# RSA-VB-RSC / RSA-VB-FLG

## STATIC BALANCING VALVES
PN 16 Internal thread BSP DN15-DN50
PN 16 Flanged (ISO7005-2) DN50-DN500



## DESCRIPTION

Balancing valves are used to promote an even distribution of water flow in the system. The valves are supplied in diameters from 1/2 "to 2" in thread and from 2 1/2 "the valves are flanged. They are easily calibrated valves and guarantee high performance in the distribution of cold and hot water.

## CHARACTERISTICS

| | |
|---|---|
| Valve Body | Cast iron |
| Connection | BSP thread up to 2 "and Flanges DN 20-50: ISO 7005-2 and SS-EN 1092-2. Screw holes according to Class 150 ASME / ANSI B16.42. DN 65-300: Class 150 ASME / ANSI B16.42. |
| Connector link | PP |
| Valve Cone | Copper alloy |
| Valve Shaft | Copper alloy |
| Max. Working pressure | Class 150 (PN 16) |
| Fluid Error | ± 5% (50% to 100% aperture) |
| Work temperature | -20 - 120 degrees Higher temperature |
| Application | In heating, cooling and condensation systems (water or antifreeze solution). |

**Application:**

Used for pre-set control of pipeline flow, this series of products is mainly used to solve the problem of hydraulic imbalance in the fluid transmission and distribution network. According to the system design, it is determined that the branch water supply is constant under the premise of different openings and pressure differences.

The RSA.. balancing valve delivers accurate hydronic performance in an impressive range of applications. Ideally suited for use on the secondary side in heating and cooling systems, and tap water systems.

**Features**
>> The static balance valve has precise design, simple structure, and accurate parameters. After the product is installed, the flow should be debugged to meet the flow under the premise of setting the pressure difference. It is an energy-saving product.
>> Used in heating or cooling water system.
>> Shutdown function.
>> The maximum stroke locking function, when the system is commissioned, can be turned on to provide convenience for future pipeline maintenance and repair. After
maintenance or repair, the valve can be directly restored to the set maximum stroke to avoid secondary debugging.
>> The valve carries a measurement joint, which is convenient for quick connection with the measurement equipment and saves debugging time.
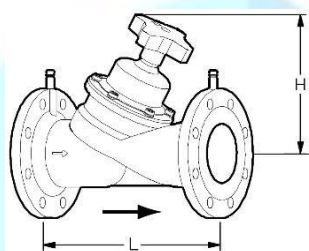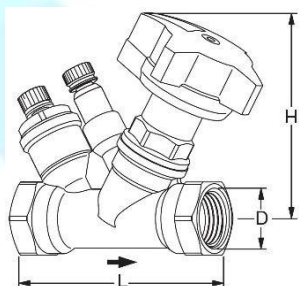>> Can be installed in water supply or return water pipeline.

**Material**

| DN | DN15-DN50 | DN50-DN300 |
|------|-----------|-------------------|
| Body | Brass | Nodular cast iron |
| Seals | EPDM | EPDM |
| Spool | Brass | Brass |

**Permissible media**

| Medium | Low temperature hot water, medium temperature hot water, chilled water, water with antifreeze Recommendation: Water treatment |
|--------------------|-------------------------------------------------------------------|
| Medium temperature | -10~110℃ |
| PN class | PN16 |

## Types and Technical data:





| Product number | DN | Connections | | PN | L | H |
|---|---|---|---|---|---|---|
| RSA-VB-RSC-15 | 15 | $^1/_2$ in | | | 80 | 114 |
| RSA-VB-RSC-20 | 20 | $^3/_4$ in | | | 85 | 116 |
| RSA-VB-RSC-25 | 25 | 1 in | Internal thread (BSP) | PN16 | 98 | 119 |
| RSA-VB-RSC-32 | 32 | $1^1/_4$ in | | | 110 | 136 |
| RSA-VB-RSC-40 | 40 | $1^1/_2$ in | | | 120 | 138 |
| RSA-VB-RSC-50 | 50 | 2 in | | | 150 | 148 |
| RSA-VB-FLG-65 | 65 | | | | 290 | 285 |
| RSA-VB-FLG-80 | 80 | | | | 310 | 324 |
| RSA-VB-FLG-100 | 100 | | | | 350 | 355 |
| RSA-VB-FLG-125 | 125 | | | | 400 | 410 |
| RSA-VB-FLG-150 | 150 | Flanged (ISO7005-2/ GB 17241.6) | | | 480 | 477 |
| RSA-VB-FLG-200 | 200 | | | | 600 | 613 |
| RSA-VB-FLG-250 | 250 | | | | 730 | 740 |
| RSA-VB-FLG-300 | 300 | | | | 850 | 828 |
| RSA-VB-FLG-350 | 350 | | | | 980 | 970 |
| RSA-VB-FLG-400 | 400 | | | | 1100 | 1100 |

## Kv values

Internal thread (DN15-50)

| Product number | DN | No of turns | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.25 | 0.5 | 1 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 |
| RSA-VB-RSC-15 | DN15 | 0.21 | 0.35 | 0.48 | 0.55 | 0.74 | 0.97 | 1.36 | 1.72 | 2.06 | 2.36 | 2.72 |
| RSA-VB-RSC-20 | DN20 | 0.34 | 0.51 | 0.71 | 0.92 | 1.15 | 1.35 | 1.62 | 2.05 | 2.60 | 3.13 | 3.67 |
| RSA-VB-RSC-25 | DN25 | 0.55 | 0.94 | 1.54 | 2.07 | 2.57 | 3.10 | 3.70 | 4.43 | 5.5 | 5.94 | 6.73 |
| RSA-VB-RSC-32 | DN32 | 0.59 | 1.04 | 2.05 | 2.91 | 4.03 | 5.10 | 6.02 | 6.86 | 7.65 | 8.63 | 9.70 |
| RSA-VB-RSC-40 | DN40 | 1.22 | 2.65 | 4.14 | 5.75 | 7.35 | 8.72 | 10.0 | 11.2 | 12.35 | 13.8 | 15.2 |
| RSA-VB-RSC-50 | DN50 | - | 2.70 | 5.05 | 7.15 | 9.15 | 11.66 | 14.2 | 16.3 | 18.52 | 20.7 | 22.9 |

| Product number | DN | No of turns | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 5.5 | 6 | 6.5 | 7 | 7.5 | 8 | 8.5 | 9 | 9.5 | 10 | |
| RSA-VB-RSC-15 | DN15 | 3.05 | 3.42 | 3.70 | 3.90 | - | - | - | - | - | - | - |
| RSA-VB-RSC-20 | DN20 | 4.25 | 4.90 | 5.45 | 5.70 | - | - | - | - | - | - | - |
| RSA-VB-RSC-25 | DN25 | 7.33 | 7.90 | 8.42 | 8.90 | - | - | - | - | - | - | - |
| RSA-VB-RSC-32 | DN32 | 10.72 | 11.7 | 12.8 | 13.9 | 15.0 | 16.14 | 17.1 | 18.1 | 18.90 | 19.4 | - |
| RSA-VB-RSC-40 | DN40 | 17.36 | 19.4 | 20.9 | 22.4 | 23.6 | 24.80 | 25.4 | 26.0 | 26.82 | 27.5 | - |
| RSA-VB-RSC-50 | DN50 | 24.52 | 26.0 | 27.7 | 29.4 | 31.1 | 32.75 | 34.7 | 36.7 | 37.96 | 38.8 | - |

Flanged (DN65-400)

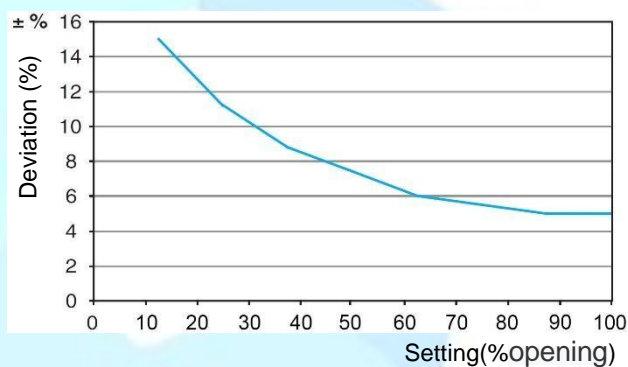| No of turns | Product number | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | RSA-VB-FLG-65 | RSA-VB-FLG-80 | RSA-VB-FLG-100 | RSA-VB-FLG-125 | RSA-VB-FLG-150 | RSA-VB-FLG-200 | RSA-VB-FLG-250 | RSA-VB-FLG-300 | RSA-VB-FLG-350 | RSA-VB-FLG-400 |
| | DN 65 | DN 80 | DN 100 | DN 125 | DN 150 | DN 200 | DN 250 | DN 300 | DN 350 | DN 400 |
| 0.5 | 1.8 | 2 | 2.6 | 5.4 | 6.6 | - | - | - | - | - |
| 1 | 3.4 | 4 | 6 | 10.4 | 12 | - | - | - | - | - |
| 1.5 | 4.8 | 6 | 9 | 15.4 | 22 | - | - | - | - | - |
| 2 | 6.6 | 8 | 11.5 | 21.5 | 40 | 40 | 90 | - | - | - |
| 2.5 | 9.3 | 11 | 16 | 27 | 65 | 50 | 110 | - | - | - |
| 3 | 16.3 | 14 | 26 | 36 | 100 | 65 | 140 | 150 | 109 | 125 |
| 3.5 | 25.5 | 19.6 | 44 | 55 | 135 | 90 | 195 | 230 | 129 | 148 |
| 4 | 35.4 | 29 | 63 | 83 | 169 | 120 | 255 | 300 | 148 | 171 |
| 4.5 | 44.5 | 41 | 80 | 114 | 207 | 165 | 320 | 370 | 170 | 208 |
| 5 | 52 | 55 | 98 | 141 | 242 | 225 | 385 | 450 | 207 | 264 |
| 5.5 | 60.6 | 68 | 115 | 167 | 279 | 285 | 445 | 535 | 254 | 326 |
| 6 | 66 | 80 | 132 | 197 | 312 | 340 | 500 | 620 | 302 | 386 |
| 6.5 | 73 | 92 | 145 | 220 | 340 | 400 | 545 | 690 | 352 | 449 |
| 7 | 77 | 103 | 159 | 249 | 367 | 435 | 590 | 750 | 404 | 515 |
| 7.5 | 80.6 | 113 | 175 | 276 | 391 | 470 | 660 | 815 | 471 | 590 |
| 8 | 85 | 120 | 190 | 300 | 420 | 515 | 725 | 890 | 556 | 680 |
| 9 | - | - | - | - | - | 595 | 820 | 970 | 784 | 890 |
| 10 | - | - | - | - | - | 650 | 940 | 1040 | 957 | 1140 |
| 11 | - | - | - | - | - | 710 | 1050 | 1120 | 1100 | 1250 |
| 12 | - | - | - | - | - | 765 | 1185 | 1200 | 1260 | 1400 |
| 13 | - | - | - | - | - | - | - | 1320 | 1420 | 1560 |
| 14 | - | - | - | - | - | - | - | 1370 | 1610 | 1730 |
| 15 | - | - | - | - | - | - | - | 1400 | 1760 | 1940 |
| 16 | - | - | - | - | - | - | - | 1450 | 1870 | 2140 |
| 17 | - | - | - | - | - | - | - | - | 1960 | 2280 |
| 18 | - | - | - | - | - | - | - | - | 2040 | 2410 |
| 19 | - | - | - | - | - | - | - | - | 2130 | 2530 |
| 20 | - | - | - | - | - | - | - | - | 2200 | 2630 |
| 21 | - | - | - | - | - | - | - | - | - | 2710 |
| 22 | - | - | - | - | - | - | - | - | - | 2780 |

# Measuring accuracy

The zero position is calibrated and must not be changed.

**Deviation of flow at different settings**

The curve (Fig. 1) is valid for valves with normal pipe fittings (Fig.2). Try also to avoid mounting taps and pumps, immediately before the valve.
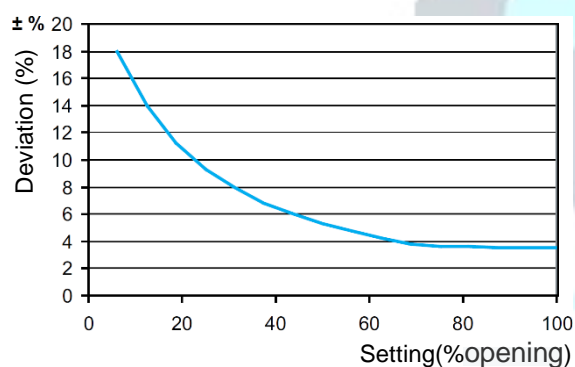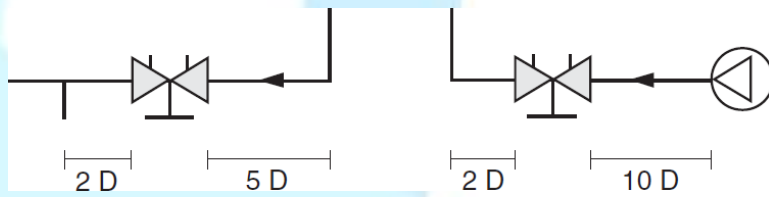
Fig. 1
DN15-50



DN65-400

Fig.2



Adjust the scale of the handwheel according to the design requirements.

Exhaust devices should be installed in the system piping, and the system can contain air, which may cause media blockage, failure of the adjustment function, or excessive noise;
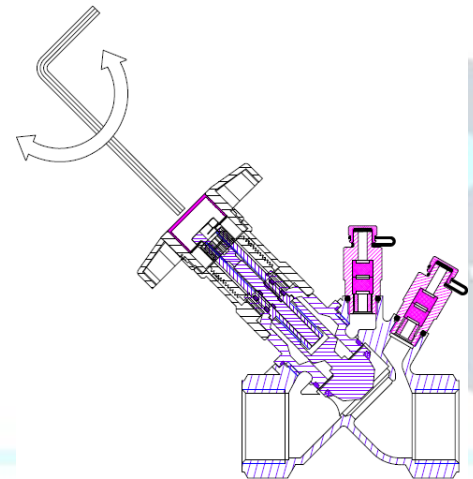
It is recommended to add a filter or clean the pipeline at the water inlet of the valve to avoid large particles of impurities blocking the valve control element;

Pay attention to the protection of the detection hole, if it is touched or deformed, it will cause leakage or difficult maintenance in the future.
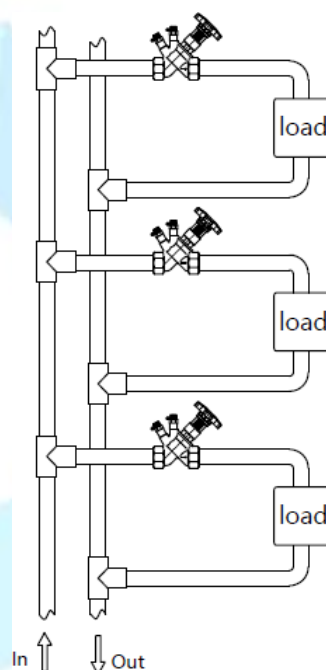
## Setting

Adjust the scale of the handwheel according to the design requirements.

This valve has the function of presetting the maximum flow rate. Use a hexagonal wrench to rotate the maximum opening limit core clockwise, so that the maximum opening of the valve can be limited, and subsequent system maintenance will not require debugging.
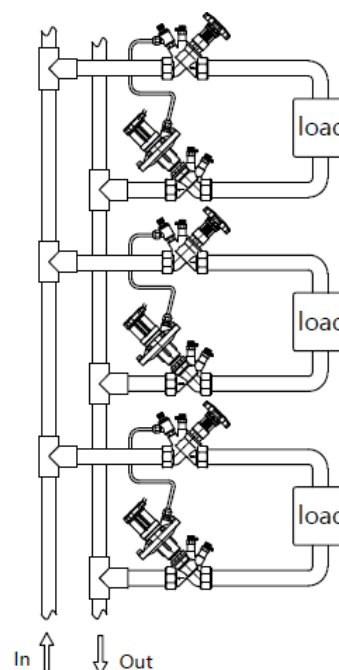
## Application method:

The balance valve can be used alone to control the flow of the system, or it can be used in conjunction with the differential pressure valve. When the valve is installed, the water flow direction must be consistent with the direction of the arrow on the valve. In order to ensure the measurement accuracy, please ensure that there are straight pipe sections before and after the valve(Fig.2)



Installation method 1

Installation method 2