



10-1

2-way control valve GVS 21 Series



Summary

GVS21 Series improve durability and controllability for wide range of applications, which developed for the improvement of economically cost-effective productivity. It is compatible with GEA Series and for heating, ventilation, HVAC or Temp. controlling.

It is not available with the facilities of continuous gas control.

Application

- Allowable pressure : 16Kgf/cm²
- Applicable fluid : hot and cold water, steam
- Additives in water : 1) oxygen-absorbed mixtures
2) Anti-freeze ethylene glycol up to 50%
3) saturation vapor / high-Temp. vapor
(Max. steam 3bar, abs / 120°C)

Technical Data

- Allowable pressure : 10Kgf/cm²(10bar)
- Applicable fluid and temp. : DIN4747 / DIN3158 at -25°C ~ 130°C
- Linear type
- Leakage : ≤ 0.01% of Kvs value Class IV (ANSI B 16.104)
- End connection : PT Screwed type (BSP 16K)
- flow conditions : Water - 120°C / 16bar / steam - 120°C / 3bar)

※ Close-off pressure

Model	DN		Flow coefficient		Stroke mm	Sv	Actuator ΔPmax (kgf/cm ²)	
	mm	Inch	Kv	Cv			GEA-10A(P)	GEA-20A(P)
GVS 21 · 15	15	1/2"	4	4.7	20	30	16	16
GVS 21 · 20	20	3/4"	6.3	7.4	20	30	16	16
GVS 21 · 25	25	1"	12	14	20	30	15	16
GVS 21 · 32	32	1 1/4"	16	18.7	20	30	9	16
GVS 21 · 40	40	1 1/2"	25	29	20	30	—	12
GVS 21 · 50	50	2"	37	43.2	20	30	—	7.8

Sv : Rangeability (VDI 2173)

ΔPV100 : Maximum allowable pressure difference of valve faces in full opening position with installation highly loaded

ΔPmax : Maximum allowable pressure difference of actuator not to leak fluid in closing position(close-off pressure)

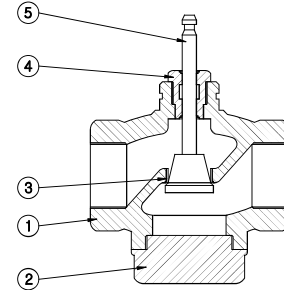
※ Note : leakage caused by using 3bar of max. steam pressure

※ GEA-10 Series is only available with below 32A valve for water(low pressure required)

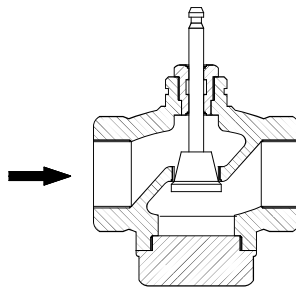
*Kv = Cv/1.167.

Materials

No	1	2	3	4	5
Part Name	Body	Cover	Plug	Packing Box	Stem
Material	Bronze BC6	Bronze BC6	SCS13	Viton Teflon	SUS304
	(B 505)	(B 505)	(A351CF8)		(AISI304)



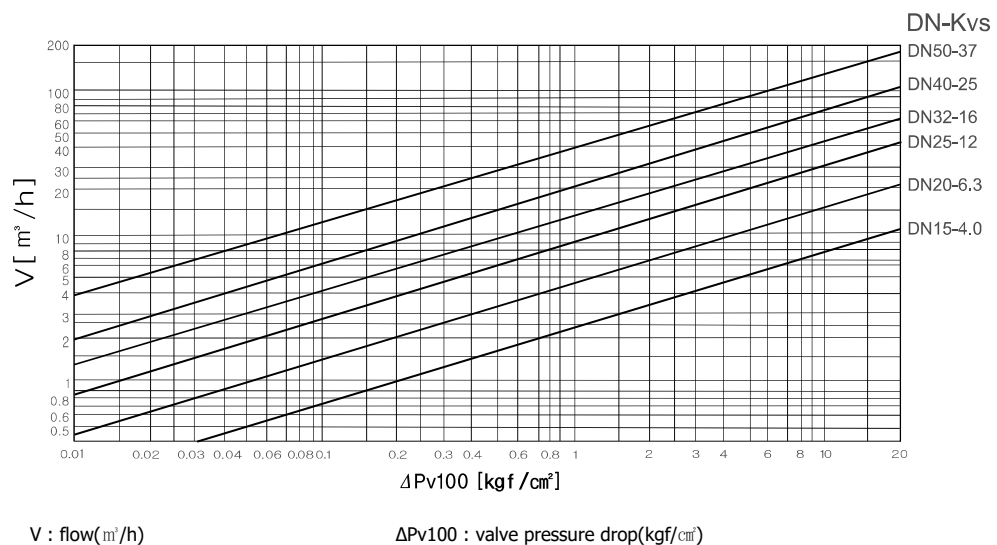
Mechanical Design



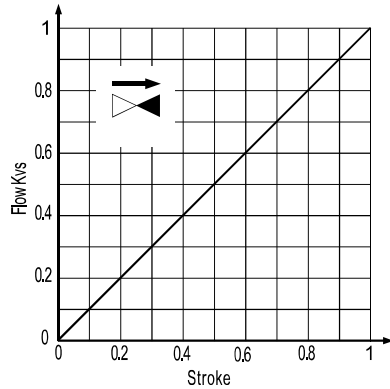
- For the use under 0°C, ASZ(electrical heating units) is required not to make stem parts frozen
- Plug direct-coupled with valve stem

Valve selection

► Diagram of flow



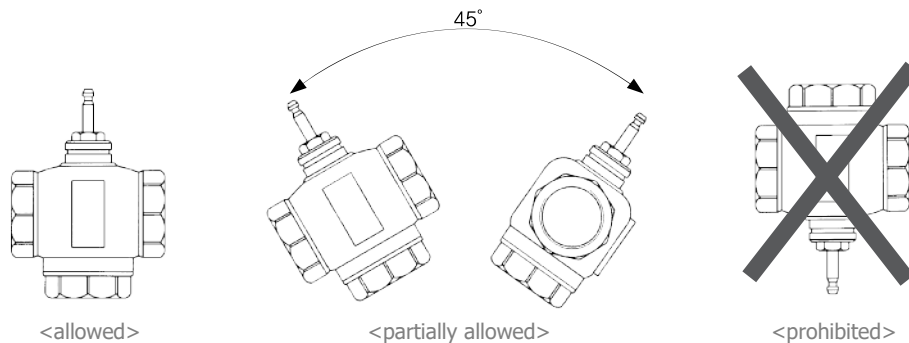
Valve flows



- Flow control of valve
- Linear
- Proportion of flow control - 30:1

Mounting notes

- Recommend to install circulating line to protect valve stem normally
(To prolong the life-span of Packing)
- Strainer installation recommended for higher safety rate of valve function



- Match the flow direction with marked direction(➡) on valve body

Guide for inspection

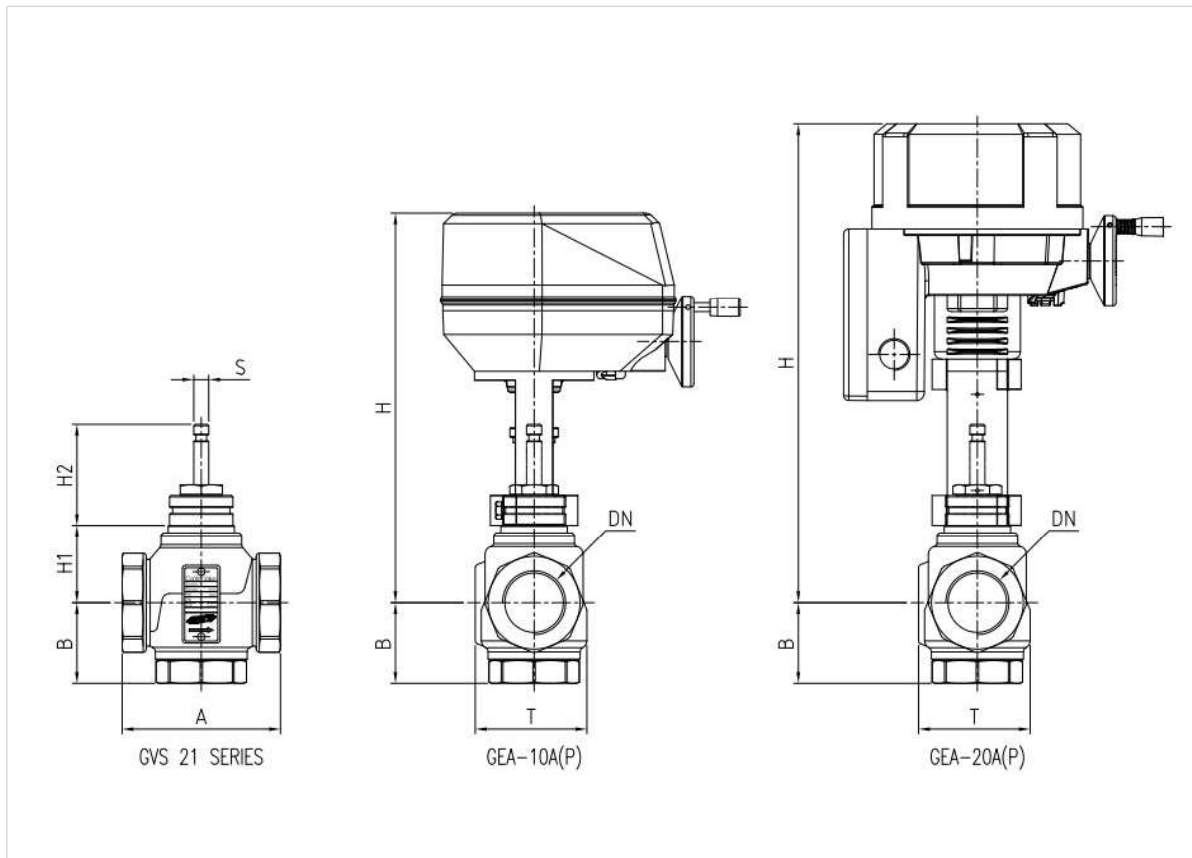
Inspect the valve in the status of right mounting of actuator

1. Close position with valve shaft upward
2. Open position with valve shaft downward

Tips

- Valve packing replacement without disassembling in case of damage
- Packing box applicable for -25 ~ 130°C(hot and cold water)

Shape Dimension



MODEL	DN		A	B	S	T	H1	H2	H		Weight Valve(Kg)
	mm	Inch							GEA-10A(P)	GEA-20A(P)	
GVS 21.15	15	PT 1/2 "	100	50	φ10	62	43	67.5	251	310	1.7
GVS 21.20	20	PT 3/4 "	100	50	φ10	63	43	67.5	251	310	1.9
GVS 21.25	25	PT 1 "	105	55	φ10	67	51	67.5	282	318	2.4
GVS 21.32	32	PT 1 1/4 "	105	55	φ10	74	51	67.5	282	318	2.9
GVS 21.40	40	PT 1 1/2 "	130	65	φ10	85	64	67.5	-	331	4.3
GVS 21.50	50	PT 2 "	150	78	φ10	98	63	67.5	-	330	4.6

Units : mm
Specifications to be changed upon the production environment