

GE556Y303

**Description**

The GE556 user HIUs 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
GE556Y303	Thermostatic command and dynamic balancing	58 kW

**Technical data**

**Primary circuit**

- Max. working temperature: 90 °C
- Max. working pressure: 16 bar (10 bar with plastic spacer)
- Max. primary flow rate: 1500 l/h (1000l/h for just domestic hot water production)

**Domestic hot water production**

- Power for domestic hot water production with inlet 75 °C, flow rate 1000 l/h on the primary and  $\Delta T = 35$  °C on the secondary circuit (50-15 °C): 58 kW
- Corresponding domestic hot water flow rate: 24 l/min
- Min. hot water withdrawal: 2,75 l/min



**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: dynamic balancing via static balancing valve and differential pressure control valve; thermostatic valve (R462L series) for controlling the temperature and flow rate on the primary line for domestic water production, stainless steel basket filter and housing for delivery temperature probe.
- Domestic hot water production: thermostatic mixer for temperature adjustment, and instantaneous heat exchanger.
- Heating side: adjustment lockshield valve and 2-way zone valve motorizable.
- Cabinet with terminal board for electric connections.
- Suitable for insertion in a template (external or flush-mounting).
- Suitable for installation of heat energy meter and domestic water litre-counter, via the plastic spacers.

Version GE556Y303 implements the following functions:

- ON-OFF control of the heating system.
- Instantaneous production of domestic hot water via a thermostatic valve and integrated plate heat exchanger.
- Mixing of domestic water for sending to the users.
- Direct measurement of the 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 pressure gauge, a balancing valve, a balancing lockshield valve and a 2-way zone valve motorizable.

On the return unit there is a plastic spacer for inserting the heat energy meter. The GE556Y303 HIU has a particular way of producing domestic hot water. The insulated stainless steel plate exchanger works alongside a thermostatic valve with remote bulb. Thanks to the thermostatic control of the water temperature and primary flow rate, operation is entirely mechanical; the lack of electric devices reduces the need for maintenance.

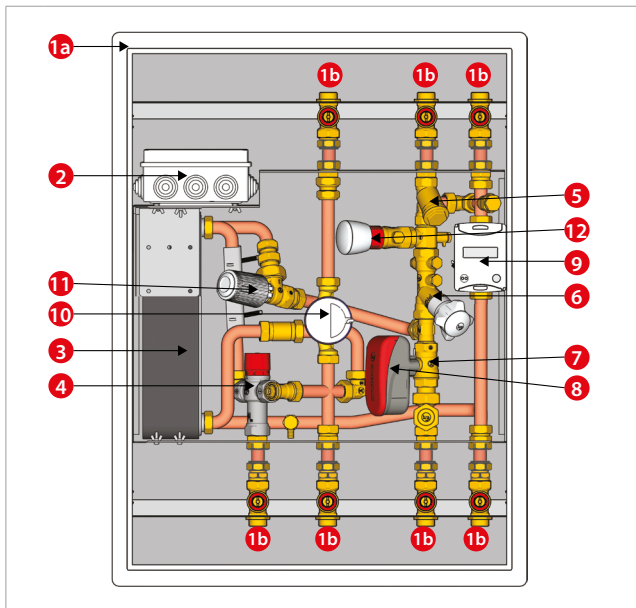
The thermostatic mixer allows you to adjust the temperature of the domestic water sent to users, within a series of 38÷60 °C.

**Factory adjustments**

- Thermostatic mixer: position 4 (54,5 °C).
- Static balancing valve: fully open.
- Differential pressure control valve, R147N: 5 m H<sub>2</sub>O
- Thermostatic mixer lockshield valve: 1/4 turn opening.
- R462L thermostatic head: 56 °C



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	Cabinet with terminal board for electric connections
3	Insulated exchanger
4	Thermostatic mixer
5	Y-filter
6	Static balancing valve, R206B
7	2-way zone valve, motorizable
8	Actuator for 2-way zone valve (optional)
9	Thermal energy meter (optional)
10	Domestic cold water meter (optional)
11	Thermostatic valve with remote bulb, R462L
12	Differential pressure control valve, R147N

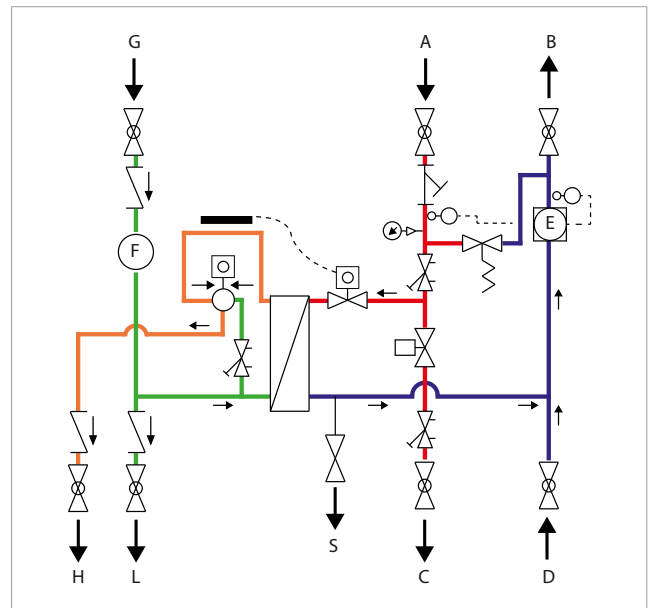
Optional accessories

- 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 (24 V or 230 V) (fig.2-8).
- Components for data centralisation via M-Bus (GE552-4 series) or via Wireless M-Bus (GE552-W series).

Note.

- Within the HIU there is an adjustment lockshield valve for balancing the heating circuits. No device is envisaged for balancing DHW production circuits: if necessary, you can fit one on the distribution system side.
- If there is no domestic water meter, the domestic cold 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	G) Domestic cold water inlet		
B) Primary return	H) Mixed domestic hot water outlet		
C) Heating system delivery	L) Domestic cold water outlet		
D) Heating system return	S) Drainage		
	2-way zone valve		Temperature probe
	Thermostatic mixer		Thermostatic valve with remote bulb, R462L
	Shut-off valve		Filter
	Drain tap		Thermal energy meter (optional)
	Balancing lockshield valve/Static balancing valve		Domestic water meter (optional)
	Heat exchanger		Check valve (optional)
	Pressure gauge		Differential pressure control valve

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 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; the first 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; after a filter, there is the housing for the energy meter temperature probe. This is followed by a differential pressure control valve between the delivery and the primary return.

Together with the balancing valve, this valve implements the **dynamic balancing characteristic**.

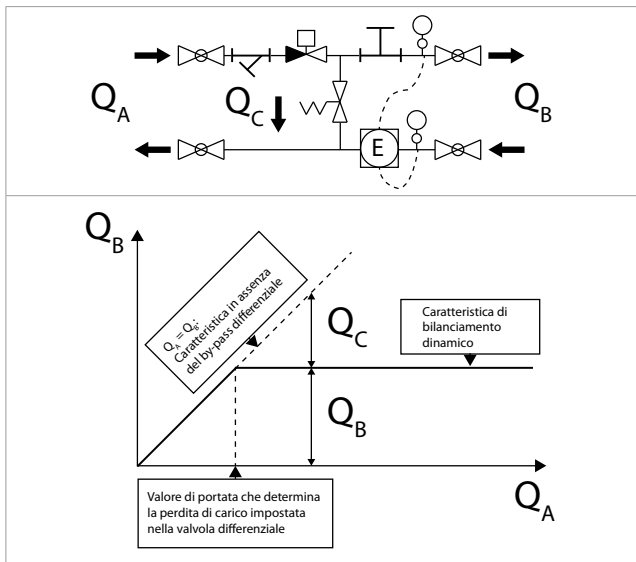
The balancing valve allows the static adjustment of the flow rate to the apartment. The differential bypass valve allows dynamic balancing in addition to static: if the flow rate to the apartment exceeds the threshold value of the differential pressure valve, the latter opens the bypass to automatically re-balance the flow rate.

Downstream from the balancing valve there are - in parallel - the circuits for heating and domestic hot water production which can therefore operate simultaneously, guaranteeing **greater comfort** compared with systems that interrupt the heating function to give priority to domestic water production.

**Heating:** on the heating side there is a zone valve and an adjustment lockshield valve. The zone valve can be commanded by a K270 actuator (to be ordered separately) that is activated by a thermostat command. The adjustment lockshield valve regulates the primary flow rate part destined for heating, given that the flow rate needed for domestic hot water production is usually greater than that for heating.

**Domestic hot water production:** a thermostatic valve with remote bulb on the exchanger outlet minimises the primary flow rate while domestic hot water is being produced.

**Thermal energy metering:** on the return to the central unit there is a connection point for housing an energy meter; the thermal energy meter (E) calculates energy consumption for heating and domestic hot water production. The delivery probe of the energy meter must be installed in the housing on the delivery unit. The meter return temperature probe is integrated in the energy meter body.



Domestic hot water production

Domestic hot water ( $\Delta t$ 15-50 °C)			Primary circuit working conditions		
Flow rate [l/min]	Flow rate [l/h]	Power [kW]	Inlet T [°C]	Flow rate [l/h]	Return 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

Dati di potenza e portata circuito primario e produzione acqua sanitaria

Thermostatic mixer

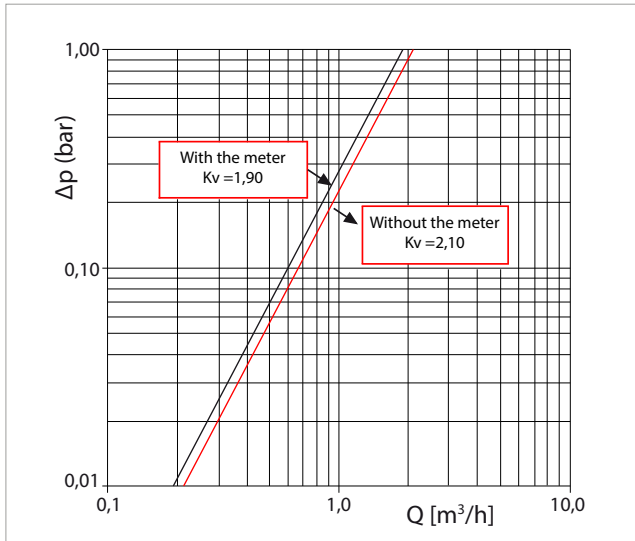
- Complying with A.S.S.E. 1017
- Adjustment precision  $\pm 1$  °C

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

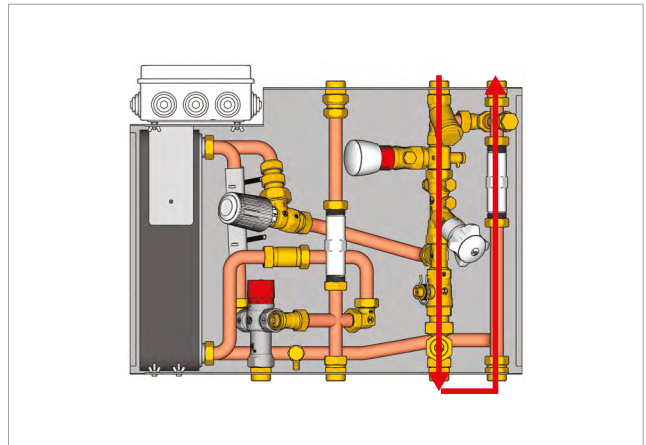


Hydraulic characteristics

Heating function



Heating function – primary side



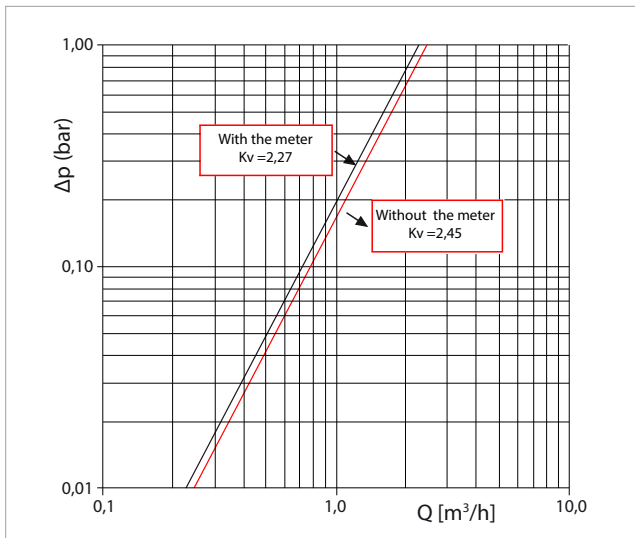
Heating function – primary side



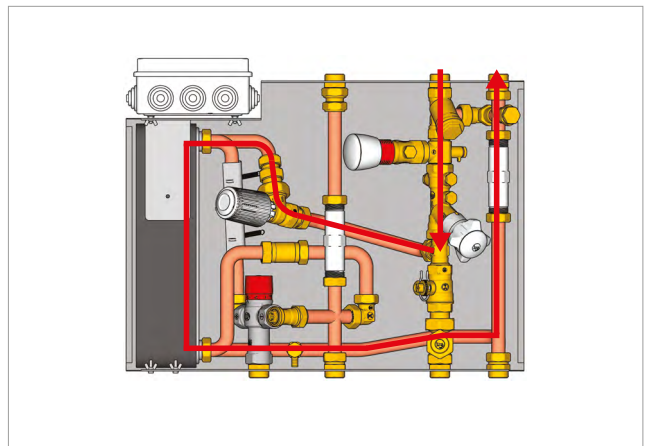
Note.

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

Domestic hot water function



Domestic hot water function – primary side



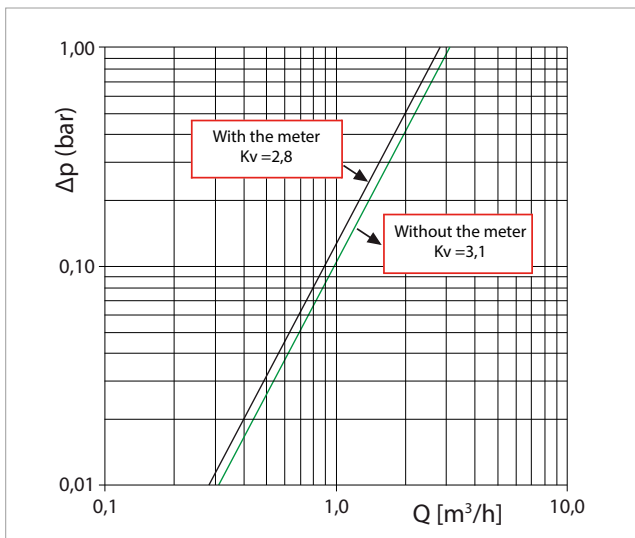
Domestic hot water function – primary side



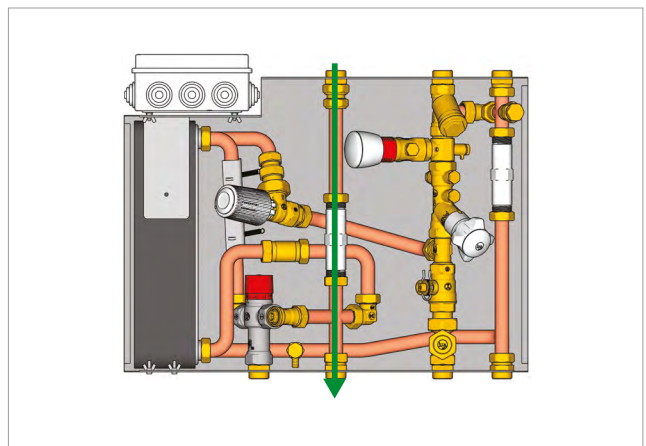
Note.

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 domestic hot water function, but you can fit devices on the HIU if necessary.

Domestic cold water



Domestic cold water (DCW)



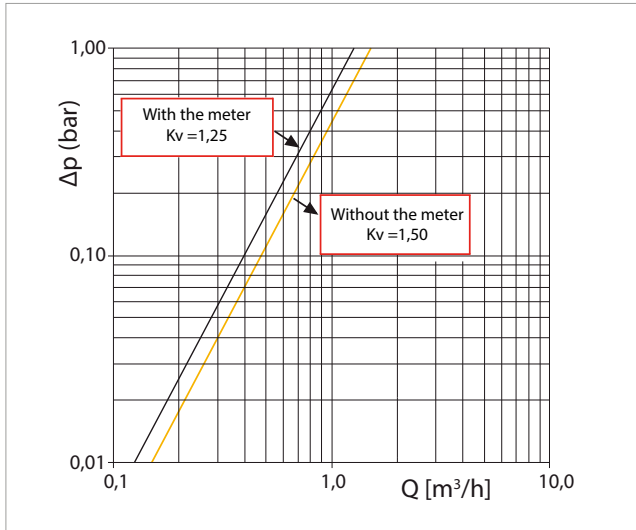
Domestic cold water (DCW)



Note.

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

**Domestic hot water**



Domestic hot water (DHW)

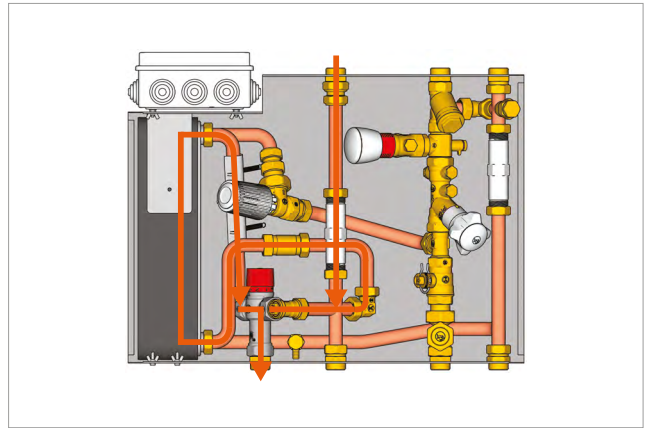
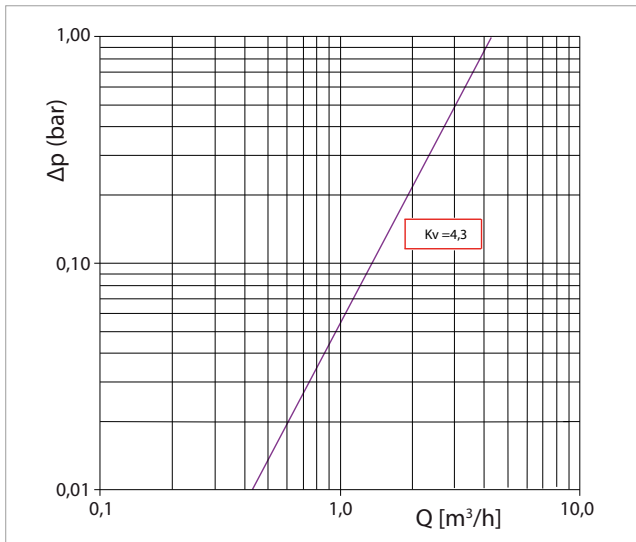


Figure 11 – Domestic hot water (DHW)

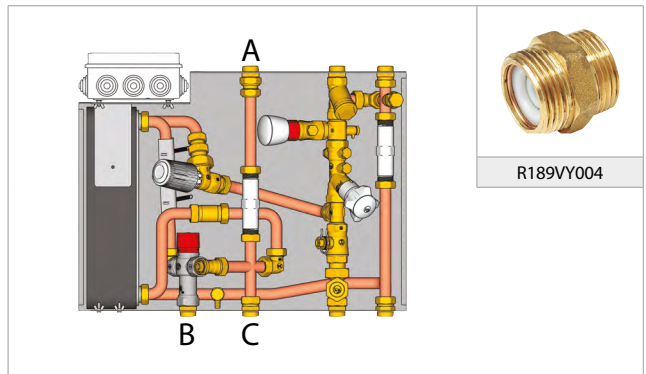


**Note.**  
Hydraulic characteristic of the check valve (to be ordered separately):  
Kv = 4,3.

**Check valve on domestic water circuit (optional)**



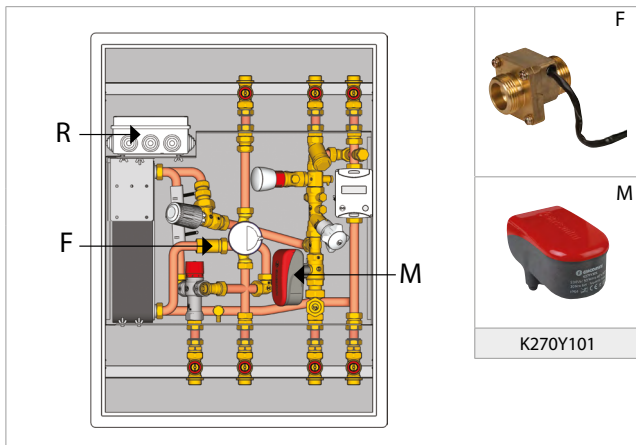
Check valve, code R189VY004



Positioning the domestic water check valves (optional)

The R189VY004 domestic water check valve is integrated in a nipple (R189V series). To install the check 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).

**Priority management of domestic water**



Positioning of optional accessories for priority domestic water management

The GE556Y303 HIU can house a flow switch (F) GE500Y311 for managing DHW production as a priority over the heating function, via the actuator of the zone valve (M) (K270 at 230 V).

In this way, the flow rate - and hence the primary power request - is reduced. It should be noted that when the zone valve is closed and there is no DHW production request, the energy meter still gives a count equal to the dissipation in the HIU.

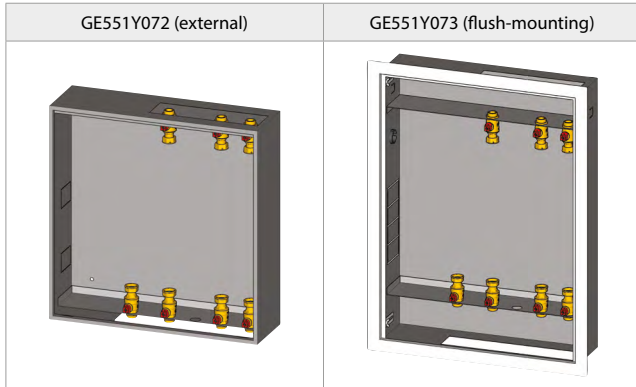
Installation



**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)



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.

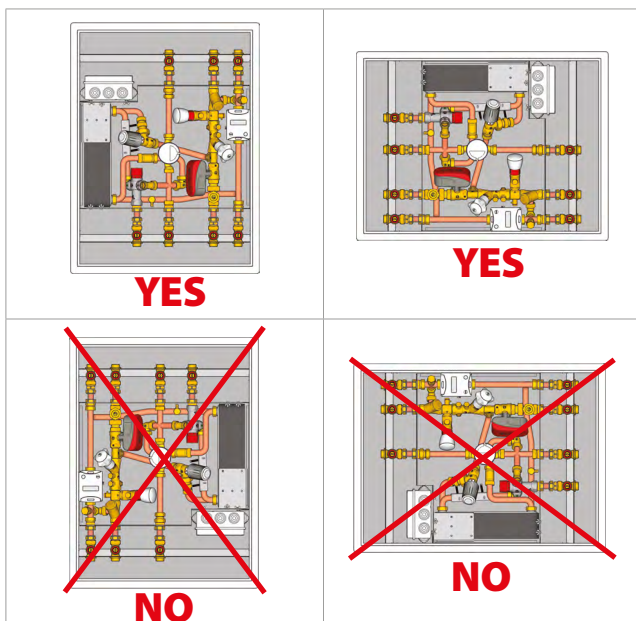
3) Installing the HIU

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.

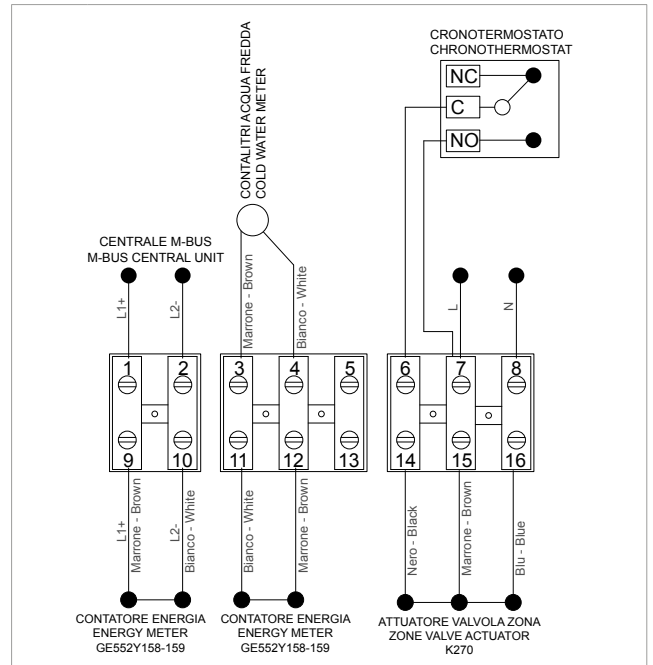
Allowed installation



Electrical connection



**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.

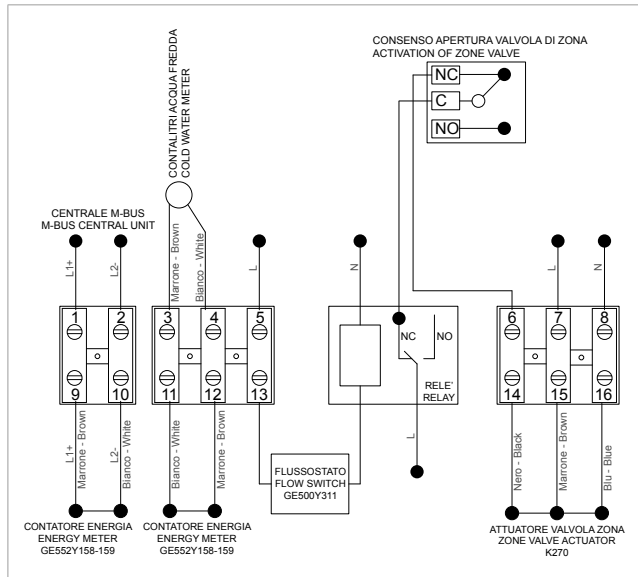


Terminal	Function
1	Cable transmitting M-Bus data to the data concentrator: connection of wire L1+. Cable Ø 0,8 mm, twisted, 2-wire, non-shielded, with a maximum line capacity of 150 pF/m (16 o 18 AWG)
2	Cable transmitting M-Bus data to the data concentrator: connection of wire L2-. Cable Ø 0,8 mm, twisted, 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	-
6	Connection to the chronothermostat, to the common C terminal of the internal contact (cable section 0,5 mm <sup>2</sup> )
7	Connection of power supply 24 V~ or 230 V~ (cable section 0,5 mm <sup>2</sup> )
8	In parallel: connection to the chronothermostat, to the normally open NO terminal of the internal contact (cable section 0,5 mm <sup>2</sup> )
9	Connection of power supply 24 V~ or 230 V~ (cable section 0,5 mm <sup>2</sup> )
10	Connection of L1+ brown wire of thermal energy meter
11	Connection of L2- white wire of thermal energy meter
12	Connection for M-Bus centralization of water meters
13	-
14	Connection K270 zone valve actuator, black wire
15	Connection K270 zone valve actuator, brown wire
16	Connection K270 zone valve actuator, blue wire



**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.

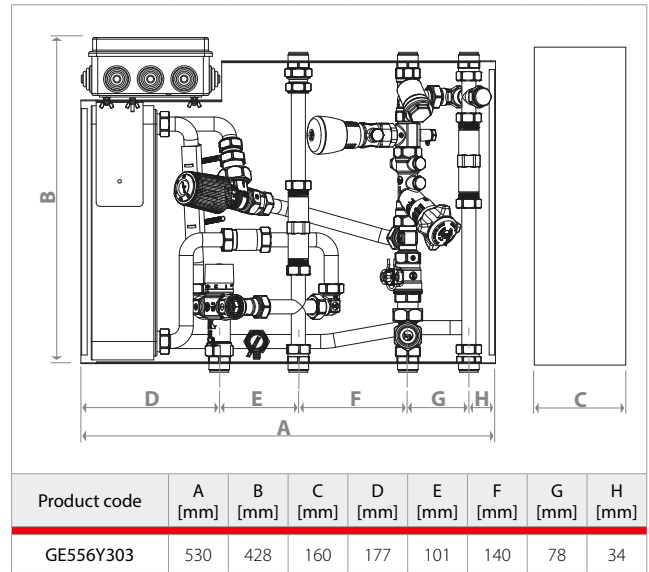
Electrical scheme if the flow switch is used



Electric connections of the terminal board, with flow switch

**Note.**  
Additional relay "R", not supplied by Giacomini

Dimensions



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
Optional	Check valve	1908700

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 disposed 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](http://www.giacomini.com) or contact our technical assistance service: ☎ +39 0322 923372 📠 +39 0322 923255 ✉ [consulenza.prodotti@giacomini.com](mailto:consulenza.prodotti@giacomini.com)

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The information included in this technical sheet do not exempt the user from strictly complying with the rules and good practice standards in force.

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