

## SANITARY PRESSURE SUSTAINING VALVE PS160

### DESCRIPTION

The ADCA PS160 series direct acting, spring-loaded, diaphragm sensing pressure sustaining valves are designed for use with clean steam, compressed air, water and other gases or liquids compatible with the construction materials.

### MAIN FEATURES

Compact design.  
Completely machined from bar stock material, no castings or forgings are used on the standard version.  
Non-rising adjustment knob.

### STANDARD SURFACE FINISH

Internal wetted parts:  $\leq 0,51$  micron Ra – SF1.  
External:  $\leq 0,76$  micron Ra – SF3.  
Other surface conditions see IS PV20.00 E – Technical information.  
Ultrasonic cleaning.

**OPTIONS:** Leakage line connection 1/8" (captured vent).  
Different soft valves for liquids and gases.  
Gauge connection on body.  
Top cap (adjustment screw with cover).

**USE:** Clean steam, compressed air, water and other gases and liquids compatible with the construction.

**AVAILABLE MODELS:** PS160.

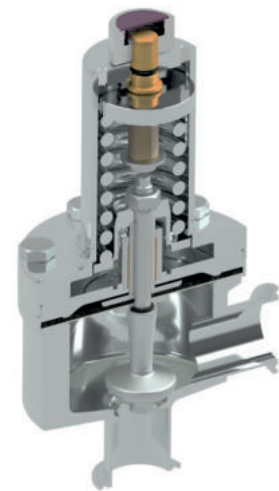
**SIZES:** 3/4" to 2"; DN 20 to DN 50.

**REGULATING RANGES:** 0,8 – 1,5 bar; 1 – 3 bar; 1,5 – 8 bar.

**CONNECTIONS:** ASME BPE, DIN and ISO clamp ferrules.  
Others on request.

**PACKAGING:** Assembling and packaging in a clean room certified according to ISO 14644-1.  
The product is end capped and sealed with recyclable thermo-shrinkable plastic film, to avoid contamination.

**INSTALLATION:** Horizontal installation. Horizontal inlet and vertical outlet angle connection.  
See IMI – Installation and maintenance instructions.



| LIMITING CONDITIONS          |              |
|------------------------------|--------------|
| <b>Valve model</b>           | <b>PS160</b> |
| Body design conditions       | PN 16        |
| Maximum upstream pressure    | 8 bar        |
| Minimum upstream pressure    | 0,8 bar      |
| Maximum design temperature * | 150 °C       |

\* Others on request.

| CE MARKING – GROUP 2<br>(PED – European Directive) |          |
|--|----------|
| PN 16  | Category |
| 3/4" to 2" – DN 20 to 50                           | SEP      |

FLOW RATE COEFFICIENTS (m<sup>3</sup>/h)

| SIZE | BPE  |     |        |     | DIN   |       |       |       | ISO   |       |       |
|------|------|-----|--------|-----|-------|-------|-------|-------|-------|-------|-------|
|      | 3/4" | 1"  | 1 1/2" | 2"  | DN 20 | DN 25 | DN 40 | DN 50 | DN 20 | DN 25 | DN 40 |
| Kvs  | 1,3  | 3,5 | 5,5    | 8,5 | 1,3   | 3,5   | 5,5   | 8,5   | 1,3   | 3,5   | 5,5   |

DIMENSIONS (mm) ASME BPE

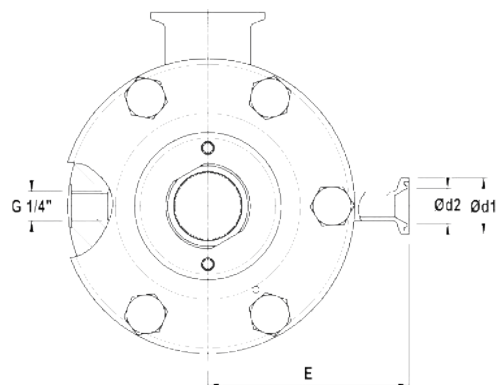
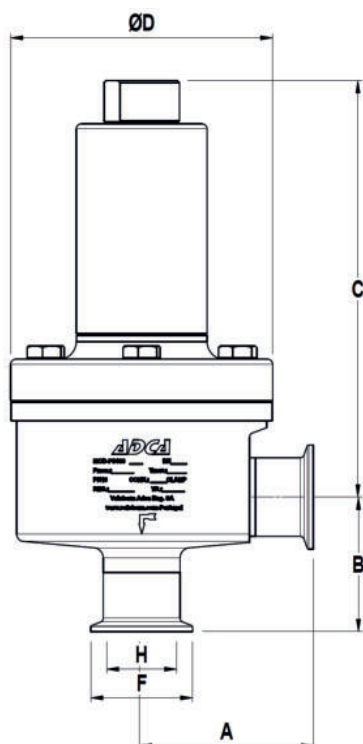
| SIZE   | A  | B  | C   | D   | d1 | d2    | E  | F    | H     | WEIGHT (kg) |
|--------|----|----|-----|-----|----|-------|----|------|-------|-------------|
| 3/4"   | 85 | 56 | 192 | 130 | 25 | 15,75 | 89 | 25   | 15,75 | 6,7         |
| 1"     | 85 | 55 | 192 | 130 | 25 | 15,75 | 89 | 50,5 | 22,1  | 6,8         |
| 1 1/2" | 85 | 65 | 199 | 130 | 25 | 15,75 | 89 | 50,5 | 34,8  | 7,6         |
| 2"     | 85 | 69 | 205 | 130 | 25 | 15,75 | 89 | 64   | 47,5  | 7,8         |

DIMENSIONS (mm) DIN

| SIZE  | A  | B  | C   | D   | d1 | d2    | E  | F    | H  | WEIGHT (kg) |
|-------|----|----|-----|-----|----|-------|----|------|----|-------------|
| DN 20 | 89 | 62 | 192 | 130 | 25 | 15,75 | 89 | 34   | 20 | 6,6         |
| DN 25 | 92 | 64 | 192 | 130 | 25 | 15,75 | 89 | 50,5 | 26 | 6,5         |
| DN 40 | 92 | 75 | 199 | 130 | 25 | 15,75 | 89 | 50,5 | 38 | 7,2         |
| DN 50 | 92 | 75 | 205 | 130 | 25 | 15,75 | 89 | 64   | 50 | 7,6         |

DIMENSIONS (mm) ISO

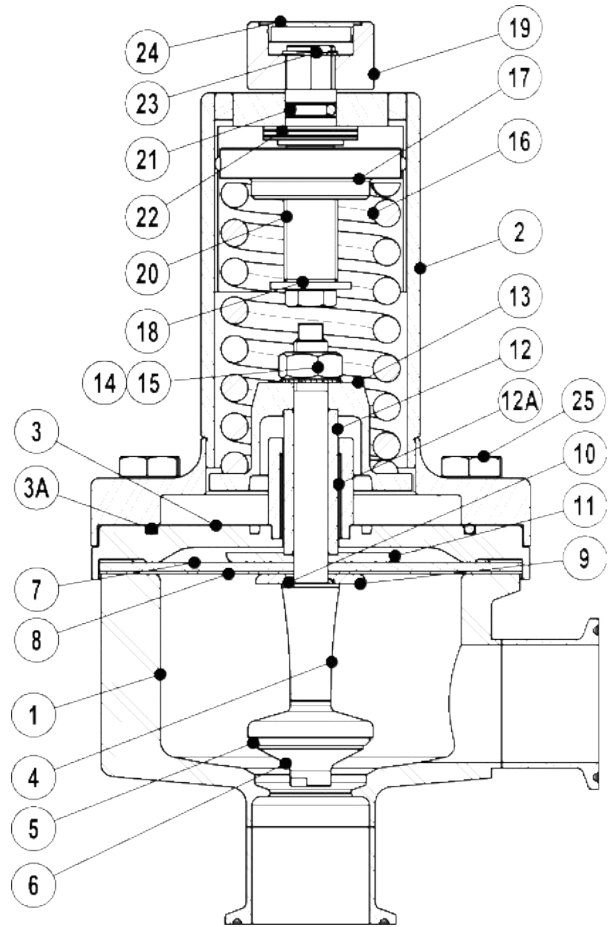
| SIZE  | A  | B  | C   | D   | d1 | d2    | E  | F    | H    | WEIGHT (kg) |
|-------|----|----|-----|-----|----|-------|----|------|------|-------------|
| DN 20 | 81 | 49 | 192 | 130 | 25 | 15,75 | 89 | 50,5 | 23,7 | 6,5         |
| DN 25 | 81 | 51 | 192 | 130 | 25 | 15,75 | 89 | 50,5 | 29,7 | 6,4         |
| DN 40 | 92 | 80 | 199 | 130 | 25 | 15,75 | 89 | 64   | 44,3 | 7,7         |



Optional pressure gauge connections.

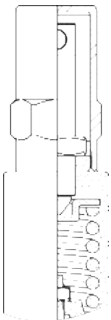
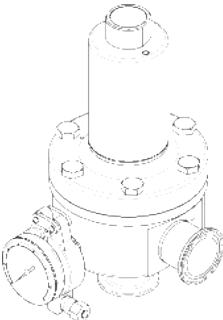
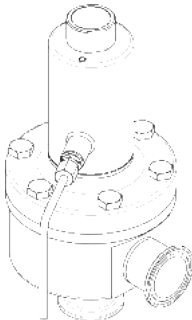
**MATERIALS**

| POS. N° | DESIGNATION           | MATERIAL                  |
|---------|-----------------------|---------------------------|
| 1       | Body                  | AISI 316L / 1.4404        |
| 2       | Cover                 | AISI 316L / 1.4404        |
| 3       | Centering plate       | AISI 316L / 1.4404        |
| 3A      | *** O-ring            | EPDM                      |
| 4       | * Valve stem          | AISI 316L / 1.4404        |
| 5       | * Soft plug           | ** EPDM; PTFE             |
| 6       | * Valve plug          | AISI 316L / 1.4404        |
| 7       | * Upper diaphragm     | EPDM                      |
| 8       | * Lower diaphragm     | PTFE (Gylon)              |
| 9       | Diaphragm plate       | AISI 316L / 1.4404        |
| 10      | * O-ring              | EPDM                      |
| 11      | Diaphragm plate       | AISI 316L / 1.4404        |
| 12      | Stem guide            | AISI 316 / 1.4401         |
| 12A     | Plain bearing         | Bronze                    |
| 13      | Spring plate          | AISI 316 / 1.4401         |
| 14      | Nut                   | Stainless steel A2-70     |
| 15      | Washer                | AISI 316 / 1.4401         |
| 16      | * Adjustment spring   | AISI 302 / 1.4300         |
| 17      | Top spring plate      | AISI 316 / 1.4401         |
| 18      | Retaining washer      | Stainless steel A2-70     |
| 19      | Adjustment nut        | AISI 316L / 1.4404        |
| 20      | Adjustment screw      | Brass                     |
| 21      | O-ring                | NBR                       |
| 22      | Bearing               | Corrosion resistant steel |
| 23      | Ext. bowed shaft ring | Stainless steel           |
| 24      | Nut cover             | Plastic                   |
| 25      | Bolts                 | Stainless steel A2-70     |



\* Available spare parts ; \*\* Others according to fluid;  
 \*\*\* Applied only with optional leakage line connection.  
 Remarks: FDA / USP Class VI seals certificate on request.  
 All valves have a serial number. In case of non-standard valves, this number must be supplied if spare parts are ordered.

**OPTIONS**

| ADJUSTING SCREW W/ TOP CAP  | PRESSURE GAUGE CONNECT.   | LEAKAGE LINE CONNECTION   |
|---|---|---|
|  |  |  |

**ORDERING CODES PS160**

| Valve model  | PS16        | 4 | 1 | T | M | I | X | X | X | X | DI | 20 | E  |
|--|-------------|---|---|---|---|---|---|---|---|---|----|----|----|
| PS160 – AISI 316L / 1.4404 diaphragm sensing pressure sustaining valve                                   | <b>PS16</b> |   |   |   |   |   |   |   |   |   |    |    |    |
| <b>Regulating range</b>  |             |   |   |   |   |   |   |   |   |   |    |    |    |
| 0,8 to 1,5 bar   |             | 4 |   |   |   |   |   |   |   |   |    |    |    |
| 1 to 3 bar   |             | 5 |   |   |   |   |   |   |   |   |    |    |    |
| 1,5 to 8 bar   |             | 7 |   |   |   |   |   |   |   |   |    |    |    |
| <b>Flow rate coefficient</b>   |             |   |   |   |   |   |   |   |   |   |    |    |    |
| Kvs 1,3 (3/4" – DN 20)   |             |   | 1 |   |   |   |   |   |   |   |    |    |    |
| Kvs 3,5 (1" – DN 25)   |             |   | 3 |   |   |   |   |   |   |   |    |    |    |
| Kvs 5,5 (1 1/2" – DN 40)   |             |   | 4 |   |   |   |   |   |   |   |    |    |    |
| Kvs 8,5 (2" – DN 50)   |             |   | 6 |   |   |   |   |   |   |   |    |    |    |
| <b>Diaphragm material</b>  |             |   |   |   |   |   |   |   |   |   |    |    |    |
| PTFE (Gylon)   |             |   |   | T |   |   |   |   |   |   |    |    |    |
| EPDM (non-standard)  |             |   |   | E |   |   |   |   |   |   |    |    |    |
| <b>Valve head</b>  |             |   |   |   |   |   |   |   |   |   |    |    |    |
| Metal to metal (non-standard)  |             |   |   |   | M |   |   |   |   |   |    |    |    |
| EPDM   |             |   |   |   | E |   |   |   |   |   |    |    |    |
| PTFE   |             |   |   |   | T |   |   |   |   |   |    |    |    |
| FPM / Viton  |             |   |   |   | V |   |   |   |   |   |    |    |    |
| <b>Adjustment knob, top cap and captured vent</b>  |             |   |   |   |   |   |   |   |   |   |    |    |    |
| Stainless steel adjustment knob  |             |   |   |   |   | I |   |   |   |   |    |    |    |
| Top cap (adjustment screw with cover)  |             |   |   |   |   | T |   |   |   |   |    |    |    |
| Stainless steel adjustment knob w/ diaphragm cover leakage connection in case of diaphragm failure       |             |   |   |   |   | L |   |   |   |   |    |    |    |
| Top cap (adjustment screw with cover) w/ diaphragm cover leakage connection in case of diaphragm failure |             |   |   |   |   | U |   |   |   |   |    |    |    |
| <b>Gauge port options</b>  |             |   |   |   |   |   |   |   |   |   |    |    |    |
| Without gauge ports  |             |   |   |   |   |   |   | X |   |   |    |    |    |
| Tri-clamp gauge port on the left side (rel. to the flow direction) – upstream pressure                   |             |   |   |   |   |   |   | 7 |   |   |    |    |    |
| Tri-clamp gauge port on the right side (rel. to the flow direction) – upstream pressure                  |             |   |   |   |   |   |   | 6 |   |   |    |    |    |
| Tri-clamp gauge port on both sides – upstream pressure   |             |   |   |   |   |   |   | 5 |   |   |    |    |    |
| Threaded gauge port on the left side (rel. to the flow direction) – upstream pressure – ISO 7 Rp 1/4"    |             |   |   |   |   |   |   | 4 |   |   |    |    |    |
| Threaded gauge port on the right side (rel. to the flow direction) – upstream pressure – ISO 7 Rp 1/4"   |             |   |   |   |   |   |   | 3 |   |   |    |    |    |
| Threaded gauge port on both sides – upstream pressure – ISO 7 Rp 1/4"                                    |             |   |   |   |   |   |   | 2 |   |   |    |    |    |
| Threaded gauge port on the left side (rel. to the flow direction) – upstream pressure – 1/4" NPT         |             |   |   |   |   |   |   | W |   |   |    |    |    |
| Threaded gauge port on the right side (rel. to the flow direction) – upstream pressure – 1/4" NPT        |             |   |   |   |   |   |   | Y |   |   |    |    |    |
| Threaded gauge port on both sides – upstream pressure – 1/4" NPT   |             |   |   |   |   |   |   | Z |   |   |    |    |    |
| <b>Surface finish a)</b>   |             |   |   |   |   |   |   |   |   |   |    |    |    |
| Standard surface finish  |             |   |   |   |   |   |   |   | X |   |    |    |    |
| Mirror mechanical polished external surfaces (SF1)   |             |   |   |   |   |   |   |   | P |   |    |    |    |
| Electropolished internal wetted parts (SF5)  |             |   |   |   |   |   |   |   | E |   |    |    |    |
| <b>Special features</b>  |             |   |   |   |   |   |   |   |   |   |    |    |    |
| None   |             |   |   |   |   |   |   |   |   | X |    |    |    |
| Degreased for oxygen   |             |   |   |   |   |   |   |   |   |   | O  |    |    |
| <b>Pipe connections</b>  |             |   |   |   |   |   |   |   |   |   |    |    |    |
| Clamp ferrule ASME BPE   |             |   |   |   |   |   |   |   |   |   |    | D  |    |
| Clamp ferrule DIN (DIN 32676-A)  |             |   |   |   |   |   |   |   |   |   |    | F  |    |
| Clamp ferrule ISO (DIN 32676-B)  |             |   |   |   |   |   |   |   |   |   |    | E  |    |
| Tube weld (ETO) according to ASME BPE  |             |   |   |   |   |   |   |   |   |   |    | DI |    |
| Tube weld (ETO) according to DIN 11866-A (DIN 11850-2)   |             |   |   |   |   |   |   |   |   |   |    | FI |    |
| Tube weld (ETO) according to DIN 11866-B (ISO 1127)  |             |   |   |   |   |   |   |   |   |   |    | EI |    |
| <b>Size</b>  |             |   |   |   |   |   |   |   |   |   |    |    |    |
| 3/4" or DN 20  |             |   |   |   |   |   |   |   |   |   |    |    | 20 |
| 1" or DN 25  |             |   |   |   |   |   |   |   |   |   |    |    | 25 |
| 1 1/2" or DN 40  |             |   |   |   |   |   |   |   |   |   |    |    | 40 |
| 2" or DN 50  |             |   |   |   |   |   |   |   |   |   |    |    | 50 |
| <b>Special valves / Extras</b>   |             |   |   |   |   |   |   |   |   |   |    |    |    |
| Full description or additional codes have to be added in case of a non-standard combination              |             |   |   |   |   |   |   |   |   |   |    |    | E  |

a) Consult IS PV20.00 (Technical information) for further details and other surface finish options.