FLUSSO SOLAR STATION WITH OVERHEATING CONTROL

The **Flusso Solar Station with Overheating Control** is an innovative system that ensures the proper operation of solar collectors in a solar field. It protects the equipment from overheating with the utilization of a dry cooler driven via **automation control system**, providing the system with remarkable heat rejection capacity.

It is indicated for the conversion of autonomous solar systems into centralized ones with the aim of improving energy efficiency, response and unified control. This station can be used in a wide range of applications from simple domestic to hotel applications, while it is ideally combined with the **Flusso Horizontal Storage Tank**.

System operation can be fully automated via PLC with real-time display provided via touch screen or computer.

PRODUCT MODELS

MODEL	FLUSSO SOLAR STATION SC 12.1	FLUSSO SOLAR STATION SC 12.2	FLUSSO SOLAR STATION SC 12.3
Flow Rate (lt/min)	16	33	66
Flow Rate (m^3/h)	1	2	4
Nominal heat rejection capacity (kW)*	4	7	12
Fan diameter	Φ300	Φ300	Φ350
Fan flow rate (m^3/h)	1000	1500	2000
Connections	1''	1''	1 1/4''
Length (mm)	960	960	960
Width (mm)	550	550	550
Height (mm)	570	570	570
Weight (kg)	35	40	45
*(Ambient temperature : 42 °C, Collectors' temperatures: 75-70 °C)			

TECHNICAL SPECIFICATIONS	
Casing material	INOX 304
Cooling element material	Copper with aluminum fins
Cooling element welding type	Automatic circular welding
Cooling element protection	Anti-scale protection
Nominal operating pressure	3 bar
Maximum operating pressure	6 bar
Nominal operating temperature	90°C
Maximum operating temperature	100°C
Solar field pump	Wilo/Grundfos PWM
Recirculation pump	Optional
Fan	230V
Three-way valve for overheating control	24V
Automation control system	Control panel THALES AK400 with 4.3" touch screen

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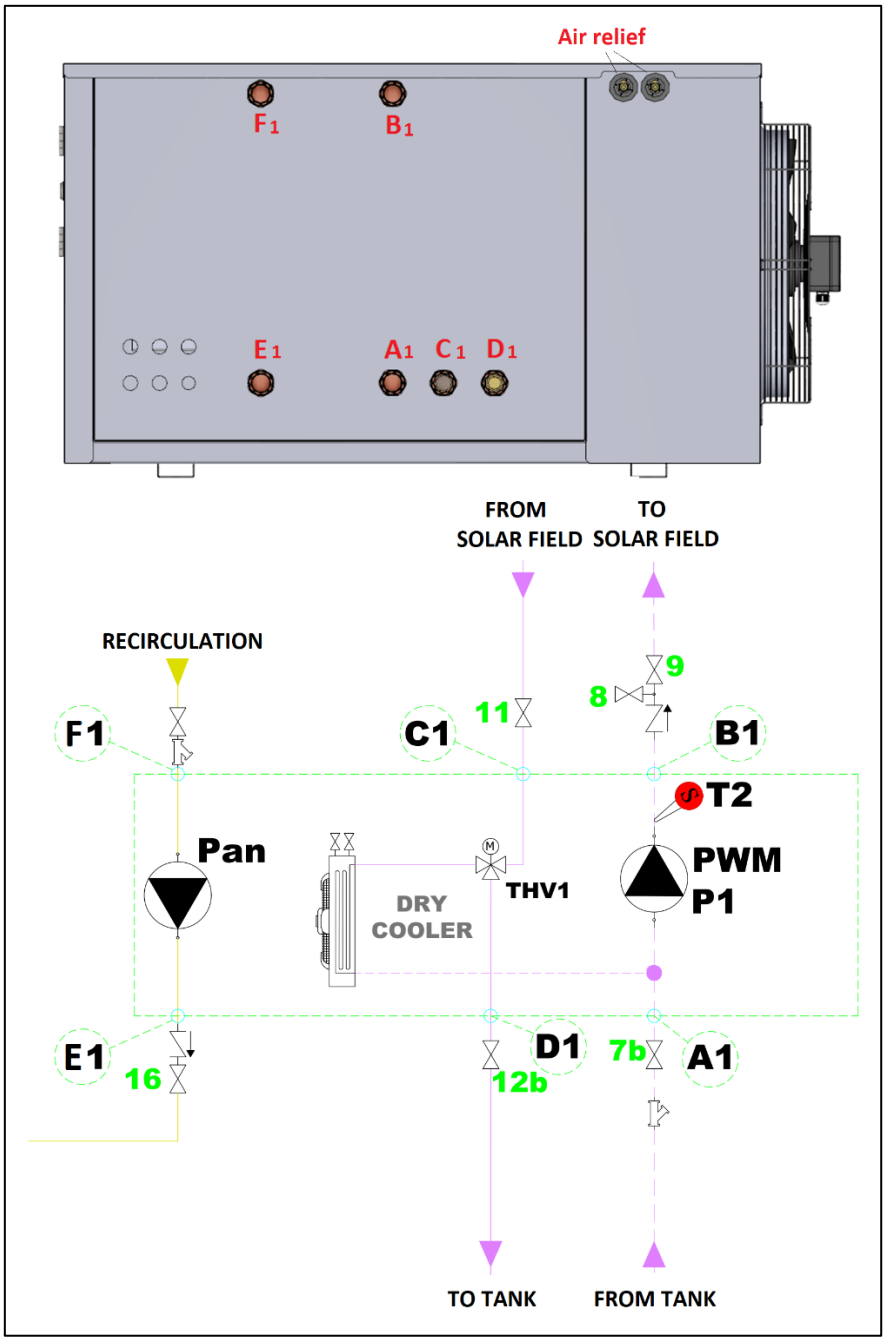
NOMENCLATURE AND HOLE DIAMETERS



HOLES	FLUSSO SOLAR STATION SC			USE
	12.1	12.2	12.3	
A1	1" FEMALE		1 1/4" FEMALE	FROM TANK HEAT EXCHANGER
B1	1" FEMALE		1 1/4" FEMALE	TO SOLAR COLLECTORS
C1	1" FEMALE		1 1/4" FEMALE	FROM SOLAR COLLECTORS
D1	1" FEMALE		1 1/4" FEMALE	TO TANK HEAT EXCHANGER
E1	1" FEMALE		1" FEMALE	RECIRCULATION TO TANK
F1	1" FEMALE		1" FEMALE	RECIRCULATION TO STATION

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PIPING AND INSTRUMENTATION DIAGRAM (PID)

HOLES	FLUSSO SOLAR STATION SC			USE
	12.1	12.2	12.3	
A1	1" FEMALE		1 1/4" FEMALE	FROM TANK HEAT EXCHANGER
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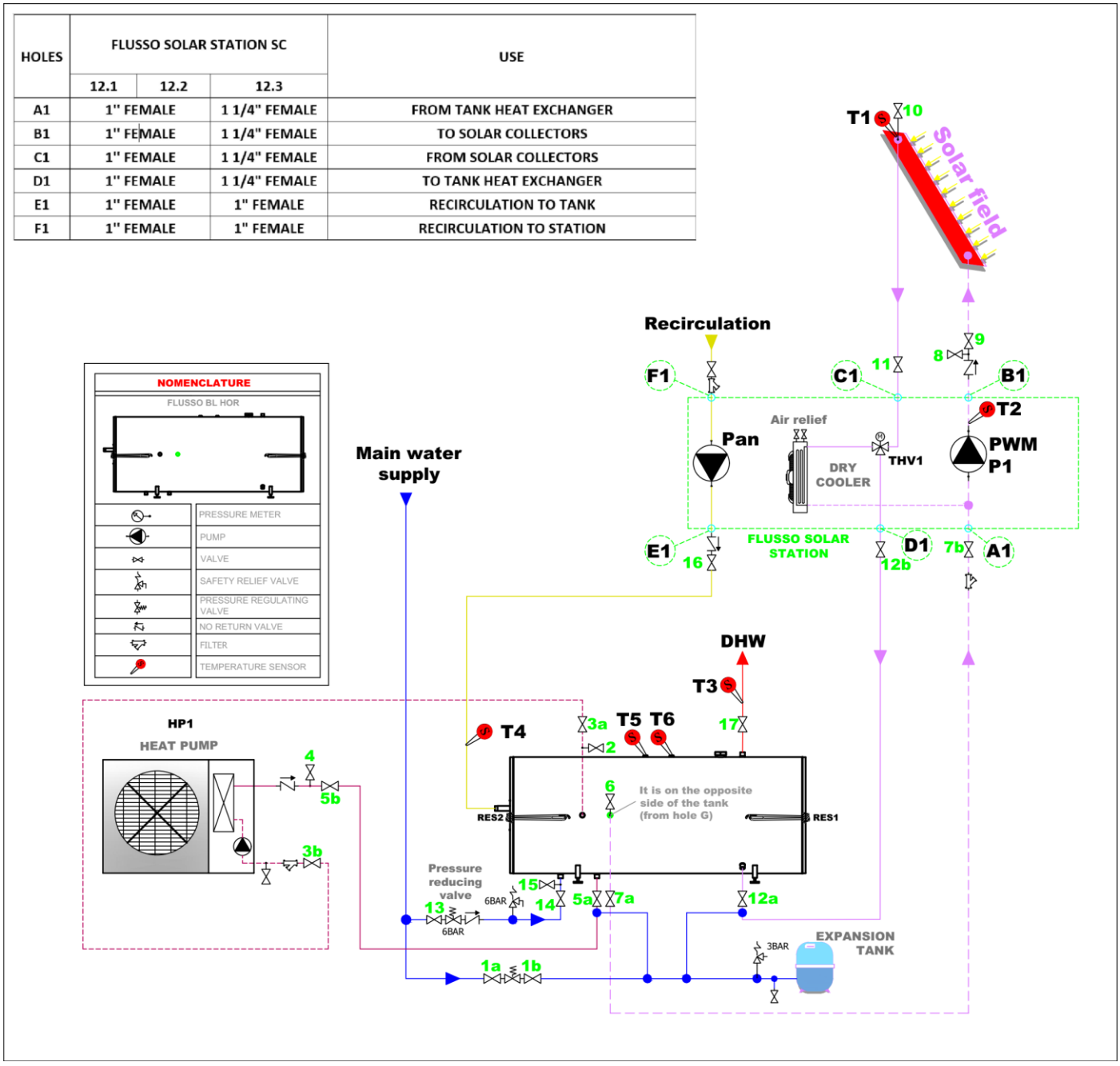

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QUALITY CHARACTERISTICS

QUALITY CHARACTERISTIC	BENEFIT
Innovative automation control system	**Optimum solar energy utilization** **Minimizing the use of auxiliary energy sources**
Integrated heat rejection system (overheating control)	**Overheating protection**
Full compatibility with existing hot water production and heating systems	**Utilization of existing equipment and systems**
Pre-built system **Small size** and **ergonomic design**	**Suitable for rooftop installation** **Easy installation and space saving** **Zero visual nuisance**
Housing of the water pumps within the box	**Protection from weather conditions**
Ergonomic design	**Easy connection** **Low visual nuisance**

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AUTOMATION CONTROL SYSTEM THALES AK400 FUNCTIONS

FUNCTIONS	Default	Potential
Control and operation via integrated 4.3'' touch screen	√	
Visualize system operations in real time	√	
Heat pump control (Remote on/off with time-schedule, tank temperature adjustment set point 2)	√	
Heating element control up to 3kW (built-in relay with schedule, tank temperature regulation set point 3)	√	
Variable speed water pump control (PWM/0-10V) for energy transfer	√	
Recirculation pump control (on/off)	√	
Solar Field Control with Variable Speed Water Pump (PWM/0-10V)	√	
Future firmware upgrades		√

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