

# AUTOMATIC FLOW BALANCING VALVE

15MM - 50MM

**All Valve**  
INDUSTRIES

**W**  
WMTS.012  
WM-000217



## *AUTOMATIC BALANCING OF HVAC AND DOMESTIC HOT WATER SYSTEMS*

### FUNCTION AND FEATURES

- |   |   |
|---|---|
| <p>■ <b>Removable cartridge</b><br/>Allows for inspection, maintenance or changing the orifice plate to a different flow rate</p> | <p>■ <b>Compact Installation</b><br/>Straight lengths of pipe are not required before or after the valve to obtain linear flow.</p> |
| <p>■ <b>Assured flow rate</b><br/>System balancing is assured automatically, even under fluctuating pressure conditions.</p>      | <p>■ <b>Decreased costs</b><br/>Reduced commissioning and energy savings minimises installation and operation costs.</p>            |
| <p>■ <b>Self cleaning cartridge</b><br/>Cartridge performance and accuracy is not compromised by minor debris.</p>                | <p>■ <b>Increased comfort</b><br/>Accurate flow distribution ensures optimum design temperatures are achieved in circuits.</p>      |

## PRODUCT DETAILS

The Cimberio model 790 balancing valve is designed for automatic balancing of heating and cooling installations, including potable domestic hot water systems.

Automatic balancing is achieved by means of cartridges that provide constant flow. The wide selection of cartridges is able to match every flow requirement from a minimum of 0,007 l/s (7 KPa min. Dp) up to a maximum of 3,154 l/s (44 KPa min. Dp).

Cim 790 can be used either in constant flow or variable flow system, assuring that specified flow would not be exceeded.

Automatic balancing function is performed with innovative and patented cartridges with incorporated fixed orifice.

The automatic function of Cim 790 eliminates the manual balancing of the system, allowing possible inspection by contractor.

The cartridge can be easily removed from its seat even with installed valve, allowing easy flushing of the installation and possible flow modification required after first installation.

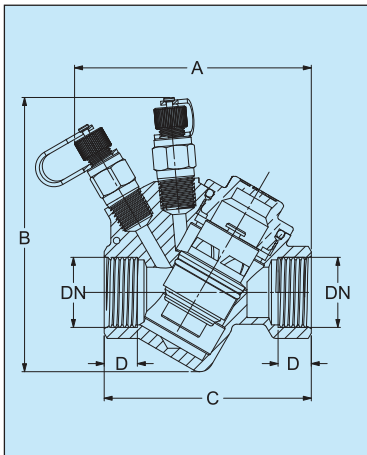


*It is recommended to install isolation valves on either side of the balancing valve for maintenance.*

### PERFORMANCE

TEMPERATURE RANGE	-20°C to 120°C
MAX STATIC PRESSURE	2,500kPa
MAX DIFFERENTIAL PRESSURE	350kPa
MIN DIFFERENTIAL PRESSURE	See cartridge list

## DIAGRAM



Cim 790						
DN	Grms.	A	B	C	D	Flow rate range (l/h)
15	510	89	103	78	11,5	25 ÷ 2448
20	530	89	103	78	12,5	25 ÷ 2448
25	615	93	103	85	14,5	25 ÷ 2448
25L	1505	125	141	123	14,5	674 ÷ 11355
32	1530	125	141	123	16,8	674 ÷ 11355
40	1590	125	141	123	16,8	674 ÷ 11355
50	1710	130	141	132	21,1	674 ÷ 11355

## FLOW SELECTION

Constant flow rate is obtained through the valve, despite pressure fluctuations. By simply measuring differential pressure across the valve, the flow through the cartridge is obtained as follows:

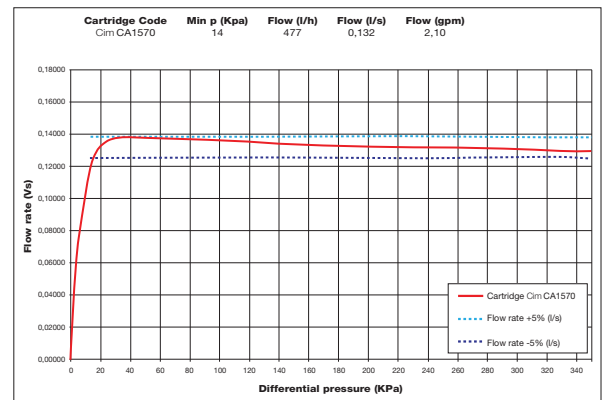
- if measured differential pressure is above minimum  $\Delta p$ , the flow rate is the same as the one stated on the cartridge table.
- if measured differential pressure is below minimum  $\Delta p$  stated on cartridge table, flow rate is calculated with the following formula.

$$Q = 1/36 * K_v * \sqrt{\Delta p}$$

$$Q = l/s \quad \Delta p = KPa$$

*Kv values provided in the cartridge list*

**See separate cartridge list for flow rate selection**



**All Valve**  
INDUSTRIES

110920-01