201-2001

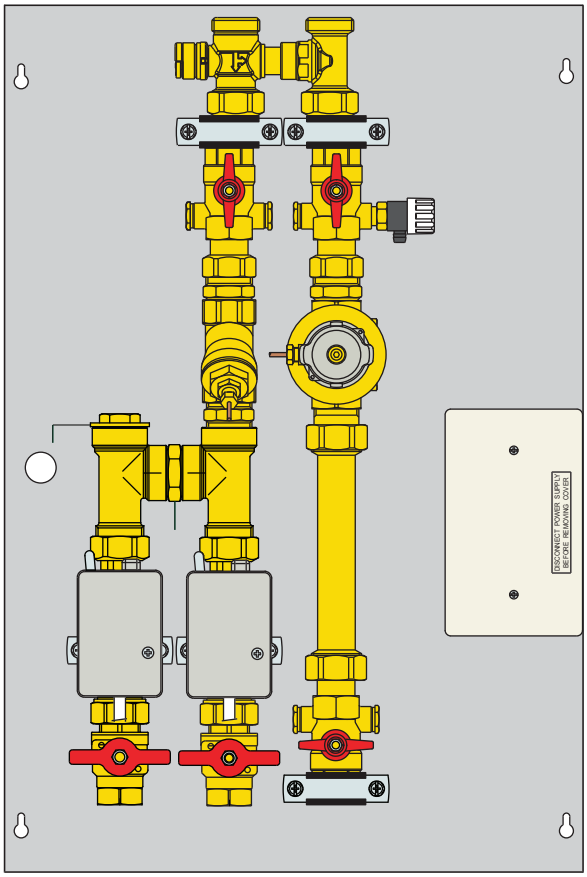
heat interface unit

Installation Operation & Maintenance Instructions

altecnic

Caleffi group

201-2001 heat interface unit



Function

201-2001 Heat Interface Units (HIU) control the domestic hot water and space heating in an individual apartment within a centralised boiler or district heating system.

Wall mounted unit.

Content

Safety Instructions

WARNING **These instructions must be read and understood before installing and maintaining the HIU. CAUTION! FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A SAFETY HAZARD!**

1. The device must be installed, commissioned and maintained by qualified technical personnel in accordance with national regulations and/or relevant local requirements.
2. If the device is not installed, commissioned and maintained correctly in accordance with the instructions provided in this manual, it may not work correctly and may endanger the user.
3. Flush the pipework thoroughly before installing the HIU to remove any particles, rust, incrustations, limescale, welding slag and any other contaminants.
   The water circuits must be clean and free from debris.
4. Make sure that all connection fittings are watertight.
5. When connecting water pipes, make sure that threaded connections are not mechanically overstressed. Over time this may result in breakage, causing water damage and/or personal injury.
6. Water temperatures higher than 50˚C may cause severe burns. When installing, commissioning and maintaining the device, take the necessary precautions so that these temperatures will not be hazardous for people.
7. In the case of particularly hard or impure water, there must be suitable provision for filtering and treating the water before it enters the device, in accordance with current legislation. Failure to do so may result the HIU becoming damaged or working incorrectly.
8. Any use of the HIU other than it's intended use is prohibited
9. Any coupling of the device with other system components must be made while taking the operational characteristics of both units into consideration.
10. An incorrect coupling could compromise the operation of the device and/or system.
11. If the system is prone to 'water hammer' a water hammer arrester must be installed.
12. If hot water recirculation is present or a non-return valve is installed in the cold water inlet, provision must be made to accommodate water expansion by fitting an expansion vessel.

Safety Instructions

NOTE: Risk of electric shock. Live parts. Shut off the electric supply before opening the HIU cover.

1 During installation and maintenance operations, always avoid direct contact with live or potentially hazardous parts.

2 The device must not be exposed to water drops or humidity, direct sunlight, the elements, heat sources or high intensity electromagnetic fields.

This device cannot be used in areas at risk of explosion or fire.

3 The device must be connected to an independent bipolar switch. If work has to be done on the device, switch off the electric supply first. Do not use devices with automatic or time reset, or which may be reset accidentally.

4 Use suitable automatic protection devices in compliance with current legislation.

5 The device must always be earthed before it is connected to the electric supply. If the device has to be removed, always disconnect the earth connection after disconnecting the electric supply. Check that the earth connection has been made to the highest of standards under current legislation.

6 Electrical installation only be carried out by a qualified technician, in accordance with current requirements.

General Information

- Please leave the manual as a reference guide for the user.
- Dispose of any packaging in an appropriate manner, most of which can be recycled.
- In this Installation, Operation and Maintenance guide we have endeavoured to make the information as accurate as possible.

We cannot accept any responsibility should it be found that in any respect the information is inaccurate or incomplete or becomes so as a result of further developments or changes to the products.

Key to Symbols


Primary circuit flow


Primary circuit return


Domestic hot water flow


Heating circuit flow


Combined return

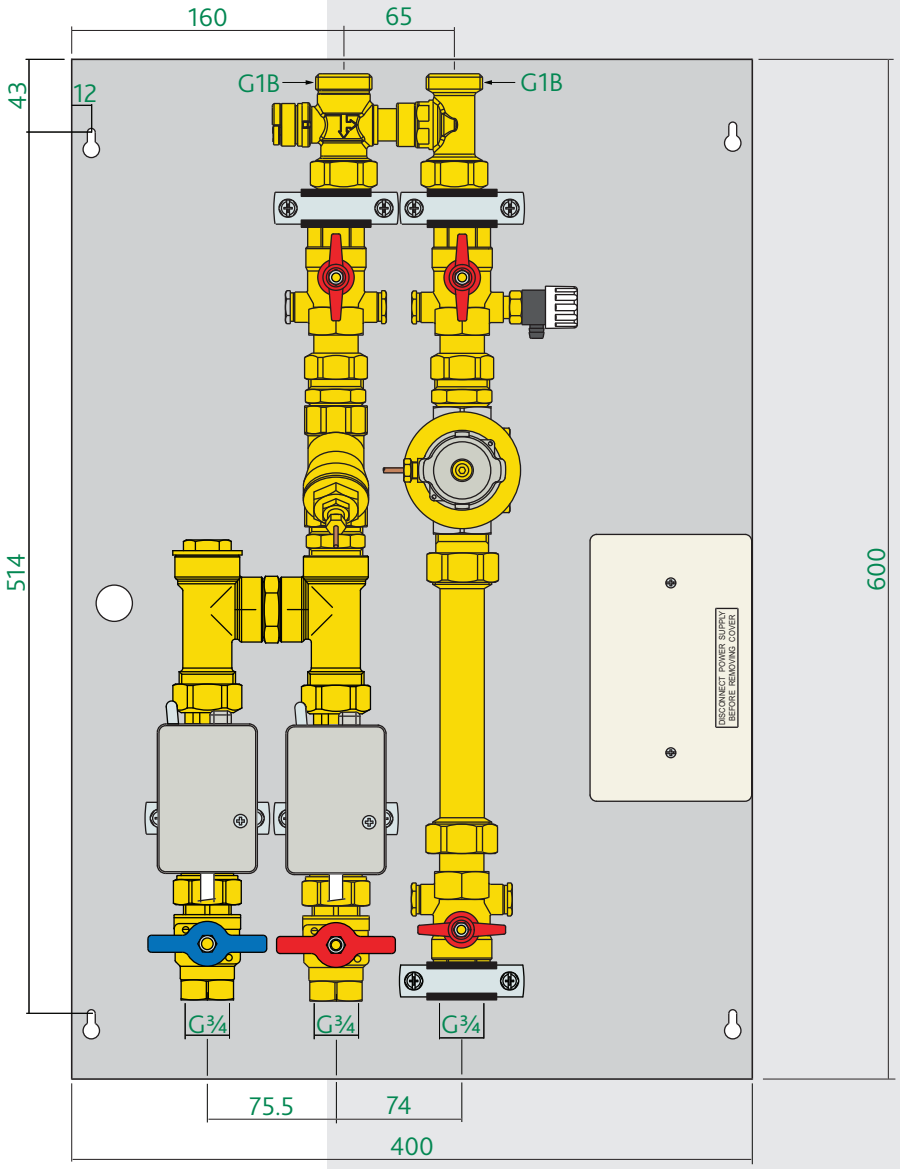
Technical Specification

Medium:		Water
Max. percentage of glycol		30%
Max. temperature:		85˚C
Max. static working pressure:	Primary:	10 bar
	Domestic hot water:	10 bar
Primary differential pressure capability:		0.9 bar
Actuator on 2-port control valves		
Power supply:		230 V (ac)±10% 50 Hz
Power		6.5 W
		7 VA
Protection class:		IP 20
Maximum ambient temperature:		40˚C

Material

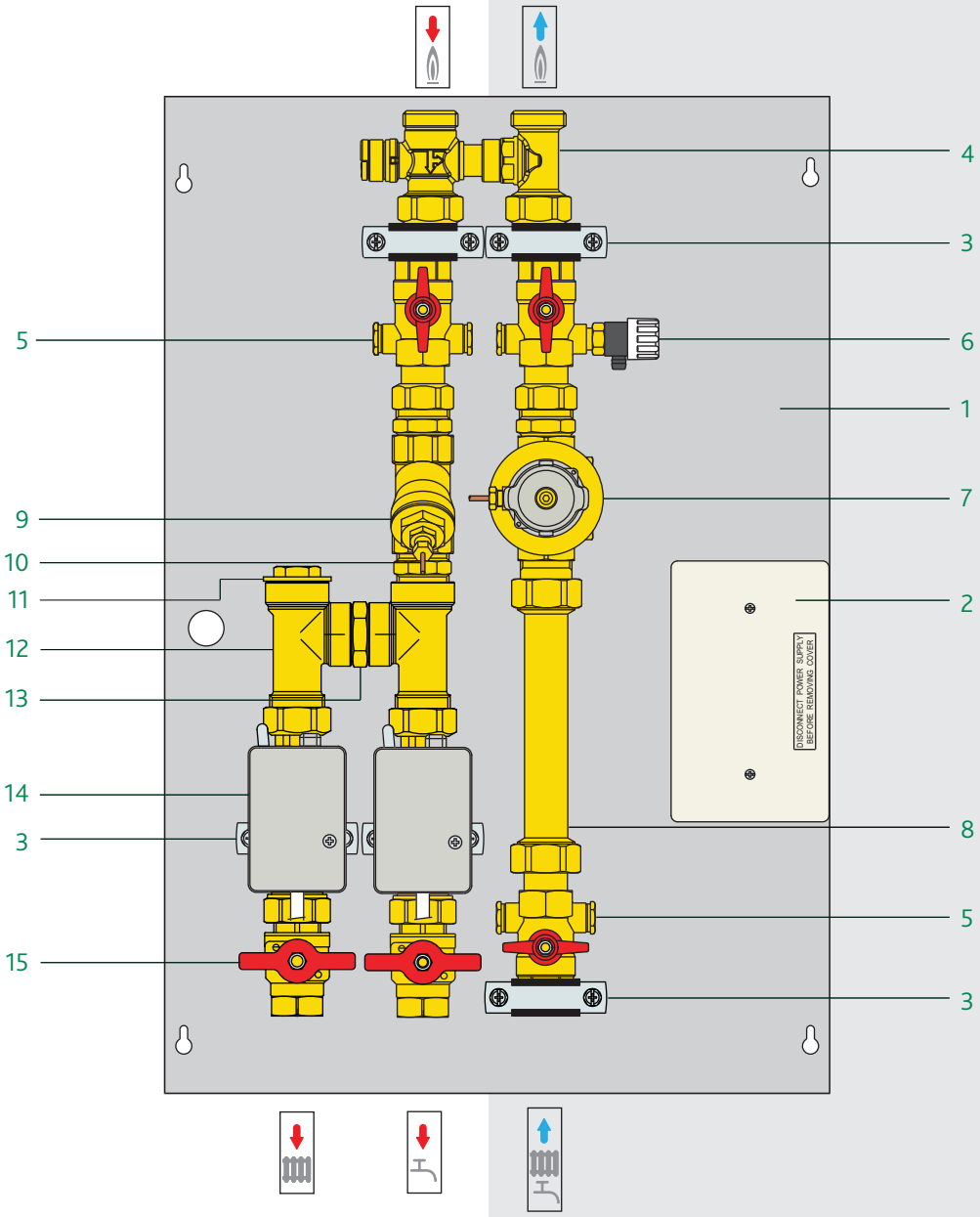
Components:	brass BS EN 12165 CW617N
Back plate:	galvanised steel

Dimensions



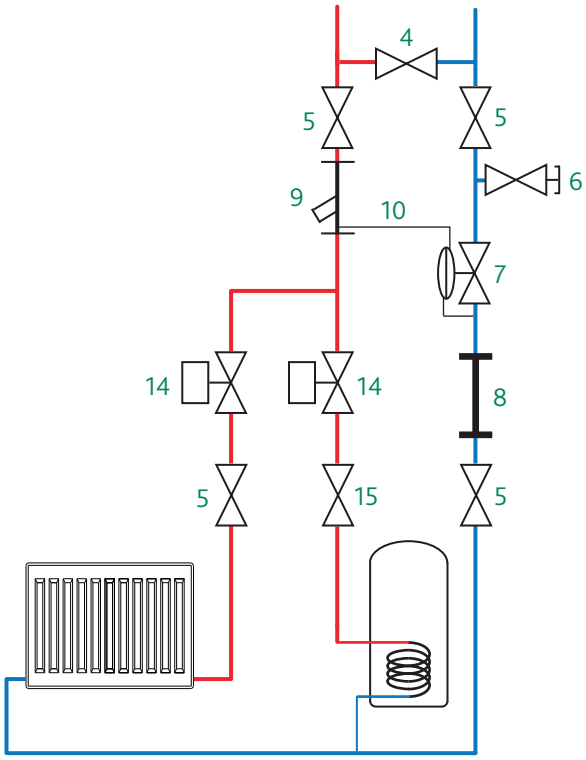
Depth of backplate: 45mm
Depth overall: 185mm

Components



Item	Component	Item	Component
1	Back plate	9	Strainer
2	Electric connection box	10	Impulse tube for DPCV
3	Mounting bracket	11	Blanking cap
4	Flushing bypass with off set connections	12	Tee piece
5	Female union ball valve	13	1” hexagon nipple
6	Female union ball valve with drain	14	2-port control valve
7	DPCV	15	¾” ball valve
8	Spool piece		

Schematic



Installation

The 201-2001 HIU is designed for installation in a sheltered domestic environment (or similar), therefore cannot be installed or used outdoors, i.e. in areas directly exposed to atmospheric agents. Outdoor installation may cause malfunctioning and hazards.

If the device is enclosed inside or between cabinets, sufficient space must be provided for routine maintenance procedures. It is recommended that electrical devices are NOT placed underneath the HIU, as they may be damaged in the event of leakage from any hydraulic component of connection.

If this advice is not heeded, the manufacturer cannot be held responsible for any resulting damage.

In the event of a malfunction, fault or incorrect operation, the device should be deactivated; contact a qualified technician for assistance.

Preparation

After establishing the position where the HIU will be installed, perform the following operations:

- Mark the holes required for securing the HIU to the wall.
- Mark the position of the water pipe connections.

Check the measurements again before installing pipework and electrical cables.

Hydraulic connections

1 connection to the pipework from the centralised boiler plant
2 space heating circuit connection
3 domestic water circuit connection

Hydraulic connections

The whole system should be thoroughly flushed to remove any debris that may be in the supply pipework to the HIU and to the domestic hot water pipework in the apartment before connecting the HIU.

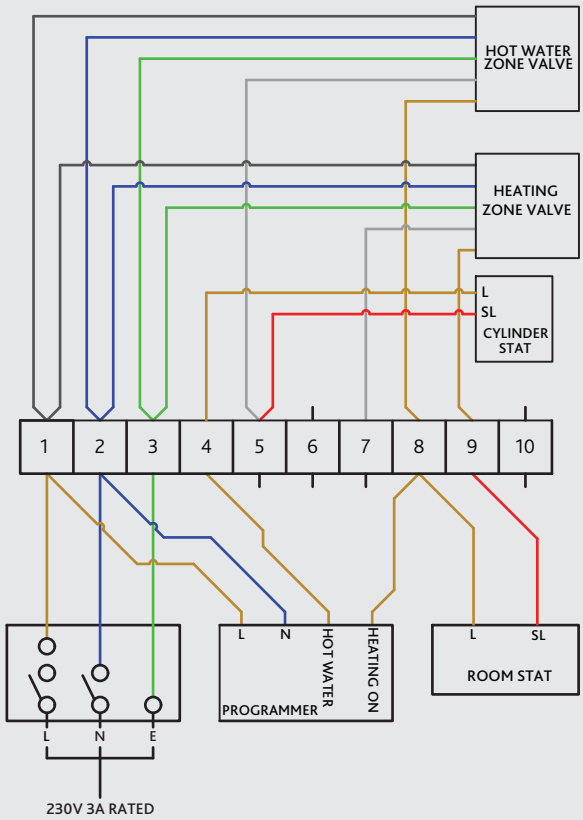
Fix the HIU to the wall

N.B.: the wall anchors (not supplied) can only guarantee effective support if inserted correctly (in accordance with good technical practice) into walls built using solid or semi-solid bricks. If working with walls built using perforated bricks or blocks, mobile dividing panels or any masonry walls other than those indicated, a preliminary static test must be carried out on the support system.

Electrical

1 electric supply line 230 V (ac) – 50 Hz - 3A.

Electrical Schematic



Technical Specification - Actuator of 2-port Control Valve

Materials: - base and cover:	PC G 10
Synchronous motor:	Normally closed
Supply:	230 V - 50 Hz
Power consumption:	6.5 W; 7 VA
Opening time:	70 to 75 s
Closing time:	5 to 7 s
Microswitch contacts rating:	0.8A
Protection class:	IP 40
Max. ambient temperature:	40˚C
Complies with Directive:	72/23/EC and 89/336/EC
Length of power cable:	95 cm

Operation

With the electrical supply off, the actuator keeps the valve in the closed position.

When a temperature thermostat or other electrical device switches the supply on, the actuator moves the disc in the valve into the open position.

When the supply is turned off, the valve closes again due to the action of a return spring.

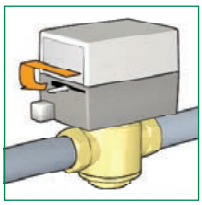
Construction

Auxiliary microswitch

The actuator is fitted with a microswitch to operate devices such as, for example, a circulating pump. The microswitch comes on when the valve is 60% open.

Manual opening

The valve can be opened manually by moving the lever to the lock open position. When the power is restored the manual control is automatically overridden.



Clip on actuator

A rapid clip-on system makes it easy to remove the actuator from the body of the valve for maintenance or replacement operations.

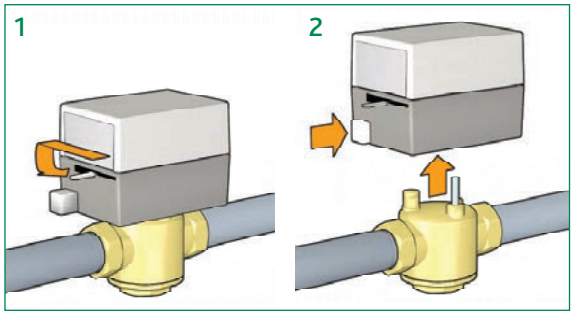
Operation

The actuator is fitted with a special mechanism for gradual movement of the valve disc which prevents judder and vibration due to the inertia of the gear motor.

Removing the actuator

1 Set the lever on the side of the actuator to the open position (or to manual opening).

2 Press the open button on the side of the actuator and remove the actuator.

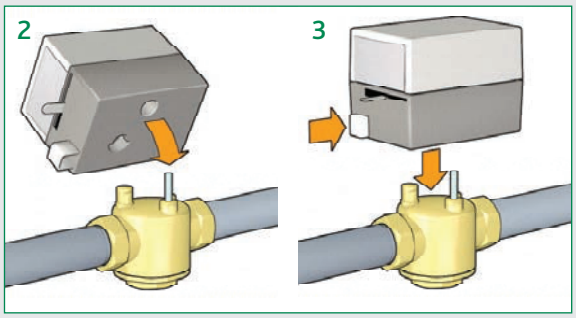


Fitting the actuator

1 Set the lever on the side of the actuator to the open position (or manual opening).

2 Check that the actuator is correctly positioned with respect to the valve as determined by the different dimensions of the operating stem and the locking pin.

3 Press the open button fully down. Clip on the actuator and release the button.



Technical Specification - Differential Pressure Control Valve

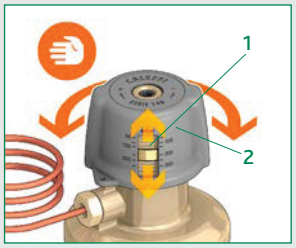
Medium:	water, glycol solution
Max. percentage of glycol:	50%
Max. working pressure:	16 bar
Temperature range:	-10 to 120°C
Diaphragm max. differential pressure:	6 bar
Δp setting range:	50 to 300 mbar 5 to 30 kPa

Connections

Capillary tube connection size:	G$^{1}/_{8}$
Tightening torque:	4 to 7 Nm
Length of capillary Ø3 mm	1.5 m

Δp indicator

The operation of setting the Δp differential regulating valve is simplified by the presence of the mobile indicator (1) and the graduated scale (2) in mbar on the valve knob.



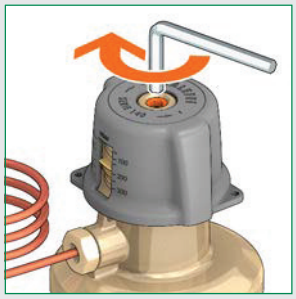
Shutting off the flow and maintaining the Δp setting

It is possible to isolate the circuit controlled by the differential regulating valve.

The mechanism to stop the flow is built into the valve.

The circuit is shut off by inserting an Allen wrench into the hole and turning it fully clockwise.

This allows the flow to be shut-off for system maintenance without having to reset the valves after re-opening.

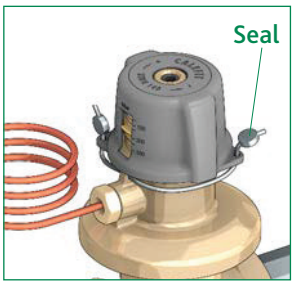


Differential Pressure Control Valve Continued

Locking/sealing the regulated position

On the knob and on the valve body there are special holes that can be used to seal the devices, once the regulation operations have been completed.

The application of sealing means that, during any inspections, it can be easily seen if the system has not been tampered with.



Altecnic Ltd Mustang Drive, Stafford, Staffordshire ST16 1GW
T: +44 (0)1785 218200 E: sales@altecnic.co.uk
Registered in England No: 2095101
altecnic.co.uk

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