



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)

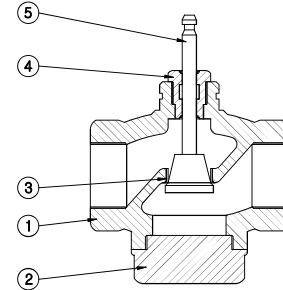
※ Note : leakage caused by using 3bar of max. steam pressure

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

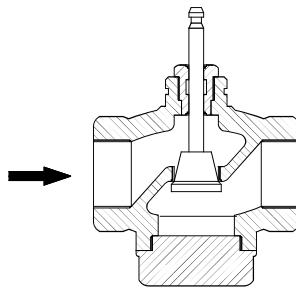
*Kv = Cv/1.167.

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) |



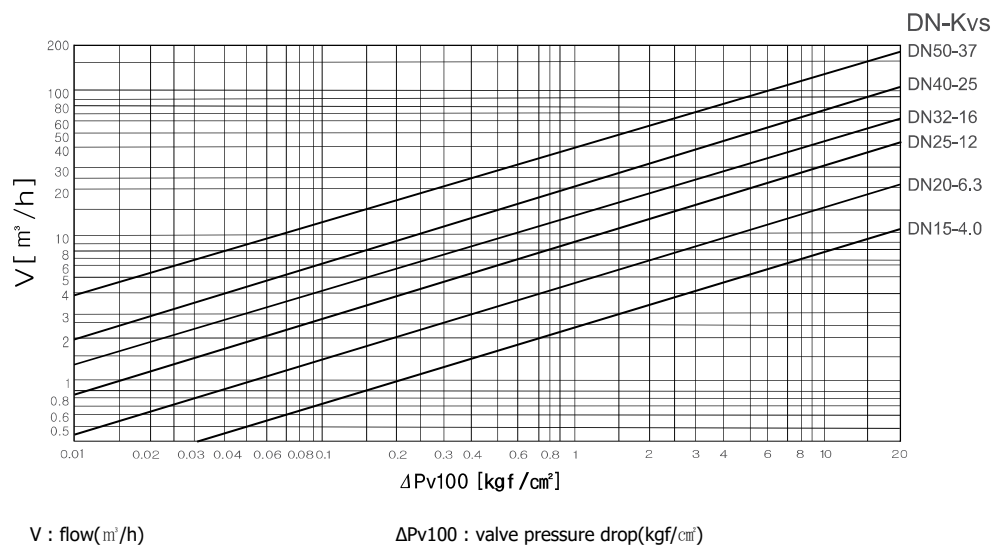
Mechanical Design



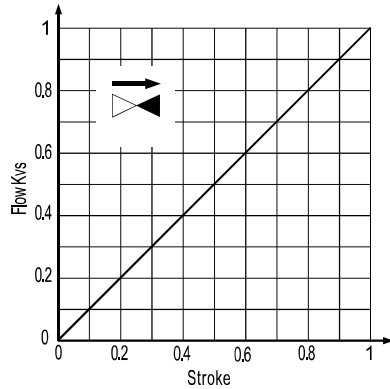
- For the use under 0°C, ASZ(electrical heating units) is required not to make stem parts frozen
- Plug direct-coupled with valve stem

Valve selection

► Diagram of flow



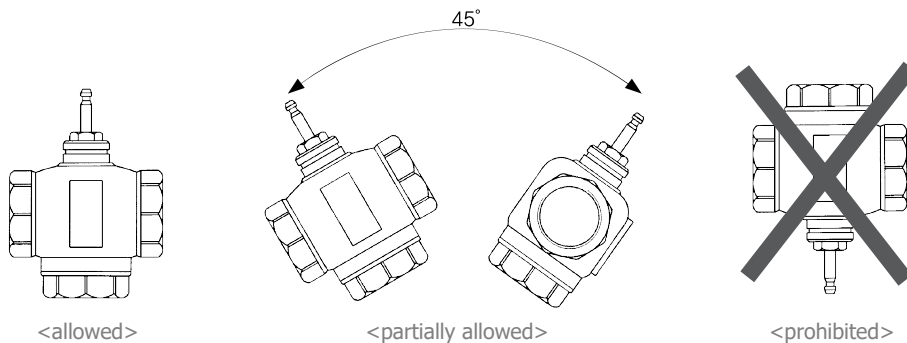
Valve flows



- 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

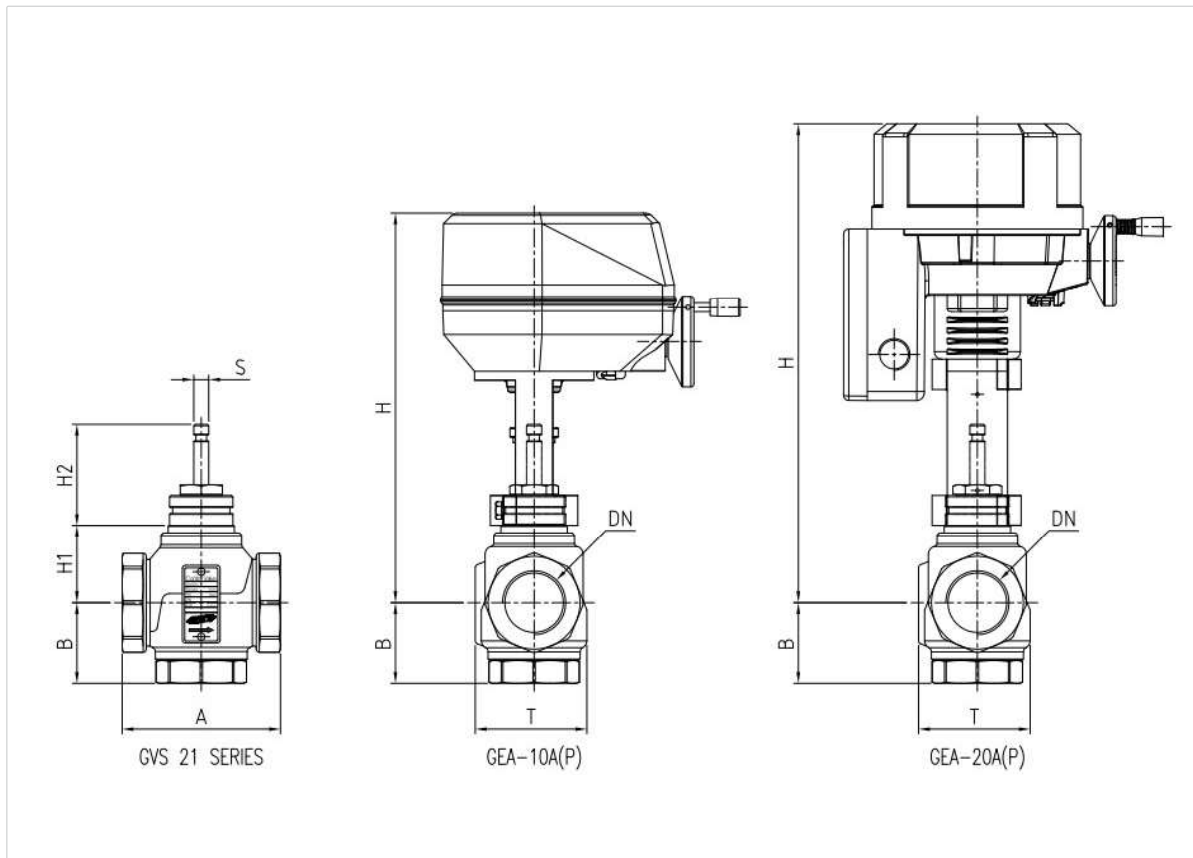
Inspect the valve in the status of right mounting of actuator

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