

## A2001/A2002-...Static Balancing Valve Series



**Static Balancing Valve**  
**A2001/A2002-...Series**  
**Threaded /Flanged Connection**  
**PN16/PN25**

### Performance & Features:

- ◆ Nominal diameter: DN15...DN500;
- ◆ Ideal flow regulation characteristic, with a linear relationship between relative flow rate and relative stroke.
- ◆ Precise valve opening indication, accurate to 1% of the full valve opening
- ◆ Reliable opening locking and memory function
- ◆ Excellent shut-off function
- ◆ EPDM seal for reliable sealing performance.
- ◆ Valve body, stem and core available in ductile iron GGG450-10, stainless steel or brass according to customer requirements.
- ◆ Thread and flanged connections, conforming to ISO 228, EN 10226 and EN 1092-1/2.
- ◆ Compliant with PED and the Special Equipment Manufacturing License for valves.

### Applications:

1. **Building air conditioning or heating pipe network systems**  
In air conditioning and heating pipe network systems within buildings, to meet energy-saving requirements, it is necessary to ensure that all main and branch lines comply with the designed flow rate. In this case, balancing valves should be installed on the main pipes, sub-main pipes, risers and branch pipes.
2. **Community heating pipe network**  
Community heating pipe networks usually supply heat from boiler rooms or heat transfer stations to several buildings. As the distance from the heat source varies for each building, without effective equipment to eliminate excess pressure head in near loops, flow distribution will deviate from design requirements, resulting in overheating at near ends and insufficient heating at far ends. Balancing valves should be installed on each main pipe and branch pipe to ensure flow balance between different main pipes and buildings.
3. **Heat exchanger units or water chiller units**  
When heat exchanger units or water chiller units are installed in parallel, if the flow rate of each unit does not match its rated flow rate, the units will not be able to operate efficiently. In such cases, balancing valves should be installed at each heat exchanger unit or water chiller unit to ensure that each unit achieves the design flow rate, thereby guaranteeing safe and normal operation of all units
4. **Thermal power stations**  
In systems where thermal power stations or boiler rooms supply hot water or steam to multiple heating stations, balancing valves should be installed on the primary loop side of each heating station to ensure the required flow rate. To guarantee that the flow in each secondary loop meets the design flow rate, balancing valves should also be installed on each secondary loop side of the heating stations

## Model Designation:

For example: A2001-40-16T

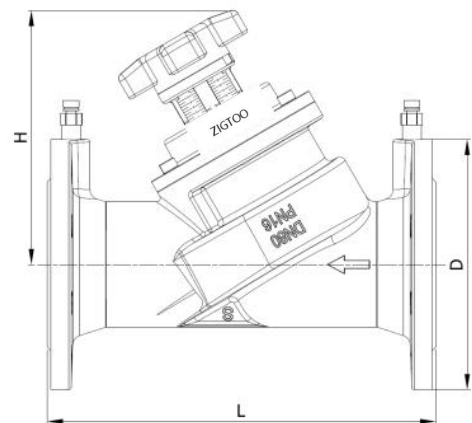
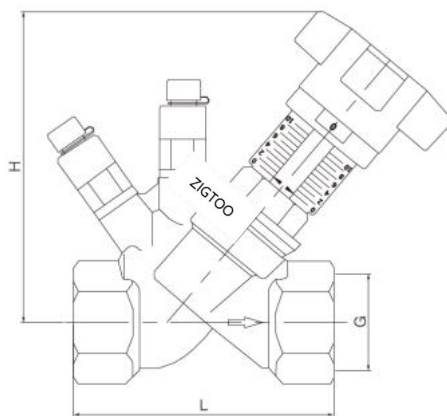
1. "A20": Balancing Valve Series;
2. "0" : Static Balancing Valve Series;
3. "1": Threaded Connection; "2": Flanged connection;
4. "-": Separator;
5. "-25/16": Nominal Pressure, PN25/PN16;
6. "T" Brass body; "Q" Ductile Iron body; "P" Stainless Steel body;



## Technical Specification:

|                       |                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------|
| PN (Nominal Pressure) | PN16, PN25 for option                                                                           |
| Connection Standard   | DN15-50: Threaded connection EN10226<br>DN65-500: Flanged connection EN1092-1/2                 |
| Working Temperature   | DN15-50: -15°C~130°C<br>DN65-500: -15°C~130°C                                                   |
| Body                  | DN15-50: Brass HPb59-1<br>DN50-500: Ductile Iron GGG450-10                                      |
| Stem                  | DN15-50: Brass HPb59-1<br>DN50-500: Brass HPb59-1                                               |
| Balanced Valve Core   | DN15-50: BrassHPb59-1<br>DN50-500: Ductile Iron, Copper Alloy, Stainless Steel SS304 for option |
| Seal                  | EPDM                                                                                            |
| Handwheel             | DN15-50: PA<br>DN50-150: ABS<br>DN200-500: ABS                                                  |
| Pressure Tap          | Brass HPb59-1                                                                                   |

## Dimension Chart::



| DN  | PN16               |        | PN25               |        | L<br>mm | H<br>mm |
|-----|--------------------|--------|--------------------|--------|---------|---------|
|     | Bolt hole diameter | G/D/mm | Bolt hole diameter | G/D/mm |         |         |
| 15  | —                  | 1/2"   | —                  | 1/2"   | 80      | 115     |
| 20  | —                  | 3/4"   | —                  | 3/4"   | 85      | 115     |
| 25  | —                  | 1"     | —                  | 1"     | 100     | 120     |
| 32  | —                  | 1-1/4" | —                  | 1-1/4" | 110     | 140     |
| 40  | —                  | 1-1/2" | —                  | 1-1/2" | 120     | 140     |
| 50  | —                  | 2"     | —                  | 2"     | 150     | 150     |
| 50  | 4-19               | 165    | 4-19               | 165    | 230     | 214     |
| 65  | 4-19               | 185    | 8-19               | 185    | 290     | 222     |
| 80  | 8-19               | 200    | 8-19               | 200    | 310     | 257     |
| 100 | 8-19               | 220    | 8-23               | 235    | 350     | 275     |
| 125 | 8-19               | 250    | 8-28               | 270    | 400     | 332     |
| 150 | 8-23               | 285    | 8-28               | 300    | 480     | 396     |
| 200 | 12-23              | 340    | 12-28              | 360    | 600     | 498     |
| 250 | 12-28              | 405    | 12-31              | 425    | 730     | 555     |
| 300 | 12-28              | 460    | 16-31              | 485    | 850     | 630     |
| 350 | 16-28              | 520    | 16-34              | 555    | 980     | 733     |
| 400 | 16-31              | 580    | 16-37              | 620    | 1100    | 800     |
| 450 | 20-31              | 640    | 20-37              | 670    | 1200    | 810     |
| 500 | 20-34              | 715    | 20-37              | 730    | 1250    | 900     |

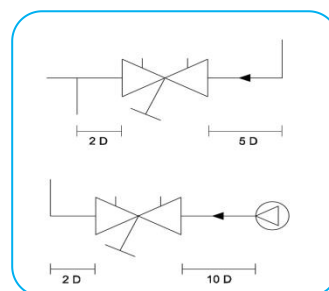
## Installation Instructions:

### 1. Installation Position and Direction

- The balancing valve can be installed on either the supply water line or the return water line, and only one valve is required per circuit. It is recommended to install the balancing valve on the return water line with lower water temperature.
- Balancing valves on the main pipe should preferably be installed at the outlet side of the water pump.
- The balancing valve can be installed either horizontally or vertically.
- Flow direction of the medium shall be consistent with the direction marked on the valve body.
- The opening indication numbers on the handle shall face the direction visible to the commissioning personnel for convenient adjustment.
- No obstacles shall be placed in front of the measuring connections on the valve body to avoid being unable to connect commissioning instruments during adjustment.

### 2. Installation Instructions

- Once the valve opening is set, it shall not be changed without authorization.
- The balancing valve features shut-off function, but it is not recommended for long-term use as an isolation valve.
- To prevent damage to the pressure taps, they shall be installed after the valve is fully mounted. During installation, follow the convention: red for supply side, blue for return side
- For connection to an elbow or a water pump, a certain straight pipe section shall be maintained. For connection to an elbow, follow the rule of 5D upstream and 2D downstream of the valve. For connection to a water pump, follow the 10D rule.



## Handwheel Type A (DN40/50~DN150)

Setting method:

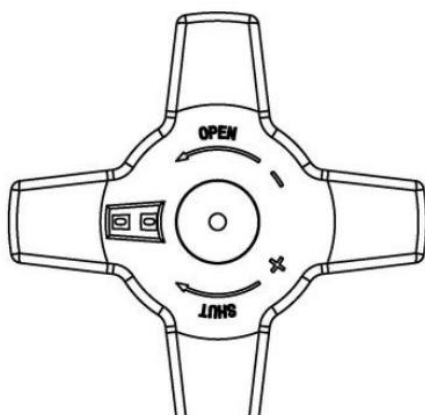


Figure 1  
0.0 turn; close

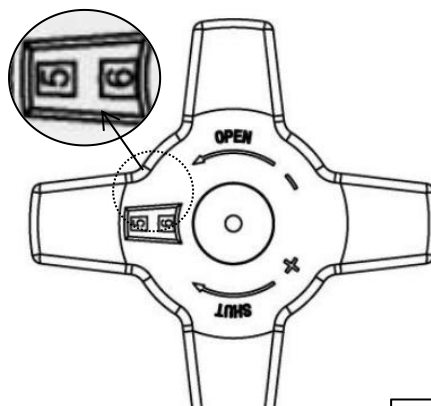


Figure 2  
Preset at 5.6 turns

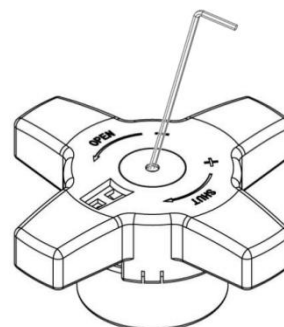
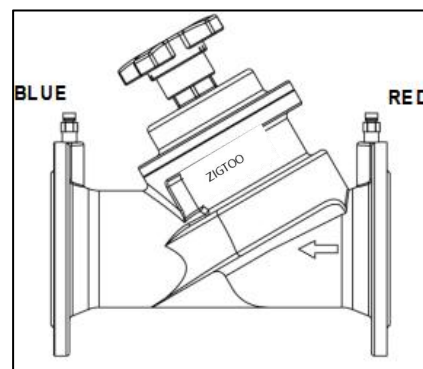


Figure 3  
Locking

Handwheel Setting of Static Balancing Valve (such as: Preset at 5.6 turns)

1. Fully close the valve handwheel (see Figure 1)
2. Open the valve to the preset opening (see Figure 2).
3. Using a hex key, tighten the inner valve stem clockwise to lock the maximum opening (see Figure 3).
4. Valve setting is completed.



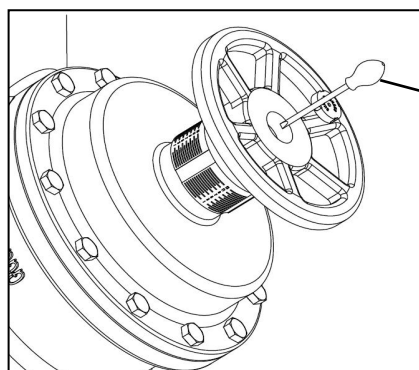
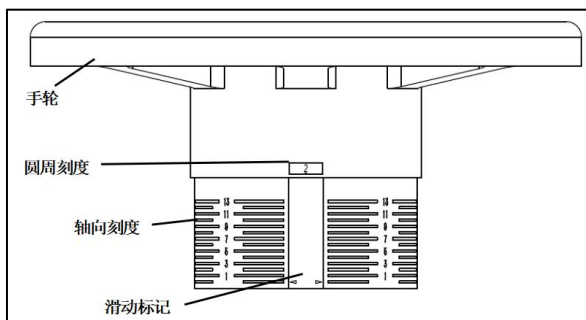
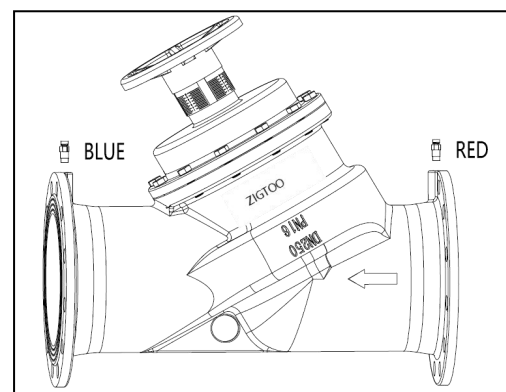
How to check the preset opening:

Close the valve fully; the reading will be 0.0 turns. Rotate the handwheel until it stops; the reading at this point is the preset value (5.6 turns in this example). The outer scale indicates full turns, the inner scale indicates fractions of a turn. See Figure 2).

## Handwheel Type B (DN200~DN300)

Setting method:

1. The preset opening is set by adjusting the handwheel.
  - a) Turn the axial scale corresponding to the sliding mark to display the basic axial value. One full rotation of the handwheel changes the axial scale by one unit.
  - b) Turn the circumferential scale on the handwheel in line with the index mark to display the fine adjustment value. Each 1/10 revolution of the handwheel changes the dial by one unit.
2. Remove the handwheel cover using a tool.
3. Using a long-handled hex key or a long-handled flat-blade screwdriver, turn the built-in adjustment shaft clockwise until it stops to lock the preset opening and the maximum opening.
4. After locking is completed, reattach the removed cover.



## Handwheel Type C (DN350~DN500)

### Setting method:

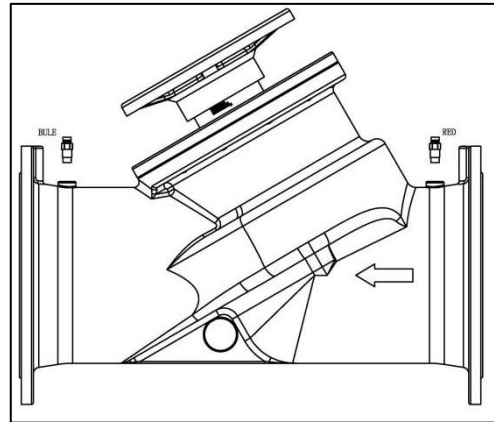
1. The preset opening is set by adjusting the handwheel.

a) Turn the axial scale corresponding to the sliding mark to display the basic axial value. One full rotation of the handwheel changes the axial scale by one unit.

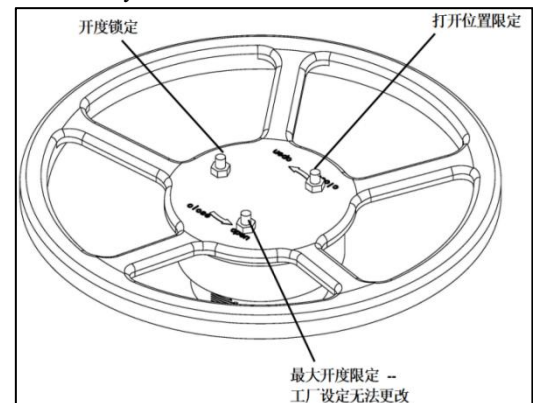
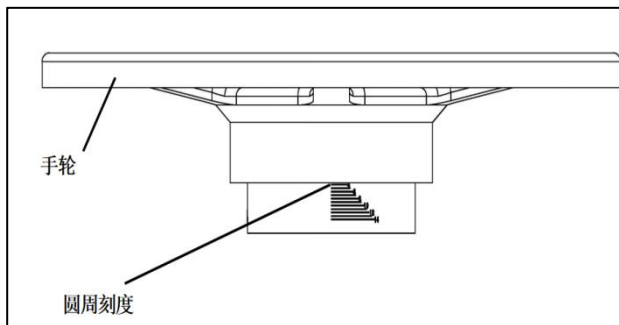
b) Turn the circumferential scale on the handwheel in line with the index mark to display the fine adjustment value. Each 1/10 revolution of the handwheel changes the dial by one unit.

2. When the valve is opened to the required position (e.g., 5.6 turns), tighten the limit bolt with a wrench. The handwheel travel range will then be from fully closed position to 5.6 turns.

If the opening lock bolt is further tightened, the handwheel will be fixed and cannot rotate.



2. Do not adjust the maximum opening limit bolt; it has been set at the factory.



## Handwheel Type D (DN15~DN50, Threaded connection)

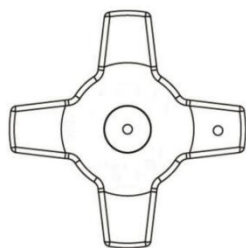


Figure 1

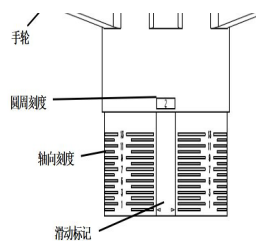


Figure 2

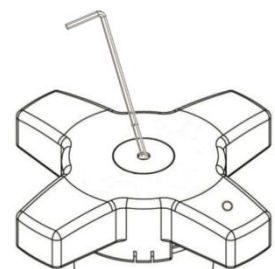


Figure 3

### Setting method:

1. Static balancing valve handwheel setting:

This handwheel is not marked with an on/off direction arrow. The rotation direction is the same as Type A handwheel: counterclockwise to open.

2. The valve is fully closed when the handwheel is turned **counterclockwise** to the limit.

3. Open the valve to the preset opening (see Figure 2, i.e. 0.2 turns).

4. Using an hex key, tighten the inner valve stem clockwise to lock the maximum opening (see Figure 3).

5. Valve setting is completed.

## Kvs value - Flow parameters

### Static Balancing Valve (DN15 -DN50)- Brass - Threaded Connection

| Turn | DN15 | DN20 | DN25 | DN32  | DN40  | DN50  |
|------|------|------|------|-------|-------|-------|
| 1    | 0.46 | 0.72 | 1.52 | 2.06  | 4.13  | 5.06  |
| 2    | 0.72 | 1.14 | 2.58 | 4.02  | 7.34  | 9.17  |
| 3    | 1.34 | 1.60 | 3.69 | 6.00  | 10.02 | 14.23 |
| 4    | 2.05 | 2.58 | 5.16 | 7.64  | 12.36 | 18.50 |
| 5    | 2.7  | 3.65 | 6.72 | 9.69  | 15.26 | 22.93 |
| 6    | 3.4  | 4.89 | 7.91 | 11.70 | 19.45 | 26.09 |
| 7    | 3.88 | 5.71 | 8.89 | 13.91 | 22.45 | 29.41 |
| 8    | -    | -    | -    | 16.11 | 24.82 | 32.73 |
| 9    | -    | -    | -    | 18.18 | 26.09 | 36.68 |
| 10   | -    | -    | -    | 19.45 | 27.51 | 38.78 |

### Static Balancing Valve (DN40/50 -DN500)- Ductile Iron -Flanged Connection

| Tur n | DN40/ 50 | DN 65 | DN 80 | DN 100 | DN 125 | DN 150 | DN 200 | DN 250 | DN 300 | DN 350 | DN 400 | DN 450 | DN 500 |
|-------|----------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1     | 14.3     | 15.5  | 16.3  | 26.0   | 22.0   | 27.9   | 67     | 109    | 128    | 167.2  | 208    | 240    | 305    |
| 2     | 25.4     | 32.5  | 32.2  | 45.0   | 53.0   | 54.9   | 127    | 184    | 211    | 240    | 344    | 396    | 598    |
| 3     | 36.2     | 48.7  | 52.5  | 59.0   | 74.0   | 76.8   | 191    | 264    | 290    | 330    | 452    | 649    | 1024   |
| 4     | 44.4     | 58.2  | 67.5  | 69.0   | 125.0  | 97.6   | 278    | 356    | 350    | 485    | 735    | 915    | 1315   |
| 5     | 50.6     | 64.4  | 77.2  | 95.0   | 156.0  | 117.2  | 389    | 439    | 481    | 658    | 1054   | 1242   | 1592   |
| 6     | 56.8     | 69.3  | 86.2  | 127.0  | 193.0  | 143.2  | 474    | 539    | 624    | 824    | 1380   | 1712   | 2142   |
| 7     | 60.7     | 74.9  | 96.4  | 144.5  | 266.0  | 186.5  | 559    | 661    | 731    | 1045   | 1698   | 2046   | 2586   |
| 8     | 64.8     | 73.2  | 104.7 | 166.5  | 253.6  | 225.2  | 638    | 770    | 887    | 1215   | 1980   | 2425   | 2845   |
| 9     | -        | 92.7  | 114.5 | 187.5  | 286.5  | 265.9  | 719    | 826    | 1042   | 1420   | 2280   | 2680   | 3192   |
| 10    | -        | -     | -     | -      | -      | 321.5  | 758    | 920    | 1177   | 1685   | 2620   | 3080   | 3640   |
| 11    | -        | -     | -     | -      | -      | 362.6  | -      | 1010   | 1330   | 1824   | 2750   | 3350   | 3892   |
| 12    | -        | -     | -     | -      | -      | 395.0  | -      | 1102   | 1429   | 1988   | 2940   | 3580   | 4024   |
| 13    | -        | -     | -     | -      | -      | -      | -      | -      | 1516   | 2115   | 3050   | 3720   | 4180   |