# 132 balancing valve

## with flow meter

altecnic

Caleffi group

# 132 balancing valve with flow meter

## Introduction

Balancing valves are required in heating and chilled water systems to help achieve the correct flow rate through the designated circuit in the system, calculated by the system designer.

The system designer calculates the required flow rate for each heat emitter or cooling coil to ensure a comfortable room temperature is maintained.

Balancing valves, when regulated, force water from the most favoured to the least favoured circuits to achieve the design flow rate confirmed by measuring the actual flow rate.

A correctly balanced system is essential to achieve the design specification, thermal comfort and minium energy consumption.

## Design

The Altecnic 132 balancing valve has a flow meter, for direct reading of the regulated flow rate, housed in a bypass on the valve body which is normally isolated during normal operation.

The flow meter allows fast and easy balancing of the circuit without the need to attach a monometer or differential pressure gauge.

Supplied with female parallel threaded ends complying with BS EN ISO 228-1.

Patent application No. MI2007A000703

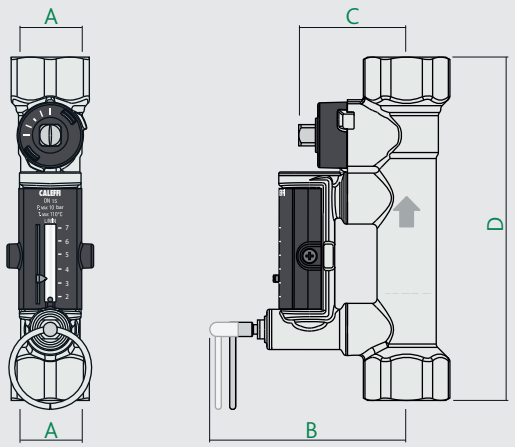
## Construction Details

| Component | Material | Grade |
|---|---|---|
| **Valve** | | |
| Body | Brass | BS EN 12165 CW617N |
| Ball | Brass | BS EN 12164 CW614N |
| Ball control stem | Brass - chrome plated | BS EN 12164 CW614N |
| Ball seat | PTFE | |
| Position indicator | PSU | |
| Seals | EPDM | |
| **Flow Meter** | | |
| Body | Brass | BS EN 12165 CW617N |
| Caps | Brass | BS EN 12164 CW614N |
| Disc- stem | Brass - chrome plated | BS EN 12164 CW614N |
| Spring | Stainless steel | |
| Seals | EPDM | |
| Flow meter float | PSU | |
| Indicator cover | PSU | |

## Technical Specification

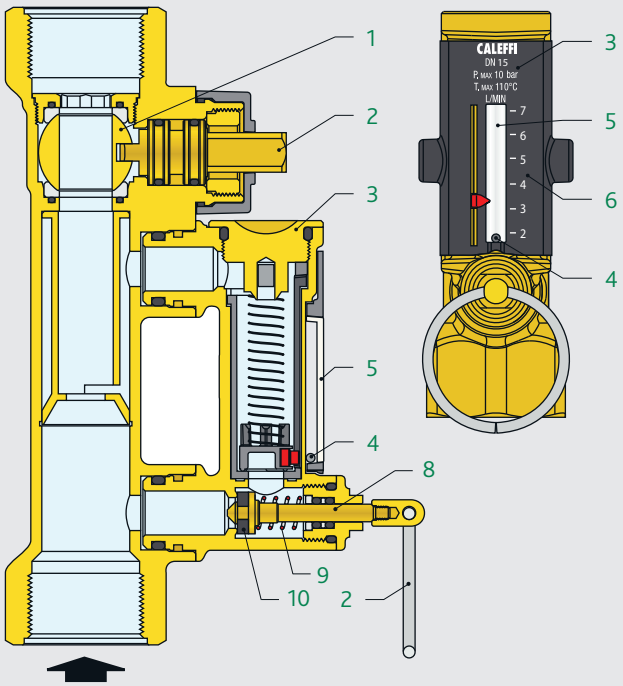
| | | |
|---|---|---|
| Medium: | | water, glycol solution |
| Max. percentage of glycol: | | 50% |
| Max. working pressure: | | 10 bar |
| Working temperature range: | | -10 to 110˚C |
| Unit of measurement: | | l/m |
| Accuracy: | | ±10% |
| Rotation of ball valve: | | 90˚ |
| Operating wrench: | ½" to 1¼" | 9 mm |
| | 1½" & 2" | 12 mm |

## Dimensions




| Size | A | B | C | D | kg |
|---|---|---|---|---|---|
| 132402 | G½ | 84 | 46 | 145 | 0.80 |
| 132512 | G¾ | 84 | 46 | 145 | 0.74 |
| 132522 | G¾ | 84 | 46 | 145 | 0.74 |
| 132602 | G1 | 85 | 47 | 158 | 0.96 |
| 132702 | G1¼ | 88 | 50 | 164 | 1.19 |
| 132802 | G1½ | 91 | 57 | 171 | 1.47 |
| 132902 | G2 | 97 | 62 | 177 | 2.00 |

## Construction Details




The valve regulates using the ball (1), operated by the control stem (2)

The flow rate is measured using the flow meter (3) housed in a by-pass on the valve body, which is normally isolated.

The flow rate value is indicated by a metal sphere (4), sliding within a transparent guide (5), marked alongside by a graduated scale (6).

# 132 balancing valve with flow meter

## Flow Meter Operation

The flow meter measures the flow when the stem -disc assembly (8) is pulled away from the valve using the ring (2).

This lifts the disc facing (10) away from it's seat and opens the bypass allowing the water to flow through the flow meter.

When the ring (2) is released, the spring (9) automatically closes and isolates the flow meter returning the valve to its normal function.

## Ball - Magnet Indicator

The ball (4), that indicates the flow rate value, is not in direct contact with the liquid passing through the flow meter.

The ball (4) slides up and down in a cylinder (5) that is actually separate from the body of the flow meter.

The ball is moved by a magnet (6) fixed to a spring loaded piston (7) which returns automatically to the zero flow indication.

This means that the flow rate indicator remains perfectly clean and provides reliable readings over time.

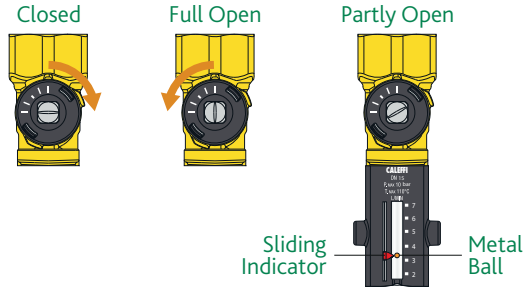
## Isolation and Flow Regulation

The valve can be operated from fully closed to fully open..

A slot on the end of the control stem indicates the status of the valve.

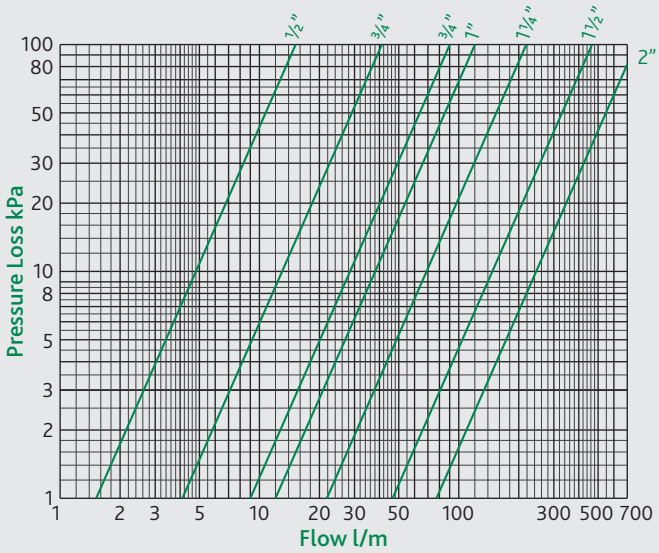
When the control stem is turned fully clockwise and the slot lies perpendicular to the axis of the valve, the valve is fully closed.

When the control stem is turned fully anti-clockwise and the slot lies in line with the axis of the valve, the valve is fully open.




To regulate the flow, firstly with the aid of the sliding indicator, mark the reference flow rate to which the valve requires setting.
Using a suitably sized spanner on the operating square of the control stem of the valve rotate until the design flow rate is achieved.
This is indicated by the metal ball that runs inside the transparent guide.

## Kv Value and Flow Rates




| Code | Size | Flow rates | Flow rates | Kv |
|---|---|---|---|---|
| | | l/m | l/s | $m^3/h$ |
| 132402 | ½" | 2 to 7 | 0.033 to 0.116 | 0.9 |
| 132512 | ¾" | 5 to 13 | 0.083 to 0.216 | 2.5 |
| 132522 | ¾" | 7 to 28 | 0.117 to 0.466 | 5.4 |
| 132602 | 1" | 10 to 40 | 0.167 to 0.666 | 7.2 |
| 132702 | 1¼" | 20 to 70 | 0.333 to 1.166 | 13.1 |
| 132802 | 1½" | 30 to 120 | 0.5 to 2.0 | 27.8 |
| 132902 | 2" | 50 to 200 | 0.833 to 3.333 | 46.4 |

Kv value with valve full open

E & O.E

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