# DRVD PN16, PN25 and PN40

Pressure regulator

## Technical Data Sheet



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# Description

The pressure regulator DRVD maintains automatically the downstream to the set point pressure. The DRVD is insensitive to variations in upstream pressure. It is suitable with water and it is particularly recommended for collective or industrial installations.

- Permissible working pressure adjustment range: 1.5 to 6 bar (standard) or: 2 to 8 bar and 4 to 12 bar
- Model with balanced valve and piston, guaranteeing a very high reliability and longevity
- Body ductile cast iron covered epoxy vanish 250µ
- NBR valve seal
- Flanged connections according to EN 1092-2



## DRVD PN16, PN25 and PN40

| DN mm | Adjustment range | PFA in bar | PN | Part no. |
|---|---|---|---|---|
| 50 | 1,5 – 6 bar | 16 | 16 | **0504053** |
| 65 | 1,5 – 6 bar | 16 | 16 | **0504068** |
| 80 | 1,5 – 6 bar | 16 | 16 | **0504083** |
| 100 | 1,5 – 6 bar | 16 | 16 | **0504103** |
| 125 | 1,5 – 6 bar | 16 | 16 | **0504128** |
| 150 | 1,5 – 6 bar | 16 | 16 | **0504153** |
| 200 | 1,5 – 6 bar | 16 | 16 | **0504203** |
| 50 | 2 – 8 bar | 16 | 16 | **0504054** |
| 65 | 2 – 8 bar | 16 | 16 | **0504069** |
| 80 | 2 – 8 bar | 16 | 16 | **0504084** |
| 100 | 2 – 8 bar | 16 | 16 | **0504104** |
| 125 | 2 – 8 bar | 16 | 16 | **0504129** |
| 150 | 2 – 8 bar | 16 | 16 | **0504154** |
| 200 | 2 – 8 bar | 16 | 16 | **0504204** |
| 50 | 4 - 12 BAR | 16 | 16 | **0504055** |
| 65 | 4 - 12 BAR | 16 | 16 | **0504070** |
| 80 | 4 - 12 BAR | 16 | 16 | **0504085** |
| 100 | 4 - 12 BAR | 16 | 16 | **0504105** |
| 125 | 4 - 12 BAR | 16 | 16 | **0504130** |
| 150 | 4 - 12 BAR | 16 | 16 | **0504155** |
| 200 | 4 - 12 BAR | 16 | 16 | **0504205** |
| 50 | 1,5 - 6 BAR | 25 | 25 | **0504050** |
| 65 | 1,5 - 6 BAR | 25 | 25 | **0504065** |
| 80 | 1,5 - 6 BAR | 25 | 25 | **0504080** |
| 100 | 1,5 - 6 BAR | 25 | 25 | **0504100** |
| 125 | 1,5 - 6 BAR | 25 | 25 | **0504125** |
| 150 | 1,5 - 6 BAR | 25 | 25 | **0504150** |
| 200 | 1,5 - 6 BAR | 25 | 25 | **0504200** |
| 50 | 2 - 8 BAR | 25 | 25 | **0504051** |
| 65 | 2 - 8 BAR | 25 | 25 | **0504066** |
| 80 | 2 - 8 BAR | 25 | 25 | **0504081** |
| 100 | 2 - 8 BAR | 25 | 25 | **0504101** |
| 125 | 2 - 8 BAR | 25 | 25 | **0504126** |
| 150 | 2 - 8 BAR | 25 | 25 | **0504151** |
| 200 | 2 - 8 BAR | 25 | 25 | **0504201** |
| 50 | 4 - 12 BAR | 25 | 25 | **0504052** |
| 65 | 4 - 12 BAR | 25 | 25 | **0504067** |
| 80 | 4 - 12 BAR | 25 | 25 | **0504082** |
| 100 | 4 - 12 BAR | 25 | 25 | **0504102** |
| 125 | 4 - 12 BAR | 25 | 25 | **0504127** |
| 150 | 4 - 12 BAR | 25 | 25 | **0504152** |
| 200 | 4 - 12 BAR | 25 | 25 | **0504202** |

| | | | | |
|---|---|---|---|---|
| 50 | 1,5 - 6 BAR | 40 | 40 | **0504056** |
| 65 | 1,5 - 6 BAR | 40 | 40 | **0504071** |
| 80 | 1,5 - 6 BAR | 40 | 40 | **0504086** |
| 100 | 1,5 - 6 BAR | 40 | 40 | **0504106** |
| 125 | 1,5 - 6 BAR | 40 | 40 | **0504131** |
| 150 | 1,5 - 6 BAR | 40 | 40 | **0504156** |
| | | | | |
| 50 | 2 - 8 BAR | 40 | 40 | **0504057** |
| 65 | 2 - 8 BAR | 40 | 40 | **0504072** |
| 80 | 2 - 8 BAR | 40 | 40 | **0504087** |
| 100 | 2 - 8 BAR | 40 | 40 | **0504107** |
| 125 | 2 - 8 BAR | 40 | 40 | **0504132** |
| 150 | 2 - 8 BAR | 40 | 40 | **0504157** |
| | | | | |
| 50 | 4 - 12 BAR | 40 | 40 | **0504058** |
| 65 | 4 - 12 BAR | 40 | 40 | **0504073** |
| 80 | 4 - 12 BAR | 40 | 40 | **0504088** |
| 100 | 4 - 12 BAR | 40 | 40 | **0504108** |
| 125 | 4 - 12 BAR | 40 | 40 | **0504133** |
| 150 | 4 - 12 BAR | 40 | 40 | **0504158** |

**Important notice :**

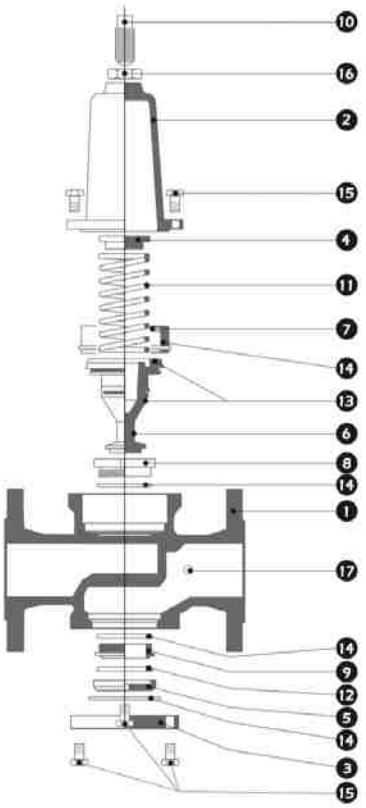
The temperature and pressure indications given are under no circumstances a guarantee that they are suitable for your system. Therefore, it is essential to validate the use of the products under given operating conditions with our technical department.

## Technical features

| | |
|---|---|
| Operating temperature | Max: 40°C |
| Permissible operating pressure (PFA) in water | See table above |
| Setting range | See table above |
| Connection | Flanged according to EN1092-2 |
| Gauge connection | Female 8x13 (1/4") |
| Mediums | Water, other mediums: consult us |

## Nomenclature and materials

| N° | Description | Materials | EURO |
|---|---|---|---|
| 1 | Body | Cast iron | EN-GJS 400-15 |
| 2 | Cover | Cast iron | EN-GJS 400-15 |
| 3 | Flange | Cast iron | |
| 4 | Spring disc | Carbon steel galvanized | S235JR |
| 5 | Seal support | Brass | CW612N |
| 6 | Closing system | Brass | CW612N |
| 7 | Sleeve | Bronze | CuSn5zn5Pb-5 |
| 8 | Ring | Bronze | CuSn5zn5Pb-5 |
| 9 | Seat | Bronze | CuSn5zn5Pb-5 |
| 10 | Setting screw | Steel galvanized | |
| 11 | Spring | Steel 55 Si 7 | |
| 12 | Brace washer | NBR | |
| 13 | Lip seal | NBR | |
| 14 | Steal | NBR | |
| 15 | Cover screw | Stainless steel | X5Crni18-10 |
| 16 | Nut | Steel galvanized | |
| 17 | Plug | Brass | CW614N |



# Approvals

## ACS

**International Construction Standards :**
NF EN12266
Flanged connections according to EN1092-2, ISO7005-2

# Application

For the protection of cold water and drinking water networks.
The device reduce and stabilize the pressure a the set value whatever the upstream pressure variations and flow in pipes.
The DRVD is ideal for any main pressure reducing or regulation of secondary circuits.

# Installation

Check that the piping on which the pressure reducing valve must be installed is clean of welding residues or other waste. It is recommended to install a filter immediately upstream of the pressure regulator and the isolating valves upstream and downstream.
The DRVD has to be installed in horizontal position, respecting the flow rate direction indicated on the valve. We advise to use the horizontal installation to avoid the risk of gasket weakening.
In order to carry out the setting of reduction unit or its maintenance provide sufficient space.

# Operation

The downstream pressure acts directly in the control chamber under the upper part of the valve through a particular orifice.
The downstream pressure is balanced at all times by the action of the spring, which causes the valve to move when network flow or pressure varies.

# Setting

Adjustable outlet pressure :
- 1,5 at 6,0 bar
- 2,0 at 8,0 bar
- 4,0 at 12,0 bar

The setting of the downstream pressure must be conducted at flow zero.
Loosen the lock nut to release the adjustment screw (N°10 on the nomenclature). Turn the screw in a clockwise direction for more pressure and anticlockwise direction to lower the pressure.
The gauge plugs of the device are in female 8 x 13 (1/4")

# Maintenance

It is recommended to ask a professional to check regularly the device.
The device is designed for easy maintenance. Disassembly operations are conducted without removing the device.
Periodically clean the filter placed immediately upstream of the DRVD.

1 - All the internal parts of the DRVD are accessible after removing the cover and the bottom flange (No. 3 on the diagram).

2 - The piston removable by unscrewing the piston screw (or nut piston depending on the diameter of the DRVD) accessible through the bottom flange on the bottom.
Provide a locking plier (e.g.: FACOM N ° 500 Locking plier or a clamp) to maintain the piston with the DRVD body. Assembly the piston-maintained with the locking plier, you can unscrew the piston screw.

3 - Piston screw loose with a standard pipe wrench (e.g.: wrench FACOM N°72) except for the DRVD diameter 125, 150 and 200 where a pipe wrench type “Nervus” is necessary (e.g.: key Nervus FACOM N°92).
The table below shows you the size of the piston screw.

**Spring kits (2 at 8 bar)**

| DN | | Designation | Ref. |
|---|---|---|---|
| mm | ” | | Spare parts |
| 50 | | DF 8/DRVD 50 | **166921** |
| 65 | | DF 8/DRVD 65 | **166923** |
| 80 | | DF 8/DRVD 80 | **162928** |
| 100 | | DF 8/DRVD 100 | **162931** |
| 125 | | DF 8/DRVD 125 | **202166** |
| 150 | | DF 8/DRVD 150 | **176162** |
| 200 | | DF 8/DRVD 200 | **202167** |

**Spring kits (4 at 12 bar)**

| DN | | Designation | Ref. |
|---|---|---|---|
| mm | ” | | Spare parts |
| 50 | | DF 12/DRVD 50 | **167028** |
| 65 | | DF 12/DRVD 65 | **166924** |
| 80 | | DF 12/DRVD 80 | **166926** |
| 100 | | DF12/DRVD 100 | **166927** |
| 125 | | DF 12/DRVD 125 | **166928** |
| 150 | | DF 12/DRVD 150 | **167092** |
| 200 | | DF 12/DRVD 200 | **167103** |

**Seal kits PN16 and PN25**

| DN | | Designation | Ref. |
|---|---|---|---|
| mm | ” | | Spare parts |
| 50 | | JT/DRVD | **166922** |
| 65 | | JT/DRVD | **202174** |
| 80 | | JT/DRVD | **162935** |
| 100 | | JT/DRVD | **167069** |
| 125 | | JT/DRVD | **166929** |
| 150 | | JT/DRVD | **162947** |
| 200 | | JT/DRVD | **166930** |

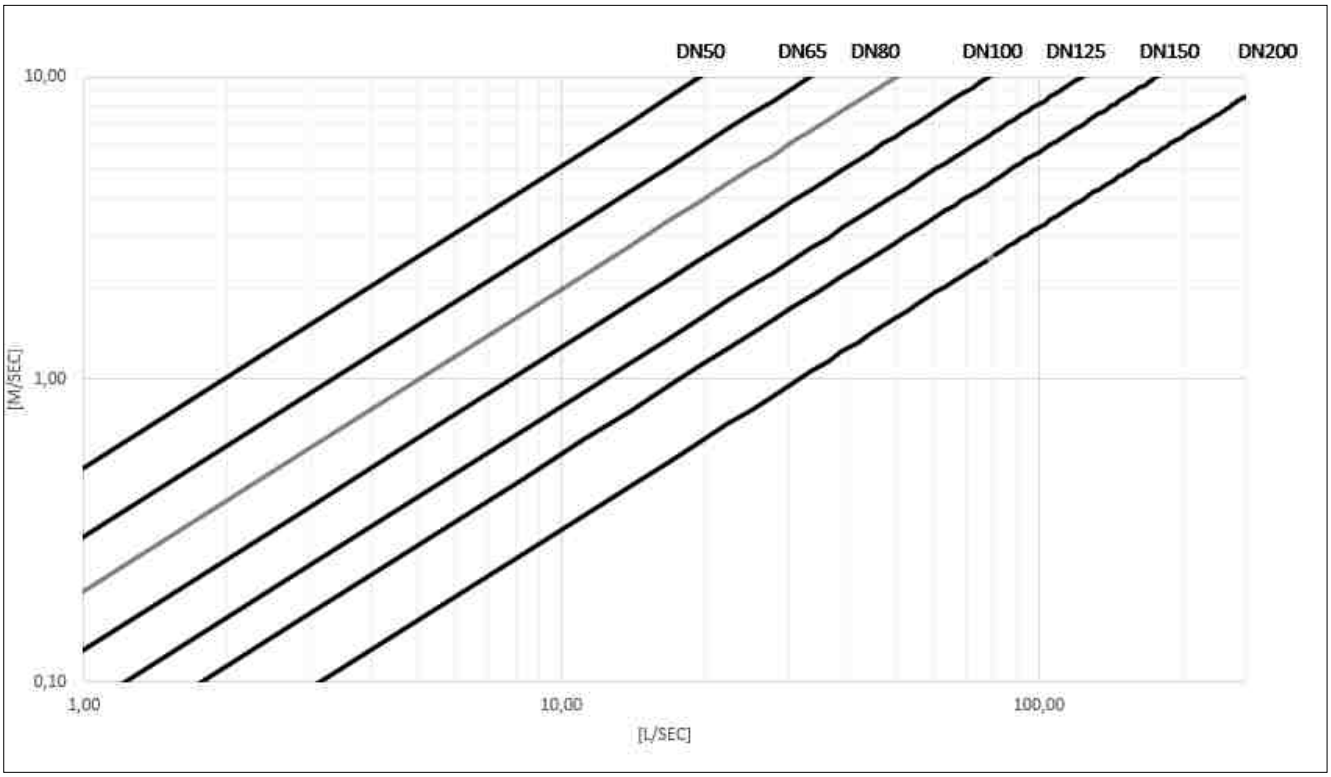
Maintenance kits shown in the table above are available; to order it, is necessary to indicate all information shown on the metal plate placed on the body of the DRVD.

# Dimensioning

The sizing is done according to the flow.
Choose the DN which corresponds to speed in the device of 1,5 m/s at the regarded flow.

The speed inside the valve does not have to reach an excessive value that can cause vibrations, noises, head loss or cavitation.
Moreover the exercise temperature have to stay between 0°C and 40 °C.
For a right dimensioning it's necessary to know the followings parameters:

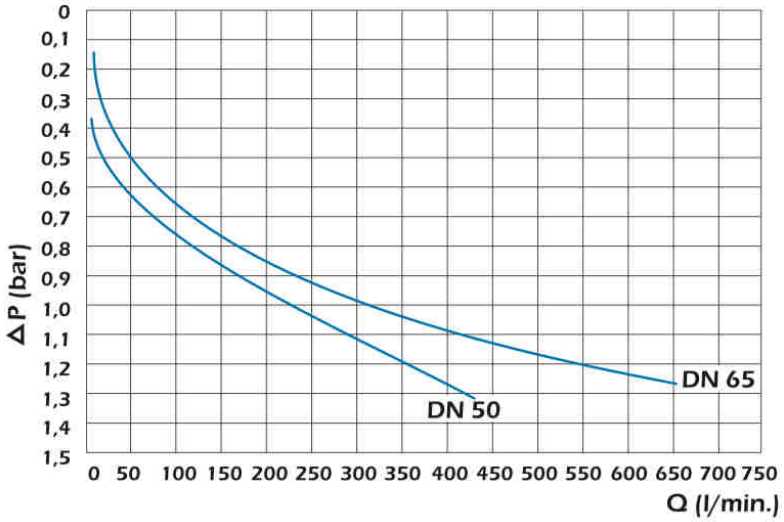
- Upstream hydrostatic pressure
- Required downstream pressure
- Flow rate Q



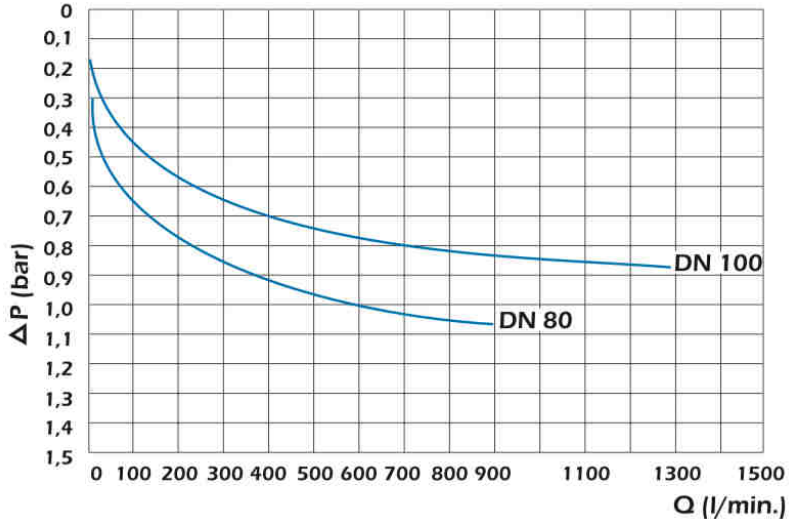
# Operating characteristics

**DRVD -** Headloss chart

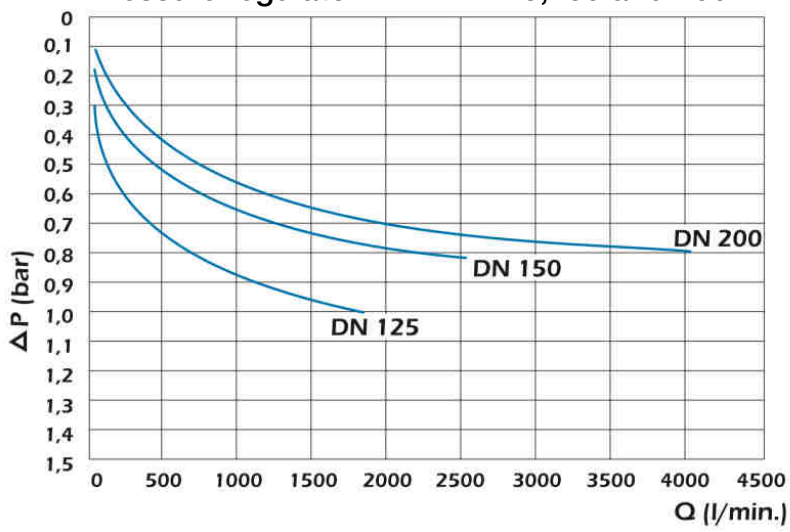
Pressure regulator DRVD - 50 and 65




Pressure regulator DRVD - 80 and 100



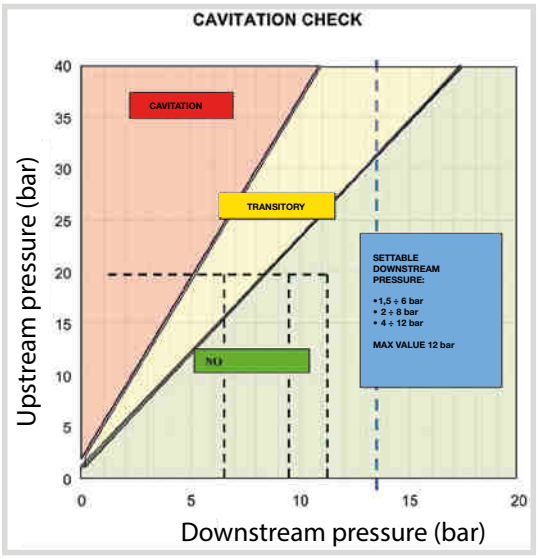

Pressure regulator DRVD - 125,150 and 200



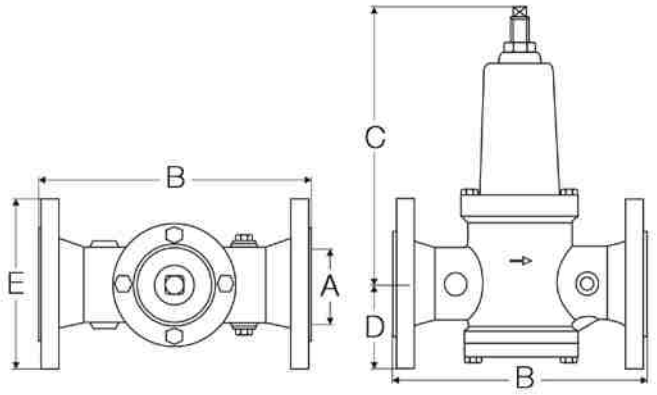
# Cavitation

Checking if the differencial of pressure, between the upstream and the desired downstream pressure, is not too large is necessary to avoid cavitation risk. By putting in the graph hereafter, the upstream value and the desired downstream pressure, 3 results are possible :

- NO : The point is in the no-cavitation zone, normal duty
- Transitory : The point is in the risk of cavitation zone, the pressure reducing valve can be damaged in case of continuous operation. If the pressure reducing valve is to operate in this zone, contact us.
- Cavitation : The point is in the cavitation zone : continuous operation in this zone can cause rapid damage of the internal parts. The operation in this zone is unautorized.




# Sizing




| A | DN in mm | 50 | 65 | 80 | 100 | 125 | 150 | 200 |
|---|---|---|---|---|---|---|---|---|
| B | mm | 230 | 290 | 310 | 350 | 400 | 450 | 550 |
| C | mm | 301 | 354 | 390 | 492 | 560 | 670 | 1050 |
| D | mm | 83 | 92,5 | 100 | 121 | 152 | 169 | 234 |
| E PN16 | mm | 165 | 185 | 200 | 235 | 250 | 285 | 340 |
| E PN25 | mm | 165 | 185 | 200 | 235 | 270 | 300 | 360 |
| E PN40 | mm | 165 | 185 | 200 | 235 | 270 | 300 | - |
| Weight | kg | 15 | 22 | 27 | 37 | 77 | 98 | 191 |

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