

## DIAPHRAGM SENSING PRESSURE SUSTAINING VALVES PS4

### DESCRIPTION

The ADCA PS4 is a series of direct acting, spring-loaded diaphragm sensing, pressure sustaining valves designed for use with compressed air, water and other gases or liquids compatible with the construction.

The valve main purpose is to maintain the upstream pressure under control in applications where small loads are involved. These valves are also specifically recommended to operate as pilot valves in combination with other pressure regulators.

### MAIN FEATURES

Compact design.  
External diaphragm sensing connection.

OPTIONS: Different soft valves for water and gases.  
Gauge connection on body.

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

AVAILABLE MODELS: PS4S – carbon steel.  
PS4i – stainless steel.

SIZES: 1/2" to 1".

CONNECTIONS: Female threaded ISO 7 Rp or NPT.

INSTALLATION: Horizontal installation.  
A "Y" strainer should be installed upstream of the valve.  
See IMI – Installation and maintenance instructions.



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

PN 40	Category
1/2" to 1"	SEP

### LIMITING CONDITIONS

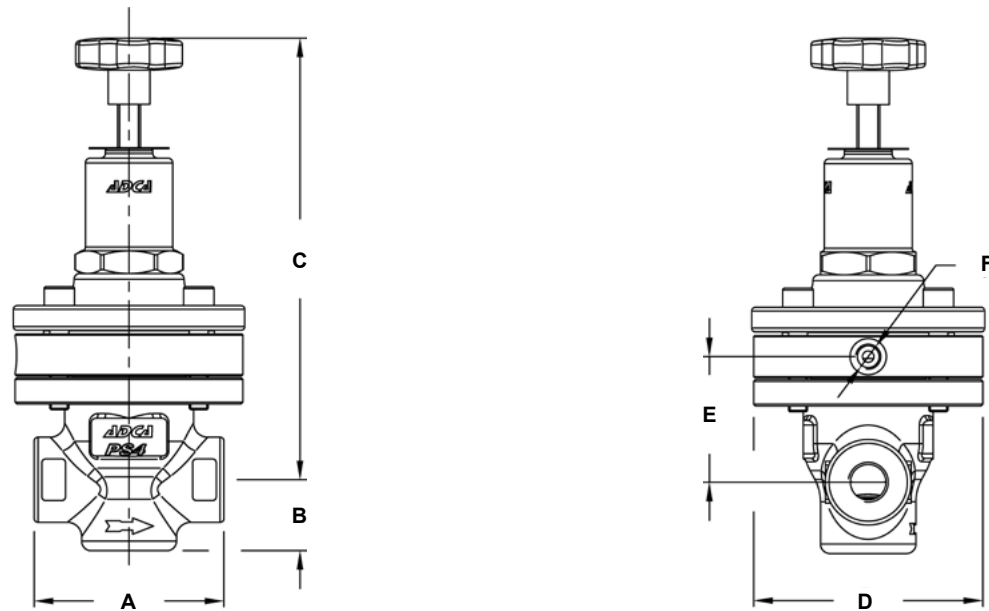
Valve model	PS4
Body design conditions	PN 40
Maximum upstream pressure	15 bar
Minimum upstream pressure	0,35 bar
Maximum design temperature *	80 °C

\* Others on request.

**Warning: A pressure sustaining valve is not a safety relief valve and must not be used for that purpose!**

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

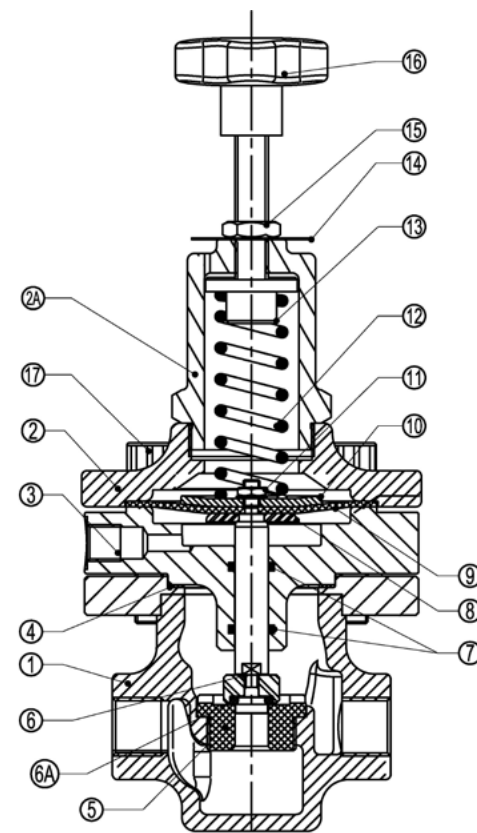
SIZE	1/2"	3/4"	1"
Kvs	3,6	3,6	3,7



DIMENSIONS (mm)							
SIZE	A	B	C	ØD	E	F	WEIGHT (kg)
1/2"	100	37,5	247	120	66	1/4"	8,6
3/4"	100	37,5	247	120	66	1/4"	8,6
1"	100	37,5	247	120	66	1/4"	8,6

MATERIALS			
POS. N°	DESIGNATION	PS4S	PS4i
1	Valve body	A216 WCB / 1.0619	A351 CF8M / 1.4408
2	Top cover	A351 CF8 / 1.4308	A351 CF8 / 1.4308
2A	Cover spring	A351 CF8 / 1.4308	A351 CF8 / 1.4308
3	Guide plate	S355JR / 1.0045	AISI 316 / 1.4401
4	* Gasket	** Stainless steel / Graphite	** Stainless steel / Graphite
5	* Valve seat	AISI 316 / 1.4401	AISI 316 / 1.4401
6	* Stem and plug	AISI 316 / 1.4401	AISI 316 / 1.4401
6A	* Valve sealing	** EPDM; PTFE; NBR	** NBR; EPDM; PTFE
7	* O-ring	** EPDM	** EPDM
8	Pusher disc	AISI 316 / 1.4401	AISI 316 / 1.4401
9	* Diaphragm	** NBR	** NBR
10	Spring plate	AISI 304 / 1.4301	AISI 304 / 1.4301
11	Nut	Stainless steel A2-70	Stainless steel A2-70
12	* Adjustment spring	Spring steel	Spring steel
13	Top spring plate	Brass	Brass
14	Spring ID plate	Aluminium	Aluminium
15	Locknut	Stainless steel A2-70	Stainless steel A2-70
16	Handwheel	Plastic	Plastic
17	Bolts	Steel 8.8	Stainless steel A2-70

\* Available spare parts. \*\* Others on request.  
Remarks: All valves have a serial number. In case of non-standard valves this number must be supplied if spare parts are ordered.



ORDERING CODES PS4									
Valve model	PS4S	.	1	W	E	N	A	15	
PS4S – carbon steel pressure sustaining valve	PS4S								
PS4i – stainless steel pressure sustaining valve	PS4i								
Regulating range									
Green spring – 0,35 to 2 bar – single diaphragm			1						
Blue spring – 1,5 to 5,5 bar – single diaphragm			2						
Red spring – 3,5 to 8,5 bar – double diaphragm			3						
Black spring – 7 to 17 bar – double diaphragm			4						
Application									
Water				W					
Gases				G					
Seal material a)									
EPDM					E				
PTFE					T				
FPM / Viton					V				
NBR					N				
Diaphragm									
NBR						N			
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								A	
Female threaded NPT ASME B1.20.1								C	
Size									
1/2"									15
3/4"									20
1"									25
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 limited to the materials maximum operating temperature. Contact manufacturer for more details.

## DIAPHRAGM SENSING PRESSURE SUSTAINING VALVE PS7

### DESCRIPTION

The ADCA PS7 series direct acting, spring-loaded diaphragm sensing pressure sustaining valves are designed for use on steam and compressed air and other gases compatible with the materials of construction.

They are suitable for pressure sustaining applications where very small loads are involved. They are also specifically recommended to operate as pilot valves in combination with other pressure regulators.

### MAIN FEATURES

Compact design.  
Stainless steel diaphragm.

OPTIONS: 1/8" gauge connection on body.  
Top cap (adjustment screw with cover).  
External sensing connection.  
Low pressure top.  
Dome loaded version.

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

AVAILABLE MODELS: PS7S – carbon steel.  
PS7SS – stainless steel.

SIZES: 1/4" and 3/8".

CONNECTIONS: Female threaded ISO 7 Rp or NPT.

INSTALLATION: Horizontal installation.  
A "Y" strainer should be installed upstream of the valve.  
See IMI – Installation and maintenance instructions.



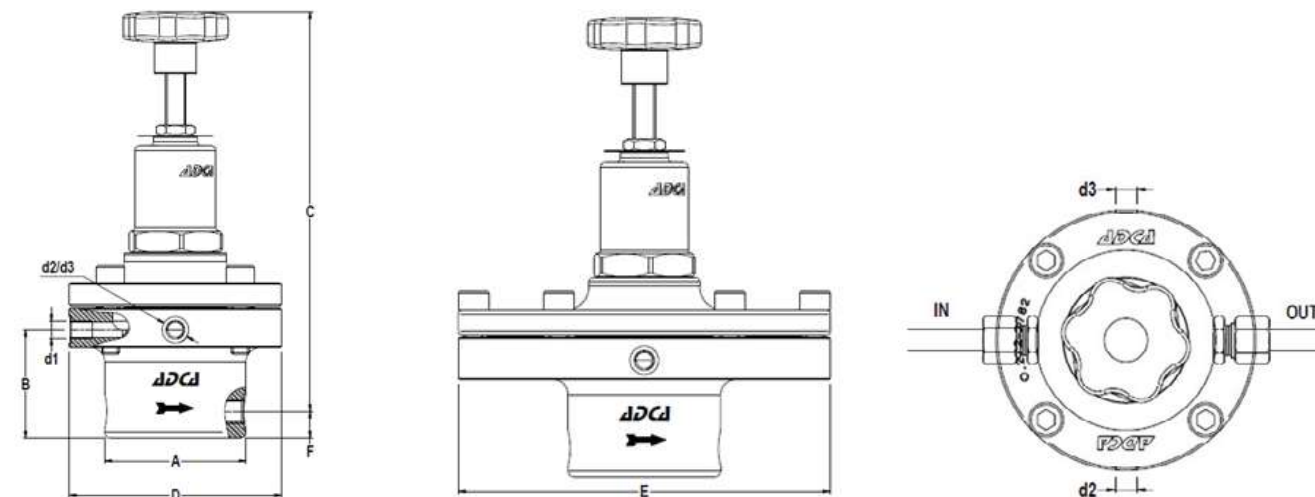
FLOW RATE COEFFICIENTS (m³/h)		
SIZE	1/4"	3/8"
Kvs	0,8	0,8

LIMITING CONDITIONS	
Valve model	PS7
Body design conditions	PN 40
Maximum upstream pressure	17 bar
Minimum upstream pressure	0,35 bar
Maximum downstream pressure	17 bar
Maximum design temperature	300 °C

\* 0,07 bar with low pressure top (limited at 7 bar inlet).  
The low pressure diaphragm should be fitted for outlet pressures from 0,07 up to 0,5 bar.  
Pressure and temperature limiting conditions may change if soft seating is used.  
**Warning: A pressure sustaining valve is not a safety relief valve and must not be used for that purpose!**

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

PN 40	Category
1/4" to 3/8"	SEP

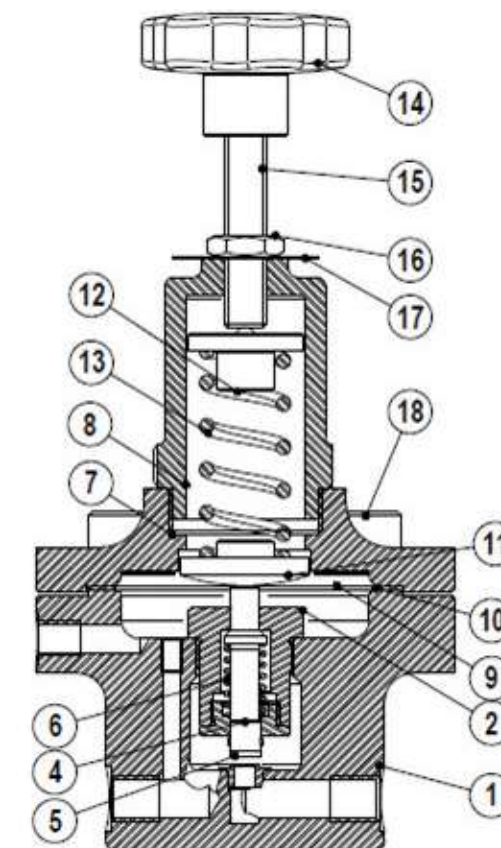


DIMENSIONS (mm)										
SIZE	A	B	C	D	E *	F	d1 **	d2 ***	d3 ***	WEIGHT (kg)
1/4"	80	61	225	120	195	15	1/8	1/8	1/8	4,8
3/8"	80	61	225	120	195	15	1/8	1/8	1/8	4,8

\* Low pressure diaphragm; \*\* Optional sensing line connection; \*\*\* Optional pressure gauge connections. As standard, in ISO 7 Rp threaded version, these connections are female threaded ISO 7 Rp. In NPT threaded version, these connections are female threaded NPT.

MATERIALS		
POS. N°	DESIGNATION	MATERIAL
1	Valve body	S355JR / 1.0045; AISI 316 / 1.4401
2	* Pilot valve body	A351 CF8 / 1.4308
4	Pushrod	AISI 316 / 1.4401
5	* Valve plug	AISI 420; EPDM; PTFE, etc.
6	* Spring	AISI 302 / 1.4300
7	Top cover	A351 CF8 / 1.4308
8	Spring cover	A351 CF8 / 1.4308
9	* Diaphragm	AISI 301 / 1.4310
10	* Gasket	Stainless steel / Graphite
11	Lower spring carrier	Brass
12	Top spring carrier	Brass
13	* Adjustment spring	Spring steel
14	Handwheel	Plastic
15	Adjustment screw	AISI 304 / 1.4301
16	Locknut	Stainless steel A2-70
17	Spring ld. plate	Aluminium
18	Bolts	Steel 10.9; Stainless steel A2-70

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



REGULATING RANGES				
SPRING COLOUR	GREEN w/ 1 diaphragm	BLUE w/ 1 diaphragm	RED w/ 2 diaphragms	BLACK w/ 2 diaphragms
Regulating range	0,07 to 0,5 bar * 0,35 to 2 bar	1,5 to 5,5 bar	3,5 to 8,5 bar	7 to 17 bar

\* With special low pressure top assembly.

ORDERING CODES PS7										
Valve model	PS7S	.	1	W	E	N		.A	15	
PS7S – Carbon steel pilot pressure sustaining valve	PS7S									
PS7SS – Stainless steel pilot pressure sustaining valve	PS7SS									
<b>Regulating range</b>										
Green spring – 0,35 to 2 bar – single diaphragm			1							
Blue spring – 1,5 to 5,5 bar – single diaphragm			2							
Red spring – 3,5 to 8,5 bar – double diaphragm			3							
Black spring – 7 to 17 bar – double diaphragm			4							
<b>Application</b>										
Steam				S						
Gases				G						
<b>Seal material</b>										
Metal to metal					(1)					
EPDM a)					E					
PTFE a)					T					
FPM / Viton a)					V					
<b>Diaphragm</b>										
Standard diaphragm						S				
Low pressure diaphragm						L				
<b>Gauge port 1/8" b)</b>										
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		
<b>Pipe connection</b>										
Female threaded ISO 7 Rp									A	
Female threaded NPT ASME B1.20.1									C	
<b>Size</b>										
1/4"										08
3/8"										10
<b>Special valves / Extras</b>										
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 limited to the materials' maximum operating temperature. Contact manufacturer for more details.

b) Gauge port can also be used as external sensing line.

## DIAPHRAGM SENSING PRESSURE SUSTAINING VALVE PS30SS

### DESCRIPTION

The ADCA PS30SS is a series of direct acting, spring-loaded, diaphragm sensing pressure sustaining 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 sustaining applications at the point of use in laundry and dyeing machines, food industries, sterilizers, etc.

### MAIN FEATURES

Compact design.  
Full stainless steel construction.  
Various sealing options to meet compatibility requirements.

**OPTIONS:** Gauge connection on body.  
Different soft valves for liquids and gases.  
Dome-loaded version.  
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:** PS30SS – stainless steel, diaphragm sensing.

**SIZES:** 1/2" to 1"; DN 15 to DN 25.

**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.



1/2" to 3/4" – DN 15 to DN 20



1" – DN 25



1/2" to 3/4" – DN 15 to DN 20

1" – DN 25

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

PN 63	Category
1/2" to 1" – DN 15 to 25	SEP




### FLOW RATE COEFFICIENTS (m³/h)

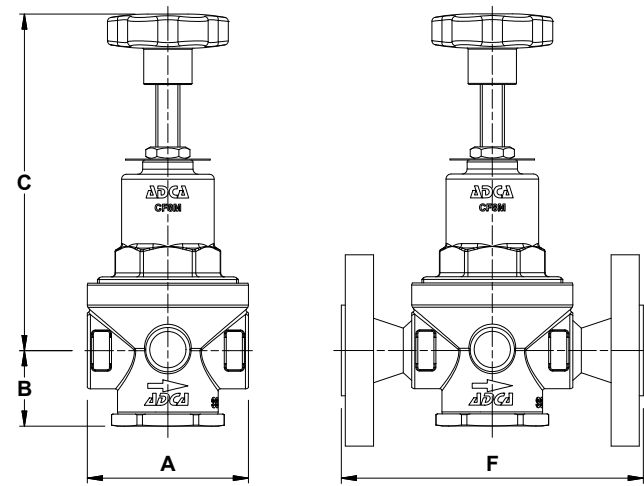
SIZE	1/2" – DN 15	3/4" – DN 20	1" – DN 25
Kvs	2,1	2,4	6,5

LIMITING CONDITIONS				
Valve model	PS30SS			
Body design conditions	Cl. 150	Cl. 300	PN 40	PN 63 *
Max. upstream pressure	15 bar			
Min. upstream pressure	0,2 bar			
Max. design temperature	80 °C			
Maximum dome-loading pressure	15 bar			

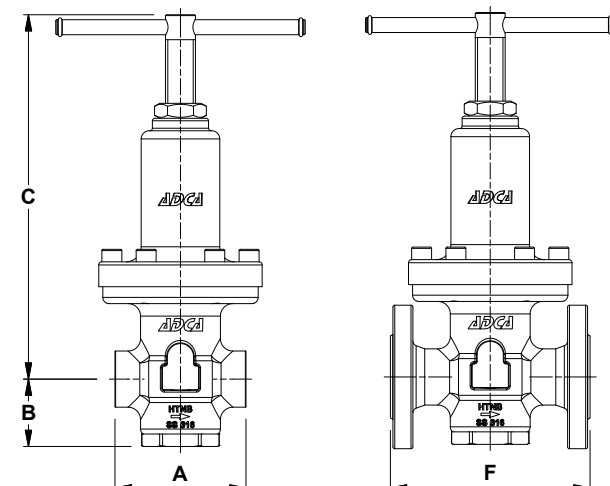
\* Rating PN 63 for threaded versions.

**Warning:** A pressure sustaining valve is not a safety relief valve and must not be used for that purpose!

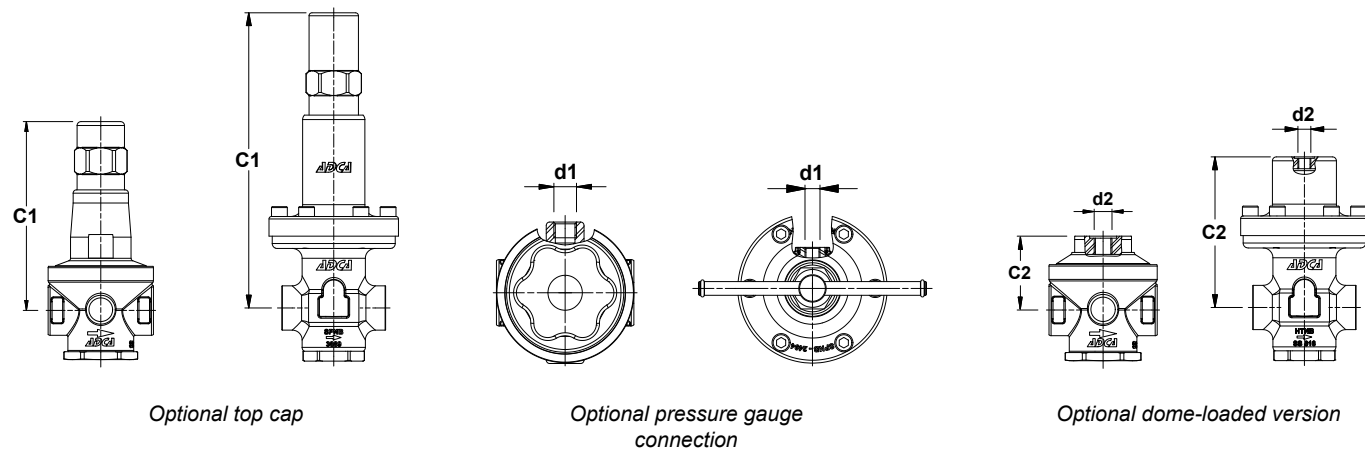
OPTIONS		
PRESSURE GAUGE	TOP CAP	DOME LOADED VERSION
		



1/2" to 3/4" – DN 15 to DN 20



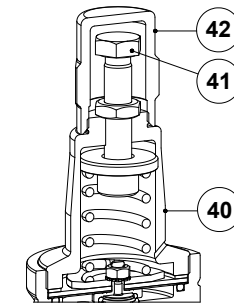
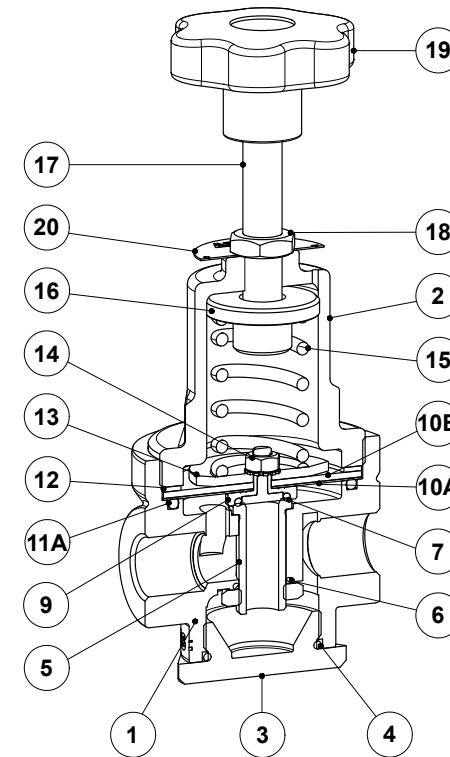
1" – DN 25



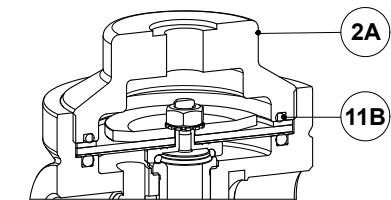
DIMENSIONS (mm)															
SIZE	THREADED								PN 40		CLASS 150		CLASS 300		
	A	B	C	C1	d1	C2	d2	WGT. (kg)	F *	WGT. (kg)	F *	WGT. (kg)	F *	WGT. (kg)	
1/2" – DN 15	80	38	167	145	1/4"	55	1/4"	2,1	150	3,6	150	2,9	150	3,9	
3/4" – DN 20	80	38	167	145	1/4"	55	1/4"	2	150	4,1	150	3,3	150	4,3	
1" – DN 25	105	54	292	300	1/4"	153	1/4"	6,6	160	9,3	230	8,5	230	9,7	

\* Different face to face dimensions on request.

Remarks: As standard, in versions manufactured with EN 1092-1 flanges or ISO 7 Rp threads, connections d1 and d2 are female threaded ISO 7 Rp. In versions with ASME B16.5 flanges or NPT threads, these connections are female threaded NPT.

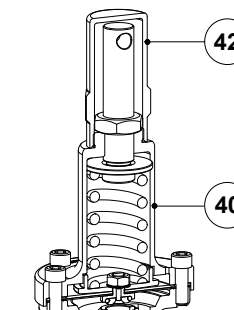
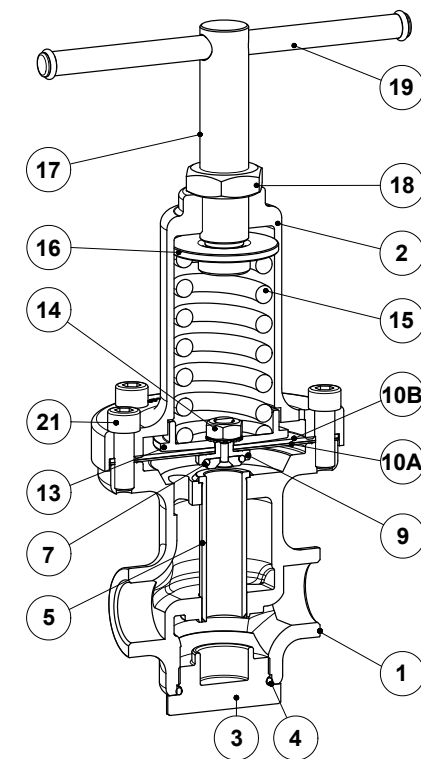


Optional top cap

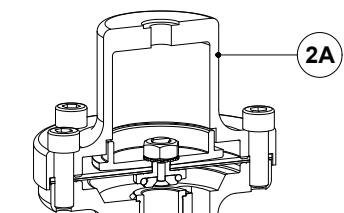


Optional dome-loaded version

1/2" to 3/4" – DN 15 to DN 20



Optional top cap



Optional dome-loaded version

1" – DN 25

MATERIALS			
POS. N°	DESIGNATION	1/2" to 3/4" – DN 15 to DN 20	1" – DN 25
1	Valve body	A351 CF8M / 1.4408	A351 CF8M / 1.4408
2	Spring cover	A351 CF8M / 1.4408	A351 CF8M / 1.4408
2A	Cover	AISI 316L / 1.4404	AISI 316L / 1.4404
3	Bottom cover	A351 CF8M / 1.4408	A351 CF8M / 1.4408
4	* O-ring	NBR; EPDM; PTFE; FPM	NBR; EPDM; PTFE; FPM
5	Valve seat	AISI 316 / 1.4401	AISI 316 / 1.4401
6	* O-ring	NBR; EPDM; PTFE; FPM	–
7	* O-ring	NBR; EPDM; PTFE; FPM	NBR; EPDM; PTFE; FPM
9	Pusher disc	AISI 316 / 1.4401	AISI 316 / 1.4401
10A	* Lower diaphragm	PTFE	PTFE
10B	* Upper diaphragm	NBR	NBR
11A	* O-ring	NBR; EPDM; PTFE; FPM	–
11B	* O-ring	NBR; EPDM; PTFE; FPM	–
12	Gasket	Aluminium	–
13	Spring plate	AISI 304 / 1.4301	AISI 304 / 1.4301
14	Nut	Stainless steel A2-70	Stainless steel A2-70
15	* Adjustment spring	AISI 302 / 1.4300	AISI 302 / 1.4300
16	Top spring plate	Brass	AISI 316 / 1.4401
17	Adjustment stem	AISI 304 / 1.4301	AISI 304 / 1.4301
18	Locknut	Stainless steel A2-70	Stainless steel A2-70
19	Handwheel	Plastic	AISI 304 / 1.4301
20	Spring id. plate	Aluminium	–
21	Bolts	–	Stainless steel A2-70
40	Cover	AISI 316L / 1.4404	A351 CF8M / 1.4408
41	Adjustment screw	Stainless steel A2-70	–
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 PS30SS													
Valve model	PS30	1	W	N	C	R	4	R	A	15			
PS30SS – diaphragm sensing pressure sustaining valve	PS30												
<b>Regulating range</b>													
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											
N° 4 – 1,5 to 15 bar		4											
0,2 to 15 bar (dome-loaded) a)		A											
<b>Application</b>													
Water			W										
Gases			G										
Oxygen (degreased)			O										
<b>Seal material</b>													
NBR				N									
EPDM				E									
PTFE b)				T									
FPM / Viton				V									
<b>Maximum inlet pressure</b>													
15 bar					C								
<b>Diaphragm</b>													
NBR / PTFE (only NBR in case of dome-loaded version)						R							
<b>Gauge port 1/4"</b>													
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
<b>Top cap and relieving</b>													
Non-relieving												(1)	
Non-relieving with top cap (adjustment screw with cover)													T
Dome-loaded top c)													X
<b>Pipe connection</b>													
Female threaded ISO 7 Rp													A
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
<b>Size</b>													
1/2" or DN 15													15
3/4" or DN 20													20
1" or DN 25													25
<b>Special valves / Extras</b>													
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) The loading control pressure can be up to a maximum of 1,2 bar above the required downstream pressure.

b) All seals except piston o-ring, which is supplied in FPM/Viton or others on request.

c) This option must be chosen in case of dome-loaded version.

**PISTON SENSING PRESSURE SUSTAINING VALVE  
PS31SS**

**DESCRIPTION**

The ADCA PS31SS is a series of direct acting, spring-loaded, piston sensing pressure sustaining 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 sustaining applications at the point of use in laundry and dyeing machines, food industries, sterilizers, etc.

**MAIN FEATURES**

Compact design.  
Full stainless steel construction.  
Various sealing options to meet compatibility requirements.

**OPTIONS:** 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:** PS31SS – stainless steel, piston sensing.

**SIZES:** 1/2" to 1"; DN 15 to DN 25.

**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.



1/2" to 3/4" – DN 15 to DN 20



1" – DN 25



1/2" to 3/4" – DN 15 to DN 20

1" – DN 25

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

PN 63	Category
1/2" to 1" – DN 15 to 25	SEP

**FLOW RATE COEFFICIENTS (m³/h)**

SIZE	1/2" – DN 15	3/4" – DN 20	1" – DN 25
Kvs	3	3,5	7,5

**LIMITING CONDITIONS**

Valve model	PS31SS			
Body design conditions	Cl. 150	Cl. 300	PN 40	PN 63 *
Max. upstream pressure	50 bar			
Min. upstream pressure	3 bar			
Max. design temperature	80 °C			

\* Rating PN 63 for threaded versions.

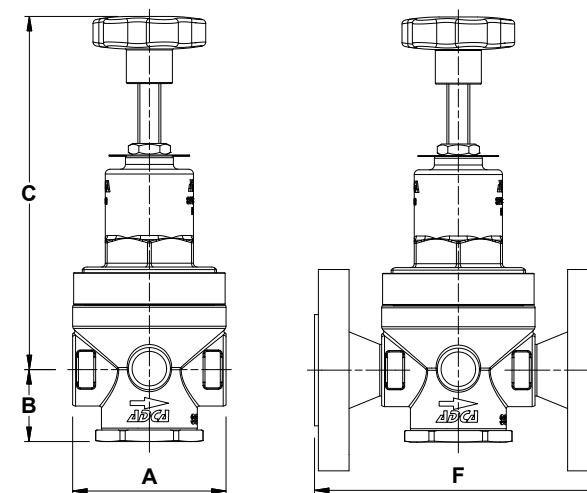
**Warning:** A pressure sustaining valve is not a safety relief valve and must not be used for that purpose!

**OPTIONS**

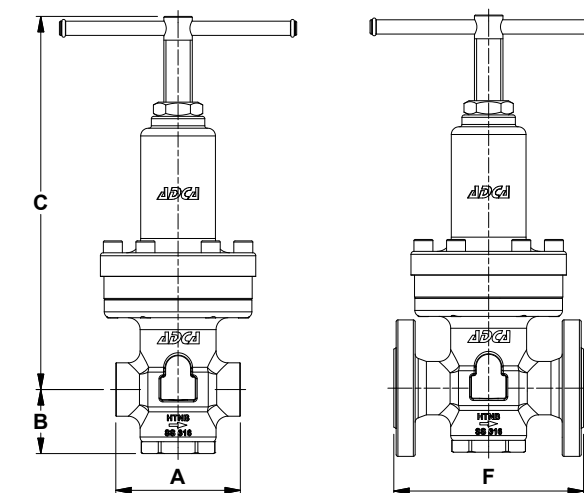
**PRESSURE GAUGE**



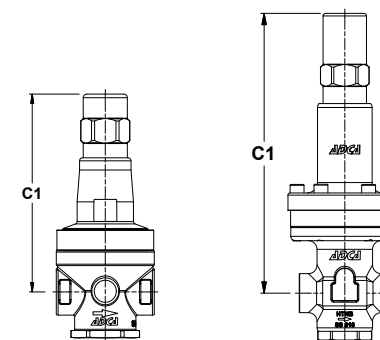
**TOP CAP**



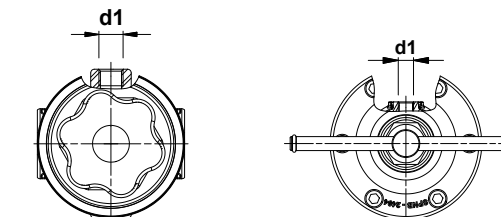
1/2" to 3/4" – DN 15 to DN 20



1" – DN 25



Optional top cap



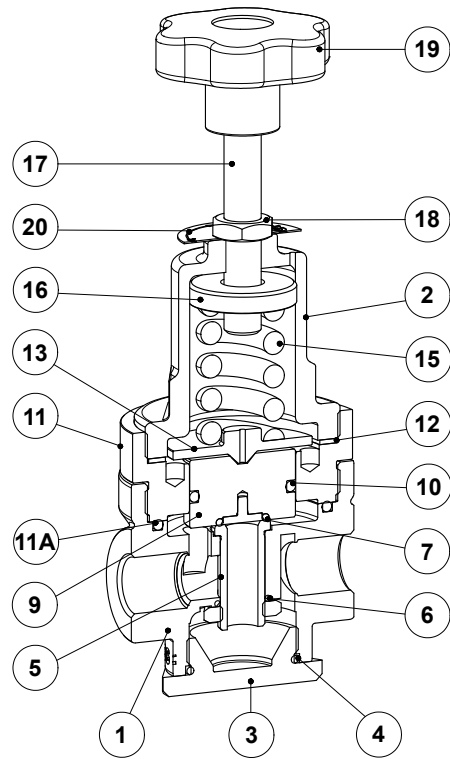
Optional pressure gauge connection

**DIMENSIONS (mm)**

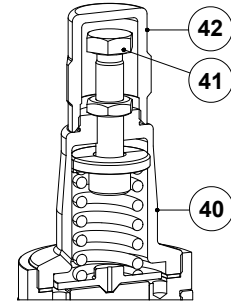
SIZE	THREADED					PN 40		CLASS 150		CLASS 300		
	A	B	C	C1	d1	F *	WEIGHT (kg)	F *	WEIGHT (kg)	F *	WEIGHT (kg)	
1/2" – DN 15	80	38	183	162	1/4"	2,8	150	4,3	150	3,6	150	4,6
3/4" – DN 20	80	38	183	162	1/4"	2,7	150	4,8	150	4	150	5
1" – DN 25	105	54	309	323	1/4"	8,8	160	11,5	230	10,7	230	11,9

\* Different face to face dimensions on request.

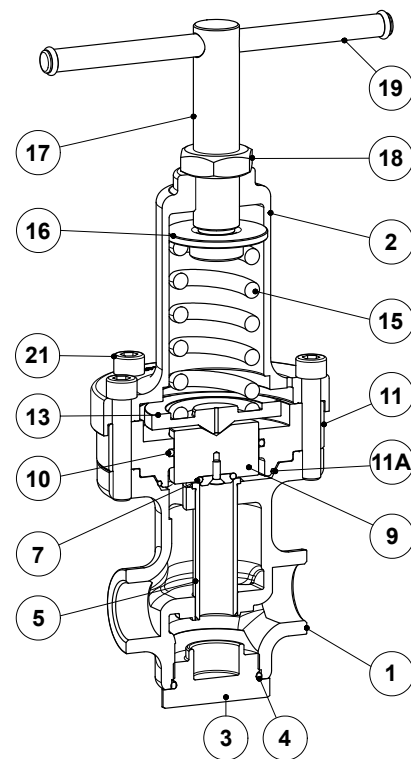
Remarks: As standard, in versions manufactured with EN 1092-1 flanges or ISO 7 Rp threads, connection d1 is female threaded ISO 7 Rp. In versions with ASME B16.5 flanges or NPT threads, this connection is female threaded NPT.



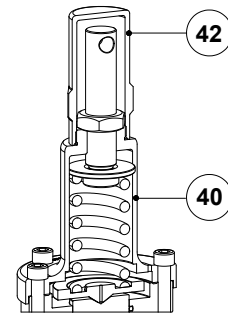
1/2" to 3/4" – DN 15 to DN 20



Optional top cap



1" – DN 25



Optional top cap

MATERIALS			
POS. N°	DESIGNATION	1/2" to 3/4" – DN 15 to DN 20	1" – DN 25
1	Valve body	A351 CF8M / 1.4408	A351 CF8M / 1.4408
2	Spring cover	A351 CF8M / 1.4408	A351 CF8M / 1.4408
3	Bottom cover	A351 CF8M / 1.4408	A351 CF8M / 1.4408
4	* O-ring	NBR; EPDM; PTFE; FPM	NBR; EPDM; PTFE; FPM
5	Valve seat	AISI 316 / 1.4401	AISI 316 / 1.4401
6	* O-ring	NBR; EPDM; PTFE; FPM	–
7	* O-ring	NBR; EPDM; PTFE; FPM	NBR; EPDM; PTFE; FPM
9	Piston	AISI 316 / 1.4401	AISI 316 / 1.4401
10	* Piston 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
12	Gasket	Aluminium	–
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	AISI 316 / 1.4401
17	Adjustment stem	AISI 304 / 1.4301	AISI 304 / 1.4301
18	Locknut	Stainless steel A2-70	Stainless steel A2-70
19	Handwheel	Plastic	AISI 304 / 1.4301
20	Spring id. plate	Aluminium	–
21	Bolts	–	Stainless steel A2-70
40	Cover	AISI 316L / 1.4404	A351 CF8M / 1.4408
41	Adjustment screw	Stainless steel A2-70	–
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 PS31SS												
Valve model	PS31	.	5	W	N	C	4	R	.	A	15	
PS31SS – piston sensing pressure sustaining valve	PS31											
<b>Regulating range</b>												
N° 5 - 3 to 30 bar			5									
N° 6 - 5 to 50 bar			6									
<b>Application</b>												
Water				W								
Gases				G								
Oxygen (degreased)				O								
<b>Seal material</b>												
NBR					N							
EPDM					E							
PTFE a)					T							
FPM / Viton					V							
<b>Maximum inlet pressure</b>												
30 bar						C						
50 bar						D						
<b>Gauge port 1/4"</b>												
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					
<b>Top cap and relieving</b>												
Non-relieving							(1)					
Non-relieving with top cap (adjustment screw with cover)							T					
<b>Pipe connection</b>												
Female threaded ISO 7 Rp										A		
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		
<b>Size</b>												
1/2" or DN 15												15
3/4" or DN 20												20
1" or DN 25												25
<b>Special valves / Extras</b>												
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-ring, which is supplied in FPM/Viton or others on request.

**PRESSURE SUSTAINING VALVE  
PS46  
(EN)**

**DESCRIPTION**

The ADCA PS46 series pressure sustaining valves are single seated, diaphragm or piston sensing bellows sealed controllers, that operate without auxiliary energy. These valves are designed for use with steam, compressed air, and other gases compatible with the construction. These valves are particularly suitable for sustaining steam pressure in all energy and process systems where minimum upstream pressures must be kept under control.

**MAIN FEATURES**

Specially designed high durability bellows, providing pressure balancing and frictionless plug stem. Robust construction (fit-and-forget). Interchangeable actuators and adjustment springs.

**OPTIONS:** Soft sealing in PTFE/GR for use with steam. Soft sealing in nitrile rubber for use with air and gases. Low-noise flow divider. Sensing pipe on body.

**USE:** Steam, compressed air and other gases compatible with the construction. Limited use with liquids. Consult manufacturer before installing the valve with liquids.

**AVAILABLE MODELS:** PS46S and PS46ST or N – carbon steel. Suffix T: soft sealed with PTFE/GR. Suffix N: soft sealed with nitrile rubber.

**SIZES:** DN 15 to DN 100.

**CONNECTIONS:** Flanged EN 1092-1 PN 16 or PN 40. Standard PN 16 DN 65 flanges are supplied with 4 holes. 8 holes, according to EN 1092-1/-2 on request.

**AVAILABLE ACTUATORS:** A1A, A11A, A3A, A4A and P55 – carbon steel. A2A and A21A – SG iron or carbon steel.

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

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

PN 16	PN 40	Category
DN 15 to 50	DN 15 to 32	SEP
DN 65 to 100	DN 40 to 100	1 (CE marked)



**PS46 with sensing pipe on body**



### LIMITING CONDITIONS

Valve model	PS46S	PS46S	PS46ST	PS46ST	PS46SN	PS46SN
Body design conditions	PN 16	PN 40	PN 16	PN 40	PN 16	PN 40
Maximum upstream pressure	13 bar	18 bar	13 bar	18 bar	13 bar	18 bar
Maximum downstream pressure	13 bar	18 bar	13 bar	18 bar	13 bar	18 bar
Minimum upstream pressure	0,2 bar	0,2 bar	0,2 bar	0,2 bar	0,2 bar	0,2 bar
Maximum operating temperature	200 °C	250 °C	200 °C	200 °C	80 °C	80 °C
Maximum hydraulic factory valve body test	24 bar	60 bar	24 bar	60 bar	24 bar	60 bar

Remark: Other soft materials and temperature limits on request.

**Warning: A pressure sustaining valve is not a safety relief valve and must not be used for that purpose!**

Actuator model	A1A	A11A	A2A	A21A	A3A	A4A	P55
Maximum operating pressure (bar)	25	25	12	18	2,5	1,5	25
Maximum operating temperature	90 °C *						130 °C *

\* A water seal pot must be installed in the sensing pipe when operating with steam or liquids at higher temperatures.

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

SIZE	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
Kvs	4,8	6,9	9,1	11,8	14,4	26,5	51,5	79,5	129,5

### ACTUATOR AND SPRING SELECTION TABLE

SIZE		ACTUATOR							
		A4A	A3A	A2A	A21A	A1A	A11A	P55	
DN 15	Regulating range (bar)	0,2 to 0,45	0,45 to 0,9	0,75 to 1,6	1,6 to 3,2	2,4 to 5	3,5 to 7	4,5 to 10	9 to 18
	Spring N°	66	60	60	60	60	60	60	60
DN 20	Regulating range (bar)	0,2 to 0,45	0,45 to 0,9	0,75 to 1,6	1,6 to 3,2	2,4 to 5	3,5 to 7	4,5 to 10	9 to 18
	Spring N°	66	60	60	60	60	60	60	60
DN 25	Regulating range (bar)	0,2 to 0,45	0,45 to 0,9	0,75 to 1,6	1,6 to 3,2	2,4 to 5	3,5 to 7	4,5 to 10	9 to 8
	Spring N°	66	60	60	60	60	60	60	60
DN 32	Regulating range (bar)	0,2 to 0,45	0,45 to 0,9	0,75 to 1,5	1,5 to 3	2,1 to 4,5	3 to 6,5	4,5 to 9	8 to 16
	Spring N°	66	60	60	60	60	60	60	60
DN 40	Regulating range (bar)	0,2 to 0,45	0,45 to 0,9	0,75 to 1,5	1,5 to 3	2,1 to 4,5	3 to 6,5	4,5 to 9	8 to 16
	Spring N°	66	60	60	60	60	60	60	60
DN 50	Regulating range (bar)	0,2 to 0,4	0,3 to 0,9	0,5 to 1,5	1 to 3,2	1,4 to 4,8	2,5 to 7	3 to 10	8 to 18
	Spring N°	67	61	61	61	61	61	61	61
DN 65	Regulating range (bar)	0,2 to 0,4	0,3 to 0,9	0,5 to 1,5	1 to 3,2	1,4 to 4,8	2,5 to 7	3 to 10	8 to 18
	Spring N°	67	61	61	61	61	61	61	61
DN 80	Regulating range (bar)	0,2 to 0,4	0,3 to 0,9	0,4 to 1,4	0,6 to 3	0,8 to 4,2	2 to 6	3 to 8	6 to 16
	Spring N°	68	62	62	62	62	62	62	62
DN 100	Regulating range (bar)	0,2 to 0,4	0,3 to 0,9	0,4 to 1,4	0,6 to 3	0,8 to 4,2	2 to 6	3 to 8	6 to 18
	Spring N°	69	63	63	63	63	63	63	63

### HOW TO SIZE (USING Kvs)

Please consult formulas on IS PV10.00 E or consult manufacturer.

### ORDER REQUIREMENTS

Remarks: Never size the valve according to the pipe diameter in which it has to be fitted, but according to the actual flow required. Pipe sizing must also respect the maximum recommended flow velocities, according to the medium.

### HOW TO ORDER

PS46 DN 32 PN 16 valve complete with spring N° 60, A2A actuator, condensate vessel and copper sensing pipe.

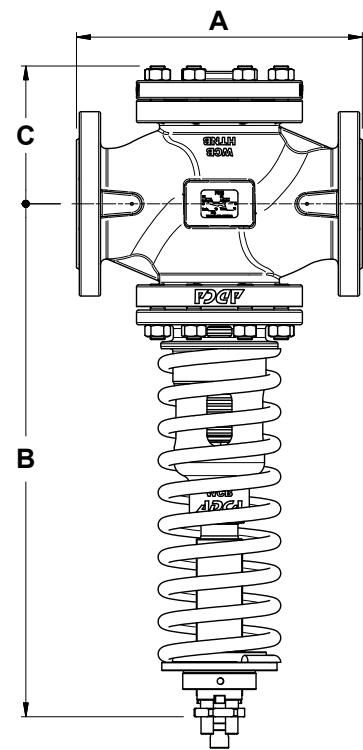
### INSTALLATION

Horizontal installation with the actuator vertically, pointing downwards.

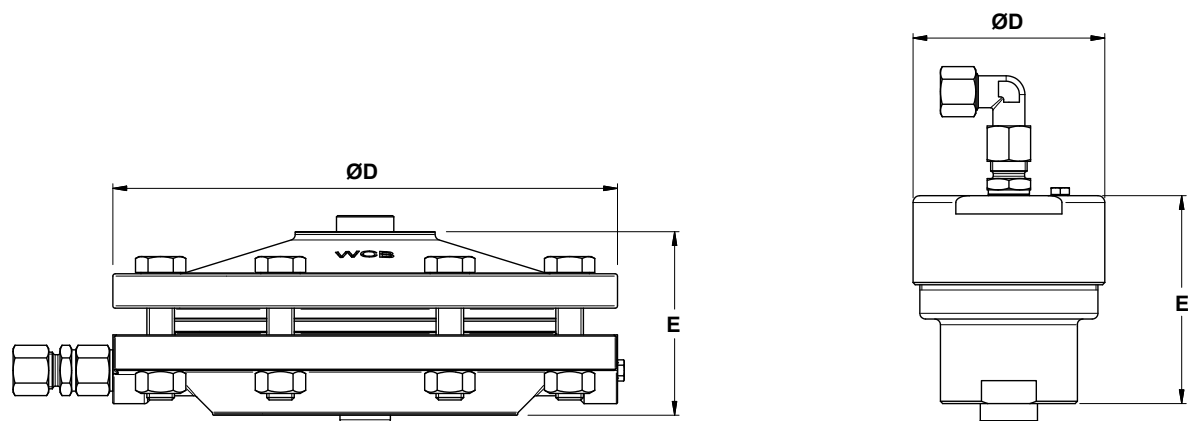
Installation with the actuator pointing upwards is possible only when the medium temperature is below 90 °C.

The sensing pipe, if not fitted on the valve body, must be installed upstream of the valve at a minimum of 1 meter away or 15 pipe diameters.

In steam applications, a "Y" strainer, humidity separator and steam trap should be installed upstream of the valve.

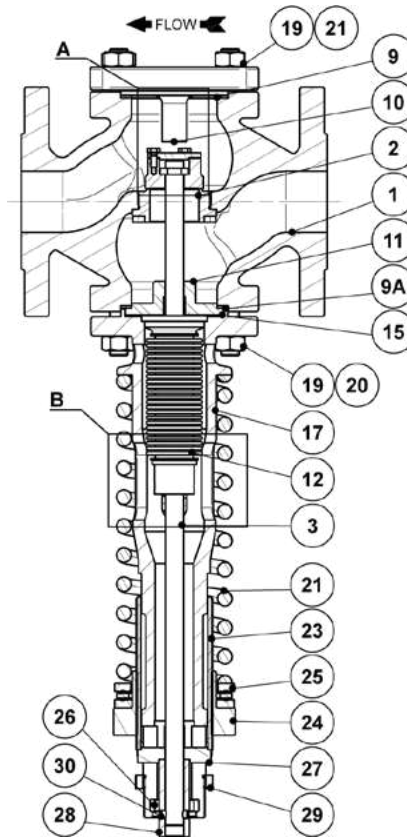


DIMENSIONS - VALVE (mm)									
DIMENSION	SIZE								
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
A	130	150	160	180	200	230	290	310	350
B	366	369	371	381	384	470	495	556	597
C	81	84	86	95	100	113	150	150	164
WEIGHT (kg)	10,4	11,8	12,3	15,2	18,6	24,6	41,1	55,1	69,8

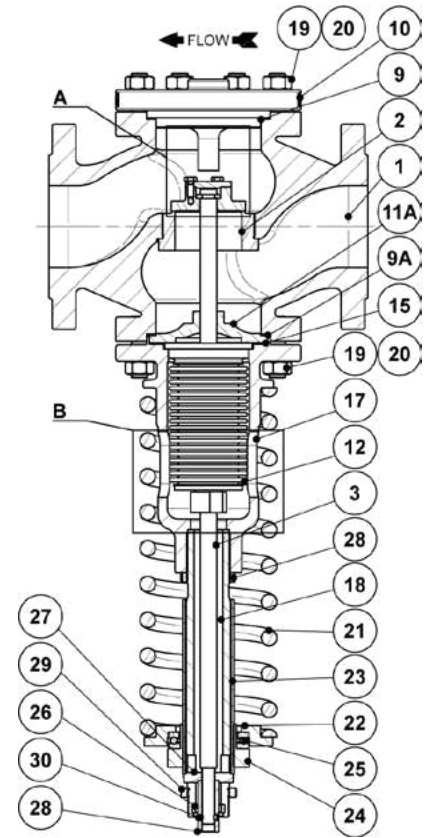


DIMENSIONS - ACTUATOR (mm)							
DIMENSION	ACTUATOR						
	A1A	A11A	A2A	A21A	A3A	A4A	P55
D	172	172	220	220	282	340	84
E	74	74	80	80	82	92	91
WEIGHT (kg)	5,8	5,8	10,2	10,2	12,6	18,3	2,7

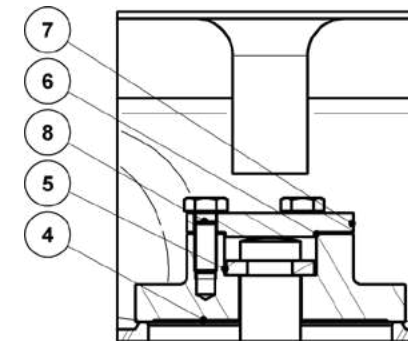
**MATERIALS**



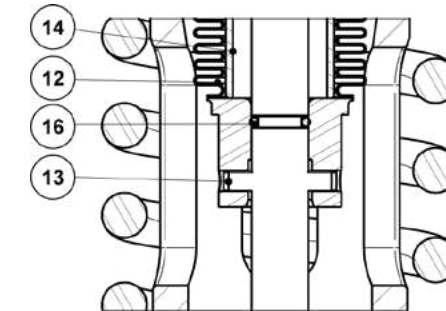
DN 15 - DN 50



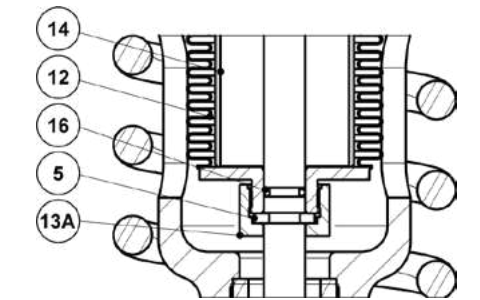
DN 65 - DN 100



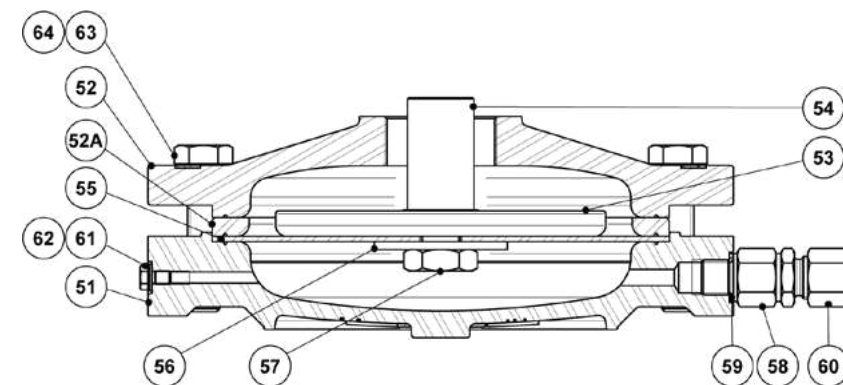
Detail A  
(DN 15 - DN 100)



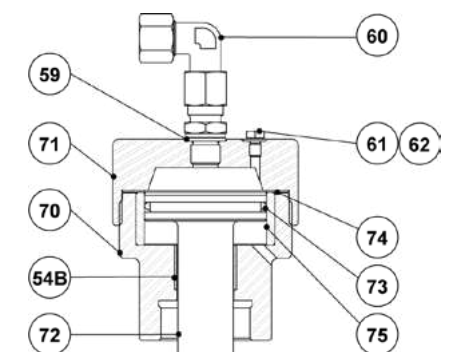
Detail B  
(DN 15 - DN 65)



Detail B  
(DN 80 - DN 100)



A series



P series

MATERIALS – VALVE			
POS. N°	DESIGNATION	DN 15 to DN 50	DN 65 to DN 100
1	Valve body	A216 WCB / 1.0619	A216 WCB / 1.0619
2	Seat	AISI 316 / 4.4401	AISI 316 / 4.4401
3	Stem	AISI 304 / 1.4301	AISI 304 / 1.4301
4	* Valve plug	AISI 420 / 1.4021	AISI 420 / 1.4021
5	Split ring	AISI 316 / 1.4401	AISI 316 / 4.4401
6	Gasket	Copper	Copper
7	Plug cover	AISI 316 / 1.4401	AISI 316 / 1.4401
8	Bolts	AISI 304 / 1.4301	AISI 304 / 1.4301
9	Gasket	Stainless steel / Graphite	Stainless steel / Graphite
9A	Gasket	Stainless steel / Graphite	Stainless steel / Graphite
10	Cover	A216 WCB / 1.0619	A216 WCB / 1.0619
11	Stem guide	AISI 304 / 1.4301	Bronze
12	Bellows	AISI 316Ti / 1.4571	AISI 316Ti / 1.4571
13	Pin	AISI 301 / 1.4310	–
13A	Nut	–	AISI 316 / 1.4401
14	Guide tube	CuZn39Pb3	CuZn39Pb3
15	Gasket	Stainless steel / Graphite	Stainless steel / Graphite
16	O-ring	EPDM	EPDM
17	Piston body	A216 WCB / 1.0619	A216 WCB / 1.0619
18	Piston body extension	–	P355T1 / 1.0421
19	Studs	Steel 8.8; EN 10269 steel	Steel 8.8; EN 10269 steel
20	Nuts	Steel 8.8; EN 10269 steel	Steel 8.8; EN 10269 steel
21	* Adjustment spring	Spring steel	Spring steel
22	Lower spring plate	–	C45E / 1.1191
23	Threaded tube	CuZn39Pb3	CuZn39Pb3
24	Spring adjusting nut	C45E / 1.1191	C45E / 1.1191
25	Ball bearing	Zinc plated steel	Zinc plated steel
26	Spacer	S355JR / 1.0045	S355JR / 1.0045
27	Pressure star	S235JR / 1.0038	S235JR / 1.0038
28	Pressure tube	C45E / 1.1191	C45E / 1.1191
29	Lock nut	C45E / 1.1191	C45E / 1.1191
30	Pin	AISI 303 / 1.4305	AISI 303 / 1.4305

MATERIALS – ACTUATORS						
POS. N°	DESIGNATION	A1A, A11A, A3A and A4A	A2A and A21A	POS. N°	DESIGNATION	P55
51	Lower diaphragm chamber	A216 WCB / 1.0619	GJS-400-15 / 0.7040; A216 WCB / 1.0619	54B	Guide bushing	Steel
52	Upper diaphragm chamber	A216 WCB / 1.0619	GJS-400-15 / 0.7040; A216 WCB / 1.0619	59	Gasket	Copper
52A	Spacer ring	S355JR / 1.0045	S355JR / 1.0045	60	Compression fitting	AISI 316Ti / 1.4571
53	Pressure plate	A216 WCB / 1.0619	GJS-400-15 / 0.7040	61	Vent screw	Zinc plated steel
54	Diaph. plate spindle	A216 WCB / 1.0619	GJS-400-15 / 0.7040	62	Washer	Copper
55	* Diaphragm	Neoprene reinforced polyamid	Neoprene reinforced polyamid	70	Body	S235JR / 1.0038
56	Washer	Copper	Copper	71	Cover	S235JR / 1.0038
57	Hex nut	CuZn39Pb3	CuZn39Pb3	72	Piston	AISI 316 / 1.4401
58	Flow restrictor	AISI 303 / 1.4305	AISI 303 / 1.4305	73	* O-ring	EPDM
59	Gasket	Copper	Copper	74	* Gasket	Stainless steel / Graphite
60	Compression fitting	AISI 316Ti / 1.4571	AISI 316Ti / 1.4571	75	Piston sleeve	AISI 304 / 1.4301
61	Vent screw	Zinc plated steel	Zinc plated steel			
62	Washer	Copper	Copper			
63	Bolts	Zinc plated steel	Zinc plated steel			
64	Nuts	Zinc plated steel	Zinc plated steel			

\* Available spare parts.

**PRESSURE SUSTAINING VALVE  
PSW46B  
(EN)**

**DESCRIPTION**

The ADCA PSW46B series pressure sustaining valves are single seated, diaphragm or piston sensing proportional controllers that operate without auxiliary energy. Designed for use with water, compressed air and other liquids and gases compatible with the construction.

**MAIN FEATURES**

Pressure balancing through robust piston design.  
Soft sealing to meet tight shut-off requirements.  
Robust construction (fit-and-forget).  
Interchangeable actuators and adjustment springs.

**OPTIONS:** Low-noise flow divider.  
Sensing pipe on body.

**USE:** Water, compressed air and other liquids or gases compatible with the construction.

**AVAILABLE MODELS:** PSW46BS – carbon steel.

**SIZES:** DN 50 to DN 100.

**CONNECTIONS:** Flanged EN 1092-1 PN 16 or PN 40.  
Standard PN 16 DN 65 flanges are supplied with 4 holes. 8 holes, according to EN 1092-1/-2 on request.

**AVAILABLE ACTUATORS:** A1A, A11A, A3A, A4A and P55 – carbon steel.  
A2A and A21A – SG iron or carbon steel.

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



With sensing pipe on body

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

PN 16	PN 40	Category
DN 50	–	SEP
DN 65 to 100	DN 50 to 100	1 (CE marked)

LIMITING CONDITIONS		
Valve model	PSW46BS	PSW46BS
Body design conditions	PN 16	PN 40
Maximum upstream pressure	13 bar	18 bar
Maximum downstream pressure	13 bar	18 bar
Minimum upstream pressure	0,2 bar	
Maximum operating temperature	130 °C	
Maximum hydraulic factory valve body test	24 bar	60 bar

Remark: Other soft materials and temperature limits on request.

**Warning: A pressure sustaining valve is not a safety relief valve and must not be used for that purpose!**

Actuator model	A1A	A11A	A21A	A2A	A3A	A4A	P55
Maximum operating pressure (bar)	25	25	18	12	2,5	1,5	25
Maximum operating temperature	90 °C *						130 °C

\* With liquids at higher temperature, the sensing pipe should prevent exceeding the maximum operating temperature of the actuator.

FLOW RATE COEFFICIENTS (m³/h)				
SIZE	DN 50	DN 65	DN 80	DN 100
Kvs	26,5	51,5	79,5	129,5

ACTUATOR AND SPRING SELECTION TABLE									
SIZE		ACTUATOR							
		A4A	A3A	A2A	A21A	A1A	A11A	P55	
DN 50	Regulating range (bar)	0,2 to 0,4	0,3 to 0,9	0,5 to 1,5	1 to 3,2	1,4 to 4,8	2,5 to 7	3 to 10	8 to 18
	Spring N°	67	61	61	61	61	61	61	61
DN 65	Regulating range (bar)	0,2 to 0,4	0,3 to 0,9	0,5 to 1,5	1 to 3,2	1,4 to 4,8	2,5 to 7	3 to 10	8 to 18
	Spring N°	67	61	61	61	61	61	61	61
DN 80	Regulating range (bar)	0,2 to 0,4	0,3 to 0,9	0,4 to 1,4	0,6 to 3	0,8 to 4,2	2 to 6	3 to 8	6 to 16
	Spring N°	68	62	62	62	62	62	62	62
DN 100	Regulating range (bar)	0,2 to 0,4	0,3 to 0,9	0,4 to 1,4	0,6 to 3	0,8 to 4,2	2 to 6	3 to 8	6 to 18
	Spring N°	69	63	63	63	63	63	63	63

#### HOW TO SIZE (USING Kvs)

Please consult formulas on IS PV10.00 E or consult manufacturer.

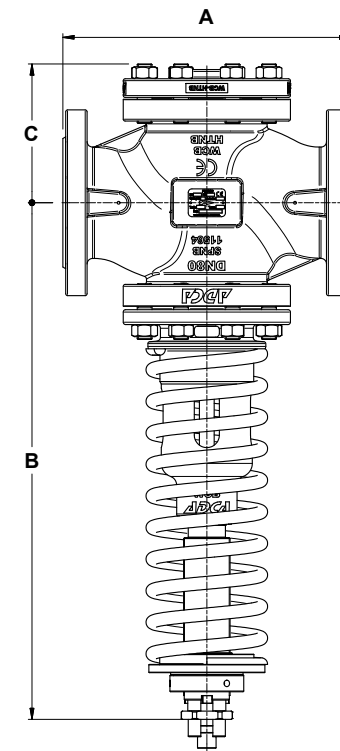
#### HOW TO ORDER

PSW46BS DN 80 PN 16 valve complete with spring N° 62, A2 actuator with sensing pipe on body.

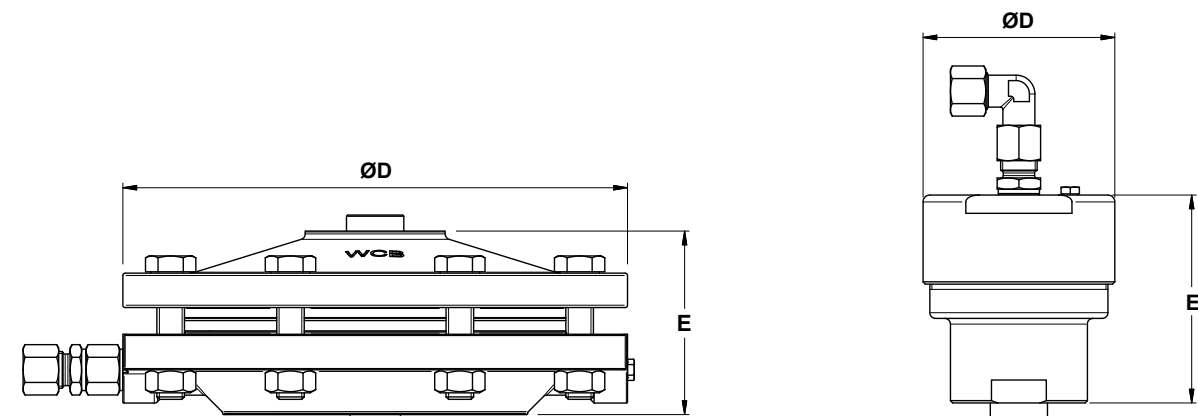
#### INSTALLATION

Horizontal installation with the actuator vertically, pointing downwards (recommended, especially for liquid service) or upwards.

The sensing pipe, if not fitted on the valve body, must be installed upstream of the valve at a minimum of 1 meter away or 15 pipe diameters.

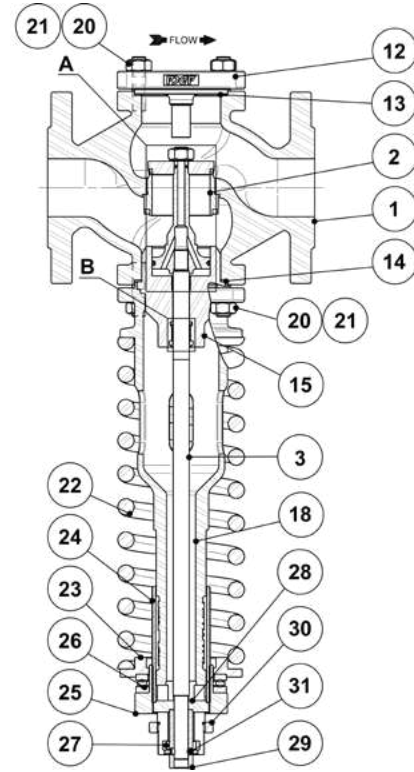


DIMENSIONS - VALVE (mm)				
DIMENSION	SIZE			
	DN 50	DN 65	DN 80	DN 100
A	230	290	310	350
B	470	495	556	597
C	113	150	150	164
WEIGHT (kg)	25,4	43,5	57,3	74,3

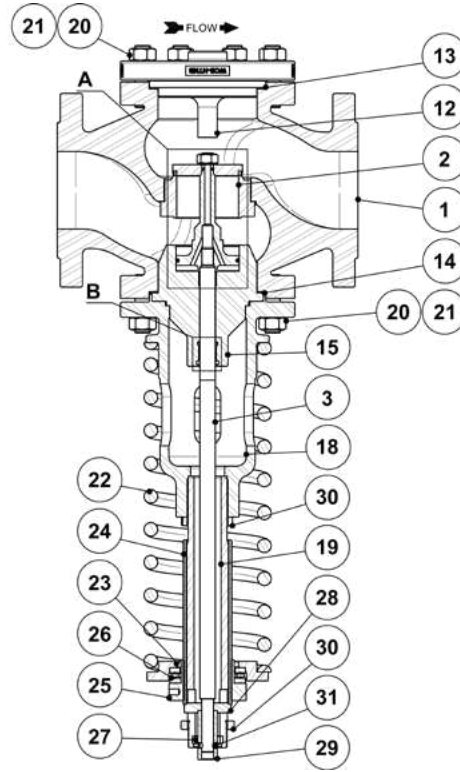


DIMENSIONS - ACTUATOR (mm)							
DIMENSION	ACTUATOR						
	A1A	A11A	A2A	A21A	A3A	A4A	P55
ØD	172	172	220	220	282	340	84
E	74	74	80	80	82	92	91
WEIGHT (kg)	5,8	5,8	10,2	10,2	12,6	18,3	2,7

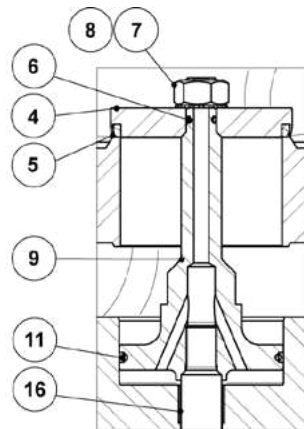
**MATERIALS**



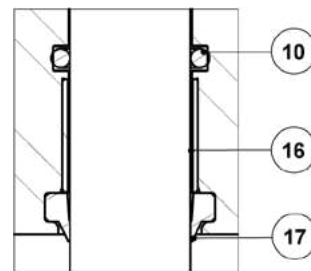
DN 50



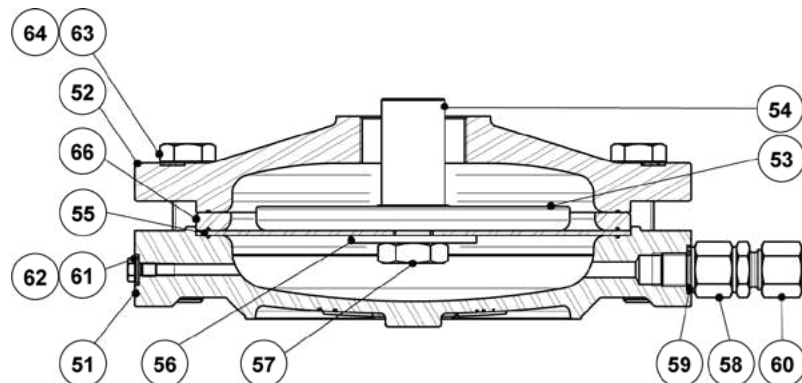
DN 65 to DN 100



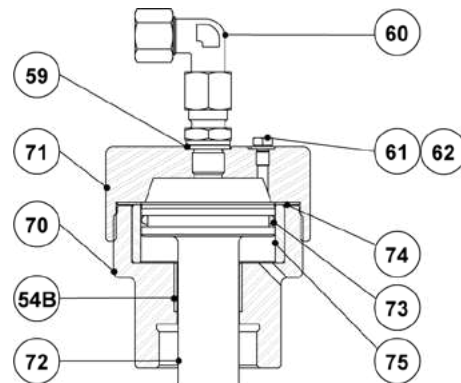
Detail A



Detail B



A series actuators



P series actuators

**MATERIALS – VALVE**

POS. N°	DESIGNATION	DN 50	DN 65 to DN 100
1	Valve body	A216 WCB / 1.0619	A216 WCB / 1.0619
2	Seat	AISI 316 / 4.4401	AISI 316 / 4.4401
3	Stem	AISI 304 / 1.4301	AISI 304 / 1.4301
4	* Valve plug	AISI 316 / 4.4401	AISI 316 / 4.4401
5	Seal ring	EPDM	EPDM
6	O-ring	EPDM	EPDM
7	Nut	AISI 304 / 1.4301	AISI 304 / 1.4301
8	Washer	AISI 304 / 1.4301	AISI 304 / 1.4301
9	Piston	AISI 316 / 4.4401	AISI 316 / 4.4401
10	O-ring	EPDM	EPDM
11	O-ring	EPDM	EPDM
12	Cover	A216 WCB / 1.0619	A216 WCB / 1.0619
13	Gasket	Stainless steel / Graphite	Stainless steel / Graphite
14	Gasket	Stainless steel / Graphite	Stainless steel / Graphite
15	Guide tube	AISI 304 / 1.4301	AISI 304 / 1.4301
16	Guide bushing	Steel	Steel
17	Scraper	Viton	Viton
18	Piston body	A216 WCB / 1.0619	A216 WCB / 1.0619
19	Piston body extension	–	P355T1 / 1.0421
20	Studs	Steel 8.8; EN 10269 steel	Steel 8.8; EN 10269 steel
21	Nuts	Steel 8.8; EN 10269 steel	Steel 8.8; EN 10269 steel
22	Spring	Spring steel	Spring steel
23	Lower spring plate	C45E / 1.1191	C45E / 1.1191
24	Threaded tube	CuZn39Pb3	CuZn39Pb3
25	Spring adjusting nut	C45E / 1.1191	C45E / 1.1191
26	Ball bearing	Zinc plated steel	Zinc plated steel
27	Spacer	S355J2G3 / 1.0570	S355J2G3 / 1.0570
28	Pressure star	S235JR / 1.0038	S235JR / 1.0038
29	Pressure tube	C45E / 1.1191	C45E / 1.1191
30	Lock nut	C45E / 1.1191	C45E / 1.1191
31	Pin	AISI 303 / 1.4305	AISI 303 / 1.4305

\* Available spare parts.

**MATERIALS – ACTUATOR**

POS. N°	DESIGNATION	A1A, A11A, A3A and A4A	A2A and A21A	POS. N°	DESIGNATION	P55
51	Lower diaphragm chamber	A216 WCB / 1.0619	GJS-400-15 / 0.7040; A216 WCB / 1.0619	54B	Guide bushing	Steel
52	Upper diaphragm chamber	A216 WCB / 1.0619	GJS-400-15 / 0.7040; A216 WCB / 1.0619	59	Gasket	Copper
53	Pressure plate	A216 WCB / 1.0619	GJS-400-15 / 0.7040	60	Compression fitting	AISI 316Ti / 1.4571
54	Diaph. plate spindle	A216 WCB / 1.0619	GJS-400-15 / 0.7040	61	Vent screw	Zinc plated steel
55	* Diaphragm	Neoprene reinforced polyamid	Neoprene reinforced polyamid	62	Washer	Copper
56	Washer	Copper	Copper	70	Body	S235JR / 1.0038
57	Hex nut	CuZn39Pb3	CuZn39Pb3	71	Cover	S235JR / 1.0038
58	Flow restrictor	AISI 303 / 1.4305	AISI 303 / 1.4305	72	Piston	AISI 316 / 1.4401
59	Gasket	Copper	Copper	73	* O-ring	EPDM
60	Compression fitting	AISI 316Ti / 1.4571	AISI 316Ti / 1.4571	74	* Gasket	Stainless steel / Graphite
61	Vent screw	Zinc plated steel	Zinc plated steel	75	Piston sleeve	AISI 304 / 1.4301
62	Washer	Copper	Copper			
63	Bolts	Zinc plated steel	Zinc plated steel			
64	Nuts	Zinc plated steel	Zinc plated steel			
66	Spacer ring	S355JR / 1.0045	S355JR / 1.0045			

\* Available spare parts.

**PILOT OPERATED PRESSURE SUSTAINING VALVES  
PS47**

**DESCRIPTION**

The ADCA PS47 pilot operated pressure sustaining valves are designed for use with steam, compressed air, nitrogen and other gases compatible with the construction materials. The PS47 accurately senses upstream pressure and acts to precisely control it to a minimum or disperse excess pressure.

**MAIN FEATURES**

Precise control of upstream pressure from 0,07 bar to 17 bar.  
Robust steel or stainless steel construction.  
Guided piston and valve stem.  
Hardened plug.

**OPTIONS:** Soft sealing.  
Low pressure top.  
Dome loaded version.  
Bottom cover drain connection.  
Stellited plug and seat.  
External sensing connection.

**USE:** Saturated steam, compressed air and other gases (Group 2) compatible with the construction (except oxygen).

**AVAILABLE MODELS:** PS47 – steel versions for steam.  
PS47i – stainless steel versions for steam (only available from DN 15 to DN 50).  
PS47G – steel versions for compressed air and gases.  
PS47Gi – stainless steel versions for compressed air and gases.

**SIZES:** 1/2" to 2"; DN 15 to DN 50.

**CONNECTIONS:** Flanged EN 1092-1 PN 40.  
Flanged ASME B16.5 Class 150 or 300.  
Female threaded ISO 7 Rp or NPT.  
Socket weld (SW) ASME B16.11.

**INSTALLATION:** Horizontal installation.  
See IMI – Installation and maintenance instructions.  
In steam applications, a "Y" strainer, humidity separator and steam trap should be installed upstream of the valve.



CE MARKING – GROUP 2 (PED – European Directive)		
CLASS 150	PN 40	Category
1/2" to 2"	DN 15 to 32 1/2" to 1 1/4"	SEP
–	DN 40 to 50 1 1/2" to 2"	1 (CE marked)

**LIMITING CONDITIONS**

Valve model	PS47 PS47i
Body design conditions	PN 40
Maximum upstream pressure	17 bar
Minimum upstream pressure *	0,35
Maximum downstream pressure	17 bar
Maximum operating temperature	250 °C
Maximum hydraulic factory valve body test	60 bar

\* 0,07 bar with low pressure top (limited to 7 bar maximum inlet pressure).

Remark: Pressure and temperature limiting conditions may change if "G" version for compressed air and gases is chosen or soft sealing/piston rings are used.

**Warning: A pressure sustaining valve is not a safety relief valve and must not be used for that purpose!**

**REGULATING RANGES**

SPRING COLOUR	GREEN w/ 1 diaphragm	BLUE w/ 1 diaphragm	RED w/ 2 diaphragms	BLACK w/ 2 diaphragms
Regulating range	0,07 to 0,5 bar * 0,35 to 2 bar	1,5 to 5,5 bar	3,5 to 8,5 bar	7 to 17 bar

\* With low pressure top.

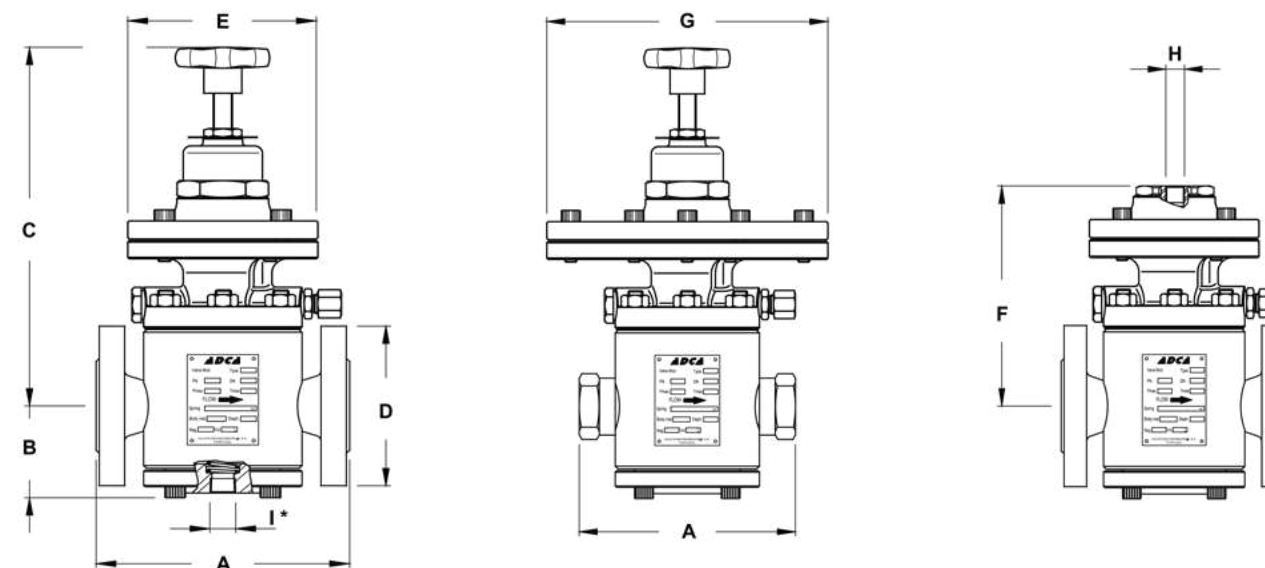


Fig. 1 - Valve with standard diaphragm Fig. 2 - Valve with low pressure top Fig. 3 - Dome loaded valve

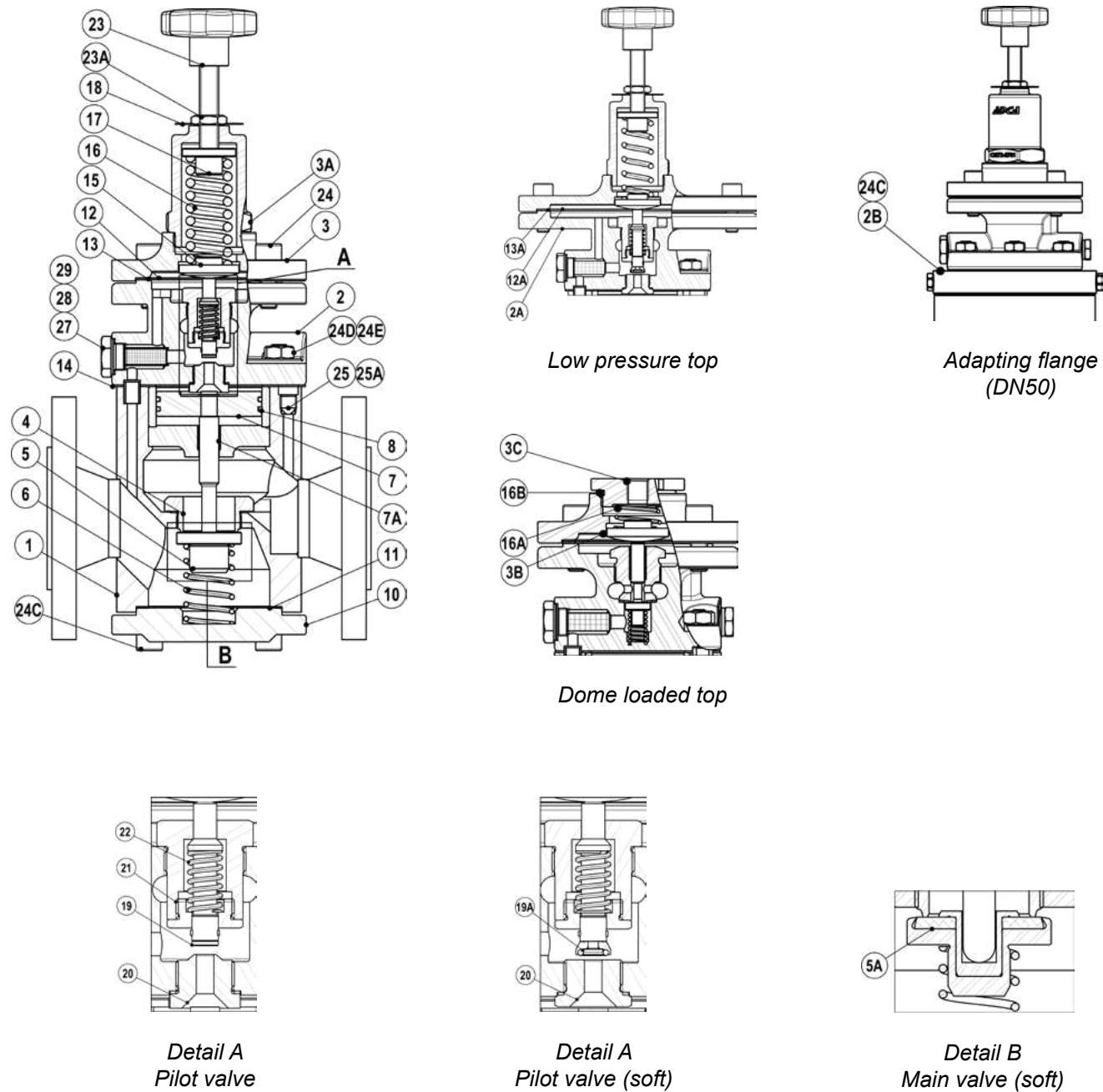
**DIMENSIONS (mm)**

SIZE	A				B	C	D	ØE	F	ØG	H	I *	WGT. (kg)
	PN 40	CLASS 150	CLASS 300	THREADED									
1/2" – DN 15	150	184	190	140	56	275	95	120	162	195	1/4"	3/8"	13
3/4" – DN 20	150	184	194	140	56	287	105	120	174	195	1/4"	3/8"	13,5
1" – DN 25	160	184	197	150	56	287	115	120	174	195	1/4"	3/8"	14
1 1/4" – DN 32	180	-	-	170	68	299	140	120	186	195	1/4"	3/8"	18
1 1/2" – DN 40	200	222	235	190	75	307	150	130	194	195	1/4"	3/8"	22
2" – DN 50	230	254	267	230	84	323	165	160	210	195	1/4"	3/8"	31

\* Optional drain connection for steam trapping. This drain connection does not replace the humidity separator, but can be useful if, e.g., the valve stops operating for long periods of time (see Fig. 6).

Remarks: As standard, connections H and I, in valves manufactured with ASME B16.5 flanges, SW or NPT threads, are female threaded NPT. In valves manufactured with EN 1092-1 flanges or ISO 7 Rp threads, these connections are also female threaded ISO 7 Rp.

**MATERIALS**



**MATERIALS**

POS. N°	DESIGNATION	PS47	PS47i
1	Valve body	S355JR / 1.0045; P250GH / 1.0460	AISI 316 / 1.4401
2	Pilot valve body	A351 CF8 / 1.4308	A351 CF8 / 1.4308
2A	Low pressure pilot valve body	A351 CF8 / 1.4308	A351 CF8 / 1.4308
2B	Adapting flange	C45E / 1.1191	AISI 316 / 1.4401
3	Top cover	A351 CF8 / 1.4308	A351 CF8 / 1.4308
3A	Spring cover	A351 CF8 / 1.4308	A351 CF8 / 1.4308
3B	Top cover	C45E / 1.1191	AISI 316 / 1.4401
3C	Cover nut	C45E / 1.1191	AISI 316 / 1.4401
4	* Main valve seat	AISI 316 / 1.4401	AISI 316 / 1.4401
5	* Main valve plug	Hardened st. steel	Hardened st. steel
5A	* Main valve plug (soft)	AISI 316 w/ PTFE/GR; Rulon	AISI 316 w/ PTFE/GR; Rulon
6	* Main valve spring	AISI 302 / 1.4300	AISI 302 / 1.4300
7	* Piston	Brass / Bronze	Brass / Bronze
7A	Piston guide	AISI 316 / 1.4401	AISI 316 / 1.4401
8	* Piston Rings	Bronze / FKM / EPDM / NBR	Bronze / FKM / EPDM / NBR
9	Piston liner	AISI 304 / 1.4301	AISI 304 / 1.4301
10	Bottom cover	S355JR / 1.0045	AISI 316 / 1.4401
11	* Bottom cover gasket	Stainless steel / Graphite	Stainless steel / Graphite
12	* Diaphragm	AISI 301 / 1.4310	AISI 301 / 1.4310
12A	* Low pressure diaphragm	AISI 301 / 1.4310	AISI 301 / 1.4310
13	* Diaphragm gasket	Stainless steel / Graphite	Stainless steel / Graphite
13A	* Low press. diaphragm gasket	Stainless steel / Graphite	Stainless steel / Graphite
14	* Pilot valve gasket	Stainless steel / Graphite	Stainless steel / Graphite
15	Lower spring carrier	Brass	Brass
16	* Adjustment spring	Steel	Steel
16A	Diaphragm spring	Stainless steel	Stainless steel
16B	O-ring	Viton	Viton
17	Top spring carrier	Brass	Brass
18	Spring ID plate	Aluminium	Aluminium
19	* Pilot valve plug	AISI 316 / 1.4401	AISI 316 / 1.4401
19A	* Pilot valve plug (soft)	PTFE/GR; Rulon, etc.	PTFE/GR; Rulon, etc.
20	* Pilot valve seat	AISI 316 / 1.4401	AISI 316 / 1.4401
21	* Pilot valve body	A351 CF8 / 1.4308	Copper / PTFE
22	* Pilot valve spring	AISI 302 / 1.4300	AISI 302 / 1.4300
23	Handwheel	Plastic / Stainless steel	Plastic / Stainless steel
23A	Locknut	AISI 304 / 1.4301	AISI 304 / 1.4301
24	Bolts	ISO 898 or EN 10269 steel	ISO 3506 stainless steel
24C	Bolts	ISO 898 or EN 10269 steel	ISO 3506 stainless steel
24D	Studs	ISO 898 or EN 10269 steel	ISO 3506 stainless steel
24E	Nuts	ISO 898 or EN 10269 steel	ISO 3506 stainless steel
25	Socket set screw	Stainless steel	Stainless steel
25A	O-ring	Viton	Viton
26	Sensing pipe	Copper	Stainless steel
27	* Pilot valve strainer	AISI 304 / 1.4301	AISI 304 / 1.4301
28	Strainer nut	AISI 304 / 1.4301	AISI 304 / 1.4301
29	Gasket	Copper	Copper / PTFE

\* Available spare parts.





CAPACITY TABLE

INLET (barg)	OUTLET (barg)	SATURATED STEAM (kg/h)						COMPRESSED AIR (Nm³/h – 0 °C – 1,013 bar)					
		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
0,7	0,35	40	75	125	190	280	480	15	31	50	70	111	191
1	0,4	45	95	160	240	355	620	16	33	51	79	113	194
	0,6	40	83	140	210	308	535	27	55	90	138	199	343
2	0,4 - 1	75	150	250	380	545	960	60	122	201	307	444	763
	1,2	65	138	230	345	515	900	54	109	180	276	399	686
	1,6	50	105	175	265	393	685	45	91	150	230	333	572
3	0,4 - 1,5	100	200	335	510	750	1310	120	240	300	460	666	1150
	2	85	170	290	450	660	1155	105	210	251	384	555	1050
	2,2	80	165	277	416	613	1050	48	93	152	232	334	570
	2,6	60	127	203	315	467	818	45	61	101	154	223	384
4	0,4 - 2	125	250	420	630	920	1580	150	238	499	739	1089	1825
	2,5	114	225	385	580	850	1465	135	208	449	568	978	1635
	3,2	92	183	309	482	708	1205	119	177	398	492	867	1444
	3,6	68	137	237	353	536	932	60	124	202	154	444	763
5	0,4 - 2	150	310	512	755	1114	1895	180	360	505	768	1110	1908
	3	144	295	488	743	1095	1835	165	330	556	691	997	1716
	4	115	225	373	578	846	1430	151	298	404	613	885	1526
	4,2	105	213	343	525	770	1342	136	285	383	582	840	1449
6	0,4 - 3	175	355	602	919	1358	2298	210	468	696	1046	1523	2580
	4	159	314	538	827	1217	2142	195	437	646	969	1412	2389
	5	119	250	411	637	941	1644	150	345	494	738	1079	1817
	5,2	109	217	360	568	839	1465	135	315	443	664	968	1627
7	0,4 - 3,5	197	410	670	1005	1540	2644	240	480	804	1200	1740	2989
	5	178	358	587	908	1345	2306	210	421	701	1046	1524	2640
	6	132	271	452	688	1027	1773	150	301	499	756	1104	1829
	6,2	122	251	416	635	934	1618	105	211	349	529	773	1280
8	0,4 - 4	225	471	778	1169	1759	3043	270	546	798	1353	1746	3411
	5	221	339	730	1118	1659	2884	265	516	747	1276	1635	3220
	6	192	385	639	976	1451	2513	225	449	710	1125	1635	2762
	7	146	293	481	732	1085	1887	180	361	600	892	1296	2184
9	7,2	137	274	453	692	1011	1782	156	312	540	768	1128	1978
	0,4 - 5	251	518	856	1325	1923	3358	301	612	1011	1507	2244	3789
	6	241	500	788	1222	1766	3095	270	553	910	1359	1980	3474
	7	206	398	679	1068	1559	2676	240	492	816	1230	1798	2970
10	8	156	314	514	794	1142	2053	180	360	598	903	1288	2247
	8,2	145	292	483	741	1090	1888	165	329	547	826	1176	2056
	0,4 - 5	275	561	944	1468	2127	3718	330	659	1116	1692	2412	4173
	6	272	551	917	1419	2074	3619	314	628	1065	1615	2301	3983
12	7	252	508	838	1268	1871	3249	288	599	1004	1503	2202	3810
	8	213	431	722	1118	1659	2831	240	492	806	1212	1770	3022
	9	163	333	548	843	1244	2152	192	360	658	898	1350	2280
	9,2	150	298	493	756	1143	1929	181	342	628	852	1283	2165
15	1 - 6	330	680	1124	1732	2541	4407	390	792	1300	1978	2844	4917
	8	311	629	1023	1575	2332	4034	360	732	1219	1827	2622	4497
	10	265	533	812	1271	1867	3202	270	553	910	1359	1980	3474
	11	175	364	568	924	1350	2359	210	468	696	1046	1523	2580
17	1 - 8	408	839	1373	2138	3118	5403	480	972	1602	2427	3564	6072
	12	339	656	1068	1629	2441	4250	375	762	1272	1923	2784	4692
	14	199	401	662	1017	1503	2619	255	528	889	1332	1896	3398
17	1 - 9	425	863	1460	2178	3165	5343	540	912	1819	2737	3984	6618
	15	347	709	1190	1816	2694	4712	315	708	1179	1764	2520	4418
	16	207	416	717	1217	1608	2824	255	528	889	1332	1896	3398

Remarks: A pressure sustaining valve is usually sized to the minimum allowable pressure drop across the valve.



We reserve the right to change the design and material of this product without notice.

IS PS47.20 E 07.19



ORDERING CODES PS47

Valve model	PS.47	S.	1	1.	A	15
PS47 – steam (standard)	PS.47					
PS47G – compressed air and gases	PS.47G					
<b>Body material</b>						
S355JR / 1.0045 or P250GH / 1.0460 carbon steel	(1)					
AISI 316 / 1.4401 stainless steel	I					
<b>Options</b>						
Standard valve with internal sensing line	(1)					
Valve for external sensing connection	B					
<b>Diaphragm</b>						
Standard diaphragm		S.				
Low pressure diaphragm		L.				
<b>Regulating range</b>						
Green spring – 0,35 to 2 bar – single diaphragm			1			
Blue spring – 1,5 to 5,5 bar – single diaphragm			2			
Red spring – 3,5 to 8,5 bar – double diaphragm			3			
Black spring – 7 to 17 bar – double diaphragm			4			
Dome loaded – 0,35 to 4 bar – single diaphragm a)			6			
Dome loaded – 2 to 17 bar – double diaphragm a)			7			
<b>Piston rings b)</b>						
Bronze			(1)			
FKM			V			
EPDM			E			
NBR			N			
<b>Drain connection</b>						
Standard valve				(1)		
Drain connection ISO 7 Rp 3/8"				D		
<b>Valve sealing</b>						
Standard metal to metal with hardened plug					1.	
Stellited plug and seat					2.	
Soft sealed with virgin PTFE b)					3.	
Soft sealed with PTFE/GR b)					4.	
Soft sealed with Rulon b)					5.	
Soft sealed with FPM/Viton b)					6.	
<b>Pipe connection</b>						
Threaded ISO 7 Rp					A	
Threaded NPT ASME B1.20.1					C	
Socket weld (SW) ASME B16.11					H	
Flanged EN 1092-1 PN 40					N	
Flanged ASME B16.5 Class 150					U	
Flanged ASME B16.5 Class 300					V	
<b>Size</b>						
DN 15 or 1/2"						15
DN 20 or 3/4"						20
...						
<b>Special valves / Extras</b>						
Full description or additional codes have to be added in case of non-standard combination.						
E						

a) The loading control pressure is approximately the same as the required upstream set-point pressure (± 0,2 bar).  
b) Valve limited to the materials maximum operating temperature. Consult manufacturer for more details.



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IS PS47.20 E 07.19