GIACOMINI

Technology in Comfort

The Giacomini Heat Interface Unit

(with optional Energy Meter)

SECOND GENERATION

Taking comfort control in apartments and multi-use dwellings to a higher level

Courtesy of Parkridge - www.dickensheathvillage.com

The New Giacomini 'GE' Heat Interface Unit (with optional Energy Meter) for communal heating systems

No gas, no flues, no hot water cylinders, all the benefits of a 'combi boiler' without the combustion

T: 01454 311012 Fax: 01454 316345

With no need for a gas supply, flues, or hot water cylinders, the new heat interface unit from Giacomini provides all the benefits of a combi boiler without the combustion. Compact in size and simple to install, this versatile unit controls and measures hot water and heating usage in apartments supplied from a communal boiler system. It delivers major benefits to everyone concerned, from the building contractor and installer to the tenants and landlords.

For the building contractor and the installer, the advantages are simplicity of installation; there's no need for a gas supply, flue or hot water cylinder and little or no servicing requirement once installed. With no need for hot water storage, Giacomini's neat and compact heat interface unit – it's just 60cms wide by 73cms high and 21cms in depth – also saves on valuable space, compared to a conventional individual heating system.

For the tenants and the landlord there are major advantages. The new heat interface unit meets the need to control and monitor the heating and sanitary water consumption of tenants in flats, apartments or multi-dwelling buildings, according to their individual needs.

Monitoring energy consumption

One of the key advantages for the tenant is the direct linking of their energy bill to personal consumption. For the landlord, the key advantage is the ability to remotely monitor and analyse the energy consumption of both individual users and the overall system, through a special interface fitted within the unit. This uses the latest M-Bus communications technology, standardised throughout Europe.

The principal difference between the heat interface unit and a conventional individual boiler is that the usual heating source is replaced with a heat exchanger fed from a central communal hot water supply. A primary plate heat exchanger is used for the provision of heating and a secondary plate heat exchanger for domestic hot water production. These are configured as a sealed system in the satellite, together with an expansion tank, safety valve and filling loop. The result gives each Giacomini unit the effectiveness and flexibility of a 'combi' boiler, without the need for individual combustion.

Accurate measurement of energy usage is obtained via compact volumetric meters, which are of a single jet turbine type that provide high precision and reliability in compliance with standard EN 1434. Well engineered, all components of the GE556 are installed in a durable zinc-plated casing, supplied with fittings for easy wall mounting. The heating unit is fitted with a 2-3 way zone valve, which can be supplied with a 24V or 230V motor.

Key advantages for the building contractor

- Simplicity of installation – no gas supply, no flues and no cylinders
- Saves space – no hot water cylinder required
- Lower servicing costs

Key advantages for the tenant

- The tenant is aware that bills are linked directly to personal consumption
- Energy metering display allows tenants to see how much energy is being consumed and to individually adapt to changing circumstances
- Greater efficiencies for individual users lowers both costs and emissions

Key advantages for the landlord

- Through remote monitoring, GE556 units provide the landlord with comprehensive data for analysis with a consequent major energy saving opportunity
- Possibility of central conversion to other kinds of fuel, without major cost implications for satellite units
- Adaptable for remote heating control
- More secure and less intrusive, through centralised data collection
- Maintenance costs shared across all residents

Data centralisation

The direct reading of measured data is possible on each metering device, using an analogue or digital display. However, this may not conform to tenants' privacy agreements, where metering units are installed in common areas or outside apartments.

Additionally, direct reading of individual meters is time consuming, subject to human error and requires installation of metering units in positions easy to access. For these reasons, Giacomini metering modules and satellites are provided with metering devices fitted with a special interface for M-Bus communication, the European standard for remote reading of energy meters. All data is detected electronically so that it can be sent via the communication bus.

A concentrator periodically interrogates all M-Bus devices, collecting consumption data and making it available locally or remotely, for sharing and analysis. Data reading becomes fast, convenient and possible at all times, even when tenants are out.

Key features

- Primary plate heat exchanger
- Heating management function and hot water production
- Satellite with electrical wiring already prepared
- Suspended jig installation
- $^{3}/_{4}$" Connections
- 3-way motorized valve with lockshield on heating side
- Priority valve for hot water production
- Sanitary hot water production: 1.45m^3/h @75°C on primary and 17 l/min with ΔT = 50°-15°C on secondary: 41.4kW
- Thermostatic mixer for sanitary water
- Expansion tank: 7.5 litres
- Safety valve: 3 bar
- Dimensions (W x H x D): 60 x 73 x 21cm

Optional accessories

- Energy meter (M-BUS): Part number GE555Y115
  For the monitoring of energy consumption sending data to a central collection point via M-BUS

- Sanitary water meter (M-BUS): Part number GE552Y113
  (NOTE: Do not use Part Number GE552Y111)
  For the monitoring of water consumption via M-BUS to central collection point.

- Motor for zone valve, holiday function (sanitary hot water production): K270 Y001 or Y002.
  For total shutdown of satellite unit where no water from the communal system passes through the unit, saving energy during holiday periods or where no function from the boiler is required.

"All the benefits of a combi boiler without the combustion"

T: 01454 311012 Fax: 01454 316345

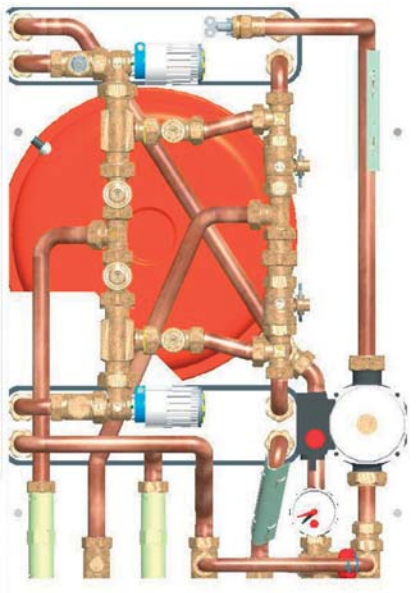

Figure 1 - GE556Y137

- Heating handling with controlled temperature (radiators and radiant floor applications).
- Spacer for the meters.
- Circulator 15/50 for heating, with expansion vessel, safety valve and filling circuit with backflow preventer.
- $^3/_4$" Connections.
- WRAS certified components for the sanitary circuit.
- PATENT PENDING satellite.

Versions and part numbers

Part number	Type	Heat exchanger nominal power
GE556Y135	Without cabinet	44kW
GE556Y136	Without cabinet	58kW
GE556Y137	With cabinet	44kW
GE556Y138	With cabinet	58kW

Table 1 - Codes

Description

GE556 series is composed of heat interface units for heating and hot water production applications; they are fed via a communal boiler or as part of a district heating system.

The current version uses a configuration with two heat exchangers running in parallel. This has two principal advantages: parallel and non-intermittent handling of the sanitary hot water and heating functions (no need for hot water priority) and the higher safety benefits of a sealed system; in the event of leak in an apartment, this is limited to the secondary circuit and there is no emptying of the centralised system. The adopted configuration is an innovative variant, using thermostatic actuators and is particularly practical and reliable, as you can see from the following data.

Key features

- Versions GE556Y137 and Y138: painted (RAL9010) steel cabinet, for wall mounted installation, with key lock.
- Dimensions:

  44.4 x 63.0 x 19.5 cm (L x H x D) (GE556Y135-Y136)

  45.0 x 63.0 x 20.0 cm (L x H x D) (GE556Y137-Y138)
- Double heat exchanger configuration in parallel: the sanitary hot water and heating functions operate in parallel (with by-pass balancing).

Optional accessories

- Template with valves: Part number GE551Y063
- Energy meter (M-BUS): Part number GE555Y115
- Sanitary water meter (M-BUS): Part number GE552Y113 (NOTE: Do not use Part Number GE552Y111)
- Motor for zone valve, holiday function (sanitary hot water production): K270 Y001 or Y002
- Motor for zone valve, summer-winter function (heating production): K270 Y001 or Y002

Operation

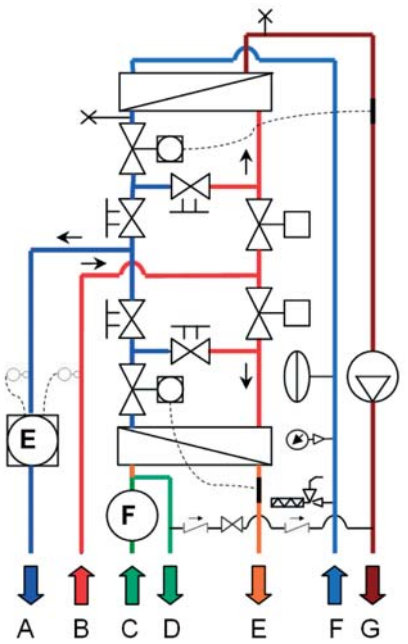

Figure 2 – Operating scheme

A = Primary return
B = Primary flow
C = Cold water inlet
D = Cold water outlet
E = Hot water outlet
F = Heating return
G = Heating flow

Filling tap
Zone valve (Optionally motorised)
Thermostatic valve
Balancing valve
Backflow preventer
Safety valve
Heat exchanger
Expansion tank
Circulator
Manual air vent and discharge
Manometer
Temperature sensor
Thermal energy meter
Sanitary cold water meter

Components

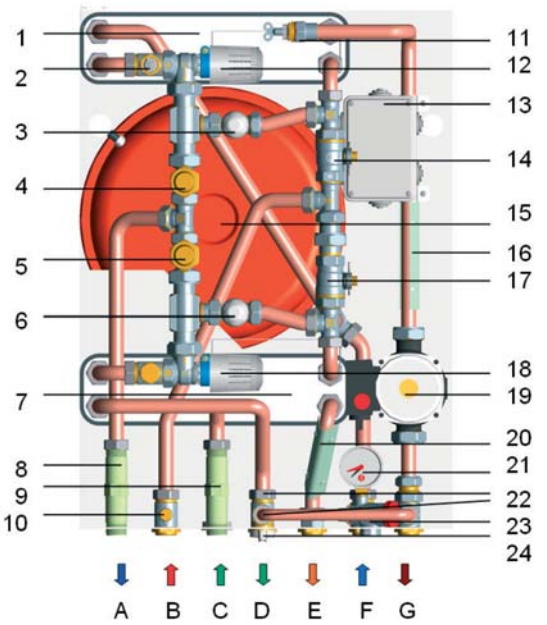

Figure 3 – Components

A = Primary return
B = Primary flow
C = Cold water inlet
D = Cold water outlet
E = Hot water outlet
F = Heating return
G = Heating flow

1	Heat exchanger, heating function	13	Electric box
2	Manual air vent, primary circuit	14	Primary circuit zone valve, heating function (summer/winter function)
3	Primary by-pass, heating function	15	Expansion vessel, heating circuit
4	Primary balancing, heating function	16	Thermostatic valve sensor heating function
5	Primary balancing, sanitary hot water function	17	Primary circuit zone valve sanitary hot water function (holiday function)
6	Primary by-pass, sanitary hot water function	18	Thermostatic valve, sanitary hot water function
7	Heat exchanger sanitary hot water function	19	Circulator, heating function
8	Spacer pipe for energy meter	20	Thermostatic valve sensor sanitary hot water function
9	Spacer pipe for sanitary water meter	21	Manometer heating function
10	Flow temperature probe housing for energy meter	22	Sanitary circuit backflow preventer – heating circuit
11	Manual air vent, heating circuit	23	Safety valve, heating circuit
12	Thermostatic valve, heating function	24	Filling tap, heating circuit

Table 2 – Components (see Fig. 3)

T: 01454 311012 Fax: 01454 316345

Sanitary:

Cold inlet (Fig.3-C), Cold outlet (Fig.3-D), Hot outlet (Fig.3-E). In place of the spacer (Fig.3-9) a sanitary water meter can be installed.

Heating:

Return (Fig.3-G) and flow (Fig.3-F). The circuit is simply composed of an exchanger and a circulator. As a closed circuit system, the equipment is completed by an expansion vessel, safety valve, manometer and filling system and incorporates a tap and a backflow preventer.

Primary:

Flow (Fig.3-B) and return (Fig.3-A).
The energy meter can be installed in place of the spacer (Fig.3-8), by installing the inlet temperature probe in the appropriate housing, (Fig.3-10).

The primary circuit is divided in two symmetrical arms: one is for the heating; the other is for the production of hot sanitary water. These two arms incorporate the zone valve, heat exchanger, thermostatic valve with remote bulb, balancing valve and by-pass lockshield valve.

If the zone valves (Fig.3-14 & 17) are closed, the flow is interrupted, and the meter does not measure any consumption. If at least one of the two zone valves is opened, the meter calculates the delta T within the cabinet at the minimum rate. The zone valves provide the control of the summer function (no heating production only sanitary) and the holiday function (no sanitary hot water or heating production).

Installation of the optional components

Warning!

Observe the norms concerning the use (installation, fixing, etc.), the operation, the recalibration and the replacement of the meters.

It is most important to refer to the assembly instructions supplied with any meter.

On each satellite version, it is possible to install the following components:

- Template with valves: see instructions of part number GE551Y063
- Energy meter (M-BUS): part number GE555Y115
  Ensure the flow is in the direction shown in Fig. 2. The flow temperature sensor of the energy meter must be installed into the appropriate housing (Fig.3-10).
- Sanitary water meter (M-BUS): part number GE552Y113
  (CAUTION: Do not use part number GE552Y111)
  Ensure the flow is in the direction shown in Fig. 2.
- Motor for zone valve, holiday function (sanitary hot water production): K270 Y001 or Y002
  Ensure the assembly direction is the same as in Fig. 4.
- Motor for zone valve, summer-winter function (heating production): K270 Y001 or Y002
  Ensure the assembly direction is the same as in Fig. 4.

Optional components

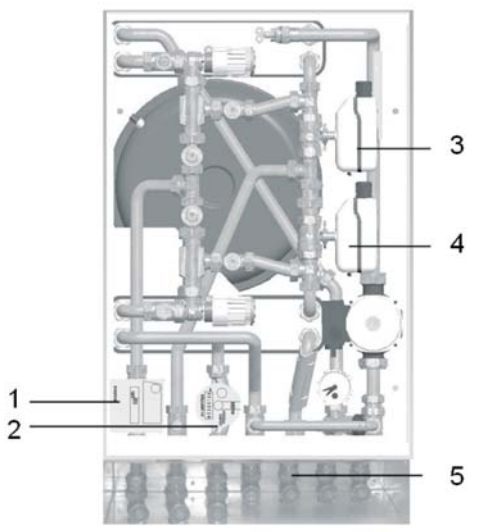

Figure 4 - Optional accessories

1	Energy meter Part number GE555Y115	4	Zone valve motor, sanitary hot water function Part numbers K270 Y001 -Y002
2	Sanitary water meter Part number GE555Y113	5	Jig Bracket Part number GE551Y063
3	Zone valve motor, heating function Part numbers K270 Y001 -Y002		

Table 3 - Optional accessories (see Fig. 4)

Protection and safety systems

Warning!

Danger of burns and electric shocks.

The access to the satellite should only be made by qualified and authorised personnel.

The cabinet (GE556Y137 and Y138) is provided with key locking.

We recommend the use of tamperproof seals on the meters to show evidence of any removal or adjustment.

Controls and maintenance

Heating circuit pressure

Periodically adjust the pressure of the heating circuit by means of the manometer (Fig.3-21): The pressure value shall be maintained over 1 bar **(pressure values under 1 bar can damage the circulator through cavitation).**

For the filling, open the tap (Fig.3-24), being careful to not exceed a pressure of 2.5 bar: at 3 bar the safety valve intervenes (Fig.3-23). **WARNING! Danger of burns.**

In order to eliminate the air in the heating circuit, use the manual air vent (Fig.3-11).

Safety valve

Periodically work the manual handwheel of the safety valve (Fig.323) to ensure good operation of the valve. Be careful of any leakage of hot fluid. **WARNING! Danger of burns.**

Adjustments

Sanitary hot water temperature

Adjust the temperature of the sanitary hot water through the thermostatic head (Fig.3-18):

Position	23	34	45	56	67
Temperature	23ºC	34ºC	45ºC	56ºC	67ºC

WARNING: the set value represents the rating value; the thermostatic head is not precise as a thermostatic mixer and in transitory phases (unexpected openings) does not guarantee the precise set value, which may briefly vary by +/-15ºC.

Warning!

Danger of burns.

The thermostatic head for the regulation of the sanitary hot water temperature serves to set the temperature rating value.

To avoid burns, provide for a thermostatic mixer downstream of the satellite.

If you note that the rating temperature of the sanitary hot water is higher than the set value, the flow of the primary may be too high and the thermostatic head is not able to close. In this case **open, the primary by-pass sanitary hot water function** (Fig.3-6). For example, open $^1/_4$ or $^1/_2$ turn. For more information about the by-pass regulation, see Fig. 7.

To balance the sanitary hot water and heating production functions, you may **use the primary balancing valves (D) for the heating function and (E) for the sanitary hot water function.** Normally it is required to give higher power to the sanitary hot water production function so the valve (E) is completely open, while you slightly close the other valve (D).

For the regulation of the primary balancing, see Fig. 9.

Heating

Adjust the heating temperature through the thermostatic head (Fig.3-12):

Position	23	34	45	56	67
Temperature	23ºC	34ºC	45ºC	56ºC	67ºC

Warning!

Provide for a safety thermostat for the low temperature heating applications.

If you note that the rating temperature of the heating is higher than the set value, the flow of the primary may be too high and the thermostatic head is not able to close. In this case, **open the primary by-pass, heating function** (Fig.3-3). For example open 1/4 or 1/2 turn. For the by-pass regulation, see Fig. 8.

To balance the sanitary hot water and heating production functions, you may work with **the primary balancing valves (Fig.34) for the heating function and for the sanitary hot water function.**

T: 01454 311012 Fax: 01454 316345

Normally it is required to give higher power to the sanitary hot water production function so the valve (Fig.3-5) is completely open, while you slightly close the other valve (Fig.3-4). For the regulation of the primary balancing, see Fig. 9.

Finally it is possible to change the heating power, by modifying the **circulator speed** to one of 3 speeds (Fig.3-19), see Fig. 7.

Electrical connections

On top left of the satellite there is an electrical box IP55 (see Fig. 3 – ref. 13) containing the terminals (see Fig. 5) for the electrical connections for the M-BUS (optional) devices and for the control and supply of the following components:

- Circulator (Fig. 3-ref. 19)
- Zone valve motor for heating function (Fig. 4 – ref. 3)
- Zone valve motor for sanitary hot water function (Fig. 4 – ref. 4).

The zone valve motors are optional, the only standard electrical connections being 3, 4, 5, 6, 17, 18, 19, 20.

External connections

External power supply (at 24V~ or at 230V~) should be connected to the terminal box to terminals 5 and 6. For the motors of the zone valves the supply should be connected to the terminal box to terminals 9, 10, 13 and 14 and should be 230Vac

Use a two-conductor cable with 0.5mm² section. No polarity is required for the connection of the terminals.

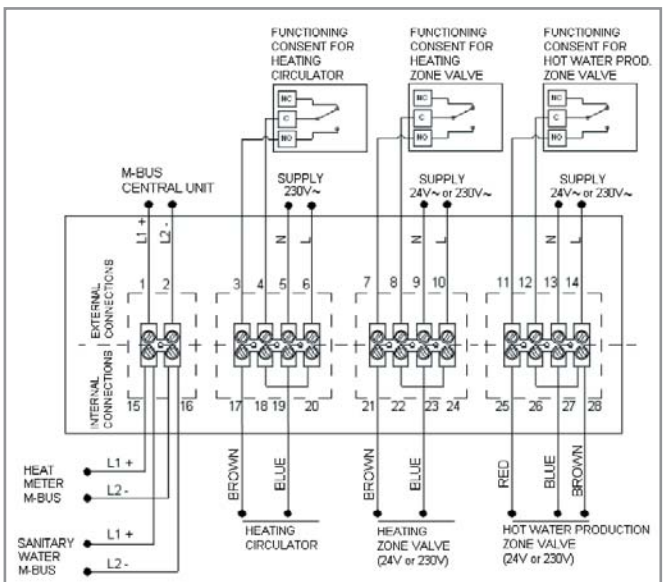

Figure 5 – Electrical connections of the terminal box

Switches

For the connection of a programmable thermostat for heating production, use terminals 3, 4 (no polarity is required for these terminals).

For activating summer mode (no heating), use terminals 7, 8 and optional motorized head.

For hot water shut down use terminals 11, 12 (with optional motorized head).

Using summer mode and hot water shutdown will isolate the unit. Ideal for long absences, holidays etc.

NB. It is possible to site these controls remotely.

M-BUS connections

For the connection of the M-Bus data transmission cable to the concentrator use terminals 1 (RED conductor L1+) and to terminal 2 (GREEN conductor L2-) of the terminal box, see Fig. 5. Refer to the M-BUS datasheet.

Technical data – electrical data

- Supply voltage for circulator: 230V +10%/-15%: 50Hz ±5%
- Maximal electrical power for the circulator on the three speeds = 132W, 92W, 62W.

Optional motors

- Supply voltage for motorized zone valve: 24Vac ±15% @50-60Hz or 230Vac ±15% @50-60Hz (depending on the codes – motors are optional).
- Maximal electrical power for each motorized zone valve (the motors are optional) = 6W.

Technical data

- Maximum working temperature of the primary circuit and secondary circuits (heating and sanitary): 90ºC
- Maximum working pressure of the primary circuit and secondary sanitary: 10 bar
- Maximum working pressure of the heating secondary circuit: 3 bar (safety valve setting)
- Nominal primary flow: 1250 l/h

Hot sanitary water production –
(GE556Y135, GE556Y137)

Sanitary			Flow Rate (l/h) and Primary Outlet Temperature (sanitary 15-50ºC)			
l/min	l/h	kW	75ºC	70ºC	65ºC	60ºC
12	720	29	580 (31ºC)	700 (33.8ºC)	880 (36.3ºC)	1330 (40.9ºC)
15	900	37	780 (34.2ºC)	960 (36.9ºC)	1260 (39.8ºC)	
17	1020	41	920 (35.8ºC)	1140 (38.4ºC)	1540 (41.6ºC)	
18	1080	42.9	1000 (36.6ºC)	1240 (39.3ºC)	1700 (42.6ºC)	
20	1200	49	1150 (38.1ºC)	1450 (40.8ºC)		

Table 4 – Primary circuit and hot water production for satellites with standard heat exchanger.

Hot sanitary water production –
(GE556Y136, GE556Y138)

Sanitary			Flow Rate (l/h) and Primary Outlet Temperature (sanitary 15-50ºC)				
l/min	l/h	kW	75ºC	70ºC	65ºC	60ºC	55ºC
12	720	29.2	460 (20ºC)	525 (21.4ºC)	610 (23.5ºC)	760 (26.7ºC)	1100 (32ºC)
15	900	36.5	590 (21.2ºC)	675 (23ºC)	800 (25.3ºC)	1000 (28.5ºC)	1530 (34ºC)
17	1020	41.4	680 (22.1ºC)	775 (23.8ºC)	925 (26.2ºC)	1180 (29.7ºC)	
18	1080	42.9	725 (22.4ºC)	830 (24.2ºC)	1000 (26.9ºC)	1275 (30.2ºC)	
20	1200	48.7	815 (23.2ºC)	940 (25.1ºC)	1130 (27.7ºC)	1480 (31.5ºC)	
24	1430	58.2	1000 (24.6ºC)	1160 (26.7ºC)	1420 (29.5ºC)	1880 (33.3ºC)	

Table 5 – Primary circuit and hot water production for satellites with large heat exchanger

Sanitary circuit

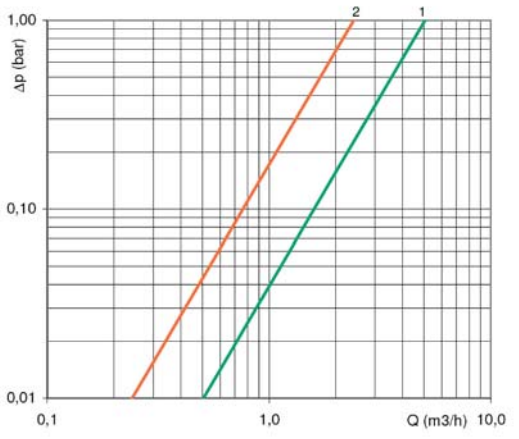

Figure 6 – Hydraulic data for hot and cold sanitary water circuits. (Ref. See table 10)

Ref. Fig.6	Kv	Description	Ref. Fig.2
2	1.85	Warm sanitary water	C-D
1	2.11	Cold sanitary water	C-E

Table 10 – Hydraulic data for hot and cold sanitary water circuits.

T: 01454 311012 Fax: 01454 316345

Heating - (GE556Y135, GE556Y137)

Heating - Radiators			Flow Rate (l/h) and Primary Outlet Temperature (radiators 65-55°C)	
Circulator speed	Flow Rate m³/h	Power (kW)	75°C	70°C
I	1	11.6	580 (57°C)	975 (59°C)
II	1.25	14.5	750 (58°C)	1320 (60°C)
III	1.5	17.4	950 (59°C)	1750 (61°C)

Table 6 - Primary circuit and radiators heating for satellites with standard heat exchanger.

Heating - Radiant Floor			Flow Rate (l/h) and Primary Outlet Temperature (radiant floor 45-39°C)			
Circulator speed	Flow Rate m³/h	Power (kW)	75°C	70°C	65°C	60°C
I	1	7.0			240 (39°C)	300 (39°C)
II	1.25	8.7		240 (40°C)	300 (40°C)	375 (40°C)
III	1.5	10.5		290 (40°C)	350 (40°C)	450 (40°C)

Table 7 - Primary circuit and floor radiant heating for satellites with standard heat exchanger.

Heating - (GE556Y136, GE556Y138)

Heating - Radiators			Flow Rate (l/h) and Primary Outlet Temperature (radiators 65-55°C)	
Circulator speed	Flow Rate m³/h	Power (kW)	75°C	70°C
I	1	11.6	525 (55°C)	780 (57°C)
II	1.25	14.5	670 (56°C)	1010 (57°C)
III	1.5	17.4	810 (56°C)	1250 (58°C)

Table 8 - Table 6 - Primary circuit and radiators heating for satellites with large heat exchanger.

Heating - Radiant Floor			Flow Rate (l/h) and Primary Outlet temperature (radiant floor 45-39°C)				
Circulator speed	Flow Rate m³/h	Power (kW)	75°C	70°C	65°C	60°C	55°C
I	1	7.0			220 (39°C)	280 (39°C)	380 (39°C)
II	1.25	8.7			290 (40°C)	365 (40°C)	480 (39°C)
III	1.5	10.5		300 (39°C)	350 (40°C)	430 (39°C)	590 (39°C)

Table 9 - Primary circuit and floor radiant heating for satellites with large heat exchanger.

Key

(Tables No. 4, 5, 6, 7, 8 & 9)

Nominal operations (winter period)

Nominal operations (summer period)

The tables are related to work with by-pass completely closed.

Heating

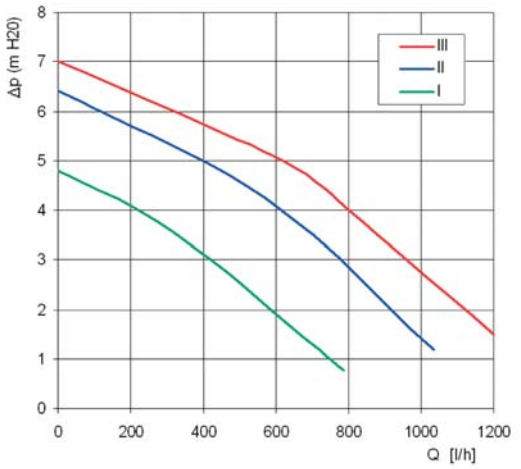

Figure. 7 – Heating flow rate diagrams.

Primary circuit

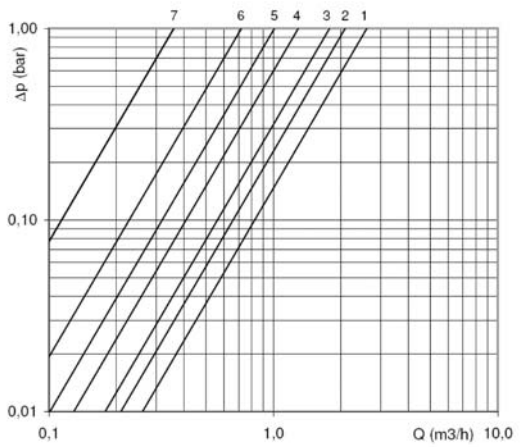

Figure 8 – Hydraulic characteristic of the primary circuit operating in full by-pass depending on the adjustment of the holders of by-pass (Ref. see table 11).

Ref. Fig. 8	Kv	Valve opening revolutions
7	0.36	1/4
6	0.72	1/2
5	1.01	3/4
4	1.29	1
3	1.78	1 1/2
2	2.09	2
1	2.61	T.A.

Table 11 – Hydraulic characteristic of the primary circuit operating in full by-pass depending on the adjustment of the holders of by-pass.

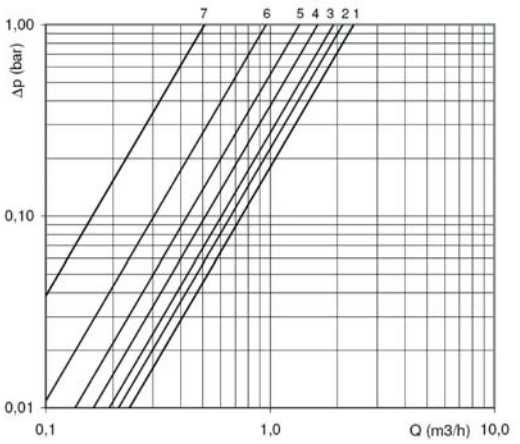

Figure 9 – Hydraulic characteristic of the primary circuit operating with by-pass closed and thermostatic valves completely open in terms of primary balance adjustment (Ref. see table 12).

Ref. Fig. 9	Kv	Valve opening revolutions
7	0.51	1/4
6	0.96	1/2
5	1.35	3/4
4	1.63	1
3	1.92	1 1/2
2	2.11	2
1	2.36	T.A.

Table 12 – Hydraulic characteristic of the primary circuit operating with by-pass closed and thermostatic valves completely open in terms of primary balance adjustment.

T: 01454 311012 Fax: 01454 316345

Operating characteristics with installation of meters (optional)

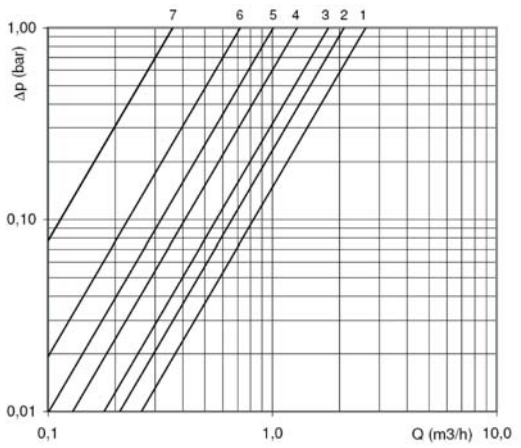

Figure 10 – Hydraulic characteristic of the primary circuit operating in full by-pass depending on the adjustment of the holders of by-pass (Ref. see table 13)

Ref. Fig. 10	Kv	Valve opening revolutions
7	0.3	1/4
6	0.7	1/2
5	0.96	3/4
4	1.2	1
3	1.55	1 1/2
2	1.75	2
1	1.92	T.A.

Table 13 – Hydraulic characteristic of the primary circuit operating in full by-pass depending on the adjustment of the holders of by-pass.

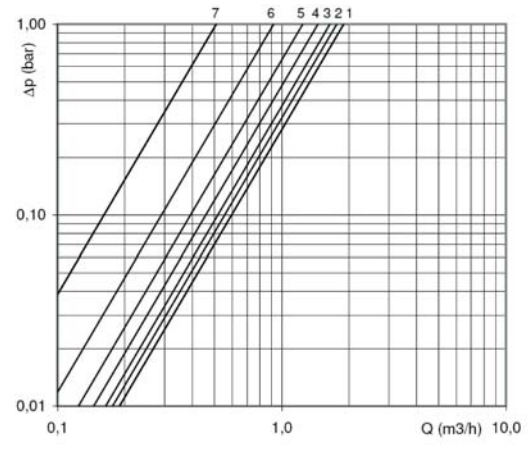

Figure 11 – Hydraulic characteristic of the primary circuit operating with by-pass closed and thermostatic valves completely open in terms of primary balance adjustment (Ref. see table 14).

Ref. Fig. 11	Kv	Valve opening revolutions
7	0.51	1/4
6	0.92	1/2
5	1.24	3/4
4	1.45	1
3	1.64	1 1/2
2	1.76	2
1	1.89	T.A.

Table 14 – Hydraulic characteristic of the primary circuit operating with by-pass closed and thermostatic valves completely open in terms of primary balance adjustment.

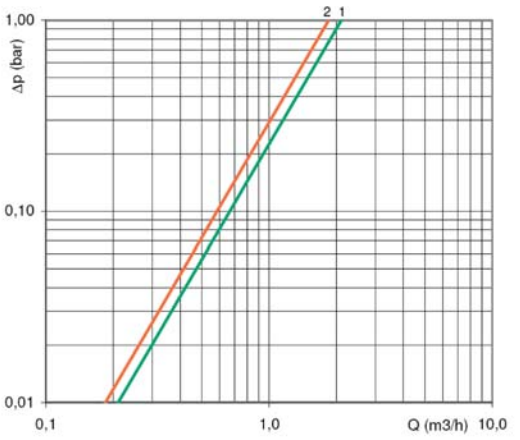

Figure 12 – Hydraulic data for hot and cold sanitary water circuits (Ref. see table 15)

Ref. Fig. 12	Kv	Description	Ref. Fig. 2
2	2.4	Hot sanitary water circuit (with meter)	C-D
1	5.1	Cold sanitary water circuit (with meter)	C-E

Table 15 – Hydraulic data for hot and cold sanitary water circuits.

Dimensions

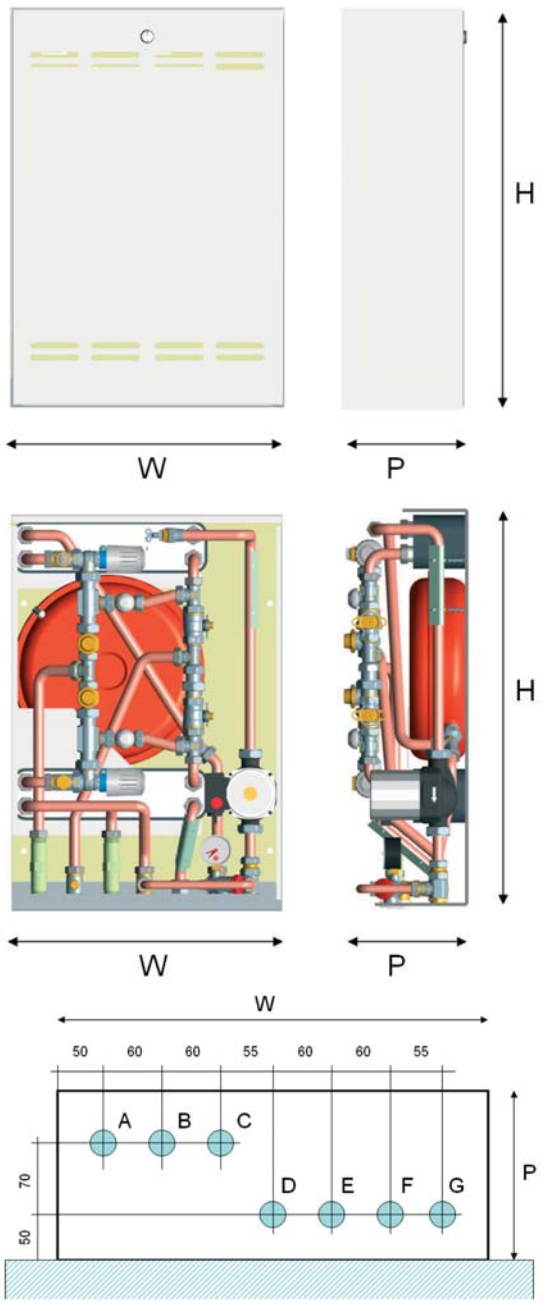

Figure 13 – Dimensions (mm)

A = Primary return
B = Primary flow
C = Cold water inlet
D = Cold water outlet
E = Hot water outlet
F = Heating return
G = Heating flow

Codes	W	P	H
GE556Y135	444	195	620
GE556Y136	444	195	620
GE556Y137	450	200	630
GE556Y138	450	200	630

Table 16 – Dimensions (mm) (Ref. See Fig. 13).

Normative references

- UNI EN 1434
- EN 60751
- EN 61107

WRAS certifications

Ref. Fig. 3	Component	Certificate number
-	Gaskets	0512513
7	Heat exchangers	0712063
9	Spacer	0507502
22	Backflow preventer	0907056

Table 17 – WRAS certifications.

Additional information

For further information please contact the following website:

www.giacomini.co.uk

or contact the technical department:

T: 01454 311012

F: 01454 316345

E: enquiries@giacomini.co.uk

This communication has an indicative value. Giacomini SpA reserves the right to make at any time, without notice, changes for technical or business reasons to the articles in this communication. The information contained in this technical communication does not exempt the user from following strictly the regulations and rules of good existing practice.

Also from Giacomini

Underfloor Heating Systems and Screed

With its unparalleled experience of underfloor heating systems spanning over 30 years, Giacomini is in an ideal position to offer a comprehensive underfloor heating design, manufacturing and installation service.

An in-depth knowledge of both system and building requirements ensures that Giacomini delivers cost effective underfloor heating solutions that meet the latest comfort criteria, while helping to maximise energy saving and lower emissions.

- Single point responsibility for the whole system
- We manufacture all components to ensure quality, reliability and supply
- Full technical assistance is available at every stage from experienced UK based engineers
- Up to 50 years guarantee on pipe
- Up to 10 years guarantee on all brass components

To find out more, contact Giacomini today or visit our new updated website.

www.giacomini.co.uk

GIACOMINI
Technology in Comfort

Giacomini UK Ltd
Unit 2, Goodrich Close
Westerleigh Business Park
Yate
South Gloucestershire
B37 5YT

Tel: 01454 311012
Fax: 01454 316345
Email: enquiries@giacomini.co.uk
Web: www.giacomini.co.uk

Main manufacturing facility in Italy