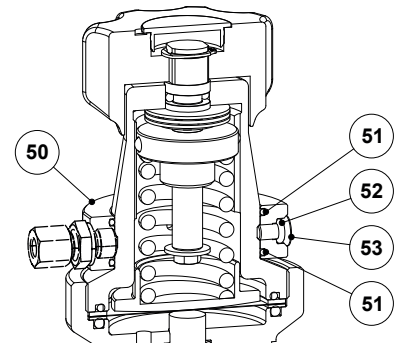
| SIZE | THREADED | | | | | | | | | | | PN 40 | | CLASS 150 | | CLASS 300 | |
|--------------|----------|-----|----|-----|-----|----|----|----|------|------|-----------|-------|-----------|-----------|-----------|-----------|-----------|
| | ØA | ØA1 | B | C | C1 | C2 | ØD | ØE | d1 | d2 | WGT. (kg) | F * | WGT. (kg) | F * | WGT. (kg) | F * | WGT. (kg) |
| 1/4" | 80 | 61 | 37 | 120 | 146 | 83 | 69 | 45 | 1/4" | 1/8" | 2,3 | - | - | - | - | - | - |
| 3/8" | 80 | 61 | 37 | 120 | 146 | 83 | 69 | 45 | 1/4" | 1/8" | 2,3 | - | - | - | - | - | - |
| 1/2" – DN 15 | 80 | 80 | 37 | 120 | 146 | 83 | 69 | 45 | 1/4" | 1/8" | 2,9 | 150 | 4,4 | 160 | 3,9 | 170 | 4,5 |

* Different face to face dimensions on request.

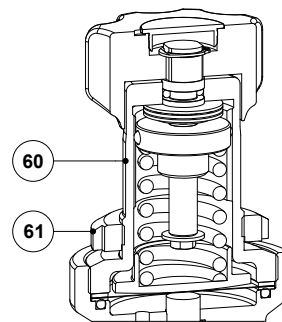
Remarks: As standard, in versions manufactured with EN 1092-1 flanges or ISO threads, connections d1 and d2 are female threaded ISO 228. In versions with ASME B16.5 flanges or NPT threads, these connections are female threaded NPT.



Optional top cap



Optional leakage line connection



Optional panel mounting version

MATERIALS

| POS. N° | DESIGNATION | MATERIAL |
|---------|---------------------|---------------------------|
| 1 | Valve body | AISI 316 / 1.4401 |
| 2 | Cover | AISI 316 / 1.4401 |
| 3 | Bottom cover | A351 CF8M / 1.4408 |
| 5 | * Valve head | AISI 316 / 1.4401 |
| 5A | * O-ring | ** NBR; EPDM; PTFE; FPM |
| 6 | * Piston | AISI 316 / 1.4401 |
| 7 | * Piston o-ring | ** FPM |
| 8 | Valve spring | AISI 302 / 1.4300 |
| 10 | * Diaphragm | AISI 301 / 1.4410 |
| 11 | * O-ring | ** FPM |
| 12 | Gasket | Aluminium |
| 13 | Spring plate | AISI 304 / 1.4301 |
| 15 | * Adjustment spring | AISI 302 / 1.4300 |
| 16 | Spring guide | AISI 316 / 1.4401 |
| 17 | Adjustment screw | Brass |
| 18 | Washer | Stainless steel A2 |
| 18A | Bolt | Stainless steel A2-70 |
| 19 | Adjustment knob | Painted aluminium |
| 20 | Bearing | Corrosion resistant steel |
| 21 | Shaft ring | Stainless steel |

MATERIALS

| POS. N° | DESIGNATION | MATERIAL |
|---------|--------------------------|-----------------------|
| 22 | Cover nut | Plastic |
| 23 | * O-ring | NBR |
| 40 | Cover | AISI 316L / 1.4404 |
| 41 | Adjustment screw | Stainless steel A2-70 |
| 42 | Top cap | AISI 316L / 1.4404 |
| 43 | Locknut | Stainless steel A2 |
| 50 | Leakage line ring | AISI 316L / 1.4404 |
| 51 | O-ring | ** NBR |
| 52 | O-ring | ** FPM |
| 53 | Bolt | AISI 304 / 1.4301 |
| 54 | O-ring | ** FPM |
| 60 | Cover for panel mounting | AISI 316L / 1.4404 |
| 61 | Panel mounting ring | A351 CF8 / 1.4308 |

* Available spare parts. ** Others on request.

Remark: All valves have a serial number. In case of non-standard valves this number must be supplied if spare parts are ordered.

| ORDERING CODES P20DS | | | | | | | | | | | |
|--|-------|---|---|---|---|---|-----|---|---|----|---|
| Valve model | P20DS | . | 1 | S | N | S | 4 | . | B | 08 | |
| P20DS – diaphragm sensing pressure reducing valve | P20DS | | | | | | | | | | |
| Regulating range | | | | | | | | | | | |
| N°1 – 0,2 to 1,5 bar | | | 1 | | | | | | | | |
| N°2 – 0,3 to 3 bar | | | 2 | | | | | | | | |
| N°3 – 0,8 to 8 bar | | | 3 | | | | | | | | |
| Application | | | | | | | | | | | |
| Steam | | | | S | | | | | | | |
| Gases | | | | G | | | | | | | |
| Oxygen (degreased) | | | | O | | | | | | | |
| Seal material a) | | | | | | | | | | | |
| NBR | | | | | N | | | | | | |
| EPDM | | | | | E | | | | | | |
| PTFE | | | | | T | | | | | | |
| FPM / Viton | | | | | V | | | | | | |
| Diaphragm | | | | | | | | | | | |
| Stainless steel | | | | | | S | | | | | |
| Gauge port options | | | | | | | | | | | |
| Without gauge ports | | | | | | | (1) | | | | |
| Gauge port on the left side (relative to the flow direction) | | | | | | | 4 | | | | |
| Gauge port on the right side (relative to the flow direction) | | | | | | | 3 | | | | |
| Gauge ports on both sides | | | | | | | 2 | | | | |
| Pipe connection | | | | | | | | | | | |
| Female threaded ISO 7 Rp (non-standard) | | | | | | | | | A | | |
| Female threaded ISO 228 | | | | | | | | | B | | |
| Female threaded NPT ASME B1.20.1 | | | | | | | | | C | | |
| Flanged EN 1092-1 PN 40 | | | | | | | | | N | | |
| Flanged ASME B16.5 Class 150 | | | | | | | | | U | | |
| Flanged ASME B16.5 Class 300 | | | | | | | | | V | | |
| Size | | | | | | | | | | | |
| 1/4" | | | | | | | | | | 08 | |
| 3/8" | | | | | | | | | | 10 | |
| 1/2" | | | | | | | | | | 15 | |
| Special valves / Extras | | | | | | | | | | | |
| Full description or additional codes have to be added in case of non-standard combination. | | | | | | | | | | | E |

(1) Omitted if a standard valve is requested.

a) Valve head only. Remaining valve seals on request. Valve limited to the materials maximum operating temperature. Contact manufacturer for more details.

Remark: Options not mentioned in the ordering codes table must be requested separately, e.g.: P20DS.1SNS4.B08 with top cap and panel mounting.