

## PISTON SENSING PRESSURE REDUCING VALVE PRV31SS 1" to 2" – DN 25 to DN 50

### DESCRIPTION

The ADCA PRV31SS is a series of direct acting, spring-loaded, piston sensing and balanced plug pressure reducing valves. These regulators are designed for use with compressed air, water and other gases and liquids compatible with the construction materials and valve design.

They are suitable for pressure reducing applications at the point of use in laundry and dyeing machines, food industries, sterilizers, etc.

### MAIN FEATURES

- Compact design.
- Built-in strainer.
- Balanced valve plug.
- Full stainless steel construction.
- Various sealing options to meet compatibility requirements.

**OPTIONS:**

- Self relieving.
- Gauge connection on body.
- Different soft valves for liquids and gases.
- Top cap (adjustment screw with cover).
- Degreased for oxygen application.

**USE:** Compressed air, water and other gases and liquids compatible with the construction.

**AVAILABLE MODELS:** PRV31SS – stainless steel, piston sensing.

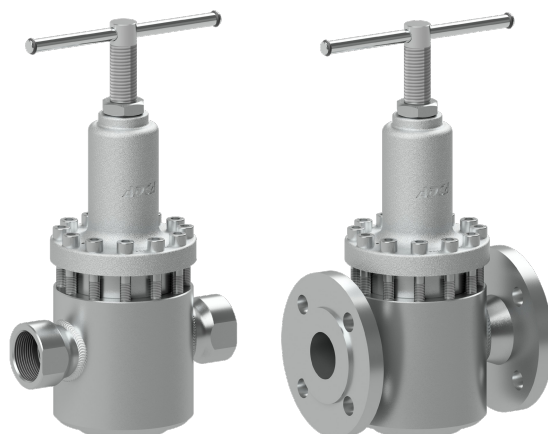
**SIZES:** 1" to 2"; DN 25 to DN 50.

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

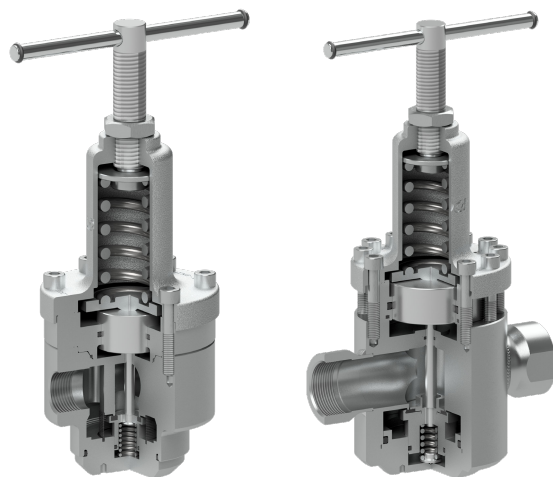
**INSTALLATION:** Horizontal installation.  
See IMI – Installation and maintenance instructions.



1" to 1 1/4" – DN 25 to DN 32



1 1/2" to 2" – DN 40 to DN 50



1" to 1 1/4" – DN 25 to DN 32      1 1/2" to 2" – DN 40 to DN 50

#### CE MARKING – GROUP 2 (PED – European Directive)

| PN 63                  | Category |
|------------------------|----------|
| 1" to 2" – DN 25 to 50 | SEP      |

#### FLOW RATE COEFFICIENTS (m³/h)

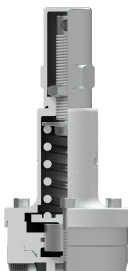
| SIZE | 1" – DN 25 | 1 1/4" – DN 32 | 1 1/2" – DN 40 | 2" – DN 50 |
|------|------------|----------------|----------------|------------|
| Kvs  | 7,5        | 8,2            | 14,4           | 15,4       |

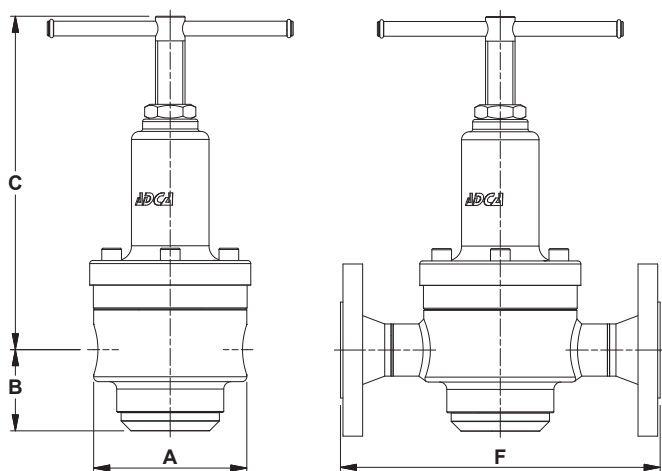
**LIMITING CONDITIONS**

| Valve model                     | PRV31SS |         |         |        |         |
|---------------------------------|---------|---------|---------|--------|---------|
| Body design conditions          | Cl. 150 | Cl. 300 | Cl. 600 | PN 40  | PN 63 * |
| Max. upstream pressure          | 16 bar  | 40 bar  | 50 bar  | 40 bar | 50 bar  |
| Max. downstream pressure        | 50 bar  |         |         |        |         |
| Min. downstream pressure        | 3 bar   |         |         |        |         |
| Max. design temperature         | 80 °C   |         |         |        |         |
| Max. recommended reducing ratio | 40:1    |         |         |        |         |

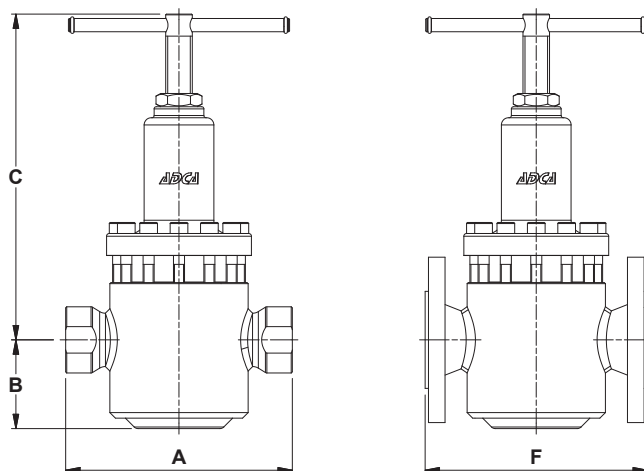
\* Rating PN 63 for threaded versions.

**OPTIONS**

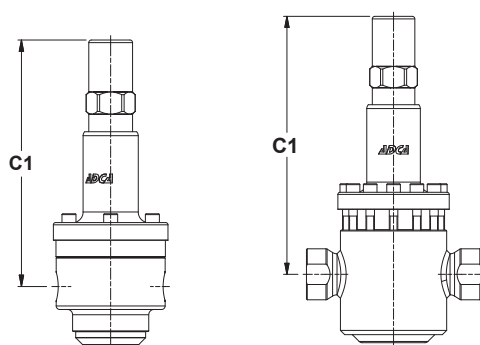
| PRESSURE GAUGE                                                                     | TOP CAP                                                                             |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |



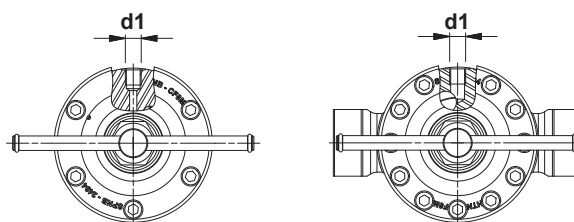
1" to 1 1/4" – DN 25 to DN 32



1 1/2" to 2" – DN 40 to DN 50



Optional top cap



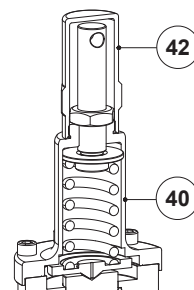
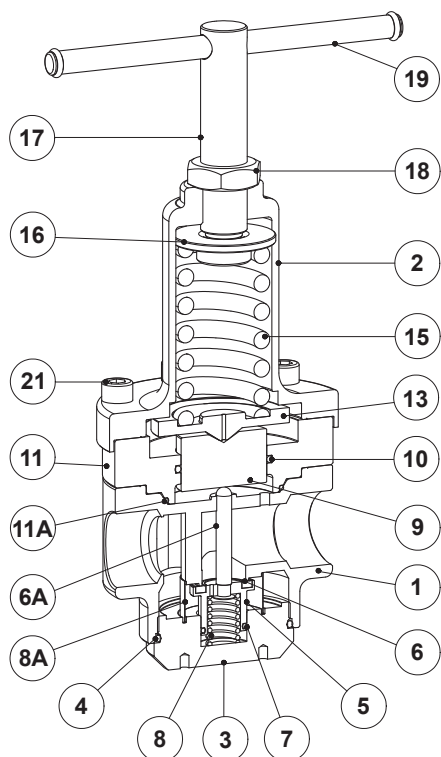
Optional pressure gauge connection

**DIMENSIONS (mm)**

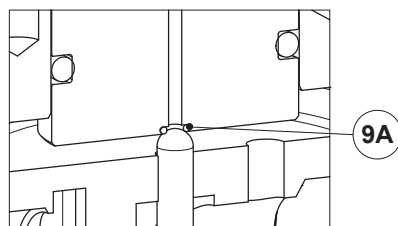
| THREADED       |     |    |     |     |      |           | PN 40 |           | PN 63 |           | CLASS 150 |           | CLASS 300 |           | CLASS 600 |           |
|----------------|-----|----|-----|-----|------|-----------|-------|-----------|-------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| SIZE           | A   | B  | C   | C1  | d1   | WGT. (kg) | F *   | WGT. (kg) | F *   | WGT. (kg) | F *       | WGT. (kg) | F *       | WGT. (kg) | F *       | WGT. (kg) |
| 1" – DN 25 **  | 125 | 66 | 271 | 280 | 1/4" | –         | –     | –         | 230   | 16,3      | –         | –         | –         | –         | 230       | 14,7      |
| 1 1/4" – DN 32 | 125 | 66 | 271 | 280 | 1/4" | 11        | 260   | 14,9      | 260   | 17,2      | 260       | 14        | 260       | 15,1      | 260       | 15,9      |
| 1 1/2" – DN 40 | 205 | 81 | 296 | 304 | 1/4" | 14,7      | 201   | 18,3      | 260   | 22,3      | 235       | 18        | 248       | 20,2      | 264       | 21,2      |
| 2" – DN 50     | 205 | 75 | 302 | 310 | 1/4" | 15,3      | 230   | 20,3      | 300   | 23,5      | 254       | 19        | 267       | 20,7      | 300       | 23,2      |

\* Different face to face dimensions on request; \*\* Only available with PN 63 and Class 600 flanged connections.

Remarks: As standard, in versions manufactured with EN 1092-1 flanges or ISO 7 Rp threads, connection d1 is female threaded ISO 7 Rp. In versions with ASME B16.5 flanges or NPT threads, this connection is female threaded NPT.

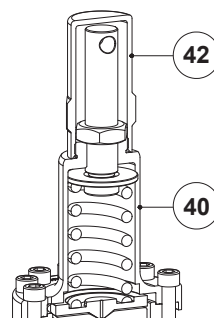
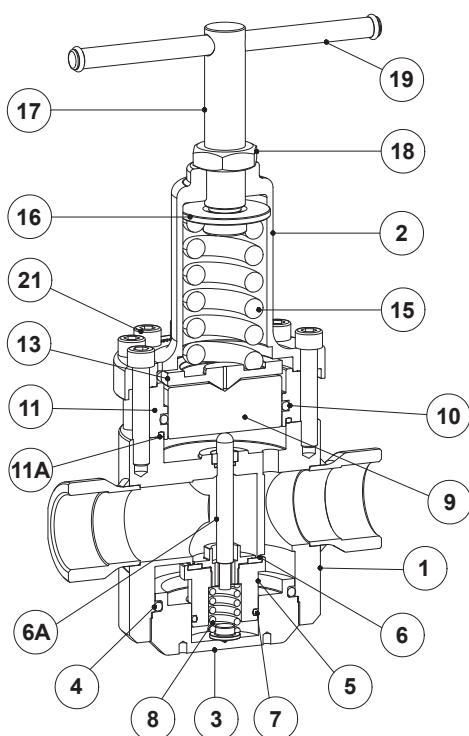


*Optional top cap*

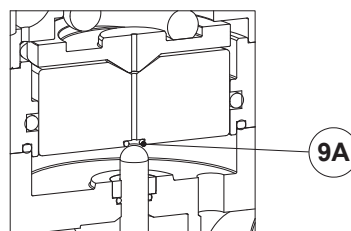


*Optional relieving version*

**1" to 1 1/4" – DN 25 to DN 32**



*Optional top cap*



*Optional relieving version*

**1 1/2" to 2" – DN 40 to DN 50**

| MATERIALS |                     |                              |                              |
|-----------|---------------------|------------------------------|------------------------------|
| POS. N°   | DESIGNATION         | 1" to 11/4" – DN 25 to DN 32 | 11/2" to 2" – DN 40 to DN 50 |
| 1         | Valve body          | AISI 316 / 1.4401            | AISI 316 / 1.4401            |
| 2         | Spring cover        | A351 CF8M / 1.4408           | A351 CF8M / 1.4408           |
| 3         | Bottom cover        | AISI 316 / 1.4401            | AISI 316 / 1.4401            |
| 4         | * O-ring            | NBR; EPDM; PTFE; FPM         | NBR; EPDM; PTFE; FPM         |
| 5         | * Piston            | AISI 316 / 1.4401            | AISI 316 / 1.4401            |
| 6         | * Valve head        | NBR; EPDM; PTFE; FPM         | NBR; EPDM; PTFE; FPM         |
| 6A        | * Pushrod           | AISI 316 / 1.4401            | AISI 316 / 1.4401            |
| 7         | * Piston o-ring     | NBR; EPDM; FPM               | NBR; EPDM; FPM               |
| 8         | * Valve spring      | AISI 302 / 1.4300            | AISI 302 / 1.4300            |
| 8A        | * Strainer screen   | AISI 304 / 1.4301            | –                            |
| 9         | * Piston            | AISI 316 / 1.4401            | AISI 316 / 1.4401            |
| 9A        | * O-ring            | NBR; EPDM; FPM               | NBR; EPDM; FPM               |
| 10        | * O-ring            | NBR; EPDM; FPM               | NBR; EPDM; FPM               |
| 11        | Piston sleeve       | AISI 316 / 1.4401            | AISI 316 / 1.4401            |
| 11A       | * O-ring            | NBR; EPDM; PTFE; FPM         | NBR; EPDM; PTFE; FPM         |
| 13        | Spring plate        | AISI 304 / 1.4301            | AISI 304 / 1.4301            |
| 15        | * Adjustment spring | AISI 302 / 1.4300            | AISI 302 / 1.4300            |
| 16        | Top spring plate    | Brass                        | Brass                        |
| 17        | Adjustment stem     | AISI 304 / 1.4301            | AISI 304 / 1.4301            |
| 18        | Locknut             | Stainless steel A2-70        | Stainless steel A2-70        |
| 19        | Handwheel           | AISI 304 / 1.4301            | AISI 304 / 1.4301            |
| 21        | Bolts               | Stainless steel A2-70        | Stainless steel A2-70        |
| 40        | Cover               | AISI 316L / 1.4404           | A351 CF8M / 1.4408           |
| 42        | Top cap             | AISI 316L / 1.4404           | AISI 316L / 1.4404           |

\* Available spare parts.

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 PRV31SS                                                                     |     |   |   |   |   |   |     |   |   |   |    |  |   |  |
|--------------------------------------------------------------------------------------------|-----|---|---|---|---|---|-----|---|---|---|----|--|---|--|
| Valve model                                                                                | R31 | . | 5 | W | N | C | 4   | R | . | A | 15 |  |   |  |
| PRV31SS – piston sensing pressure reducing valve                                           | R31 |   |   |   |   |   |     |   |   |   |    |  |   |  |
| Regulating range                                                                           |     |   |   |   |   |   |     |   |   |   |    |  |   |  |
| N° 5 - 3 to 30 bar                                                                         |     |   | 5 |   |   |   |     |   |   |   |    |  |   |  |
| N° 6 - 5 to 50 bar <b>b)</b>                                                               |     |   | 6 |   |   |   |     |   |   |   |    |  |   |  |
| Application                                                                                |     |   |   |   |   |   |     |   |   |   |    |  |   |  |
| Water                                                                                      |     |   |   | W |   |   |     |   |   |   |    |  |   |  |
| Gases                                                                                      |     |   |   | G |   |   |     |   |   |   |    |  |   |  |
| Oxygen (degreased)                                                                         |     |   |   | O |   |   |     |   |   |   |    |  |   |  |
| Seal material                                                                              |     |   |   |   |   |   |     |   |   |   |    |  |   |  |
| NBR                                                                                        |     |   |   |   | N |   |     |   |   |   |    |  |   |  |
| EPDM                                                                                       |     |   |   |   | E |   |     |   |   |   |    |  |   |  |
| PTFE <b>a)</b>                                                                             |     |   |   |   | T |   |     |   |   |   |    |  |   |  |
| FPM / Viton                                                                                |     |   |   |   | V |   |     |   |   |   |    |  |   |  |
| Maximum inlet pressure                                                                     |     |   |   |   |   |   |     |   |   |   |    |  |   |  |
| 30 bar                                                                                     |     |   |   |   |   | C |     |   |   |   |    |  |   |  |
| 50 bar <b>b)</b>                                                                           |     |   |   |   |   | D |     |   |   |   |    |  |   |  |
| Gauge port 1/4"                                                                            |     |   |   |   |   |   |     |   |   |   |    |  |   |  |
| 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   |   |   |   |    |  |   |  |
| Top cap and relieving                                                                      |     |   |   |   |   |   |     |   |   |   |    |  |   |  |
| Non-relieving                                                                              |     |   |   |   |   |   | (1) |   |   |   |    |  |   |  |
| Relieving (only for non-dangerous gases)                                                   |     |   |   |   |   |   | R   |   |   |   |    |  |   |  |
| Non-relieving with top cap (adjustment screw with cover)                                   |     |   |   |   |   |   | T   |   |   |   |    |  |   |  |
| Relieving with top cap (adjustment screw with cover, only for non-dangerous gases)         |     |   |   |   |   |   | V   |   |   |   |    |  |   |  |
| Pipe connection                                                                            |     |   |   |   |   |   |     |   |   |   |    |  |   |  |
| Female threaded ISO 7 Rp                                                                   |     |   |   |   |   |   |     |   |   | A |    |  |   |  |
| Female threaded NPT ASME B1.20.1                                                           |     |   |   |   |   |   |     |   |   | C |    |  |   |  |
| Flanged EN 1092-1 PN 40                                                                    |     |   |   |   |   |   |     |   |   | N |    |  |   |  |
| Flanged EN 1092-1 PN 63                                                                    |     |   |   |   |   |   |     |   |   | O |    |  |   |  |
| Flanged ASME B16.5 Class 150                                                               |     |   |   |   |   |   |     |   |   | U |    |  |   |  |
| Flanged ASME B16.5 Class 300                                                               |     |   |   |   |   |   |     |   |   | V |    |  |   |  |
| Flanged ASME B16.5 Class 600                                                               |     |   |   |   |   |   |     |   |   | W |    |  |   |  |
| Size                                                                                       |     |   |   |   |   |   |     |   |   |   |    |  |   |  |
| 1" or DN 25 (only available with PN 63 and Class 600 flanged connections)                  |     |   |   |   |   |   |     |   |   |   | 25 |  |   |  |
| 1 1/4" or DN 32                                                                            |     |   |   |   |   |   |     |   |   |   | 32 |  |   |  |
| 1 1/2" or DN 40                                                                            |     |   |   |   |   |   |     |   |   |   | 40 |  |   |  |
| 2" or DN 50                                                                                |     |   |   |   |   |   |     |   |   |   | 50 |  |   |  |
| 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)** All seals except piston o-rings, which are supplied in FPM/Viton or others on request.

**b)** Not applicable to sizes 1 1/4" and DN32.