

# FD300

## Altitude control valve

### APPLICATION

Altitude control valve of this type controls the water level in, for example, water reservoirs without the need for using a float valve or other ancillary controls.

The highly sensitive pilot valve and the main valve are installed outside the water reservoir and the pilot valve senses the hydrostatic water pressure from the water level in the reservoir.

The main valve closes when the maximum set pressure for the pilot valve is reached and reopens when the water level corresponds to the lower set value on the pilot valve.

The standard version permits filling of a water storage unit. A special version is also available on request which can be used for both filling and emptying water storage units.

### 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
Nominal pressure:	PN16
Minimum pressure:	0.7 bar
Operating temperatures	
Max. operating temperature medium:	80 °C
Specifications	
Setting range:	0.5 - 5 m water head

## CONSTRUCTION

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

## 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. This fills the reservoir until the water head corresponding to the set hydrostatic pressure on the pilot valve is reached and it then closes. If the pilot valve is closed, the pressure in the chamber above the membrane rises. The membrane surface area is larger than the valve surface area and therefore the diaphragm valve closes. If water is drawn from the water store, the hydrostatic pressure falls until it reaches the lower set pressure and the pilot valve then opens. In this way the pilot valve controls the opening and closing of the main 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

## Installation Example

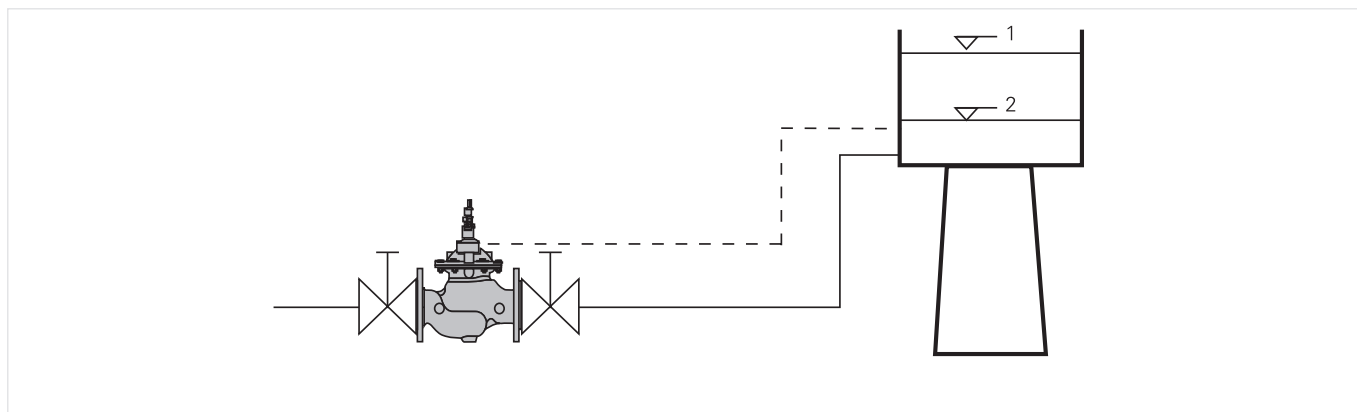


Fig. 1 Standard installation example for the altitude control valve

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

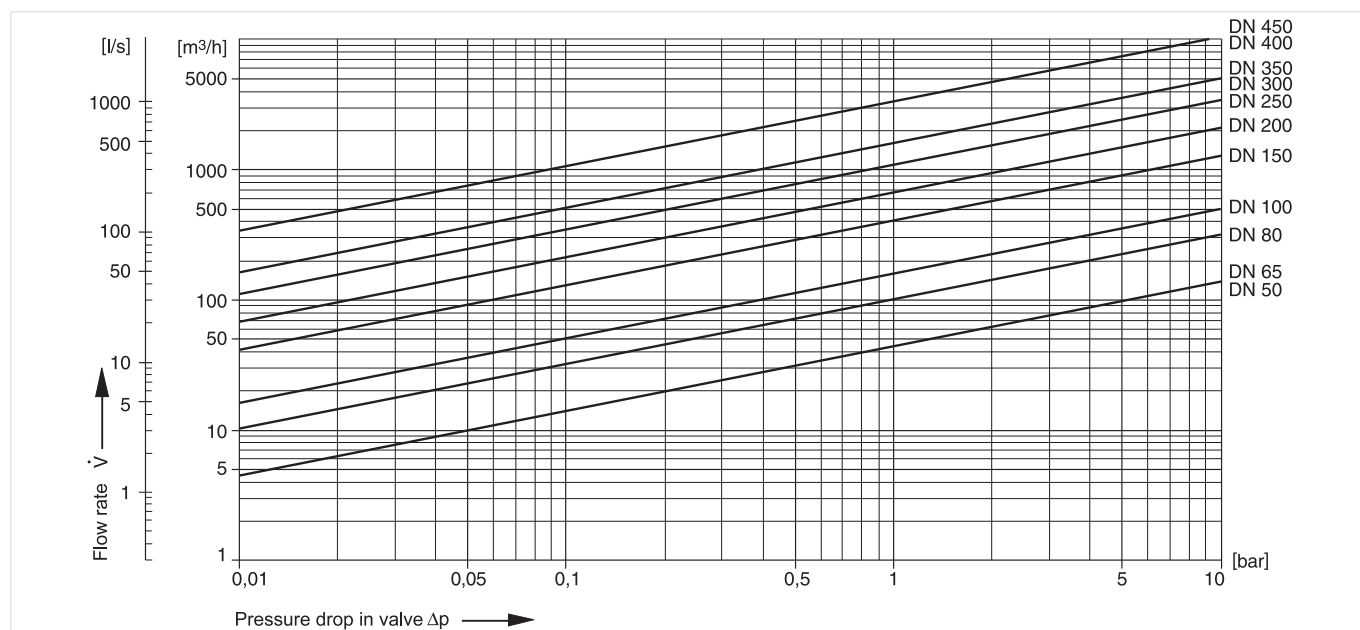
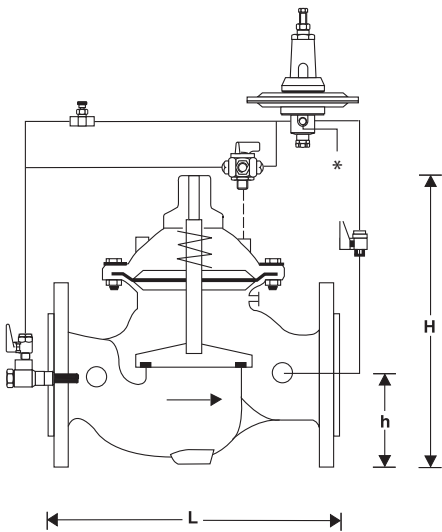


Fig. 2 Pressure drop within the valve in dependency of the flow rate and the used connection size

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

		FD300-...A
Connection type:	Flange PN16, ISO 7005-2, EN 1092-2	•

Note: ... = space holder for connection size

Note: Ordering number example for DN50 and type A valve: FD300-50A

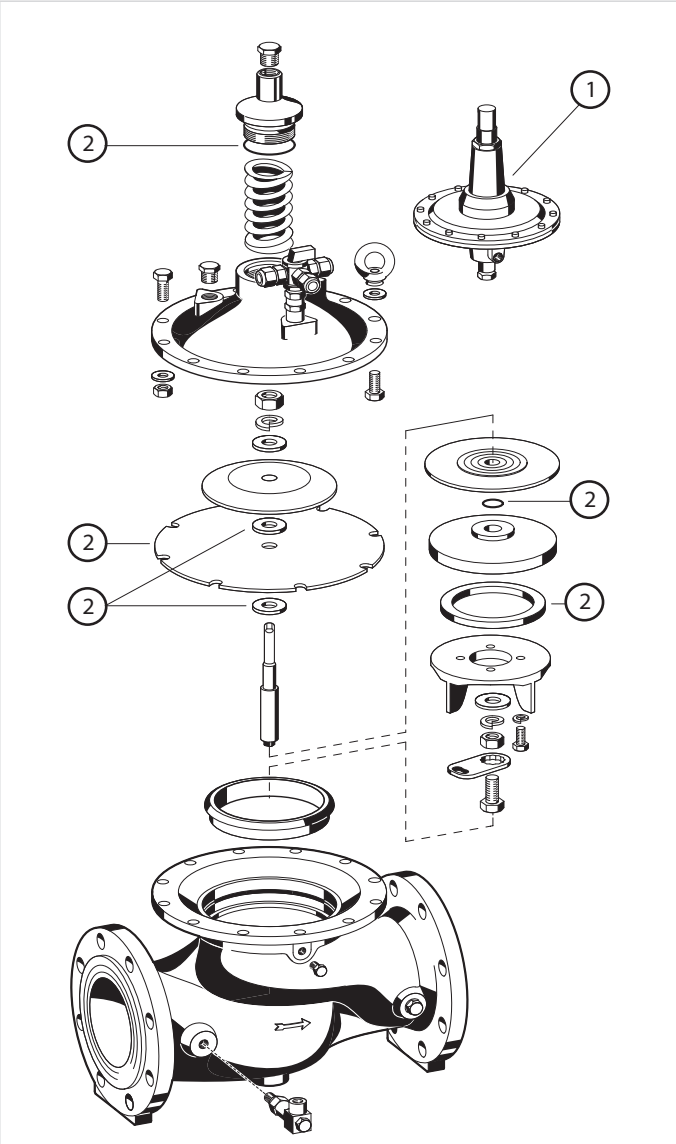
Accessories

	Description	Dimension	Part No.
	<b>EXF125-A Extension flange DN125</b>		
	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

Altitude control valve FD300, from 2002 onwards

Overview



Description	Dimension	Part No.
1 Replacement pilot valve		
	DN50 - DN450	70-110
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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