



# RD10

**PN16 - PN25 - PN40**

*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

PN16	PN25	PN40	CATEGORY	FLUID
DN15÷DN50	DN15÷DN40	DN15÷DN32	Art. 4 Par.3	Group 2
DN65÷DN100	DN50÷DN100	DN40÷DN100	1	Group 2



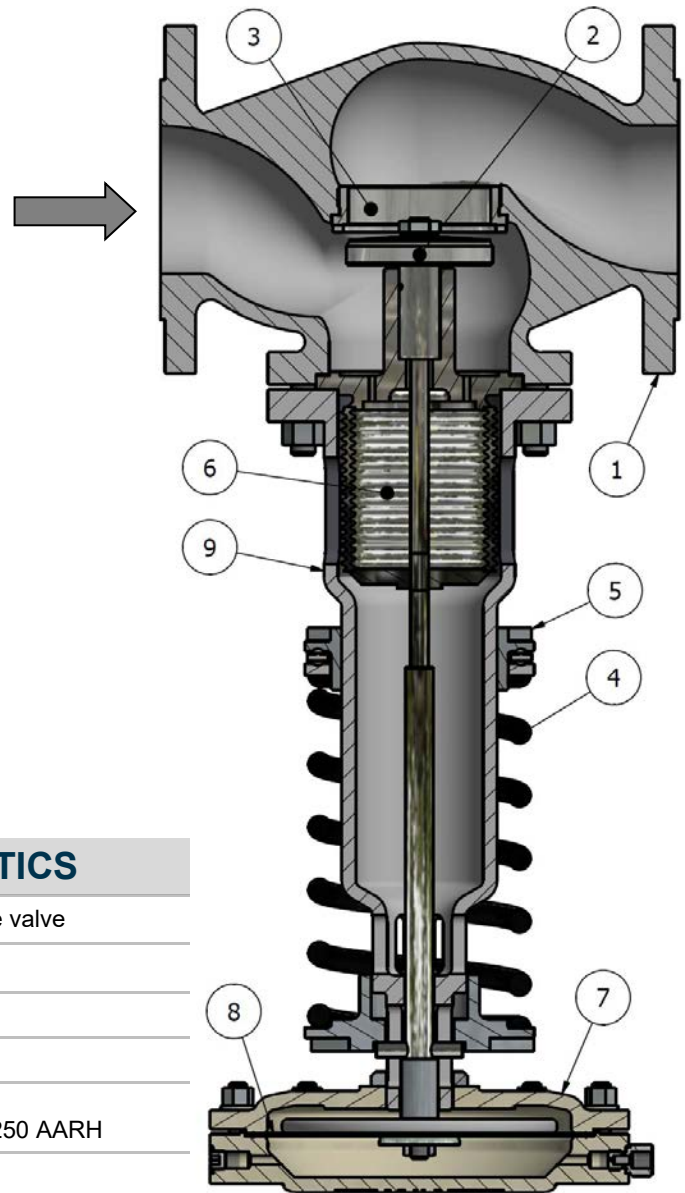
14/34/EU (ATEX)



Safety Integrity Level  
IEC EN 61508 - TÜV

- ◆ From DN15 to DN100 PN16/25/40
- ◆ 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 DN15 to DN100
Pressure rating	PN16 / PN25 / PN40
Design std.	EN12516-2
Flange connection	EN 1092- Raised Face Phonographic Groove 125-250 AARH
Face to face dimensions	EN 558-1

### REDUCER BODY PROJECT CONDITIONS

	PN16	PN25	PN40
Maximum upstream pressure	16 bar	25 bar	25 bar
Maximum downstream pressure	See actuator	See actuator	See actuator
Minimum downstream pressure	See actuator	See actuator	See actuator
Maximum temperature with metallic seat	300°C	300°C	300°C
Maximum temperature with soft seat	200°C	200°C	200°C
Maximum reduction ratio	10:1	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

## STD REDUCER BODY & TRIM MATERIALS COMBINATION

BODY REDUCER	BONNET	TRIM	STUD	NUTS
Spheroidal graphite cast iron: EN-GJS-400-18 RT (5.3104)	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
Carbon steel PN16/25 A216 WCC EN 10273 1.0619	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
Carbon steel PN40 ASTM A216 WCC EN 10273 1.0619	Carbon steel ASTM A216 WCC EN 10273 1.0619	Seat: ASTM A182 F316 Plug: ASTM A182 F304 Bellows: ASTM A240 Tp.316L	ASTM A193 B7	ASTM A194 H2
Stainless steel PN16/25 A351 CF8M EN 10213-4 1.04408	Spheroidal graphite cast iron EN-GJS-400-18 RT (5.3104)	ASTM A182 F316 EN 10272 1.4529	ASTM A193 B8M	ASTM A194 8M
Stainless steel PN40 A351 CF8M EN 10213-4 1.04408	Carbon steel ASTM A216 WCC EN 10273 1.0619	ASTM A182 F316 EN 10272 1.4529	ASTM A193 B8M	ASTM A194 8M

## STD ACTUATOR COMBINATION

CASING	DIAPHRAGM	TRIM	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
Stainless steel A351 CF8 EN 10213-4 1.04408	EPDM (max 125°C) (others on request)	ASTM A182 F304	Classe A2-70	ASTM A194 8M

## RELATION BETWEEN PRESSURE / TEMPERATURE (EN1092.1)

TEMPERATURE °C	ASTM A216 WCC			A351 CF8M / EN10273 1.04408		
	PN16 (bar)	PN25 (bar)	PN40 (bar)	PN16 (bar)	PN25 (bar)	PN40 (bar)
RT	16.0	25.0	25.0	16.0	25.0	25.0
100	16.0	25.0	25.0	16.0	25.0	25.0
150	16.0	25.0	25.0	14.5	22.7	22.7
200	16.0	25.0	25.0	13.4	21.0	21.0
250	15.6	24.5	24.5	12.7	19.8	19.8
300	14.0	22.0	22.0	11.8	18.5	18.5

## RELATION BETWEEN PRESSURE / TEMPERATURE (EN1092.2)

TEMPERATURE °C	EN-GJS-400-18 RT (5.3104)	
	PN16 (bar)	PN25 (bar)
0 ÷ 120	16.0	25.0
150	15.5	24.3
200	14.7	23.0
250	13.9	21.8
300	12.8	20.0

## 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

ACTUATOR	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	0.4÷1.0 bar								
AR205	0.9÷1.8 bar			0.9÷2 bar			0.9÷2.6 bar		
AR150	1.7÷3 bar			1.9÷5 bar			2.5÷8.5 bar		
AR120	2.8÷5 bar			4.5÷8.5 bar			4.5÷11.5 bar		
AR100	4.8÷7 bar			8÷15 bar			11÷15 bar		
AR085	7.8÷15 bar			///			///		

## FLOW RATE COEFFICIENTS - SEAT DIAMETER

CV	Kv	Plug stroke mm	Ø seat mm	Valve size								
				15	20	25	32	40	50	65	80	100
6	5	7	20	■	—	—	—	—	—	—	—	—
7,5	6,5	7	20	—	■	□	□	□	□	□	□	□
13	11	11	25	—	—	■	—	—	—	—	—	—
17	14,5	11	25	—	—	—	■	□	□	□	□	□
35	30	13	45	—	—	—	—	■	—	—	—	—
47	40	13	45	—	—	—	—	—	■	□	□	□
68	58	15	64	—	—	—	—	—	—	■	□	□
90	78	16	76	—	—	—	—	—	—	—	■	□
150	128	16	96	—	—	—	—	—	—	—	—	■

— not available

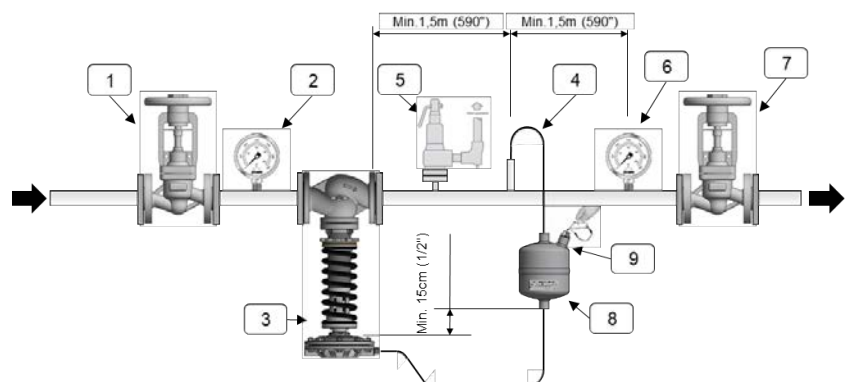
■ standard

□ 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

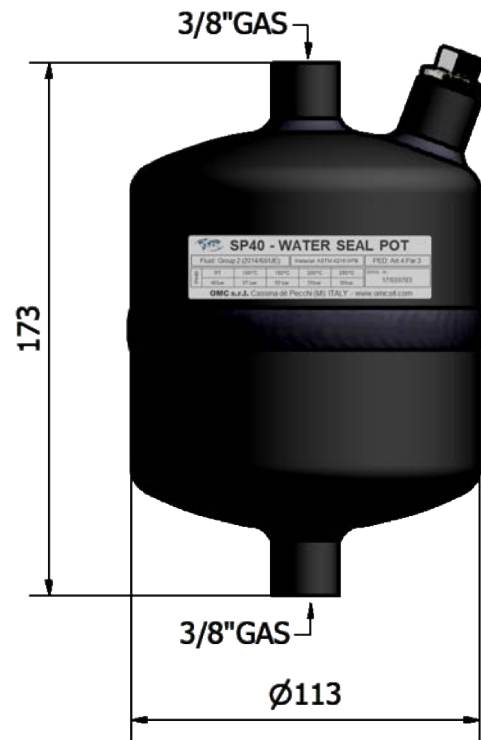


## DIMENSIONS

DN	A mm	B mm	C mm					
			AR85	AR100	AR120	AR150	AR205	AR265
DN15	130	406	155	170	195	220	283	343
DN20	150	406						
DN25	160	425						
DN32	180	425						
DN40	200	510						
DN50	230	510						
DN65 (*)	290	550						
DN80	310	544						
DN100	350	670						

\* According to standard EN1092-2 DN65 valves in cast iron flanged PN16 must be provided with 4 holes. They can be supplied with 8 holes only at the specific request of the customer.

\* According to standard EN1092-1 DN65 valves in steel flanged PN16 must be provided with 8 holes. They can be supplied with 4 holes only at the specific request of the customer.



**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

*The contents of this publication are presented for information purpose only. OMC reserve the modify or improve the designs or specifications of such products at any time without notice*



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