

# VG222



## Two-way Pressure Balanced Plug Valve, Flanged PN 16 (232 psi)

The VG222 valve is primarily intended to be used in heating, cooling and air conditioning application.

For other types of applications, please contact your nearest TAC sales office.

The VG222 valve can be used with the following types of fluids:

- hot water, or deaerated cooling water.
- deaerated water with glycol-type antifreeze agent (max.50%)

With cooling medias at temperatures below 0°C a stem heater must be fitted, to protect from stem seizure due to freezing.

### SPECIFICATIONS

Design . . . . . two-way pressure balanced plug valve  
 Pressure class . . . . . PN 16 (232 psi)  
 Flow characteristics . . . . . EQ%  
 Rangeability Kv/Kv min. . . . . >50

#### Stroke

DN 65. . . . . 25 mm ( in. 1)  
 DN 80 – DN 150. . . . . 45 mm (in.1.8)  
 Leakage . . . . . <0.03% of Kv/Cv  
 $\Delta P_m$  . . . . . 200 kPa (29 psi), water  
 Max. temperature of medium . . . . . 150 °C (302 °F)  
 Min. temperature of medium. . . . . -10 °C (14 °F)  
 Connection. . . . . Flange according ISO 7005-2

#### Materials

Body . . . . . Grey cast iron  
 Stem . . . . . stainless steel  
 Plug . . . . . Brass  
 Seat . . . . . Grey cast iron  
 Packing box . . . . . Viton OR

Size		Kv	Cv	Part number	Pressure Equipment Directive 97/23/EC	CE-marked
DN	in.	m <sup>3</sup> /h				
65	2½"	63	73	721-2052-000	Cat I	CE
80	3"	100	116	721-2056-000		
100	4"	130	151	721-2060-000		
125	5"	200	232	721-2064-000		
150	6"	300	348	721-2068-000		

#### Key to Technical specification

- The rangability is the ratio of Kv and  $Kv_{min}$  (Cv and  $Cv_{min}$ ).
- Kv (Cv) is the flow through the valve in m<sup>3</sup>/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 (m<sup>3</sup>/h) at a pressure drop of 100 kPa
- $\Delta P_m$  is the maximum pressure drop across the fully open valve.

## FUNCTION AND FLOW CHARACTERISTIC

The design of the VG222 plug is pressure balanced to ensure high close off pressure with lower actuator force.

The valve closes with the stem up.

The flow characteristic of the VG222 is equal percentage (EQ%, also called logarithmic), giving an equal-percentage change in flow.

The latter is necessary to give good control in systems with large load variations.

## 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.

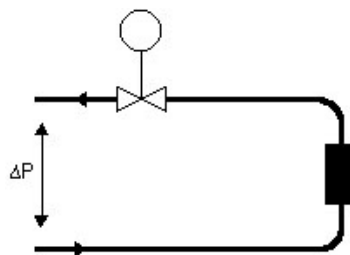
The valve must not be mounted with the actuator under the valve.

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.

Size		M700 Dpc		M800 Dpc		M1500/MV15B Dpc	
DN	in.	kPa	PSI	kPa	PSI	kPa	PSI
65	2½	1300	185.7	1600	228.5	1600	228.5
80	3	1000	142.8	1450	207.1		
100	4	700	100	1000	142.8		
125	5	470	67.1	750	107.1	1450	207
150	6	300	42.8	550	78.6		

$\Delta P_c$  = Max. close-off pressure drop across the valve.

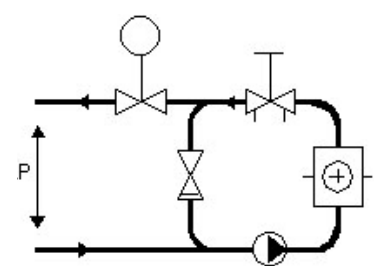
## INSTALLATION



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 ( $\Delta P$ ). This corresponds to a valve authority of 50%.

Fig 1



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 ( $\Delta P$ ) falls across the control valve.

Fig 2

**PRESSURE DROP CHART**

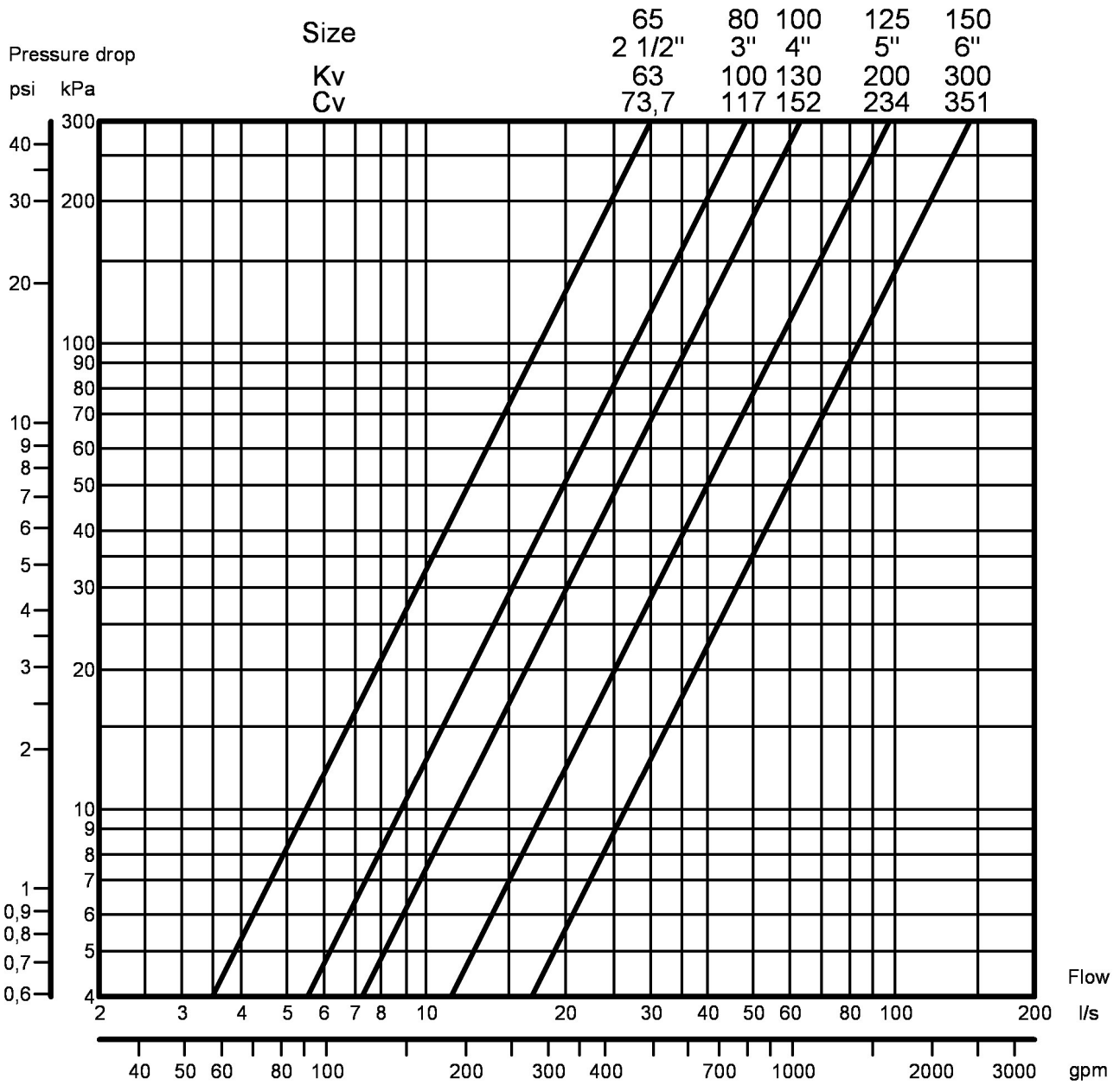


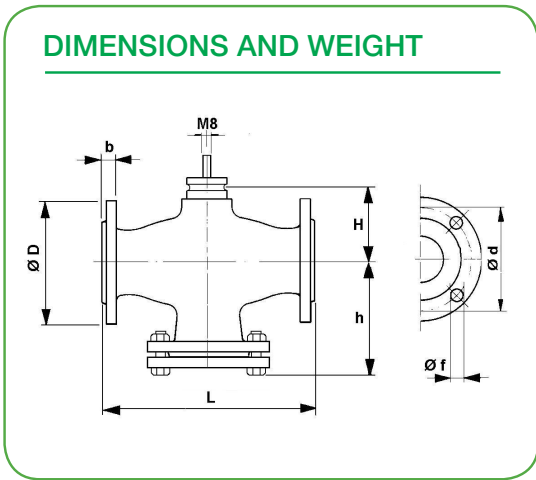
Fig 3

**SPARE PARTS**

**Stuffing box**

VG222 spare ..... max 150 °C (302 °F)

Item number..... 1-001-0810-0



Part number	Size		Stroke		Dimensions														Weight	
					L		H		h		f		D		d		b			
	DN	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	Kg	lb.
721-2052-000	65	2½	25	1	290	11.4	115	4.5	175	6.8	18	0.7	185	7.3	145	5.7	20	0.8	18	39.6
721-2056-000	80	3	45	1:08	310	12.2	125	5	186	7.3			200	7.9	160	6.3	22	0.8	28	61.6
721-2060-000	100	4			350	13.8	137	5.4	206	8.1			220	8.7	180	7.1	24	0.9	32	70.4
721-2064-000	125	5			400	15.7	159	6.2	255	10			250	9.8	210	8.3	26	1.0	45	99.1
721-2068-000	150	6			480	18.9	177	7	275	10.8			22	0.8	285	11.2	240	9.4	26	1.0

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