TAC Venta V231

F-20-13

Two-way Plug Valve, PN 25 (362 psi)

2002-01-14

V231 can be used in a wide range of applications, such as heating, district heating and air handling systems.

The valve can handle the following types of media:

- Hot and chilled water.
- Water containing phosphate or hydrazine additives.
- Water with antifreeze additives such as glycol.

If the valve is used for media at temperatures below 0 °C (32 °F), it should be equipped with a stem heater in order to prevent ice formation on the valve stem.

TECHNICAL SPECIFICATION

Design ..... two-way plug valve
Pressure class ..... PN 25 (362 psi)
Flow characteristic ..... EQM
Stroke ..... 20 mm (0.79 in.)
Rangeability Kv/Kv_{min} ..... see table
Leakage ..... up to 0,02% of Kv/Cv
ΔPm ..... max. 800 kPa (116 psi), water
Max. temperature of medium: ..... 150 °C (302 °F)
Min. temperature of medium: ..... –20 °C (–4 °F)

Flanges drilling ..... according to SS 335 and ISO 2084
Materials:
Body ..... nodular iron SS 0727 (GGG40.3)
Plug and seat ..... stainless steel SS 2346
Stem ..... stainless steel SS 2346
Standard packing box ..... Venta

Conn. DN	Conn. in.	Kvs m³/h	Cvs	Item number excl. connection	Range-ability
15	½"	0.25	0.29	721-3106-000	> 50
15	½"	0.40	0.47	721-3110-000	> 50
15	½"	0.63	0.74	721-3114-000	> 50
15	½"	1.0	1.2	721-3118-000	> 50
15	½"	1.6	1.9	721-3122-000	> 50
15	½"	2.5	2.9	721-3126-000	> 50
15	½"	4.0	4.7	721-3130-000	> 50
20	¾"	6.3	7.4	721-3134-000	> 200
25	1"	10	11.7	721-3138-000	> 200
32	1¼"	16	18.7	721-3142-000	> 200
40	1½"	25	29.3	721-3146-000	> 200
50	2"	38	44.5	721-3150-000	> 200

Average characteristic pressure ratio, X_{fz} = 0,6 at 25% Kv (Cv),

where $X_{fz} = \frac{\Delta p_k}{p_1 - p_v}$

Δp_k : differential pressure at the beginning of cavitation
p_1 : absolute upstream pressure
p_v : absolute vapor pressure

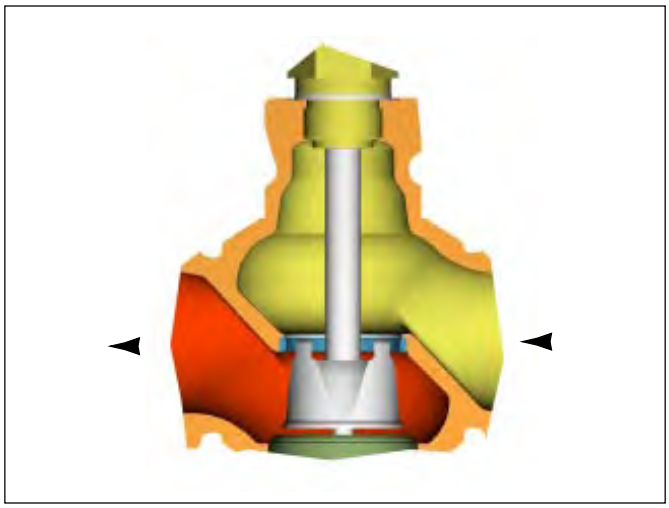
Key:

- The rangability is the ratio of Kv and Kv_{min} (Cv and Cv_{min}).
- Kv (Cv) is the flow through the valve in m³/h at the specified valve lift and at a pressure drop of 100 kPa across the valve.
- Kv_{min}(Cv_{min}) is the minimum controllable flow (m³/h) at a pressure drop of 100 kPa within the range in which the valve characteristics conform to the slope requirements of IEC 534-1.
- ΔPm is the maximum pressure drop across the fully open valve.

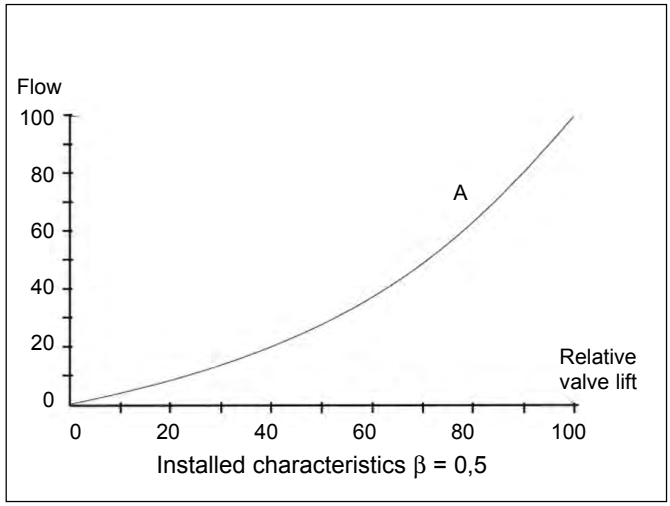
DESIGN AND CHARACTERISTICS

The design of the V231 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.

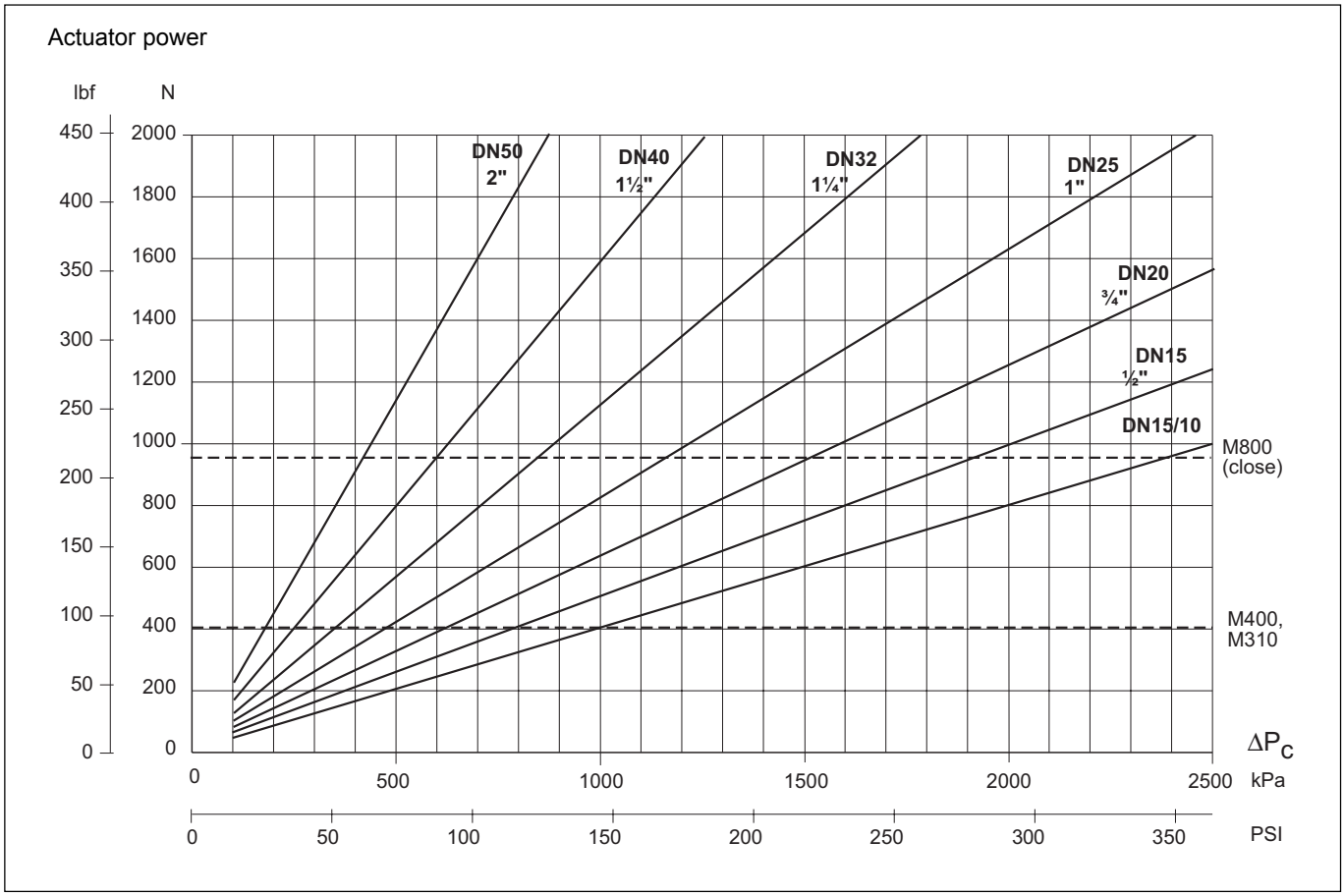


The flow characteristics of the V231 is equal percentage modified. This characteristic makes it possible to control low flow rates down to almost closed position. This is particularly important for achieving good control performance in systems with wide load variations.



SPECIFICATION OF ACTUATOR

Use the diagram below to select actuator motor for the V231 to close required ΔPc. A suitable actuator is selected, using the data sheet F-10-6.



INSTALLATION

The valve should be mounted with flow direction in accordance with the valve marking.

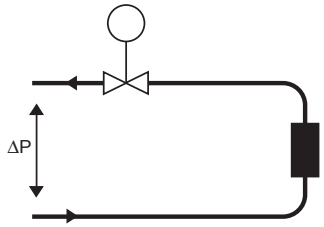
It is recommended to install the valve in the return pipe, in order to avoid exposing the actuator to high temperatures.

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.

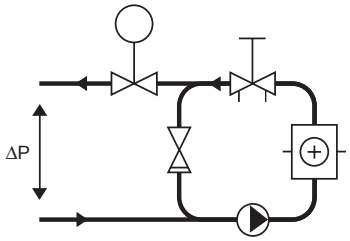
A Typical installation without local circulating pump.

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%.

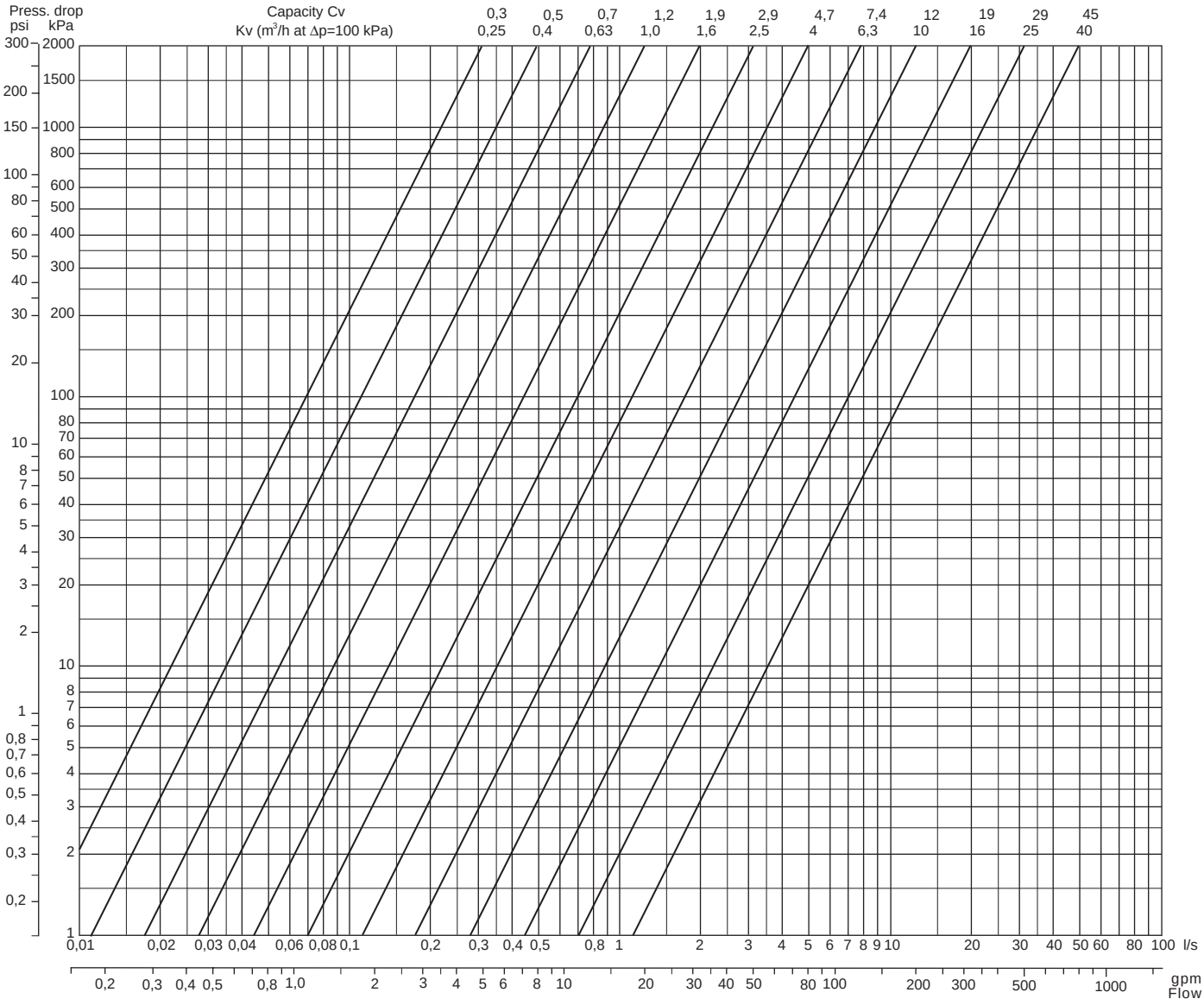


B Typical installation with local circulating pump.

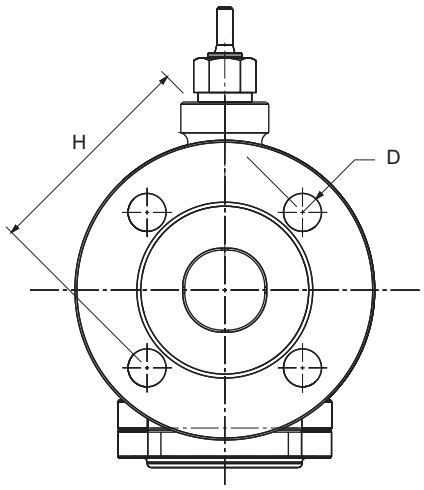
The K_V (C_V) value of the valve to be selected so that the entire available pressure drop (ΔP) falls across the control valve.

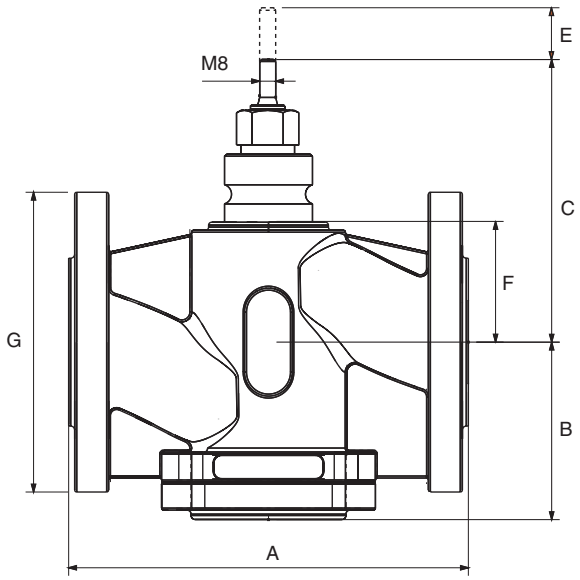


PRESSURE DROP CHART



DIMENSIONS AND WEIGHTS





Part	Conn.		Dimensions																Weight	
no.			A		B		C		D		E		F		G		H			
721-	DN	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	kg	lb.
3106	15	½"	130	5.12	81	3.19	121.5	4.78	4x14	4x0.55	20	0.79	37	1.46	95	3.74	65	2.56	3.6	8
3110	15	½"	130	5.12	81	3.19	121.5	4.78	4x14	4x0.55	20	0.79	37	1.46	95	3.74	65	2.56	3.6	8
3114	15	½"	130	5.12	81	3.19	121.5	4.78	4x14	4x0.55	20	0.79	37	1.46	95	3.74	65	2.56	3.6	8
3118	15	½"	130	5.12	81	3.19	121.5	4.78	4x14	4x0.55	20	0.79	37	1.46	95	3.74	65	2.56	3.6	8
3122	15	½"	130	5.12	81	3.19	121.5	4.78	4x14	4x0.55	20	0.79	37	1.46	95	3.74	65	2.56	3.6	8
3126	15	½"	130	5.12	81	3.19	121.5	4.78	4x14	4x0.55	20	0.79	37	1.46	95	3.74	65	2.56	3.6	8
3130	15	½"	130	5.12	81	3.19	121.5	4.78	4x14	4x0.55	20	0.79	37	1.46	95	3.74	65	2.56	3.6	8
3134	20	¾"	150	5.91	92	3.62	124.5	4.90	4x14	4x0.55	20	0.79	40	1.57	105	4.13	75	2.95	4.4	10
3138	25	1"	160	6.30	96	3.78	129.5	5.10	4x14	4x0.55	20	0.79	45	1.77	115	4.53	85	3.35	5.6	12
3142	32	1¼"	180	7.09	100.5	3.96	143	5.63	4x19	4x0.75	20	0.79	58.5	2.30	140	5.51	100	3.94	7.7	17
3146	40	1½"	200	7.87	99	3.90	144.5	5.69	4x19	4x0.75	20	0.79	60	2.36	150	5.91	110	4.33	8.8	19
3150	50	2"	230	9.06	111	4.37	159.5	6.26	4x19	4x0.75	20	0.79	75	2.95	165	6.50	125	4.92	12.6	28

SPARE PARTS

Stuffing box

Standard type S . max 150 °C (302°F)

Item number 1-001-0800-0