

QuickSetter™ Balancing Valve with flow meter, ANSI Flanged

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132 Series



Function

The balancing valve accurately controls the flow rate of heating and cooling transfer fluid supplied to air handlers, fan coils and terminal units; or where flow balancing is required in solar thermal systems. Proper hydronic system balancing ensures the system operates according to design specifications, providing satisfactory thermal comfort with low energy consumption. The flow meter is housed in a by-pass circuit on the valve body and can be shut off during normal operation. The flow meter permits fast and easy circuit balancing without added differential pressure gauges and charts.

Product range

132 Series

Balancing valve with flow meter sizes 2½", 3", and 4" with ANSI flange connections.

Technical specifications

Materials

Valve

| | |
|---------------------|----------------------|
| Body: | cast iron |
| Ball: | brass |
| Ball control stem: | brass, chrome plated |
| Ball seal seat: | R-PTFE |
| Control stem guide: | PTFE |
| Seal: | EPDM |

Flow meter

| | |
|---------------------------------------|----------------------|
| Body and headwork: | brass |
| Bypass shutoff control stem: | brass, chrome plated |
| Springs: | stainless steel |
| Seal: | EPDM |
| Flow meter float and indicator cover: | PSU |

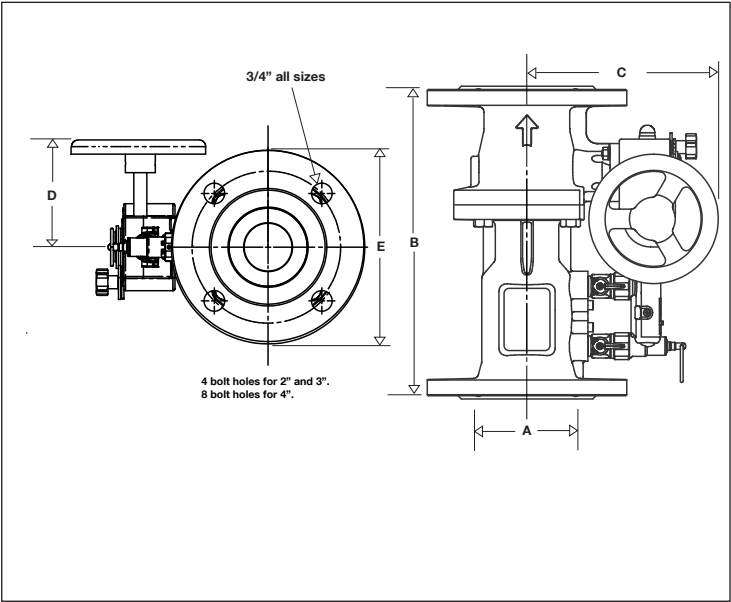
Performance

| | |
|--------------------------------------|--------------------------|
| Suitable Fluids: | water, glycol solutions |
| Max. percentage of glycol: | 50% |
| Max. working pressure: | 150 psi (10 bar) |
| Working temperature range: | 14 – 230°F (-10 – 110°C) |
| Flow rate range unit of measurement: | gpm |
| Flow rate scales: | size 2½" - 30 – 105 gpm |
| | size 3" - 38 – 148 gpm |
| | size 4" - 55 – 210 gpm |
| Accuracy: | ±10% |
| Control stem angle of rotation: | 90° |
| Adjustment handwheel diameter: | 5½" |

Flanged connections: 2½", 3", 4" ANSI B16.1 125 CLASS RF

| | | |
|------------------------------|-----------------------------|-----|
| Flow rate correction factor: | 20% – 30% glycol solutions: | 0.9 |
| | 40% – 50% glycol solutions: | 0.8 |

Dimensions



| Code | A | B | C | D | E | Bolt circle dia | Flow scale (gpm) | Wt. (lbs.) | Wt. (kg) |
|---------|-----|------|-----|-----|-----|-----------------|------------------|------------|----------|
| 132060A | 2½" | 11⅞" | 6⅜" | 3⅞" | 7" | 5½" | 30-105 | 32 | 15 |
| 132080A | 3" | 12⅞" | 7⅞" | 3⅞" | 7½" | 6" | 38-148 | 40 | 18 |
| 132100A | 4" | 13⅝" | 7⅞" | 3⅞" | 9" | 7½" | 55-210 | 57 | 26 |



SAFETY INSTRUCTION

This safety alert symbol will be used in this manual to draw attention to safety related instructions. When used, the safety alert symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.**



CAUTION: All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of systems in accordance with all applicable codes and ordinances.



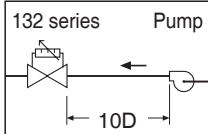
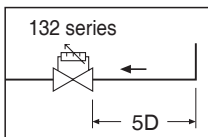
CAUTION: Over-tightening and breakage can occur with the use of Teflon® pipe joint compounds. Teflon® provides lubricity so that care must be exercised not to over-tighten joints. Failure to follow these instructions could result in property damage and /or personal injury.



WARNING: System fluids are under pressure or temperature can be hazardous. Be sure the pressure has been reduced to zero and the system temperature is below 100°F (38°C). Failure to follow these instructions could result in property damage and/or personal injury.

Caleffi shall not be liable for damages resulting from stress corrosion, misapplication or misuse of its products.

Installation



The balancing valves, with built-in flow meter, must be installed by qualified technical personnel in accordance with the instructions given in this manual and with current regulations.

Clean the pipes of any debris, rust, welding slag and any other contaminants.

As in all piping circuits it is important to pay attention to the cleanliness of the entire system.

For optimal operation, any air in the water must be removed.

In order to ensure measuring accuracy, the balancing valves with flow meter must be installed by keeping a straight section above them at least as long as five diameters, increased to at least ten diameters if the nearest device upstream is a pump.

The valves must be installed so that:

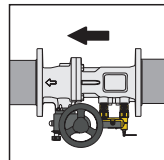
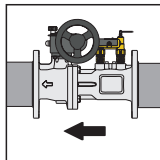
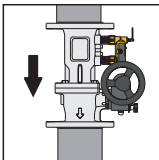
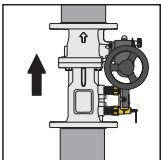
- the direction of the flow agrees with that of the arrow on the valve body.
- there is easy access to the flow meter valve, control stem and dial with the calibration adjustment range.

The valves can be installed on either vertical or horizontal pipes.

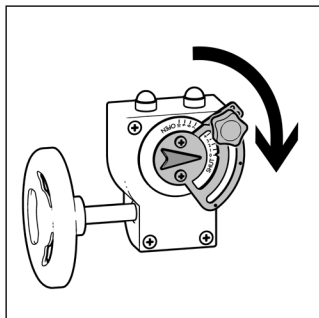
Scan to view



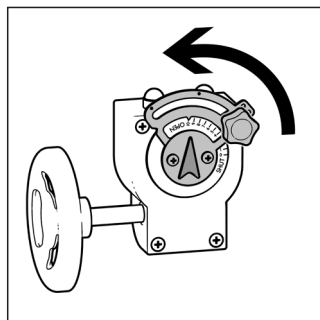
Installation Tip



Complete closing/ opening of valve



Complete closing of valve.

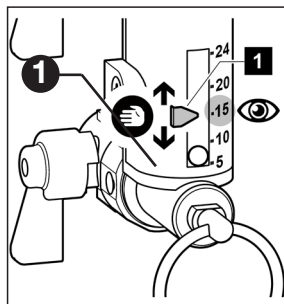


Complete opening of valve.

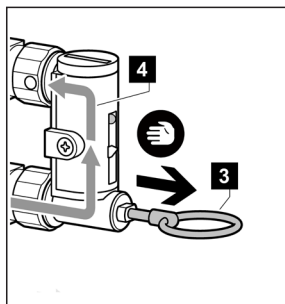
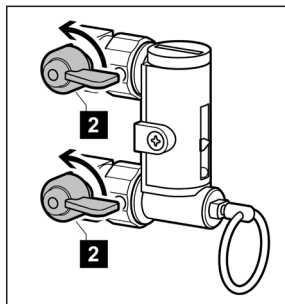
Flow rate adjustment

The flow rate is adjusted by following these step-by-step instructions:

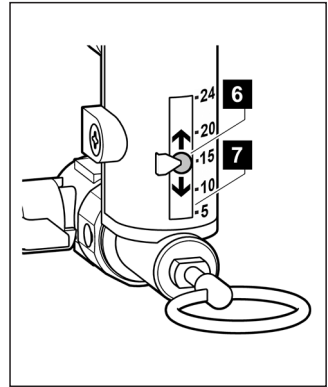
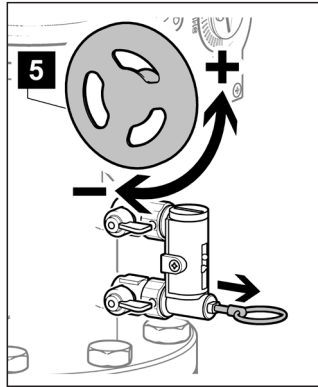
- A. With the aid of the indicator (1), mark the reference flow rate on which the valve is to be set.



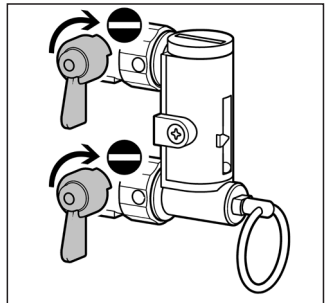
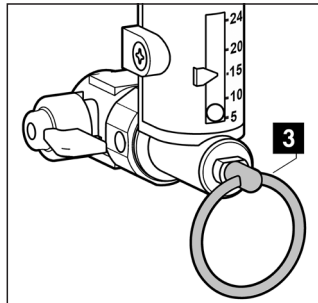
- B. Open the isolating ball valves (2) turning them clockwise. Pull the operating ring (3) allowing the flow to pass through the flowmeter (4).



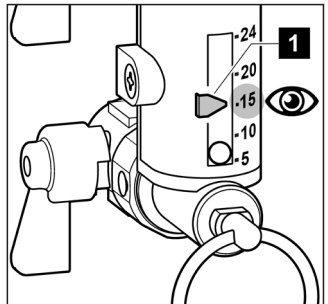
- C. Keeping the flow meter bypass valve open, turn the flow rate adjusting handwheel (5), Flow rate is indicated by the metal ball (6) moving inside a transparent cylinder (7) alongside a graduated scale in GPM.



- D. After completing the balancing, release the ring (3) of the flow meter bypass valve, which will automatically go back into the closed position. Close the isolating ball valves.

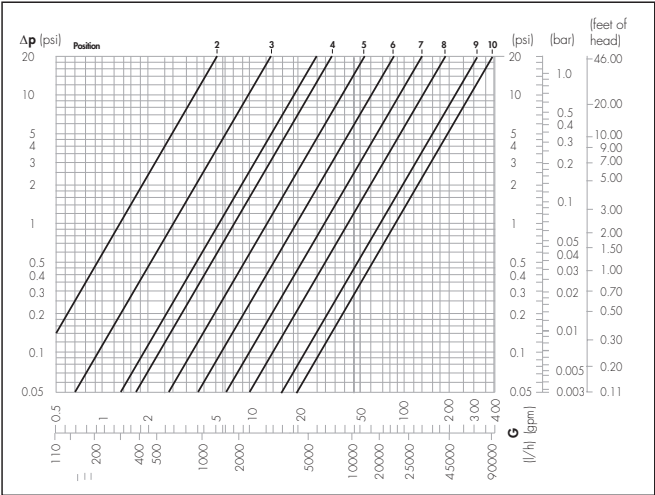
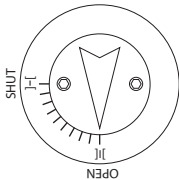


- E. On completing the adjustment, the indicator (1) can be used to keep the setting in memory, in case checks need to be made over time.



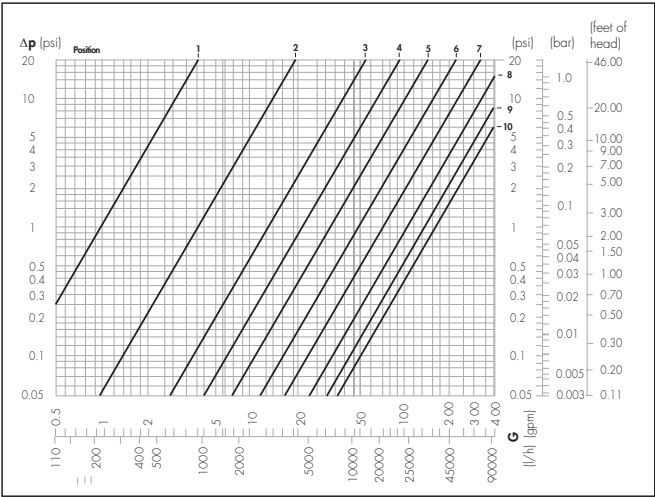
Hydraulic characteristics

132060A 2 1/2 inch



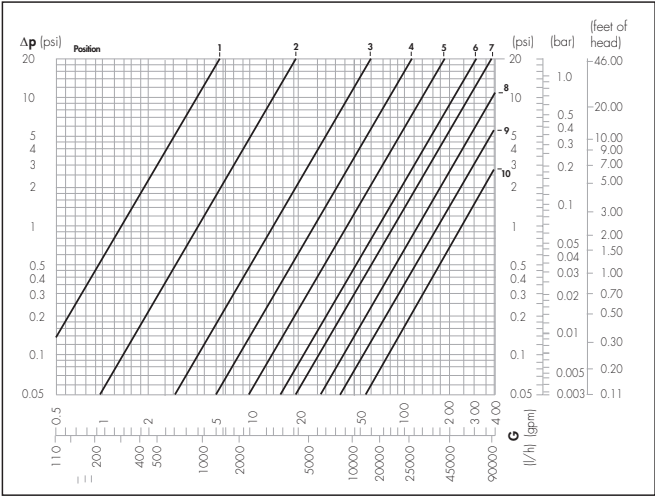
| | Handwheel Position | | | | | | | | | |
|---------|--------------------|-----|-----|-----|----|----|----|----|----|----|
| 2½ inch | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Cv | 0 | 1.1 | 3.0 | 7.6 | 12 | 19 | 31 | 43 | 70 | 87 |

132080A 3 inch



| | Handwheel Position | | | | | | | | | |
|--------|--------------------|-----|----|----|----|----|----|-----|-----|-----|
| 3 inch | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Cv | 0.9 | 4.2 | 12 | 21 | 35 | 52 | 75 | 106 | 137 | 163 |

1320100A 4 inch



| | Handwheel Position | | | | | | | | | |
|--------|--------------------|-----|----|----|----|----|----|-----|-----|-----|
| 4 inch | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Cv | 1.1 | 4.4 | 13 | 26 | 43 | 67 | 89 | 125 | 175 | 241 |

Correction for liquids with different densities

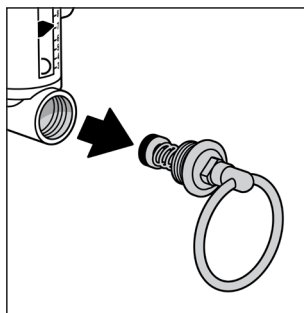
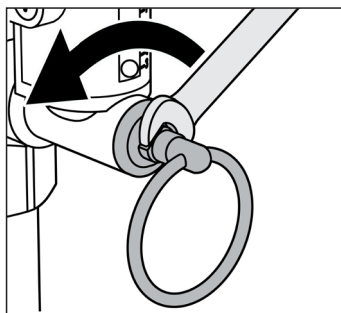
For fluids (typically glycol mixtures) with a specific gravity different from water at 70°F (20°C) (S.G.=1.0), correct the value of the pressure drop Δp read from the hydraulic charts, for sizing the pump, by using the following:

- $\Delta p_{\text{actual}} = \Delta p_{\text{chart}} \times (\text{S.G.})_{\text{glycol mix}}^2$;
- variation in flow rate measurement remains within the specified accuracy range (±10%) for glycol percentages up to 50%.

Example: 50% propylene glycol has a specific gravity of 1.0366 at 70° F (20° C). The flow rate for the 4 inch 132100A, handwheel position 10, in the above chart of 100 gpm yields a Δp_{chart} of 0.16 psi. Correcting for glycol in this example calculates as Δp_{actual} = 0.16 x (1.0366)² = 0.1659 psi.

**Procedure for
replacing bypass
valve stem with
operating ring**

1. Remove bypass valve assembly with an 8 mm wrench.
2. Install replacement bypass valve assembly, code F19346, using locktight to seal the threads.



CAUTION: If the balancing valve is not installed, commissioned and maintained properly, according to the instructions contained in this manual, it may not operate correctly and may endanger the user.



CAUTION: Make sure that all the connecting pipework is water tight.



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