

# Temperature control units **SMART**



# SMART SERIES

## Intuitive Operation “4.0 Technology”

Control panel with a 7” touchscreen equipped with 4.0 technology, enabling remote access and assistance, real-time data analysis, and an intuitive operating system for easy and not interrupted control.

## Connected to the network “Smartly”

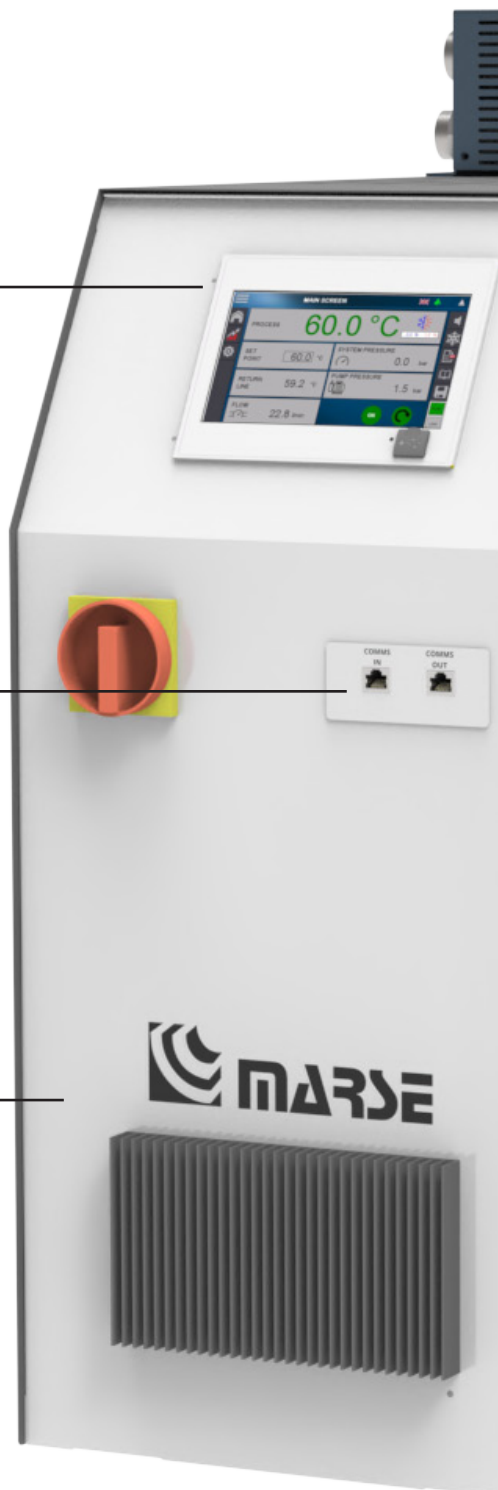
Ready for Industry 4.0, offering advanced connectivity.

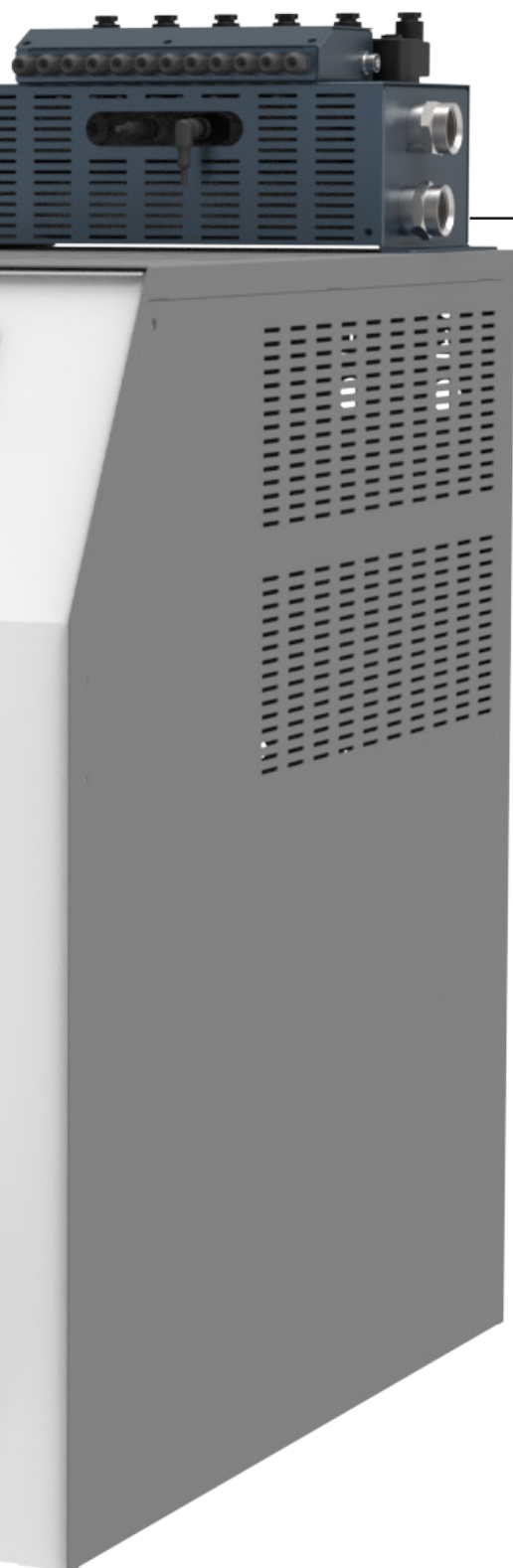
Available interfaces:

Analog signals IN/OUT 4-20mA, OPC UA, TTY 20mA, Profinet, RS 485, RS 232.

## Reliable and tested “Minimal Maintenance”

Our temperature controllers are the perfect solution for those who are looking for quality, durability, and high performance. Designed with tested industry technologies, ensuring optimum performance at all times.





## Energy Efficient

### “Flow Temp”

### Precision in Flow and Temperature Control

“Flow Temp” system is designed to provide advanced control in industrial processes, allowing individualized measurement and monitoring of critical parameters in each circuit.

#### Key Features:

- **Real-time monitoring:** Accurately measures of flow and return temperature for each circuit independently.
- **Custom Settings:** Enables specific limit settings for flow and temperature, adapting to the needs of each application.
- **Process optimization:** Improves operational efficiency by ensuring precise control of process conditions for greater stability and performance.
- **Regulation:** Flow and temperature regulation can be performed using proportional valves for automatic control or manually adjustable ball valves.
- **Contaminant detection:** The system detects contaminants early in the circuit, activating preventive alarms that help to avoid rejections and ensure process quality.
- **Advanced operation:** System management, parameter visualization, and communication are handled through the 7” touchscreen integrated into the thermoregulator.



Visit our website for  
more information

# Discover our range



## Water

Tank	Pressurized - direct Cooling System	Pressurized - indirect Cooling system
<i>Maximum working temperature 90 °C</i>	<i>Maximum working temperature 140 °C</i>	<i>Maximum working temperature 180 °C</i>
Models: <ul style="list-style-type: none"><li>- SMART BASIC</li><li>- SMART W</li><li>- SMART 2 W</li><li>- SMART 4 W</li><li>- SMART 5 W</li></ul>	Models: <ul style="list-style-type: none"><li>- SMART 2 plus WDC</li><li>- SMART 4 plus WDC</li><li>- SMART 6 plus WDC</li></ul>	Models: <ul style="list-style-type: none"><li>- SMART 2 plus WIC 140 °C to 180 °C</li><li>- SMART 4 plus WIC 140 °C to 160 °C</li><li>- SMART 6 plus WIC 140 °C</li></ul>



## Oil

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### Tank

*Maximum working temperature 150 °C*

Models:

- SMART 2A
- SMART 4A
- SMART 5A

### Pressurized

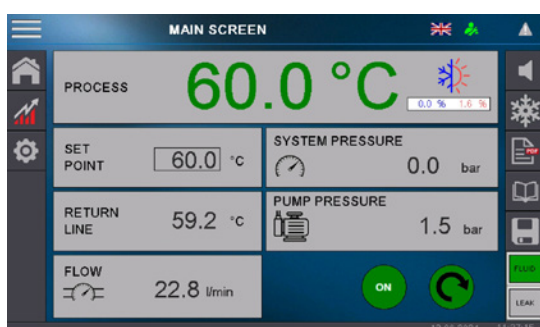
*Maximum working temperature 300 °C*

Models:

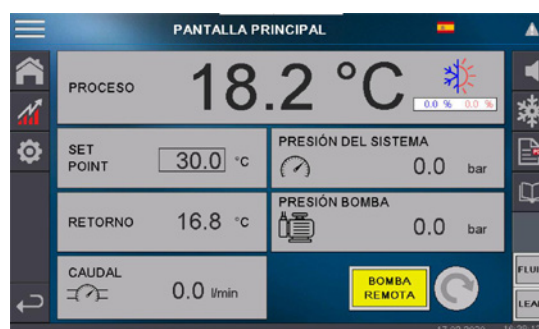
- SMART 5 A 180 180 °C
- SMART 6 plus A 300 300 °C

# Designed for Interaction

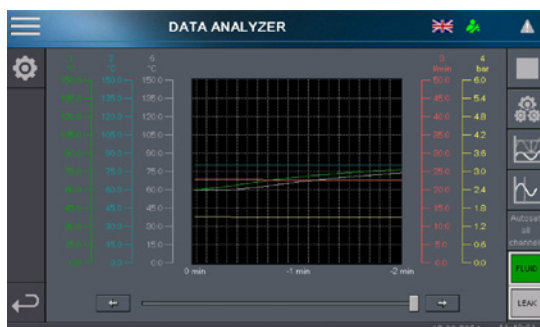
**Everything at a glance:** 7" touchscreen offers high brightness and speed, ensuring clear and smooth visualization. The user interface provides quick access to desired functions. Key process information is presented in a structured and easy way to interpret such as graphs, alarms or status indicators.



Main Screen



Main screen with remote pump



Data analysis

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**Easy to use.  
Adapted to  
your needs**

- Fast and intuitive programming with support for 17 languages.
- 7" touchscreen with EDGE 2 processor for efficient monitoring.
- USB port for data upload/download.
- Screensaver with large process temperature display.

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**Precision,  
Safety and  
Performance**

- Variable-speed pumps.
- Dynamic graphs for temperature, pressure, and flow.
- Temperature ramps for heating and cooling.
- Acoustic and visual alarms, with alarm history.
- Autotuning Function: Optimizes temperature control.
- Safety Features: Safety thermostat, pressure relief valves, and configurable relays.

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**Connectivity and  
Digitalization**

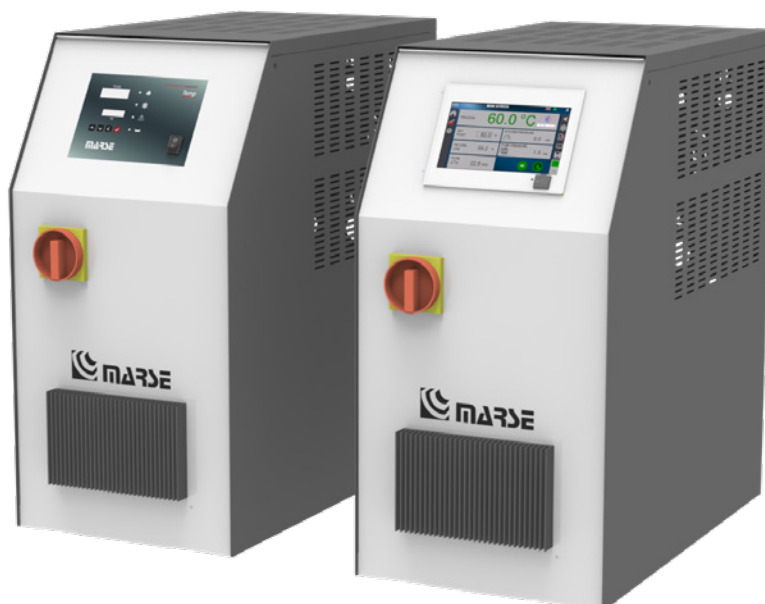
- Industry 4.0 Ready: Advanced interfaces including OPC UA, TTY 20mA, Profinet, RS 485, RS 232.
- Analog signals (4–20 mA) for temperature control.
- Remote Control: Via RAP platform with cloud storage.

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**Options:  
Additional  
Equipment**

- Automatic or manual process drainage.
  - High-performance pumps and cooling heat exchangers.
  - Connectors for external control signals
- 

## Versatile configurations



Display: TG 121  
Touchscreen: TG 111

# Cloud Connectivity

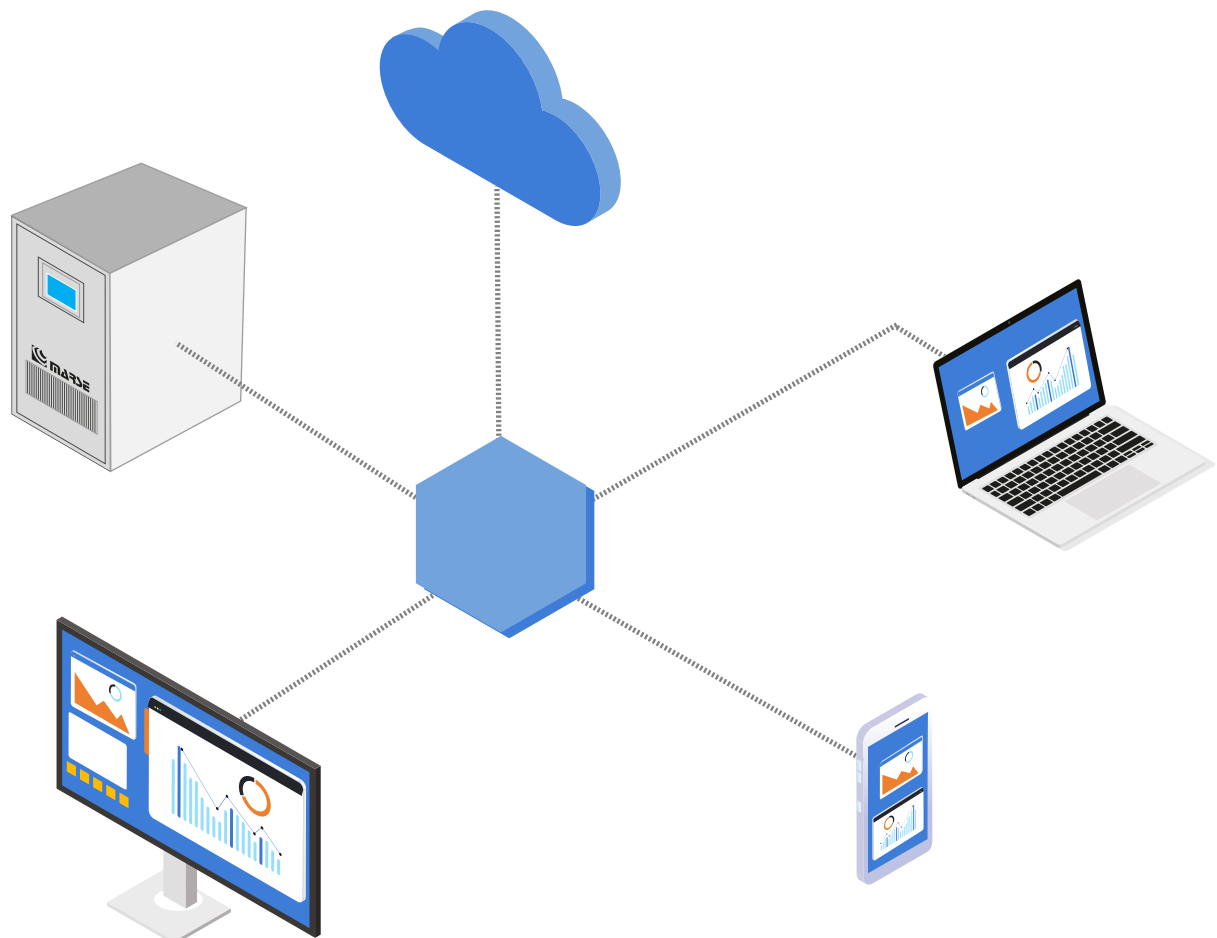
## Management, Analysis and Centralized control

Simplify management, analysis and control of your temperature control units with a single, advanced platform.

Our Remote Access Platform (RAP), cloud-based, offers secure and efficient remote access. Monitor and perform machine maintenance from anywhere, at any time.

Direct and Secure Access via VNC using a secure VPN connection on our cloud platform.

Cloud Logging: Allows automatic retrieval of machine data from the PLC



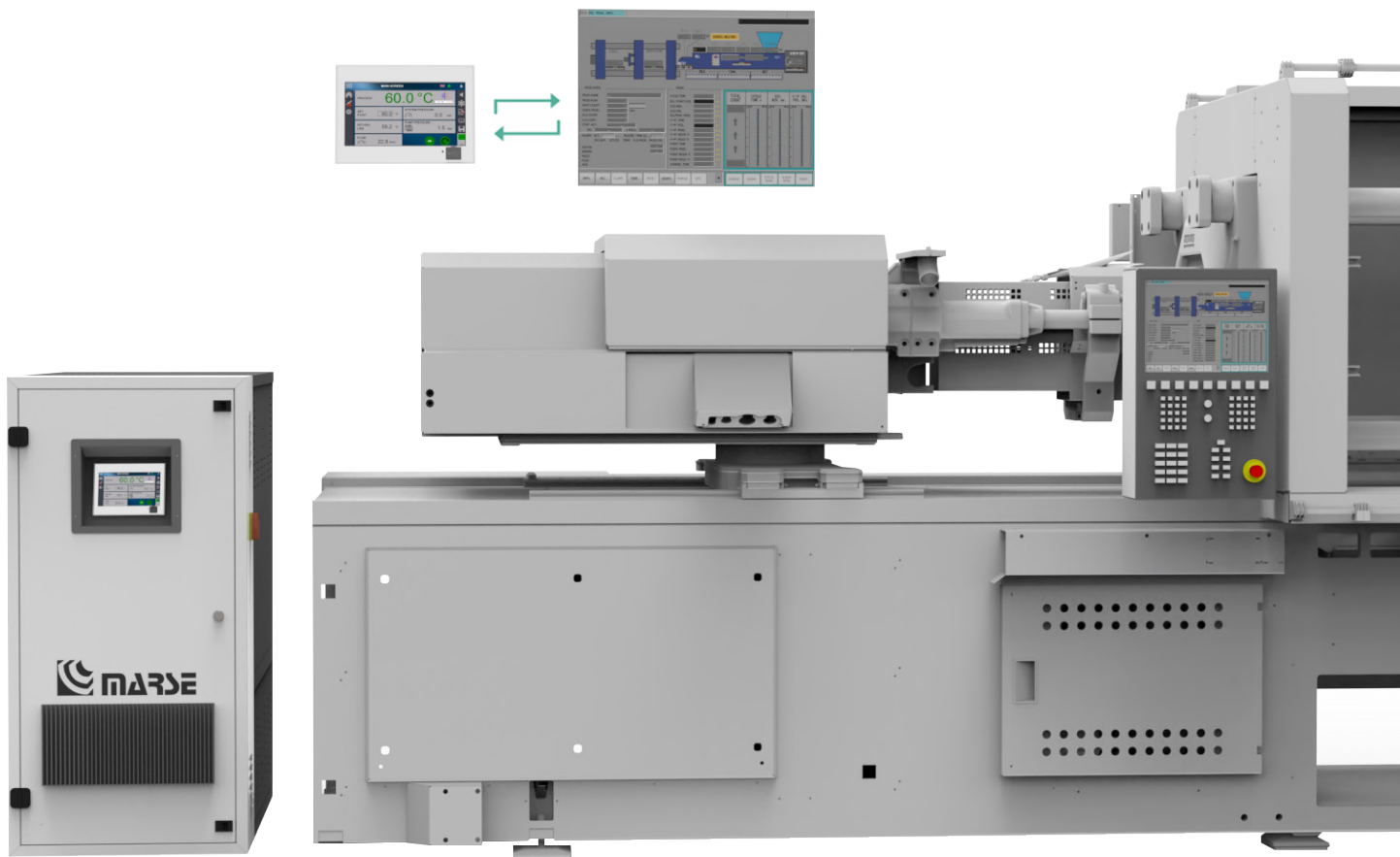


# Interface

Ready for Industry 4.0, offering advanced connectivity and compatibility with intelligent systems.

Available interfaces:

- OPC UA
- TTY 20mA
- Profinet
- RS 485
- RS 232
- Analog signals IN/OUT 4.20mA



# Flow temp

## Flow Control Units “Flow-Temp”

The multi-circuit Flow-Temp distribution system is designed to interconnect with thermoregulators TS model, allowing individual measurement and monitoring of flow process and return temperature.

Its operation, display and communication are managed through the thermoregulator's 7" touch screen, offering:

- Individual monitoring of flow and temperature for each circuit.
- Specific limits of flow and temperature settings in each circuit.
- Automatic regulation using proportional valves or manual regulation using ball valves.
- Working temperature up to 200°C maximum pressure 15 bars.

## Advantages:

- 1. Thermal Efficiency:** Improves heat transfer in the mould by eliminating hose bridges.
- 2. Reject Prevention:** Clearly indicates the presence of contaminants in the circuit and activates an alarm before rejects occur.
- 3. Flow Optimization:** Reduces pressure loss and increases water flow by eliminating hose bridges.
- 4. Precise Diagnostics:** Accurately identifies the source of issues thanks to the separation of circuits.
- 5. Control Segmentation:** Provides the ability to control specific segments of the mould, improving operational efficiency.
- 6. Stability and Traceability:** Regulates and monitors each thermal control circuit in the mould, ensuring more stable and traceable processes.



*Flow Temp 120 pv*



*Flow Temp 200*

**Technical Data:**

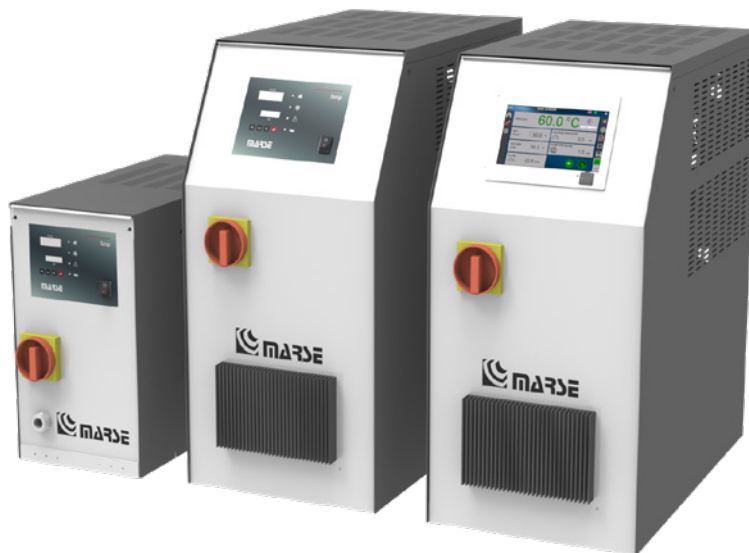
- **Available Interfaces:** OPC/UA, Profinet, TTY 20mA, RS232, RS485.
- **Recording of process data.**
- **Alarm Visualization.**
- **Circuit Control:** Manual ball valves or proportional valves with electronic control for automatic regulation of flow and temperature.
- **Connections:** Main inlet/outlet: 1". Zone-specific inlet/outlet: 1/2".
- **Working Media:** Water / Oil.
- **Maximum Operating Temperatures and Pressures:** Water: 120°C / 10 bar. - Oil: 200°C / 15 bar
- **Number of Available Zones:** 2, 4, 6, 8, 10, 12 circuits.

**Mounting options:**

- **Option 1:** The unit is installed directly on the temperature controller.
- **Option 2:** The unit is installed within the process system, with communication between the system and the thermoregulator established via connectors. All visualization and control functions are managed through the 7" touchscreen integrated into the temperature controller.



## Water - tank



	SMART BASIC	SMART W	SMART 2 W
<b>Maximum temperature</b>	<b>90 °C</b>		
Heating power (Kw)	3 / 6	6 / 9	9 / 12 / 18
Cooling power (Kw)	40	40 / 60* / 80*	40 / 60* / 80*
Tank capacity (lit.)	8	12	20
<b>Pump</b> Max.Flow (l/min)	60	60	60 / 70*
<b>Pump</b> Max.Pressure (bar)	3,8	3,8 / 5,8*	3,8 / 5,8*
<b>Pump</b> Power (Kw)	0,5	0,5 / 1*	0,5 / 1*
Hydraulic <b>process</b> connections <b>INPUT - OUTPUT</b>	3/4"	3/4"	3/4"
Hydraulic <b>cooling</b> connections <b>INPUT - OUTPUT</b>	1/2"	1/2"	1/2"
Electronic PCB	<b>TG121</b>	<b>TG121 / TG111</b>	<b>TG121 / TG111</b>
PID temperature control	Yes		
Dimensions (mm)	230 x 450 x 380 h	285 x 570 x 500 h	325 x 610 x 700 h
Weight (kg)	35	35	40
Voltage (V/Ph/Hz)	400/3/50/PE		

(\*) Optional

## Water - tank



	SMART 4 W	SMART 5 W
<b>Maximum temperature</b>	<b>90 °C</b>	
Heating power (Kw)	18 / 24 / 30	18 / 24 / 30 / 36
Cooling power (Kw)	40 / 60* / 80* / 235*	60 / 235* / 450*
Tank capacity (lit.)	35	70
<b>Pump</b> Max.Flow (l/min)	60 / 70* / 200*	200
<b>Pump</b> Max.Pressure (bar)	3,8 / 5,8*	5,8
<b>Pump</b> Power (Kw)	0,5 / 1* / 2,8*	2,8
Hydraulic <b>process</b> connections <b>INPUT - OUTPUT</b>	3/4" / 1 1/2"*	1 1/2"
Hydraulic <b>cooling</b> connections <b>INPUT - OUTPUT</b>	1/2" / 1"*	1/2" / 1"*
Electronic PCB	<b>TG121 / TG111</b>	<b>TG111</b>
PID temperature control	Yes	
Dimensions (mm)	355 x 750 x 790 h	510 x 1000 x 930 h
Weight (kg)	55	120
Voltage (V/Ph/Hz)	400/3/50/PE	

(\*) Optional

## Water - indirect cooling system



	SMART 2 plus WIC	SMART 4 plus WIC	SMART 6 plus WIC	SMART 2 plus WIC	SMART 4 plus WIC
<b>Maximum temperature</b>	<b>140 °C</b>			<b>150 °C</b>	
Heating power (Kw)	9	9 / 16	25 / 32 / 48 / 57 / 64	9	9 / 16
Cooling power (Kw)	40 / 60* / 80*	40 / 60* / 80*	80 / 235*	40 / 60* / 80*	40 / 60* / 80*
<b>Pump</b> Max.Flow (l/min)	200	200	250	40	60
<b>Pump</b> Max.Pressure (bar)	2,3	2,5	3,5	5	6
<b>Pump</b> Power (Kw)	0,5	1	1,5	0,5	1
Hydraulic <b>process</b> connections <b>INPUT - OUTPUT</b>	1"	1"	1"	1"	1"
Hydraulic <b>cooling</b> connections <b>INPUT - OUTPUT</b>	1/2"	1/2"	1/2"	1/2"	1/2"
Electronic PCB	<b>TG121 / TG111</b>	<b>TG111</b>	<b>TG111</b>	<b>TG121 / TG111</b>	<b>TG111</b>
PID temperature control	Yes				
Dimensions (mm)	330 x 625 x 790 h	390 x 800 x 850 h	600 x 1250 x 1300 h	330 x 625 x 790 h	390 x 800 x 850 h
Weight (kg)	55	85	195	55	85
Voltage (V/Ph/Hz)	400/3/50/PE				

(\*) Optional

## Water - indirect cooling system



	SMART 2 plus WIC	SMART 4 plus WIC	SMART 2 plus WIC
<b>Maximum temperature</b>	<b>160 °C</b>		<b>180 °C</b>
Heating power (Kw)	9	16	9
Cooling power (Kw)	40 / 60* / 80*	40 / 60* / 80*	40 / 60*
<b>Pump</b> Max.Flow (l/min)	60	60	60
<b>Pump</b> Max.Pressure (bar)	6	6	6
<b>Pump</b> Power (Kw)	1	1	1
Hydraulic <b>process</b> connections <b>INPUT - OUTPUT</b>	1"	1"	1"
Hydraulic <b>cooling</b> connections <b>INPUT - OUTPUT</b>	1/2"	1/2"	1/2"
Electronic PCB	<b>TG111</b>	<b>TG111</b>	<b>TG111</b>
PID temperature control	Yes		
Dimensions (mm)	330 x 625 x 790 h	390 x 800 x 850 h	330 x 625 x 790 h
Weight (kg)	65	95	65
Voltage (V/Ph/Hz)	400/3/50/PE		

(\*) Optional

## Water - direct cooling system



	SMART 2 plus WDC	SMART 4 plus WDC	SMART 6 plus WDC
<b>Maximum temperature</b>	<b>90 / 120 / 140 °C</b>		
Heating power (Kw)	9	9 / 16	25 / 32 / 48 / 57 / 64
Cooling power (Kw)	Direct cooling system		
<b>Pump</b> Max.Flow (l/min)	200	200	250
<b>Pump</b> Max.Pressure (bar)	2,3	2,5	3,5
<b>Pump</b> Power (Kw)	0,5	1	1,5
Hydraulic <b>process</b> connections <b>INPUT - OUTPUT</b>	1"	1"	1"
Hydraulic <b>cooling</b> connections <b>INPUT - OUTPUT</b>	1/2"	1/2"	3/4"
Electronic PCB	<b>TG121 / TG111</b>	<b>TG121 / TG111</b>	<b>TG111</b>
PID temperature control	Yes		
Dimensions (mm)	330 x 625 x 790 h	390 x 800 x 850 h	600 x 1250 x 1300 h
Weight (kg)	55	70	195
Voltage (V/Ph/Hz)	400/3/50/PE		

(\*) Optional



## Oil - tank



	SMART 2 A	SMART 4 A	SMART 5 A
<b>Maximum temperature</b>	<b>150 °C</b>		
Heating power (Kw)	6 / 9	18 / 24 / 30	18 / 24 / 30
Cooling power (Kw)	20	30	60
Tank capacity (lit.)	20	35	70
<b>Pump</b> Max.Flow (l/min)	60 / 70*	60 / 70* / 200*	200
<b>Pump</b> Max.Pressure (bar)	3,8 / 5,8*	3,8 / 5,8*	5,8
<b>Pump</b> Power (Kw)	0,5 / 1*	0,5 / 1* / 2,8*	2,8
Hydraulic <b>process</b> connections <b>INPUT - OUTPUT</b>	3/4"	3/4" - 1 1/2"*	1 1/2"
Hydraulic <b>cooling</b> connections <b>INPUT - OUTPUT</b>	1/2"	1/2"	1/2"
Electronic PCB	<b>TG121 / TG111</b>	<b>TG121 / TG111</b>	<b>TG111</b>
PID temperature control	Yes		
Dimensions (mm)	325 x 610 x 700 h	355 x 750 x 790 h	510 x 1000 x 930 h
Weight (kg)	45	55	120
Voltage (V/Ph/Hz)	400/3/50/PE		

(\*) Optional

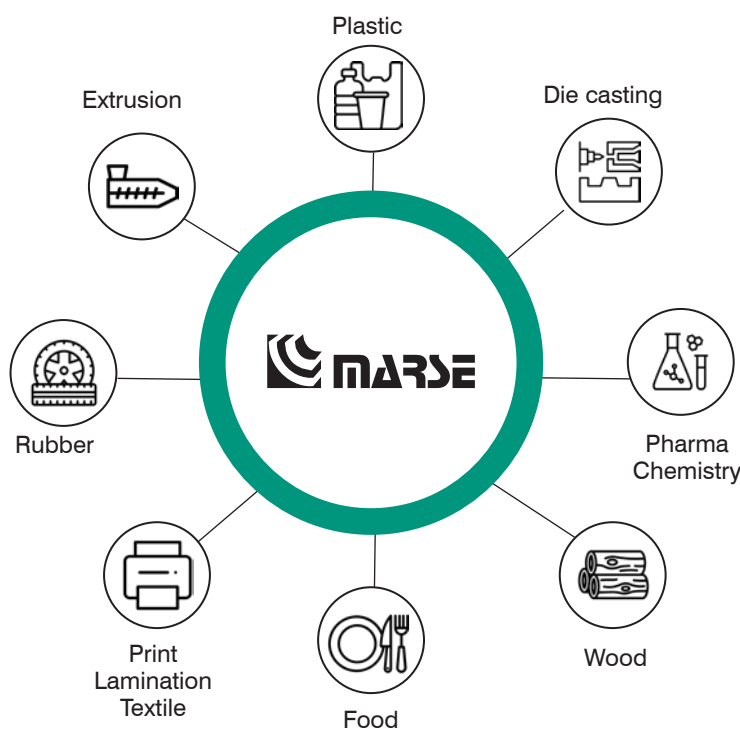
## Oil - Pressurized



	SMART 5 A 180	SMART 6 plus A 300		
Maximum temperature	180 °C	300 °C		
Heating power (Kw)	9 / 16	9 / 18	27 / 36	45 / 54 / 63 / 72
Cooling power (Kw)	40 / 60*	85 / 230*	85 / 230*	120 / 230*
Pump Max.Flow (l/min)	60	60	90	200
Pump Max.Pressure (bar)	6	6	8	8
Pump Power (Kw)	1	1	1,5	4
Hydraulic <b>process</b> connections <b>INPUT - OUTPUT</b>	3/4"	3/4"	3/4"	1 1/4"
Hydraulic <b>cooling</b> connections <b>INPUT - OUTPUT</b>	1/2"	1/2"	1/2"	3/4"
Electronic PCB	TG111	TG111		
PID temperature control	Yes			
Dimensions (mm)	510 x 1000 x 930 h	600 x 1250 x 1300 h		
Weight (kg)	120	210	210	250
Voltage (V/Ph/Hz)	400/3/50/PE			

(\*) Optional

# Industries that trust in our TCU's



## Special units

We have an specialized department in the development and manufacturing of customised units. We design personalised units that adapt to the working conditions, ensuring maximum performance and perfect integration into any industrial process.

## Our Commitment

### Comprehensive support at every stage

Our experts in service and sales departments are at your disposal to provide practical support in process optimization.

We manage the entire process chain to ensure a smooth and efficient experience, which includes:

- Technical advice.
- Design and customization of solutions.
- Manufacturing of special equipment if the installation requires it.

With us, you will find a partner to guarantee the success of your projects

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