

**DIAPHRAGM PRESSURE REDUCERS
WITH TAIL PIECES MALE CONNECTIONS AND MANOMETER
R153MK SERIES**

GIACOMINI
WATER E-MOTION

R153MKK
Description

The R153MK diaphragm pressure reducing valve is an automatic valve that reduces and stabilizes the pressure of a fluid in a water distribution conduit according to a preset value.

The use of this hydraulic device is necessary if the maximum possible pressure at any point in the water distribution system can reach or exceed the relative maximum allowable working pressure, or if apparatus and equipment that function exclusively at lower levels of pressure are connectable. The R153MK pressure reducing valve is made of CR brass which is resistant to dezincification and reduces corrosion in the system to a minimum; even if the local water supply should cause such a phenomenon (likewise ideal in conditions described in EN 806-2 A.1).

The enhanced mechanical strength of the shell and its internal components renders this valve particularly suitable for sanitary installations for water distribution outside buildings (EN 805), where the water pressure in the water mains may reach values as high as 25 bar. Further, the compensated seat offsets the influence that variations in upstream pressure may have on the downstream pressure. The flexible diaphragm in EPDM rubber is reinforced with high mechanical strength polyamide textile and in conjunction with the o-ring made of EPDM peroxide rubber, they allow a precise and long-lasting pressure regulation.

The internal finish of the valve's body and the absence of moving parts guarantee an elevated flow capacity, even when the water draw is minimal. The R153MK pressure reducing valve is used in air conditioning plants, sanitary installations for water supply, irrigation systems, compressed air (not oil mist) distribution systems, sanitary installations for water supply within buildings, according to EN 806-2; and for fire suppression piping (it should nevertheless be borne in mind that local government standards for fire protection must always be observed). This product adheres to the standards set forth by the European health authorities for the transport of alimentary fluids and potable water.


Note.

The manometer installed on the pressure reducer indicates the outlet fluid reduced pressure.

Versions and product codes

Product code	Connections	Manometer
R153MY103	1/2" MM (ISO 228)	Rear connection Connection Rp 1/4" Ø 52 mm scale 0 to 10 bar
R153MY104	3/4" MM (ISO 228)	
R153MY105	1" MM (ISO 228)	

Technical data

- Max. working pressure (PN): 25 bar
- Outlet pressure regulation range: 1,5÷7 bar
- Outlet pressure factory set: 3 bar
- Working temperature range: 0 °C (no freezing) to 80 °C
- Compatible fluids: water, glycol solutions (with 50 % max. concentration of glycol), compressed air (except 2")
- Compliant with Standard EN 1567
- Sound class II - Lap [dB (A)] < 30

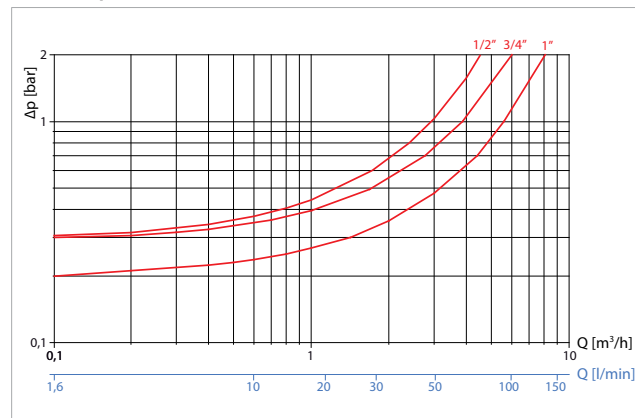
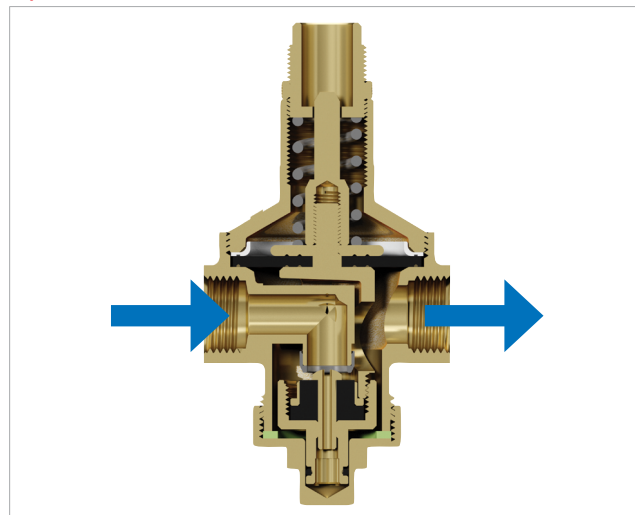
Materials

- Body: DZR CW602N brass (UNI EN 12165)
- Tail piece connections: brass CW617N (UNI EN 12165)
- Diaphragm: EPDM with polyamide reinforcement
- Gaskets: EPDM peroxide (dynamic O-ring seals), NBR (gaskets, seat and static O-ring seals)
- Seat: EN 10088 - 1.4305 stainless steel (AISI 303)
- Spring: EN10270-1 SM zinc plated steel

Flow rate diagrams

Rated water flow rate, relative to a speed of 2 m/s, for each diameter according to requirements of standard EN 1567.

Product code	Connections	Flow rate [m³/h]	Flow rate [l/min]
R153MY103	1/2"	1,27	21,16
R153MY104	3/4"	2,27	37,83
R153MY105	1"	3,6	60

Losses of pressure

Operation


A flexible diaphragm actuates the shutter movement, as consequence from the two opposing forces: water pressure from the bottom in the pipe

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downstream from the reducer (which tends to close the valve), pushing from the top by an appropriately loaded spring in relation to the work pressure in play (tends to open the valve).

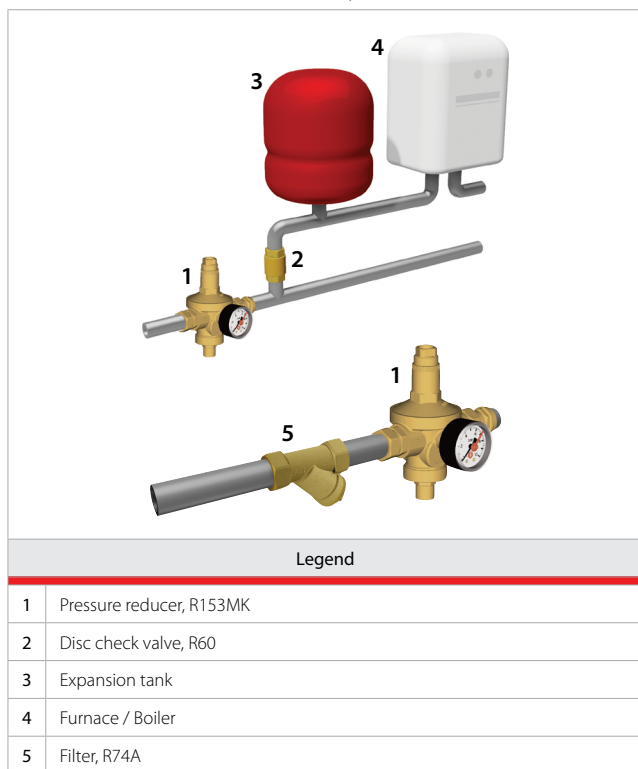
The valve opens when, following flow rate request, pressure beneath the diaphragm decreases and spring pushing action prevails; valve opening is proportional to the instantaneous flow that crosses it.

Once the flow is shut, as soon as the water contained in the pipe downstream reaches a pressure able to overcome the pushing action of the return spring, the shutter rises to close the valve. The regulation pressure is obtained by screwing the regulator that applies more or less compression to the spring.

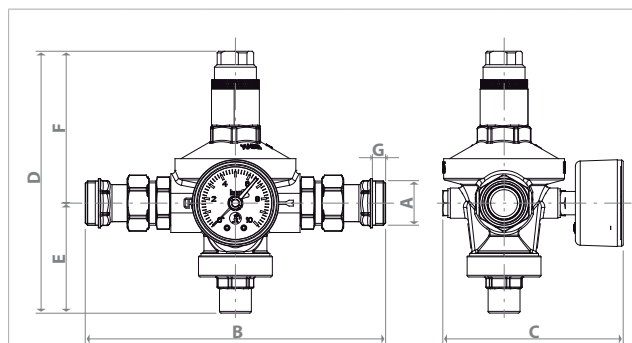
The compensated seat that the Giacomini pressure reducers are equipped with, makes possible to keep set value steady even with strong inlet pressure variations: the upstream pressure pushes the shutter in the open position, but also pushes the compensation chamber pin in the opposite direction, obtaining a substantial balance. The inserted seal seat, in stainless steel, guarantees long-term reliability and accuracy of the pressure reducer, even in the most extreme working conditions.

Installation

We recommend to install a filter before the reducer to eliminate all impurities in the water that may deposit onto the reducer seat and cause malfunctions. When installing the pressure reducer at the inlet of boilers, hot water heaters, furnaces or hot water tanks, a plumbing expansion tank must be fitted after the reducer even if a check valve is already installed.



Dimensions



Product code	Connections A	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]
R153MY103	1/2"MM	160	107	132,5	52,5	80	12
R153MY104	3/4"MM	179	107	156	65,5	90,5	7
R153MY105	1"MM	207	122	190	69,5	120,5	12

Product specifications

R153MK

Diaphragm pressure reducer with compensated seat in stainless steel compliant to standard EN 1567. Male-Male 1/2"÷1" tail piece threaded connection (ISO 228/1). Complete of manometer, rear connection, Ø 52 mm, scale 0 to 10 bar. Body in "CR" brass. Tail piece connections in brass CW617N (UNI EN 12165). Diaphragm in reinforced EPDM with polyamide, EPDM and NBR gaskets. Compatible fluids: water, glycol solutions (with 50 % max. concentration of glycol), compressed air. Max. working temperature 80 °C. Max. working pressure 25 bar. Outlet pressure regulation range from 1,5 to 7 bar:

Additional information

For additional information please check the website www.giacomini.com or contact the technical service: ☎ +39 0322 923372 📠 +39 0322 923255 ✉ consulenza.prodotti@giacomini.com
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Giacomini S.p.A. Via per Alzo, 39 - 28017 San Maurizio d'Opaglio (NO) Italy