

3- WAY CONTROL VALVE

(GXS21 Series)



《Summary

"GXS21" series which is 3-way control Valve, is used in wide filed for cooling, heating, ventilation and controlling BAS.

The body and the seat are made of Bronze.

This valve can not be used for controlling continuity gas equipment.

《Application

- Hot water: Hot water: max. 130℃
- Chilled water: -25℃ max. in closed circuit only Water with following additives ;
 - Hydra zing, Phosphate, for frost protection
 - Glycol, max. 50%, for frost protection

《Technical Data

- Operating pressure : 16Kg/cm² (16bar)
- Operating temp : - 25 ~ 130℃ DN4747/DN3158
- Valve curve
 - 1) Straight port : Linear
 - 2) By-pass : Linear
- Leakage rate
 - 1) Straight port : ≤0.01% of Kvs value Class IV(ANSI B 16.104-1976)
 - 2) By-pass : ≤0.5% of Kvs value
- End Connection : PT screwed Type (BSP 16K)

※ Close-off pressure

MODEL	DN		FLOW		STROKE	Sv	Actuator ΔP_{max} (Kgf/cm ²)			
	mm	inch	KVS	CV			GEA-10A[P]		GEA-20A[P]	
					mixing	Diverting	mixing	Diverting		
GXS21.15	15	1/2"	4	4.7	20	30	8	4	8	4
GXS21.20	20	3/4"	6.3	7.4	20	30	8	4	8	4
GXS21.25	25	1"	12	14	20	30	7	3.5	8	4
GXS21.32	32	1 1/4"	16	18.7	20	30	4.5	2	8	4
GXS21.40	40	1 1/2"	25	29	20	30			6	3
GXS21.50	50	2"	37	43.2	20	30			4	2

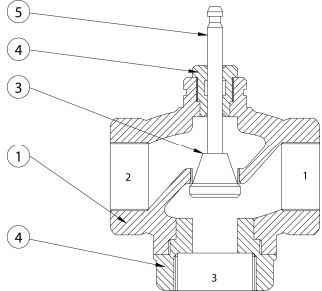
Sv : Rangeability (VDI 2173)

* $K_v = C_v / 1.167$

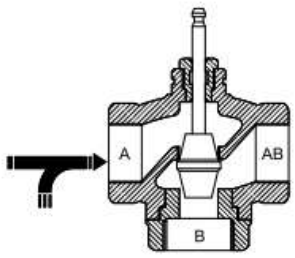
ΔP_{vmax} in kgf/cm² = max, permissible differential pressure across closed valve

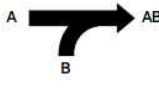
Materials

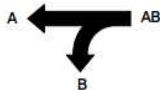
NO	1	2	3	4	5
Part Name	Body	Cover	Plug	Packing Box	Stem
Material	Bronze BC6	Bronze BC6	SCS13	Viton	SUS304



Mechanical Design





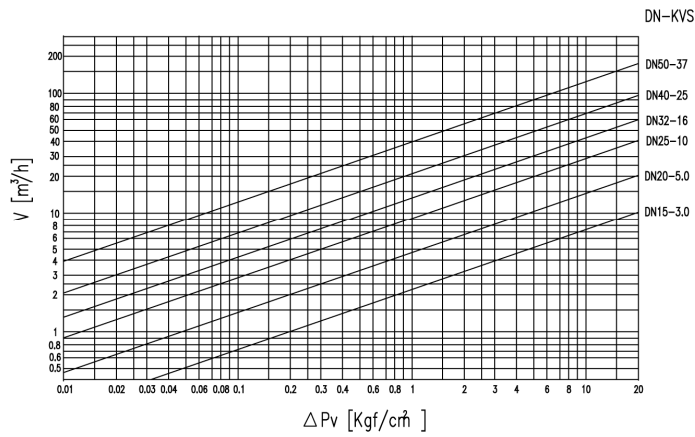


Mixing type / Diverting Type

- Plug is connected to the valve stem directly.
- A seat which is made of special material is fixed on the valve body.

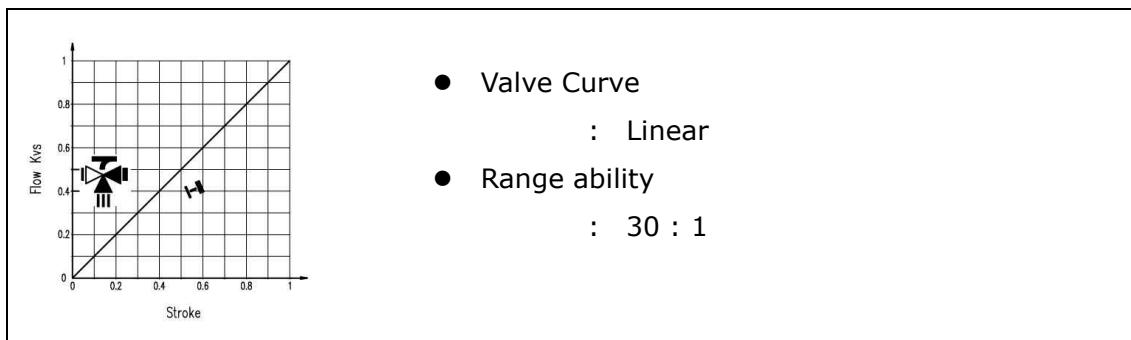
◀ Valve Selection

▶ FLOW DIAGRAM



- V : WATER FLOW (m^3/h)
- ΔP_v : VALVE PRESSURE DROP (Kgf/cm^2)

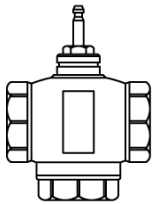
◀ Characteristic of Valve's Flow



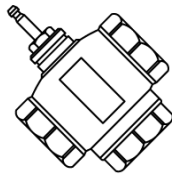
《Mounting Notes

- For Heating and Steam, you may want to install the valve at the returning line which has lower temperature in order to extend life cycle of the packing.
- Using strainer all the time is suggested and install it at the fitting opening for better safety of operation

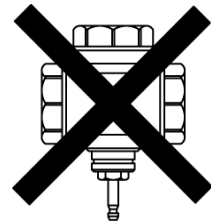
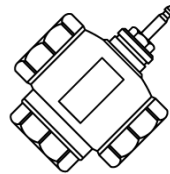
- Mounting positions



<permitted>



<minimum allowed condition>



<not permitted>

- The valve should be installed with the same direction of the Fluid flow



in case of using as Mixing valve : from II,III to I

《Guidelines For An Examination

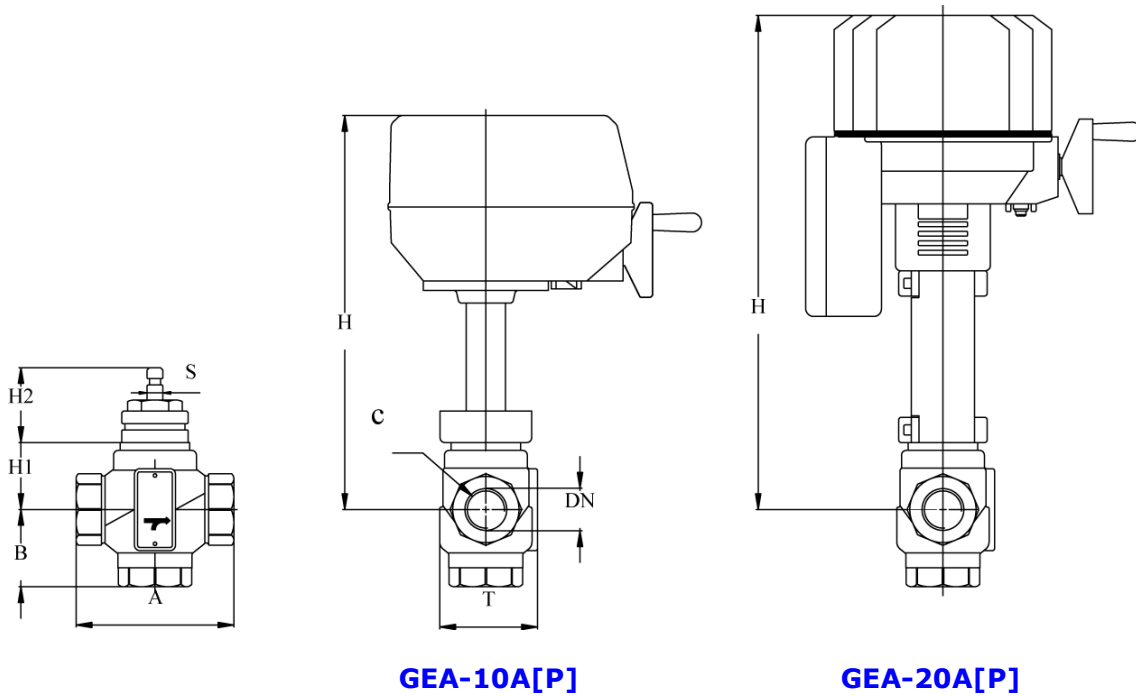
Trial test should be conducted only when Actuator is mounted on the valve correctly.

1. Downward valve spindle: Through-port: Open / By-pass : Close
2. Upward valve spindle : Through-port: Close / By-pass : Open

《Check

- In case of damaging of the valve's packing, There is no need disassembling the valve and actuator for replacement.
 - Packing box can be used for -25~+130℃ of Fluids.(Cold, Chilled and Hot water)
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<Dimension



Model	DN		A	B	C	S	H1	H2	T	H		Weight Valve(Kg)
	mm	inch								GEA-10A(P)	GEA-20A(P)	
GXS 21.15	15	1/2"	100	60	PT 1/2"	10	44	67.5	41	321	326	1.5
GXS 21.20	20	3/4"	100	60	PT 3/4"	10	44	67.5	50	321	326	1.7
GXS 21.25	25	1"	105	65	PT 1"	10	50	67.5	55	330	334	1.9
GXS 21.32	32	1 1/4"	105	65	PT 1 1/4"	10	50	67.5	70	330	334	2.2
GXS 21.40	40	1 1/2"	130	85	PT 1 1/2"	10	60	67.5	75	356	346	3.6
GXS 21.50	50	2"	150	85	PT 2"	10	61	67.5	90	358	346	4.5