

# FINE CONTROLS (UK) LTD



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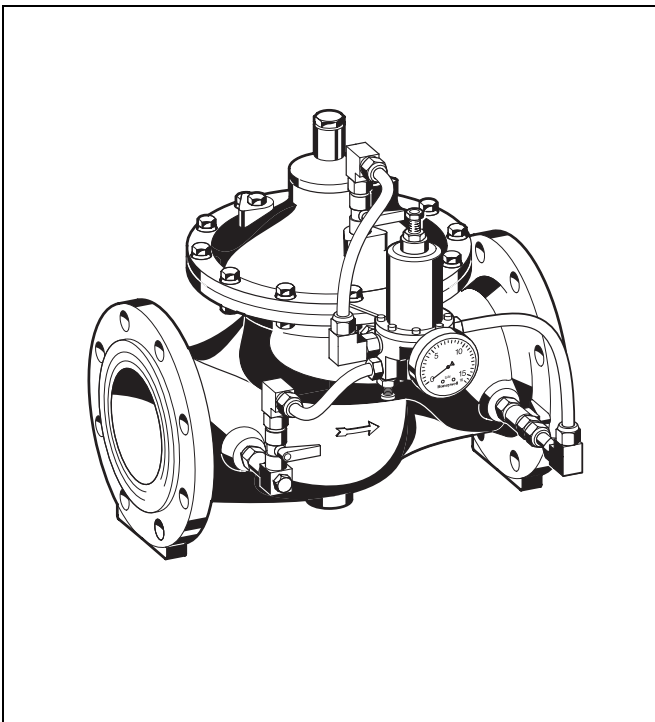


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## DR300

### Pressure regulator

#### Product specification sheet



#### Construction

The pressure regulator comprises:

- Housing with flanges to ISO 7005
- Pilot valve CX-PR with integral fine regulation valve
- Control circuit with ball valves on inlet and outlet
- Control circuit with integral rinsable filter insert

#### Materials

- Ductile iron housing, cover plate and diaphragm plate (ISO 1083), powder coated
- Red bronze/stainless steel regulating cone
- Stainless steel pressure spring and control rod
- Fibre-reinforced NBR diaphragm
- NBR and EPDM seals
- Stainless steel valve seat
- High quality synthetic material control circuits
- Brass compression fittings
- Brass pilot valve housing
- Stainless steel filter insert

#### Application

Pressure regulators of this type protect downstream installations against excessive supply pressure.

Pressure regulators are used when the capacity of direct controlled pressure reducing valves are insufficient. Their compact construction makes them particularly suitable for installation in limited spaces, for example in ducts.

By using a pressure regulator, pressurization damage is avoided and water consumption reduced.

The set pressure is also maintained constant, even when there is wide inlet pressure fluctuation.

Reduction of the operating pressure and maintaining it at a constant level minimizes flow noise in the installation.

#### Special Features

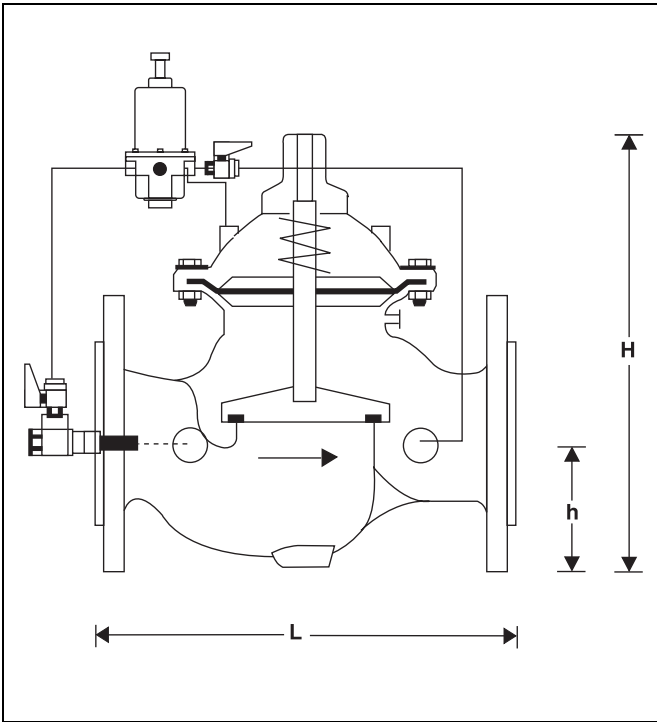
- High flow capacity
- Light weight
- High control accuracy
- Outlet pressure up to 12.0 bar
- Powder coated inside and outside - Powder used is physiologically and toxicologically safe
- Integral control circuit and ball valves
- No external energy required for operation
- Reliable and proven

#### Range of Application

Medium	Water
Inlet pressure	max. 16 bar
Outlet pressure	1 - 12 bar

#### Technical Data

Operating temperature	max. 80°C
Nominal pressure	PN 16 PN 25 on request
Minimum pressure	0.7 bar
Minimum pressure drop	1 bar
Nominal size	DN 50 - DN 450



**Method of Operation**

At zero pressure the valve is closed. When the system is then put into operation, the water flows in and opens the diaphragm valve. The outlet pressure is diverted via the link pipework to the pilot valve, which then closes. If the pilot valve is closed, the pressure in the chamber above the mem-brane rises. The membrane surface area is larger than the valve surface area and therefore the diaphragm valve closes. When water is drawn from the outlet, the outlet pressure falls, which in turn causes the pilot valve to open. As soon as the opening of the pilot valve becomes greater than the cross sectional area of the opening in the fine regulation valve, the pressure in the chamber above the diaphragm falls and the inlet pressure opens the diaphragm valve.

In this way the pilot valve regulates the control pressure so that the diaphragm valve opens just the required amount needed to maintain the outlet at constant pressure.

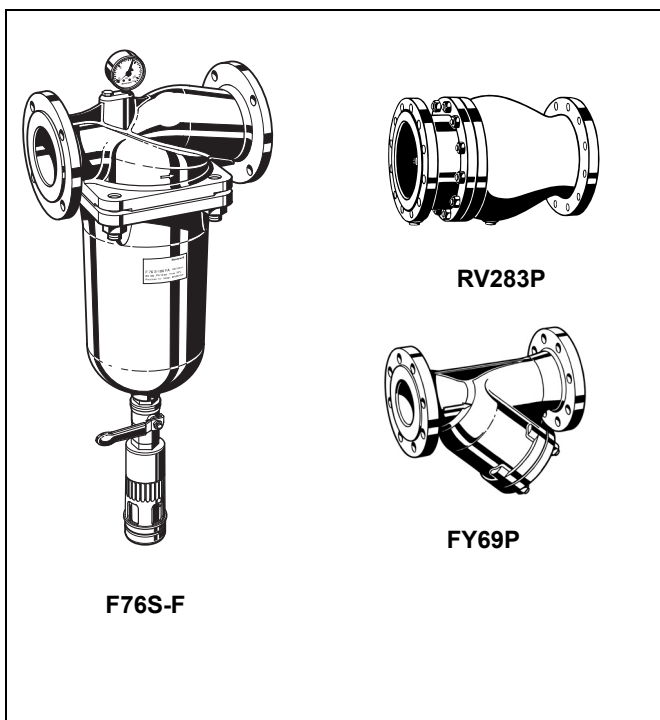
**Options**

DR300-... A = Flange PN 16, ISO 7005-2, EN 1092-2

DR300-... B = Flange PN 25, ISO 7005-2, EN 1092-2

Connection size

Connection size	DN	50	65	80	100	150	200	250	300	350	400	450
Weight	approx. kg	14	15	24	39	82	159	247	407	512	824	947
Dimensions	mm											
	L	230	292	310	350	480	600	730	850	980	1100	1200
	H	235	294	400	433	558	650	823	944	990	1250	1250
	h	83	93	100	110	143	173	205	230	260	290	310
Flow rate (Q <sub>max</sub> ) in m <sup>3</sup> /h - V=5.5 m/s		40	40	90	160	350	480	970	1400	1900	2500	3150
k <sub>vs</sub> -value		43	43	103	167	407	676	1160	1600	1600	3300	3300



**Accessories**

**RV283P Check valve**

Grey cast iron housing, powder coated inside and outside. DIN/DVGW tested in compulsory test sizes DN 65, DN 80 and DN 100

**FY69P Strainer**

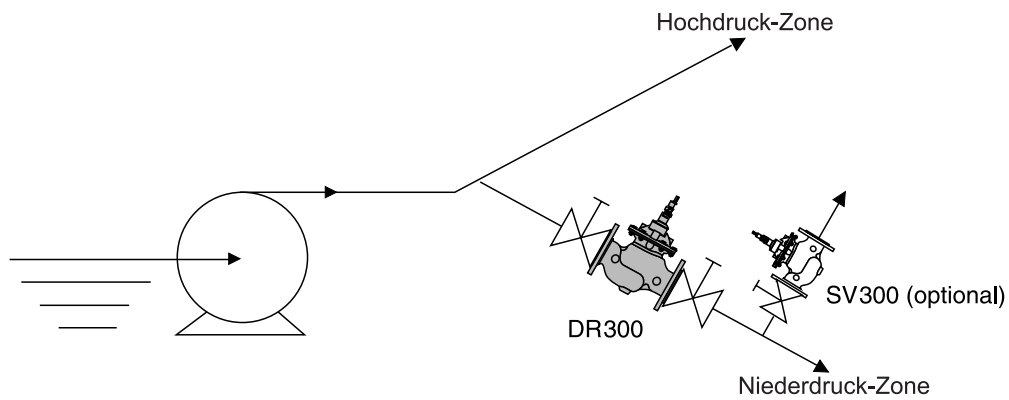
With double mesh, grey cast iron housing, powder coated inside and outside.

A = Mesh size approximately 0.5 mm

**F76S-F Reverse-rinsing filter**

Red bronze housing and filter bowl. Available in sizes DN 65 to DN 100, with filter mesh sizes 100 µm or 200 µm

## Installation Example



### Installation Guidelines

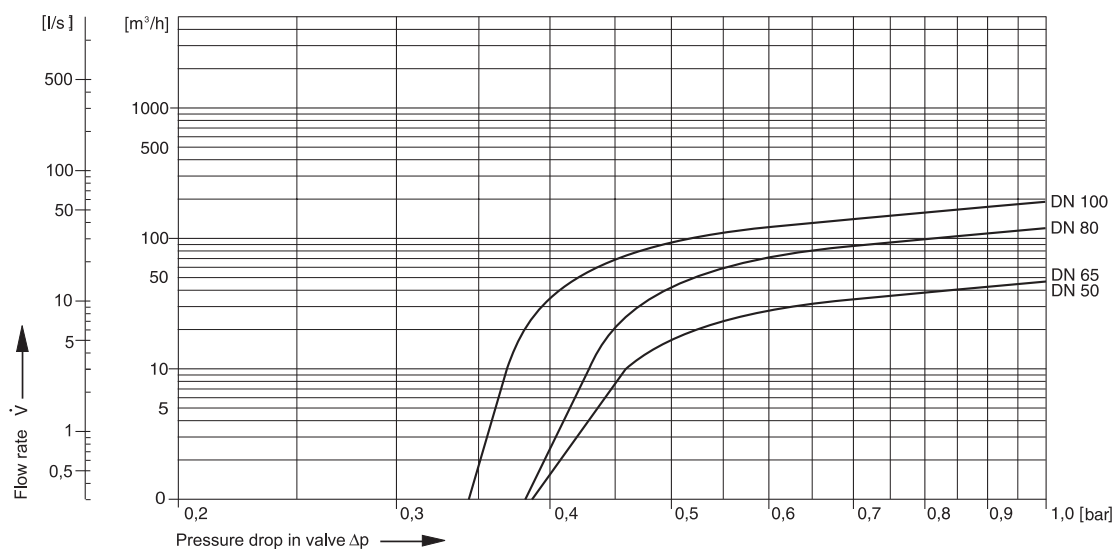
- Shut off valves should be fitted on each side of the pressure regulator
- Fit strainer upstream of pressure regulator
  - Protects against damage from coarse dirt
- Note flow direction (indicated by arrow)
- The installation location should be protected against frost and be easily accessible
  - Simplifies maintenance and inspection
- It is recommended that a straight section of pipework of at least five times the nominal valve size is provided between pressure reducing valves and outlet shutoff valve
- Fit connectors for removal and refitting for maintenance
- Safety valve SV300 optional

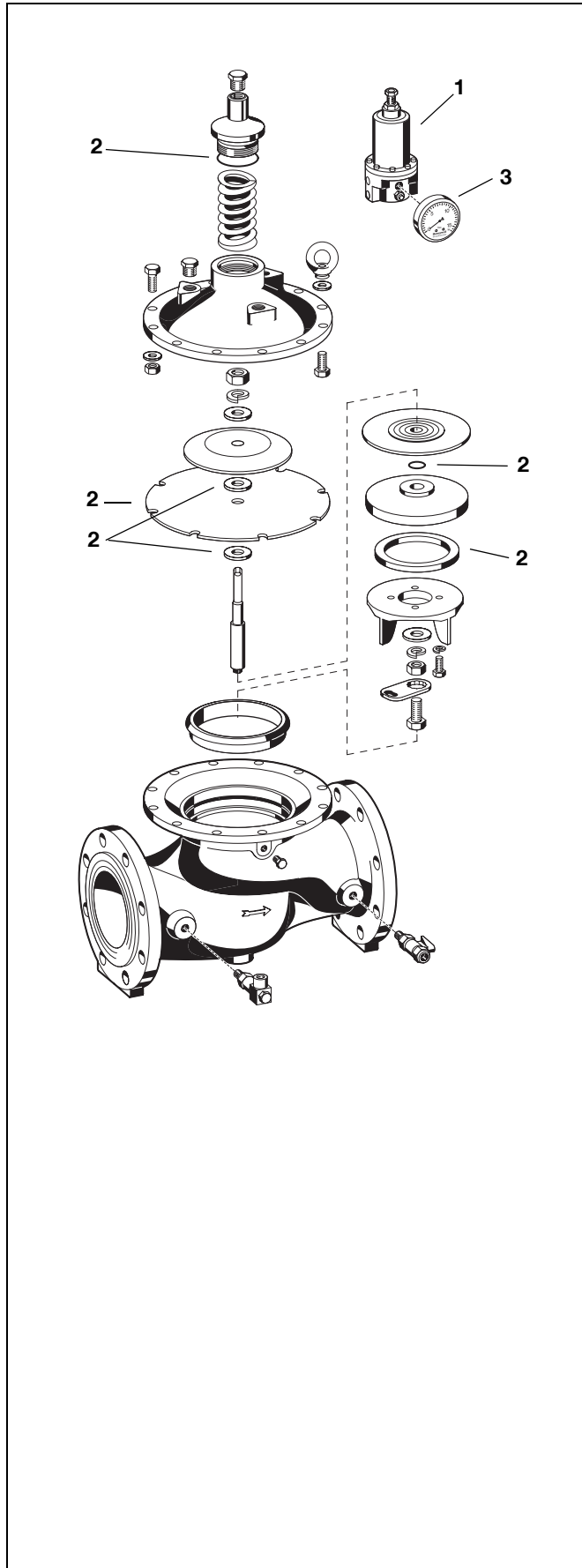
### Typical Applications

Pressure regulators of this type, within the limits of their specifications, are suitable for installation in water supply systems, in residential buildings and in industrial installations.

- Potable water supply
- Swimming pools
- Firefighting systems - sprinkler installations
- Ship construction (fire tenders)
- Watering systems in market gardens and in agriculture
- Water supply networks in large building developments (eg. high rise blocks)
- Hydrant systems at airports and dockyards
- Mining applications
- Gravel pits, concrete mixing plants etc.

### Flow Diagram





**Spare Parts**

**Pressure regulator DR300, from 2002 onwards**

No.	Description	Dimension	Part No.
1	Replacement pilot valve	DN 50 - DN 450 CX-PR	
2	Set of seals	DN 50 DN 65 DN 80 DN 100 DN 150 DN 200 DN 250 DN 300 DN 350 DN 400 DN 450	0903750 0903751 0903752 0903753 0903754 0903755 0903756 0903757 0903758 0903759 0903760
3	Pressure gauge Ranges 0 - 16 bar		M07M-A16

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