

# RA10 ANSI 150/300

*Self-acting pressure reducers*

Single seat self-acting pressure reducers for steam, water, air and other types of non-hazardous fluids (Group 2 Directive 2014/68/EU)

Equipped with balancing bellows and a large section driven plug, they allow an accurate regulation in any process condition.

Adjustment of the calibration range is extremely simple as it can be carried out with a common spanner wrench without the aid of special tools.

The “Quick-change” actuator makes the reducer setting range extremely fast even if already mounted on the plant.



#### EUROPEAN DIRECTIVE PRESSURE EQUIPMENT 2014/68/EU

ANSI150	ANSI300	CATEGORIA	FLUIDI
½" ÷ 2"	½" ÷ 1"	Art. 4 Par.3	Gruppo 2
2 ½" ÷ 4"	1" ½ ÷ 4"	1	Gruppo 2



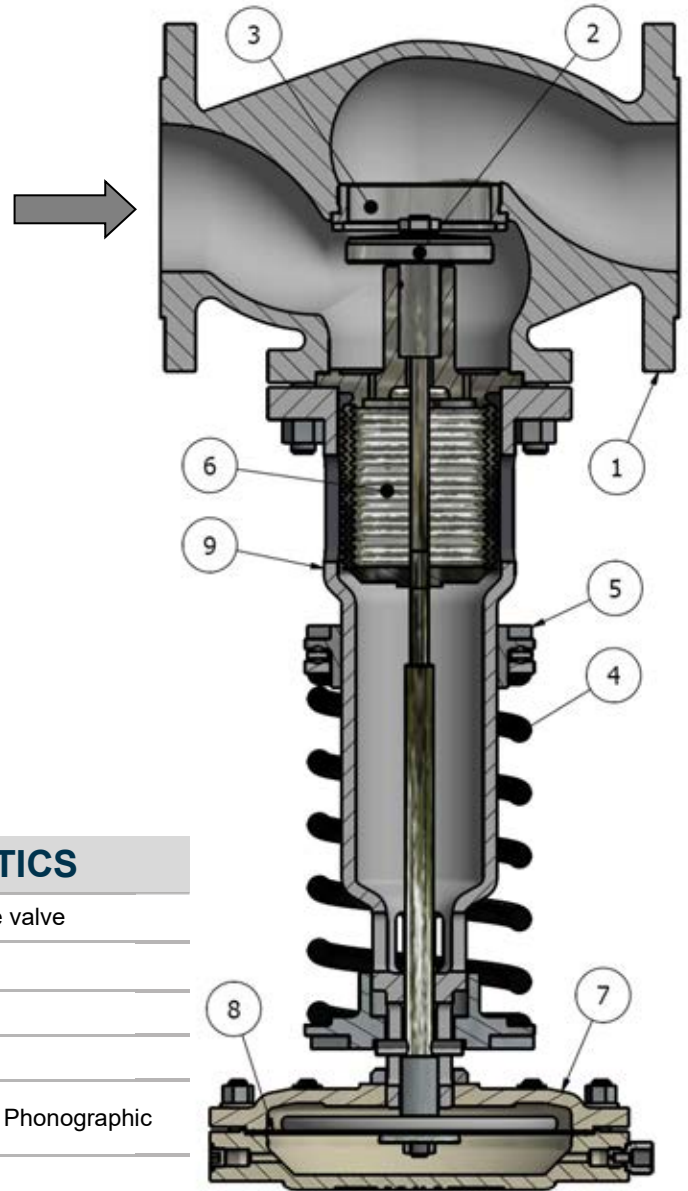
14/34/EU (ATEX)



Safety Integrity Level  
IEC EN 61508 - TÜV

- ◆ From 1/2" to 4" ANSI 150/300
- ◆ Modular design
- ◆ "Top Guide" construction to ensure plug stability
- ◆ "Quick-change" actuator
- ◆ Seat/plug leakage: metallic (std.) or soft PTFE (on request)
- ◆ Available in: Spheroidal cast iron, Carbon steel and Stainless steel

1. Body valve
2. Plug
3. Seat
4. Spring
5. Pressure regulation ring
6. Compensation bellows
7. "Quick-change" actuator
8. Diaphragm actuator
9. Bonnet (not in contact with the fluid)



## REDUCER BODY CHARACTERISTICS

Type	Top entry, single seat, globe valve
Sizes	from 1/2" to 4"
Pressure rating	ANSI Classe 150 / 300
Design std.	ANSI B16.34
Flange connection	ANSI B16.5 - Raised Face - Phonographic
Face to face dimensions	ANSI / ISA 75.08.01

## REDUCER BODY PROJECT CONDITIONS

	ANSI 150	ANSI 300
Maximum upstream pressure	20 bar	25 bar
Maximum downstream pressure	See actuator	See actuator
Minimum downstream pressure	See actuator	See actuator
Maximum temperature with metallic seat	300°C	300°C
Maximum temperature with soft seat	200°C	200°C
Maximum reduction ratio	10:1	10:1

## ACTUATOR PROJECT CONDITIONS

	AR265	AR205	AR150	AR120	AR100	AR085
Maximum pressure	2 bar	3 bar	10 bar	16 bar	17 bar	18 bar
Maximum temperature with EPDM diaphragm	125°C	125°C	125°C	125°C	125°C	125°C
Maximum temperature with nitrile Rubber	90°C	90°C	90°C	90°C	90°C	90°C

## REDUCER BODY& TRIM MATERIALS COMBINATION

BODY REDUCER	BONNET	TRIM	STUD	NUTS
Carbon steel ASTM A216 WCC	Spheroidal graphite cast iron: EN-GJS-400-18 RT (5.3104)	Seat: ASTM A182 F316 Plug: ASTM A182 F304 Bellows: ASTM A240 Tp.316L	ASTM A193 B7	ASTM A194 H2
Stainless steel ASTM A351 CF8M	Spheroidal graphite cast iron: EN-GJS-400-18 RT (5.3104)	Seat: ASTM A182 F316 Plug: ASTM A182 F304 Bellows: ASTM A240 Tp.316L	ASTM A193 B7	ASTM A194 H2

### ON REQUEST

Stainless steel ASTM A351 CF8M	ASTM A182 F304 or F316	ASTM A182 F304 or F316	ASTM A193 B8M	ASTM A194 8M
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## ACTUATOR COMBINATION

CASING	DIAPHRAGM	INTERNAL PARTS	SCREWS	NUTS
Spheroidal graphite cast iron: EN-GJS-400-18 RT	EPDM (max 125°C) (others on request)	ASTM A105 + Electrolytic galvanizing Fe/Zn 8 c1A - UNI ISO 4520	Classe 8.8	ASTM A194 2H

### ON REQUEST

Stainless steel ASTM A182 F304 / F316 (ONLY WET PARTS)	EPDM (max 125°C) (others on request)	ASTM A182 F304 / F316	Classe A2-70	ASTM A194 8M
Stainless steel ASTM A182 F304 / F316 (FULL PARTS)	EPDM (max 125°C) (others on request)	ASTM A182 F304 / F316	Classe A2-70	ASTM A194 8M

## RELATION BETWEEN PRESSURE / TEMPERATURE

TEMPERATURE	ASTM A216 WCC		A351 CF8M	
	ANSI 150 (bar)	ANSI 300 (bar)	ANSI 150 (bar)	ANSI 300 (bar)
°C				
-29÷38	19.8	51.7	19.0	49,6
50	18.5	51.7	18.4	48.1
100	17.7	51.5	16.2	42.2
150	15.8	50.2	14.8	38.5
200	13.8	48.6	13.7	35.7
250	12.1	46.3	12.1	33.4
300	10.2	42.9	10.2	31.6

## STANDARD PROTECTING COATING

VALVE BODY	ACTUATOR	BONNET	SPRING
<ul style="list-style-type: none"> <li>Siliconic primer</li> <li>Finish with siliconic enamel RAL 9005</li> </ul>	<ul style="list-style-type: none"> <li>Siliconic primer</li> <li>Finish with siliconic enamel RAL 9005</li> </ul>	Black Electrolytic zinc coatings Fe/Zn 12 BK UNI EN ISO 4042	Powder coat Polyester RAL 7032

## ACTUATORS SETTING RANGE

TYPE	AREA Inch <sup>2</sup> (mm <sup>2</sup> )	FLOW RATE COEFFICIENTS								
		CV 6 Kv 5	CV 7,5 Kv 6,5	CV 13 Kv11	CV17 Kv 14,5	CV 35 Kv30	CV 47 Kv 40	CV 68 Kv 58	CV 90 Kv 78	CV 150 Kv 128
AR265	85.54 (55127)	0.4÷1.0 bar								
AR205	51.13 (32990)	0.9÷1.8 bar				0.9÷2 bar			0.9÷2.6 bar	
AR150	27.37 (1766)	1.7÷3 bar				1.9÷5 bar			2.5÷8.5 bar	
AR120	19.01 (12266)	2.8÷5 bar				4.5÷8.5 bar		4.5÷11.5 bar		8÷15 bar
AR100	12.16 (7850)	4.8÷7 bar				8÷15 bar		11÷15 bar		///
AR085	8.79 (5672)	6.8÷15 bar				///		///		///

## FLOW RATE COEFFICIENTS - SEAT DIAMETER

CV	Kv	STROKE Inch (mm)	Seat diameter Inch (mm)	Valve size							
				½"	¾"	1"	1" ½	2"	2" ½	3"	4"
6	5	0.31 (8)	0.8 (20)	■	—	—	—	—	—	—	—
7,5	6,5	0.31 (8)	0.8 (20)	—	■	□	□	□	□	□	□
13	11	0.43 (11)	1.0 (25)	—	—	■	□	□	□	□	□
17	14,5	0.43 (11)	1.0 (25)	—	—	—	□	□	□	□	□
35	30	0.43 (11)	1.8 (45)	—	—	—	■	—	—	—	—
47	40	0.43 (11)	1.8 (45)	—	—	—	—	■	□	□	□
68	58	0.51 (13)	2.5 (64)	—	—	—	—	—	■	□	□
90	78	0.51 (13)	3.0 (76)	—	—	—	—	—	—	■	□
150	128	0.51 (13)	3.8 (96)	—	—	—	—	—	—	—	■

— not available

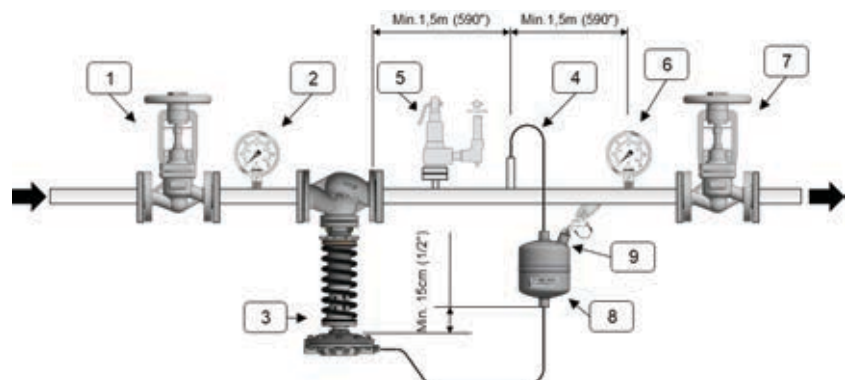
■ standard

□ on request

## WATER SEAL POT

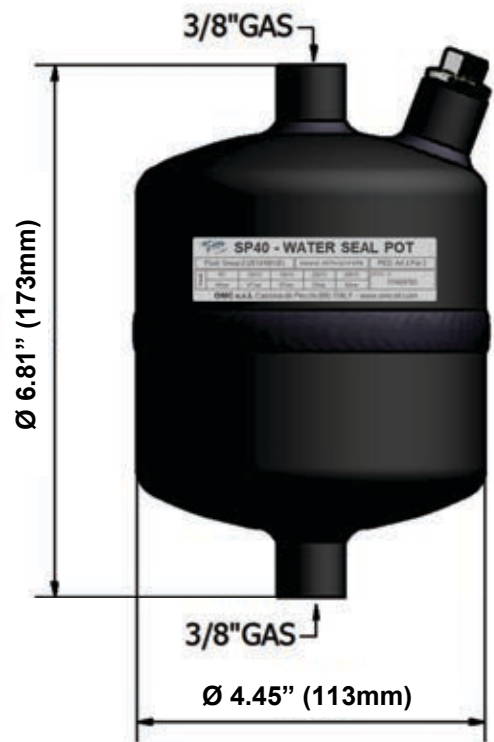
For the protection of the actuator diaphragm, when used with steam, the reducer must be installed with water seal pot "SP40" placed on the downstream pressure signal connected to the actuator.

1. Upstream block valve
2. Upstream pressure gauge
3. RD10 pressure reducer
4. Reduced pressure pipe
5. Safety valve
6. Reducer pressure gauge
7. Downstream block valve
8. SP40 water seal pot
9. Filling pot



## DIMENSIONS

SIZE	A inches (mm)		B inches (mm)	C inches (mm)					
				AR85	AR100	AR120	AR150	AR205	AR265
½"	7.5" (184)	7.46 (190)	16.0 (406)						
¾"	7.5" (184)	7.62 (194)	16.0 (406)						
1"	7.5" (184)	7.75 (197)	16.8 (425)						
1" ½	8.75" (222)	9.25 (235)	20.1 (510)	6.1	6.7	7.7	8.7	11.2	13.5
2"	10.00" (254)	10.50 (267)	20.1 (510)	(155)	(170)	(195)	(220)	(283)	(343)
2" ½	10.86 (276)	11.49 (292)	21.7 (550)						
3"	11.75" (298.5)	12.50 (318)	21.5 (544)						
4"	13.88" (352.5)	14.50 (368)	26.4 (670)						



**SP40**  
 Available on request  
 WATER SEAL POT FOR USE ON  
 STEAM  
 PN40 - ASTM A216 WPB Material

## AVAILABLE ENDS CONNECTIONS



RAISED FACE



RING JOINT



MALE FACE



FEMALE FACE



FLAT FACE



BUTT-WELDING



SOCKET-WELDING



GROOVE FACE

### REDUCER WEIGHT (Kg)

1/2"	9.5
3/4"	10.0
1"	11.0
1" 1/2	20.5
2"	23.0
2" 1/2	36.0
3"	39.5
4"	50.0

### ACTUATOR WEIGHT (Kg)

AR085	4.5
AR100	5.0
AR120	7.5
AR150	8.5
AR205	14.5
AR265	20.5

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