



Braukmann VR300

Flow rate regulator

APPLICATION

Flow rate regulators of this type, also called a flow rate limiting valves, control to a fixed flow rate, independent of fluctuating operating pressures and take-off flow rates.

It prevents, for example, pumps running at too high a performance or regulates the performance of whole installations and systems.

APPROVALS

- DVGW
- WRAS (up to 23 °C)

SPECIAL FEATURES


- High flow capacity
- Powder-coated inside and outside - Powder used is physiologically and toxicologically safe
- Integral control circuit and ball valves
- Integral fine filter
- No external energy required for operation
- Compact construction
- Light weight



TECHNICAL DATA

Media	
Medium:	Drinking water
Connections/Sizes	
Connection size:	DN50 - DN450
Pressure values	
Max. operating pressure:	16 bar
Opening pressure:	3 - 15 bar
Nominal pressure:	PN16
Minimum pressure:	0.5 bar
Operating temperatures	
Max. operating temperature medium:	80 °C

CONSTRUCTION

Overview			
	Components	Materials	
	1	Housing with flanges acc. to ISO 7005-2 / EN 1092-2	Ductile iron (ISO 1083), powder-coated
	2	Two pilot valves	Brass
	3	Control circuit with integral rinsable filter insert and ball valves on inlet and outlet	High-quality synthetic material
	Not depicted components:		
	Cover plate	Ductile iron (ISO 1083), powder-coated	
	Diaphragm plate	Ductile iron (ISO 1083), powder-coated	
	Diaphragm	EPDM	
	Spring	Stainless steel	
	Regulating cone	Stainless steel	
	Fine regulation valve	-	
	Valve seat	Stainless steel	
	Compression fittings	Brass	
	Pilot valve housing	Brass	
	Filter insert	Stainless steel	
	Seals	EPDM	
	Orifice	Brass	

METHOD OF OPERATION

The flow rate regulating valve automatically regulates to a constant flow rate, irrespective of fluctuating system pressures, using a pre-calculated measuring orifice operating in conjunction with a special pilot valve.

The valve opens fully if the consumption is less than the maximum calculated flow or the system itself does not deliver the required flow rate. A three-way pilot valve measures the differential pressure between the two sides of the measuring orifice and uses this to regulate the diaphragm valve.

TRANSPORTATION AND STORAGE

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	5 °C
Max. ambient temperature:	55 °C
Min. ambient relative humidity:	25 % *
Max. ambient relative humidity:	85 % *

*non condensing

INSTALLATION GUIDELINES

Setup requirements

- Install shut-off valves
- Install downstream of the strainer
 - Protects against damage from coarse particles
 - Note flow direction (indicated by arrow)
- The installation location should be protected against frost and be easily accessible
 - Pressure gauge can be read off easily
 - Simplified maintenance and cleaning
- Provide a straight section of pipework of at least five times the nominal valve size after the pressure reducing valve (in accordance with EN 806-2)
- Safety valve SV300 optional
- Requires regular maintenance in accordance with EN 806-5
- The calculated measuring orifice is designed to achieve a pressure drop of 0.20 - 0.25 bar
- A pressure measuring point of at least 1/2" size must be present in the inlet section
- A pre-calculated flow rate performance can be adjusted on the pilot valve between -10 % and +40 % of the predetermined value. Larger variations require another design of measuring orifice

Installation Example

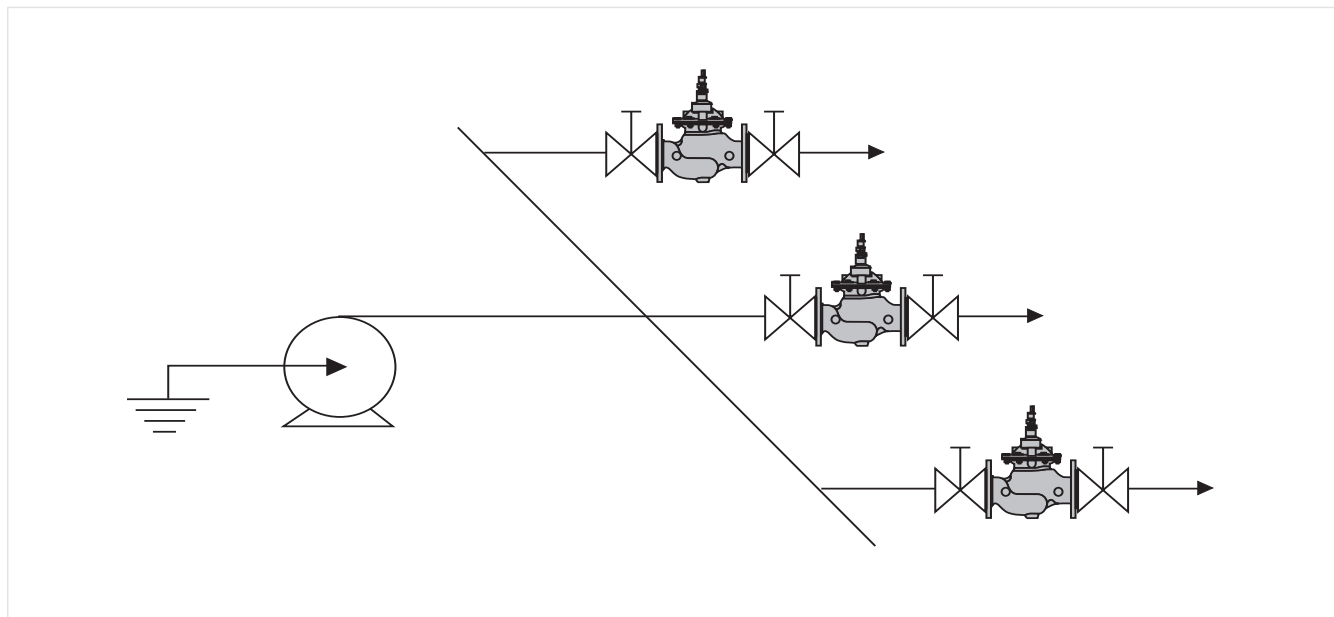


Fig. 1 Standard installation example for the flow rate regulator

Connection sizes:	2"	2 1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"
Distance in mm (W*):	100	110	120	130	160	190	220	250	270	310	330

* Required installation distances between the centerline of the pipework and the surrounding in dependency of the connection size.

TECHNICAL CHARACTERISTICS

kvs-Values

Connection sizes:	50	65	80	100	150	200	250	300	350	400	450
k_{VS} -value (m ³ /h):	43	43	103	167	407	676	1160	1600	2000	3000	3150
Flow rate (Q_{max}) in m ³ /h - $V=5.5$ m/s:	40	40	100	160	350	620	970	1400	1900	2500	3100

Pressure drop characteristics

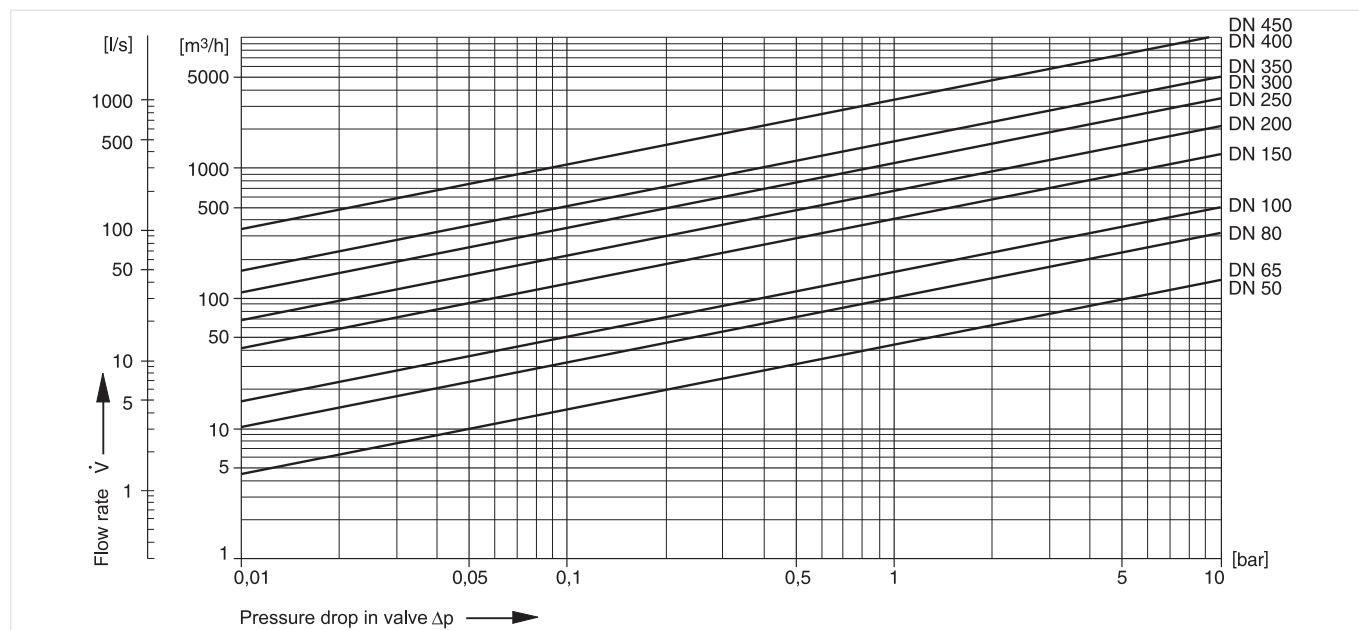
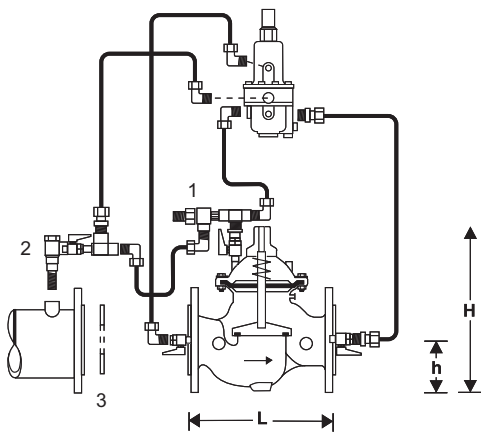


Fig. 2 Pressure drop within the valve in dependency of the flow rate and the used connection size

DIMENSIONS

Overview



Parameter		Values											
Connection sizes:	DN	50	65	80	100	150	200	250	300	350	400	450	
Weight with pilot valve:	kg	14.0	15.0	24.0	39.0	82.0	159.0	247.0	407.0	512.0	824.0	947.0	
Weight without pilot valve:	kg	12.0	13.0	22.0	37.0	80.0	157.0	245.0	405.0	510.0	822.0	945.0	
Dimensions:	L	230	292	310	350	480	600	730	850	980	1100	1200	
	H	270	280	330	350	480	570	730	870	910	1150	1170	
	h	83	93	100	110	143	173	205	230	260	290	310	

Note: All dimensions in mm unless stated otherwise.

ORDERING INFORMATION

The following tables contain all the information you need to make an order of an item of your choice. When ordering, please always state the type, the ordering or the part number.

Options

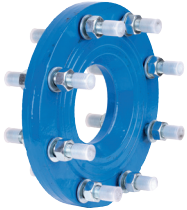
The valve is available in the following sizes: DN50, DN65, DN80, DN100, DN150, DN200, DN250, DN300, DN350, DN400 and DN450.

- standard

		VR300-...A
Connection type:	Housing with flange, PN16, ISO 2084	•

Note: ... = space holder for connection size
Note: Ordering number example for DN50 and type A valve: VR300-50A

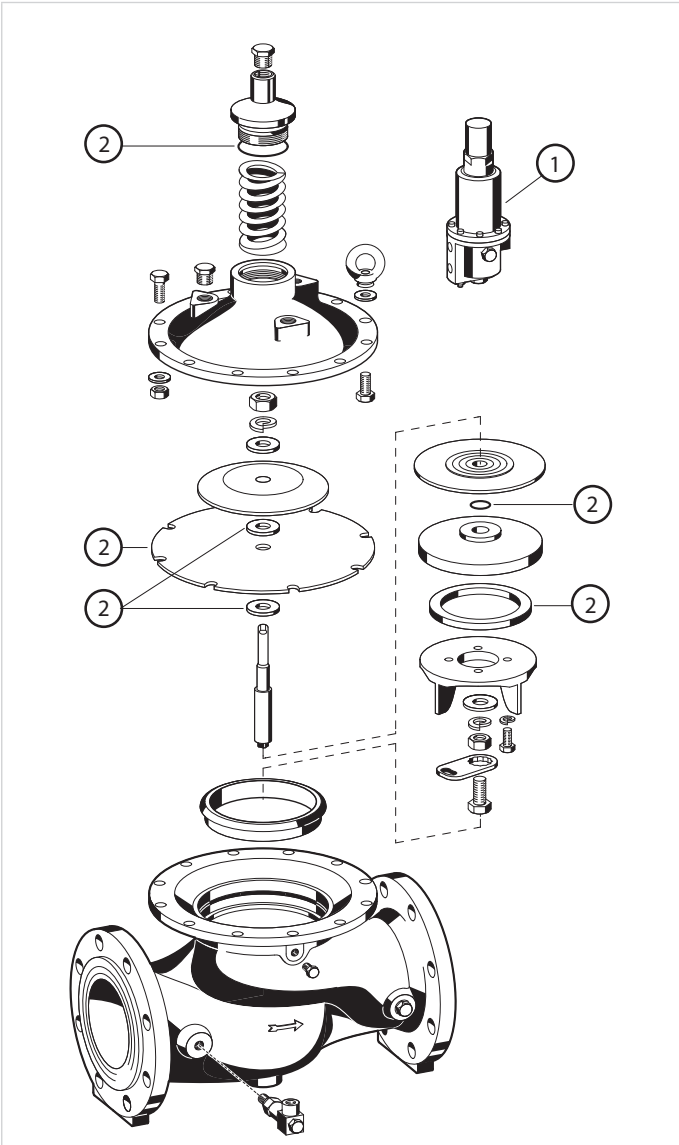
Accessories

	Description	Dimension	Part No.
	EXF125-A Extension flange DN125 Adapter flanges DN100 to DN125 Ductile iron, PN16 acc. ISO 7005-2 and EN 1092-2. Overall length with adapter flanges (without bolts) DN125 L=416mm, DVGW approved, including bolts, nuts and the seal disc.		EXF125-A

Spare Parts

Flow rate regulator VR300, from 2002 onwards

Overview



Description	Dimension	Part No.
1 Replacement pilot valve		
	DN 50 - 450	CXRS-D
2 Set of seals		
	DN50	0903750
	DN65	0903751
	DN80	0903752
	DN100	0903753
	DN150	0903754
	DN200	0903755
	DN250	0903756
	DN300	0903757
	DN350	0903758
	DN400	0903759
	DN450	0903760



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