GIACOSUN®
SANITARY HOT WATER MODULE GS556

GS556Y001

Description

giacosun® sanitary hot water module takes energy from (**E**) from an accumulation of the heating system and produces hot water (**A**) for sanitary use. Energy (**E**) crosses the primary circuit of the exchanger (**1**) and is returned (**C**) to the accumulation of the heating system. Part of the water taken from the water system (**B**) crosses the secondary circuit of the exchanger (**1**) that in its turn, is connected to the "hot" side of the **R156** thermostatic mixing valve (**2**). The rest of the water taken from the water system feeds the "cold" side, that can be balanced by operating on the lockshiedl valve (**3**), for optimal temperature control on the hot water (**A**) destined to sanitary use.

Hot water sampling from the accumulation of the heating system is guaranteed by a **RS 15/7** circulator (**4**). Controlled by the flow switch (**5**), positioned on the secondary circuit. The valve with **R462L** thermostatic head (**6**) positioned on the primary circuit inlet, detects the temperature coming out from the secondary circuit and modulates adequately the flow rate taken from the accumulation of the heating system, maximizing the temperature difference between delivery and return and consequently the system's thermal efficiency. **R147N** differential valve (**7**) protects the circulator when the thermostatic valve is fully closed. Using the appropriate **GS551Y001** kit, including a **ZRS 12/6** circulator (**8**) – controlled for example by a clock – and the relative assembly accessories, the connection (**C**) for the recirculation circuit can be obtained.

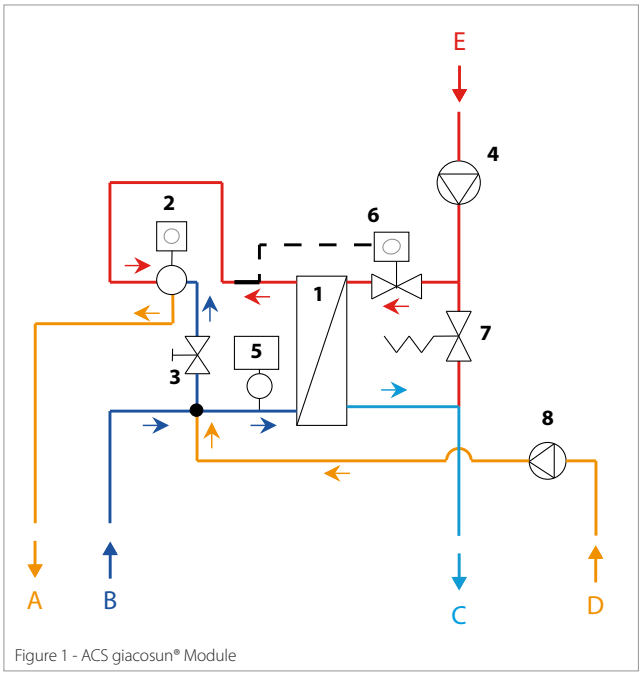


Figure 1 - ACS giacosun® Module

Factory settings

The module performances for the sanitary hot water production, reported in table 2, refer to the project calibration conditions, reported in table 1.

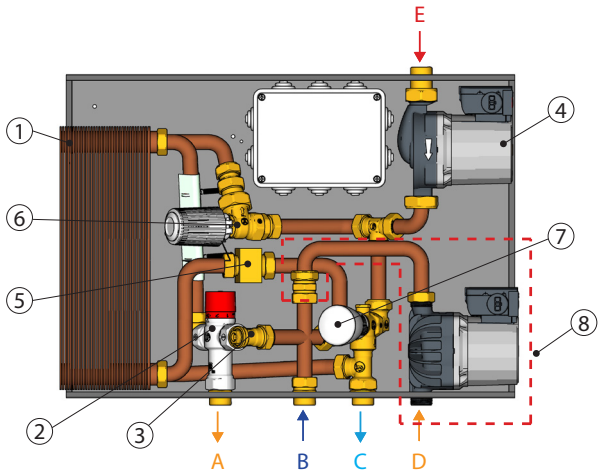
RS 15/7 (speed)	R147N (m H_2O)	R156 (calibration)	Lockshield valve 3 (opening turns)	R462L (°C)
III	5	3 (49°C)	fully closed -1/2 turn	56

Table 1 – Project calibration of ACS giacosun® module

To avoid that idle running damages the circulator, adjust the R147N differential valve according to table 2

RS 15/7 (speed)	I	II	III
R147N (m H_2O)	≤3	≤4	≤5

Table 2 – Differential valve calibration



A - Sanitary mixed hot water (49 °C).
B - Sanitary cold water (15 °C).
C - Return to the accumulation (30 °C).
D - Recirculation inlet (39 °C).
E - Sampling from the accumulation (65 °C).

1 - Exchanger.
2 - R156 thermostatic mixing valve.
3 - Lockshield valve
4 - RS 15/7 circulator for sampling from accumulation
5 - Flow switch
6 - R462L thermostatic valve
7 - R147N differential valve
8 - Recirculation kit (RS 12/6)

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Technical Data

- Max temperature (water from the accumulation) = 90°C
- Max pressure = 10 bar

It is recommended not to use the module with temperatures of sampling from the accumulation higher than 70°C, to avoid calcareous deposit phenomenon in the secondary side of the plate exchanger.

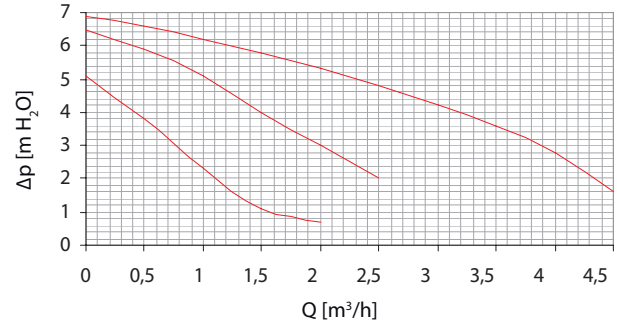


Figure 2 – Circulator feature - Hot water sampling from accumulation

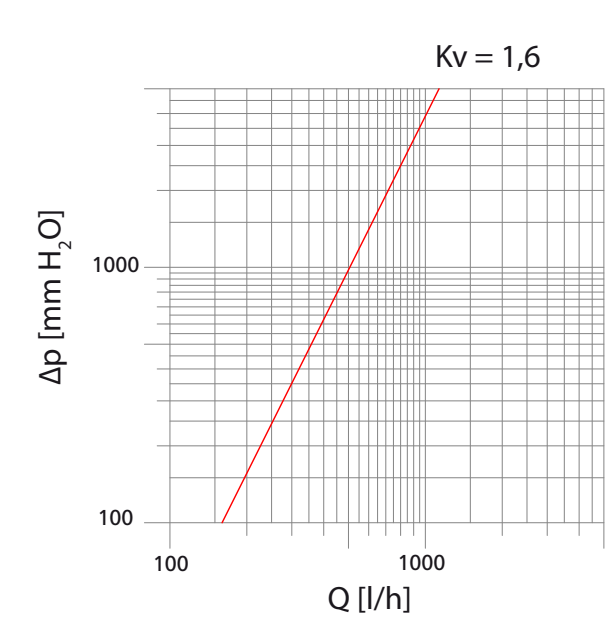


Figure 3 – Hydraulic feature of sanitary side

Performances

Sampling from accumulation	Sanitary capacity		Accumulation return	Water system sampling	Sanitary hot water	Power
(°C)	(l/min.)	(l/h)	(°C)	(°C)	(°C)	(kW)
70	12,5	750	47	15	50	30
70	16,7	1000	40	15	50	41
70	25,0	1500	29	15	49	59
70	33,3	2000	27	15	44	67
Sampling from accumulation	Sanitary capacity		Accumulation return	Water system sampling	Sanitary hot water	Power
(°C)	(l/min.)	(l/h)	(°C)	(°C)	(°C)	(kW)
60	12,5	750	42	15	50	30
60	16,7	1000	36	15	49	40
60	25,0	1500	33	15	45	52
60	29,2	1750	27	15	44	59

Table 3 – Sanitary hot water production performances

The performances of the giacosun sanitary hot water module refer to the operation in the project conditions. Possible changes of the calibration can be carried out by modifying logically all regulations and in any case, thay shall be done by qualified technical personnel.

Sampling from accumulation	R462L (calibration)	Capacity	Lockshiedl valve 3	Sanitary hot water (°C)	Accumulation return (°C)
E =70°C	67	16,7 l/min 1000 l/h	fully closed - turn	48,0	52
	61			48,6	49
	56			48,6	46
	51			45,4	36

Table 4 – R462L thermostatic head regulation

- The excessive reduction of the reference temperature on the R462L thermostatic head, could cause a pressure increase in the primary circuit that could overcome the effect of the R147N differential valve and open the by-pass circuit of the exchanger, obtaining this way a phenomenon opposed to the expected one, that is the hot water transfer from the accumulation upper part to the lower one.

- The excessive opening of the lockshield valve 3 on the "cold" side of the R156 thermostatic mixing valve could determine an unfavourable condition on the "hot" side and consequently the control of the sanitary hot water temperature could be subjected to a higher variability.

Recirculation Kit GS551Y001

giacosun® sanitary hot water module, GS556, can be fitted with sanitary recirculation kit having a 3-speed ZRS 12/06 circulator (PN10, IP44, 230 V - 50 Hz, maximum absorption at third speed 85 W)

Figure 5 – giacosun® recirculation kit

Description	Product code
Recirculation kit	GS551Y001

Hydraulic features

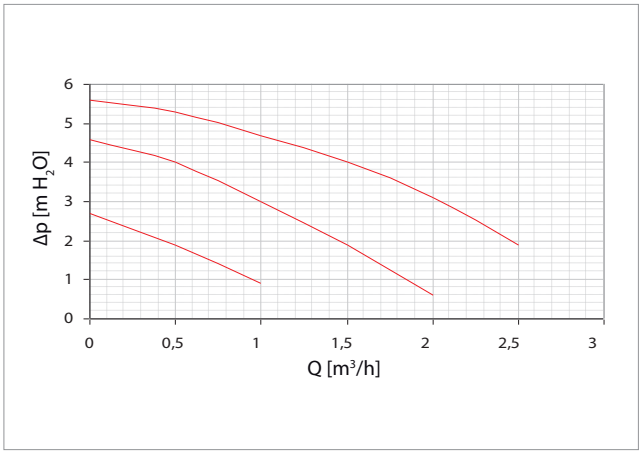
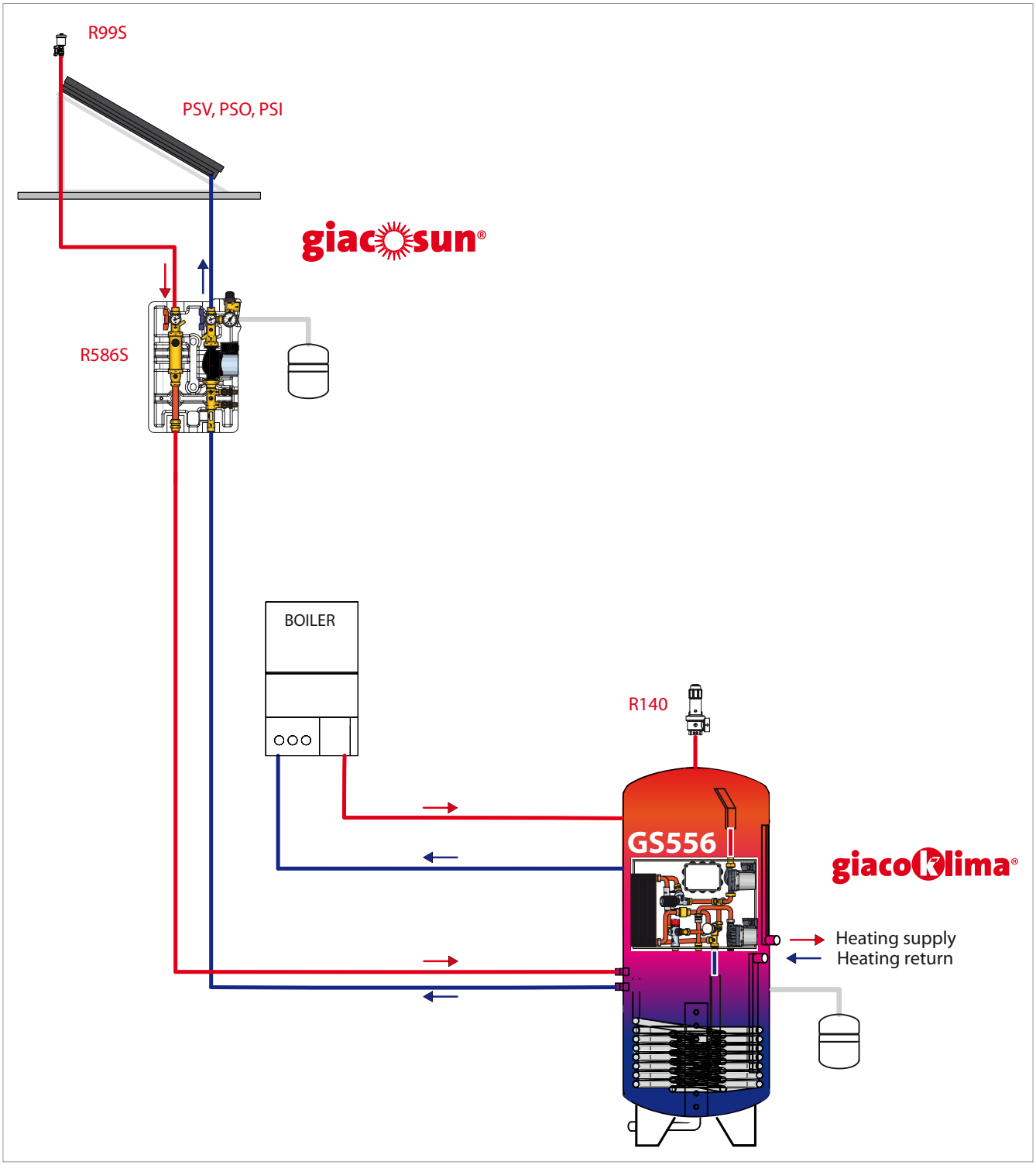


Figure 6 – Hydraulic diagram of giacosun recirculation kit

Installations example



Additional information

For additional information please check the Giacomini website at the following address: www.giacomini.com

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