

Pressure Relief Valve Type VRH 30 VRH 60 and VRH 120



Design and function

The relief valve is used for protecting the components of a system against overload as a result of a pressure peak.

Further, the valve is designed for controlling/limiting the system pressure by draining off the surplus water from the pressure side.

The valve is designed for tap water, i.e. without additives of any kind to the medium. (EU-drinking water directive 98/83/EC).

Features

- Excellent functional characteristics.
- Surface easy to clean.
- Corrosion-proof parts (stainless steel, AISI 304, W. No. 1.4301).

Variants

The valves are available in three sizes:

- 30 l/min.
- 60 l/min.
- 120 l/min.

Standard versions made of rustproof steel AISI 304/W. No. 1.4301. Upon request also available in versions made of stainless steel AISI 316L/W No. 1.4401

The relief valves are available with different pressure ranges.

Fluid

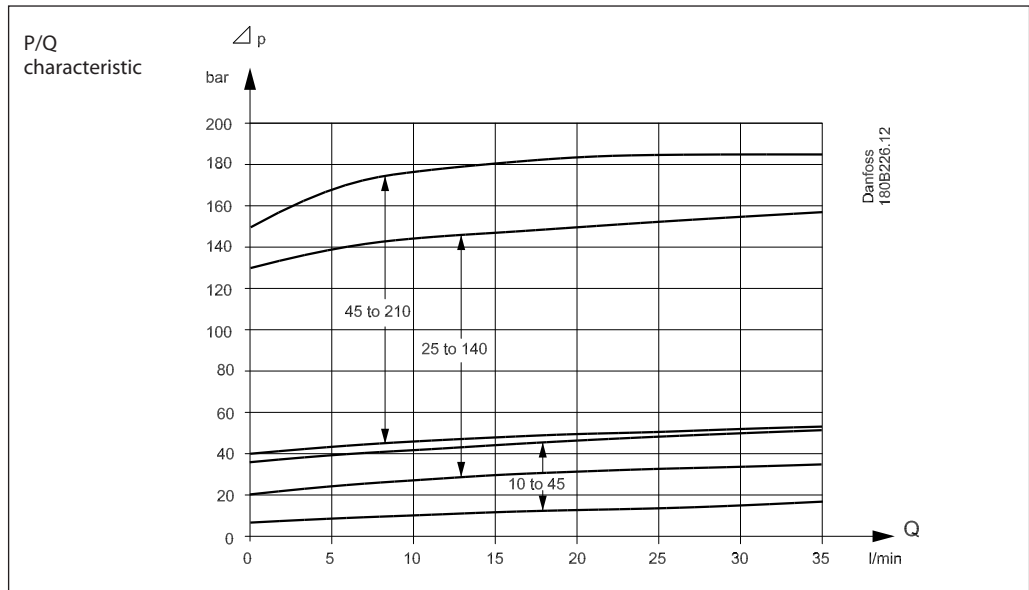
The Water must be clean (according to the EU drinking water directives 98/83/EC) and must be free from sediments.

Technical data

Text	Unit	VRH 30	VRH 60	VRH 120
Pressure setting (see specific range)	bar	10-210	25-140	25-140
Setting screw, from min. to max.	mm	5.3	6.2	7.3
Flow (max.)	l/min	30	60	120
Temperature fluid (max. °C)	°C	50	50	50
Temperature ambient (max. °C)	°C	50	50	50
Internal leakage 20 % below max. setting pressure	l/min	Up to 0.3	Up to 1.0	Up to 1.0
Filtration (10µ abs. $\beta_{10} > 5000$)	10µ abs. $\beta_{10} > 5000$	Or better	Or better	Or better
Weight	kg	0.62	1.3	3.4

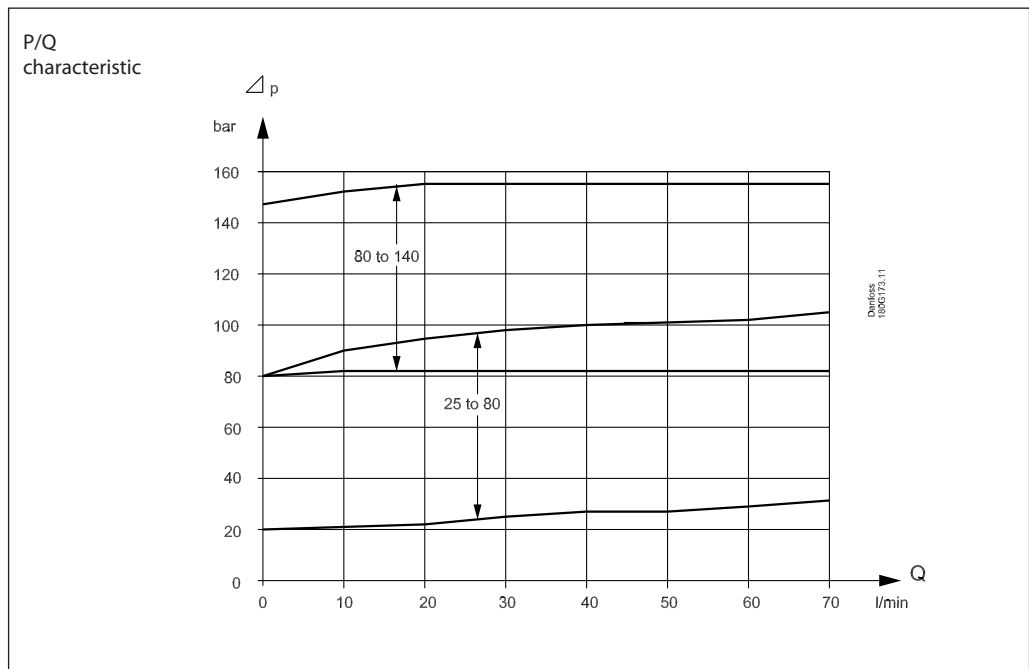
Max. flow: 30 l/min

Pressure setting range: 10 to 40 bar, 25 to 140 bar, 45 to 210 bar



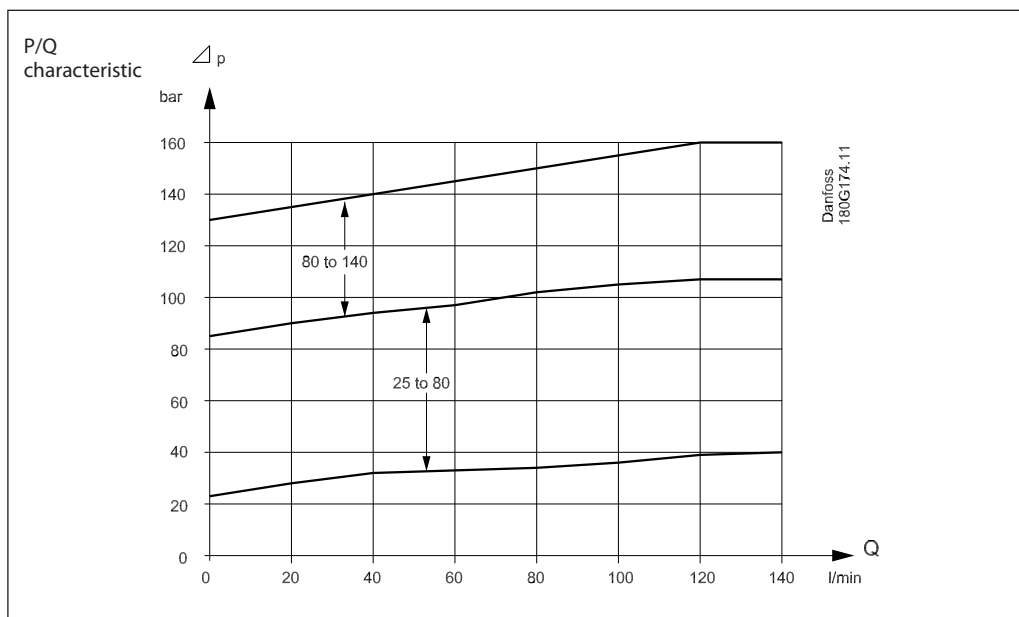
Max. flow: 60 l/min

Pressure setting range: 25 to 80 bar (I), alt. 80 to 140 bar (II)



**Technical data
(continued)**

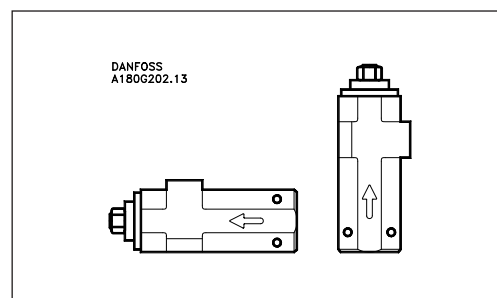
Max. flow: 120 l/min
 Pressure setting range: 25 to 80 bar (I), alt. 80 to 140 bar (II)



Mounting

The valve is mounted in-line and fixed by means of the system's piping or fastened (only VRH 120) by means of the two $\varnothing 8.5$ mm holes in the valve.

It is important that valve is bled to avoid noise and therefore must the valve be mounted in the correct position please see drawing.



Operation

Starting up

To insure stable working conditions for the valve is it very important to bleed the valve during starting up.

Noise level

Since the valve typically is mounted inline or on a frame, the noise level can only be determined for the complete system. It is therefore very important that the valve is mounted correctly on a frame to minimize vibrations and noise.

The noise level is influenced by:

- Mounting position of the valve is important to insure a good bleeding of the valve.
- Sufficient Bleeding of the valve.
- High pressure generates more noise than low pressure.
- Rigid mounting of the valve generates more noise than flexible mounting.
- Pipe mounting direct to the valve increases the noise level compared to a flexible hose connection.

Corrosion and frost protection

If the valve is exposed to temperatures below freezing, it must be protected against freezing. Danfoss recommends DOWCAL N or Zitrec FC antifreezes both being biologically degradable Mono Propylene Glycol (MPG)

DOWCAL N is produced by DOW.
 Zitrec FC is produced by Total / Chevron Texaco. Producers of DOWCAL N and Zitrec FC recommend a mixture ratio of min. 30 % DOWCAL N / Zitrec FC to prevent biofilm occurrence in the system due to DOWCAL N and Zitrec FC being biologically de-gradable.

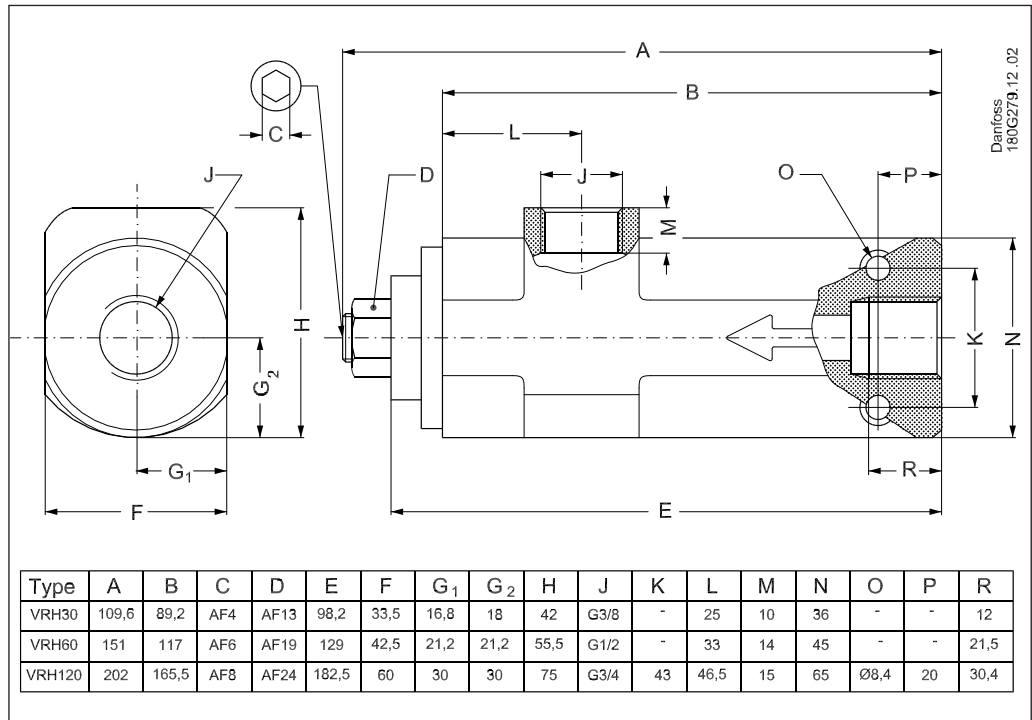
Code numbers

Valve size	Comments	Code no.
VRH 30	Pressure range 25 to 140 bar	180G0030
VRH 30	Pressure range 10 to 40 bar	180G0029
VRH 30	Pressure range 45 to 210 bar	180G0031
VRH 60	Pressure range 25 to 80 bar	180G0002
VRH 60	Pressure range 80 to 140 bar	180G0003
VRH 120	Pressure range 25 to 80 bar	180G0020
VRH 120	Pressure range 80 to 140 bar	180G0021

Spareparts

Valve size	Description	Code no.
VRH 30	Valve seat and cone kit (10-40 bar)+(25-140 bar)	180G4000
VRH 30	Guide and guide pin kit	180G4001
VRH 30	Seal and spring kit (10-40 bar)	180G4002
VRH 30	Toolkit	180G4003
VRH 30	Seal and spring kit (25-140 bar)+(45-210 bar)	180G4004
VRH 30	Valve seat and cone kit (45-210 bar)	180G4005
VRH 60	Valve seat and cone kit (10-40 bar)+(25-80 bar)+(80-140 bar)	180G4006
VRH 60	Guide and guide pin kit	180G4007
VRH 60	Seal and spring kit (10-40 bar)	180G4008
VRH 60	Seal and spring kit (25-80 bar)	180G4009
VRH 60	Seal and spring kit (80-140 bar)	180G4010
VRH 60	Toolkit	180G4011
VRH 120	Valve seat and cone kit (25-80 bar)+(80-140 bar)	180G4012
VRH 120	Guide and guide pin kit	180G4013
VRH 120	Seal and spring kit (25-80 bar)	180G4014
VRH 120	Seal and spring kit (80-140 bar)	180G4015
VRH 120	Toolkit	180G4016

Dimensions



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