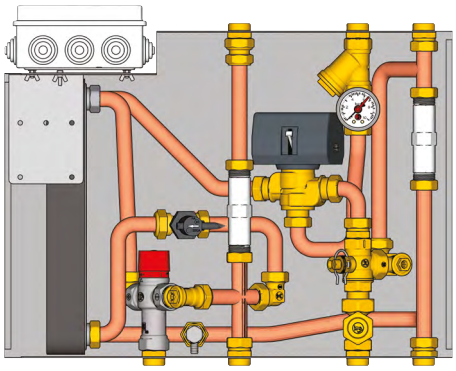
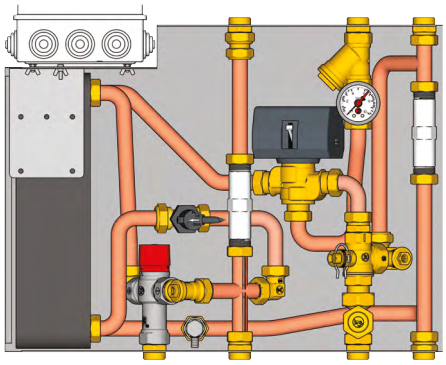
HEAT INTERFACE UNITS GE556Y301, GE556Y302
GE556 SERIES



GE556Y301



GE556Y302

Description

The GE556 user Heat Interface Units are the ideal metering solution in condominium systems with the centralised production of heating water and zone-based distribution, where there is a need to produce domestic hot water locally (in each individual apartment).
With the aid of the HIUs, a delivery pipe and a return pipe distribute energy for heating both rooms and domestic water; in addition to this, there is just one pipe for the domestic cold water.
This avoids the need to install pipes for domestic hot water distribution and the relative recirculation.

Versions and product codes

Product code	Main functions	Exchanger power
GE556Y301	Priority valve	44 kW
GE556Y302	Priority valve	58 kW

Technical data

Primary circuit
- Max. working temperature: 90 °C
- Max. working pressure: 16 bar (10 bar with plastic spacer)
- Nominal flow rate on primary circuit: 1000 l/h

Heating circuit
- Max. heating power: can be adjusted via the flow rate adjustment lockshield

Domestic hot water production
- Power for DHW production with inlet 75 °C, flow rate 1000 l/h on the primary circuit and ΔT = 35 °C on the secondary circuit (50-15 °C):
  44 kW for GE556Y301
  58 kW for GE556Y302
- Corresponding domestic hot water flow rate:
  18 l/min for GE556Y301
  24 l/min for GE556Y302
- Min. hot water withdrawal: 2,75 l/min

Priority valve
- Power voltage/frequency: 230 Vac / 50 Hz
- Total absorbed electric power: 6 VA
- Hydraulic switchover time: 6 seconds

Warning.
The HIU can be used in closed boiler rooms for operation with non-aggressive fluids (water, glycol-based water in compliance with VDI 2035/ÖNORM 5195).

Main features

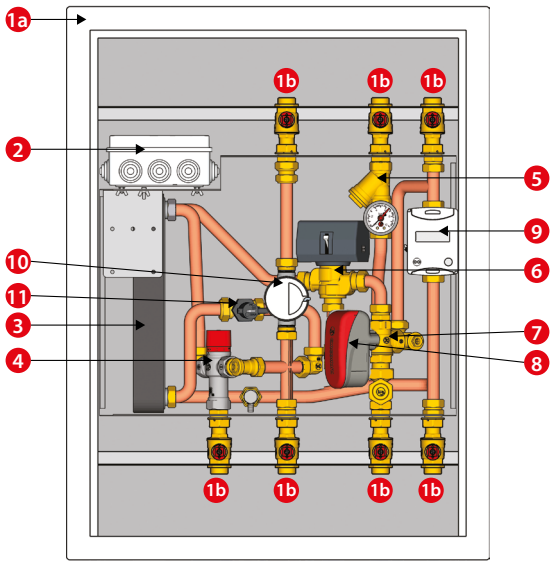
- Connections: 3/4".
- Primary side: filter with stainless steel basket and housing for delivery temperature probe.
- Domestic hot water production: flow switch, priority valve, thermostatic mixer for temperature adjustment, and instantaneous heat exchanger.
- Heating side: adjustment lockshield and 3-way motorizable zone valve.
- Box with terminal board for electric connections.
- Suitable for insertion in a template (external or flush-mounting).
- Suitable for installation of thermal energy meter and domestic water meter, via the plastic spacers.

The versions GE556Y301 and GE556Y302 implement the following functions:
- ON-OFF control of the heating system.
- Instantaneous production of domestic hot water via a motorised priority valve and integrated heat exchanger.
- Mixing of domestic water for sending to the users.
- Direct measurement of the heat energy consumption for heating and domestic hot water production.
- Direct measurement of the consumption of domestic cold water.

The HIU components are fitted on a sheet metal frame that can be inserted in the appropriate template for worksite installation. Available in an external version (GE551Y072) or a flush-mounting one (GE551Y073).
On the heating delivery unit there is a filter, a manometer, a balancing lockshield and a motorizable 3-way zone valve. On the return unit there is a plastic spacer for inserting the thermal energy meter.
The insulated stainless steel plate exchanger produces domestic hot water in combination with the motorised priority valve that is activated by the domestic water circuit flow switch.
The thermostatic mixer allows you to adjust the temperature of the domestic water sent to users, within a range of 38÷60 °C.
The difference between the two versions lies in the power of the heat exchanger: 44 kW for the GE556Y301 HIU; 58 kW for the GE556Y302 HIU.

Factory adjustments
- Thermostatic mixer: position 3 (49 °C).
- Cold side lockshield on thermostatic mixer: 3/4 turn opening.
- Heating lockshield: fully open.
- Primary by-pass lockshield: fully open.

Components



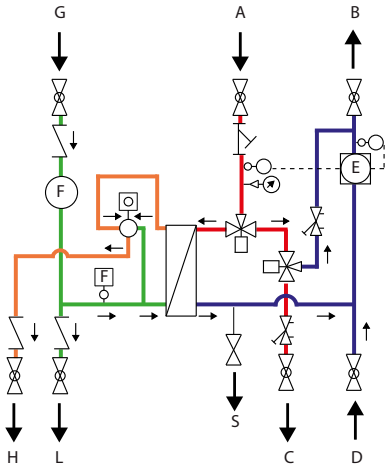
Legend	
1a	Template for installation on a worksite - external or flush-mounting (optional)
1b	Valves included with the template, for HIU-template connection (optional)
2	Box with terminal board for electric connections
3	Insulated heeat exchanger
4	Thermostatic mixer
5	Y-filter
6	Motorised priority valve
7	3-way motorizable zone valve
8	Actuator for 3-way zone valve (optional)
9	Thermal energy meter
10	Domestic cold water meter (optional)
11	Flow switch

Optional accessories

- Thermal energy meter, GE552 series (fig.2-9).
- Domestic water meter, GE552-2 series (fig.2-10).
- Template for external or flush-mounting installation, GE551-2 series (fig.2-1a, 1b).
- Actuator for zone valve, K270 series (fig.2-8).
- Components for data centralisation via M-Bus (GE552-4 series) or via Wireless M-Bus (GE552-W series).

NB:
- Within the HIU there is an adjustment lockshield for balancing the heating circuits.
No device is envisaged for balancing HSW production circuits: if necessary, you can fit one on the distribution system side.
- If there is no domestic water meter, the cold domestic water inlet in the HIU can be set from below (inlet L in figure 3, with the connection G closed and no check valve).

Operation



Legend	
A) Primary delivery **B)** Primary return **C)** Heating system delivery **D)** Heating system return	**G)** Domestic cold water inlet **H)** Mixed domestic hot water outlet **L)** Domestic cold water outlet **S)** Drainage

	3-way zone valve Priority valve		Temperature probe
	Thermostatic mixer	F	Flow switch
	Shut-off valve		Filter
	Drain cock	E	Thermal energy meter (optional)
	Balancing lockshield	F	Domestic water meter (optional)
	Heat exchanger		Check valve (optional)
	Manometer		

The inputs from the boiler room are from above, while the outputs to the home are from below. The first unit at the top left (**G**) relates to domestic water; the water meter (**F**) measures the total flow rate. Domestic cold water emerges from the second pipe at the bottom left (**L**); the first (**H**) feeds out domestic hot water, mixed by means of a thermostatic mixer.
The "hot" heating fluid from the centralised utility room enters from above, via the second pipe from the left (**A**); after passing through a filter, its temperature and pressure (analogue manometer) are measured. Then there is the priority valve that, commanded by the domestic hot water flow switch, deviates the heating fluid (heating side) towards the plate exchanger. When there is no domestic hot water request, the heating fluid (heating side) passes through the priority valve and then meets the 3-way zone heating valve (that may also be 2-way if the bypass with adjustment lockshield is closed). The adjustment lockshield downstream from the zone heating valve regulates the flow rate in heating mode. On the return circuit towards the central unit there is a thermal energy meter (**E**) with built-in temperature probe.

Thermostatic mixer

- Complying with A.S.S.E. 1017
- Adjustment precision: ± 1 °C

Position	1	2	3	4	5
Mixing temperature [°C]	38	43,5	49	54,5	60

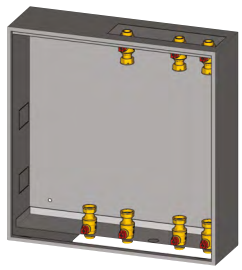
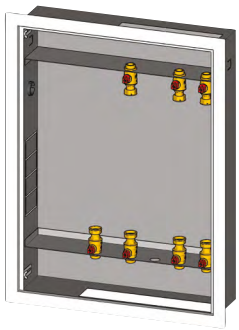
Thermostatic mixer adjustment

Installation

Warning.
The installation should be undertaken by suitably qualified and authorised personnel only.
Observe the EU norms and regulations concerning the use (installation, fixing, etc.), the operation, the recalibration and the replacement the meters. Please refer to the assembly instructions supplied with any meter.

HIU installation usually requires the use of a template for worksite installation of the versions:

- **GE551Y072:** (external)
- **GE551Y073:** (flush-mounting)

GE551Y072 (external)	GE551Y073 (flush-mounting)
	

1) Installing the template.
You are advised to install only the template on the worksite (fig.16), to avoid damaging the meters and so that you can subsequently rinse out the systems and perform the pressure tests.

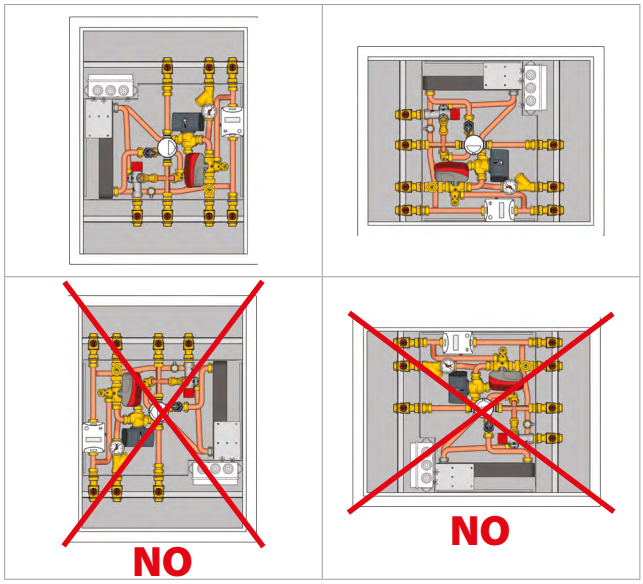
Warning.
Before connecting the template to the HIU, remove the lock nuts from the threaded connections.

2) Rinsing out the system
You are advised to rinse out the system before installing the thermal energy meters.

3) Installing the HIU
After rinsing out the system, the HIU can be installed in the template and the energy meter can be assembled.

4) Testing the system
After making the installations, test the pressurised system.

Allowed installation



Domestic hot water production

Domestic hot water (Δt 15-50 °C)			Primary circuit working conditions		
Flow rate [l/min]	Flow rate [l/h]	Power [kW]	Inlet T [° C]	Flow rate [l/h]	Outlet T [° C]
12	720	29,5	**75**	580	31,0
			70	700	33,8
			65	880	36,3
			60	1330	40,9
15	900	37,0	**75**	780	34,2
			70	960	36,9
			65	1260	39,8
17	1020	41,5	**75**	920	35,8
			70	1140	38,4
			65	1540	41,6
20	1200	49,0	**75**	1150	38,1
			70	1450	40,8

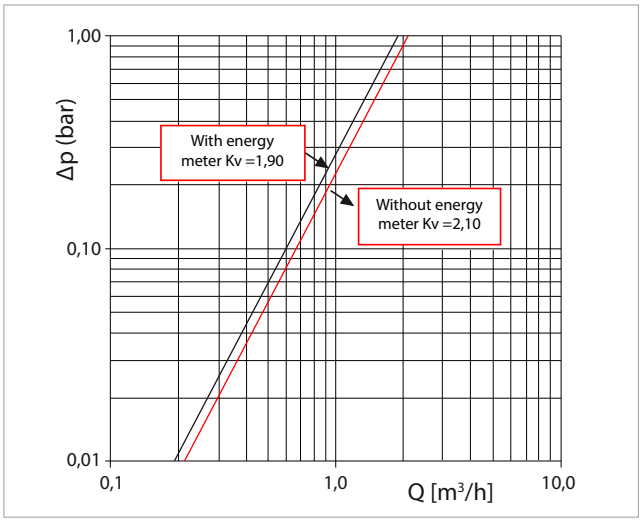
Power and flow rate data for primary circuit and DHW for GE556Y301

Domestic hot water (Δt 15-50 °C)			Primary circuit working conditions		
Flow rate [l/min]	Flow rate [l/h]	Power [kW]	Inlet T [° C]	Flow rate [l/h]	Outlet T [° C]
12	720	29,5	**75**	460	20,0
			70	525	21,4
			65	610	23,5
			60	760	26,7
			57	920	29,5
15	900	37,0	**75**	590	21,2
			70	675	23,0
			65	800	25,3
			60	1000	28,5
			57	1240	31,5
17	1020	41,5	**75**	680	22,1
			70	775	23,8
			65	925	26,2
			60	1180	29,7
			57	1480	32,8
20	1200	49,0	**75**	815	23,2
			70	940	25,1
			65	1130	27,7
			60	1480	31,5
			57	1880	34,6
24	1430	58,5	**75**	1000	24,6
			70	1160	26,7
			65	1420	29,5
			60	1880	33,3

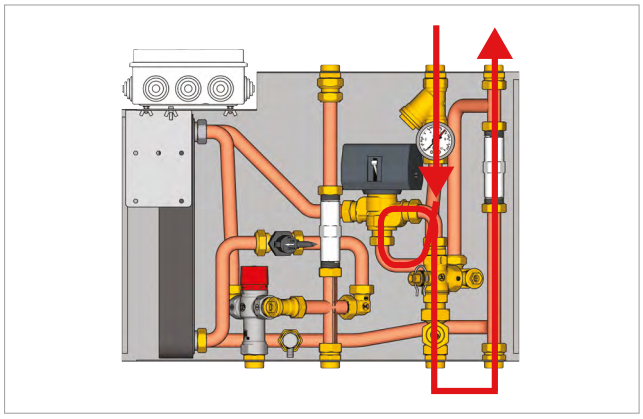
Power and flow rate data for primary circuit and DHW for GE556Y302

Hydraulic characteristics

Heating function



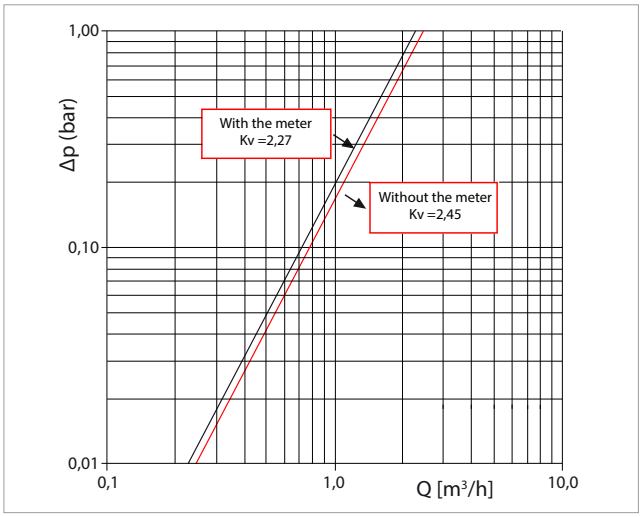
Heating function – primary side



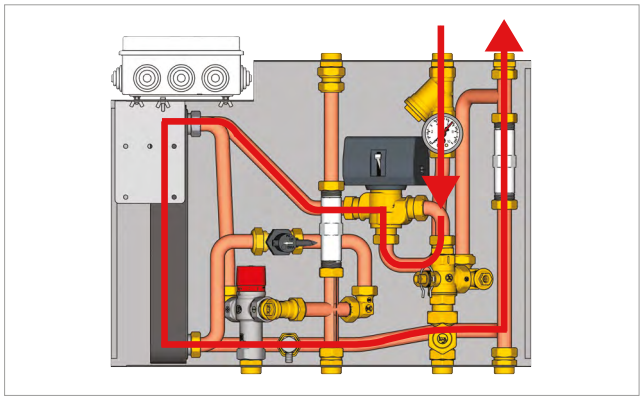
Heating function – primary side

NB:
The instantaneous flow rate can be verified by means of the energy meter, thereby allowing you to adjust the lockshield for the heating function.

Domestic hot water function



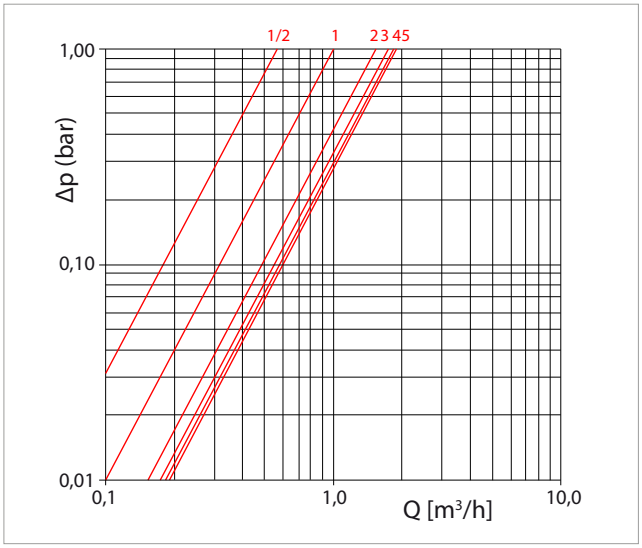
Domestic hot water function – primary side



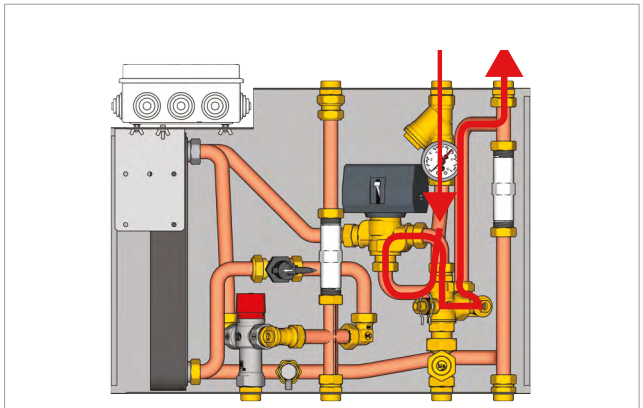
Domestic hot water function – primary side

NB:
For the domestic hot water function too, you can use the energy meter to check the instantaneous flow rate.
No adjustment devices are envisaged for the hot domestic water function, but you can fit devices on the HIU if necessary.

Primary by-pass



Primary by-pass, depending on bypass lockshield adjustment

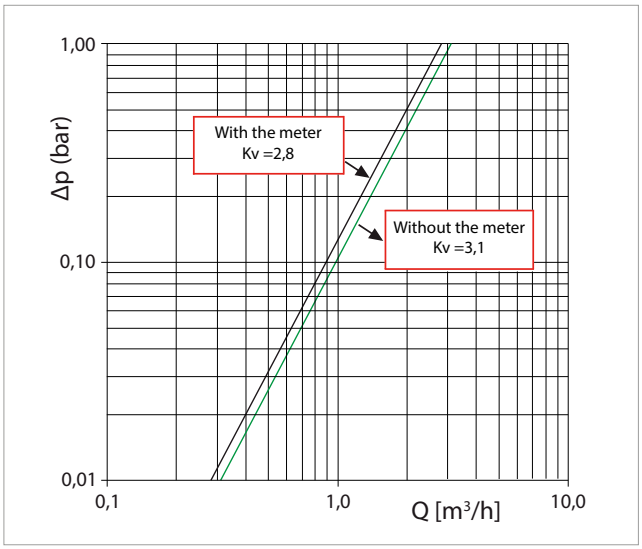


Primary by-pass

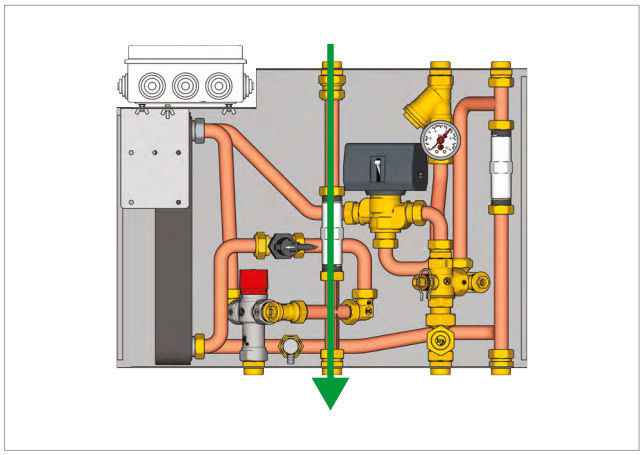
By-pass lockshield regulation	0	1/2	1	2	3	4	5
Kv	0	0,57	1,00	1,55	1,75	1,86	1,92

By-pass lockshield adjustment

Domestic cold water



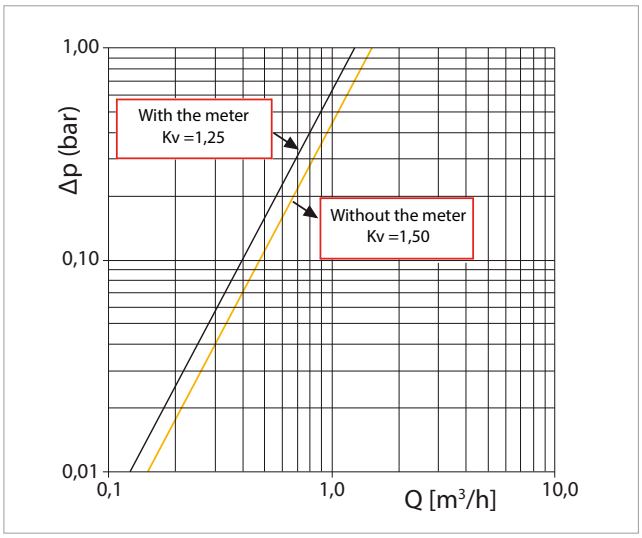
Domestic cold water (DCW)



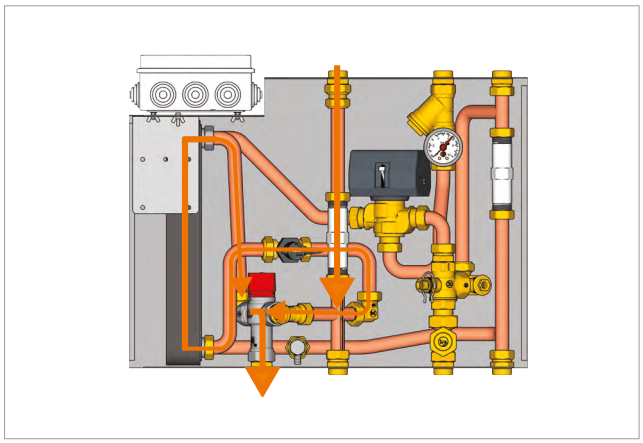
Domestic cold water (DCW)

NB:
Hydraulic characteristic of the check valve (to be ordered separately):
Kv = 4,3.

Domestic hot water



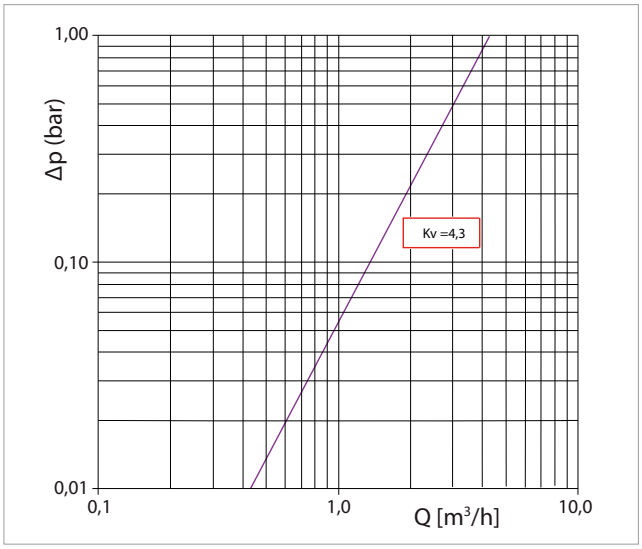
Domestic hot water (DHW)



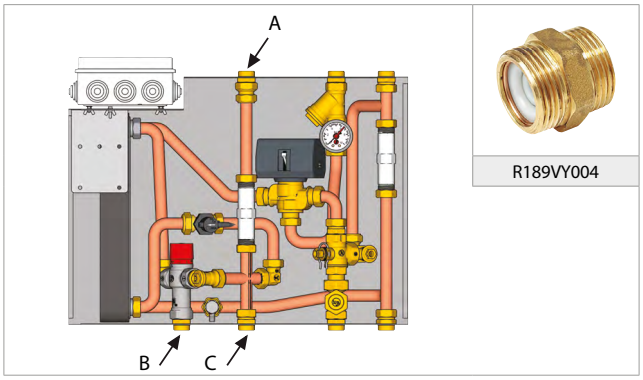
Domestic hot water (DHW)

NB:
Hydraulic characteristic of the check valve (to be ordered separately):
Kv = 4,3.

Check valve on domestic water (optional)



Check valve, code R189VY004



Positioning the domestic water check valves (optional)

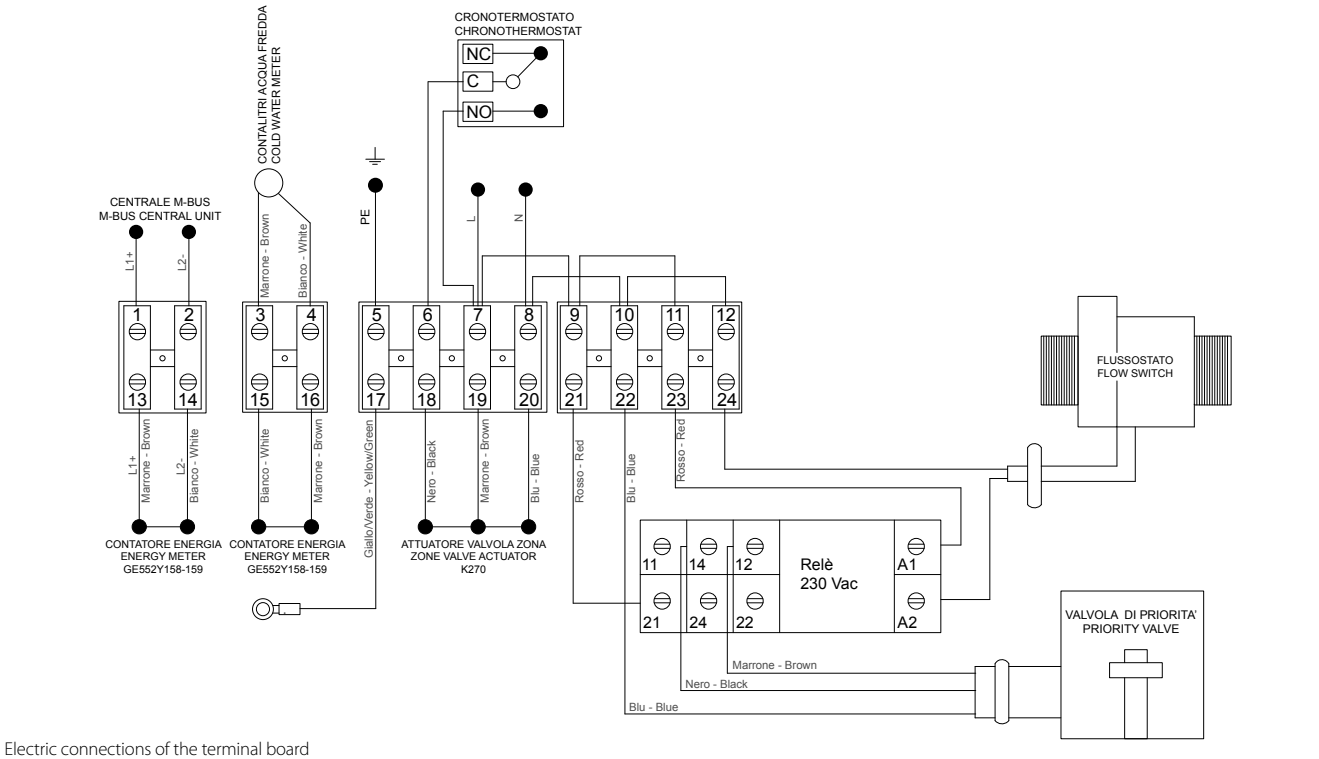
R189VY004

The R189VY004 domestic water check valve is integrated in a nipple (R189V series). To install the non-return valve on the HIU, replace the original nipple A and/or B and/or C with the R189VY004 nipple fitted with a check valve. Be sure to respect the flow directions (the flows are from the top downwards).

Electrical connections

Warning.
Interventions on electrical components must only be carried out by qualified personnel. Ensure that the power supply is suspended while the connections are being carried out.

Nota.
The showed electric scheme is about the connections of GE552Y158, GE552Y159 thermal energy meters. In the case of installation of other energy meters refer to the instructions of the meters themselves.

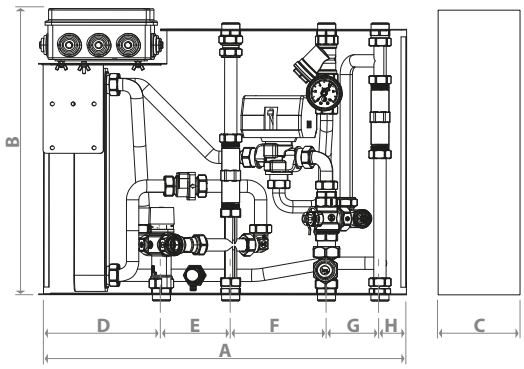


Electric connections of the terminal board

Terminal	Function
1	Cable transmitting M-Bus data to the data concentrator: connection of wire L1+. Cable Ø 0,8 mm, twisted, 2-wire, non-shielded, with a maximum line capacity of 150 pF/m (16 o 18 AWG)
2	Cable transmitting M-Bus data to the data concentrator: connection of wire L2-. Cable Ø 0,8 mm, twisted, 2-wire, non-shielded, with a maximum line capacity of 150 pF/m (16 o 18 AWG)
3	Connection for M-Bus centralization of water meters
4	Connection for M-Bus centralization of water meters
5	Earth
6	Connection to the chronothermostat, to the common C terminal of the internal contact (cable section 0,5 mm^2)
7	Connection of power supply 24 V~ or 230 V~ (cable section 0,5 mm^2) In parallel: connection to the chronothermostat, to the normally open NO terminal of the internal contact (cable section 0,5 mm^2)
8	Connection of power supply 24 V~ or 230 V~ (cable section 0,5 mm^2)
9	-
10	-
11	-
12	-

Terminal	Function
13	Connection of L1+ brown wire of thermal energy meter
14	Connection of L2- white wire of thermal energy meter
15	Connection for M-Bus centralization of water meters
16	Connection for M-Bus centralization of water meters
17	Earth
18	Connection K270 zone valve actuator, black wire
19	Connection K270 zone valve actuator, brown wire
20	Connection K270 zone valve actuator, blue wire
21	Connection to relay, red wire, pos. 21
22	Connection to priority valve, blue wire
23	Connection to relay, red wire, pos. A1
24	Connection to flow switch

Dimensions



Product code	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]
GE556Y301	540	390	155	190	100	140	80	30
GE556Y302								

Reference Standards

- UNI EN 1434
- Directive 2014/32/EU
- EN 60751
- EN 61107
- EN 13757

WRAS certifications

Reference "Components"	Components	Certificate number
-	Gaskets	1509514
3	Heat exchanger	1909083
4	Thermostatic mixer	1709305
11	Flow switch	2111302
Optional	Check valve	1908700

Product specifications

GE556Y301

User HIU for centralised systems, for managing heating and domestic hot water production. 3/4" connections. Primary side: filter with stainless steel basket and housing for delivery temperature probe. Domestic hot water production: flow switch, priority valve, thermostatic mixer for temperature adjustment, and instantaneous heat exchanger with 44 kW power (with Primary: 75°C and 1 m^3/h flow rate. Secondary: ΔT = 50 °C -15 °C and 18 l/min flow rate). Heating side: adjustment lockshield and 3-way zone valve motorizable. Suitable for installation of thermal energy meter and domestic water meter, via the plastic spacers (centre distance 110 mm). IP55 box with terminal board for electric connections. Suitable for insertion in a template. Max. working temperature 90 °C. Max. working pressure 16 bar (10 bar with plastic spacer). Frame dimensions 540x390x155 mm (LxHxD). The HIU can be completed by separately ordering: thermal energy meters of the GE552 series. Domestic water meter, GE552-2 series. Template (with shut-off valves) in painted sheet metal (RAL9010) with lockable door and adjustable frame depth; external version code GE551Y072; internal version code GE551Y073. Actuator K270 for 3-way zone valve. Components for centralisation and remote control of consumption data via M-BUS (GE552-4 series), or components for centralisation and remote control of consumption data via Wireless M-BUS (GE552-W series).

GE556Y302

User HIU for centralised systems, for managing heating and domestic hot water production. 3/4" connections. Primary side: filter with stainless steel basket and housing for delivery temperature probe. Domestic hot water production: flow switch, priority valve, thermostatic mixer for temperature adjustment, and instantaneous heat exchanger with 58 kW power (with Primary: 75°C and 1 m^3/h flow rate. Secondary: ΔT = 50 °C -15 °C and 24 l/min flow rate). Heating side: adjustment lockshield and 3-way zone valve motorizable. Suitable for installation of thermal energy meter and domestic water meter, via the plastic spacers (centre distance 110 mm). IP55 box with terminal board for electric connections. Suitable for insertion in a template. Max. working temperature 90 °C. Max. working pressure 16 bar (10 bar with plastic spacer). Frame dimensions 540x390x155 mm (LxHxD). The HIU can be completed by separately ordering: thermal energy meters of the GE552 series. Domestic water meter, GE552-2 series. Template (with shut-off valves) in painted sheet metal (RAL9010) with lockable door and adjustable frame depth; external version code GE551Y072; internal version code GE551Y073. Actuator K270 for 3-way zone valve. Components for centralisation and remote control of consumption data via M-BUS (GE552-4 series), or components for centralisation and remote control of consumption data via Wireless M-BUS (GE552-W series).

IT

AVVERTENZE PER IL CORRETTO SMALTIMENTO DEL PRODOTTO

Questo prodotto rientra nel campo di applicazione della Direttiva 2012/19/UE riguardante la gestione dei rifiuti di apparecchiature elettriche ed elettroniche (RAEE).
L'apparecchio non deve essere eliminato con gli scarti domestici in quanto composto da diversi materiali che possono essere riciclati presso le strutture adeguate.
Informarsi attraverso l'autorità comunale per quanto riguarda l'ubicazione delle piattaforme ecologiche atte a ricevere il prodotto per lo smaltimento ed il suo successivo corretto riciclaggio. Si ricorda, inoltre, che a fronte di acquisto di apparecchio equivalente, il distributore è tenuto al ritiro gratuito del prodotto da smaltire.
Il prodotto non è potenzialmente pericoloso per la salute umana e l'ambiente, ma se abbandonato nell'ambiente impatta negativamente sull'ecosistema.
Leggere attentamente le istruzioni prima di utilizzare l'apparecchio per la prima volta. Si raccomanda di non usare assolutamente il prodotto per un uso diverso da quello a cui è stato destinato, essendoci pericolo di shock elettrico se usato impropriamente.

Il simbolo del bidone barrato, presente sull'etichetta posta sull'apparecchio, indica la rispondenza di tale prodotto alla normativa relativa ai rifiuti di apparecchiature elettriche ed elettroniche.
L'abbandono nell'ambiente dell'apparecchiatura o lo smaltimento abusivo della stessa sono puniti dalla legge.

EN

IMPORTANT INFORMATION FOR CORRECT DISPOSAL OF THE PRODUCT

This product falls into the scope of the Directive 2012/19/EU concerning the management of Waste Electrical and Electronic Equipment (WEEE).
This product shall not be dispose in to the domestic waste as it is made of different materials that have to be recycled at the appropriate facilities.
Inquire through the municipal authority regarding the location of the ecological platforms to receive the product for disposal and its subsequent correct recycling.
Furthermore, upon purchase of an equivalent appliance, the distributor is obliged to collect the product for disposal free of charge.
The product is not potentially dangerous for human health and the environment, but if abandoned in the environment can have negative impact on the environment. Read carefully the instructions before using the product for the first time. It is recommended that you do not use the product for any purpose rather than those for which it was intended, there being a danger of electric shock if used improperly.

The crossed-out wheeled dustbin symbol, on the label on the product, indicates the compliance of this product with the regulations regarding Waste Electrical and Electronic Equipment.
Abandonment in the environment or illegal disposal of the product is punishable by law.

FR

AVERTISSEMENTS POUR L'ÉLIMINATION CORRECTE DU PRODUIT

Ce produit entre dans le champ d'application de la directive 2012/19 / UE relative à la gestion des déchets équipements électriques et électroniques (DEEE).
L'appareil ne doit pas être jeté avec les ordures ménagères car il est fait de différents matériaux pouvant être recyclés dans des centres appropriés.
Renseignez-vous auprès de l'autorité locale concernant l'emplacement des plates-formes écologiques appropriées pour recevoir le produit pour sa destruction et son recyclage correct ultérieur. Il convient également de rappeler que, en cas d'achat d'un appareil équivalent, le distributeur est tenu de collecter le produit à détruire. Le produit n'est potentiellement pas dangereux pour la santé humaine et l'environnement, mais s'il est abandonné dans l'environnement, il a un impact négatif sur l'écosystème.
Lisez attentivement les instructions avant d'utiliser l'appareil pour la première fois.
Il est interdit d'utiliser le produit pour un usage différent de celui auquel il était destiné, il y a risque de choc électrique si utilisé incorrectement.

Le symbole de la poubelle barrée sur l'étiquette de l'appareil indique sa correspondance produit à la législation relative aux déchets d'équipements électriques et électroniques.
L'abandon dans l'environnement de l'équipement ou l'élimination illégale de l'équipement est punissable par la loi.

DE

WICHTIGE HINWEISE ZUR KORREKTEN ENTSORGUNG DES PRODUKTS

Dieses Produkt fällt in den Anwendungsbereich der Richtlinie 2012/19/EU über die Entsorgung von Elektro- und Elektronik - Altgeräten (WEEE).
Dieses Produkt darf nicht in den Hausmüll entsorgt werden, da es aus verschiedenen Materialien besteht, die in entsprechenden Einrichtungen recycelt werden müssen. Erkundigen sie sich bei ihrer Gemeinde nach dem Standort des nächsten Recyclinghofs bzw. der nächsten Annahmestelle, um das Produkt dem Recycling zuzuführen bzw. fachgerecht zu entsorgen. Darüber hinaus ist der Händler verpflichtet, das Produkt beim Kauf eines gleichwertigen Geräts kostenlos zu entsorgen. Das Produkt ist für die menschliche Gesundheit und die Umwelt potenziell nicht gefährlich. Diese können sich aber, falls sie in der Umwelt gelangen, negativ auf diese auswirken. Lesen Sie daher vor dem ersten Gebrauch des Produkts die Inbetriebnahme-, Bedienungs- und Entsorgungsanweisungen sorgfältig durch. Es wird empfohlen, dass Sie das Produkt nur für den vorgesehenen Zweck verwenden.
Bei unsachgemäßer Verwendung bzw. Fehlgebrauch besteht die Gefahr eines elektrischen Schlags.

Das Symbol der durchgestrichenen Mülltonne auf dem Etikett des Produkts weist auf die Konformität dieses Produkts zu den Vorschriften für Elektro- und Elektronik-Altgeräte hin. Das Ablagern in der Umwelt oder die illegale Entsorgung des Produkts ist strafbar.

Safety Warning
Installation, commissioning and periodical maintenance of the product must be carried out by qualified operators in compliance with national regulations and/or local standards. A qualified installer must take all required measures, including use of Individual Protection Devices, for his and others' safety.
An improper installation may damage people, animals or objects towards which Giacomini S.p.A. may not be held liable.

Package Disposal
Carton boxes: paper recycling.
Plastic bags and bubble wrap: plastic recycling.

Product Disposal
Do not dispose of product as municipal waste at the end of its life cycle.
Dispose of product at a special recycling platform managed by local authorities or at retailers providing this type of service.

Additional information
For more information, go to www.giacomini.com or contact our technical assistance service: ☎ +39 0322 923372 🖷 +39 0322 923255 ✉ consulenza.prodotti@giacomini.com
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Giacomini S.p.A. Via per Alzo, 39 - 28017 San Maurizio d'Opaglio (NO) Italy