

iDROSET® Series CF

Static balancing valve

Technical Data Sheet



Description

Series CF is our brand-new static balancing valve, part of our **iDROSET® family** of devices designed to calibrate and regulate the water flow in heating and cooling systems and domestic hot or cold water distribution systems. Featuring patented, accurate technology, the user-friendly iDROSET® delivers precise calibration that's straightforward to set and real-time information that's easy to interpret without any special tools. These valves can be used as an instant diagnostic tool for monitoring the system performance according to the flow rate.

CF

Balancing and control valve with threaded connections, free nut and inner thread versions, for heating and cooling distribution systems. Shut-off function. No additional measurement tools required. Brass and composite body. Fluids: water with glycol up to 50%. PN: 16 bar. Operating temperature range: from -10 to 110°C.

Free nut connection

Type	Part No.	DN	Kvs	Flow rate (l/h)	Weight (kg)
CF	PAP-S015	1/2"	1,7	35/700	1,0
CF	PAP-S020	3/4"	1,7	35/700	1,0
CF	PAP-M025	1"	4,4	50/1600	1,1
CF	PAP-L032	1 1/4"	14	250/6000	2,6
CF	PAP-L040	1 1/2"	14	250/6000	2,6
CF	PAPXL050	2"	25	400/10000	5,1



Inner thread connection

Type	Part No.	DN	Kvs	Flow rate (l/h)	Weight (kg)
CF	PAP-S015-FFG	1/2"	1,7	35/700	1,40
CF	PAP-S020-FFG	3/4"	1,7	35/700	1,35
CF	PAP-M025-FFG	1"	4,4	50/1600	1,20
CF	PAP-L032-FFG	1 1/4"	14	250/6000	2,80
CF	PAP-L040-FFG	1 1/2"	14	250/6000	3,00
CF	PAPXL050-FFG	2"	25	400/10000	5,80



iDROSET® Series CF Isolation

Isolation shells for balancing valves iDROSET® **Series CF**.

Thermal conductivity λ : 0,036 W/mK. Fire resistant: B2 Class - DIN 4102.

Type	Part No.	Description
CF	PAP-001	Shells for iDROSET CF PAP-S015
CF	PAP-002	Shells for iDROSET CF PAP-S020
CF	PAP-003	Shells for iDROSET CF PAP-M025
CF	PAP-004	Shells for iDROSET CF PAP-S015-FFG PAP-S020-FFG PAP-M025-FFG
CF	PAP-006	Shells for iDROSET CF PAP-L032 PAP-L032-FFG PAP-L040 PAP-L040-FFG
CF	PAP-005	Shells for iDROSET CF PAPXL50 PAPXL50-FFG



Technical features

Nominal Pressure	PN16
Operating Temperature	-10 to 110°C
FF threaded connections	ISO 228
Balancing turndown ratio	up to 32:1
Fluids	Water with glycol up to 50%

Materials

Central Body	Polyamide with glass fiber
Upper and bottom cap	Brass
Hand wheel	Polyamide with glass fiber
Spring	Stainless Steel
O-ring	EPDM 70 peroxide

Application

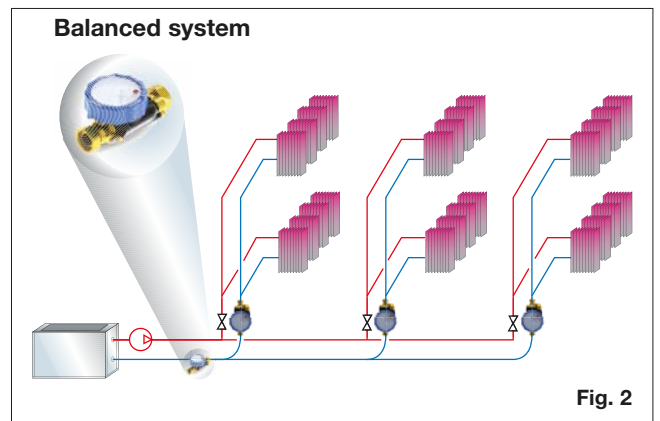
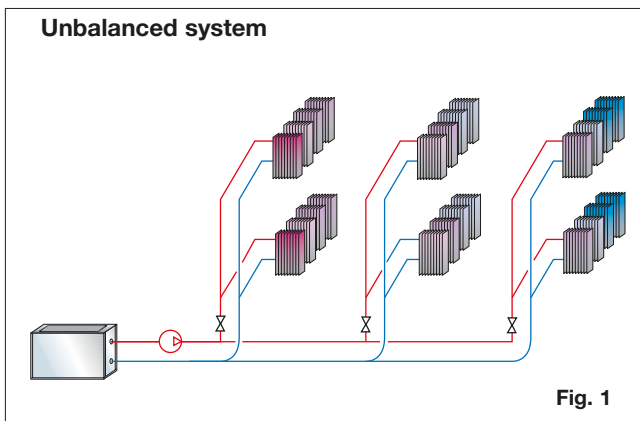
All distribution networks, even the simplest, are made up of different branches, whose flow rates need to be defined at the design stage and must then correspond to the values calculated in the course of operation.

In an unbalanced system (Fig. 1), the flow rate to the circuits nearest the pump is too high, while the flow rate to the circuits furthest from the pump is too low. The resulting temperature differences between different rooms not only detract from comfort for the user but also increase the system's energy consumption.

The use of thermostatic or control valves in this situation can cause noise.

The installation and correct setting of **Series CF** balancing (Fig. 2) on boiler room manifolds, at the bottom of risers and upstream of heat production and exchange units or zones ensures correct flow distribution, thus offering immediate benefits in terms of comfort and energy saving, as well as optimising the efficiency of the control system.

Series CF valves also act as a shut-off and are particularly recommended for use in heating, cooling and drinking water distribution systems.



Operation

The **Series CF** features innovative technology that allows adjusting and reading the flow rate on board without any kind of external device. The operation is very simple:

1. Open the valve completely anti-clockwise.
2. After commencing installation, adjust the desired flow rate in lit/min (A) according to the project data. Turn the wheel anticlockwise to increase the flow and clockwise to decrease the flow.

After this operation, you can read the real flow rate using the valve dial. Simply tighten the screw to lock the wheel into position.



Sizing

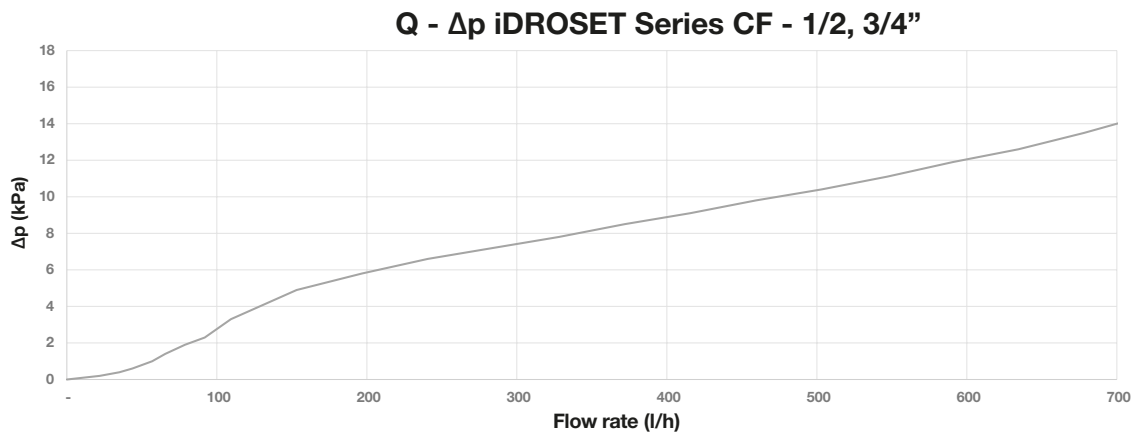
To choose the right size you only need to know the desired flow rate. That value has to be inside the range.

Part n°	DN	Minimum Flow rate (l/h)	Maximum Flow rate (l/h)
PAP-S015 PAP-S015-FFG	1/2"	35	700
PAP-S020 PAP-S020-FFG	3/4"	35	700
PAP-M025 PAP-M025-FFG	1"	50	1600
PAP-L032 PAP-L032-FFG	1 1/4"	250	6000
PAP-L040 PAP-L040-FFG	1 1/2"	250	6000
PAPXL050 PAPXL050-FFG	2"	400	10000

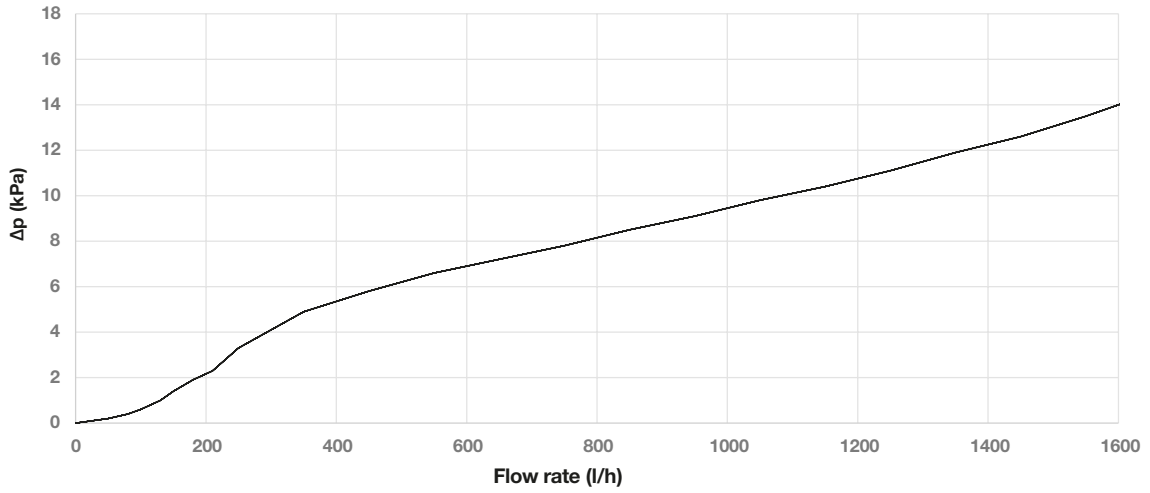
The balancing turndown ratio is the largest in the market (up to 32:1) thanks to the new technology present in the device. This means that each diameter has a wide range of flow rate, allowing the use of less different diameters for a wide range of flow rates.

Charts

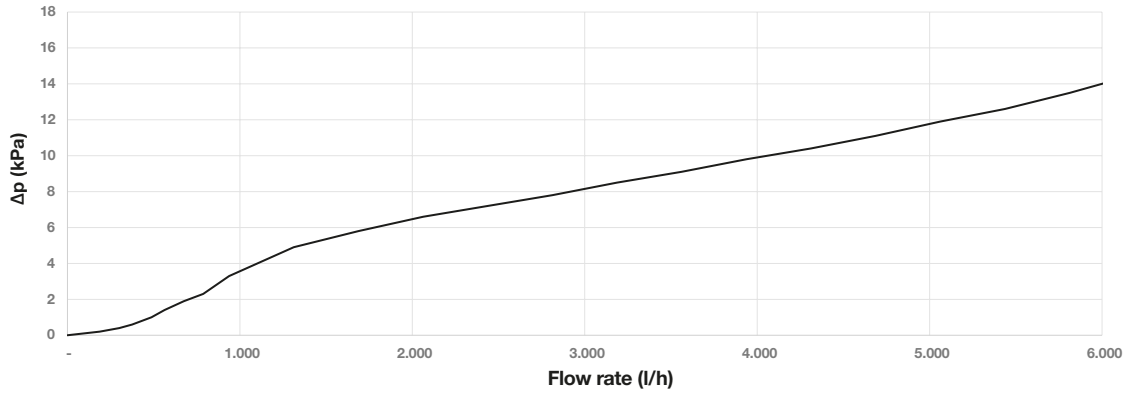
In the next nomograms, you can calculate the drop pressure through the valve depending on the flow rate for each size. Alternatively, the calculation tool can be found on our website (<https://wattswater.eu/idroset/>).



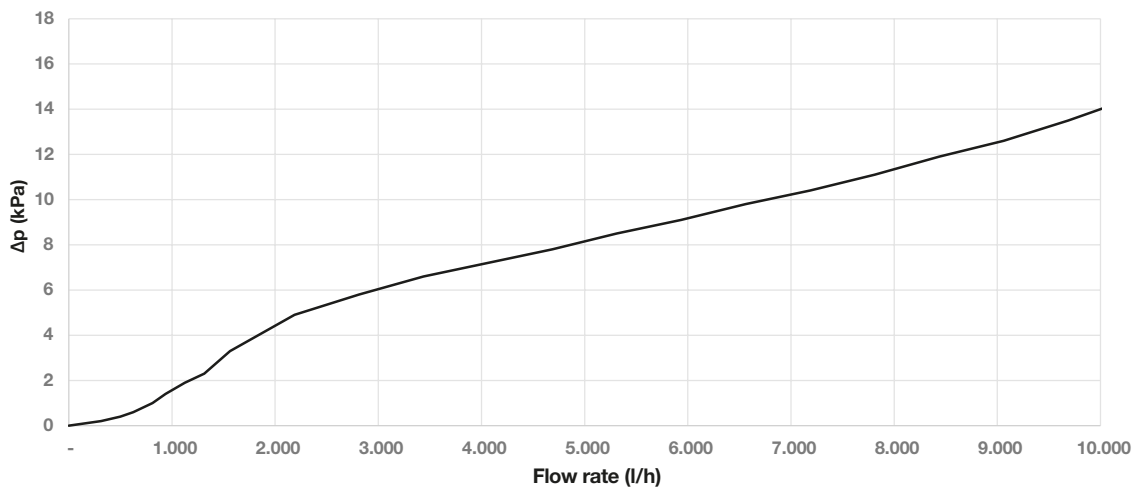
Q - Δp iDROSET Series CF - 1"



Q - Δp iDROSET Series CF - 1 1/4, 1 1/2"



Q - Δp iDROSET Series CF - 2"

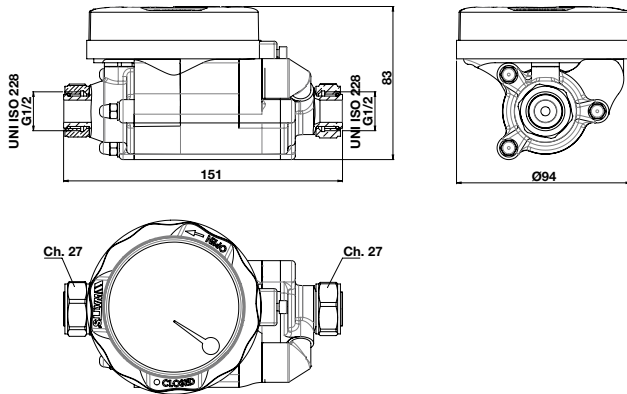


Installation

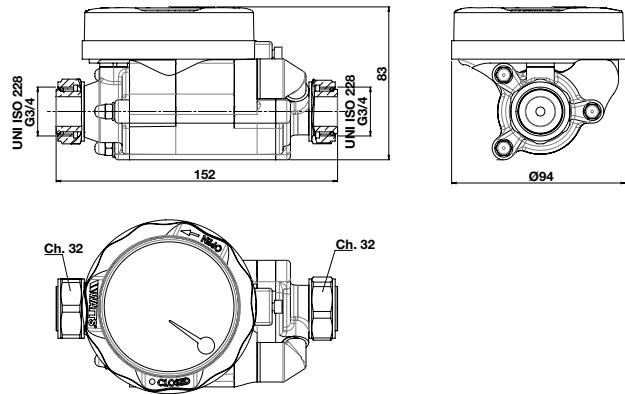
The valve can be installed in any position in relation to the pipe, provided it complies with the direction of fluid flow shown by the arrow cast over the valve body. Pay attention to the position to allow access to the wheel and the dial to be read. In the package, you can find the gaskets for the free nuts.

Overall dimensions (mm)

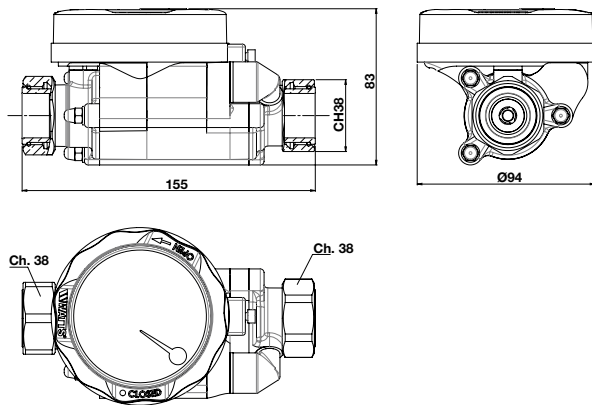
FREE NUT VERSION - iDROSET® Series CF - 1/2"



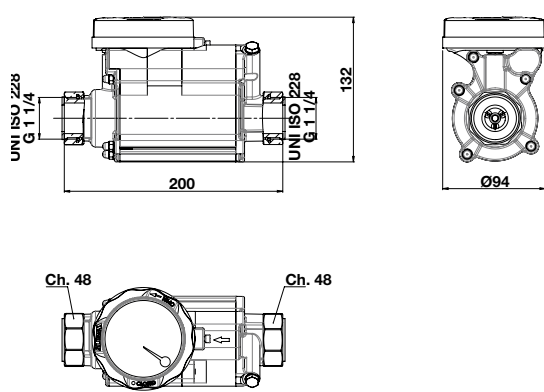
FREE NUT VERSION - iDROSET® Series CF - 3/4"



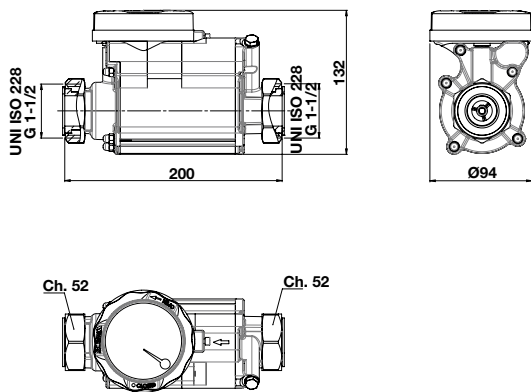
FREE NUT VERSION - iDROSET® Series CF - 1"



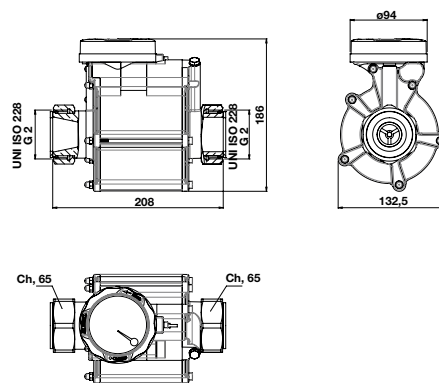
FREE NUT VERSION - iDROSET® Series CF - 1 1/4"



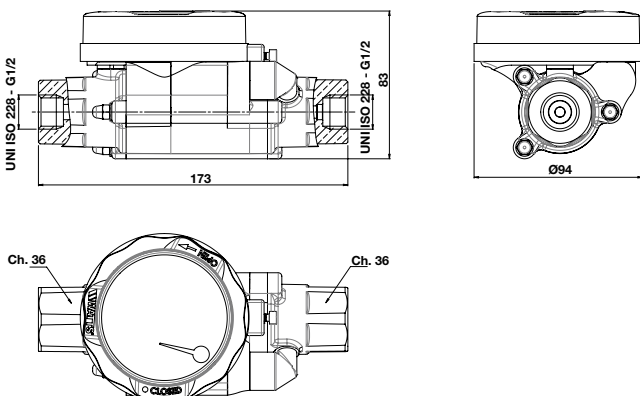
FREE NUT VERSION - iDROSET® Series CF - 1 1/2"



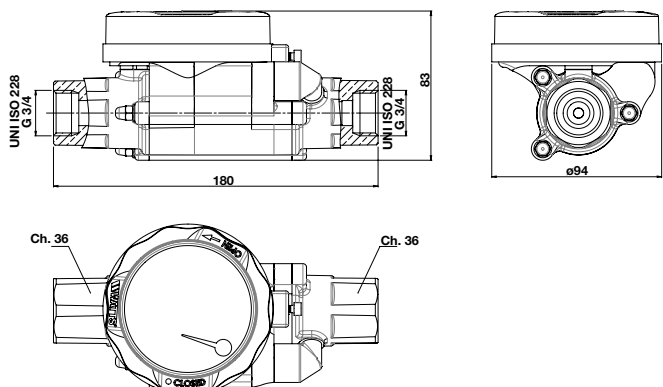
FREE NUT VERSION - iDROSET® Series CF - 2"



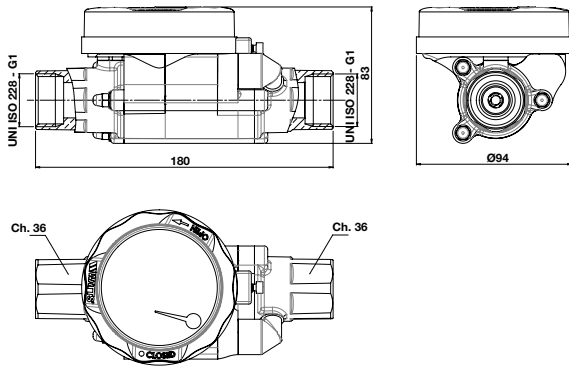
INNER THREAD VERSION - iDROSET® Series CF - 1/2"



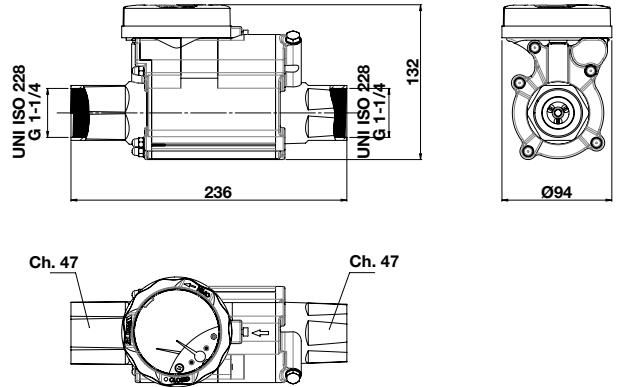
INNER THREAD VERSION - iDROSET® Series CF - 3/4"



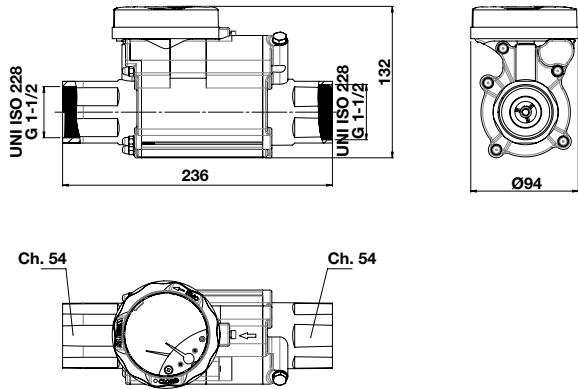
INNER THREAD VERSION - iDROSET® Series CF - 1"



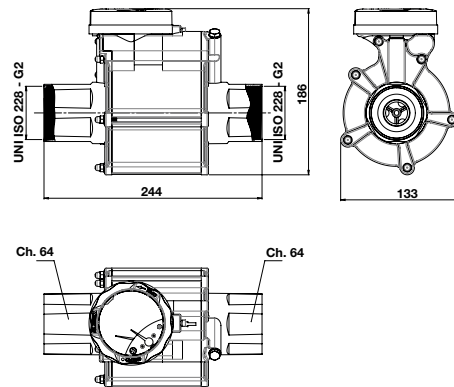
INNER THREAD VERSION - iDROSET® Series CF - 1 1/4"



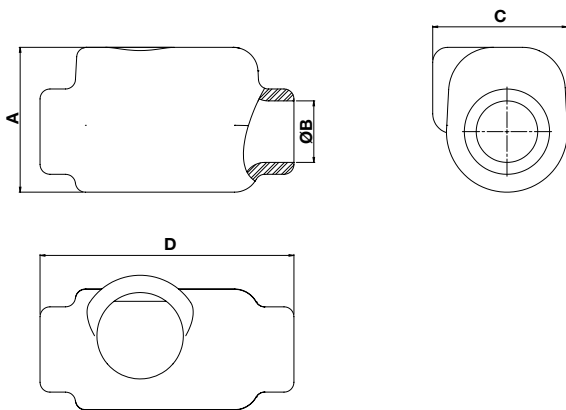
INNER THREAD VERSION - iDROSET® Series CF - 1 1/2"



INNER THREAD VERSION - iDROSET® Series CF - 2"



iDROSET® Series CF Isolation



	PAP-001 (DN15)	PAP-002 (DN20)	PAP-003 (DN25/15UNS)	PAP-004 (NPT GAS)	PAP-005 (DN50)	PAP-006 (DN32/DN40)
A (mm)	125	125	125	125	160	135
B (mm)	Ø30	Ø35	Ø42	Ø40	Ø72	Ø65
C (mm)	100	100	100	100	190	150
D (mm)	150	150	151	188	235	250

Specification text

IDROSET® Series CF

Series CF static balancing and control valve with free nut or inner thread connection from DN15 to DN50 for heating, cooling and domestic water distribution systems. New patented technology that allows instant setting and reading of the flow rate without special tools. The valve body is manufactured from brass and composite with an ergonomic shape that allows the valve to be deployed in a range of ways. A multi-functional hand wheel sets the flow rate. Shut off function. Nominal pressure of 16 Bar. Operating temperature range from -10°C to 110°C. Balancing turn down ratio up to 32:1. Fluids: water with glycol up to 50%.

The descriptions and photographs contained in this product specification sheet are supplied by way of information only and are not binding.

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