V211T

Two-way Plug Valve, Internal pipe thread

Product Description

The V211T is a cast iron high performance globe valve utilizing the crown plug with a soft seal which provides a tight close, high rangeability and a smooth predictable flow curve.

V211T can be used in a wide range of applications, such as heating, cooling, air handling and domestic hot water systems. The valve can handle the following types of media:

- Hot and chilled water.
- Water with antifreeze additives such as glycol (at 50% glycol concentration).

Specifications

Design	two-way plug valve
Pressure class	PN 16
Flow characteristic	EQM
Stroke	20 mm
Rangeability Kvs/Kv_{min}	>50
Leakage	Tight sealing
ΔPm	400 kPa , water
Max. temperature of medium:	120 °C
Min. temperature of medium:	–20 °C
Connections	Internal pipe thread Rp
Materials	
Body	Nodular iron EN-JS 1030
Stem	Stainless steel SS 2346
Plug	Brass CW602N
Sealing	EPDM
Seat	Nodular iron EN-JS 1030
Standard packing box	Venta
Pressure Equipment Directive	PED 2014/68/EU, Article 4 (3)

Note: It is the responsibility of the installer or product specifier to verify media compatibility of the valves construction materials with the supplier of water treatment/heat transfer solution.

Available Part Numbers

Size		Kv (m^3/h)	Part number
DN	Connection		
15	RP ½	1.6	7211716000
15	RP ½	2.5	7211720000
15	RP ½	4.0	7211724000
20	RP ¾	6.3	7211728000
25	RP 1	10	7211732000
32	RP 1¼	16	7211736000
40	RP 1½	25	7211740000
50	RP 2	38	7211744000

- The rangability is the ratio of Kvs and Kv_{min}.
- Kvs is the flow through the fully open valve in m^3/h at a pressure drop of 100 kPa.
- Kv_{min} is the minimum controllable flow (m^3/h) at a pressure drop of 100 kPa within the range in which the valve characteristics conform to the slope requirements of IEC 60534-1.

Recommendations

- It is recommended to fit a strainer upstream if the valve to increase reliability and to follow waste treatment guidelines as detailed in VDI 2035.
- Valves should be installed in the return pipe to reduce exposure to media temperature extremes.
- If the valve is used for media at temperatures below 0 °C, it should be equipped with a stem heater in order to prevent ice formation on the valve stem to prevent ice formation on the valve stem.

Spare Parts

	Part number
Stuffing box (max 150 °C)	100108000

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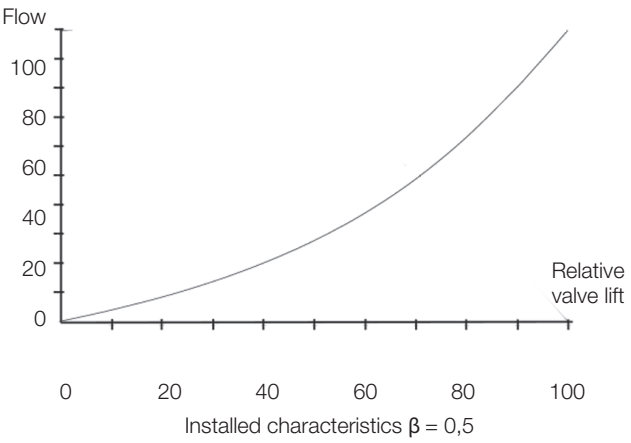
Design And Characteristics

The design of the V211T gives good resistance against solid particles in the fluid.

The plug is guided throughout the lift, which reduces the risk for vibrations. The valve closes with the stem up.

The flow characteristics of the V211T is equal percentage modified.

Flow Characteristics Chart



Cavitation

Cavitation takes place in a valve when the velocity of the flow between the plug and seat increases to the extent that gas bubbles are created in the water.

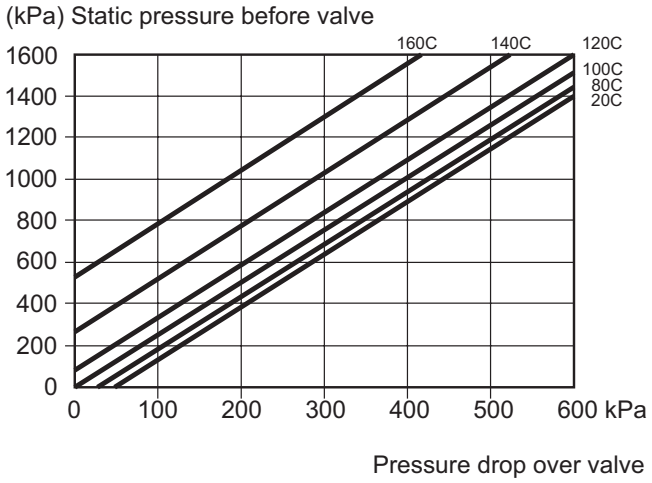
After the plug and seat, when the velocity decreases the gas bubbles collapse (implode), generating conciderable noise and causing conciderable wear on the valve.

View the cavitation diagram to verify if a risk of cavitation exists with the working conditions of the pertinent installation.

Proceed as follows:

1. Using the static pressure before the valve (e.g. 1000 kPa), plot the horizontal line to the line for the temperature of the liquid (e.g. 120 °C).
2. From the intersection point, plot a vertical line downwards and read off the max.permissible pressure drop across the valve.
3. If the computed pressure drop exceeds the value from the diagram there is risk for cavitation.
4. As a rule of thumb, to ensure the cavitation zone is not reached, the fluid velocity must be below 2 m/s.

Pressure drop chart at the beginning of cavitation



Pressure drop limit where caviation might occur is dependent on valve inlet pressure and water temperature.

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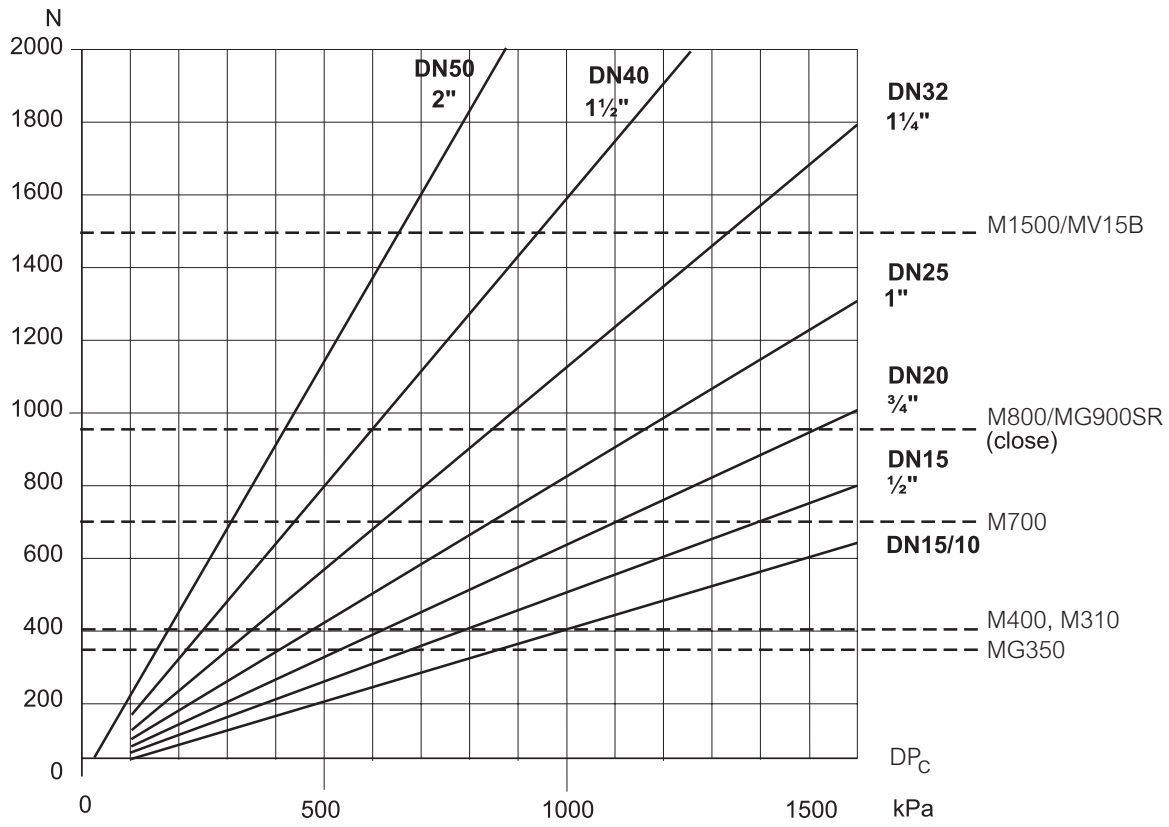
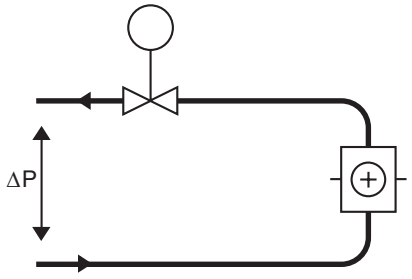
Actuator Selection

Use the diagram below to select an actuator to close against the required ΔPc.



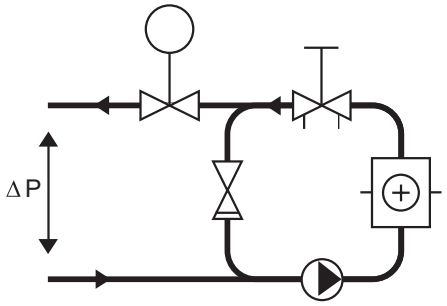
Installation

The valve should be mounted with flow direction in accordance with the valve marking. It is recommended to install the valve in the return pipe, in order to avoid exposing the actuator to high temperatures. The valve must not be installed with the actuator mounted below the valve. To ensure that suspended solids will not become jammed between the valve plug and seat, a filter should be installed upstream of the valve, and the pipe system should be flushed before the valve is installed.



A. Typical installation without local circulating pump.

To provide a good function, the pressure drop across the valve should be no less than half of the available pressure (ΔP). This corresponds to a valve authority of 50%.



B. Typical installation with local circulating pump.

The Kvs value of the valve is to be selected so that the entire available pressure drop (ΔP) falls across the control valve.

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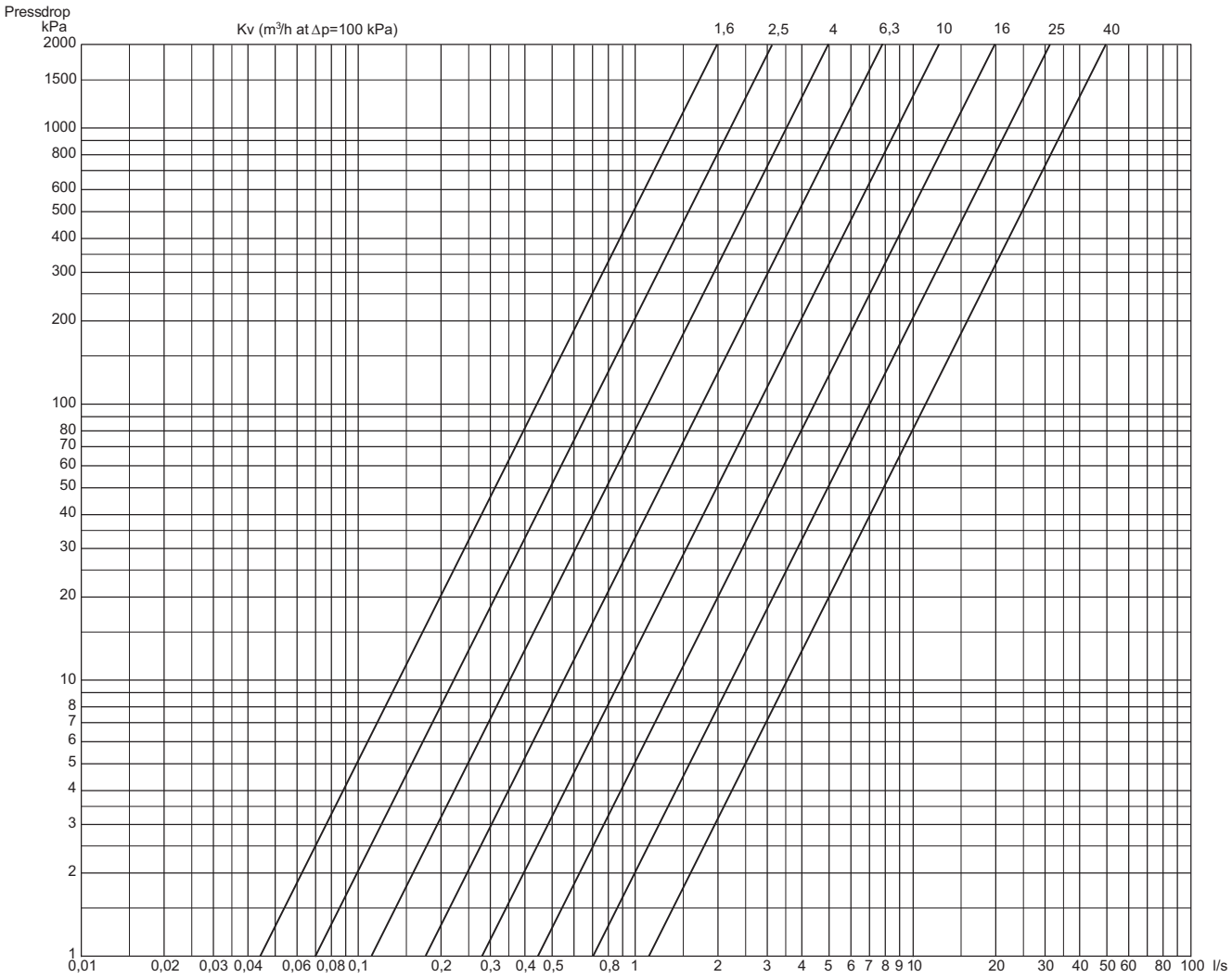
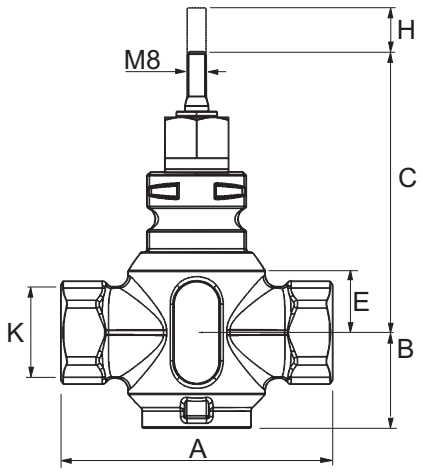
Flow and Pressure Drop Chart



Dimensions And Weight



Part No	Conn.	Dimensions (mm)						
	DN	A	B	C	E	H	In.	Weight kg
7211716000	15	85	38.5	108.5	23.5	20	Rp ½	1.0
7211720000	15	85	38.5	108.5	23.5	20	Rp ½	1.0
7211724000	15	85	38.5	108.5	23.5	20	Rp ½	1.1
7211728000	20	100	40.5	115	30	20	Rp ¾	1.2
7211732000	25	115	40.5	119	34	20	Rp 1	1.3
7211736000	32	130	41	120	35	20	Rp 1¼	1.8
7211740000	40	150	50	127.5	42.5	20	Rp 1½	2.7
7211744000	50	180	59	138	53	20	Rp 2	4.2

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