

5585 / 5585A / 5585C / 5585AC

HYDRAULIC POWER UNIT FOR CIRCULATION AND BIOMASS SEPARATION FOR HEATING SYSTEMS



DESCRIPTION

The Tiemme biomass circulation and separation hydraulic power units art. 5585 / 5585A / 5585C / 5585AC can combine generators powered by different fuels, for example gas and biomass generators, on the same heating circuit.

The Tiemme modules, in addition to the hydraulic management of the heating circuit, comply with the requirements of the ISPEL circular 18/09/2006 and provide hydraulic performance at the highest levels.

The presence of a heat exchanger interposed between the two generators constitutes a hydraulic interruption between the respective heat transfer fluids and therefore it is not considered necessary to proceed with the sum of the potentialities (to learn more refer to the "TIEMME INFORMS" section of this data sheet).

The **GRUNDFOS UPM3 Hybrid** circulating pumps are the top-of-the-range versions. They give the possibility of having prevalences up to 7 m and the possibility of setting management curves with proportional pressure (default), constant pressure or constant curves.

The modules are supplied as standard with hydraulic accessories that make installation simple and complete, such as:

- Plant taps and fittings
- Non-return valves
- Air vents
- Safety valve
- Temperature control probes

The hydraulic power units are supplied complete with a metal box painted with powders, to be hung on the wall or built-in.


ADVANTAGES/STRENGTHS


- Maximum integration in existing plants;
- Reduction of spaces;
- Maximum efficiency
- Lower installation costs;
- 100% comfort;
- ERP ready;
- Compliant with ISPEL Circular 18/09/2006.


KEY FEATURES:


- Possibility to combine different generators in the same heating circuit (e.g. gas and biomass generator)
- Priority management;
- Circulation of water
- Hydraulic separation of circuits;
- Applications up to 34 kW;
- Management of anti-condensation function (art. 5585A / 5585AC);
- Additional functions

PRODUCT RANGE

	Art.	Code	Anti-condensation valve	Primary circulating pump
	5585	316 0141	-	-

	Art.	Code	Anti-condensation valve	Primary circulating pump
	5585A	316 0142	Supplied as standard (calibration 60 °C)	-

	Art.	Code	Anti-condensation valve	Primary circulating pump
	5585C	316 0143	-	Supplied as standard

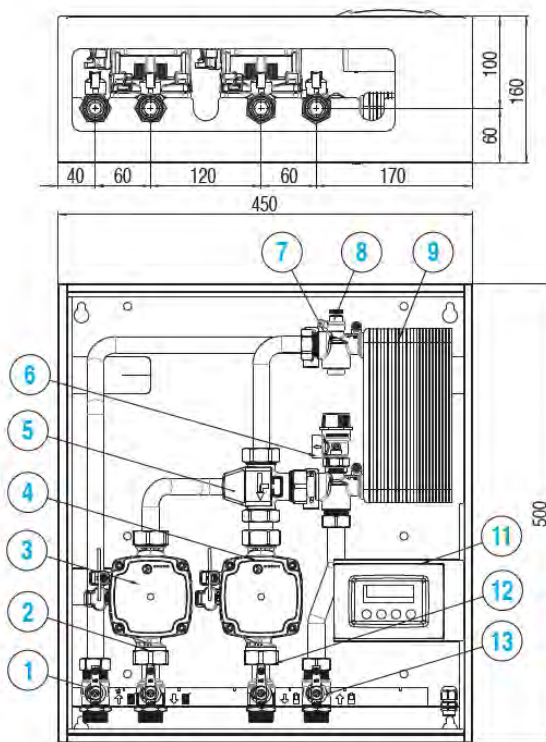
	Art.	Code	Anti-condensation valve	Primary circulating pump
	5585AC	316 0144	Supplied as standard (calibration 60 °C)	Supplied as standard

TECHNICAL AND MANUFACTURING SPECIFICATIONS

▪ Nominal diameter:	DN20
▪ Max Pressure:	PN10
▪ Heating safety valve:	3 bar *
▪ Working temperature range min - max.:	+ 5 °C ÷ 95 °C (110 °C peak)
▪ P non-return valve opening:	ΔP: 2kPa (200 mm a.c.)
▪ Fluid compatibility:	Water and glycol solutions (maximum glycol percentage 30%)
▪ Max. exchanged power:	34.9 kW
▪ Supply voltage:	230V / 50Hz
▪ Max Electrical Absorption:	110W
▪ IP protection degree:	IPX0D
▪ Copper tubes:	18 mm
▪ Primary circuit connections:	3/4" M
▪ Heating circuit connections:	3/4" M
▪ Centre to centre distance:	60mm
▪ Circulating pump:	Grundfos UPM3 Hybrid 15-70 Erp ready
▪ Circulating pump connections:	1" M
▪ Circulating pump centre to centre distance:	130 mm
▪ Head:	7m
▪ Primary heat exchanger:	40 plates
▪ Anti-condensation valve:	60°C *
▪ Control unit:	TIEMME ELECTRONICA mod. TC 100

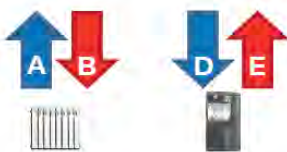
* Other values available on request.

DESCRIPTION OF COMPONENTS /DIMENSIONAL SPECIFICATIONS



KEY:

- A** Return from Heating
 - B** Heating delivery
 - D** Return to generator
 - E** Delivery from generator
- 1 Heating return/non-return tap
 - 2 Heating delivery tap
 - 3 Heating circulating pump
 - 4 Generator circulating pump (present in the forms art. 5585C and 5585AC)
 - 5 Thermostatic anti-condensation valve (present in the forms art. 5585A and 5585AC)
 - 6 Heating safety valve
 - 7 Heating air vent
 - 8 Generator air vent
 - 9 Plate heat exchanger
 - 10 Generator delivery probe
 - 11 Control unit
 - 12 Generator return tap
 - 13 Generator delivery tap



HYDRAULIC SPECIFICATIONS

Diagram 1: Primary circuit residual head

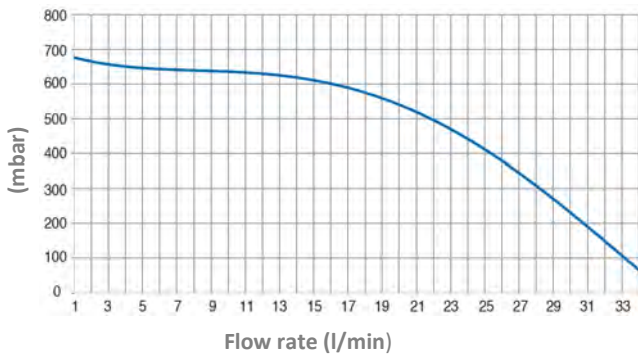
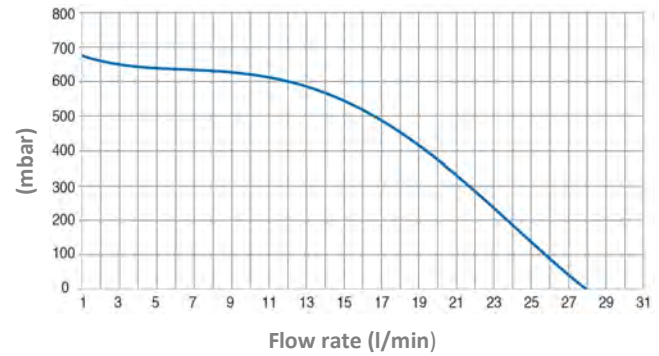
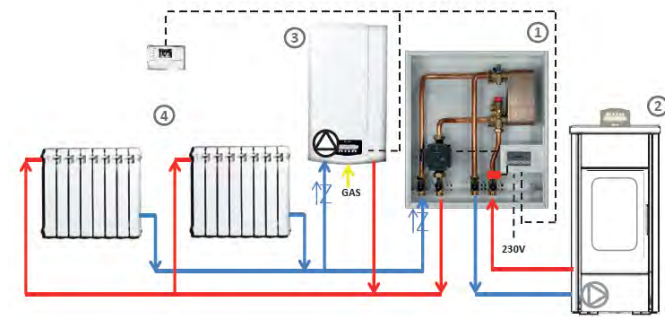


Diagram 2: Secondary circuit residual head



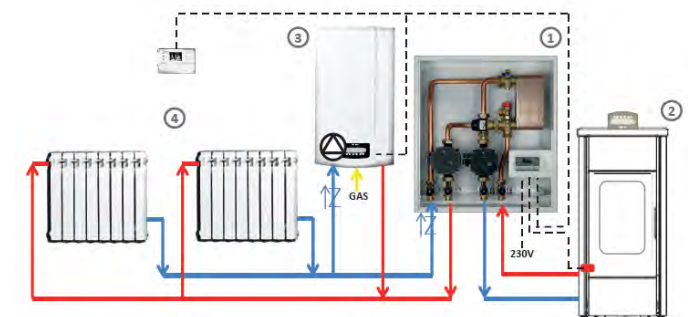
EXAMPLES OF INSTALLATIONS

Heating system with two generators, of which one with solid fuel equipped with circulating pump and plant separator module.



- KEY:**
- 1 - Form Art. 5585 / 5585A
 - 2 - Biomass generator with integrated circulating pump
 - 3 - Gas generator for integration
 - 4 - Heating circuit

Heating system with two generators, one of which is solid fuel without circulating pump and plant separator module.



- KEY:**
- 1 - Form Art. 5585C / 5585AC
 - 2 - Biomass generator without circulating pump
 - 3 - Gas generator for integration
 - 4 - Heating circuit

TIEMME INFORMS

THERMAL SYSTEMS WITH ADDITIONAL GENERATOR - ISPESL CIRCULAR OF 18/09/2006:

The ISPESL circular of 18/09/2006, regarding thermal systems structured with two heat generators, one of which is powered with solid fuel and the other with different fuel, specifies: **in the event that the primary heat transfer fluid of two generators enters the thermal accumulation without any dividing element, the sum of the potentials is considered and therefore, in the event of exceeding the value of 35 kW, the plant will not only fall within the obligation provided for by UNI 7129 but it will be necessary to refer to Ministerial Decree 08/11/19 with regard to fire prevention, taking into account the aforementioned regulatory updates. The presence of a heat exchanger interposed between the two generators constitutes hydraulic interruption between the respective heat transfer fluids and therefore it is considered that the sum of the potentialities should not be proceeded.**

FORMATION OF WATER VAPOR CONDENSATION CONTAINED IN THE FUMES: RELATED CAUSES AND PROBLEMS

During the wood /pellets combustion the humidity contained in them is released in the fumes as water vapor. Especially in the start-up phase of the system, when the temperatures of the exchangers and the flue are still low, the steam released could reach the dew point, thus condensing (following the progressive cooling along the flue, which is why it should always be insulated).

Condensation affects the proper flue draught. In addition, by joining the soot deposited on the walls, it causes the formation of encrustations of the heat exchange surfaces and the flue itself, very dangerous encrustations when subject to fire risk. The condensation, being acidic (PH 3.5 about) is a source of corrosive phenomena harmful to the plant.

The use of modules with an anti-condensation function (art. 5585A/5585AC) guarantees a stable return temperature to the generator at high values and, together with a correct design of the system, guarantees that these phenomena do not occur, with consequent benefits on the efficiency, safety and life of the plant.



ELECTRONIC CONTROL UNIT: CONTROL LOGIC

The control unit, present in the Tiemme modules, allows a simple and automatic management of the user circuits with priority of operation between biomass generator and additional generator (heat pump, gas boiler). For Tiemme models that incorporate this operating logic, the module includes a cable with auxiliary AUX control (black cable, with cable lug, identification label "AUX") that has its own contact in exchange.

The contact is normally "closed". If the temperature on the primary circuit of the module (supplied by the biomass generator) reaches the setpoint temperature set on the electronic regulator, the AUX auxiliary command "opens", starts the pump of the secondary circuit of the module on the utility side, and stops the integration of the additional generator.

The connection and management of this contact is at the discretion of the plant designer. For a gas boiler, simply connect the AUX cable to the boiler's TA connection.

If the ambient thermostat is present, the electrical connection takes place in series through a relay: the generator must integrate the plant if the AUX command "closes" and if there is a simultaneous request for the ambient thermostat or similar.



INSTALLATION / MAINTENANCE / WARNINGS

For installation and maintenance operations, please refer to the instruction manual provided with the product, available on the website www.tiemme.com or downloadable by scanning the QR Code shown on the side.



INSTRUCTIONS

CAUTION: Before any intervention remove the power supply through the external switch.

To ensure the safety and proper functioning of the module, maintenance must be carried out by a qualified technician in possession of the legal requirements.

TIEMME RACCORDERIE S.p.A. declines all responsibility in the event of failures and/or accidents resulting from non-compliance with these indications and from improper use of the system. The information shown does not exempt the user from scrupulously following current legislation and standards of good practice.

ACCESSORIES AND SPARE PARTS



Art. 5585CENTR
Control unit 230 Vac.



Art. 5585DEV
Anti-condensation valve 60 °C



Art. 5585S
Primary heat exchanger (40 plates)



Art. 3890PV1
Grundfos UPM3 Hybrid 15/70 230 Vac circulating pump.

Explore the product catalog for codes/further details.

ITEM SPECIFICATIONS

Art. 5585

Hydraulic power unit for circulation and separation of biomass for heating management. Supplied complete with: Heating return/non-return tap, heating delivery tap, heating circulating pump, heating safety valve, heating air vent, generator air vent, plate exchanger, generator delivery probe, control unit, generator return tap, generator delivery tap and powder-coated metal box to hang on the wall or built-in.

Nominal diameter DN20, max. pressure PN10, 3 bar heating safety valve, min - max working temperature range + 5°C ÷ 95°C (110°C peak), P non-return valve opening ΔP : 2kPa (200 mm a.c.), compatibility water and glycolated solutions (maximum glycol percentage 30%), maximum exchanged power 34.9 kW, supply voltage 230V / 50 Hz, maximum electrical absorption 110 W, degree of protection IPX0D, copper pipes 18 mm, primary circuit connections 3/4" M, heating circuit connections 3/4" M, centre to centre distance 60 mm, Grundfos UPM3 Hybrid circulating pump 15-70 Erp ready 1" M – int. 130 mm – head 7m, primary heat exchanger 40 plates, control unit TIEMME ELECTRONICA mod. CT 100.

Art. 5585A

Hydraulic power unit for circulation and biomass separation for heating management **with anti-condensation valve**. Supplied complete with: Heating return/non-return tap, heating delivery tap, heating circulating pump, thermostatic anti-condensation valve, heating safety valve, heating air vent, generator air vent, plate exchanger, generator delivery probe, control unit, generator return tap, generator delivery tap and powder-coated metal box to be hung on the wall or built-in.

Nominal diameter DN20, max. pressure PN10, 3 bar heating safety valve, min - max working temperature range + 5°C ÷ 95°C (110°C peak), P non-return valve opening ΔP : 2kPa (200 mm a.c.), compatibility water and glycolated solutions (maximum glycol percentage 30%), maximum exchanged power 34.9 kW, supply voltage 230V / 50 Hz, maximum electrical absorption 110 W, degree of protection IPX0D, copper pipes 18 mm, primary circuit connections 3/4" M, heating circuit connections 3/4" M, centre to centre distance 60 mm, Grundfos UPM3 Hybrid circulating pump 15-70 Erp ready 1" M – int. 130 mm – head 7m, primary exchanger 40 plates, anti-condensation valve 60 °C, control unit TIEMME ELECTRONICA mod. CT 100.

Art. 5585C

Hydraulic power unit for circulation and biomass separation for heating management **with primary circulating pump**. Supplied complete with: Heating return/non-return tap, heating delivery tap, heating circulating pump, generator circulating pump, heating safety valve, heating air vent, generator air vent, plate exchanger, generator delivery probe, control unit, generator return tap, generator delivery tap and metal box painted with powders to be hung on the wall or built-in.

Nominal diameter DN20, max. pressure PN10, 3 bar heating safety valve, min - max working temperature range + 5°C ÷ 95°C (110°C peak), P non-return valve opening ΔP : 2kPa (200 mm a.c.), compatibility water and glycolated solutions (maximum glycol percentage 30%), maximum exchanged power 34.9 kW, supply voltage 230V / 50 Hz, maximum electrical absorption 110 W, degree of protection IPX0D, copper pipes 18 mm, primary circuit connections 3/4" M, heating circuit connections 3/4" M, centre to centre distance 60 mm, Grundfos UPM3 Hybrid circulating pump 15-70 Erp ready 1" M – int. 130 mm – head 7m, primary heat exchanger 40 plates, control unit TIEMME ELECTRONICA mod. CT 100.

Art. 5585AC

Hydraulic power unit for circulation and biomass separation for heating management **with anti-condensation valve and primary circulating pump**. Supplied complete with: Heating return/non-return tap, heating delivery tap, heating circulating pump, generator circulating pump, thermostatic anti-condensation valve, heating safety valve, heating air vent, generator air vent, plate exchanger, generator delivery probe, control unit, generator return tap, generator delivery tap and powder-coated metal box to hang on the wall or built-in.

Nominal diameter DN20, max. pressure PN10, 3 bar heating safety valve, min - max working temperature range + 5°C ÷ 95°C (110°C peak), P non-return valve opening ΔP : 2kPa (200 mm a.c.), compatibility of water and glycolated solutions (maximum glycol percentage 30%), maximum exchanged power 34.9 kW, supply voltage 230V / 50 Hz, maximum electrical absorption 110 W, degree of protection IPX0D, copper pipes 18 mm, primary circuit connections 3/4" M, heating circuit connections 3/4" M, centre to centre distance 60 mm, Grundfos UPM3 Hybrid circulating pump 15-70 Erp ready 1" M – int. 130 mm – head 7m, primary exchanger 40 plates, anti-condensation valve 60 °C, control unit TIEMME ELECTRONICA mod. CT 100.

CERTIFICATIONS



Product conforms to:

- ISPEL circular dated 18/09/2006

- Directive PED - 2014/68/EU