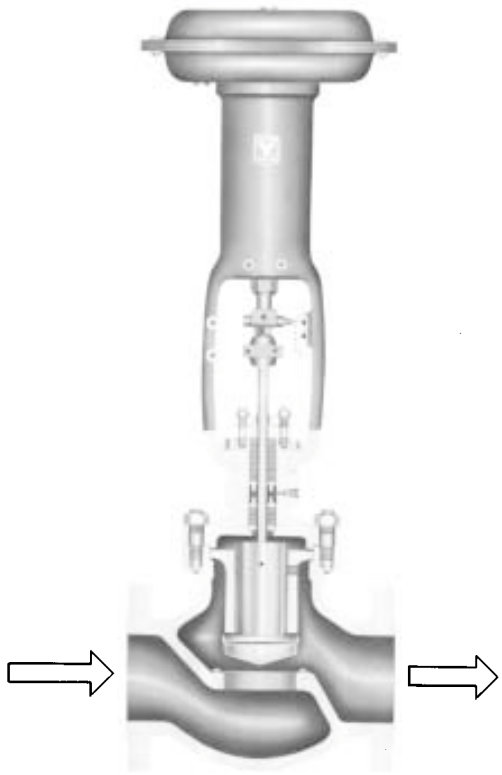
YAMATAKE Specification

# Top Guiding Single Seated Control Valves (Rating; ANSI 600 or Less) Model VST

Model VST control valves are suitable for use in fluid with slurry because of its one side guiding construction. Guide portion is solid and has sufficient sliding area against abrasion.
The body construction allows simpler disassembly, faster checking of trim, and easier parts replacement.
Also, valve plug and seat ring can be fitted without mounting the bonnet.



## Specifications

*Body*

*Type:* Single seated, Straight-through type, Cast globe valve
*Material:* Carbon steel (SCPH2), Low alloy steel (SCPH21, 32, 61), Stainless steel (SCS 13, 14), Cast iron (FC20) and Other alloy steel
*Size:* 1½, 2, 2½, 3, 4, 5, 6, 8, 10, 12 inches
*End connection:* Flanged end (FF, RF and RJ)
*Rating:* JIS $10^K$, $16^K$, $20^K$, $30^K$ and $40^K$
ANSI 150, 300 and 600 lb
*Gland type:* Bolted gland
*Bonnet:* Plain bonnet (0 – 200°C)
Radiator finned bonnet (Over 200°C)
Extended bonnet (0°C or less)
Bellows seal bonnet (–30 to +300°C, 10kgf/cm² or less)
*Packing:* V-Teflon, Asbestos yarn and Others
*Drain plug:* No (optionally available)

*Trim*

*Valve plug:* Single seated,
Equal percentage contoured and Teflon seat
Linear contoured and Teflon seat
On-off plug with stellite seat
{For the Teflon seat plug for on-off service, linear contoured, Teflon seat plug is used.}
{For the operating temperature and pressure differential range of the Teflon seat plug, refer to the Figure in the following page.}
*Material:* Stainless steel (SUS316, SUS316 with stellite coating furnished to the seat or entire surface and SUS 440 C) and other alloy steel.

*Actuator*

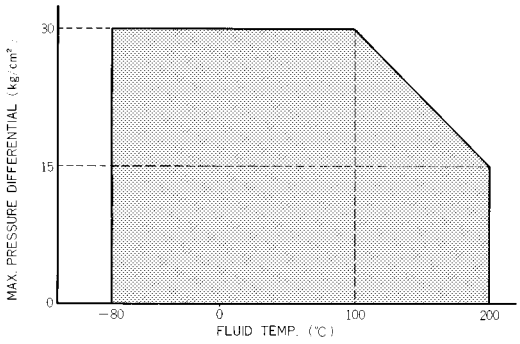
*Type:* Spring type pneumatic diaphragm actuator (direct or reverse action) or
Spring type pneumatic piston cylinder (reverse action)
*Diaphragm material:* Chloroprene rubber with fabric reinforced
*Spring range:*
Diaphragm actuator . . . 0.2～1.0, (0.4～1.2) kgf/cm², 0.4～2.0, (0.8～2.4) kgf/cm²
Piston cylinder . . . . . 1.9～4.0 kgf/cm²
*Air to diaphragm:*
Diaphragm actuator . . . 1.2, 1.4, 2.6, 2.8 kgf/cm²
Piston cylinder . . . . . 5 kgf/cm²
*Pneumatic tubing connection:*
Diaphragm actuator . . . PT¼ female tap
{VA4, VA5 type . . . . PT½ with PT¼ adapter, also available PT¾ adapter.}
Piston cylinder . . . . . PT½ female tap
(With PT¼ adapter, also available PT¾ adapter)
*Ambient temperature:* –30 to +70°C
*Valve action:* Air-to-close or air-to-open available by using direct or reverse actuator. Non-reversible body.

*Accessories (Option):* Handwheel (side or top mounted), Positioner, Limit switch, Motion transmitter, Volume booster, Air lock relay and other available.
*Additional specification:* Steam jacket (operating pressure 10kgf/cm² or less) may be provided as required.

*Performance*

*Leakage at full closure (percentage to rated Cv value):*
Metallic seat
Contoured: 0.01% or less (Optional: 0.001% or less)
On-off plug with stellite seat: Bubble-tight shut-off or 0.00001% or less
Soft seat
Throttling plug with Teflon seat: Bubble-tight shut-off or 0.00001% or less
*Action:* For standard type gland
Hysteresis error
Without positioner: 3% FS or less
With positioner: 1% FS or less
Linearity
Without positioner: ±5% FS or less
With positioner: ±1% FS or less
*Rangeability:* 30 : 1 (Optional : 50 : 1)

## Operating Temp. & Press. Diff. Limit of Teflon Seat Valve

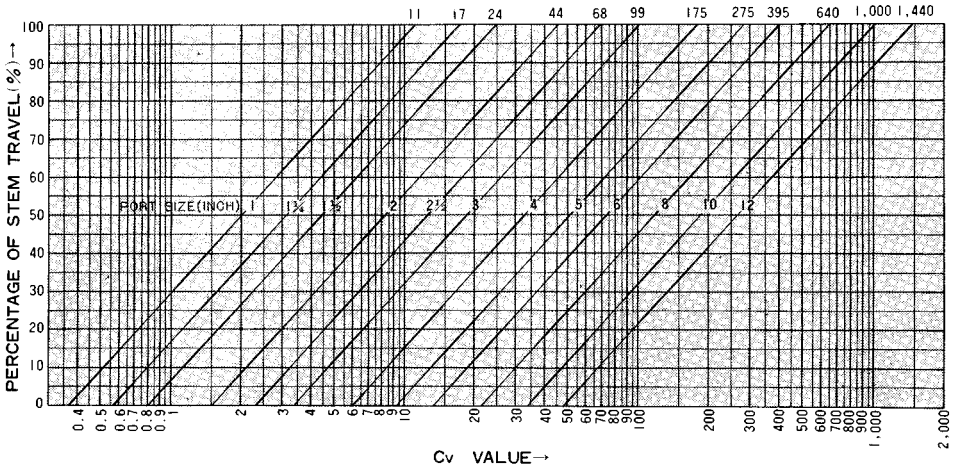



## Flow Coefficient Cv and Stem Travel

| Valve size (inch) | | 1½ | | | 2 | | | 2½ | | | 3 | | | 4 | | | 5 | | | 6 | | | 8 | | | 10 | | | 12 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Port size (inch) | | 1 | 1¼ | 1½ | 1¼ | 1½ | 2 | 1½ | 2 | 2½ | 2 | 2½ | 3 | 2½ | 3 | 4 | 3 | 4 | 5 | 4 | 5 | 6 | 5 | 6 | 8 | 6 | 8 | 10 | 8 | 10 | 12 |
| Rated Cv value | | 11 | 17 | 24 | 17 | 24 | 44 | 24 | 44 | 68 | 44 | 68 | 99 | 68 | 99 | 175 | 99 | 175 | 275 | 175 | 275 | 395 | 275 | 395 | 640 | 395 | 640 | 1000 | 640 | 1000 | 1440 |
| Plug type & Characteristic | Equal percentage contoured, | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Linear contoured — Stem travel (mm) | 25 | | | 25 | | | 37.5 | | | 37.5 | | | 37.5 | | | 50 | | | 50 | | | 75 | | | 100 | | | 100 | | |
| | Equal percentage contoured, Teflon seat | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | Linear contoured, Teflon seat — Stem travel (mm) | 25 | | | 25 | | | 37.5 | | | 37.5 | | | 37.5 | | | 50 | | | 50 | | | 75 | | | 100 | | | 100 | | |
| | | – | – | ○ | – | – | ○ | – | – | ○ | – | – | ○ | – | – | ○ | – | – | ○ | – | – | ○ | – | – | ○ | – | – | ○ | – | – | ○ |
| | On-off plug with stellite seat — Stem travel (mm) | 14.3 | | | 14.3 | | | 25 | | | 25 | | | 25 | | | 37.5 | | | 37.5 | | | 50 | | | 75 | | | 75 | | |

## Flow Characteristics

Equal percentage



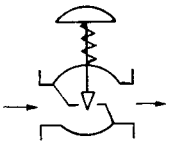

(Idealistic flow characteristics is indicated in this graph.)

## Maximum Pressure Differential

**A) General use valve**

I) Direct action (air-to-close)

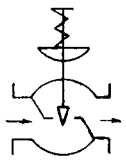
| Actuator model no. | Air to diaphragm (kgf/cm²) | Spring range (kgf/cm²) | w or w/o positioner | Pressure differential (kgf/cm²) At corresponding port size (inch) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
| VA1D | 1.2 | 0.2～1.0 | X | 7.5 | 4.7 | 3.1 | 1.8 | | | | | | | | |
| | 1.4 | 0.2～1.0 | ○ | 19 | 12 | 7.9 | 4.7 | | | | | | | | |
| | 2.6 | 0.2～1.0 | ○ | 40 | 40 | 39 | 23 | | | | | | | | |
| VA2D | 1.2 | 0.2～1.0 | X | 10 | 6.8 | 4.5 | 2.6 | 1.6 | 1.1 | 0.6 | | | | | |
| | 1.4 | 0.2～1.0 | ○ | 27 | 17 | 11 | 6.8 | 4.2 | 3.0 | 1.7 | | | | | |
| | 2.6 | 0.2～1.0 | ○ | 40 | 40 | 40 | 34 | 21 | 15 | 8.5 | | | | | |
| VA3D | 1.2 | 0.2～1.0 | X | 17 | 11 | 7.4 | 4.4 | 2.7 | 1.9 | 1.1 | 0.7 | 0.4 | | | |
| | 1.4 | 0.2～1.0 | ○ | 40 | 28 | 19 | 11 | 7.0 | 5.0 | 2.8 | 1.8 | 1.2 | | | |
| | 2.6 | 0.2～1.0 | ○ | 40 | 40 | 40 | 40 | 35 | 25 | 14 | 9.1 | 6.3 | | | |
| VA4D | 1.2 | 0.2～1.0 | X | | | | | 3.8 | 2.7 | 1.5 | 1.0 | 0.6 | 0.39 | | |
| | 1.4 | 0.2～1.0 | ○ | | | | | 9.8 | 7.0 | 3.9 | 2.5 | 1.7 | 0.99 | | |
| | 2.6 | 0.2～1.0 | ○ | | | | | 40 | 35 | 19 | 12 | 8.8 | 4.9 | | |
| VA5D | 1.2 | 0.2～1.0 | X | | | | | | | | 1.3 | 0.9 | 0.53 | 0.34 | 0.23 |
| | 1.4 | 0.2～1.0 | ○ | | | | | | | | 3.4 | 2.4 | 1.3 | 0.87 | 0.60 |
| | 2.6 | 0.2～1.0 | ○ | | | | | | | | 17 | 12 | 6.8 | 4.3 | 3.0 |



Notes: 1. The figures inside bold line are for standard actuator.
2. Positioner ; X . . . Without, ○ . . . With

II) Reverse action (air-to-open)

| Actuator model no. | Air to diaphragm (kgf/cm²) | Spring range (kgf/cm²) | w or w/o positioner | Pressure differential (kgf/cm²) At corresponding port size (inch) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
| VA1R | 1.4 | 0.2～1.0 | X or ○ | 7.5 | 4.7 | 3.1 | 1.8 | | | | | | | | |
| | | *0.4～1.2 | △ | 22 | 14 | 9.3 | 5.6 | | | | | | | | |
| | 2.8 | 0.8～2.4 | ○ | 40 | 33 | 21 | 13 | | | | | | | | |
| VA2R | 1.4 | 0.2～1.0 | X or ○ | 10 | 6.8 | 4.5 | 2.6 | 1.6 | 1.1 | 0.6 | | | | | |
| | | *0.4～1.2 | △ | 32 | 20 | 13 | 8.0 | 5.0 | 3.6 | 2.0 | | | | | |
| | 2.8 | 0.8～2.4 | ○ | 40 | 40 | 31 | 18 | 11 | 8.3 | 4.7 | | | | | |
| VA3R | 1.4 | 0.2～1.0 | X or ○ | 17 | 11 | 7.4 | 4.4 | 2.7 | 1.9 | 1.1 | 0.7 | 0.4 | | | |
| | | *0.4～1.2 | △ | 40 | 34 | 22 | 13 | 8.2 | 5.9 | 3.3 | 2.1 | 1.4 | | | |
| | 2.8 | 0.8～2.4 | ○ | 40 | 40 | 40 | 31 | 19 | 13 | 7.8 | 5.0 | 3.4 | | | |
| VA4R | 1.4 | 0.2～1.0 | X or ○ | | | | | 3.8 | 2.7 | 1.5 | 1.0 | 0.6 | 0.39 | | |
| | | *0.4～1.2 | △ | | | | | 11 | 8.3 | 4.6 | 3.0 | 2.0 | 1.1 | | |
| | 2.8 | 0.8～2.4 | ○ | | | | | 27 | 19 | 10 | 7.0 | 4.8 | 2.7 | | |
| VA5R | 1.4 | 0.2～1.0 | X or ○ | | | | | | | | 1.3 | 0.9 | 0.53 | 0.34 | 0.23 |
| | | *0.4～1.2 | △ | | | | | | | | 4.1 | 2.8 | 1.6 | 1.0 | 0.71 |
| | 2.8 | 0.8～2.4 | ○ | | | | | | | | 9.5 | 6.6 | 3.7 | 2.3 | 1.6 |
| VA6R | 5 | 1.9～(3.5) | ○ | | | | | 40 | 40 | 30 | | | | | |
| | | 1.9～4.0 | ○ | | | | | | | | 19 | 10 | | | |

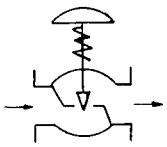


Notes: 1. *The pressure differential limits for 0.4～2.0kgf/cm² spring range are the same as for 0.4～1.2kgf/cm² spring.
2. The figures inside bold line are for standard actuator.
3. Positioner : X . . . Without, △ . . . Preferably with, ○ . . . With.

**B) Teflon seat valve**

I) Direct action (air-to-close)

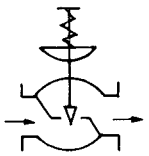
| Actuator model no. | Air to diaphragm (kgf/cm²) | Spring range (kgf/cm²) | w or w/o positioner | Pressure differential (kgf/cm²) At corresponding port size (inch) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
| VA1D | 1.2 | 0.2～1.0 | X | 5.5 | 2.6 | 1.2 | 0.1 | | | | | | | | |
| | 1.4 | 0.2～1.0 | ○ | 15.9 | 9.7 | 6.3 | 3.3 | | | | | | | | |
| | 2.6 | 0.2～1.0 | ○ | 30 | 30 | 30 | 19.4 | | | | | | | | |
| VA2D | 1.2 | 0.2～1.0 | X | 9.9 | 5.7 | 3.4 | 1.5 | 0.5 | | | | | | | |
| | 1.4 | 0.2～1.0 | ○ | 19.9 | 15.9 | 10.7 | 6.1 | 3.4 | 2.2 | 0.9 | | | | | |
| | 2.6 | 0.2～1.0 | ○ | 30 | 30 | 30 | 27.9 | 18.7 | 15 | 8.3 | | | | | |
| VA3D | 1.2 | 0.2～1.0 | X | | | 8.2 | 4.6 | 2.4 | 1.5 | 0.5 | | | | | |
| | 1.4 | 0.2～1.0 | ○ | | | 20 | 12 | 7.2 | 5 | 2.5 | 1.4 | 0.8 | | | |
| | 2.6 | 0.2～1.0 | ○ | | | 30 | 30 | 30 | 23.4 | 14.8 | 9.4 | 6.4 | | | |
| VA4D | 1.2 | 0.2～1.0 | X | | | | | 4.3 | 2.8 | 1.2 | 0.6 | 0.3 | | | |
| | 1.4 | 0.2～1.0 | ○ | | | | | 11 | 7.8 | 4.1 | 2.5 | 1.6 | 0.6 | | |
| | 2.6 | 0.2～1.0 | ○ | | | | | 30 | 30 | 21 | 13.6 | 9.4 | 5.1 | | |
| VA5D | 1.2 | 0.2～1.0 | X | | | | | | | 2.6 | 1.2 | 0.7 | | | |
| | 1.4 | 0.2～1.0 | ○ | | | | | | | 6.2 | 3.8 | 2.5 | 1.2 | 0.6 | 0.3 |
| | 2.6 | 0.2～1.0 | ○ | | | | | | | 27 | 19 | 14 | 7.3 | 4.6 | 3.1 |



Notes: 1. The figures inside bold line are for standard actuator.
2. Positioner ; X . . . Without, ○ . . . With.

II) Reverse action (air-to-open)

| Actuator model no. | Air to diaphragm (kgf/cm²) | Spring range (kgf/cm²) | w or w/o positioner | Pressure differential (kgf/cm²) At corresponding port size (inch) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
| VA1R | 1.4 | 0.2～1.0 | X or ○ | 3.8 | 1.7 | 0.6 | | | | | | | | | |
| | | *0.4～1.2 | △ | 14.6 | 8.8 | 5.6 | 2.9 | | | | | | | | |
| | 2.8 | 0.8～2.4 | ○ | 26.7 | 18.9 | 15.7 | 9.2 | | | | | | | | |
| VA2R | 1.4 | 0.2～1.0 | X or ○ | 8 | 4.4 | 2.5 | 1 | 0.1 | | | | | | | |
| | | *0.4～1.2 | △ | 18.6 | 14.6 | 9.8 | 5.5 | 3 | 1.9 | 0.7 | | | | | |
| | 2.8 | 0.8～2.4 | ○ | 30 | 27.3 | 20.3 | 14.6 | 8.8 | 6.2 | 3.2 | | | | | |
| VA3R | 1.4 | 0.2～1.0 | X or ○ | | | 6.7 | 3.6 | 1.8 | 1 | 0.2 | | | | | |
| | | *0.4～1.2 | △ | | | 18 | 10 | 6.6 | 4.6 | 2.3 | 1.2 | 0.7 | | | |
| | 2.8 | 0.8～2.4 | ○ | | | 30 | 22 | 16.2 | 11.6 | 6.4 | 3.9 | 2.6 | | | |
| VA4R | 1.4 | 0.2～1.0 | X or ○ | | | | | 3.4 | 2.2 | 0.9 | 0.4 | | | | |
| | | *0.4～1.2 | △ | | | | | 10 | 7.2 | 3.7 | 2.2 | 1.4 | 0.6 | | |
| | 2.8 | 0.8～2.4 | ○ | | | | | 23 | 17 | 9.5 | 5.9 | 4 | 2 | | |
| VA5R | 1.4 | 0.2～1.0 | X or ○ | | | | | | | | 0.9 | 0.5 | | | |
| | | *0.4～1.2 | △ | | | | | | | | 3.5 | 2.2 | 1.1 | 0.5 | 0.3 |
| | 2.8 | 0.8～2.4 | ○ | | | | | | | | 8.6 | 5.8 | 3.1 | 1.9 | 1.2 |
| VA6R | 5 | 1.9～4.0 | ○ | | | | | | | 25.8 | 18.2 | 12.6 | | | |



Notes: 1. *The pressure differential limits for 0.4～2.0 kgf/cm² spring range are the same as for 0.4～1.2 kgf/cm² spring.
2. The figures inside bold line are for standard actuator.
3. Positioner ; X . . . Without, △ . . . Preferably with, ○ . . . With.

**C) On-off plug with stellite seat valve**

I) Direct action (ari-to-close)

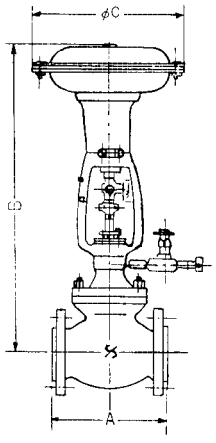
| Actuator model no. | Air to diaphragm (kgf/cm²) | Operating spring range (kgf/cm²) | Initial spring compression (kgf/cm²) | Pressure differential (kgf/cm²) At corresponding port size (inch) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
| VA1D | 1.4 | 0.2～1.0 | 0.2 | 8.8 | 6.2 | | | | | | | | |
| | 2.6 | 0.2～1.0 | 0.2 | 23 | 16 | | | | | | | | |
| VA2D | 1.4 | 0.2～1.0 | 0.2 | 12 | 8.9 | 5.2 | 3.8 | 2.2 | | | | | |
| | 2.6 | 0.2～1.0 | 0.2 | 33 | 23 | 14 | 10 | 6.2 | | | | | |
| VA3D | 1.4 | 0.2～1.0 | 0.2 | 21 | 14 | 8.7 | 6.4 | 3.7 | 2.4 | 1.7 | | | |
| | 2.6 | 0.2～1.0 | 0.2 | 55 | 39 | 24 | 17 | 10 | 7.2 | 5.2 | | | |
| VA4D | 1.4 | 0.2～1.0 | 0.2 | | | 12 | 8.9 | 5.2 | 4.4 | 3.2 | 1.5 | | |
| | 2.6 | 0.2～1.0 | 0.2 | | | 34 | 25 | 14 | 11 | 8.0 | 4.3 | | |
| VA5D | 1.4 | 0.2～1.0 | 0.2 | | | | | | 6.9 | 4.9 | 2.1 | 1.7 | 1.2 |
| | 2.6 | 0.2～1.0 | 0.2 | | | | | | 16 | 11 | 5.9 | 3.9 | 2.8 |

II) Reverse action (air-to-open)

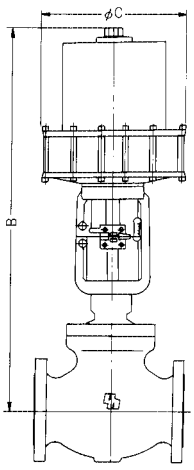
| Actuator model no. | Air to diaphragm (kgf/cm²) | Operating spring range (kgf/cm²) | Initial spring compression (kgf/cm²) | Pressure differential (kgf/cm²) At corresponding port size (inch) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
| VA1R | 1.4 | 0.2～1.0 | 0.4 | 4.8 | 3.3 | | | | | | | | |
| | 2.6 | 0.4～2.0 | 0.8 | 9.5 | 6.7 | | | | | | | | |
| VA2R | 1.4 | 0.2～1.0 | 0.4 | 6.8 | 4.8 | 3.1 | 2.3 | 1.3 | | | | | |
| | 2.6 | 0.4～2.0 | 0.8 | 13 | 9.7 | 6.3 | 4.6 | 2.7 | | | | | |
| VA3R | 1.4 | 0.2～1.0 | 0.4 | 11 | 8.0 | 5.2 | 3.8 | 2.2 | 1.6 | 1.1 | | | |
| | 2.6 | 0.4～2.0 | 0.8 | 22 | 16 | 10 | 7.6 | 4.4 | 3.2 | 2.3 | | | |
| VA4R | 1.4 | 0.2～1.0 | 0.4 | | | 7.3 | 5.3 | 3.1 | 2.2 | 1.6 | 0.9 | | |
| | 2.6 | 0.4～2.0 | 0.8 | | | 14 | 10 | 6.2 | 4.4 | 3.2 | 1.8 | | |
| VA5R | 1.4 | 0.2～1.0 | 0.4 | | | | | | 3.0 | 2.2 | 1.2 | 0.8 | 0.6 |
| | 2.6 | 0.4～2.0 | 0.8 | | | | | | 6.1 | 4.4 | 2.5 | 1.7 | 1.2 |
| VA6R | 5 | 1.9～(3.0) | | | | 53 | 39 | 22 | | | | | |
| | | 1.9～(3.5) | | | | | | | 14 | 10 | | | |

## Face to Face Dimensions

| Valve size (inch) | A (mm) | | | | | |
|---|---|---|---|---|---|---|
| | JIS 10ᴷFF, RF ANSI 150 RF | JIS 16ᴷ,20ᴷ,30ᴷRF ANSI 300 RF | JIS 40ᴷ RF ANSI 600 RF | ANSI 150 RJ | ANSI 300 RJ | ANSI 600 RJ |
| 1½ | 222 | 235 | 251 | 235 | 248 | 251 |
| 2 | 254 | 267 | 286 | 267 | 283 | 289 |
| 2½ | 276 | 292 | 311 | 289 | 308 | 314 |
| 3 | 298 | 318 | 337 | 311 | 333 | 340 |
| 4 | 352 | 368 | 394 | 365 | 384 | 397 |
| 5 | 403 | 425 | 457 | 416 | 441 | 460 |
| 6 | 451 | 473 | 508 | 464 | 489 | 511 |
| 8 | 543 | 568 | 610 | 556 | 584 | 613 |
| 10 | 673 | 708 | 752 | 686 | 724 | 756 |
| 12 | 737 | 775 | 819 | 749 | 791 | 822 |




**(Model VA1～5 Actuator)**




**(Model VA6R Actuator)**

## External Dimensions

| Valve size (inch) | Actuator model no. | B (mm) | | | | | | C (φ mm) |
|---|---|---|---|---|---|---|---|---|
| | | Direct action (air-to-close) | | | Reverse action (air-to-open) | | | |
| | | P | RF | BS | P | RF | BS | |
| 1½ | VA1D, R | 695 | 845 | 855 | 695 | 845 | 855 | 300 |
| | VA2D, R | 835 | 985 | | 835 | 985 | | 350 |
| | VA3D, R | 1000 | 1150 | | 1000 | 1150 | | 450 |
| 2 | VA1D, R | 705 | 855 | 865 | 705 | 855 | 865 | 300 |
| | VA2D, R | 845 | 995 | | 845 | 995 | | 350 |
| | VA3D, R | 1010 | 1160 | | 1010 | 1160 | | 450 |
| 2½ | VA2D, R | 885 | 1035 | 1105 | 885 | 1035 | 1105 | 350 |
| | VA3D, R | 1055 | 1205 | | 1055 | 1205 | | 450 |
| | VA4D, R | 1220 | 1370 | | 1335 | 1485 | | 520 |
| | VA6R | | | | 1120 | 1270 | | 445 |
| 3 | VA2D, R | 900 | 1050 | 1120 | 900 | 1050 | 1120 | 350 |
| | VA3D, R | 1060 | 1210 | | 1060 | 1210 | | 450 |
| | VA4D, R | 1225 | 1375 | | 1340 | 1490 | | 520 |
| | VA6R | | | | 1125 | 1275 | | 445 |
| 4 | VA2D, R | 915 | 1070 | 1135 | 915 | 1070 | 1135 | 350 |
| | VA3D, R | 1080 | 1230 | | 1080 | 1230 | | 450 |
| | VA4D, R | 1245 | 1395 | | 1360 | 1510 | | 520 |
| | VA6R | | | | 1145 | 1295 | | 445 |
| 5 | VA3D, R | 1115 | 1265 | 1405 | 1115 | 1265 | 1405 | 450 |
| | VA4D, R | 1280 | 1430 | | 1395 | 1545 | | 520 |
| | VA5D, R | 1330 | 1480 | | 1440 | 1590 | | 620 |
| | VA6R | | | | 1185 | 1335 | | 445 |
| 6 | VA3D, R | 1145 | 1295 | 1430 | 1145 | 1295 | 1430 | 450 |
| | VA4D, R | 1310 | 1460 | | 1425 | 1575 | | 520 |
| | VA5D, R | 1360 | 1510 | | 1470 | 1620 | | 620 |
| | VA6R | | | | 1215 | 1365 | | 445 |
| 8 | VA4D, R | 1430 | 1575 | | 1540 | 1690 | | 520 |
| | VA5D, R | 1525 | 1670 | | 1630 | 1780 | | 620 |
| 10 | VA5D, R | 1760 | 2015 | | 1890 | 2145 | | 620 |
| 12 | VA5D, R | 1810 | 2020 | | 1940 | 2150 | | 620 |

Note) 1. P : Plain bonnet, RF : Radiator finned bonnet, BS : Bellows seal bonnet
2. As for model VA6R actuator with manual handle, add 200 mm to B (mm) above.

## Approximate Weights

| Valve size (inch) | Actuator model no. | Approximate weights (kg) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | JIS 10K, ANSI 150 | | | JIS 16K, 20K, 30K, ANSI 300 | | | JIS 40K, ANSI 600 | | |
| | | P | RF | BS | P | RF | BS | P | RF | BS |
| 1½ | VA1D, R | 37 | 39 | 40 | 42 | 44 | 45 | 50 | 52 | 53 |
| | VA2D, R | 48 | 50 | | 53 | 55 | | 61 | 63 | |
| | VA3D, R | 76 | 78 | | 81 | 83 | | 89 | 91 | |
| 2 | VA1D, R | 43 | 45 | 46 | 43 | 46 | 47 | 60 | 63 | 64 |
| | VA2D, R | 54 | 56 | | 54 | 57 | | 71 | 74 | |
| | VA3D, R | 82 | 84 | | 82 | 85 | | 91 | 102 | |
| 2½ | VA2D, R | 60 | 63 | 65 | 65 | 68 | 70 | 110 | 113 | 115 |
| | VA3D, R | 88 | 91 | | 93 | 96 | | 138 | 141 | |
| | VA4D | 163 | 166 | | 168 | 171 | | 213 | 216 | |
| | VA4R | 188 | 191 | | 193 | 196 | | 238 | 241 | |
| | VA6R | 228 | 231 | | 233 | 236 | | 278 | 281 | |
| 3 | VA2D, R | 80 | 85 | 87 | 83 | 88 | 90 | 120 | 125 | 127 |
| | VA3D, R | 108 | 113 | | 111 | 116 | | 148 | 153 | |
| | VA4D | 183 | 188 | | 186 | 191 | | 223 | 228 | |
| | VA4R | 208 | 213 | | 211 | 216 | | 248 | 253 | |
| | VA6R | 248 | 253 | | 251 | 256 | | 288 | 293 | |
| 4 | VA2D, R | 95 | 100 | 105 | 110 | 115 | 120 | 150 | 155 | 160 |
| | VA3D, R | 123 | 128 | | 138 | 143 | | 178 | 183 | |
| | VA4D | 198 | 203 | | 213 | 218 | | 253 | 258 | |
| | VA4R | 223 | 228 | | 238 | 243 | | 278 | 283 | |
| | VA6R | 263 | 268 | | 278 | 283 | | 318 | 323 | |
| 5 | VA3D, R | 160 | 168 | 173 | 170 | 178 | 183 | 215 | 223 | 228 |
| | VA4D | 235 | 243 | | 245 | 253 | | 290 | 298 | |
| | VA4R | 260 | 268 | | 270 | 278 | | 315 | 323 | |
| | VA5D | 260 | 268 | | 270 | 278 | | 315 | 323 | |
| | VA5R | 285 | 293 | | 295 | 303 | | 340 | 348 | |
| | VA6R | 300 | 308 | | 310 | 318 | | 355 | 363 | |
| 6 | VA3D, R | 230 | 240 | 245 | 240 | 250 | 265 | 300 | 310 | 315 |
| | VA4D | 305 | 315 | | 315 | 325 | | 375 | 385 | |
| | VA4R | 330 | 340 | | 340 | 350 | | 400 | 410 | |
| | VA5D | 330 | 340 | | 340 | 350 | | 400 | 410 | |
| | VA5R | 355 | 365 | | 365 | 375 | | 515 | 525 | |
| | VA6R | 370 | 380 | | 380 | 390 | | 530 | 540 | |
| 8 | VA4D | 380 | 400 | | 430 | 440 | | 550 | 570 | |
| | VA4R | 405 | 425 | | 455 | 465 | | 575 | 595 | |
| | VA5D | 410 | 430 | | 460 | 470 | | 580 | 600 | |
| | VA5R | 435 | 455 | | 485 | 495 | | 605 | 625 | |
| 10 | VA5D | 560 | 600 | | 690 | 710 | | 750 | 780 | |
| | VA5R | 585 | 625 | | 715 | 735 | | 775 | 805 | |
| 12 | VA5D | 750 | 780 | | 900 | 920 | | 1000 | 1100 | |
| | VA5R | 775 | 805 | | 925 | 945 | | 1025 | 1125 | |

Note: P : Plain bonnet, RF : Radiator finned bonnet, BS : Bellows seal bonnet

*Specifications are subject to change without notice.*

YAMATAKE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