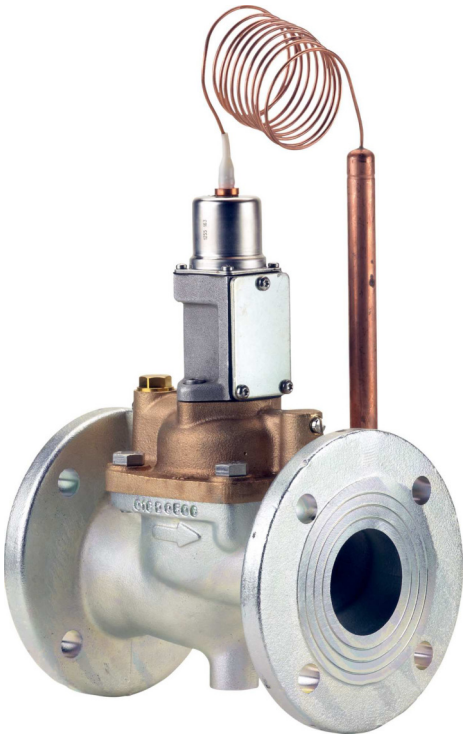
Data sheet



Water regulating valves

WVTS

Thermostatic operated water valve opens on rising sensor temperature

Description

Thermostatic operated water valve type WVTS is suitable for controlling the temperature of a flow of water or neutral brine.
WVTS opens on rising sensor temperature and is indirect servo operated thermostatic valve.
It is suitable for controlling temperature in industrial applications by regulating the quantity of cooling water or neutral brine that cools down the process.
The valves are self-acting, i.e. they operate without the supply of auxiliary energy such as electricity or compressed air.
The required temperature is maintained constant without unnecessary use of cooling water in cooling systems.
The operating economy and-efficiency are maximized.

Features & benefits

- Insensitive to dirt
- Insensitive to water pulsating pressure
- Proven reliable through decades
- Easy to service
- Built-in pilot filter
- Long lifetime
- High performance
- Very high capacity
- Both welding and thread connection flanges

Ordering

Product code numbers

Figure: WVTS components

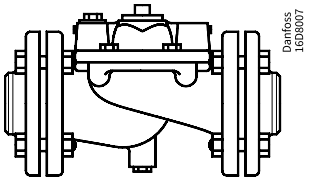


Table: WVTS components

Valve type	Connection	K_v value [m^3/h][(1)]	Code no.		
			Valve housing	Flange set[(2)]	Special servo spring for differential pressure range 1 – 10 bar
WVTS 32	G 1 ¼[(3)]	12.5	016D5032	–	016D1327
WVTS 40	G 1 ½[(3)]	21	016D5040	–	016D0575
WVTS 50	2 inch weld fl.	32	016D5050[(4)]	027N3050	016D0576
WVTS 65	2 ½ inch weld fl.	45	016D5065[(4)]	027N3065	016D0577
WVTS 80	3 inch weld fl.	80	016D5080[(4)]	027N3080	016D0578
WVTS 100	4 inch weld fl.	125	016D5100[(4)]	027N3100	016D0579

[(1)] The K_v value is the flow quantity of water in [m^3/h] with a pressure drop across the valve of 1 bar, p =1000 kg/m^3.

[(2)] Code nos. include 2 flanges.

[(3)] ISO 228-1.

[(4)] Code nos. include valve housing, flange gaskets, flange bolts and screws for pilot valve.

Figure: WVTS, Thermostatic pilot element

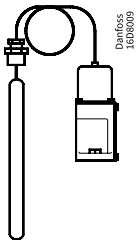


Table: WVTS, Thermostatic pilot element[(1)]

Range [°C]	Capillary tube length [m]	Code no.
0 – 30	2	016D1002
25 – 65	2	016D1003
50 – 90	2	016D1004
0 – 30	5	016D1005
25 – 65	5	016D1006
50 – 90	5	016D1007

[(1)] The pilot element includes control element and spring housing.

Accessories code numbers

Table: Accessories

Description	Code no.
Immersion sensor (sensor pocket)	003N0050
Capillary tube gland[1]	003N0155

[1] 1 capillary tube gland supplied as standard accessory.

Product details

General data

Table: Type and media

Type	WVTS for neutral media
Operation	Servo-operated

Table: Sensor side

Temperature range	0 – 30 °C	25 – 65 °C	50 – 90 °C
Max. sensor temperature	57	90	125

Table: Liquid side

Features	Description
Media	Fresh water, neutral brine
Media temperature range	- 25 – 90 °C
Permissible working pressure PB	10 bar
Max. test pressure	16 bar
Opening differential pressure	WVTS 32 – WVTS 40: min. 0.5 bar, max. 4 bar
	WVTS 50 – WVTS 100: min. 0.3 bar, max. 4 bar

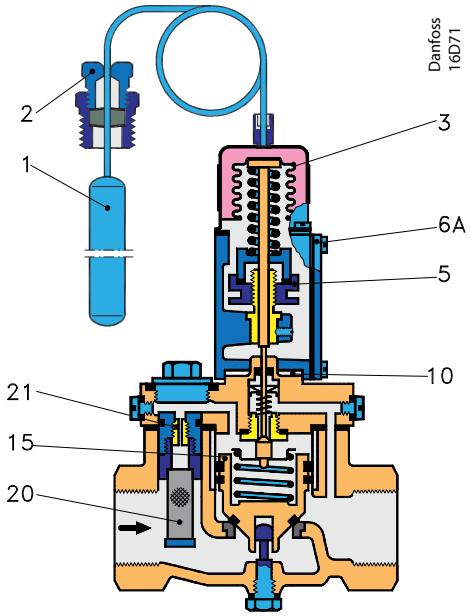
Valves are supplied with capillary tube gland. Different lengths of capillary tube are available.

If WVTS is required with an opening differential pressure of 1 – 10 bar, the valve servo spring must be replaced. See Ordering.

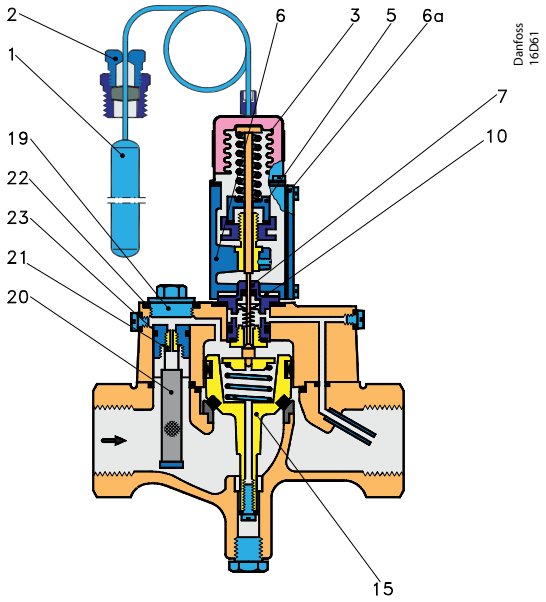
Materials

Parts in contact with the medium.

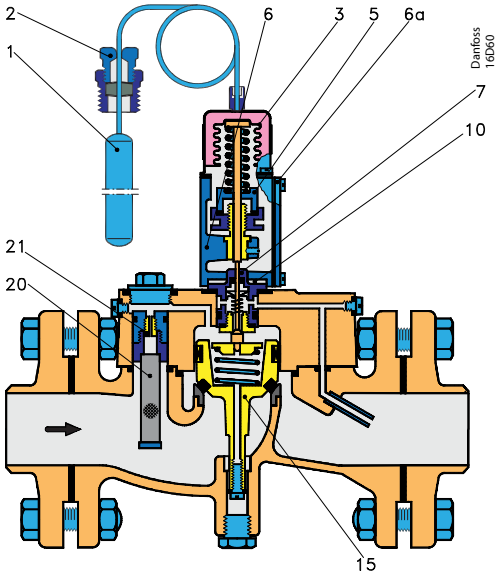
WVTS 32



WVTS 40



WVTS 50 – WVTS 100



1	Sensor
2	Gland
3	Bellows element
5	Regulating nut
6	Setting element housing
6a	Cover
7	Pilot orifice assembly
10	Insulating washer
15	Servo piston
20	Filter cartridge (self-cleaning)
21	Equalising orifice

The valve body is made of cast iron with pressed-in bronze seat. The pilot orifice assembly (7) consists of a housing with seat and pilot cone of stainless steel. A filter cartridge (20) is built into the valve cover. Here the equalizing orifice is protected by a replaceable filter.

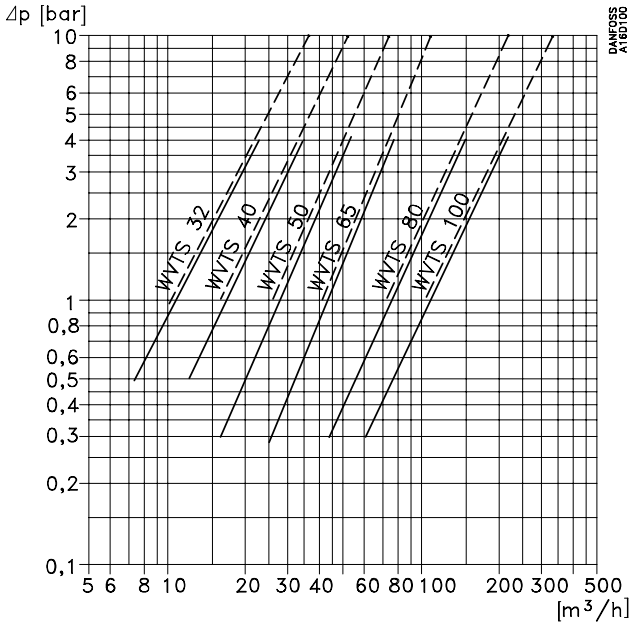
The bellows in the bellows element (3) are of tin bronze. In designing WVTS, great emphasis was placed on producing a valve with a completely tight seat and no external leakage. The servo piston was therefore fitted with a ring of special rubber that creates an elastic seal against the valve seat.

A specially designed rubber sleeve ensures that the servo piston moves in the cylinder with minimum friction. External valve leakage is prevented at the pilot cone where the spindle is fitted with Teflon cup washers. Cover gaskets and pilot channel seals are rubber.

The water-tight rubber seal between cover (6a) and housing (6) ensure that moisture cannot enter and freeze up the spindle. The insulating washer (10) prevents heat transmission between valve body and setting element housing.

Capacity

Figure: Capacity graph



_____	Standard servo spring
_ _ _ _ _ _ _	Special servo spring

The capacity curves show the capacity (water quantity in [m^3/h]) of the individual valve sizes as a function of pressure drop across the valve.

The capacities are given for approx. 85% valve opening and are obtained with an offset of 4 °C (temperature rise at sensor) on both upper and lower temperature ranges.

Dimensions

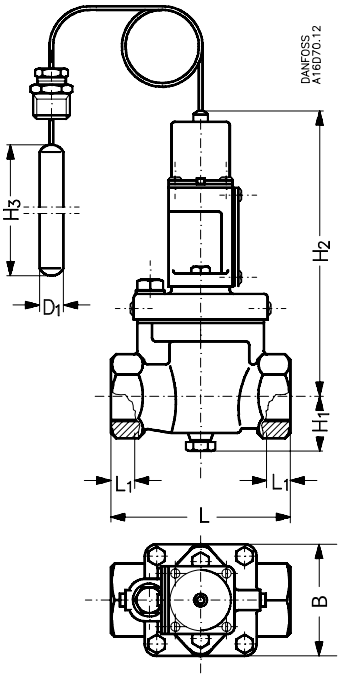
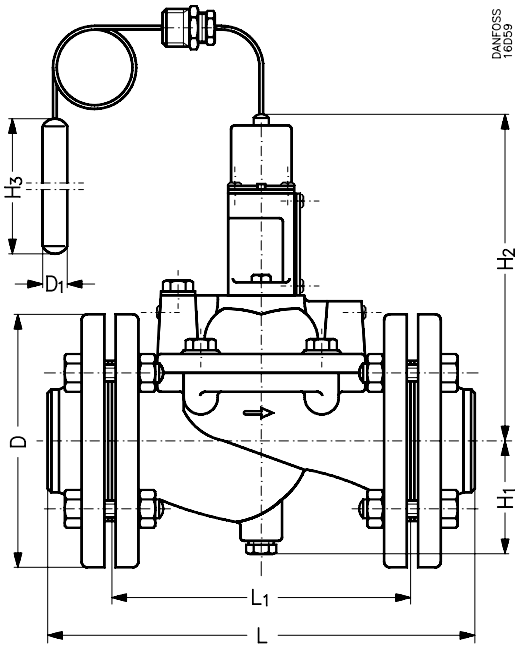
WVTS 32 – WVTS 40	WVTS 50 – WVTS 100
	

Table: Dimensions and weights

Type	H_1	H_2	H_3	L	L_1	B	øD	$øD_1$	Net weight
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
WVTS 32	42	196	210	138	20	85	–	18	4
WVTS 40	72	224	210	198	30	100	–	18	7
WVTS 50	78	230	210	315	218	–	165	18	19
WVTS 65	82	246	210	320	224	–	185	18	24
WVTS 80	90	278	210	370	265	–	200	18	34
WVTS 100	100	298	210	430	315	–	220	18	44

Installation

Valve installation:
WVTS is to be fitted in the cooling water inlet with flow in the direction of the arrow and with the bellows element facing upwards.
Horizontal mounting is must.

Sensor / bulb installation:
The bulb is to be fitted where it is required to maintain or control the water temperature.
The bulb can be fitted warmer or colder than the valve body, with no effect on the regulating capacity.
The bulb must be fitted horizontally or with the blank end of the bulb at the lowest level.
The capitals UP and the red line on the bulb must face upwards at horizontal or inclined fitting.

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The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

Approval type	Title	Certification body	Approval topic
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Pressure Safety Certificate	LLC CDC EURO-TYSK UA.TR.089.1015.02-22	LLC CDC EURO TYSK - Ukraine	PED, Pressure

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