

Catalogue

***Satellite modules for central heating
systems/energy metering units
and accessories***



A Division of Watts Water Technologies Inc.

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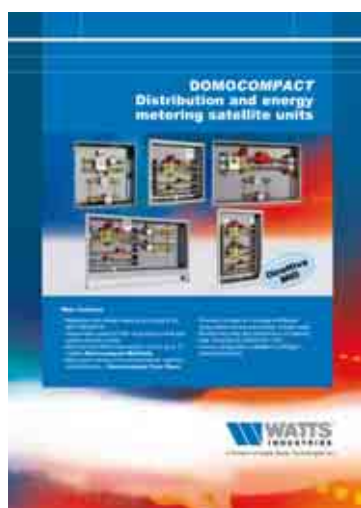
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Satellite modules for central heating systems

DOMOCOMPACT and DOMOCAL series





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DOMOCOMPACT

Distribution and energy metering satellite units



Main features

- Regulation and energy metering according to Dir. MID 2004/22/CE.
- Independent control of both room heat comfort and system activation times.
- Hot/Cold fluid distribution system from 3 up to 12 outlets (**Domocompact Manifold**)
- Stand alone sections for summer/winter metering and distribution (**Domocompact Four Pipes**)
- Allocation of costs on the basis of effective consumption of heat and sanitary hot/cold water.
- Remote recording and transmission of metering data. According to M-BUS EN 1434
- Various configuration installation (Left/Right - Vertical/Horizontal).

 **WATTS**
INDUSTRIES

A Division of Watts Water Technologies Inc.

Description

The preassembled temperature control/thermal energy meter units **DOMOCOMPACT series** although fed by centralized primary fluid, are able to ensure the same independent control (room comfort level) and adjustment as a conventional system based on water heaters.

In fact, the user of each individual apartment can control the running of his own heating system as regards both space heating and domestic water consumption (hot or cold). Most of the functions performed are incorporated in just the one cast brass body, therefore the unit is extremely compact.

The **DOMOCOMPACT** units control the flow of primary fluid to the users through the ON/OFF action of a zone actuator electrically connected to a chrono-thermostat located in the user's master room. When there is demand for heat, the flow of operating fluid (which can be fixed by a special setting device) is conveyed to the heating system and measured by a volumetric meter installed on the return line.

The thermal energy metering system **according to the Dir. MID 2004/22/CE D. Lgs n°22 02/02/07** is complete

with two temperature probes on the supply/return lines and an electronic control panel which allows subsequent allocation of the costs based on actual consumption. Reading of the data /consumption for each individual user can also be easily concentrated, transmitted and processed in remote mode. If there is no demand for heat, the fluid is returned to the primary circuit by means of a by-pass valve set so not to affect the other users.

A steel mesh filter inserted in the central brass body, which can be removed for maintenance, protects the heating system against any impurities.

The **DOMOCOMPACT** unit also comes in the version with two independent additional sections for supply of domestic hot/cold water to sanitary appliances and kitchens.

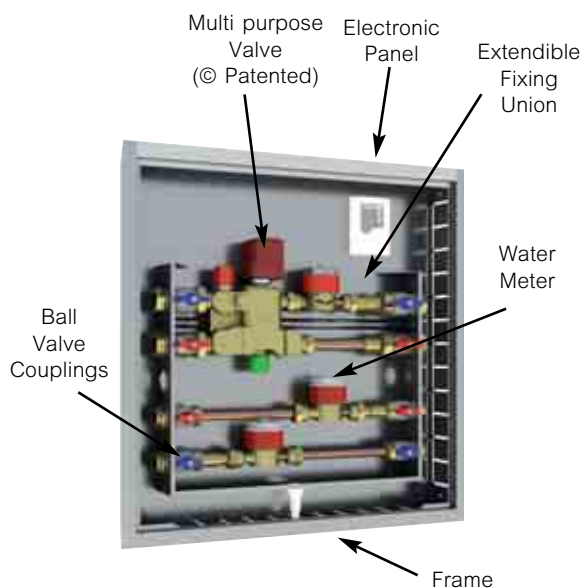
Supply of the mains hot and cold water merely by opening a tap is calculated by a volumetric meter and recorded on the electronic panel; the domestic water sections can be provided with an additional accessory in the form of a water hammer arrestor.

On the head connections of each section there are ball valves with 3-piece unions for shutting-off water of the unit when necessary. Replacement and maintenance operations are easy to carry out thanks to the presence of extendible and soft-sealed fittings.

The **DOMOCOMPACT** have much less space requirements thanks to their very compact design. They are factory assembled and each one is tested individually to check for tight hydraulic sealing.

The state-of-the-art design technology allows the same unit to be used under different installation conditions (primary fluid inlet left/right, vertical/horizontal arrangements).

DOMOCOMPACT modules can be factory fitted with many options as water hammer arrestors for the sanitary water sections, mixing module for sanitary hot water section, flushing pipes. For additional info, check starting from pag. 28








Domocompact unit type DMSC



Product range

The **DOMOCOMPACT** Series is available in a wide range of modules that can easily fit any design requirement. The product range can be organized according to the real project requirement, according to the water flow requested. Any unit can be supplied as a pre-assembled module or in different installing sub-assemblies (inspection box first, DOMOCOMPACT sections later on). All of them can be available with distribution system (DOMOCOMPACT Manifolds) or with separate heating/cooling sections (DOMOCOMPACT FOUR PIPES). All "MY HOME", "FAMILY", "SUITE", "FOUR PIPES" and "MANIFOLDS" versions are equipped with a patented multi purpose valve (c).

Selection matrix

Heating system type	Two pipe systems without manifold	DOMOCOMPACT MY HOME (see table 1 pag. 6) 	DOMOCOMPACT FAMILY (see table 1 pag. 6) 	DOMOCOMPACT SUITE (see table 1 pag. 6) 
	Four pipe systems (summer & winter)	DOMOCOMPACT FOUR PIPES (see table 1 pag. 6) 	Due to dims. constrains it is recommended to install two separate modules.	
	Two pipe system with manifolds	DOMOCOMPACT MANIFOLD (see table 1 pag. 6) 	Due to the dims. of the module and the apt. It is recommended to install the manifold group in a separate box.	
		Qn <800 [l/h] DN15-20	800 [l/h] <Qn<2000[l/h] DN25	2000 [l/h] <Qn<2800[l/h] DN32
Water Flow Qn Nominal Diameter DN				

Selection example

Example:

We are in need of 20 modules for heating and energy metering plus domestic water (hot and cold). The module should be installed within a two pipe system, no manifolds. The water flow for each user is 500 l/h. The power supply is 24V a.c. The modules should be installed in the common space and they should be equipped with closed frame with locking device.

To select the module enter in the **selection matrix**:

- Select the system type line: Two pipe system without manifolds.
- Select the column with the desired Qn (Nomina water flow), DN (Nominal Diameter): Qn < 800 [l/h], DN 15-20.
- The selected unit is a **DOMOCOMPACT "MY HOME"**.
- Follow the indication see table 1 pag. 6.
- On pag. 6 within table 1 select the **DMSC315BH**.

The design technology of the DOMOCOMPACT range, Series DMSA and DMSC allows to use the same model for different installation configurations: INLET from LEFT and OUTLET from RIGHT or INLET from the BOTTOM and OUTLET from the TOP.

Domocompact module selection

the following tables can be used to select the right module.

DOMOCOMPACT MY HOME, FAMILY and SUITE (Table 1)

	Frame	Sections	Qn/DN	Power supply	Features
Module Identification Matrix		1 Heating and/or cooling	fino a 800 [l/h] 15 (MY HOME)	B (24V.a.c.)	H Heating
	A (open)	2 Heating and/or cooling + 1 section for domestic water metering	800 [l/h] Qn<2000[l/h] 25 (FAMILY)		
	C (closed)	3 Heating and/or cooling + 2 sections for domestic water metering	2000 [l/h] <Qn<2800[l/h] 32 (SUITE)	A (230V.a.c.)	HC Heating and cooling
DMS	A	3	15	B	HC

DOMOCOMPACT FOUR PIPES (Table 2)

	Sections	DN riscaldam./DN condiz.	Power supply
Module Identification Matrix	1 Heating and/or cooling	20 / 20	B (24V.a.c.)
	2 Heating and/or cooling + 1 section for domestic water metering	20 / 25	
	3 Heating and/or cooling + 2 sections for domestic water metering	25 / 25	A (230V.a.c.)
DMS	3	20 / 20	B

DOMOCOMPACT MANIFOLD (Table 3)

	Sections	Inlets	n° Outlets	Power supply	Features
Module Identification Matrix			3 (3 outlets)	B (24V.a.c.)	H Heating
			5 (4-5 outlets)		
			6 (6 outlets)		
	1 Heating or cooling		8 (7-8 outlets)		
	2 Heating or cooling + 1 section for domestic water metering	S from left	10 (9-10 outlets)	A (230V.a.c.)	HC Heating and cooling
	3 riscaldamento o condizionamento + 2 sections for domestic water metering	D from right	12 (11-12 outlets)		
DMS	3	S	12	B	HC

Example of part number

Application

The temperature control/thermal energy meter units of the **DOMOCOMPACT series** are mainly adopted in multiple unit buildings (terrace villas, residential apartment blocks, shopping centres, building complexes with variously owned units) or in all those cases where it is possible to produce heat from a single boiler room. This plant engineering solution normally has less construction costs than in the case of independent solutions and meets users' demands in terms of comfort, safety and reduction of running costs. Such installations are characterized by a general distribution at source originating in a boiler room and branching into columns mounted where the stairs or service rooms are located.

Hence the temperature control/thermal energy meter units of the Domocompact Series are installed close to the buildings, preferable in the communal parts of the building for easier access by the system operator and also not to cause nuisance to the occupants during maintenance operations.

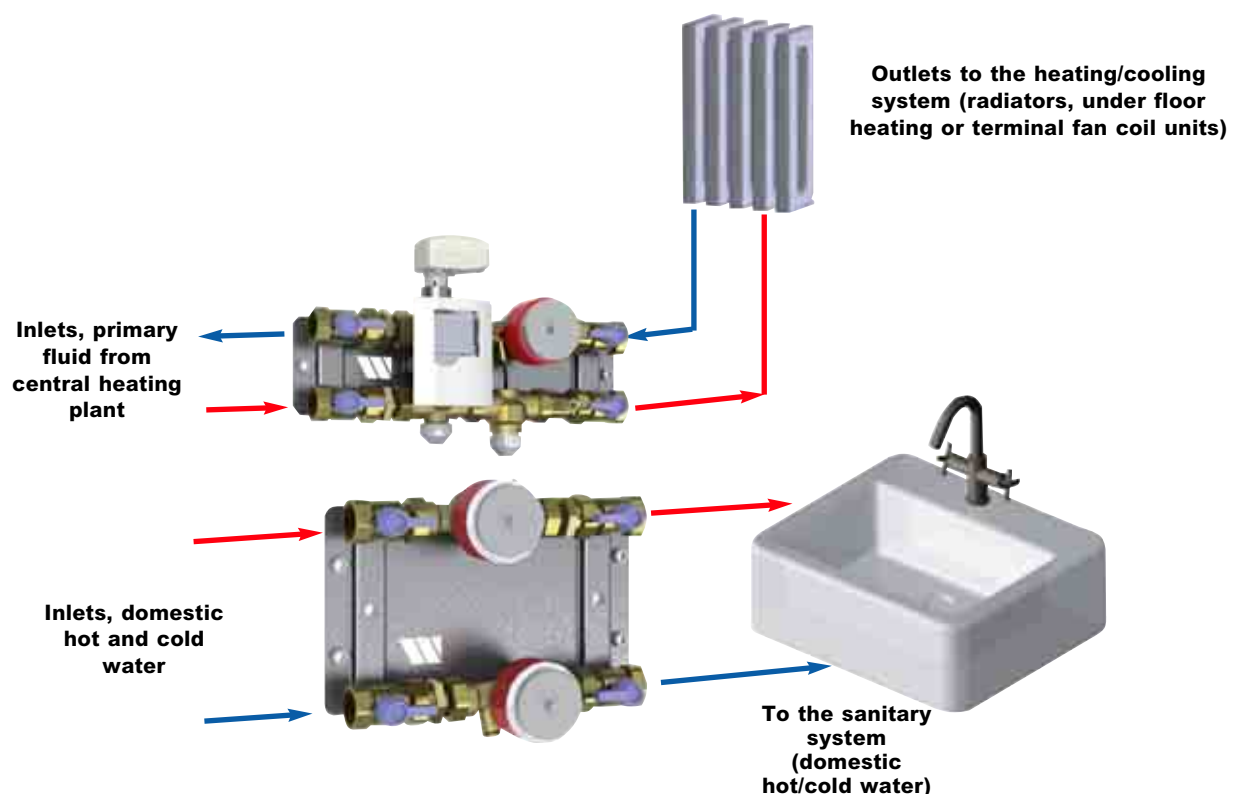
The primary distribution main should supply all **DOMOCOMPACT** units with fluid at the preset temperature and flow rate substantially constant throughout the year.

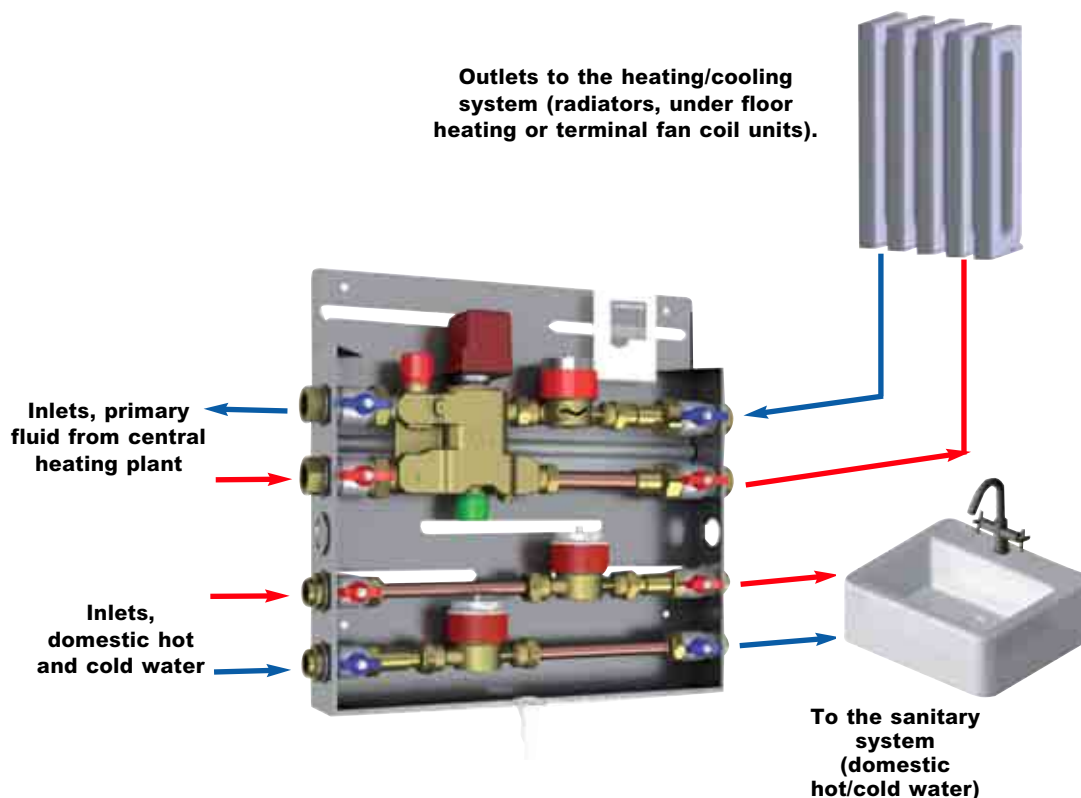
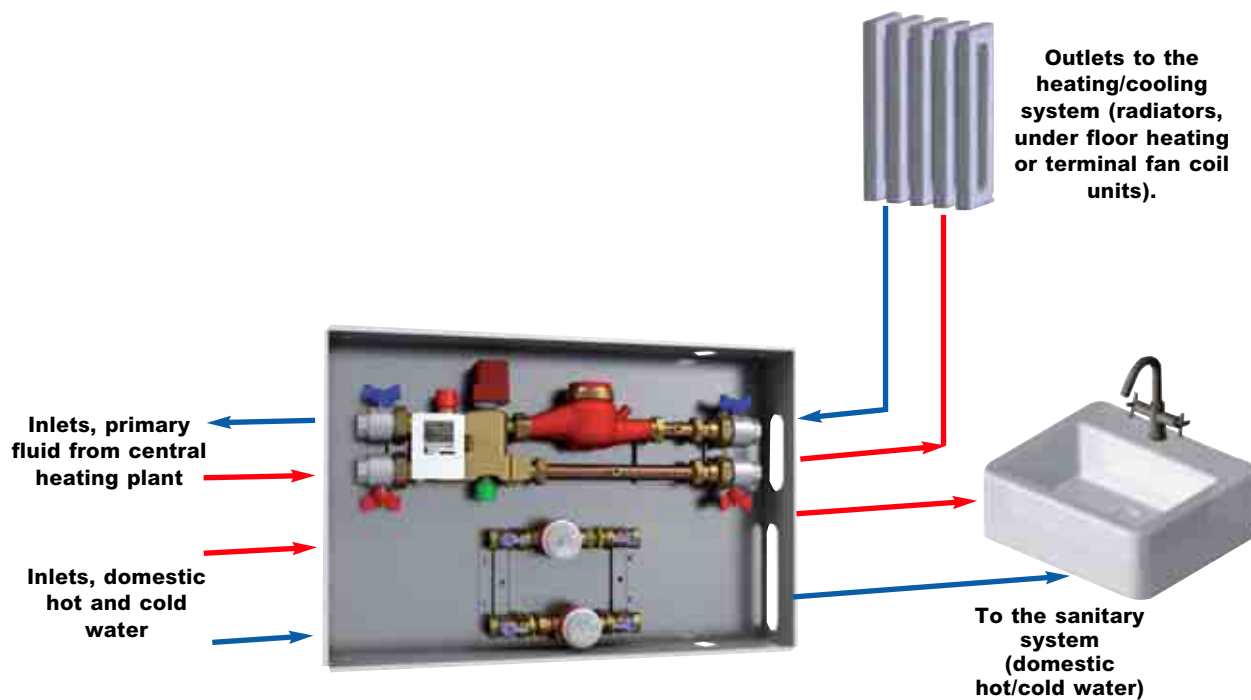
The differences in head available for the units will be appropriately compensated by built-in setting devices.

Hence heating/hot water systems with the **DOMOCOMPACT** temperature control/thermal energy units represent a highly advanced technological solution. They ensure room comfort in terms of heating, and enable meeting the requirements of Italian D.P.R. 551/99 (Art. 5).

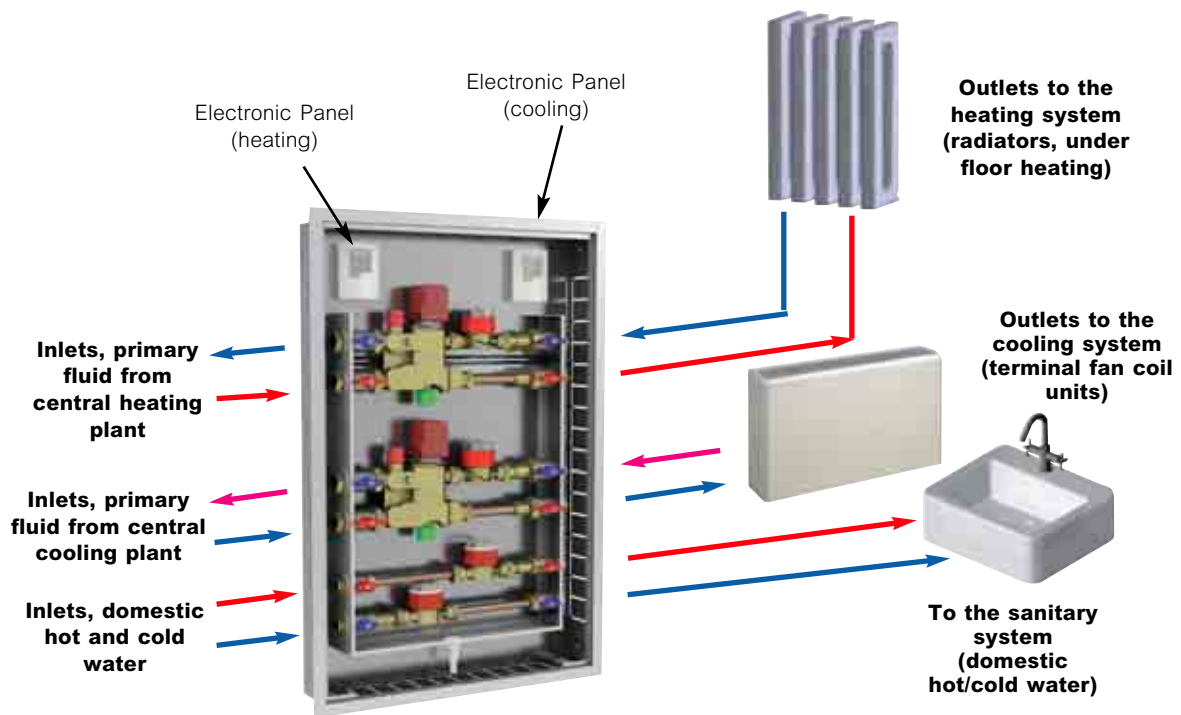
Description of flow inlets/outlets for the individual section of temperature control and thermal energy metering for heating, cooling or domestic water for the different **DOMOCOMPACT series unit**.

DOMOCOMPACT - MY HOME

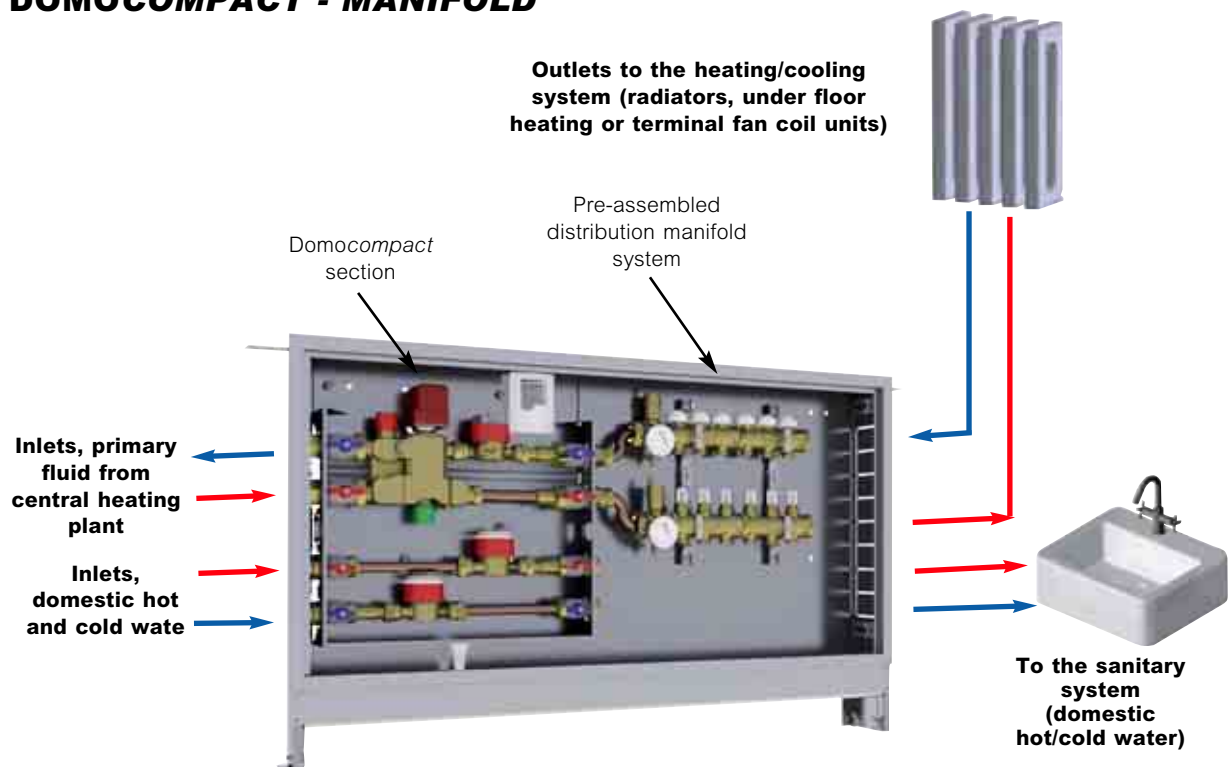


DOMOCOMPACT - FAMILY**DOMOCOMPACT - SUITE**

DOMOCOMPACT - FOUR PIPES



DOMOCOMPACT - MANIFOLD



Operation

The unit receives the primary fluid prepared in the boiler room and conveys it to the distribution manifold which, in turn, serves the end units.

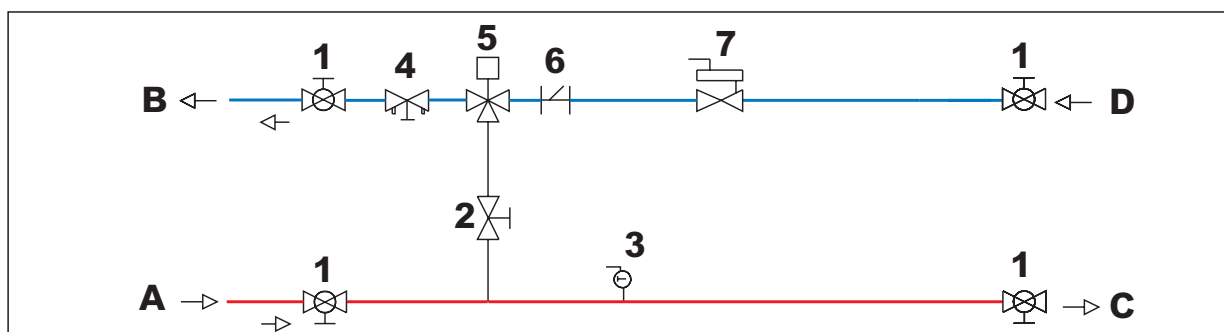
This heat supply is controlled by a programmable chrono-thermostat, installed in the master room, which determines the progressive opening/closing of the electrothermic actuator mounted on the central valve body, thus allowing the hot fluid to flow directly towards the user.

The heat supplied is billed by a direct thermal energy metering system (enthalpy) consisting of three basic components :

An electronic panel which totalizes in digits the thermal energy usage, by a volume flow meter provided with a transmitter of pulses proportional to the flow volume, and a pair of thermometer probes.

The electronic panel, provided with a liquid crystal display, shows the operating parameters and consumption data memorized; a serial M-bus output conforming to EN 1434-4 allows centralized and/or remote reading (.... via modem).

Module Hydraulic diagram (heating/cooling section):



Description:

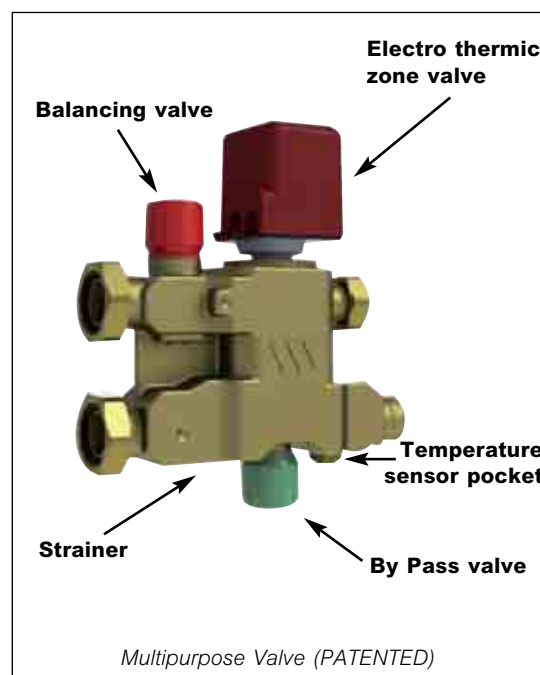
- | | |
|-------------------------|--|
| A Primary fluid Inlet | 1 Shut Off Valves MF |
| B Primary fluid Outlet | 2 By-Pass Valve |
| C Heating System Supply | 3 Hot water sensor for Energy meter unit |
| D Heating System Return | 4 Balancing Valve |
| | 5 3 way motor valve |
| | 6 Strainer |
| | 7 Jet type water meter |

The multi-function body, in addition to its automatic control (on/off) and measuring functions, is provided with two setting devices, namely :

- One for setting the main flow, whose rate can be read on the electronic panel display,
- One for limiting the flow via the by-pass in order not to affect the supply of the other units.

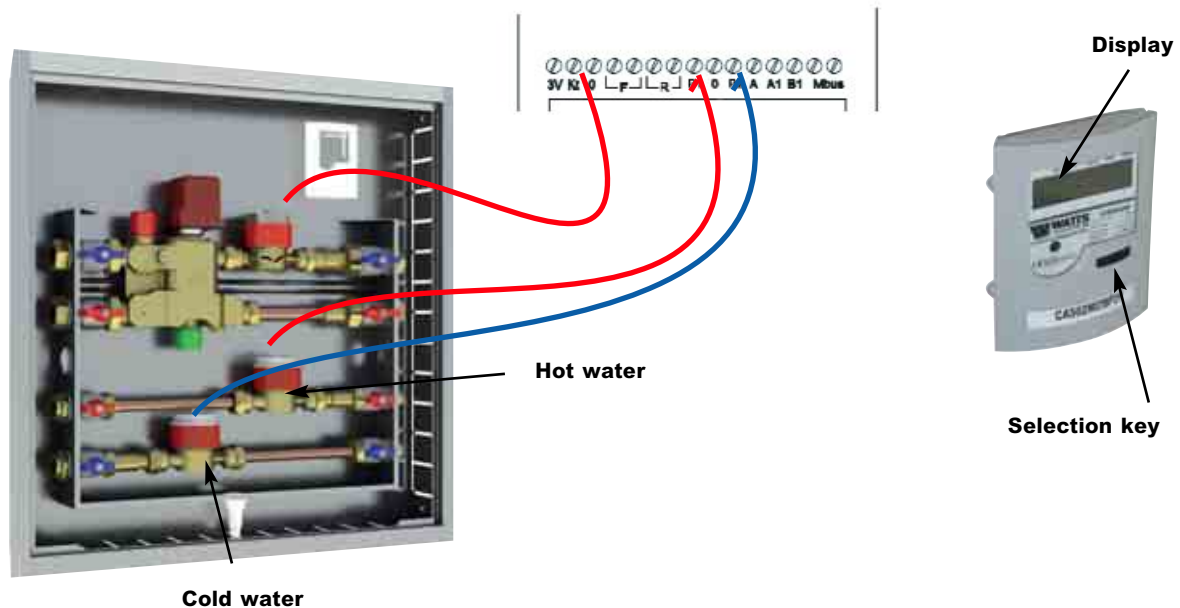
In the lower part of the unit there are two circuits designed for supplying hot and cold domestic hot water to be sent to the kitchens and sanitary appliances in the apartments.

Each of these circuits consists of a volumetric meter which counts effective consumption levels each time the water supply is opened. When required, the addition of an accessory component complete with water hammer arrestor on the two branches protects the systems from any surges in pressure caused by sudden stops or restrictions of the flow, thus avoiding annoying noise and vibrations in the piping.



Central data and energy consumption reading

The electronic panel Series CA502M **manufactured according to the Dir. MID 2004/22/CE** provided with the units is an instrument designed for measuring the thermal energy in all exchange systems, such as heating and air conditioning systems. It can also acquire other data via pulse inputs (version P) for billing hot and cold domestic water. The instrument is powered by batteries, and is electrically precabled directly in the factory in the case of the preassembled units. In the case of partial supply of individual basic components, final connections of the probes and single-jet turbine flow meters must be made by the installer.

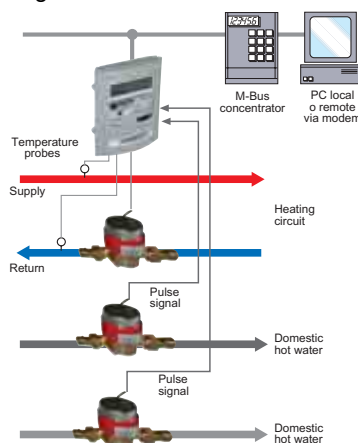


Example - electric wiring connections between the pulse water meters and the electronic panel type CA502.

By pressing on-board black button, the memorized operating parameters and consumption data can be viewed on the liquid crystal display. Standard position of the display shows the totalized thermal energy (MWh). The CA502 panels are designed for centralized reading of the consumption levels as they are provided with serial M-bus data outputs in accordance with EN1434-4. The reading is performed via data concentrators with display and remote connections via modem at local stations where an operator, via appropriate software, records the various consumption levels. On request, it is also available in the version with digital outputs (version R).

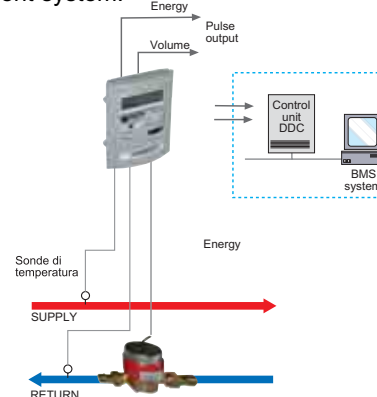
Type P

Provided with 2 pulse inputs for connection of another 2 external meters (e.g. domestic hot/cold water) for remote reading



Type R

Provided with 2 digital outputs for repetition of the thermal energy consumption and volume. The outputs can be used for data centralization in the case of connection to DDC control unit in a Building Management system.



Installation

Already in the architectural design stage it is necessary to specify/provide a service room for the installation of the **DOMOCOMPACT** temperature control/thermal energy meter units. This solution allows easier management (reading of consumption levels without disturbing the final user) as well as quick and easy maintenance by qualified personnel.

Systems where the **DOMOCOMPACT** units are to be used are generally built and finished within a medium-long time frame; therefore they must follow the various stages in construction of the building.

For this reason, the units are designed to allow engineering and completion of the primary main without having to necessarily mount the chosen **DOMOCOMPACT** model. In this way it is possible to avoid risk of damage at the worksite or damage of other kind to the **DOMOCOMPACT** product which will actually be positioned during the first test stage for each individual user.

As regards the initial assembly stage **Watts Industries** has available a frame complete with ball valve bodies for shut-off service on each section of the circuit (heating, domestic hot/cold water) and recommends adopting removable pipes for thorough flushing of the system type PIPE-DMS, such precaution is always advisable before placing the unit into service. In case of no-flushing of the pipe lines, it is recommended to install a Y type strainer before the **DOMOCOMPACT** modules.

Before the final start-up phase, proceed to manually close the ball shut-off valves for the single circuits, remove the flushing pipes (which can be reused by the installer or the system operator) and insert the meter. **DOMOCOMPACT** product. **Take care in this phase to observe direction of flow required by the flow volumetric meter.**

The unit can be left open, mounted on the frame if located in an inner courtyard or protected and sheltered place as provided by the customer.

The unit box is already provided with pre-cutted sides. For wall mounting, drill four holes the the unit box back plate corners and fix it by using fixing bolts.

The frame is also fitted with a water moisture collecting panel connected to the outside via a drain valve.

The mounting box is already equipped with the correct number of insulation ball valves, complete with adjustable unions.

During the first installation, it is mandatory to set the balancing device in order to obtain the designed unit performance. Operations are possible on all models by acting on the regulation valve knobs and reading flow data directly on the CA502 electronic panel. In stand-by conditions, not to affect the primary circuit it is recommended to generate the same pressure loss as the users' side by setting the by-pass valve knob.

Thanks to these assembly characteristics of the product, DOMOCOMPACT allows the system operator to carry out work while the system is operating in the event of any failure and also to remove the entire unit replacing it with another one of the same size.

It is advisable especially for medium-large sized systems to keep a "spare" temperature control/thermal energy meter unit so as to cater for emergencies while awaiting repairs by authorized personnel.

It is also recommended to perform the strainers cleaning every 6 months.

MODULE INSTALLATION AND ASSEMBLY PHASES



Installation box



Installation box with flushing pipes



Module sections installation



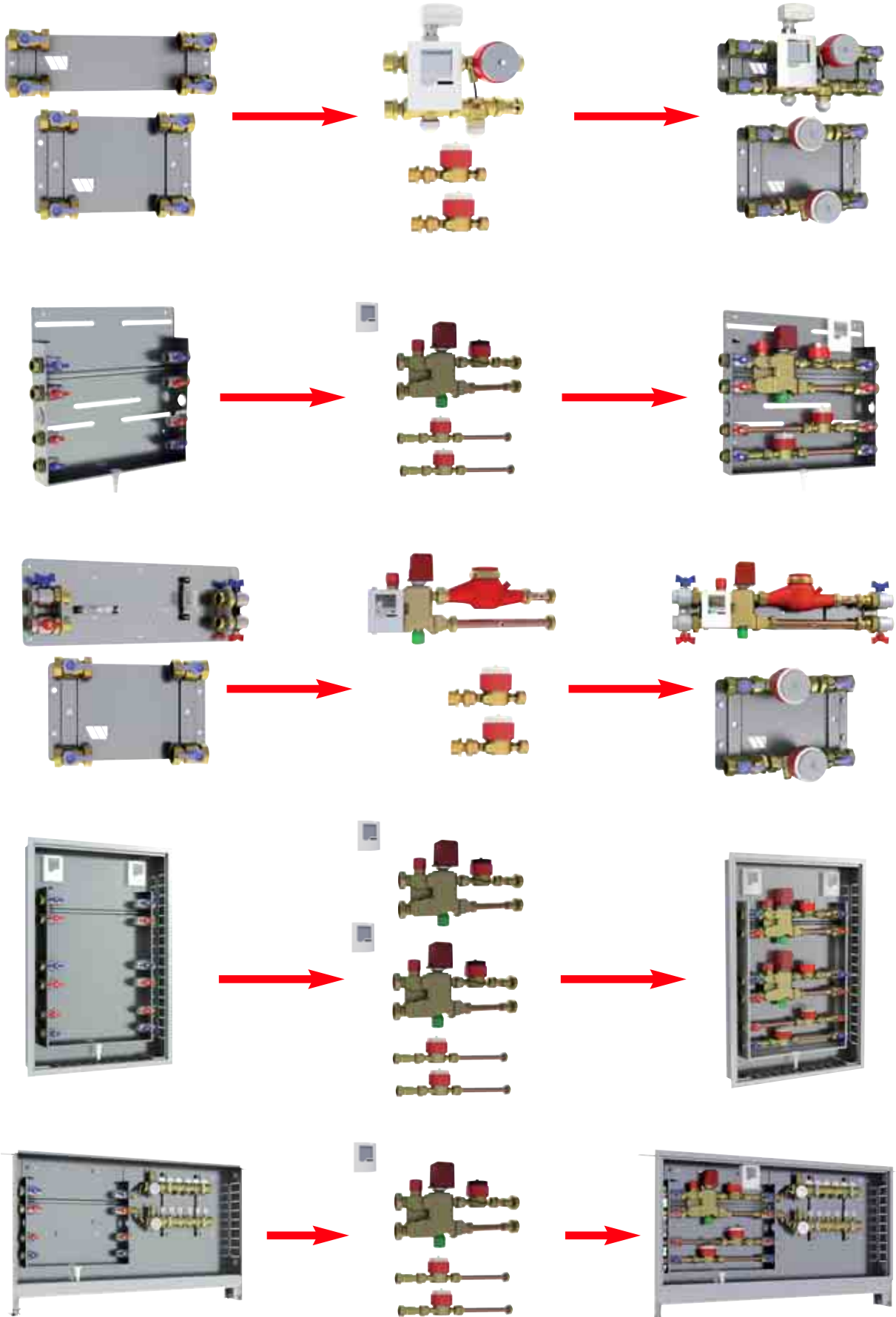
DOMOCOMPACT assembled

DOMOCOMPACT DIFFERENT CONFIGURATIONS

Frame

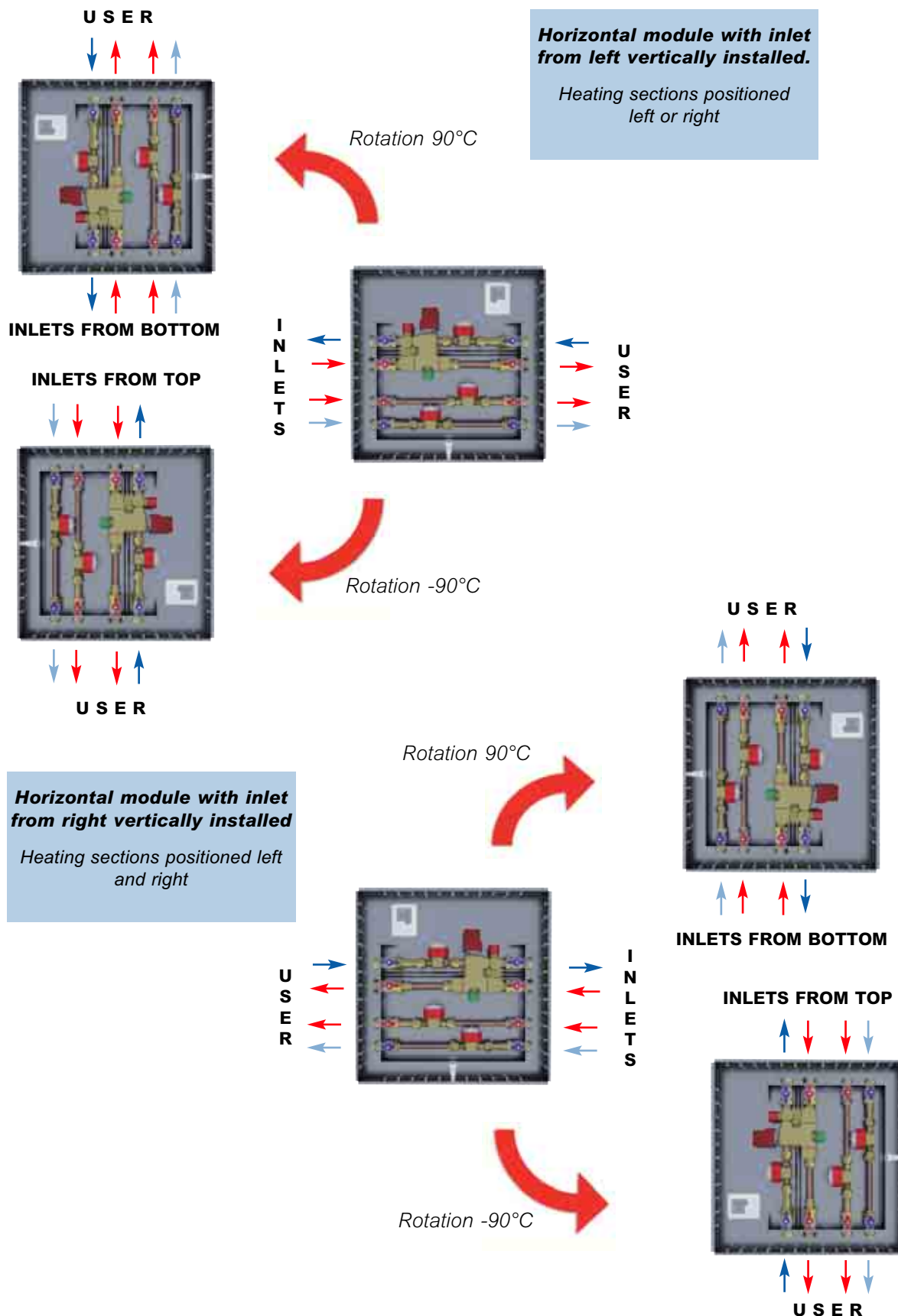
Kit

Complete



Versatility examples

Different Installations according to the primary fluid INLET and users fluid OUTLET.
The various options DO NOT require any special hydraulic adjustments or tools!





DOMOCOMPACT - MY HOME (open frame)

Pre-assembled regulation and energy metering module for apartments with low water flow (<800l/h) and DHW (DCW) metering.

Energy metering performed by using:

- Electronic panel type CA502M battery powered with 2 temperature sensors type Pt500.

- Water flow turbine single jet metering unit (Art. WMT)

- **Compliant to Dir. MID 2004/22/CE D. Lgs n°22 02/02/07.**

All meters are already equipped to work in network according to the M-Bus EN 1434 protocol.

Domestic HotWater (DHW) or Domestic Cold Water (DCW) flow metering (kvs =4.0) by using a Water flow turbine single jet unit (Art. WMT).

The module can be used for horizontal/vertical installations and it is equipped with insulation jacket on the heating/cooling section.

Part number	Description	Dn	Dn DCW	Power Sup.
DMSA115AH	Module complete with heating section	15 - 20	-	230 V.a.c
DMSA115AHC	Module complete with heating/cooling section	15 - 20	-	230 V.a.c
DMSA115BH	Module complete with heating section	15 - 20	-	24 V.a.c
DMSA115BHC	Module complete with heating/cooling section	15 - 20	-	24 V.a.c
DMSA215AH	Module complete with heating section + 1 sanitary section (heating or cooling)	15 - 20	20	230 V.a.c
DMSA215AHC	Module complete with heating/cooling section + 1 sanitary section (heating or cooling)	15 - 20	20	230 V.a.c
DMSA215BH	Modulo con sezione riscaldamento + 1 sanitary section (heating or cooling)	15 - 20	20	24 V.a.c
DMSA215BHC	Module complete with heating/cooling section + 1 sanitary section (heating or cooling)	15 - 20	20	24 V.a.c
DMSA315AH	Module complete with heating section + 2 sanitary sections (heating or cooling)	15 - 20	20	230 V.a.c
DMSA315AHC	Module complete with heating/cooling section + 2 sanitary sections (heating or cooling)	15 - 20	20	230 V.a.c
DMSA315BH	Module complete with heating section + 2 sanitary sections (heating or cooling)	15 - 20	20	24 V.a.c
DMSA315BHC	Module complete with heating/cooling section + 2 sanitary sections (heating or cooling)	15 - 20	20	24 V.a.c



DOMOCOMPACT - MY HOME (closed frame)

As MY HOME DMSA, but all elements are installed in a closed frame box equipped with looking device front door.

Part number	Description	Dn	Dn DCW	Power Sup.
DMSC115AH	Module complete with heating section	15 - 20	-	230 V.a.c
DMSC115AHC	Module complete with heating/cooling section	15 - 20	-	230 V.a.c
DMSC115BH	Module complete with heating section	15 - 20	-	24 V.a.c
DMSC115BHC	Module complete with heating/cooling section	15 - 20	-	24 V.a.c
DMSC215AH	Module complete with heating section + 1 sanitary section (heating or cooling)	15 - 20	20	230 V.a.c
DMSC215AHC	Module complete with heating/cooling section + 1 sanitary section (heating or cooling)	15 - 20	20	230 V.a.c
DMSC215BH	Module complete with heating section + 1 sanitary section (heating or cooling)	15 - 20	20	24 V.a.c
DMSC215BHC	Module complete with heating/cooling section + 1 sanitary section (heating or cooling)	15 - 20	20	24 V.a.c
DMSC315AH	Module complete with heating section + 2 sanitary sections (heating or cooling)	15 - 20	20	230 V.a.c
DMSC315AHC	Module complete with heating/cooling section + 2 sanitary sections (heating or cooling)	15 - 20	20	230 V.a.c
DMSC315BH	Module complete with heating section + 2 sanitary sections (heating or cooling)	15 - 20	20	24 V.a.c
DMSC315BHC	Module complete with heating/cooling section + 2 sanitary sections (heating or cooling)	15 - 20	20	24 V.a.c



DOMOCOMPACT - FAMILY (open frame)

Temperature control and thermal energy meter unit for a single user with billing of domestic hot and cold water consumption, preassembled in open frame with extremely compact dimensions (510 x 512 mm).

Through a simple operation, the unit can be adapted to receive the main inlets from the column mounted on any of the four sides. Observe the direction of flow requested by the volumetric flow meter.

The temperature control and setting functions are incorporated in a bronze multi-function valve consisting of:

- 3-way zone valve, complete with electrothermic actuator 24Vac or 230Vac (Art. ETE) coupled to the by-pass setting valve
- Removal filter protecting against impurities with steel mesh
- Setting and balancing device
- Provision for piezometric connections

Thermal energy metering function based on:

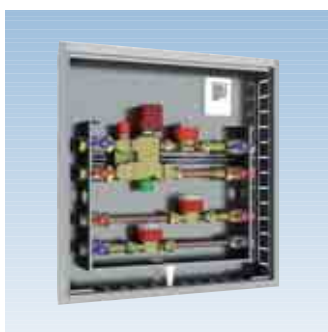
- Electronic panel CA502, battery-powered, with two temperature probes Pt 500
- single-jet turbine flow meter (Art. WMT)
- **Compliant to Dir. MID 2004/22/CE D. Lgs n°22 02/02/07.**

All meters are already equipped to work in network according to the M-Bus EN 1434 protocol.

Flow meter and protection function, hot or cold domestic water circuits (Kvs=4.0) performed by a single-jet turbine flow meter (Art. WMT) and built-in check valve. As option, domestic water sections can be supplied with a water hammer arrestor.

The unit features easy maintenance thanks to the presence of a ball shut-off valve (Art. 210) upstream and downstream of the individual circuit sections assembled with volumetric flow meters and special extendible fittings.

Part number	Description	Dn	Dn DCW	Power Sup.
DMSA125AH	Module complete with heating section	25	-	230 V.a.c
DMSA125AHC	Module complete with heating/cooling section	25	-	230 V.a.c
DMSA125BH	Module complete with heating section	25	-	24 V.a.c
DMSA125BHC	Module complete with heating/cooling section	25	-	24 V.a.c
DMSA225AH	Module complete with heating section + 1 sanitary section (heating or cooling)	25	20	230 V.a.c
DMSA225AHC	Module complete with heating/cooling section + 1 sanitary section (heating or cooling)	25	20	230 V.a.c
DMSA225BH	Module complete with heating section + 1 sanitary section (heating or cooling)	25	20	24 V.a.c
DMSA225BHC	Module complete with heating/cooling section + 1 sanitary section (heating or cooling)	25	20	24 V.a.c
DMSA325AH	Module complete with heating section + 2 sanitary sections (heating or cooling)	25	20	230 V.a.c
DMSA325AHC	Module complete with heating/cooling section + 2 sanitary sections (heating or cooling)	25	20	230 V.a.c
DMSA325BH	Module complete with heating section + 2 sanitary sections (heating or cooling)	25	20	24 V.a.c
DMSA325BHC	Module complete with heating/cooling section + 2 sanitary sections (heating or cooling)	25	20	24 V.a.c



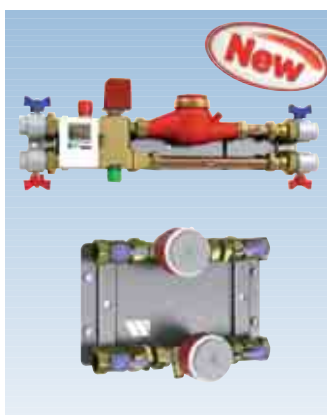
DOMOCOMPACT - FAMILY (closed frame)

Temperature control and thermal energy meter unit for a single user with billing of domestic water (hot and cold) consumption, premounted in closed frame (650 x 650mm), closed by a front door with locking device.

Same characteristics and functions as the unit in the DMSA Series.

The unit features easy maintenance thanks to the presence of a ball shut-off valve (Art. 210) upstream and downstream of the individual circuit sections assembled with volumetric flow meters and special extendible fittings.

Part number	Description	Dn	Dn DCW	Power Sup.
DMSC125AH	Module complete with heating section	25	-	230 V.a.c
DMSC125AHC	Module complete with heating/cooling section	25	-	230 V.a.c
DMSC125BH	Module complete with heating section	25	-	24 V.a.c
DMSC125BHC	Module complete with heating/cooling section	25	-	24 V.a.c
DMSC225AH	Module complete with heating section + 1 sanitary section (heating or cooling)	25	20	230 V.a.c
DMSC225AHC	Module complete with heating/cooling section + 1 sanitary section (heating or cooling)	25	20	230 V.a.c
DMSC225BH	Module complete with heating section + 1 sanitary section (heating or cooling)	25	20	24 V.a.c
DMSC225BHC	Module complete with heating/cooling section + 1 sanitary section (heating or cooling)	25	20	24 V.a.c
DMSC325AH	Module complete with heating section + 2 sanitary sections (heating or cooling)	25	20	230 V.a.c
DMSC325AHC	Module complete with heating/cooling section + 2 sanitary sections (heating or cooling)	25	20	230 V.a.c
DMSC325BH	Module complete with heating section + 2 sanitary sections (heating or cooling)	25	20	24 V.a.c
DMSC325BHC	Module complete with heating/cooling section + 2 sanitary sections (heating or cooling)	25	20	24 V.a.c



DOMOCOMPACT - SUITE (open frame)

Temperature control/thermal energy meter unit for user with high flow requirements (> 3000 l/h) and metering of domestic hot and cold water, preassembled on frame. For design requirements regarding hydraulic performance, the heating section is assembled with single in-line components (shut-off lockshield valve, zone valve, volumetric meter, filter, ball valve).

Thermal energy metering function based on:

- Electronic panel CA502M, battery-powered, with n°2 temperature probes Pt 500.
- single-jet turbine flow meter (Art. WMT).

- **Compliance with Dir. MID 2004/22/CE D. Lgs n°22 02/02/07.**

Meters are designed for centralized energy reading via M-Bus EN 1434, Flow metering function, hot or cold domestic water circuits (Kvs=4.0) performed by a single-jet turbine flow meter (Art. WMT).

The unit is designed for installation only in horizontal position (inlets from left side).

Part number	Description	Dn	Dn DCW	Power Sup.
DMSA132AH	Module complete with heating section	32	-	230 V.a.c
DMSA132AHC	Module complete with heating/cooling section	32	-	230 V.a.c
DMSA132BH	Module complete with heating section	32	-	24 V.a.c
DMSA132BHC	Module complete with heating/cooling section	32	-	24 V.a.c
DMSA232AH	Module complete with heating section + 1 sanitary section (heating or cooling)	32	20	230 V.a.c
DMSA232AHC	Module complete with heating/cooling section + 1 sanitary section (heating or cooling)	32	20	230 V.a.c
DMSA232BH	Module complete with heating section + 1 sanitary section (heating or cooling)	32	20	24 V.a.c
DMSA232BHC	Module complete with heating/cooling section + 1 sanitary section (heating or cooling)	32	20	24 V.a.c
DMSA332AH	Module complete with heating section + 2 sanitary sections (heating or cooling)	32	20	230 V.a.c
DMSA332AHC	Module complete with heating/cooling section + 2 sanitary sections (heating or cooling)	32	20	230 V.a.c
DMSA332BH	Module complete with heating section + 2 sanitary sections (heating or cooling)	32	20	24 V.a.c
DMSA332BHC	Module complete with heating/cooling section + 2 sanitary sections (heating or cooling)	32	20	24 V.a.c



DOMOCOMPACT - SUITE (closed frame)

Same as for the model SUITE-DMSA, but with all sections mounted in a closed frame.

Part number	Description	Dn Heat/Cool	Dn DCW	Power Sup.
DMSC132AH	Module complete with heating section	32	-	230 V.a.c
DMSC132AHC	Module complete with heating/cooling section	32	-	230 V.a.c
DMSC132BH	Module complete with heating section	32	-	24 V.a.c
DMSC132BHC	Module complete with heating/cooling section	32	-	24 V.a.c
DMSC232AH	Module complete with heating section + 1 sanitary section (heating or cooling)	32	20	230 V.a.c
DMSC232AHC	Module complete with heating/cooling section + 1 sanitary section (heating or cooling)	32	20	230 V.a.c
DMSC232BH	Module complete with heating section + 1 sanitary section (heating or cooling)	32	20	24 V.a.c
DMSC232BHC	Module complete with heating/cooling section + 1 sanitary section (heating or cooling)	32	20	24 V.a.c
DMSC332AH	Module complete with heating section + 2 sanitary sections (heating or cooling)	32	20	230 V.a.c
DMSC332AHC	Module complete with heating/cooling section + 2 sanitary sections (heating or cooling)	32	20	230 V.a.c
DMSC332BH	Module complete with heating section + 2 sanitary sections (heating or cooling)	32	20	24 V.a.c
DMSC332BHC	Module complete with heating/cooling section + 2 sanitary sections (heating or cooling)	32	20	24 V.a.c



DOMOCOMPACT - FOUR PIPES

Temperature control/thermal energy meter unit for single user, and metering of domestic hot and cold water, preassembled on frame closed by a front panel fitted with lock.

Two separate sections for regulation and measuring the energy consumption in summer (cooling) and winter (heating).

The unit is supplied with standard connections from the main from the LEFT or the RIGHT side. Be aware to properly connect with the correct water flow meter direction.

The unit features easy maintenance thanks to the presence of a ball shut-off valve (Art. 210) upstream and downstream of the individual circuit sections assembled with volumetric flow meters and special extendible fittings.

Part number	Description	Dn Heatl	Dn Cool	Power Sup.
DMS12020A	Module complete with heating/cooling section	20	20	230 V.a.c.
DMS12020B	Module complete with heating/cooling section	20	20	24 V.a.c.
DMS12025A	Module complete with heating/cooling section	20	25	230 V.a.c.
DMS12025B	Module complete with heating/cooling section	20	25	24 V.a.c.
DMS12525A	Module complete with heating/cooling section	25	25	230 V.a.c.
DMS12525B	Module complete with heating/cooling section	25	25	24 V.a.c.
DMS22020A	Module complete with heating/cooling section +1 sanitary section (heating or cooling)	20	20	230 V.a.c.
DMS22020B	Module complete with heating/cooling section +1 sanitary section (heating or cooling)	20	20	24 V.a.c.
DMS22025A	Module complete with heating/cooling section +1 sanitary section (heating or cooling)	20	25	230 V.a.c.
DMS22025B	Module complete with heating/cooling section +1 sanitary section (heating or cooling)	20	25	24 V.a.c.
DMS22525A	Module complete with heating/cooling section +1 sanitary section (heating or cooling)	25	25	230 V.a.c.
DMS22525B	Module complete with heating/cooling section +1 sanitary section (heating or cooling)	25	25	24 V.a.c.
DMS32020A	Module complete with heating/cooling section +2 sanitary sections (heating or cooling)	20	20	230 V.a.c.
DMS32020B	Module complete with heating/cooling section +2 sanitary sections (heating or cooling)	20	20	24 V.a.c.
DMS32025A	Module complete with heating/cooling section +2 sanitary sections (heating or cooling)	20	25	230 V.a.c.
DMS32025B	Module complete with heating/cooling section +2 sanitary sections (heating or cooling)	20	25	24 V.a.c.
DMS32525A	Module complete with heating/cooling section +2 sanitary sections (heating or cooling)	25	25	230 V.a.c.
DMS32525B	Module complete with heating/cooling section +2 sanitary sections (heating or cooling)	25	25	24 V.a.c.



DOMOCOMPACT - MANIFOLD

Temperature control/thermal energy meter unit for single user, and metering of domestic hot and cold water, preassembled on frame closed by a front panel fitted with locking device, complete with distribution manifolds groups (from 3 up to 12 outlets). The unit is supplied with standard connections from the main from the LEFT or the RIGHT side. Be aware to properly connect with the correct water flow meter direction. Fluid distribution to the user by:

- Pre-assembled supplying manifold group (series FLMR) already equipped with adjustable water flow meter. Outlet connections are all Eurocone type 3/4"M and main connections are 1"-1.1/4";
- Pre-assembled return manifold group (series 822MM) already equipped with adjustable water flow inserts. Outlet connections are all Eurocone type 3/4"M and main connections are 1"-1.1/4";
- Adjustable fixing brackets (series 840) with plastic spacers.
- Two immersion thermometers for the fluid temperature control.

The unit features easy maintenance thanks to the presence of a ball shut-off valve (Art. 210) upstream and downstream of the individual circuit sections assembled with volumetric flow meters and special extendible fittings.

Part number	Description	Inlet	DN Inlet	n.outlets	Power Sup.
DMS1S3AH	Module with heating section and manifold	sx	1"	3	230 V.a.c.
DMS1S3AHC	Module with heating/cooling section and manifold	sx	1"	3	230 V.a.c
DMS1S3BH	Module with heating section and manifold	sx	1"	3	24 V.a.c
DMS1S3BHC	Module with heating/cooling section and manifold	sx	1"	3	24 V.a.c
DMS1S5AH	Module with heating section and manifold	sx	1"	5	230 V.a.c.
DMS1S5AHC	Module with heating/cooling section and manifold	sx	1"	5	230 V.a.c
DMS1S5BH	Module with heating section and manifold	sx	1"	5	24 V.a.c
DMS1S5BHC	Module with heating/cooling section and manifold	sx	1"	5	24 V.a.c
DMS1S6AH	Module with heating section and manifold	sx	1.1/4"	6	230 V.a.c.
DMS1S6AHC	Module with heating/cooling section and manifold	sx	1.1/4"	6	230 V.a.c
DMS1S6BH	Module with heating section and manifold	sx	1.1/4"	6	24 V.a.c
DMS1S6BHC	Module with heating/cooling section and manifold	sx	1.1/4"	6	24 V.a.c
DMS1S8AH	Module with heating section and manifold	sx	1.1/4"	8	230 V.a.c.
DMS1S8AHC	Module with heating/cooling section and manifold	sx	1.1/4"	8	230 V.a.c
DMS1S8BH	Module with heating section and manifold	sx	1.1/4"	8	24 V.a.c
DMS1S8BHC	Module with heating/cooling section and manifold	sx	1.1/4"	8	24 V.a.c
DMS1S10AH	Module with heating section and manifold	sx	1.1/4"	10	230 V.a.c.
DMS1S10AHC	Module with heating/cooling section and manifold	sx	1.1/4"	10	230 V.a.c
DMS1S10BH	Module with heating section and manifold	sx	1.1/4"	10	24 V.a.c
DMS1S10BHC	Module with heating/cooling section and manifold	sx	1.1/4"	10	24 V.a.c
DMS1S12AH	Module with heating section and manifold	sx	1.1/4"	12	230 V.a.c.
DMS1S12AHC	Module with heating/cooling section and manifold	sx	1.1/4"	12	230 V.a.c
DMS1S12BH	Module with heating section and manifold	sx	1.1/4"	12	24 V.a.c
DMS1S12BHC	Module with heating/cooling section and manifold	sx	1.1/4"	12	24 V.a.c
DMS1D3AH	Module with heating section and manifold	dx	1"	3	230 V.a.c.
DMS1D3AHC	Module with heating/cooling section and manifold	dx	1"	3	230 V.a.c
DMS1D3BH	Module with heating section and manifold	dx	1"	3	24 V.a.c
DMS1D3BHC	Module with heating/cooling section and manifold	dx	1"	3	24 V.a.c
DMS1D5AH	Module with heating section and manifold	dx	1"	5	230 V.a.c.
DMS1D5AHC	Module with heating/cooling section and manifold	dx	1"	5	230 V.a.c
DMS1D5BH	Module with heating section and manifold	dx	1"	5	24 V.a.c
DMS1D5BHC	Module with heating/cooling section and manifold	dx	1"	5	24 V.a.c
DMS1D6AH	Module with heating section and manifold	dx	1.1/4"	6	230 V.a.c.
DMS1D6AHC	Module with heating/cooling section and manifold	dx	1.1/4"	6	230 V.a.c
DMS1D6BH	Module with heating section and manifold	dx	1.1/4"	6	24 V.a.c
DMS1D6BHC	Module with heating/cooling section and manifold	dx	1.1/4"	6	24 V.a.c
DMS1D8AH	Module with heating section and manifold	dx	1.1/4"	8	230 V.a.c.
DMS1D8AHC	Module with heating/cooling section and manifold	dx	1.1/4"	8	230 V.a.c
DMS1D8BH	Module with heating section and manifold	dx	1.1/4"	8	24 V.a.c
DMS1D8BHC	Module with heating/cooling section and manifold	dx	1.1/4"	8	24 V.a.c
DMS1D10AH	Module with heating section and manifold	dx	1.1/4"	10	230 V.a.c.
DMS1D10AHC	Module with heating/cooling section and manifold	dx	1.1/4"	10	230 V.a.c
DMS1D10BH	Module with heating section and manifold	dx	1.1/4"	10	24 V.a.c
DMS1D10BHC	Module with heating/cooling section and manifold	dx	1.1/4"	10	24 V.a.c
DMS1D12AH	Module with heating section and manifold	dx	1.1/4"	12	230 V.a.c.
DMS1D12AHC	Module with heating/cooling section and manifold	dx	1.1/4"	12	230 V.a.c
DMS1D12BH	Module with heating section and manifold	dx	1.1/4"	12	24 V.a.c
DMS1D12BHC	Module with heating/cooling section and manifold	dx	1.1/4"	12	24 V.a.c

DOMOCOMPACT - MANIFOLD

Heating Energy regulation and control module with heating section, 1 sanitary section (heating or cooling), inlet from left and manifold group 3 up to 12 outlets.

Part number	Description	Inlet	DN Inlet	n.outlets	Power Sup.
DMS2S3AH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	sx	1"	3	230 V.a.c.
DMS2S3AHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	sx	1"	3	230 V.a.c
DMS2S3BH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	sx	1"	3	24 V.a.c
DMS2S3BHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	sx	1"	3	24 V.a.c
DMS2S5AH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	sx	1"	5	230 V.a.c.
DMS2S5AHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	sx	1"	5	230 V.a.c
DMS2S5BH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	sx	1"	5	24 V.a.c
DMS2S5BHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	sx	1"	5	24 V.a.c
DMS2S6AH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	6	230 V.a.c.
DMS2S6AHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	6	230 V.a.c
DMS2S6BH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	6	24 V.a.c
DMS2S6BHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	6	24 V.a.c
DMS2S8AH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	8	230 V.a.c.
DMS2S8AHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	8	230 V.a.c
DMS2S8BH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	8	24 V.a.c
DMS2S8BHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	8	24 V.a.c
DMS2S10AH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	10	230 V.a.c.
DMS2S10AHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	10	230 V.a.c
DMS2S10BH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	10	24 V.a.c
DMS2S10BHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	10	24 V.a.c
DMS2S12AH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	12	230 V.a.c.
DMS2S12AHC	Module with heating/cooling section, 1 sanitary section (caldo o freddo) e gruppo collettori	sx	1.1/4"	12	230 V.a.c
DMS2S12BH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	12	24 V.a.c
DMS2S12BHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	sx	1.1/4"	12	24 V.a.c

DOMOCOMPACT - MANIFOLD

Heating Energy regulation and control module with heating section, 1 sanitary section (heating or cooling), inlet from left and manifold group 3 up to 12 outlets.

Part number	Description	Inlet	DN Inlet	n.outlets	Power Sup.
DMS2DS3AH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	dx	1"	3	230 V.a.c.
DMS2D3AHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	dx	1"	3	230 V.a.c
DMS2D3BH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	dx	1"	3	24 V.a.c
DMS2D3BHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	dx	1"	3	24 V.a.c
DMS2D5AH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	dx	1"	5	230 V.a.c.
DMS2D5AHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	dx	1"	5	230 V.a.c
DMS2D5BH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	dx	1"	5	24 V.a.c
DMS2D5BHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	dx	1"	5	24 V.a.c
DMS2D6AH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	6	230 V.a.c.
DMS2D6AHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	6	230 V.a.c
DMS2D6BH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	6	24 V.a.c
DMS2D6BHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	6	24 V.a.c
DMS2D8AH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	8	230 V.a.c.
DMS2D8AHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	8	230 V.a.c
DMS2D8BH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	8	24 V.a.c
DMS2D8BHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	8	24 V.a.c
DMS2D10AH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	10	230 V.a.c.
DMS2D10AHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	10	230 V.a.c
DMS2D10BH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	10	24 V.a.c
DMS2D10BHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	10	24 V.a.c
DMS2D12AH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	12	230 V.a.c.
DMS2D12AHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	12	230 V.a.c
DMS2D12BH	Module with heating section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	12	24 V.a.c
DMS2D12BHC	Module with heating/cooling section, 1 sanitary section (heating or cooling) and manifold	dx	1.1/4"	12	24 V.a.c

DOMOCOMPACT - MANIFOLD

Heating Energy regulation and control module with heating section, 1 sanitary section (heating or cooling), inlet from left and manifold group 3 up to 12 outlets.

Part number	Description	Inlet	DN Inlet	n.outlets	Power Sup.
DMS3S3AH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	sx	1"	3	230 V.a.c.
DMS3S3AHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	sx	1"	3	230 V.a.c.
DMS3S3BH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	sx	1"	3	24 V.a.c.
DMS3S3BHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	sx	1"	3	24 V.a.c.
DMS3S5AH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	sx	1"	5	230 V.a.c.
DMS3S5AHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	sx	1"	5	230 V.a.c.
DMS3S5BH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	sx	1"	5	24 V.a.c.
DMS3S5BHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	sx	1"	5	24 V.a.c.
DMS3S6AH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	6	230 V.a.c.
DMS3S6AHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	6	230 V.a.c.
DMS3S6BH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	6	24 V.a.c.
DMS3S6BHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	6	24 V.a.c.
DMS3S8AH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	8	230 V.a.c.
DMS3S8AHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	8	230 V.a.c.
DMS3S8BH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	8	24 V.a.c.
DMS3S8BHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	8	24 V.a.c.
DMS3S10AH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	10	230 V.a.c.
DMS3S10AHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	10	230 V.a.c.
DMS3S10BH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	10	24 V.a.c.
DMS3S10BHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	10	24 V.a.c.
DMS3S12AH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	12	230 V.a.c.
DMS3S12AHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	12	230 V.a.c.
DMS3S12BH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	12	24 V.a.c.
DMS3S12BHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	sx	1.1/4"	12	24 V.a.c.

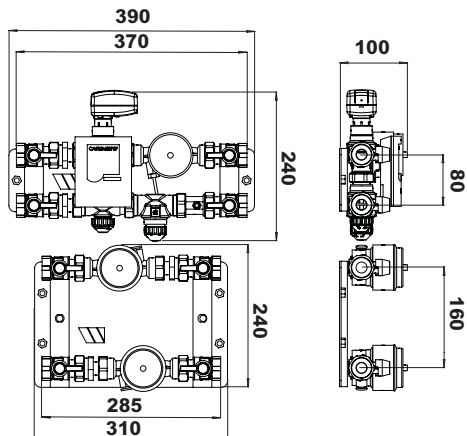
DOMOCOMPACT - MANIFOLD

Heating Energy regulation and control module with heating section, 1 sanitary section (heating or cooling), inlet from left and manifold group 3 up to 12 outlets.

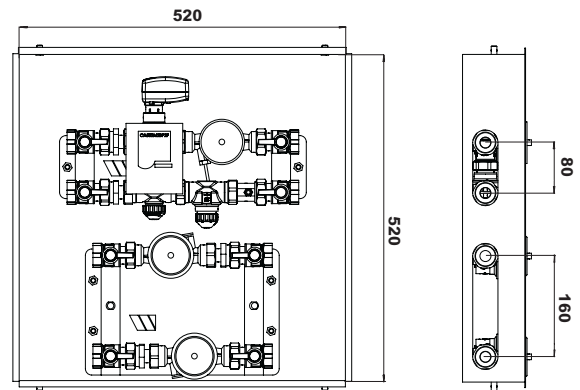
Part number	Description	Inlet	DN Inlet	n.outlets	Power Sup.
DMS3D3AH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	dx	1"	3	230 V.a.c.
DMS3D3AHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	dx	1"	3	230 V.a.c
DMS3D3BH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	dx	1"	3	24 V.a.c
DMS3D3BHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	dx	1"	3	24 V.a.c
DMS3D5AH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	dx	1"	5	230 V.a.c.
DMS3D5AHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	dx	1"	5	230 V.a.c
DMS3D5BH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	dx	1"	5	24 V.a.c
DMS3D5BHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	dx	1"	5	24 V.a.c
DMS3D6AH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	6	230 V.a.c.
DMS3D6AHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	6	230 V.a.c
DMS3D6BH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	6	24 V.a.c
DMS3D6BHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	6	24 V.a.c
DMS3D8AH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	8	230 V.a.c.
DMS3D8AHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	8	230 V.a.c
DMS3D8BH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	8	24 V.a.c
DMS3D8BHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	8	24 V.a.c
DMS3D10AH	Module with heating section, 2 sanitary sections (caldo o freddo) e gruppo collettori	dx	1.1/4"	10	230 V.a.c.
DMS3D10AHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	10	230 V.a.c
DMS3D10BH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	10	24 V.a.c
DMS3D10BHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	10	24 V.a.c
DMS3D12AH	Module with heating section, 2 sanitary sections (heating or cooling) and manifoldi	dx	1.1/4"	12	230 V.a.c.
DMS3D12AHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	12	230 V.a.c
DMS3D12BH	Module with heating section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	12	24 V.a.c
DMS3D12BHC	Module with heating/cooling section, 2 sanitary sections (heating or cooling) and manifold	dx	1.1/4"	12	24 V.a.c

Overwall dimensions (mm)

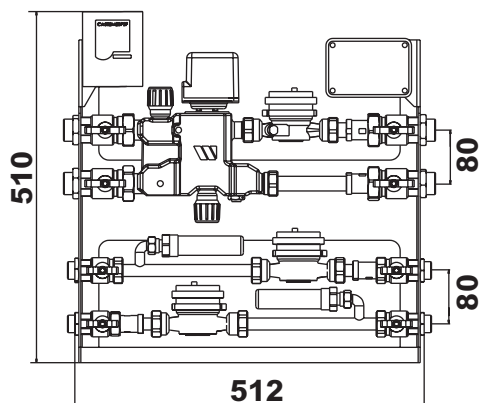
**DOMOCOMPACT MY HOME
(open frame)**



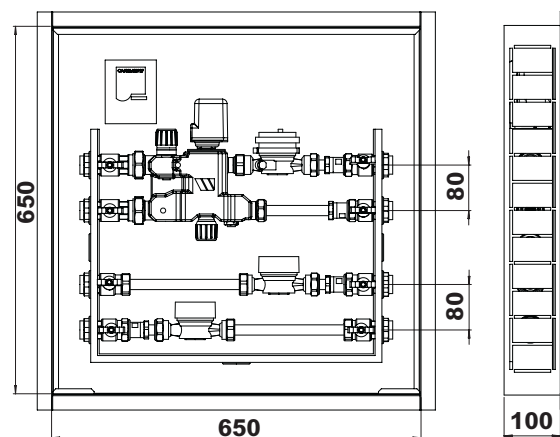
**DOMOCOMPACT MY HOME
(closed frame)**

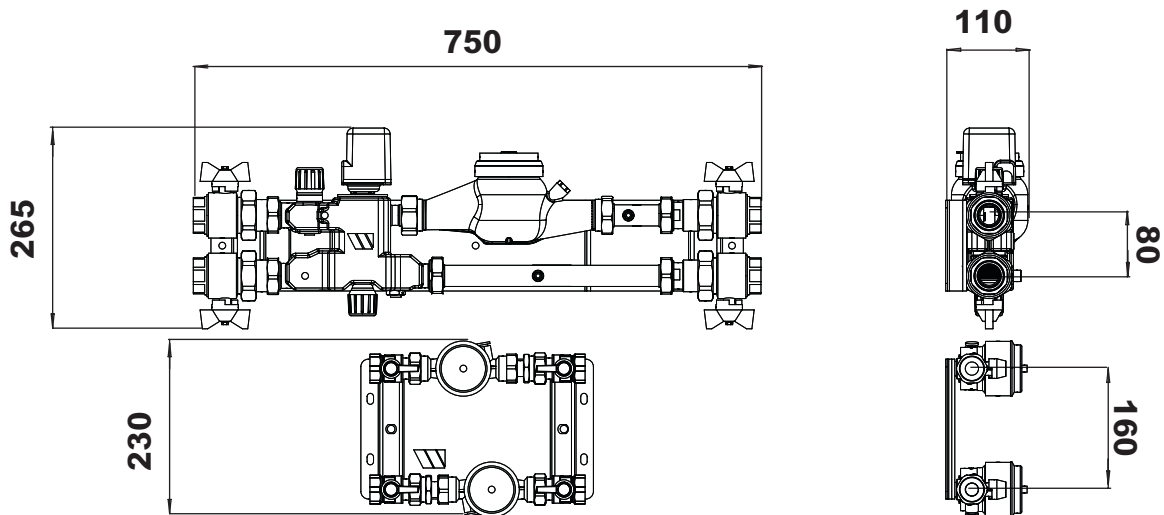
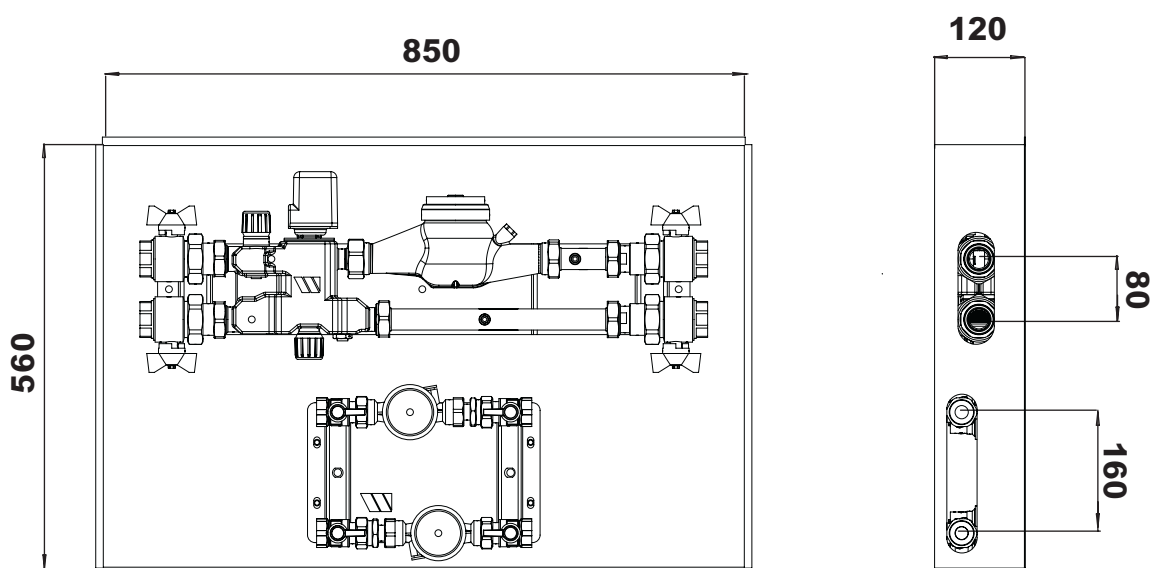


**DOMOCOMPACT FAMILY
(open frame)**

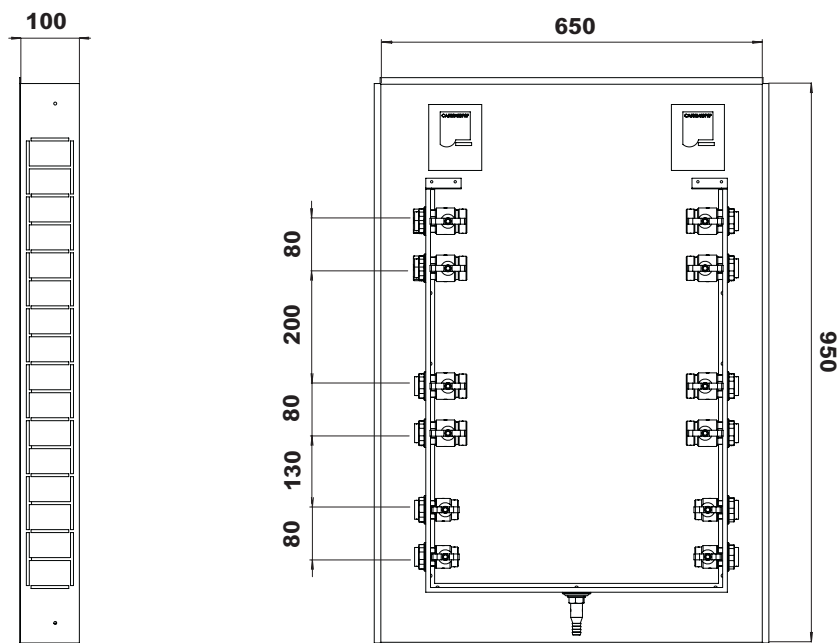


**DOMOCOMPACT FAMILY
(closed frame)**

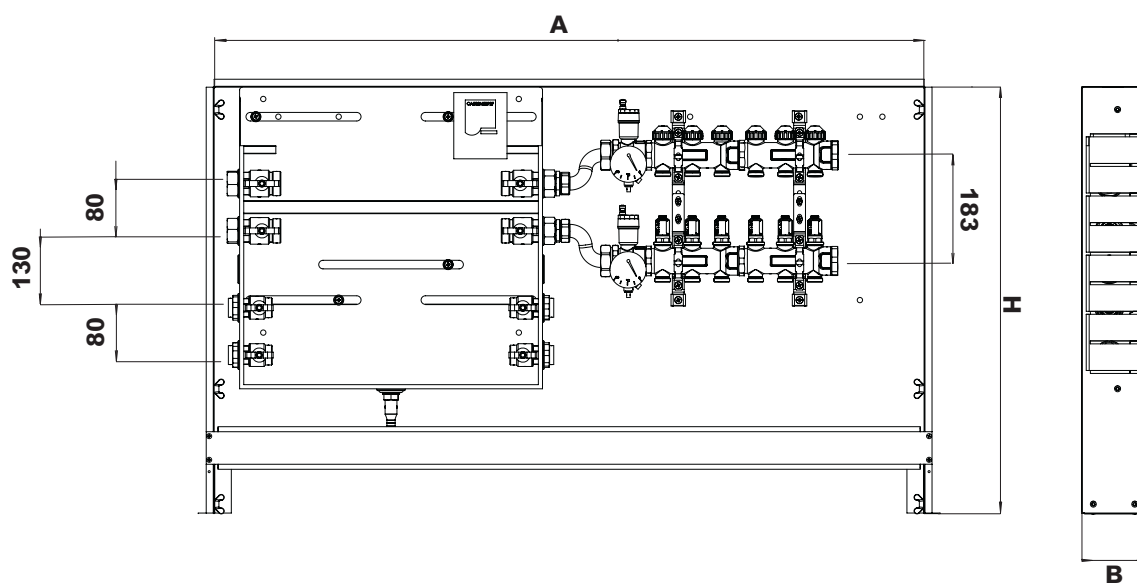


DOMOCOMPACT SUITE (open frame)**DOMOCOMPACT SUITE (closed frame)**

DMSA-FOUR PIPES

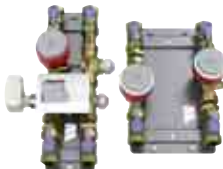
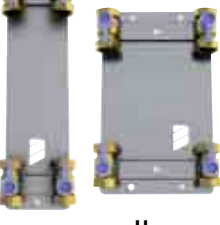





DMSC-MANIFOLD



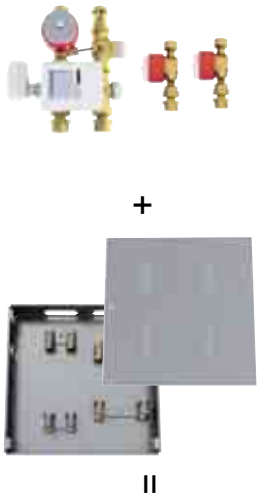
N.outlets	A (mm)	B (mm)	H (mm)
da 3 a 5	1000	110-140	720-810
da 5 a 8	1200	110-140	720-810
da 10 a 12	1400	110-140	720-810

DOMOCOMPACT MY HOME - SELECTION TABLE

OPEN FRAME													
COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION 1° STEP		FEATURES						OPTIONS ON DEMAND				
<div></div> <div>DOMOCOMPACT My home Open frame</div>	<div> =</div> <div></div> <div>FRAME</div> <div>KIT</div>		DN HEATING SECTION	HEATING SECTION	HEATING/COOLING SECTION	ONE SANITARY SECTION METERING	TWO SANITARY SECTIONS METERING	POWER SUPPLY 24V	POWER SUPPLY 230V	<div></div> <div>Flushing pipes</div>	<div></div> <div>DHW mixing kit</div>		
			DMSA115AH	= DIMA-DMSA115 + FRK-DMS115AH	15/20	✓						✓	
			DMSA115AHC	= DIMA-DMSA115 + FRK-DMS115AHC	15/20		✓					✓	
			DMSA115BH	= DIMA-DMSA115 + FRK-DMS115BH	15/20	✓				✓			
			DMSA115BHC	= DIMA-DMSA115 + FRK-DMS115BHC	15/20		✓			✓			
			DMSA215AH	= DIMA-DMSA215 + FRK-DMS215AH	15/20	✓		✓				✓	
			DMSA215AHC	= DIMA-DMSA215 + FRK-DMS215AHC	15/20		✓	✓			✓		
			DMSA215BH	= DIMA-DMSA215 + FRK-DMS215BH	15/20	✓		✓		✓			
			DMSA215BHC	= DIMA-DMSA215 + FRK-DMS215BHC	15/20		✓	✓		✓			
			DMSA315AH	= DIMA-DMSA315 + FRK-DMS315AH	15/20	✓			✓			✓	MIX-DMS
			DMSA315AHC	= DIMA-DMSA315 + FRK-DMS315AHC	15/20		✓		✓		✓		MIX-DMS
			DMSA315BH	= DIMA-DMSA315 + FRK-DMS315BH	15/20	✓			✓	✓			MIX-DMS
DMSA315BHC	= DIMA-DMSA315 + FRK-DMS315BHC	15/20		✓		✓	✓	✓		MIX-DMS			

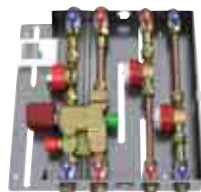

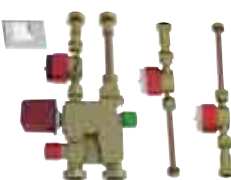



OPEN FRAME

DOMOCOMPACT MY HOME - SELECTION TABLE

CLOSED FRAME												
COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION 1° STEP		FEATURES						OPTIONS ON DEMAND			
			DN HEATING SECTION	HEATING SECTION	HEATING/COOLING SECTION	ONE SANITARY SECTION METERING	TWO SANITARY SECTIONS METERING	POWER SUPPLY 24V	POWER SUPPLY 230V	Flushing pipes	DHW mixing kit	
DOMOCOMPACT My home Closed frame												
DMSC115AH	=	DIMA-DMS115 + FRK-DMS115AH	15/20	✓					✓			
DMSC115AHC	=	DIMA-DMS115 + FRK-DMS115AHC	15/20		✓				✓	PIPE-DMS254 (2 tubi DN 15)		
DMSC115BH	=	DIMA-DMS115 + FRK-DMS115BH	15/20	✓				✓				
DMSC115BHC	=	DIMA-DMS115 + FRK-DMS115BHC	15/20		✓			✓				
DMSC215AH	=	DIMA-DMS215 + FRK-DMS215AH	15/20	✓		✓			✓	PIPE-DMS254 (2 tubi DN 15)		
DMSC215AHC	=	DIMA-DMS215 + FRK-DMS215AHC	15/20		✓	✓			✓	PIPE-DMS255 (1 tubo DN 15)		
DMSC215BH	=	DIMA-DMS215 + FRK-DMS215BH	15/20	✓		✓		✓				
DMSC215BHC	=	DIMA-DMS215 + FRK-DMS215BHC	15/20		✓	✓		✓				
DMSC315AH	=	DIMA-DMS315 + FRK-DMS315AH	15/20	✓					✓	PIPE-DMS254 (2 tubi DN 15)	MIX-DMS	
DMSC315AHC	=	DIMA-DMS315 + FRK-DMS315AHC	15/20		✓				✓	PIPE-DMS256 (2 tubi DN 15)	MIX-DMS	
DMSC315BH	=	DIMA-DMS315 + FRK-DMS315AH	15/20	✓				✓			MIX-DMS	
DMSC315BHC	=	DIMA-DMS315 + FRK-DMS315BHC	15/20		✓			✓			MIX-DMS	






CLOSED FRAME

DOMOCOMPACT FAMILY - SELECTION TABLE

OPEN FRAME															
COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION 1° STEP		2° STEP		FEATURES						OPTIONS ON DEMAND				
 DOMOCOMPACT Family Open frame		=		+		KIT	DN HEATING SECTION	HEATING SECTION	HEATING/COOLING SECTION	ONE SANITARY SECTION METERING	TWO SANITARY SECTIONS METERING	POWER SUPPLY 24V	POWER SUPPLY 230V	 Flushing pipes	 Water hammer arrestor kit
DMSA125AH	= DIMA-DMSA125 + FRK-DMS125AH						25	✓					✓	PIPE-DMS251 (2 tubi DN 25)	
DMSA125AHC	= DIMA-DMSA125 + FRK-DMS125AHC						25		✓				✓		
DMSA125BH	= DIMA-DMSA125 + FRK-DMS125BH						25	✓				✓			
DMSA125BHC	= DIMA-DMSA125 + FRK-DMS125BHC						25		✓			✓			
DMSA225AH	= DIMA-DMSA225 + FRK-DMS225AH						25	✓		✓			✓		N°1 APW-DMS15
DMSA225AHC	= DIMA-DMSA225 + FRK-DMS225AHC						25		✓	✓			✓	PIPE-DMS252 (3 tubi DN 25)	N°1 APW-DMS15
DMSA225BH	= DIMA-DMSA225 + FRK-DMS225BH						25	✓		✓			✓		N°1 APW-DMS15
DMSA225BHC	= DIMA-DMSA225 + FRK-DMS225BHC						25		✓	✓			✓		N°1 APW-DMS15
DMSA325AH	= DIMA-DMSA325 + FRK-DMS325AH						25	✓			✓		✓		N°2 APW-DMS15
DMSA325AHC	= DIMA-DMSA325 + FRK-DMS325AHC						25		✓			✓	✓	PIPE-DMS253 (4 tubi DN 25)	N°2 APW-DMS15
DMSA325BH	= DIMA-DMSA325 + FRK-DMS325BH						25	✓				✓			N°2 APW-DMS15
DMSA325BHC	= DIMA-DMSA325 + FRK-DMS325BHC						25		✓			✓	✓		N°2 APW-DMS15

OPEN FRAME

DOMOCOMPACT FAMILY - SELECTION TABLE






CLOSED FRAME												
COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION 1° STEP		FEATURES						OPTIONS ON DEMAND			
	 + 		DN HEATING SECTION	HEATING SECTION	HEATING/COOLING SECTION	ONE SANITARY SECTION METERING	TWO SANITARY SECTIONS METERING	POWER SUPPLY 24V	POWER SUPPLY 230V			
 DOMOCOMPACT Family Closed frame	DMSC125AH	= DIMA-DMS125 + FRK-DMS125AH	25	✓					✓	PIPE-DMS251 (2 tubi DN 25)	Flushing pipes	
	DMSC125AHC	= DIMA-DMS125 + FRK-DMS125AHC	25		✓				✓			
	DMSC125BH	= DIMA-DMS125 + FRK-DMS125BH	25	✓				✓				
	DMSC125BHC	= DIMA-DMS125 + FRK-DMS125BHC	25		✓			✓				
	DMSC225AH	= DIMA-DMS225 + FRK-DMS225AH	25	✓		✓			✓	PIPE-DMS252 (3 tubi DN 25)	N°1 APW-DMS15	
	DMSC225AHC	= DIMA-DMS225 + FRK-DMS225AHC	25		✓				✓		N°1 APW-DMS15	
	DMSC225BH	= DIMA-DMS225 + FRK-DMS225BH	25	✓		✓		✓			N°1 APW-DMS15	
	DMSC225BHC	= DIMA-DMS225 + FRK-DMS225BHC	25		✓			✓			N°1 APW-DMS15	
	DMSC325AH	= DIMA-DMS325 + FRK-DMS325AH	25	✓			✓			✓	PIPE-DMS253 (4 tubi DN 25)	N°2 APW-DMS15
	DMSC325AHC	= DIMA-DMS325 + FRK-DMS325AHC	25		✓					✓		N°2 APW-DMS15
DMSC325BH	= DIMA-DMS325 + FRK-DMS325BH	25	✓					✓		N°2 APW-DMS15		
DMSC325BHC	= DIMA-DMS325 + FRK-DMS325BHC	25		✓				✓		N°2 APW-DMS15		

DOMOCOMPACT SUITE - SELECTION TABLE

OPEN FRAME												
COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION 1° STEP		FEATURES						OPTIONS ON DEMAND			
	2° STEP											


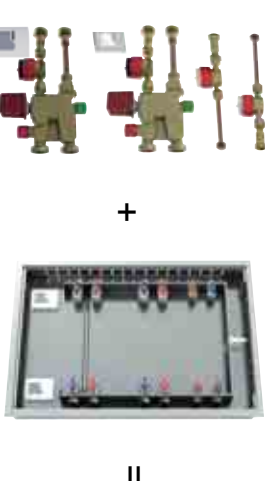
OPEN FRAME

DOMOCOMPACT SUITE - SELECTION TABLE






CLOSED FRAME																		
COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION 1° STEP		UNIT KIT FOR TWO STEPS INSTALLATION 2° STEP						FEATURES			OPTIONS ON DEMAND						
 DOMOCOMPACT Suite Closed frame	 =		 + KIT						DN HEATING SECTION	HEATING SECTION	HEATING/COOLING SECTION	ONE SANITARY SECTION METERING	TWO SANITARY SECTIONS METERING	POWER SUPPLY 24V	POWER SUPPLY 230V	 Flushing pipes	 DHW mixing kit	
DMSC132AH	=	DIMA-DMS132	+	FRK-DMS132AH	32	✓									✓		PIPE-DMS257 (2 tubi DN 32)	
DMSC132AHC	=	DIMA-DMS132	+	FRK-DMS132AHC	32		✓								✓			
DMSC132BH	=	DIMA-DMS132	+	FRK-DMS132BH	32	✓										✓		
DMSC132BHC	=	DIMA-DMS132	+	FRK-DMS132BHC	32			✓								✓		
DMSC232AH	=	DIMA-DMS232	+	FRK-DMS232AH	32	✓					✓					✓	PIPE-DMS257 (2 tubi DN 32)	
DMSC232AHC	=	DIMA-DMS232	+	FRK-DMS232AHC	32			✓			✓					✓	PIPE-DMS255 (1 tubo DN 15)	
DMSC232BH	=	DIMA-DMS232	+	FRK-DMS232BH	32	✓						✓						
DMSC232BHC	=	DIMA-DMS232	+	FRK-DMS232BHC	32						✓	✓				✓		
DMSC332AH	=	DIMA-DMS332	+	FRK-DMS332AH	32	✓								✓		✓	PIPE-DMS257 (2 tubi DN 32)	MIX-DMS
DMSC332AHC	=	DIMA-DMS332	+	FRK-DMS332AHC	32			✓						✓			PIPE-DMS256 (2 tubi DN 15)	MIX-DMS
DMSC332BH	=	DIMA-DMS332	+	FRK-DMS332BH	32	✓												MIX-DMS
DMSC332BHC	=	DIMA-DMS332	+	FRK-DMS332BHC	32						✓			✓		✓		MIX-DMS

CLOSED FRAME




DOMOCOMPACT FOUR PIPE - SELECTION TABLE

COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION		FEATURES						OPTIONS ON DEMAND	
	1° STEP	2° STEP	DN HEATING SECTION	HEATING SECTION	ONE SANITARY SECTION METERING	TWO SANITARY SECTIONS METERING	POWER SUPPLY 24V	POWER SUPPLY 230V	Flushing pipes	Water hammer arrestor kit
 DOMO COMPACT Fourpipes	 =									




DOMOCOMPACT MANIFOLD - SELECTION TABLE

COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION 1° STEP		FEATURES									OPTIONS ON DEMAND	
		 + 	DN HEATING SECTION	HEATING SECTION	HEATING/COOLING SECTION	N. MANIFOLD OUTLETS	DIRECTION INLETS	ONE SANITARY SECTION METERING	TWO SANITARY SECTIONS METERING	POWER SUPPLY 24V	POWER SUPPLY 230V		
DOMOCOMPACT Manifold													
DMS1S3AH	=	DIMA-DMS1S3 + FRK-DMS120AH	20	✓		3	SX				✓	PIPE-DMS201	
DMS1S3AHC	=	DIMA-DMS1S3 + FRK-DMS120AHC	20		✓	3	SX				✓	PIPE-DMS201	
DMS1S3BH	=	DIMA-DMS1S3 + FRK-DMS120BH	20	✓		3	SX			✓		PIPE-DMS201	
DMS1S3BHC	=	DIMA-DMS1S3 + FRK-DMS120BHC	20		✓	3	SX			✓		PIPE-DMS201	
DMS1S5AH	=	DIMA-DMS1S5 + FRK-DMS120AH	20	✓		5	SX				✓	PIPE-DMS201	
DMS1S5AHC	=	DIMA-DMS1S5 + FRK-DMS120AHC	20		✓	5	SX				✓	PIPE-DMS201	
DMS1S5BH	=	DIMA-DMS1S5 + FRK-DMS120BH	20	✓		5	SX			✓		PIPE-DMS201	
DMS1S5BHC	=	DIMA-DMS1S5 + FRK-DMS120BHC	20		✓	5	SX			✓		PIPE-DMS201	
DMS1S6AH	=	DIMA-DMS1S6 + FRK-DMS125AH	25	✓		6	SX				✓	PIPE-DMS251	
DMS1S6AHC	=	DIMA-DMS1S6 + FRK-DMS125AHC	25		✓	6	SX				✓	PIPE-DMS251	
DMS1S6BH	=	DIMA-DMS1S6 + FRK-DMS125BH	25	✓		6	SX			✓		PIPE-DMS251	
DMS1S6BHC	=	DIMA-DMS1S6 + FRK-DMS125BHC	25		✓	6	SX			✓		PIPE-DMS251	
DMS1S8AH	=	DIMA-DMS1S8 + FRK-DMS125AH	25	✓		8	SX				✓	PIPE-DMS251	
DMS1S8AHC	=	DIMA-DMS1S8 + FRK-DMS125AHC	25		✓	8	SX			✓		PIPE-DMS251	
DMS1S8BH	=	DIMA-DMS1S8 + FRK-DMS125BH	25	✓		8	SX			✓		PIPE-DMS251	
DMS1S8BHC	=	DIMA-DMS1S8 + FRK-DMS125BHC	25		✓	8	SX			✓		PIPE-DMS251	
DMS1S10AH	=	DIMA-DMS1S10 + FRK-DMS125AH	25	✓		10	SX				✓	PIPE-DMS251	
DMS1S10AHC	=	DIMA-DMS1S10 + FRK-DMS125AHC	25		✓	10	SX			✓		PIPE-DMS251	
DMS1S10BH	=	DIMA-DMS1S10 + FRK-DMS125BH	25	✓		10	SX			✓		PIPE-DMS251	
DMS1S10BHC	=	DIMA-DMS1S10 + FRK-DMS125BHC	25		✓	10	SX			✓		PIPE-DMS251	
DMS1S12AH	=	DIMA-DMS1S12 + FRK-DMS125AH	25	✓		12	SX				✓	PIPE-DMS251	
DMS1S12AHC	=	DIMA-DMS1S12 + FRK-DMS125AHC	25		✓	12	SX			✓		PIPE-DMS251	
DMS1S12BH	=	DIMA-DMS1S12 + FRK-DMS125BH	25	✓		12	SX			✓		PIPE-DMS251	
DMS1S12BHC	=	DIMA-DMS1S12 + FRK-DMS125BHC	25		✓	12	SX			✓		PIPE-DMS251	




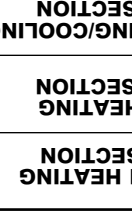
DOMOCOMPACT MANIFOLD - SELECTION TABLE

COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION		FEATURES								OPTIONS ON DEMAND										
	1° STEP	2° STEP	DN HEATING SECTION	HEATING SECTION	HEATING/COOLING SECTION	N. MANIFOLD OUTLETS	DIRECTION INLETS	ONE SANITARY SECTION METERING	TWO SANITARY SECTIONS METERING	POWER SUPPLY 24V	POWER SUPPLY 230V	Flushing pipes	Water hammer arrestor kit								
 DOMOCOMPACT Manifold	 FRAME	 KIT	=	DIMA-DMS1D3	+	FRK-DMS120AH	20	✓				3	DX			PIPE-DMS201					
			=	DIMA-DMS1D3	+	FRK-DMS120AHC	20		✓				✓	3	DX			PIPE-DMS201			
			=	DIMA-DMS1D3	+	FRK-DMS120BH	20	✓				✓		3	DX			PIPE-DMS201			
			=	DIMA-DMS1D3	+	FRK-DMS120BHC	20		✓			✓		3	DX			PIPE-DMS201			
			=	DIMA-DMS1D5	+	FRK-DMS120AH	20	✓					✓		5	DX			PIPE-DMS201		
			=	DIMA-DMS1D5	+	FRK-DMS120AHC	20		✓				✓		5	DX			PIPE-DMS201		
			=	DIMA-DMS1D5	+	FRK-DMS120BH	20	✓				✓			5	DX			PIPE-DMS201		
			=	DIMA-DMS1D5	+	FRK-DMS120BHC	20		✓				✓		5	DX			PIPE-DMS201		
			=	DIMA-DMS1D6	+	FRK-DMS125AH	25	✓						✓		6	DX			PIPE-DMS251	
			=	DIMA-DMS1D6	+	FRK-DMS125AHC	25		✓					✓		6	DX			PIPE-DMS251	
			=	DIMA-DMS1D6	+	FRK-DMS125BH	25	✓					✓			6	DX			PIPE-DMS251	
			=	DIMA-DMS1D6	+	FRK-DMS125BHC	25		✓					✓		6	DX			PIPE-DMS251	
			=	DIMA-DMS1D8	+	FRK-DMS125AH	25	✓						✓		8	DX			PIPE-DMS251	
			=	DIMA-DMS1D8	+	FRK-DMS125AHC	25		✓					✓		8	DX			PIPE-DMS251	
			=	DIMA-DMS1D8	+	FRK-DMS125BH	25	✓					✓			8	DX			PIPE-DMS251	
			=	DIMA-DMS1D8	+	FRK-DMS125BHC	25		✓					✓		8	DX			PIPE-DMS251	
			DMS1D10AH	=	DIMA-DMS1D10	+	FRK-DMS125AH	25	✓						✓		10	DX			PIPE-DMS251
DMS1D10AHC	=	DIMA-DMS1D10	+	FRK-DMS125AHC	25					✓		✓		10	DX			PIPE-DMS251			
DMS1D10BH	=	DIMA-DMS1D10	+	FRK-DMS125BH	25	✓						✓		10	DX			PIPE-DMS251			
DMS1D10BHC	=	DIMA-DMS1D10	+	FRK-DMS125BHC	25		✓						✓		10	DX			PIPE-DMS251		
DMS1D12AH	=	DIMA-DMS1D12	+	FRK-DMS125AH	25	✓							✓		12	DX			PIPE-DMS251		
DMS1D12AHC	=	DIMA-DMS1D12	+	FRK-DMS125AHC	25		✓							✓		12	DX			PIPE-DMS251	
DMS1D12BH	=	DIMA-DMS1D12	+	FRK-DMS125BH	25	✓							✓		12	DX			PIPE-DMS251		
DMS1D12BHC	=	DIMA-DMS1D12	+	FRK-DMS125BHC	25		✓							✓		12	DX			PIPE-DMS251	




DOMOCOMPACT MANIFOLD - SELECTION TABLE

COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION		FEATURES								OPTIONS ON DEMAND						
	1° STEP	2° STEP	DN HEATING SECTION	HEATING SECTION	HEATING/COOLING SECTION	N. MANIFOLD OUTLETS	DIRECTION INLETS	ONE SANITARY SECTION METERING	TWO SANITARY SECTIONS METERING	POWER SUPPLY 24V	POWER SUPPLY 230V	Flushing pipes	Water hammer arrestor kit				
 DOMOCOMPACT Manifold	 FRAME	 KIT	=	DIMA-DMS2S3	+	FRK-DMS220AH	20	✓				SX	✓	PIPE-DMS202	N° 1 APW-DMS15		
			=	DIMA-DMS2S3	+	FRK-DMS220AHC	20		✓					SX	✓	PIPE-DMS202	N° 1 APW-DMS15
			=	DIMA-DMS2S3	+	FRK-DMS220BH	20	✓				✓		SX		PIPE-DMS202	N° 1 APW-DMS15
			=	DIMA-DMS2S3	+	FRK-DMS220BHC	20		✓			✓		SX		PIPE-DMS202	N° 1 APW-DMS15
			=	DIMA-DMS2S5	+	FRK-DMS220AH	20	✓						SX	✓	PIPE-DMS202	N° 1 APW-DMS15
			=	DIMA-DMS2S5	+	FRK-DMS220AHC	20		✓					SX	✓	PIPE-DMS202	N° 1 APW-DMS15
			=	DIMA-DMS2S5	+	FRK-DMS220BH	20	✓				✓		SX		PIPE-DMS202	N° 1 APW-DMS15
			=	DIMA-DMS2S5	+	FRK-DMS220BHC	20		✓			✓		SX		PIPE-DMS202	N° 1 APW-DMS15
			=	DIMA-DMS2S6	+	FRK-DMS225AH	25	✓						SX		PIPE-DMS252	N° 1 APW-DMS15
			=	DIMA-DMS2S6	+	FRK-DMS225AHC	25		✓					SX		PIPE-DMS252	N° 1 APW-DMS15
			=	DIMA-DMS2S6	+	FRK-DMS225BH	25	✓				✓		SX		PIPE-DMS252	N° 1 APW-DMS15
			=	DIMA-DMS2S6	+	FRK-DMS225BHC	25		✓			✓		SX		PIPE-DMS252	N° 1 APW-DMS15
			=	DIMA-DMS2S8	+	FRK-DMS225AH	25	✓						SX		PIPE-DMS252	N° 1 APW-DMS15
			=	DIMA-DMS2S8	+	FRK-DMS225AHC	25		✓					SX		PIPE-DMS252	N° 1 APW-DMS15
			=	DIMA-DMS2S8	+	FRK-DMS225BH	25	✓				✓		SX		PIPE-DMS252	N° 1 APW-DMS15
			=	DIMA-DMS2S8	+	FRK-DMS225BHC	25		✓			✓		SX		PIPE-DMS252	N° 1 APW-DMS15
			DMS2S10AH	=	DIMA-DMS2S10	+	FRK-DMS225AH	25	✓						SX	✓	PIPE-DMS252
DMS2S10AHC	=	DIMA-DMS2S10	+	FRK-DMS225AHC	25		✓				✓	SX		PIPE-DMS252	N° 1 APW-DMS15		
DMS2S10BH	=	DIMA-DMS2S10	+	FRK-DMS225BH	25	✓						SX		PIPE-DMS252	N° 1 APW-DMS15		
DMS2S10BHC	=	DIMA-DMS2S10	+	FRK-DMS225BHC	25		✓			✓		SX		PIPE-DMS252	N° 1 APW-DMS15		
DMS2S12AH	=	DIMA-DMS2S12	+	FRK-DMS225AH	25	✓					✓	SX		PIPE-DMS252	N° 1 APW-DMS15		
DMS2S12AHC	=	DIMA-DMS2S12	+	FRK-DMS225AHC	25		✓					SX	✓	PIPE-DMS252	N° 1 APW-DMS15		
DMS2S12BH	=	DIMA-DMS2S12	+	FRK-DMS225BH	25	✓					✓	SX		PIPE-DMS252	N° 1 APW-DMS15		
DMS2S12BHC	=	DIMA-DMS2S12	+	FRK-DMS225BHC	25		✓			✓		SX		PIPE-DMS252	N° 1 APW-DMS15		



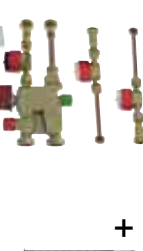

DOMOCOMPACT MANIFOLD - SELECTION TABLE

COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION		FEATURES								OPTIONS ON DEMAND			
	1° STEP	2° STEP	DN HEATING SECTION	HEATING SECTION	HEATING/COOLING SECTION	N. MANIFOLD OUTLETS	DIRECTION INLETS	ONE SANITARY SECTION METERING	TWO SANITARY SECTIONS METERING	POWER SUPPLY 24V	POWER SUPPLY 230V	Flushing pipes	Water hammer arrestor kit	
 DOMO COMPACT Manifold	 FRAME	 KIT												
	= DIMA-DMS2D3	+ FRK-DMS220AH	20	✓		3	DX	✓			✓	PIPE-DMS201	N° 1 APW-DMS15	
	= DIMA-DMS2D3	+ FRK-DMS220AHC	20		✓	3	DX	✓			✓	PIPE-DMS201	N° 1 APW-DMS15	
	= DIMA-DMS2D3	+ FRK-DMS220BH	20	✓		3	DX	✓		✓		PIPE-DMS201	N° 1 APW-DMS15	
	= DIMA-DMS2D3	+ FRK-DMS220BHC	20		✓	3	DX	✓		✓		PIPE-DMS201	N° 1 APW-DMS15	
	= DIMA-DMS2D5	+ FRK-DMS220AH	20	✓		5	DX	✓			✓	PIPE-DMS201	N° 1 APW-DMS15	
	= DIMA-DMS2D5	+ FRK-DMS220AHC	20		✓	5	DX	✓			✓	PIPE-DMS201	N° 1 APW-DMS15	
	= DIMA-DMS2D5	+ FRK-DMS220BH	20	✓		5	DX	✓		✓		PIPE-DMS201	N° 1 APW-DMS15	
	= DIMA-DMS2D5	+ FRK-DMS220BHC	20		✓	5	DX	✓		✓		PIPE-DMS201	N° 1 APW-DMS15	
	= DIMA-DMS2D6	+ FRK-DMS225AH	25	✓		6	DX	✓			✓	PIPE-DMS252	N° 1 APW-DMS15	
	= DIMA-DMS2D6	+ FRK-DMS225AHC	25		✓	6	DX	✓			✓	PIPE-DMS252	N° 1 APW-DMS15	
	= DIMA-DMS2D6	+ FRK-DMS225BH	25	✓		6	DX	✓		✓		PIPE-DMS252	N° 1 APW-DMS15	
	= DIMA-DMS2D6	+ FRK-DMS225BHC	25		✓	6	DX	✓		✓		PIPE-DMS252	N° 1 APW-DMS15	
	= DIMA-DMS2D8	+ FRK-DMS225AH	25	✓		8	DX	✓			✓	PIPE-DMS252	N° 1 APW-DMS15	
	= DIMA-DMS2D8	+ FRK-DMS225AHC	25		✓	8	DX	✓			✓	PIPE-DMS252	N° 1 APW-DMS15	
	= DIMA-DMS2D8	+ FRK-DMS225BH	25	✓		8	DX	✓		✓		PIPE-DMS252	N° 1 APW-DMS15	
= DIMA-DMS2D8	+ FRK-DMS225BHC	25		✓	8	DX	✓		✓		PIPE-DMS252	N° 1 APW-DMS15		
= DIMA-DMS2D10	+ FRK-DMS225AH	25	✓		10	DX	✓			✓	PIPE-DMS252	N° 1 APW-DMS15		
= DIMA-DMS2D10	+ FRK-DMS225AHC	25		✓	10	DX	✓			✓	PIPE-DMS252	N° 1 APW-DMS15		
= DIMA-DMS2D10	+ FRK-DMS225BH	25	✓		10	DX	✓		✓		PIPE-DMS252	N° 1 APW-DMS15		
= DIMA-DMS2D10	+ FRK-DMS225BHC	25		✓	10	DX	✓		✓		PIPE-DMS252	N° 1 APW-DMS15		
= DIMA-DMS2D12	+ FRK-DMS225AH	25	✓		12	DX	✓			✓	PIPE-DMS252	N° 1 APW-DMS15		
= DIMA-DMS2D12	+ FRK-DMS225AHC	25		✓	12	DX	✓			✓	PIPE-DMS252	N° 1 APW-DMS15		
= DIMA-DMS2D12	+ FRK-DMS225BH	25	✓		12	DX	✓		✓		PIPE-DMS252	N° 1 APW-DMS15		
= DIMA-DMS2D12	+ FRK-DMS225BHC	25		✓	12	DX	✓		✓		PIPE-DMS252	N° 1 APW-DMS15		

DOMOCOMPACT MANIFOLD - SELECTION TABLE

COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION		FEATURES									OPTIONS ON DEMAND	
	1° STEP	2° STEP	DN HEATING SECTION	HEATING SECTION	HEATING/COOLING SECTION	N. MANIFOLD OUTLETS	DIRECTION INLETS	ONE SANITARY SECTION METERING	TWO SANITARY SECTION METERING	POWER SUPPLY 24V	POWER SUPPLY 230V	Flushing pipes	Water hammer arrestor kit
 DOMOCOMPACT Manifold	 +  =												
	DMS3S3AH	= DIMA-DMS3S3 + FRK-DMS320AH	20	✓		3	SX		✓		✓	PIPE-DMS201	N° 2 APW-DMS15
	DMS3S3AHC	= DIMA-DMS3S3 + FRK-DMS320AHC	20		✓	3	SX		✓		✓	PIPE-DMS201	N° 2 APW-DMS15
	DMS3S3BH	= DIMA-DMS3S3 + FRK-DMS320BH	20	✓		3	SX		✓	✓		PIPE-DMS201	N° 2 APW-DMS15
	DMS3S3BHC	= DIMA-DMS3S3 + FRK-DMS320BHC	20		✓	3	SX		✓	✓		PIPE-DMS201	N° 2 APW-DMS15
	DMS3S5AH	= DIMA-DMS3S5 + FRK-DMS320AH	20	✓		5	SX		✓		✓	PIPE-DMS201	N° 2 APW-DMS15
	DMS3S5AHC	= DIMA-DMS3S5 + FRK-DMS320AHC	20		✓	5	SX		✓		✓	PIPE-DMS201	N° 2 APW-DMS15
	DMS3S5BH	= DIMA-DMS3S5 + FRK-DMS320BH	20	✓		5	SX		✓	✓		PIPE-DMS201	N° 2 APW-DMS15
	DMS3S5BHC	= DIMA-DMS3S5 + FRK-DMS320BHC	20		✓	5	SX		✓	✓		PIPE-DMS201	N° 2 APW-DMS15
	DMS3S6AH	= DIMA-DMS3S6 + FRK-DMS325AH	25	✓		6	SX		✓		✓	PIPE-DMS253	N° 2 APW-DMS15
	DMS3S6AHC	= DIMA-DMS3S6 + FRK-DMS325AHC	25		✓	6	SX		✓		✓	PIPE-DMS253	N° 2 APW-DMS15
	DMS3S6BH	= DIMA-DMS3S6 + FRK-DMS325BH	25	✓		6	SX		✓	✓		PIPE-DMS253	N° 2 APW-DMS15
	DMS3S6BHC	= DIMA-DMS3S6 + FRK-DMS325BHC	25		✓	6	SX		✓	✓		PIPE-DMS253	N° 2 APW-DMS15
	DMS3S8AH	= DIMA-DMS3S8 + FRK-DMS325AH	25	✓		8	SX		✓		✓	PIPE-DMS253	N° 2 APW-DMS15
	DMS3S8AHC	= DIMA-DMS3S8 + FRK-DMS325AHC	25		✓	8	SX		✓		✓	PIPE-DMS253	N° 2 APW-DMS15
	DMS3S8BH	= DIMA-DMS3S8 + FRK-DMS325BH	25	✓		8	SX		✓	✓		PIPE-DMS253	N° 2 APW-DMS15
	DMS3S8BHC	= DIMA-DMS3S8 + FRK-DMS325BHC	25		✓	8	SX		✓	✓		PIPE-DMS253	N° 2 APW-DMS15
	DMS3S10AH	= DIMA-DMS3S10 + FRK-DMS325AH	25	✓		10	SX		✓		✓	PIPE-DMS253	N° 2 APW-DMS15
	DMS3S10AHC	= DIMA-DMS3S10 + FRK-DMS325AHC	25		✓	10	SX		✓	✓		PIPE-DMS253	N° 2 APW-DMS15
	DMS3S10BH	= DIMA-DMS3S10 + FRK-DMS325BH	25	✓		10	SX		✓		✓	PIPE-DMS253	N° 2 APW-DMS15
	DMS3S10BHC	= DIMA-DMS3S10 + FRK-DMS325BHC	25		✓	10	SX		✓	✓		PIPE-DMS253	N° 2 APW-DMS15
	DMS3S12AH	= DIMA-DMS3S12 + FRK-DMS325AH	25	✓		12	SX		✓		✓	PIPE-DMS253	N° 2 APW-DMS15
	DMS3S12AHC	= DIMA-DMS3S12 + FRK-DMS325AHC	25		✓	12	SX		✓		✓	PIPE-DMS253	N° 2 APW-DMS15
	DMS3S12BH	= DIMA-DMS3S12 + FRK-DMS325BH	25	✓		12	SX		✓	✓		PIPE-DMS253	N° 2 APW-DMS15
	DMS3S12BHC	= DIMA-DMS3S12 + FRK-DMS325BHC	25		✓	12	SX		✓	✓		PIPE-DMS253	N° 2 APW-DMS15

DOMOCOMPACT MANIFOLD - SELECTION TABLE

COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION		FEATURES								OPTIONS ON DEMAND							
	1° STEP	2° STEP	DN HEATING SECTION	HEATING SECTION	HEATING/COOLING SECTION	N. MANIFOLD OUTLETS	DIRECTION INLETS	ONE SANITARY SECTION METERING	TWO SANITARY SECTIONS METERING	POWER SUPPLY 24V	POWER SUPPLY 230V	Flushing pipes	Water hammer arrestor kit					
 DOMOCOMPACT Manifold	 FRAME	 KIT	=	DIMA-DMS3D3	+	FRK-DMS320AH	20	✓				DX	✓	PIPE-DMS201	N° 2 APW-DMS15			
			=	DIMA-DMS3D3	+	FRK-DMS320AHC	20			✓				DX	✓	PIPE-DMS201	N° 2 APW-DMS15	
			=	DIMA-DMS3D3	+	FRK-DMS320BH	20	✓				✓		DX	✓	PIPE-DMS201	N° 2 APW-DMS15	
			=	DIMA-DMS3D3	+	FRK-DMS320BHC	20			✓			✓	DX	✓	PIPE-DMS201	N° 2 APW-DMS15	
			=	DIMA-DMS3D5	+	FRK-DMS320AH	20	✓						DX	✓	PIPE-DMS201	N° 2 APW-DMS15	
			=	DIMA-DMS3D5	+	FRK-DMS320AHC	20			✓				DX	✓	PIPE-DMS201	N° 2 APW-DMS15	
			=	DIMA-DMS3D5	+	FRK-DMS320BH	20	✓				✓		DX	✓	PIPE-DMS201	N° 2 APW-DMS15	
			=	DIMA-DMS3D5	+	FRK-DMS320BHC	20			✓			✓	DX	✓	PIPE-DMS201	N° 2 APW-DMS15	
			=	DIMA-DMS3D6	+	FRK-DMS325AH	25	✓							DX	✓	PIPE-DMS253	N° 2 APW-DMS15
			=	DIMA-DMS3D6	+	FRK-DMS325AHC	25			✓				✓	DX	✓	PIPE-DMS253	N° 2 APW-DMS15
			=	DIMA-DMS3D6	+	FRK-DMS325BH	25	✓					✓		DX	✓	PIPE-DMS253	N° 2 APW-DMS15
			=	DIMA-DMS3D6	+	FRK-DMS325BHC	25			✓			✓		DX	✓	PIPE-DMS253	N° 2 APW-DMS15
			=	DIMA-DMS3D8	+	FRK-DMS325AH	25	✓					✓		DX	✓	PIPE-DMS253	N° 2 APW-DMS15
			=	DIMA-DMS3D8	+	FRK-DMS325AHC	25			✓				✓	DX	✓	PIPE-DMS253	N° 2 APW-DMS15
			=	DIMA-DMS3D8	+	FRK-DMS325BH	25						✓		DX	✓	PIPE-DMS253	N° 2 APW-DMS15
			=	DIMA-DMS3D8	+	FRK-DMS325BHC	25	✓					✓		DX	✓	PIPE-DMS253	N° 2 APW-DMS15
 DOMOCOMPACT Manifold	=	DIMA-DMS3D10	+	FRK-DMS325AH	25							DX	✓	PIPE-DMS253	N° 2 APW-DMS15			
	=	DIMA-DMS3D10	+	FRK-DMS325AHC	25	✓						DX	✓	PIPE-DMS253	N° 2 APW-DMS15			
	=	DIMA-DMS3D10	+	FRK-DMS325BH	25						✓		DX	✓	PIPE-DMS253	N° 2 APW-DMS15		
	=	DIMA-DMS3D10	+	FRK-DMS325BHC	25			✓			✓		DX	✓	PIPE-DMS253	N° 2 APW-DMS15		
	=	DIMA-DMS3D12	+	FRK-DMS325AH	25	✓							DX	✓	PIPE-DMS253	N° 2 APW-DMS15		
	=	DIMA-DMS3D12	+	FRK-DMS325AHC	25			✓				✓	DX	✓	PIPE-DMS253	N° 2 APW-DMS15		
	=	DIMA-DMS3D12	+	FRK-DMS325BH	25	✓						✓	DX	✓	PIPE-DMS253	N° 2 APW-DMS15		
	=	DIMA-DMS3D12	+	FRK-DMS325BHC	25			✓			✓		DX	✓	PIPE-DMS253	N° 2 APW-DMS15		

DOMOCAL

Instant hot water production with energy metering satellite units



Main features

- Independent temperature and system activation time control; local production of DHW.
- Different models according to the type of installation (wall-mounted, flush-mounted), combination with condensing boilers, district heating (direct, indirect), distribution (heating/air conditioning).
- Control and metering of thermal energy in conformance with Directive MID 2004/22/EC; cost allocation based on actual heating and/or air-conditioning consumption and use of domestic water with EN 1434 compliant M-BUS data transmission
- Three-way valve with actuator (Web system), multi-function valve with built-in setting and hydraulic equalization devices.

WATTS
INDUSTRIES

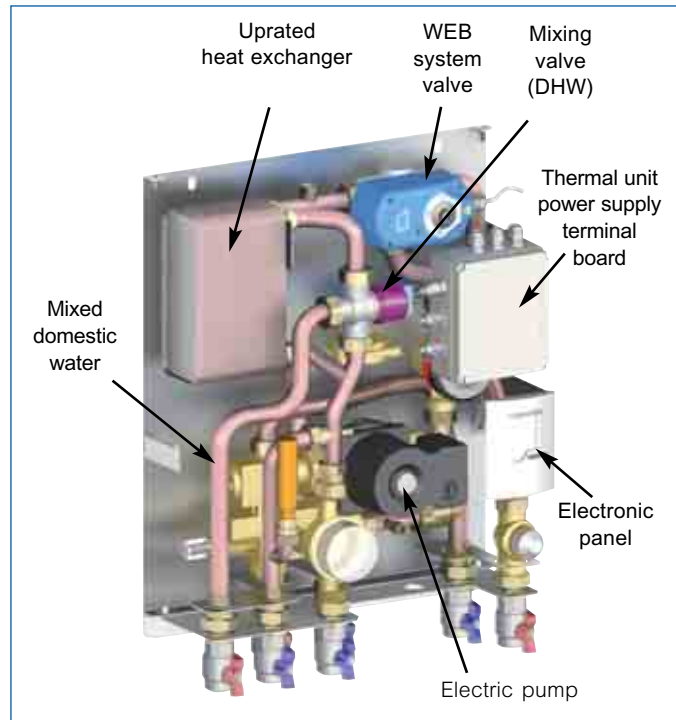
A Division of Watts Water Technologies Inc.

Description

The multi-function **DOMOCAL** thermal units are designed to control the supply of heat coming from a district heating station or produced by a conventional heating system, to individual apartments, whether for space heating or the production of Domestic Hot Water (DHW).

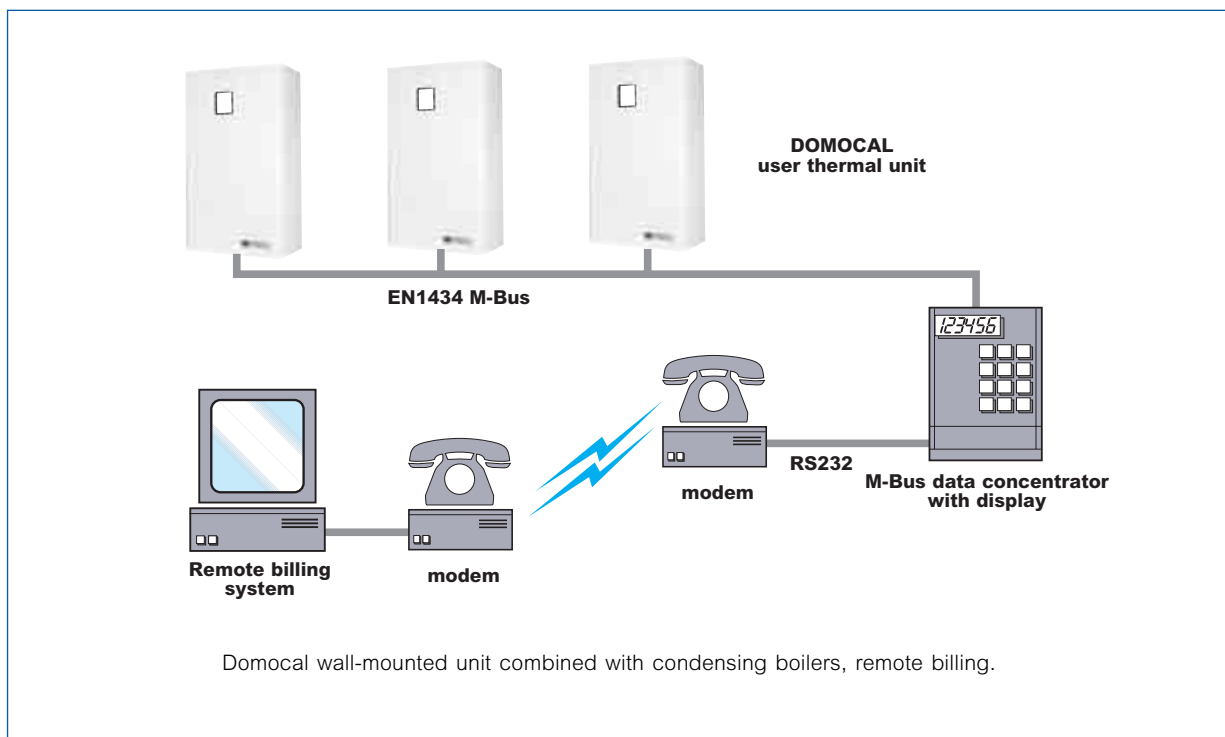
DOMOCAL feeds the heating circuit of each apartment and allows independent control of the temperature through the action of a timing thermostat installed in the pilot room, which actuates the zone valve incorporated in the unit. The DHW produced by the heat exchanger is supplied simply by turning on the hot water tap. The temperature of the hot water is controlled by a thermostatic mixing valve which keeps it at the level chosen by the user. The devices and pipes making up the unit are factory-assembled and are inserted in a metal support structure which may be wall-mounted or flush-mounted. All inlets and outlets are provided with shut-off valves and a union fitting (three-piece): during installation, this enables the frame alone to be inserted and the "body" of the unit to be installed later on.

This will also make it easier for the heating system operator to carry out the required maintenance work and to replace the whole unit when necessary.



The **DOMOCAL** thermal unit is equipped with a direct energy (heating/air-conditioning) metering system **conforming to MID Directive 2004/22/EC, Leg. D. no. 22 of 2/02/07**, which allows subsequent cost allocation based on actual consumption, thus encouraging a more rational use of energy with consequent energy savings. The thermal energy drawn from the primary network (user consumption) is measured with great accuracy by a meter whose data/consumption reading is easily collected, transmitted and processed.

The system is also equipped with a meter for measuring the consumption of cold water from the mains.



Product range

DOMOCAL substations are available in a wide range of models (**63 different types**) that can cover all installation and maintenance design specs.

The product range is very compact and can be available with high capacity heat exchanger, integrated pump, modulating control on heating, domestic cold water outlet.

The unit design is typically modular with integration of components and accessories to a basic model. This concept allows the installer to install the unit in different phases (i.e. installation of the template first, then all the unit components). For more complex installation with cooling and heating management there is available the model DCA-RR2B without pump or the DCS-RRBP2 including the pump."

Example 1

DOMOCAL unit with open frame for heating, instant domestic hot water production, cold water metered circuit, with balancing device and without pump.



Example 2

DOMOCAL unit with open frame for heating, instant domestic hot water production, cold water metered circuit, with balancing device and with pump



Example 3

DOMOCAL unit with open frame for heating, instant domestic hot water production, cold water metered circuit, complete with balancing device and pump. High capacity heat exchanger for condensing boilers. Modulating version.



Example 4

DOMOCAL units for heating/cooling with/without pump. domestic hot water production, cold water metered circuit.



Application

Systems built with **DOMOCAL** thermal units are mainly designed for apartment blocks. However, they can also serve terraced houses, district heating and all cases in which heat can be generated in a single well-structured central boiler room (optimized climate control) with high levels of seasonal efficiency, but always offering maximum freedom of use to the consumer.

These installations are characterized by a horizontal main laid in the basements or in an underground passage originating from the central boiler room and branching into columns where the stairs or various service rooms are located.

The **DOMOCAL** thermal units may therefore be positioned close to the building, preferable in the common parts of the building for easier access by the system operator and also not to cause inconvenience to the tenant.

The primary distribution network supplies all remote units with the fluid at the preset temperature and flow rate, substantially constant throughout the year.

Systems of **DOMOCAL** thermal units thus offer a highly advanced technological solution while they ensure comfortable room temperatures and improved safety. Moreover they allow heat generators of a lower power rating to be installed in the central boiler room.



DOMOCAL WEB system

The new Series of **DOMOCAL** thermal units is equipped with an innovative device (WEB – Waste Energy Blocking – system valve) that uses electronic logic to turn ON/OFF the heating and instant production of DHW; if there is no demand, the valve shuts off the columns, thus preventing 100% of unnecessary consumption (zero consumption in off-line thermal mode).

The special three-way valve (WEB System) is controlled electronically: when a demand is received from the thermostat, the heating way of the valve (zone valve function) opens; when a hot water tap is turned on, through the signal of a differential pressure switch, the water starts to flow hot after about 3.5 sec.; within 10 sec. of when the tap was turned on, the valve is fully open on the heat exchanger way for the instant production of DHW. When no further demand is made to the two points of use (heating and domestic water circuits), the valve is closed, blocking all types of flow from the columns.

The production of DHW has priority over a demand for heating



Operating mode with demand for DHW (fig.1)

When a hot water tap is turned on, the unit remains active for as long as the tap remains on, giving priority over any demand for space heating.

A differential pressure sensor opens the WEB system valve on the heat exchanger way, feeding it with the full flow from the primary circuit.

This flow is measured by the volumetric sensor of the heat metering device situated on the supply pipe of the primary fluid.

The temperature of the hot water is controlled by a thermostatic mixing valve, which keeps it at the level selected by the user. The mixing valve is fed by the hot water coming from the heat exchanger and the cold water mains. The volumetric flow meter measures the amount of cold water consumed (optional function).

The check valves, upstream and downstream of the mixing valve prevent unwanted water backflow.



To heat exchanger

Figure 1 - WEB system and DHW

Operating mode with demand for heating only (fig.2)

The thermostat (ON) that controls the room temperature opens the heating circuit way of the WEB system valve.

This flow is measured by the volumetric sensor of the thermal energy meter located on the supply pipe of the primary fluid.

The production of DHW has priority over a demand for heating. The return line of the system is conveyed directly to the return port of the primary fluid.

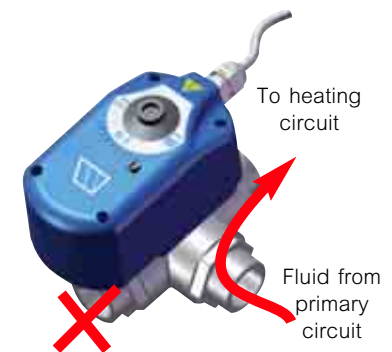


Figure 2 - WEB system and heating

Operating mode with no demand for heating or DHW (fig.3)

The unit is "at rest" when the room thermostat demands no heat (OFF), and no water tap is on; the WEB system valve separates the DOMOCAL unit from both user circuits (heating and DHW), thus preventing eddy flows, a waste of energy and consequent billing of unnecessary consumption (eddy flow preventer function).

The primary flow, blocked in all directions towards the points of use, is conveyed to the general return port. Hence there is no flow through the volumetric meter, which could otherwise generate an appreciable measurement error in the long term.

In the situation described above, the by-pass way of the overpressure valve opens due to the thrust generated by the increase in pressure.

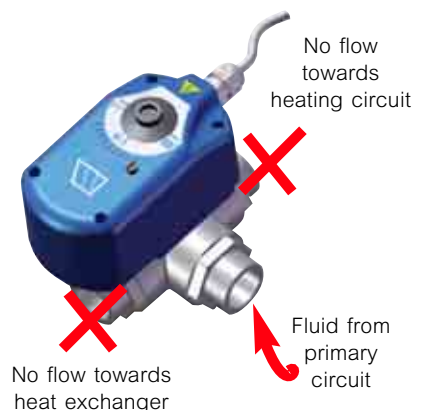


Figure 3 - WEB system valve closed

Conditions of supply of primary main fluid and performance levels of the heat exchangers

The essential function of the primary mains is to ensure the transfer of the heat energy produced in the central boiler room to the various **DOMOCAL** units, through appropriate flow of the work fluid.

The circuit may also perform the non-secondary function of acting as an inertial accumulator to cater for part of the considerable heat requirement peaks (DHW) and hence reduce the power ratings of the boilers with consequent lower costs and improved efficiency.

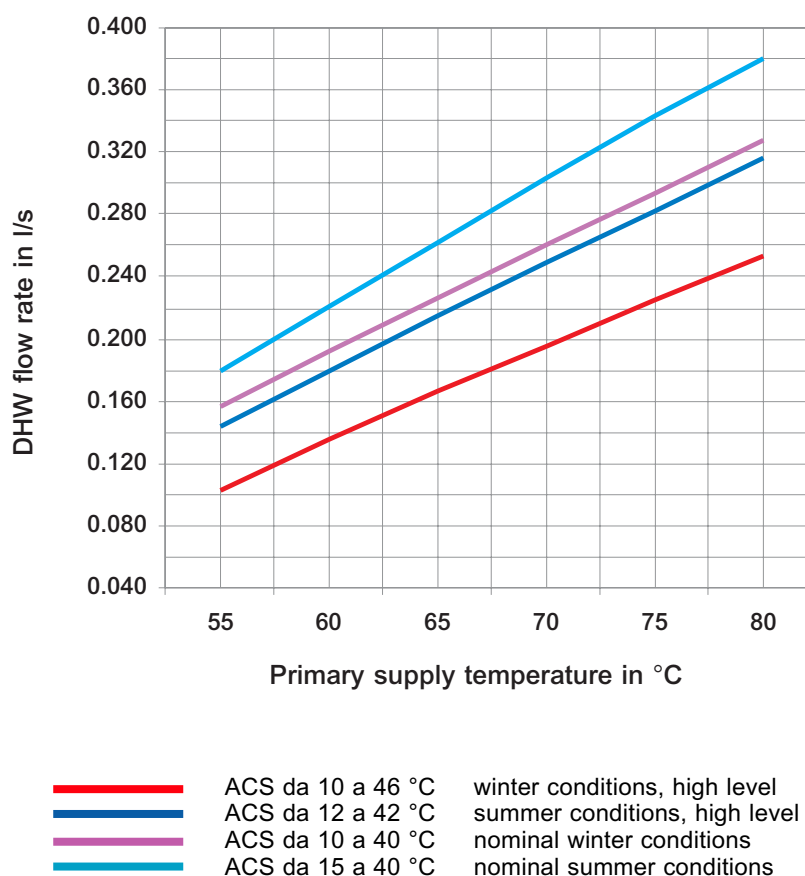
However, the performance range offered by **DOMOCAL** is so wide and subsequently modifiable that a basic primary flow rate is fixed initially for all units, leaving the necessary adaptations to a later device setting phase.

This flow rate should be selected according to the most important heat requirement, which is that of DHW production and at the required supply temperature of the mixed water. On this basis, reference should be made to the table attached to this document, with the thermal performance levels of the 30-plate heat exchangers common to **DOMOCAL** thermal units combined with standard boilers.

Design flow rates of less than 1 m³/h of primary fluid are well able to meet the DHW needs for medium-large apartments and are appreciably higher than those supplied by normal independent boilers; moreover, they provide good performance levels even at very low primary supply temperatures (55-60 °C).

For example, from the graph below we can deduce that with a primary flow rate of **0.8 m³/h** at a temperature of 75°C, a total of **0.24 l/s** (14.4 l/min) of DHW is obtained with **Dt 36K**.

Figure 4. Performance levels, DHW heat exchanger, **30 plates**
with primary flow rate of 0.800 m³/h; typical with pump on curve 1.



PERFORMANCE DATA OF THE 30-PLATE HEAT EXCHANGER - Use of the table :

To calculate the performance data, proceed to identify the line corresponding to the values of flow rate G_p and temperature T_1 of the primary fluid. Then identify the column headed by the characteristic change in temperature for the DHW production where the theoretical flow rate supplied can be read.

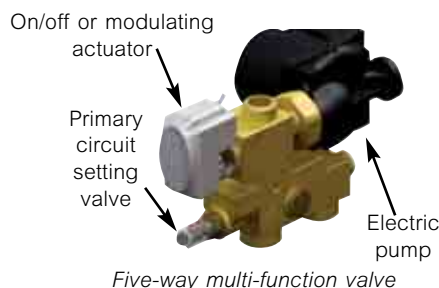
If, for example, we have a primary flow rate $G_p = 0.8 \text{ m}^3/\text{h}$ with a temperature T_1 of 75°C , we shall have (column 3) a theoretical DHW production of 0.31 l/s , heated from 10°C (mains water temperature) to 40°C (domestic water supply temperature) and a primary return temperature T_2 (column 3) of 32.3°C and a power output Q (column 3) of 39.8 kW .

PRIMARY FLUID CHARACTERISTICS										DHW PRODUCTION				
G _p m³/h	T1 in °C	1		2		3		4		t1 t2	1	2	3	4
		T2 out °C	Q kW	T2 out °C	Q kW	T2 out °C	Q kW	T2 out °C	Q kW		10°C 46°C	12°C 42°C	10°C 40°C	15°C 40°C
											G _{DHW} l/s	G _{DHW} l/s	G _{DHW} l/s	G _{DHW} l/s
0,6	80	32,6	33,1	31,0	34,2	29,3	35,4	31,0	34,2	0,21	0,27	0,27	0,32	
0,7	80	34,3	37,2	32,6	38,6	30,9	40,0	32,5	38,7	0,24	0,30	0,31	0,36	
0,8	80	35,8	41,1	34,0	42,8	32,4	44,3	33,8	43,0	0,27	0,33	0,34	0,40	
0,9	80	37,1	44,9	35,3	46,8	33,7	48,5	35,0	47,1	0,29	0,36	0,38	0,44	
1,0	80	38,3	48,5	36,4	50,7	34,8	52,6	36,1	51,1	0,31	0,39	0,41	0,48	
1,1	80	39,4	51,9	37,5	54,4	35,9	56,4	37,1	54,9	0,34	0,42	0,44	0,51	
0,6	75	32,9	29,4	31,2	30,6	29,4	31,8	31,1	30,7	0,19	0,24	0,25	0,29	
0,7	75	34,5	33,0	32,6	34,5	30,9	35,9	32,4	34,6	0,21	0,27	0,28	0,33	
0,8	75	35,9	36,4	34,0	38,2	32,3	39,8	33,7	38,5	0,24	0,30	0,31	0,36	
0,9	75	37,1	39,7	35,1	41,7	33,5	43,5	34,8	42,1	0,26	0,33	0,34	0,39	
1,0	75	38,3	42,7	36,3	45,1	34,6	47,0	35,8	45,6	0,28	0,35	0,37	0,43	
1,1	75	39,3	45,7	37,2	48,3	35,7	50,3	36,8	48,9	0,30	0,38	0,39	0,46	
0,6	70	33,2	25,7	31,3	27,0	29,5	28,3	31,1	27,1	0,17	0,21	0,22	0,25	
0,7	70	34,7	28,7	32,7	30,3	31,0	31,8	32,4	30,6	0,19	0,24	0,25	0,29	
0,8	70	36,0	31,6	34,0	33,5	32,2	35,1	33,6	33,9	0,21	0,26	0,27	0,32	
0,9	70	37,2	34,4	35,1	36,6	33,4	38,3	34,6	37,0	0,22	0,29	0,30	0,35	
1,0	70	38,2	37,0	36,1	39,5	34,4	41,4	35,6	40,1	0,24	0,31	0,32	0,38	
1,1	70	39,1	39,5	37,0	42,2	35,4	44,3	36,4	43,0	0,26	0,33	0,35	0,40	
0,6	65	33,7	21,8	31,5	23,3	29,7	24,6	31,2	23,6	0,14	0,18	0,19	0,22	
0,7	65	35,1	24,4	32,9	26,2	31,1	27,6	32,4	26,5	0,16	0,21	0,22	0,25	
0,8	65	36,2	26,8	34,0	28,9	32,2	30,5	33,5	29,3	0,17	0,23	0,24	0,28	
0,9	65	37,3	29,0	35,0	31,4	33,3	33,2	34,4	32,0	0,19	0,25	0,26	0,30	
1,0	65	38,2	31,1	35,9	33,8	34,3	35,8	35,3	34,5	0,20	0,27	0,28	0,33	
1,1	65	39,1	33,2	36,8	36,1	35,1	38,2	36,1	36,9	0,22	0,28	0,30	0,35	
0,6	60	34,8	17,6	31,9	19,6	30,0	20,9	31,4	20,0	0,12	0,15	0,16	0,19	
0,7	60	35,6	19,9	33,1	21,9	31,2	23,4	32,5	22,4	0,13	0,17	0,18	0,21	
0,8	60	36,6	21,7	34,1	24,1	32,3	25,8	33,5	24,7	0,14	0,19	0,20	0,23	
0,9	60	37,6	23,5	35,0	26,1	33,3	28,0	34,3	26,9	0,15	0,21	0,22	0,25	
1,0	60	38,4	25,1	35,9	28,1	34,1	30,1	35,1	28,9	0,16	0,22	0,24	0,27	
1,1	60	39,1	26,7	36,6	29,9	34,9	32,1	35,8	30,9	0,18	0,24	0,25	0,29	
0,6	55	35,4	13,7	32,4	15,8	30,4	17,2	31,7	16,3	0,09	0,12	0,14	0,15	
0,7	55	36,4	15,1	33,4	17,6	31,5	19,1	32,7	18,2	0,10	0,14	0,15	0,17	
0,8	55	37,3	16,4	34,4	19,2	32,5	21,0	33,5	20,0	0,11	0,15	0,17	0,19	
0,9	55	38,1	17,7	35,2	20,8	33,3	22,7	34,3	21,7	0,12	0,16	0,18	0,20	
1,0	55	38,8	18,8	35,9	22,2	34,1	24,3	35,0	23,3	0,12	0,18	0,19	0,22	
1,1	55	39,4	19,9	36,5	23,6	34,8	25,9	35,6	24,8	0,13	0,19	0,20	0,23	

The temperature of the DHW supplied by the unit is controlled permanently by the AQUAMIX mixing valve which ensures a supply at constant temperature levels set between 32 and 50°C .

Multi-function valve

The DOMOCAL models with a pump have a multi-function valve in the two versions with on/off or modulating operation, as well as the web-system device. The valve also incorporates the hydraulic equalization device and primary flow balancing functions.



On these versions, if the room thermostat demands heat, the WEB system valve (pos. 1 – Fig 7) opens the direct way to the heating circuit. The return fluid is taken back in at point A (Fig. 7) and, where necessary, diverted in the mixing (on the modulating version) to the fluid of the primary circuit in the multi-function valve (pos. 17 – Fig. 8).

The actuator (24 Vac) is controlled by electronic logic, which is, in turn, controlled by the thermostat signal (PWM or on/off); for the PWM signal, the frequency is converted to 0-10V by a dedicated software program (loaded on the microprocessor).

The heat transfer fluid conveyed to the system by the electric pump is measured by a volumetric meter (pos.7) and metered by Pt500 temperature sensors. The energy consumed is recorded by the electronic panel (pos. 13). The two-way valve (pos. 6 – Fig. 7) enables the flow conveyed to the point of use to be set: the flow rate during the balancing operations can be read directly on the electronic panel (pos. 13).

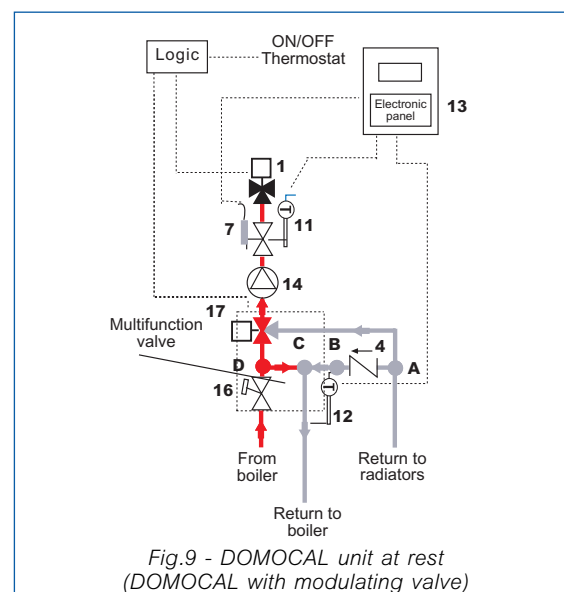
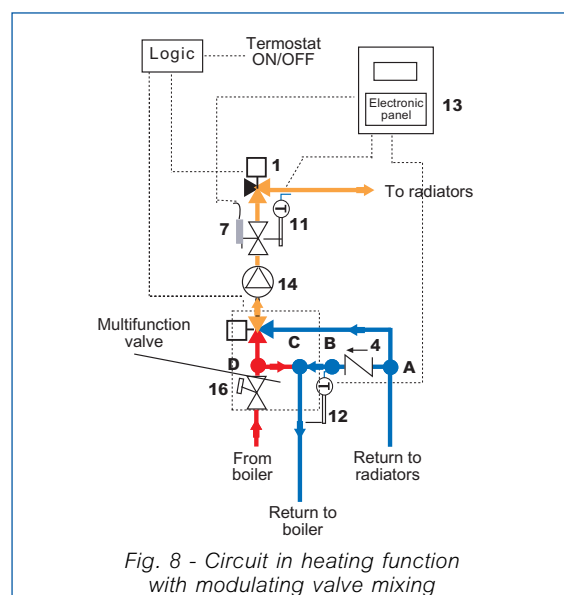
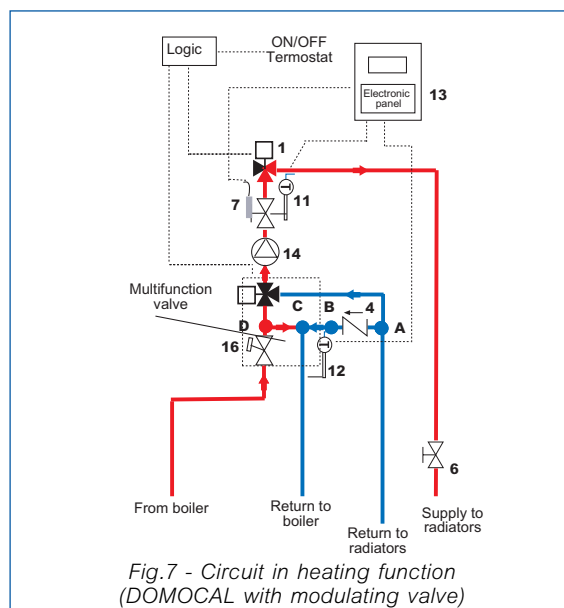
If demanded by the electronic logic, the entire quantity of fluid available for the primary circuit is conveyed to the system (mixing way closed on the modulating version, Fig.8); the return fluid crosses the section A-B-C and returns to the central boiler room.

The production of DHW always has priority over demand for heating: a thermostat in mixing valve controls the temperature of the domestic hot water provided by the heat exchanger.

If no demand is made for heating (thermostat Off) or DHW (no tap on), the DOMOCAL unit is “at rest”. The pump is deactivated and all secondary fluid circulation is blocked; the energy meter read no consumption.

In fact, the WEB system valve moves to the position indicated in figure 9, thus separating the DOMOCAL unit from both user circuits (heating and DHW), thus preventing eddy flows, a waste of energy and consequent billing of unnecessary consumption (eddy flow preventer function). The primary flow, blocked in every direction towards the points of use, is conveyed to the general return port. Hence there is no flow through the volumetric meter, which could otherwise generate an appreciable measurement error in the long term.

In this situation, the fluid coming from the primary circuit flows through by-pass D-C (fig. 9).



Installation

The installation of substation units or heating modules are normally built and finished over a medium-long period of time and hence have to follow the various phases of construction of the building.

For this reason, the units are designed to allow a STEP by STEP installation according to the building completion status. It is not necessary to install the complete unit before the building has been completed.

By doing this the **DOMOCAL** will not occur in any damage caused by a third party during the construction phase.

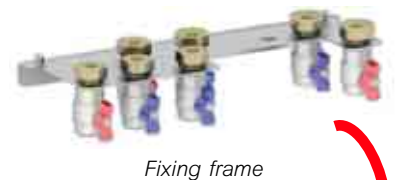
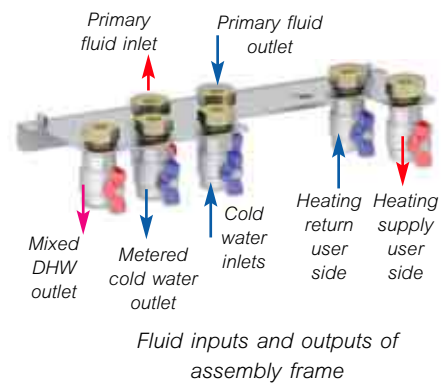
The **DOMOCAL** unit will be placed in position when each single point of use is submitted to start up procedure.

For the initial assembly phase, Watts Industries provides a frame complete with shut-off ball valve DN 3/4"-1" on each section of the circuit (hot, DHW, chilled) and removable pipes for flushing the system (operation always recommended before putting the unit into service). Before the start-up phase, close all the ball valves to shut off the individual circuits, remove the flushing pipes and insert the **DOMOCAL** unit into the frame.

The unit can be left without cover panel if installed in a protected and safe place. The unit is electric powered and the access to the mechanical room should be allowed only to authorized personnel. In case of failure, thanks to the **DOMOCAL** 's design, any maintenance operation to the heating system can be performed even if the primary system is running. Isolate the unit closing the shut off valves and repair or replace the unit itself.

One spare unit is always recommended for a quick and immediate service.

The **DOMOCAL** thermal unit is equipped with high-quality components and will have a long working life by submitting the unit to regular maintenance.



Assembly drawing of DOMOCAL unit

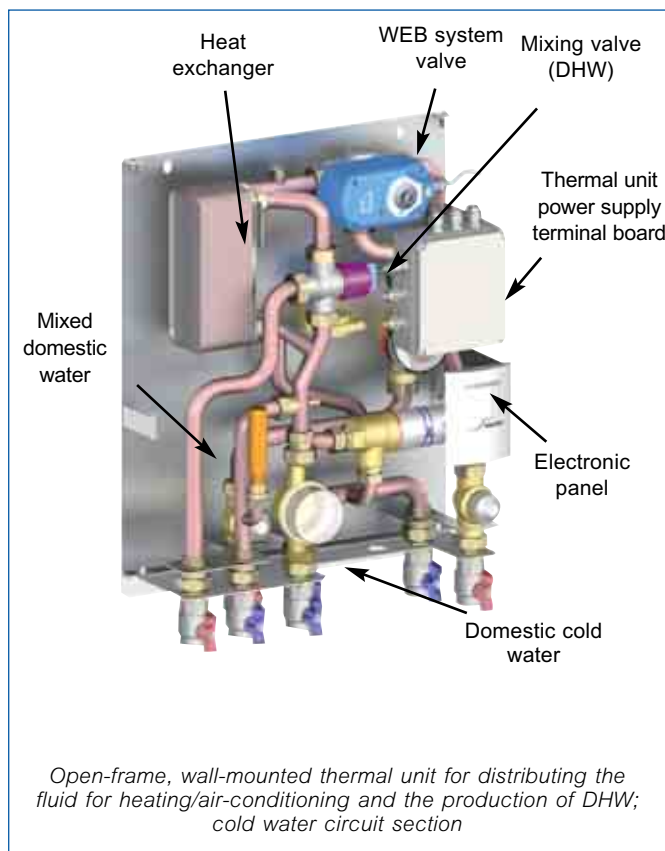
DOMOCAL without pump models

On the basic version of the **DOMOCAL**, the fluid coming from the primary network is distributed directly to the user for the purpose of heating the apartment or else diverted via an automatic three-way priority valve (web system) with on/off action to a plate heat exchanger for domestic hot water (DHW) production.

The primary fluid head at the inlet to the unit should also include the driving energy (min. 25kPa) required to feed the local heating system.

The supply temperature to the domestic hot water user is controlled by a thermostatic control valve (AQUAMIX), which mixes the hot water flowing out of the heat exchanger and ensures a supply with constant temperature levels settable in the range between 32 and 50 °C, with the water coming from the water mains.

The electronic control logic ensures the priority for DHW production via the web system valve and all thermal output available to the heat exchanger is used for this purpose.



Codice	Descrizione
DCA-HTPA010FC	Unit for traditional boiler application, balancing, on/off and DCW section metered
DCA-HTPA010FF	Unit for traditional boiler application, balancing, on/off and DCW section
DCA-HTPA010XX	Unit for traditional boiler application, balancing, on/off
DCA-HTPA000FC	Unit for traditional boiler application, without balancing, on/off and DCW section metered
DCA-HTPA000FF	Unit for traditional boiler application, without balancing, on/off and DCW section
DCA-HTPA000XX	Unit for traditional boiler application, without balancing, on/off
DCA-HTPC010FC	Unit for traditional boiler application, balancing, on/off and DCW section metered
DCA-HTPC010FF	Unit for traditional boiler application, balancing, on/off and DCW section
DCA-HTPC010XX	Unit for traditional boiler application, balancing, on/off
DCA-HTPC000FC	Unit for traditional boiler application, without balancing, on/off and DCW section metered
DCA-HTPC000FF	Unit for traditional boiler application, without balancing, on/off and DCW section
DCA-HTPC000XX	Unit for traditional boiler application, without balancing, on/off
DCA-HTIC010FC	Unit for traditional boiler application, balancing, on/off and DCW section metered
DCA-HTIC010FF	Unit for traditional boiler application, balancing, on/off and DCW section
DCA-HTIC010XX	Unit for traditional boiler application, balancing, on/off
DCA-HTIC000FC	Unit for traditional boiler application, without balancing, on/off and DCW section metered
DCA-HTIC000FF	Unit for traditional boiler application, without balancing, on/off and DCW section
DCA-HTIC000XX	Unit for traditional boiler application, without balancing, on/off

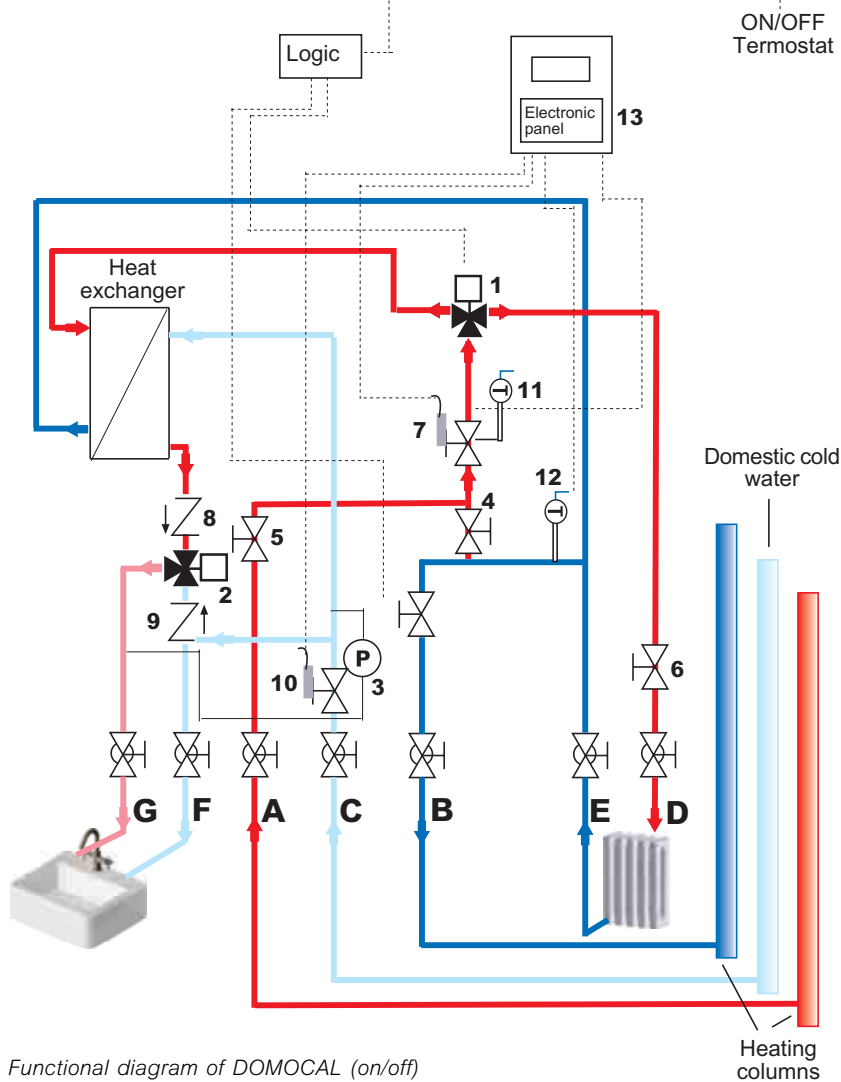


Fig.5 - Functional diagram of DOMOCAL (on/off)

Legenda

- A Inlet, primary fluid
 - B Outlet, primary fluid
 - C Inlet, domestic cold water (from water main)
 - D Supply to heating system
 - E Return from heating system
 - F Outlet, domestic cold water
 - G Outlet, domestic hot water (mixed)
-
- 1 WEB system – three-way zone valve with actuator
 - 2 Three-way thermostat mixing valve
 - 3 Differential pressure sensor
 - 4 By-pass overpressure valve
 - 5 Two-way control valve (secondary circuit balancing)
 - 6 Two-way control valve (secondary circuit balancing)
 - 7 Pulse flow meter (for measuring the thermal energy)
 - 8-9 Check valve
 - 10 Pulse flow meter (for measuring domestic cold water consumption)
 - 11 Pt 500 temperature sensor (supply temperature)
 - 12 Pt 500 temperature sensor (return temperature)
 - 13 Energy meter panel

The unit is equipped with a thermal energy meter consisting of a flow meter (Art. WMT DN20) complete with immersion probes on the supply and return lines, designed in accordance with current European standards and **MID directive 2004/22/EC Leg. D. no. 22 of 2/02/07**, for billing the user's actual consumption for heating, and a LCD-panel (Art. CA502M) which can be used to view the operating parameters and monthly consumption data stored during the last 36 months.

For easier control of each individual Unit, the CA502M panel is provided with a serial output for centralized billing of the consumption through M-bus data gathers concentrators (Art. DR000) complying with the EN1434 standard. All units may be fitted with an optional flow meter for measuring domestic water consumption.

Nominal technical data: DOMOCAL on/off models

Maximum temperature of hot fluid at inlet	90 °C
Nominal temperature of hot fluid at inlet	75 °C
Maximum operating pressure (static)	800 Kpa
Nominal flow rate of primary fluid	1.0 m³/h
Nominal head across primary fluid inlets	20
Nominal flow rate of hot fluid at outlet (heating)	0.8 m³/h
Nominal head of hot fluid at outlet (heating)	16 kPa
Nominal heating power with $\Delta t=15k$	14 kW
Nominal flow rate of DHW	16 l/min
Nominal temperature of DHW	46 °C
Nominal power for DHW production ($\Delta t = 35k$)	39 kW
Adjustable outlet temperature	32 - 50 °C
Heat exchange surface, plate heat exchanger	0.33 m²
Power supply	230 V-50 Hz
Current drawn	0.06 A
Ball valves thread	thread 1" M

Residual performance heads

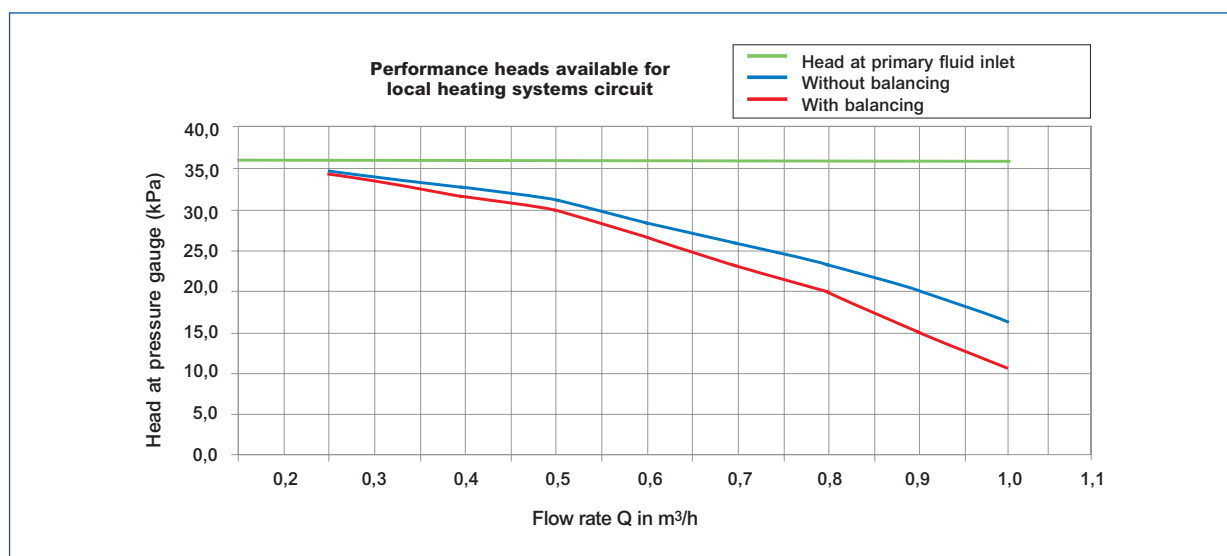
The following diagram shows the residual heads of the on/off unit available for the local heating system circuit with or without a two-way setting valve (pos. 6 – Fig. 5).

This diagram is valid when the unit is fed with a head of 36 kPa at the inlets.

If a greater residual head is required, increase the head at the inlets in proportion.

Opposite, when the pressure to the unit is greater than that required (thermal units favoured), compensate for the excess pressures using the setting valve.

Bear in mind that the actual flow rate circulating in the heating circuit and in the DHW section can be read directly on the display of electronic panel **Art. CA502M**.



Flow rate Q in m³/h	0,3	0,4	0,5	0,6	0,7	0,8	0,9	1,0
Head in kPa (residual with setting valve)	33,75	32,00	29,75	27,00	23,75	20,00	15,75	11,00
Head in kPa (residual without setting valve)	34,30	32,98	31,27	29,19	26,74	23,90	20,69	17,10

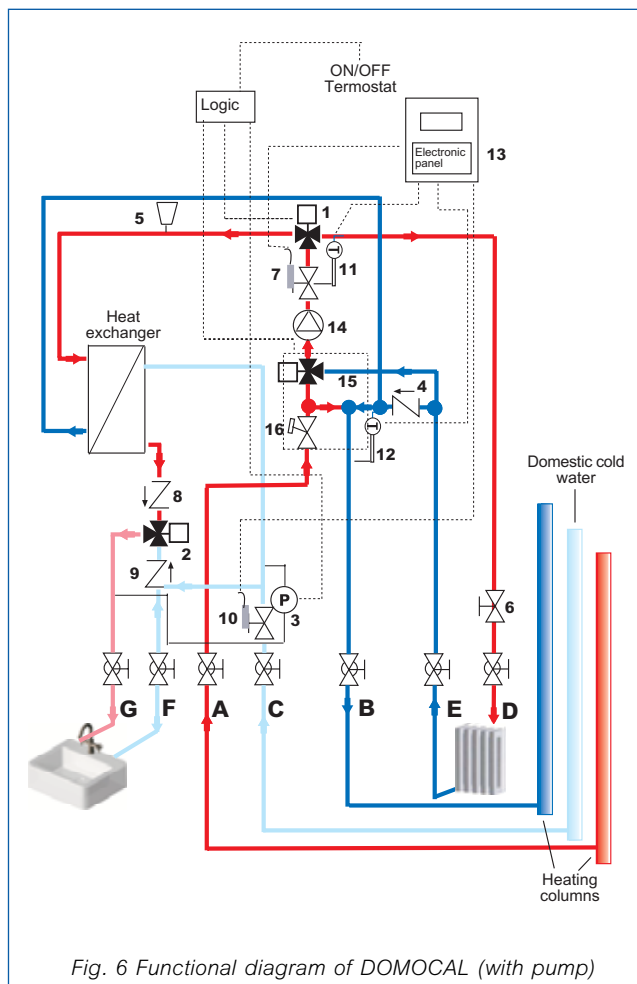
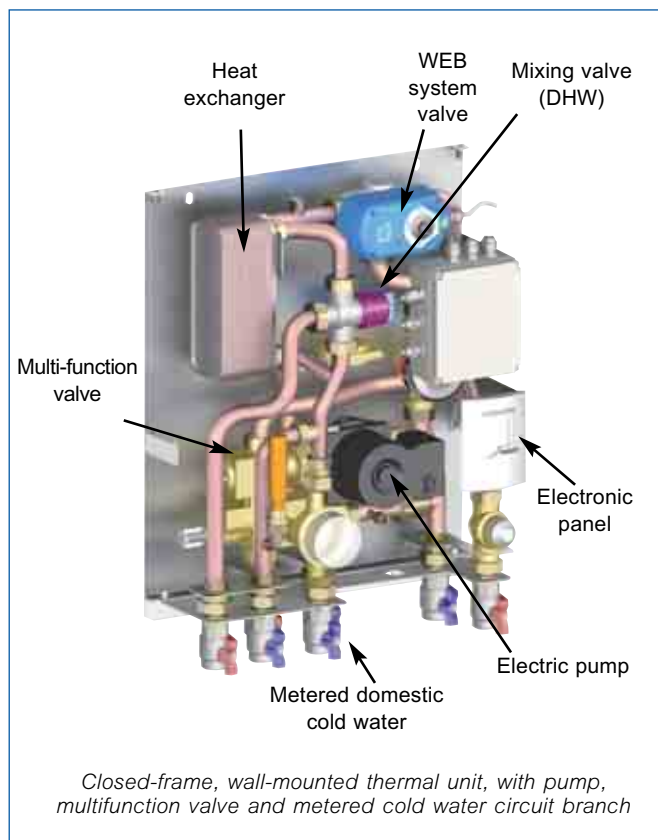
DOMOCAL Unit with pump operation

DOMOCAL units equipped with a three-speed electric pump serving the user circuits (heating, DHW), are the most independent, safe and powerful version of the series.

This unit has the features of the web system valve plus the possibility of supplying heat also when the primary distributions mains are temporarily not performing badly, by using an independent driving force (electric pump) to tap further quantities of fluid from the primary circuit.

The unit is equipped with a special multi-function valve combining a balancing device and a hydraulic equalization device; the latter performs the function of separating the thermal unit from the primary circuit, which ensures a substantial stability of the main network (by limiting the effect of the Units connected to it) as well as considerable freedom in drawing off heat.

Use of the unit equipped with a pump does not require any particular conditions of flow rate and residual head of the incoming primary fluid, except for the minimum conditions required to feed the low pressure drop equalization section.



Legend

- A Inlet, primary fluid
 - B Outlet, primary fluid
 - C Inlet, domestic cold water (from water main)
 - D Supply to heating system
 - E Return from heating system
 - F Outlet, domestic cold water
 - G Outlet, domestic hot water (mixed)
-
- 1 WEB system - three-way zone valve with actuator
 - 2 Three-way thermostat mixing valve
 - 3 Differential pressure sensor
 - 4 Check valve
 - 5 Air-relief valve
 - 6 Two-way control valve (secondary circuit balancing)
 - 7 Pulse flow meter (thermal energy)
 - 8-9 Check valve
 - 10 Pulse flow meter (domestic cold water)
 - 11 Pt 500 temperature sensor (supply temperature)
 - 12 Pt 500 temperature sensor (return temperature)
 - 13 Electronic panel for metering thermal energy
 - 14 Three-speed pump
 - 15 Multi-function valve
 - 16 Balancing valve built into multi-function valve
 - 17 Mixing valve built into multi-function valve

Product table.

[illegible]

Nominal technical data: DOMOCAL with pump models	Traditional boilers or indirect district heating	Condensing boilers
Maximum temperature of hot fluid at inlet	90 °C	90 °C
Nominal temperature of hot fluid at inlet	75 °C	60 °C
Maximum operating pressure (static)	800	800
Nominal flow rate of primary fluid	1.0 m³/h	1.0 m³/h
Nominal head across primary fluid inlets	13 kPa	15 kPa
Nominal flow rate of hot fluid at outlet (heating)	0.8 m³/h	0.8 m³/h
Nominal head of hot fluid at outlet (heating)	36 kPa	36 kPa
Nominal power, heating with 15K thermal gradient	14 kW	14 kW
Nominal flow rate of DHW	16 l/min	20 l/min
Nominal temperature of DHW	46 °C	46 °C
Nominal power for DHW production ($\Delta t = 35K$)	39 kW	48 kW
Adjustable outlet temperature	32 - 50 °C	32 - 50 °C
Heat exchange surface, plate heat exchanger	0.33 m²	0.49 m²
Power supply	230 Vac-50 Hz	230 Vac-50 Hz
Current drawn	0.6 A	0.6 A
Ball valves thread	thread 1" M	thread 1" M

Residual performance heads of pump in kPa

The active characteristics of the pump provided with the unit, in the 3 possible operating positions, are shown in the graph below. It should be borne in mind that the pump curve is normally chosen according to the needs of the DHW circuit.

To limit performance to the actual needs of the heating circuit, the setting valve (pos. 6 in the diagram), if present, may be used. The actual flow entering the heating circuit may be read on the display of the thermal energy meter (13).

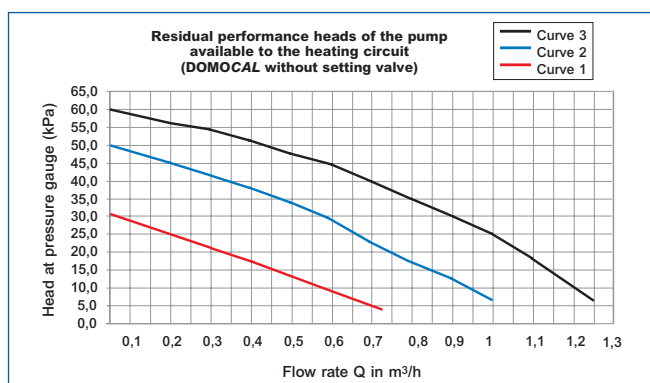


Table values – Residual performance heads of the system circuit pump

Flow rate in m³/h	0,25	0,5	0,75	1	1,25
Curve 1	24,14	13,75	1,14		
Curve 2	43,94	33,75	21,24	6,20	
Curve 3	56,14	48,75	37,94	24,00	6,64

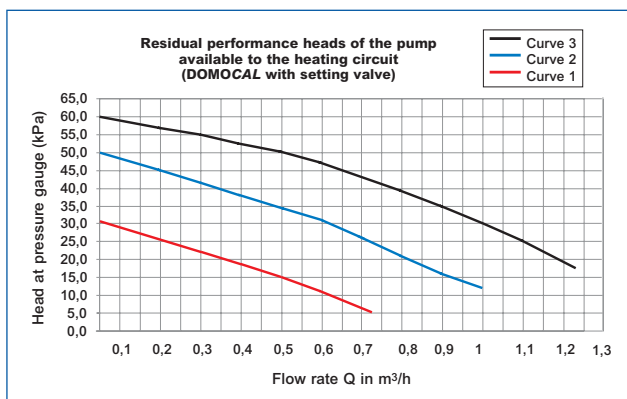


Table values – Residual performance heads of the system circuit pump

Flow rate in m³/h	0,25	0,5	0,75	1	1,25
Curve 1	24,52	15,27	4,57		
Curve 2	44,32	35,27	24,67	12,30	
Curve 3	56,52	50,27	41,37	30,10	16,16

Operation

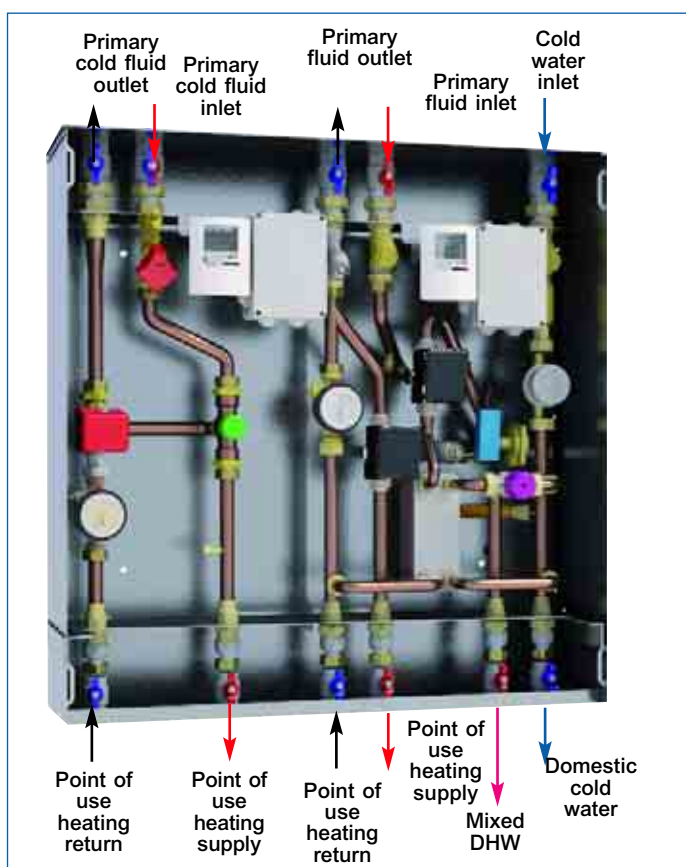
DOMOCAL series DCA-RR2B

The DOMOCAL thermal unit Series DCA-RR2B incorporates not only the characteristics and performance of the DCA-2B unit designed for supply of hot fluid for space heating (towel-rail radiators in bathrooms) and for domestic hot water (DHW) production, but also a circuit section for the supply of chilled fluid used in fan-coil cooling systems.

The cooling section is provided with:

- balancing valve, incoming fluid from the primary circuit,
- three-way control valve with on/off operation, controlled by a room timing thermostat (Art. MILUX), complete with a by-pass setting valve,
- thermal energy meter consisting of a flow meter (Art. WMT DN20) complete with immersion type supply and return probes plus electronic LCD panel (Art. CA502M).

When the control valve is closed on the straight way (from the user), it causes the by-pass valve to have the same pressure drop as that of the downstream circuit concerned. This ensures substantial stability of the primary circuit thus obtaining a constant flow rate whether the flow feeds the user or whether it flows through the by-pass. The two hot/cold circuit sections are **distinct and are in no way connected hydraulically**. The seasonal change-over is therefore performed in the central boiler room by the system operator.



FUNCTIONAL HYDRAULIC DIAGRAM

DURING THE WINTER (supply of the heating section alone from central boiler room), the DOMOCAL Series DCA-RR2B automatically enters one of the three modes of operation described for unit DCA-2B.

DURING THE SUMMER (supply of the cold section and the hot section only for DHW production from central boiler room), the unit automatically enters one of the following modes as described below:

• Mode of operation in presence of DHW demand

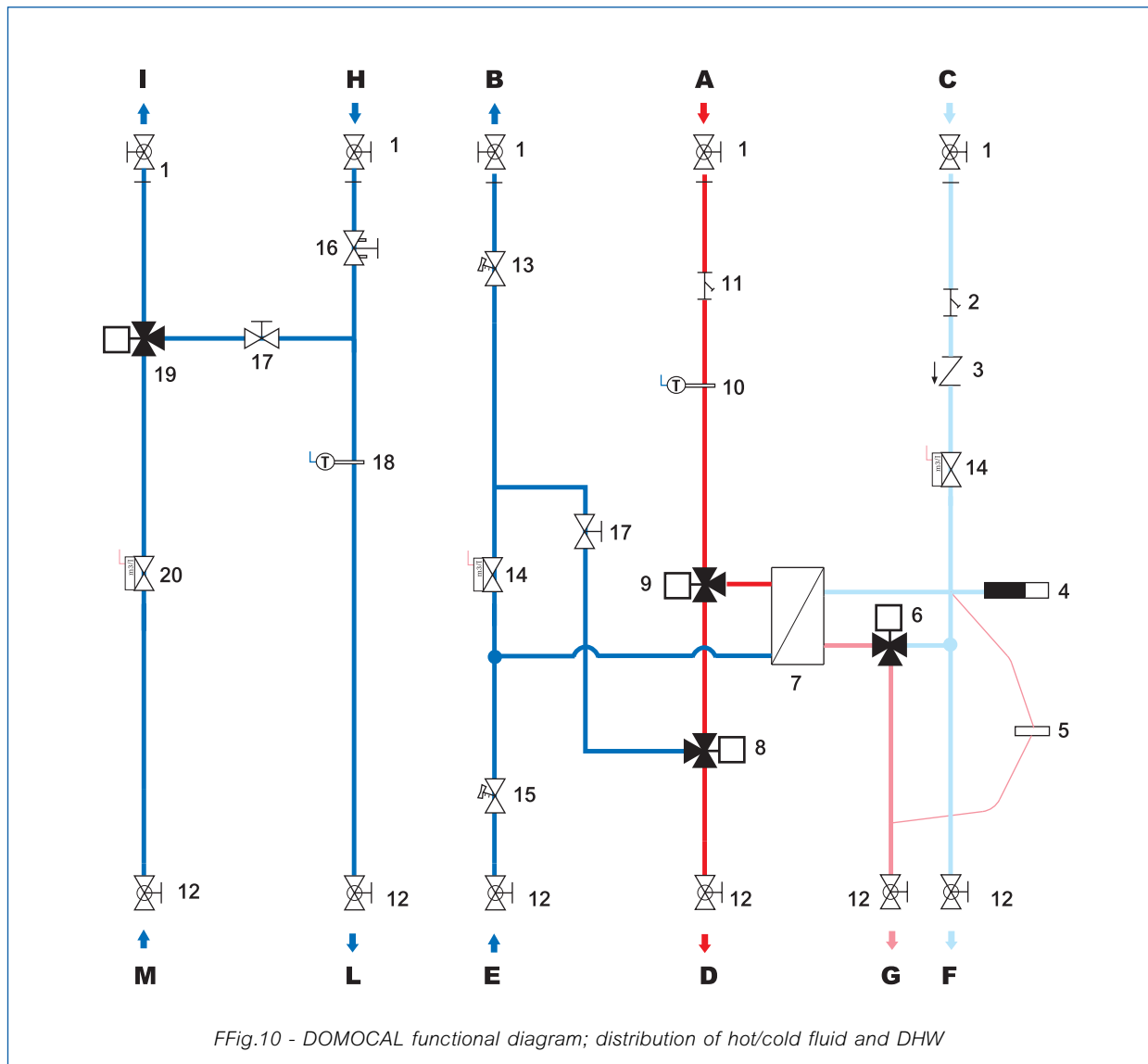
This mode is activated when the user opens a hot water tap to draw DHW supplied by the unit and remains activated until the tap is turned off. The device determining this state consists of a differential pressure switch (5), acting as flow sensor that sets and holds diverter valve (V1) installed on the primary supply line, for full flow feeding of the primary circuit of heat exchanger (7). The flow rate of this fluid is measured by the volumetric sensor of the thermal energy meter (14) installed on the return line of the primary fluid. In this mode, the room air conditioning circuit is not blocked in any way, contrary to what occurs during winter operation.

• Mode of operation with demand for cooling

This mode is activated when the thermostat (switched to summer) controlling the room temperature is in the "On" position and opens the straight way of control valve (19) to feed the distribution circuit for the fan-coils connected to the unit. The return flow of the cooling system is directly conveyed to the return port of the primary cold fluid; the cooling flow rate is measured by the volumetric sensor of the thermal energy meter (20). During the cooling phase, the unit **independently meets the demand** for DHW.

• Mode of operation with no demand for cooling or DHW

This mode (Unit "at rest") is activated when both the timing thermostat controlling the room temperature and the differential pressure switch (5) are in the OFF position. Control valves (9 and 19) are both deactivated and all secondary circulation is shut off; thermal energy meters (20 and 14) do not detect any consumption. The primary flow continues to circulate between A and B (hot fluid) and H and I (chilled fluid) at the preset flow rate.


Legend

- A Inlet, primary hot fluid
- B Outlet, primary hot fluid
- C Inlet, domestic cold water (from water main) heating DN 3/4"
- D Supply to heating system
- E Return from heating system
- F Outlet, domestic cold water
- G Outlet, domestic hot water (mixed)
- H Inlet, chilled primary water
- I Outlet, chilled primary water
- L Supply, cooling system
- M Return, cooling system
- T Supply probe for thermal energy meter

- 8 Diverter valve DN 3/4", control of heating system
- 9 Diverter valve DN 3/4" for priority of domestic hot water
- 10 Probe for thermal energy meter
- 11 Mesh strainer DN 3/4"
- 12 Ball valve M-F, size 1" with swivel nut
- 13 Balancing valve STK DN 3/4" Kvs=4.5
- 14 Flow meter WMT DN 3/4" complete with probe
- 15 Balancing valve STK DN 3/4" Kvs=4.5
- 16 Balancing valve STAD DN 3/4" Kvs=5.7
- 17 By-pass setting valve
- 18 Temperature probe
- 19 3-way electrothermal control valve
- 20 Flow meter WMT DN 3/4" complete with probe

- 1 Ball valve M-F, size 3/4" with swivel nut
- 2 Mesh strainer DN 3/4"
- 3 Check valve with low pressure drop
- 4 Water hammer arrestor
- 5 Differential pressure switch
- 6 Thermostat mixing valve "AQUAMIX DN 1" for DHW
- 7 DHW 30-plate heat exchanger

Nominal technical data DOMOCAL DCA-RR2B unit

Maximum temperature of hot fluid at inlet	90 °C
Nominal chilled fluid temperature at inlet	7 °C
Maximum operating pressure (static)	8.0 bar
Nominal temperature of hot fluid at inlet	75 °C
Nominal flow rate of primary fluids (hot/chilled)	1.0 m³/h
Nominal head across inlets of the primary fluid (hot)	36 kPa
Nominal head across inlets of the primary fluid (chilled)	42 kPa
Nominal flow rate of hot fluid at outlet (heating)	0.7 m³/h
Nominal head of hot fluid at outlet (heating)	17 kPa
Nominal power, heating with 15K thermal gradient	12 kW
Nominal fluid rate of chilled fluid at outlet	1.0 m³/h
Nominal head of chilled fluid at outlet	17.00 kPa
Nominal cooling power (7K)	8 kW
Nominal flow rate, DHW	0.21 l/s
Nominal temperature, DHW	46 °C
Nominal power for DHW production	32 kW
Adjustable outlet temperature	32 - 50 °C
Heat exchange surface, plate heat exchanger	0.33 m²
Power supply	230 Vac-50 Hz
Current drawn	0.6 A
Upper thread	thread 1" M
Bottom thread	thread 3/4" M

Passive hydraulic characteristics

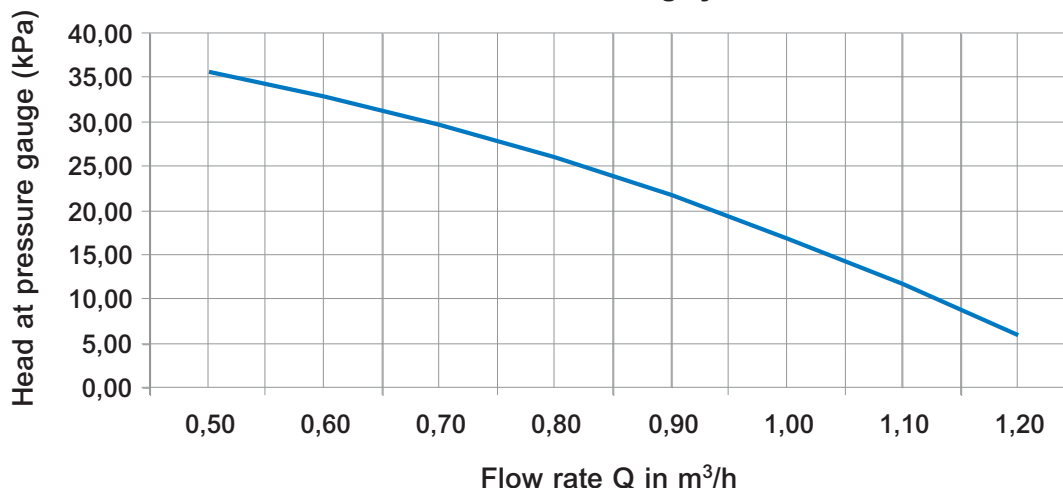
Primary circuit in DHW production	Kv = 2.00
Primary circuit in heating system	Kv = 2.1
Primary circuit in cooling system	Kv = 2.00
Primary circuit in by-pass (unit at rest)	Kv = 4.5
Domestic hot water circuit	Kv = 1.3
Domestic cold water circuit	Kv = 3.40

Residual performance heads

The following diagram shows the residual heads of the **DCA-RR2B** Unit available for the local COOLING system. This diagram is valid when the unit is fed at the inlets with a head of 42 kPa. If a greater residual head is required, increase the heads at the inlets in proportion. Conversely, when the pressure to the unit is greater than the required pressure (thermal units more favoured), compensate for excess pressures using the balancing valve (16 - see functional diagram).

The actual flow rate circulating in the circuit sections (heating, cooling and in the DHW section), can be read directly on the display of electronic panel Art. CA502M.

**Residual heads of the DCA-RR2B unit
available for the local cooling system circuit**

**Residual heads of the pump in kPa available for the cooling system circuit**

Flow rate m³/h	0,5	0,6	0,7	0,8	0,9	1,0	1,1	1,2
Head in kPa	35,8	33,0	29,8	26,0	21,8	17,0	11,8	6,0

Operation

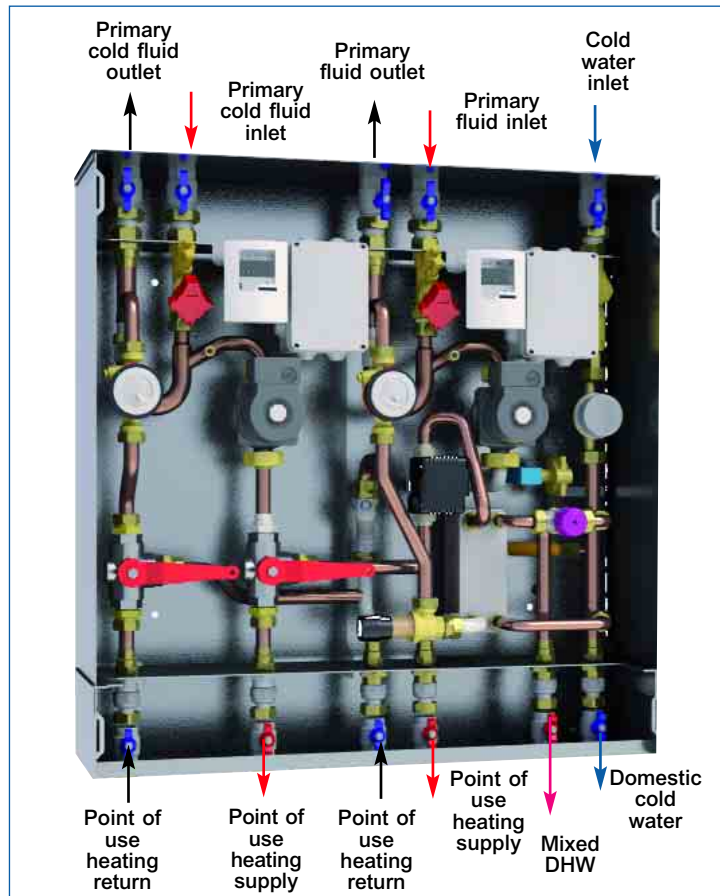
DOMOCAL serie DCA-RRBP2

The DOMOCAL thermal unit Series DCA-RRBP2 incorporates the characteristics and performance levels of the DCA-BP2 unit designed for supplying hot fluid used in heating (towel-rail radiators in the bathroom) and the production of domestic hot water (DHW), but it also combines a circuit section for the supply of chilled fluid used in cooling systems.

Likewise the cooling section is provided with a hydraulic equalization device and is fed by an electrically driven pump with a higher power rating than that of the heating section. Two manually operated 3-way valves enable the supply of the fan-coils to be changed from hot fluid to chilled fluid, or vice versa.

The seasonal change-over is performed by the operator of the heating system.

On request there is also a version of the unit with automatic valve operation, piloted by the temperature of the incoming chilled fluid or else through a command from the central boiler room.



FUNCTIONAL HYDRAULIC DIAGRAM

DURING WINTER (three-way shut-off valves, designated 27 and 19 in the diagram, and switched) DOMOCAL Series DCA-RRBP2 automatically enters one of the three modes of operation described for the DCA-BP2 unit. On the contrary, **DURING SUMMER** (three-way shut-off valves, designated 27 and 19, in the diagram, and switched), the unit automatically enters one of the modes described below :

• Mode of operation with demand for DHW

This mode is activated when the user turns on any hot water tap for drawing DHW supplied by the unit and remains activated until the tap is turned off. The device determining this state consists of a differential pressure switch (18), acting as flow sensor, which activates the pump and at the same time it holds open port A of diverter valve (6) installed on the supply line, for full flow feeding of primary heat exchanger (7). The fluid flowing out of the primary heat exchanger is conveyed directly to the RETURN port of the primary fluid: this flow rate is measured by the volumetric sensor of the thermal energy meter (9). It should be checked and initially calibrated to the design values with relief valve (8). In this mode, the room air conditioning circuit is not blocked in any way, unlike what occurs during winter operation.

• Mode of operation with demand for cooling

This mode is activated when the thermostat (switched to summer) controlling the room temperature is in the "On" position and starts up pump (21), to feed the distribution circuit for the various fan-coils connected to the unit. The return flow of the cooling system is directly conveyed to the return port of the primary cold fluid; the cooling flow rate is measured by the volumetric sensor of the thermal energy meter (26). During the cooling phase, the unit independently meets the demand for DHW.

• Mode of operation with no demand for cooling or DHW

This mode (Unit "in rest mode") is activated when both the thermostat controlling the room temperature and the differential pressure switch (18) are in the OFF position. The pumps are both deactivated and all secondary circulation is shut off; the thermal energy meters do not detect any consumption. The primary flow continues to circulate between A and B (hot fluid) and H and I (chilled fluid) at the preset flow rate.

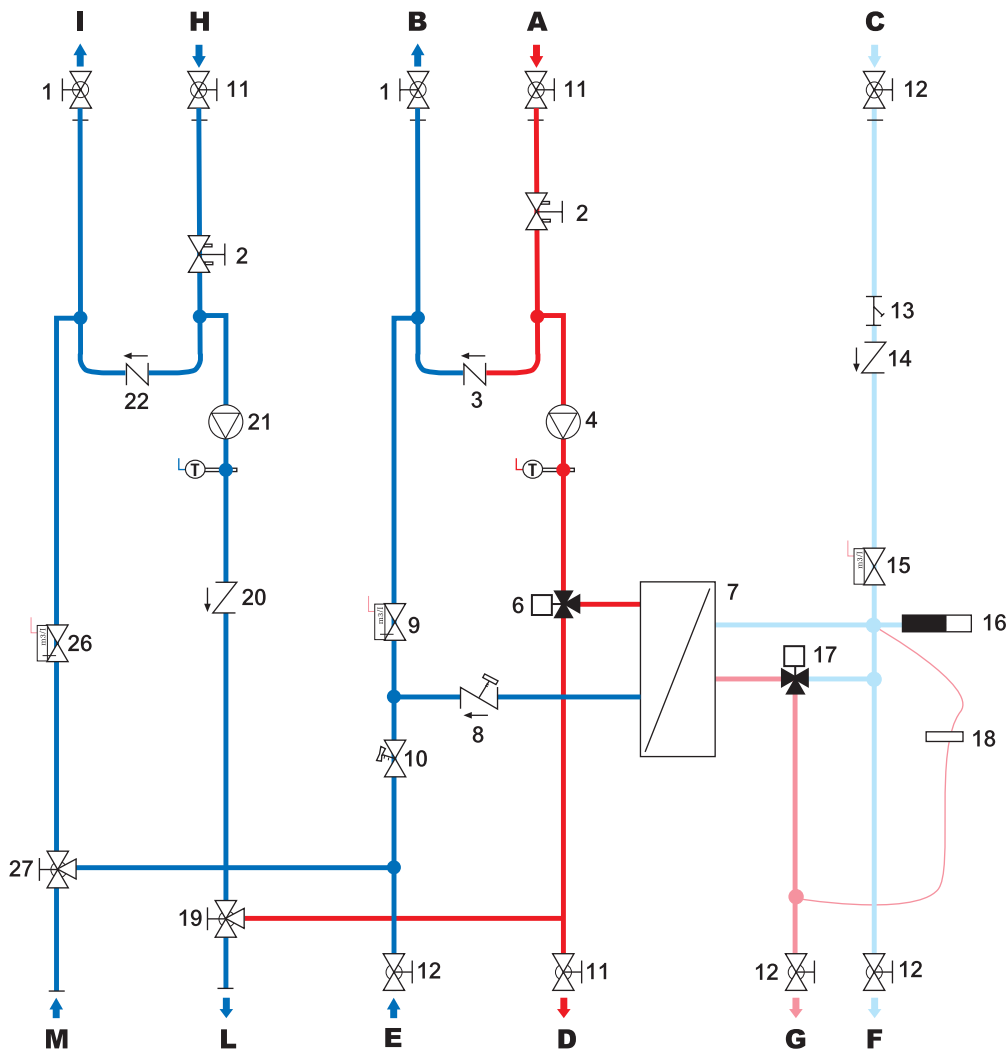


Fig.11 - Functional diagram of DOMOCAL with pump: distribution of hot/cold fluid and DHW

Legend

- | | |
|---|--|
| A Inlet, primary fluid | 10 Balancing valve STK 3/4" kvs = 4.5 for calibrating flow of the heating system |
| B Outlet, primary fluid | 11 Ball valve M-F size 1" with swivel nut |
| C Inlet, domestic cold water (from water main) | 12 Ball valve M-F size 1" with swivel nut |
| D Supply to heating system | 13 Mesh strainer DN 20 |
| E Return from heating system | 14 Check valve, size 3/4" |
| F Outlet, domestic cold water | 15 Flow meter WMT for domestic cold water |
| G Outlet, domestic hot water (mixed) | 16 Water hammer arrestor |
| H Inlet, chilled primary water | 17 Thermostat mixing valve AQUAMIX size 1" for DHW |
| I Outlet, chilled primary water | 18 Differential pressure switch |
| L Supply, cooling system | 19 Manual 3-way ball valve DN 1" |
| M Return, cooling system | 20 Check valve with preset opening |
| T Supply probe for thermal energy meter | 21 3-speed electrically driven pump |
| 1 Ball valve MF, size 1" with swivel nut | 22 Check valve with low pressure drop |
| 2 Balancing valve STAD 3/4" kvs = 5.7 | 23 Balancing valve STAD 3/4" kvs = 5.7 |
| 3 Check valve with low pressure drop | 24 Ball valve M-F size 1" with swivel nut |
| 4 3-speed electrically driven pump | 25 Ball valve M-F size 1" with swivel nut, primary fluid inlet |
| 6 Divertor valve size 3/4" for priority of domestic hot water | 26 Flow meter WMT DN 20 complete with probe |
| 7 DHW 30-plate heat exchanger | 27 Manual 3-way ball valve size 1" |
| 8 Relief valve USVR DN 20 | |
| 9 Flow meter WMT DN 20 complete with probe | |

Nominal technical data DOMOCAL DCA-RRBP2 unit	
Maximum temperature of hot fluid at inlet	90 °C
Nominal chilled fluid temperature at inlet	7 °C
Maximum operating pressure (static)	8.0 bar
Nominal temperature of hot fluid at inlet	75 °C
Nominal flow rate of primary fluids (hot/chilled)	1.0 m³/h
Nominal head across inlets of the primary fluid	5 kPa
Nominal flow rate of hot fluid at outlet (heating)	0.8 m³/h
Nominal head of hot fluid at outlet (heating)	17 kPa
Nominal power, heating with 15K thermal gradient	14 kW
Nominal flow rate of chilled fluid at outlet	1.0 m³/h
Nominal head of chilled fluid at outlet	29.5 kPa
Nominal cooling power (7K)	8 kW
Nominal flow rate of DHW	0.26 l/s
Nominal temperature of DHW	46 °C
Nominal power of DHW production	39 kW
Adjustable outlet temperature	32 - 50 °C
Heat exchange surface, plate heat exchanger	0.33 m²
Power supply	230 Vac-50 Hz
Current drawn	0.6 A
Upper thread	thread 1" M
Bottom thread	thread 3/4" M

Passive hydraulic characteristics	
Primary circuit in DHW production	Kv = 2.0
Primary circuit in heating system	Kv = 2.1
Primary circuit in cooling system	Kv = 2.3
Primary circuit in by-pass (unit at rest)	Kv = 4.5
Domestic hot water circuit	Kv = 1.3
Domestic cold water circuit	Kv = 3.4

Residual heads of the pump for the cooling circuit

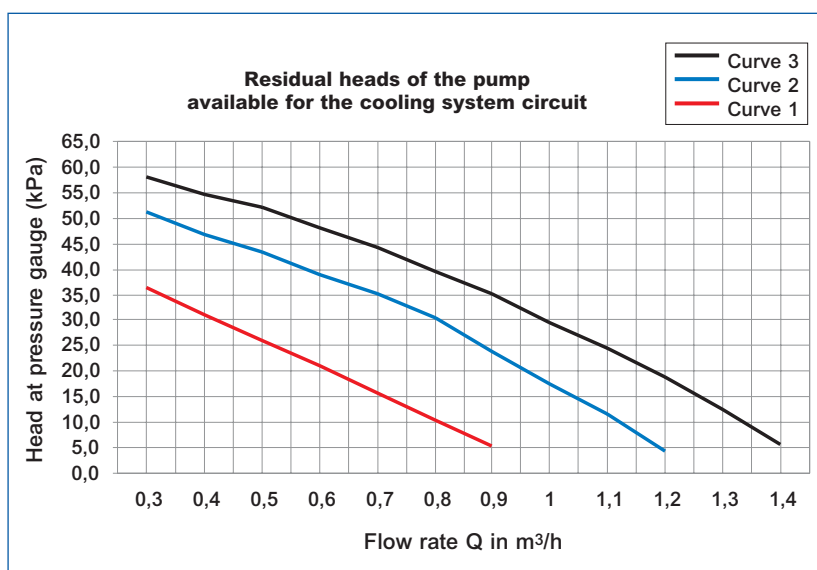
The active characteristics of the pump provided on DOMOCAL DCA-RRBP2 (cooling side) regarding the 3 possible operating positions (speed) are given at the bottom of the page. Likewise this section dedicated to cooling, can, if necessary (through the combined action of the equalization device and electrically-driven pump), draw off from the primary circuit quantities of flow also greater than that temporarily expected from the primary network. The most suitable position to select will be the one corresponding to the performance curve closest to the point representing the flow rate/pressure drop of the cooling circuit to be served.

For example:

Supposing the system has a cooling power of 8 kW and it is decided to adopt a thermal gradient of 7 K; we shall require a volume flow equal to :

$$8 / (7 \cdot 1.163) = 980 \text{ l/h (0.98 m}^3\text{/h)}$$

with a pressure drop of 28 kPa, so the pump speed selector switch will have to be set in position 3



Residual heads of the pump in kPa available for the cooling system circuit												
Flow rate in m³/h	0,3	0,4	0,5	0,6	0,7	0,8	0,9	1	1,1	1,2	1,3	1,4
Curve 3	58,1	54,7	52,0	48,0	44,4	39,5	35,2	29,47	24,4	18,9	12,6	5,8
Curve 2	51,2	46,9	43,3	39,0	35,3	30,4	23,9	17,70	11,6	4,5		
Curve 1	36,5	31,2	26,2	21,2	15,7	10,4	5,2					

Configuration example n° 1

DOMOCAL unit for installations in protected and sheltered places with open frame complete with fluid shut-off ball valve bodies. Frame which may be supplied with flush pipes for washing and testing the seal of the system.

Art. DIMA-DCA07



**Fixing frame with
flushing pipe
(on demand)**



Art. FRT-DCA-010FC



DCA-HTPA010FC



Configuration example n° 2

DOMOCAL unit on closed frame with electric pump or modulating control, complete with flush pipes and fluid shut-off, ball valve bodies. Frame may be supplied with flush pipes for washing and testing the seal of the system.

Art. DIMA-DCA07



Art. FRC-DCA-111FC



Art. DCA-HT MANTELLO



**Art. FRC-DCA-111FC
Art. DCA-HT MANTELLO**



Configuration example n° 3

DOMOCAL unit with electric pump in closed frame complete with fluid shut-off, ball valve bodies. Frame may be supplied with flush pipes for washing and testing the seal of the system.

Art. DIMA-DCA07BOX



**Fixing frame with
flushing pipe
(on demand)**



Art. FRC-DCA-111



Art. DCA-HCIC111FC



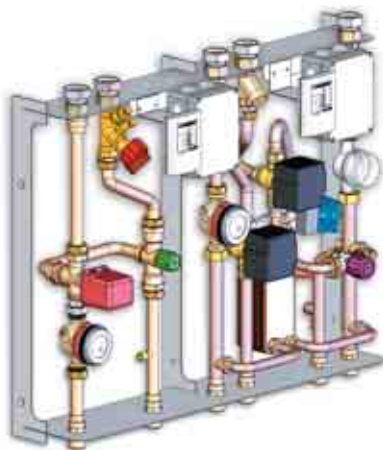
Configuration example n° 4

DOMOCAL unit for distribution of hot/cold fluids to radiators and fan-coils, and for DHW production. Housed in closed frame.

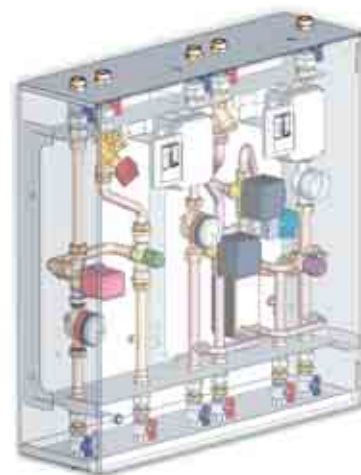
Art. DIMA-DCA2R



Art. DCA-RR2B



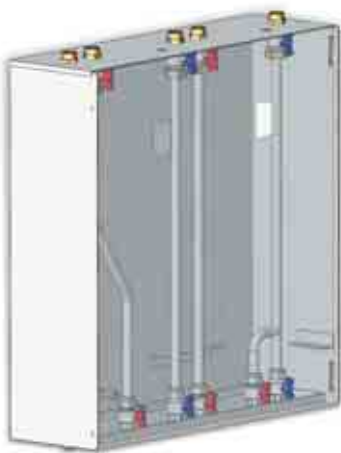
**DOMOCAL
module complete**



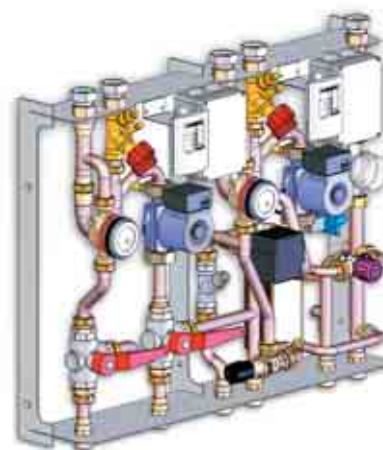
Configuration example n° 5

DOMOCAL unit for distribution of hot/cold fluids to radiators and fan-coils with two electric pumps, and DHW production. Housed in closed frame.

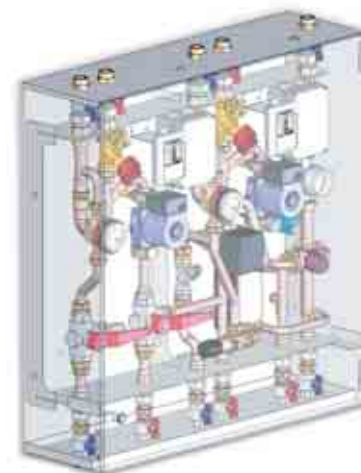
Art. DIMA-DCA2R

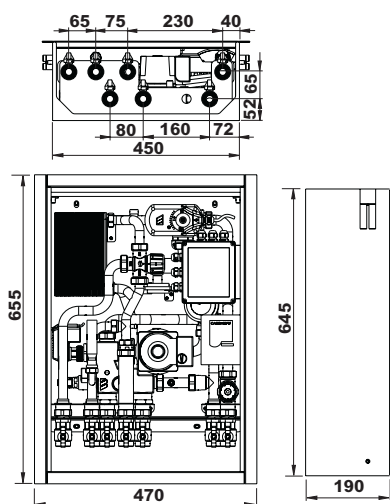
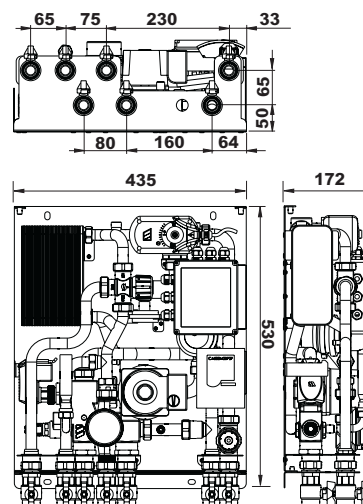
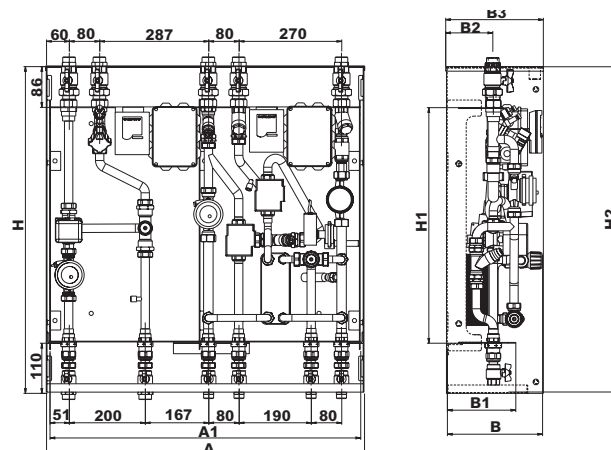


Art. DCA-RRBP2

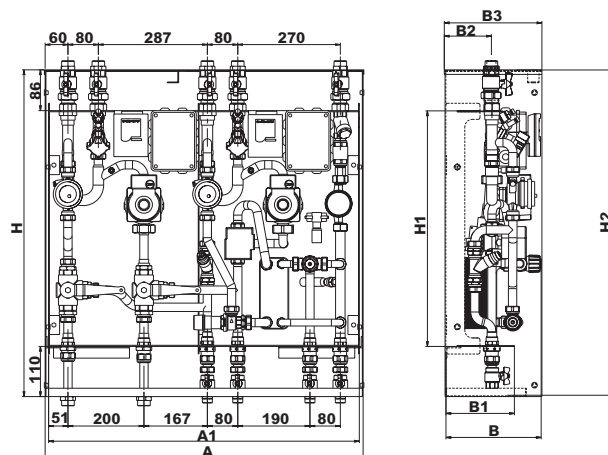


**DOMOCAL
module complete**






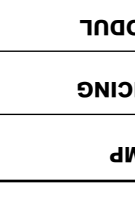
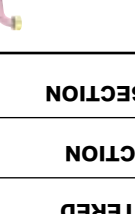
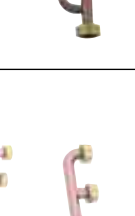



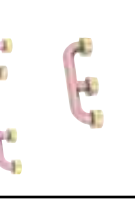
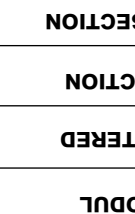
Overall dimensions (mm)**DOMOCAL - Flush-mounted model****DOMOCAL - Wall-mounted model****DOMOCAL DCA-RR2B**

Part number	A	A1	B	B1	B2	B3	H	H1	H2
DCA-RR2B	837	818	251	180	123	257	860	620	900




DOMOCAL DCA-RRBP2

Part number	A	A1	B	B1	B2	B3	H	H1	H2
DCA-RRBP2	837	818	251	180	123	257	860	620	900

DOMOCAL UNIT FOR TRADITIONAL BOILER APPLICATION - SELECTION TABLE






WITHOUT BOX AND COVER																					
COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION 1° STEP		KIT		FEATURES					OPTIONS ON DEMAND											
 DOMOCAL unit for traditional boiler application without cover	 FRAME	 KIT	 PUMP	 BALANCING	 MIX MODUL	 DCW METERED	 DCW SECTION	 NO DCW SECTION	 Flushing pipes	 Water hammer arrestor kit											
											DCA-HTPA111FC	=	DIMA-DCA07	+	FRT-DCA-111FC	✓	✓			PIPE-DCA07	1505405
											DCA-HTPA111FF	=	DIMA-DCA07	+	FRT-DCA-111FF	✓	✓	✓		PIPE-DCA07	1505405
											DCA-HTPA111XX	=	DIMA-DCA06	+	FRT-DCA-111XX	✓	✓		✓	PIPE-DCA06	1505405
											DCA-HTPA110FC	=	DIMA-DCA07	+	FRT-DCA-110FC	✓	✓			PIPE-DCA07	1505405
											DCA-HTPA110FF	=	DIMA-DCA07	+	FRT-DCA-110FF	✓		✓		PIPE-DCA07	1505405
											DCA-HTPA110XX	=	DIMA-DCA06	+	FRT-DCA-110XX	✓			✓	PIPE-DCA06	1505405
											DCA-HTPA100FC	=	DIMA-DCA07	+	FRT-DCA-100FC	✓	✓			PIPE-DCA07	1505405
											DCA-HTPA100FF	=	DIMA-DCA07	+	FRT-DCA-100FF	✓		✓		PIPE-DCA07	1505405
											DCA-HTPA100XX	=	DIMA-DCA06	+	FRT-DCA-100XX	✓			✓	PIPE-DCA06	1505405
DCA-HTPA010FC	=	DIMA-DCA07	+	FRT-DCA-010FC		✓			PIPE-DCA07	1505405											
DCA-HTPA010FF	=	DIMA-DCA07	+	FRT-DCA-010FF			✓		PIPE-DCA07	1505405											
DCA-HTPA010XX	=	DIMA-DCA06	+	FRT-DCA-010XX				✓	PIPE-DCA06	1505405											
DCA-HTPA000FC	=	DIMA-DCA07	+	FRT-DCA-000FC					PIPE-DCA07	1505405											
DCA-HTPA000FF	=	DIMA-DCA07	+	FRT-DCA-000FF				✓	PIPE-DCA07	1505405											
DCA-HTPA000XX	=	DIMA-DCA06	+	FRT-DCA-000XX					PIPE-DCA06	1505405											

DOMOCAL UNIT FOR TRADITIONAL BOILER APPLICATION - SELECTION TABLE

COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION		FEATURES						OPTIONS ON DEMAND	
	1° STEP	2° STEP	PUMP	BALANCING	MIX MODUL	DCW METERED	DCW SECTION	NO DCW SECTION	Flushing pipes	Water hammer arrestor kit
 DOMOCAL unit for traditional boiler application without cover	 FRAME		 KIT							
	DCA-HTPC111FC	= DIMA-DCA07BOX +	FKT-DCA-111FC	✓	✓	✓			PIPE-DCA07	1505405
	DCA-HTPC111FF	= DIMA-DCA07BOX +	FKT-DCA-111FF	✓	✓		✓		PIPE-DCA07	1505405
	DCA-HTPC111XX	= DIMA-DCA06BOX +	FKT-DCA-111XX	✓	✓			✓	PIPE-DCA06	1505405
	DCA-HTPC110FC	= DIMA-DCA07BOX +	FKT-DCA-110FC	✓		✓			PIPE-DCA07	1505405
	DCA-HTPC110FF	= DIMA-DCA07BOX +	FKT-DCA-110FF	✓			✓		PIPE-DCA07	1505405
	DCA-HTPC110XX	= DIMA-DCA06BOX +	FKT-DCA-110XX	✓	✓			✓	PIPE-DCA06	1505405
	DCA-HTPC100FC	= DIMA-DCA07BOX +	FKT-DCA-100FC	✓		✓			PIPE-DCA07	1505405
	DCA-HTPC100FF	= DIMA-DCA07BOX +	FKT-DCA-100FF	✓			✓		PIPE-DCA07	1505405
	DCA-HTPC100XX	= DIMA-DCA06BOX +	FKT-DCA-100XX	✓				✓	PIPE-DCA06	1505405
	DCA-HTPC010FC	= DIMA-DCA07BOX +	FKT-DCA-010FC		✓	✓			PIPE-DCA07	1505405
	DCA-HTPC010FF	= DIMA-DCA07BOX +	FKT-DCA-010FF				✓		PIPE-DCA07	1505405
	DCA-HTPC010XX	= DIMA-DCA06BOX +	FKT-DCA-010XX					✓	PIPE-DCA06	1505405
	DCA-HTPC000FC	= DIMA-DCA07BOX +	FKT-DCA-000FC			✓			PIPE-DCA07	1505405
	DCA-HTPC000FF	= DIMA-DCA07BOX +	FKT-DCA-000FF				✓		PIPE-DCA07	1505405
	DCA-HTPC000XX	= DIMA-DCA06BOX +	FKT-DCA-000XX					✓	PIPE-DCA06	1505405



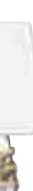



WITHOUT BOX / WITH COVER

DOMOCAL UNIT FOR TRADITIONAL BOILER APPLICATION - SELECTION TABLE






WITH BOX, COVER AND LOCK													
COMPLETE UNIT SINGLE STEP INSTALLATION		UNIT KIT FOR TWO STEPS INSTALLATION 1° STEP		KIT		FEATURES					OPTIONS ON DEMAND		
<div> DOMOCAL unit for traditional boiler application with cover and lock</div>		<div> FRAME</div> <div>=</div> <div> KIT</div>				PUMP	BALANCING	MIX MODUL	DCW METERED	DCW SECTION	NO DCW SECTION	<div> Flushing pipes</div>	<div> Water hammer arrestor kit</div>
DCA-HTIC111FC		=	DIMA-DCA07BOX	+	FRT-DCA-111FC	✓	✓	✓	✓		PIPE-DCA07	1505405	
DCA-HTIC111FF		=	DIMA-DCA07BOX	+	FRT-DCA-111FF	✓	✓	✓		✓	PIPE-DCA07	1505405	
DCA-HTIC111XX		=	DIMA-DCA06BOX	+	FRT-DCA-111XX	✓	✓	✓			✓	PIPE-DCA06	1505405
DCA-HTIC110FC		=	DIMA-DCA07BOX	+	FRT-DCA-110FC	✓	✓		✓		PIPE-DCA07	1505405	
DCA-HTIC110FF		=	DIMA-DCA07BOX	+	FRT-DCA-110FF	✓	✓			✓	PIPE-DCA07	1505405	
DCA-HTIC110XX		=	DIMA-DCA06BOX	+	FRT-DCA-110XX	✓	✓				✓	PIPE-DCA06	1505405
DCA-HTIC100FC		=	DIMA-DCA07BOX	+	FRT-DCA-100FC	✓			✓		PIPE-DCA07	1505405	
DCA-HTIC100FF		=	DIMA-DCA07BOX	+	FRT-DCA-100FF	✓				✓	PIPE-DCA07	1505405	
DCA-HTIC100XX		=	DIMA-DCA06BOX	+	FRT-DCA-100XX	✓					✓	PIPE-DCA06	1505405
DCA-HTIC010FC		=	DIMA-DCA07BOX	+	FRT-DCA-010FC				✓		PIPE-DCA07	1505405	
DCA-HTIC010FF		=	DIMA-DCA07BOX	+	FRT-DCA-010FF					✓	PIPE-DCA07	1505405	
DCA-HTIC010XX		=	DIMA-DCA06BOX	+	FRT-DCA-010XX						✓	PIPE-DCA06	1505405
DCA-HTIC000FC		=	DIMA-DCA07BOX	+	FRT-DCA-000FC				✓		PIPE-DCA07	1505405	
DCA-HTIC000FF		=	DIMA-DCA07BOX	+	FRT-DCA-000FF					✓	PIPE-DCA07	1505405	
DCA-HTIC000XX		=	DIMA-DCA06BOX	+	FRT-DCA-000XX						✓	PIPE-DCA06	1505405

WITHOUT BOX AND COVER

WITHOUT BOX/WITH COVER

WITHOUT BOX/WITH COVER																									
COMPLETE UNIT SINGLE STEP INSTALLATION		UNIT KIT FOR TWO STEPS INSTALLATION 1° STEP				2° STEP				FEATURES						OPTIONS ON DEMAND									
 DOMOCAL unit for condensing boiler application with cover		=				+						BALANCING		MIX MODUL		DCW METERED		DCW SECTION		NO DCW SECTION		 Flushing pipes		 Water hammer arrestor kit	
		DCA-HCPC111FC		DIMA-DCA07		+		FKC-DCA-111FC				✓	✓	✓					PIPE-DCA07	1505405					
		DCA-HCPC111FF		DIMA-DCA07		+		FKC-DCA-111FF				✓	✓	✓	✓				PIPE-DCA07	1505405					
		DCA-HCPC111XX		DIMA-DCA06		+		FKC-DCA-111XX				✓	✓	✓				✓	PIPE-DCA06	1505405					
		DCA-HCPC110FC		DIMA-DCA07		+		FKC-DCA-110FC				✓	✓	✓	✓				PIPE-DCA07	1505405					
		DCA-HCPC110FF		DIMA-DCA07		+		FKC-DCA-110FF				✓	✓	✓		✓			PIPE-DCA07	1505405					
DCA-HCPC110XX		DIMA-DCA06		+		FKC-DCA-110XX		✓	✓	✓					✓	PIPE-DCA06	1505405								

DOMOCAL UNIT FOR CONDENSING BOILER APPLICATION - SELECTION TABLE

WITH BOX, COVER AND LOCK									
COMPLETE UNIT SINGLE STEP INSTALLATION	UNIT KIT FOR TWO STEPS INSTALLATION		FEATURES					OPTIONS ON DEMAND	
	1° STEP	2° STEP							
 DOMOCAL unit for condensing boiler application with cover and lock	 FRAME	 KIT						 Flushing pipes	 Water hammer arrestor kit
			PUMP	BALANCING	MIX MODUL	DCW METERED	DCW SECTION	NO DCW SECTION	
			✓	✓	✓	✓			
			✓	✓	✓		✓		
			✓	✓	✓			✓	
			✓	✓		✓			
			✓	✓			✓		
DCA-HCIC111FC	= DIMA-DCA07BOX	+ FRC-DCA-111FC						PIPE-DCA07	1505405
DCA-HCIC111FF	= DIMA-DCA07BOX	+ FRC-DCA-111FF						PIPE-DCA07	1505405
DCA-HCIC111XX	= DIMA-DCA06BOX	+ FRC-DCA-111XX						PIPE-DCA06	1505405
DCA-HCIC110FC	= DIMA-DCA07BOX	+ FRC-DCA-110FC						PIPE-DCA07	1505405
DCA-HCIC110FF	= DIMA-DCA07BOX	+ FRC-DCA-110FF						PIPE-DCA07	1505405
DCA-HCIC110XX	= DIMA-DCA06BOX	+ FRC-DCA-110XX						PIPE-DCA06	1505405

INSIDE THE COMPANY

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NOTE



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