

Marse SMART – Temperature Control Units (TCU)

Temperature Control Units – Water and oil series | Industry 4.0 Ready

Heating capacity: 3–72 kW | Max. temperature: 90°C–300°C | Water and oil versions



Produ

The Marse SMART TCU series keeps the injection mould precisely at the set temperature using PID feedback control – with heating and either indirect or direct cooling. The wide model range covers all industrial needs, from simple 90°C water applications right up to 300°C oil-based thermoset processing. The Touchscreen models provide full Industry 4.0 integration with OPC UA, Profinet and RS485/232 communication, including cloud-based remote access and real-time data analytics.

Series overview

Series	Heat transfer medium	Max. temp.	Heating capacity	Model range	Control
Open tank (W)	Water	90°C	3–36 kW	SMART BASIC / W / 2W / 4W / 5W	Display / Touch
Direct cooling (WDC)	Water	90–140°C	9–64 kW	SMART 2/4/6 plus WDC	Display / Touch
Indirect cooling (WIC)	Water	140–180°C	9–64 kW	SMART 2/4/6 plus WIC	Touch
Oil open tank (A)	Oil	150°C	6–30 kW	SMART 2A / 4A / 5A	Display / Touch
Oil pressurised 180°C	Oil	180°C	9–16 kW	SMART 5 A180	Touch
Oil pressurised 300°C	Oil	300°C	9–72 kW	SMART 6 plus A300	Touch

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SMART W – Water series with open tank

Water Units with Open Tank

Max. temperature: 90°C | Heating capacity: 3–36 kW | Tank capacity: 8–70 litres



SMART BASIC / W / 2W



SMART 4W / 5W

Technical features

Parameter	Value / Description
Series	SMART BASIC SMART W SMART 2W SMART 4W SMART 5W
Max. temperature	90°C
Heating capacity	3–36 kW (depending on model)
Cooling capacity	40–450 kW
Tank capacity	8–70 litres
Pump – max. flow	60–200 l/min
Pump – max. pressure	3.8–5.8 bar
Process connection	3/4" – 1 1/2"
Cooling connection	1/2" – 1"
Control	TG121 (display) / TG111 (touchscreen)
Power supply	400V / 3-phase / 50 Hz
Dimensions (2W)	325 × 610 × 700 mm
Dimensions (4W)	355 × 750 × 790 mm
Dimensions (5W)	510 × 1000 × 930 mm

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SMART plus WDC – Direct cooling series

Pressurized Water Units – Direct Cooling System

Max. temperature: 90°C / 120°C / 140°C | Heating capacity: 9–64 kW | Closed, pressurised system



Parameter	Value / Description
Series	SMART 2/4/6 plus WDC
Max. temperature	90°C 120°C 140°C (depending on model)
Cooling method	Direct (mains cooling water into the process)
Heating capacity	9–64 kW
System pressure	2.3–3.5 bar (closed, pressurised)
Pump – max. flow	200–250 l/min
Pump – max. pressure	2.3–3.5 bar
Process connection	1"
Cooling connection	1/2" – 3/4"
Control	TG121 (display) / TG111 (touchscreen)
Power supply	400V / 3-phase / 50 Hz
Dimensions (SMART 2)	330 × 625 × 790 mm 55 kg
Dimensions (SMART 4)	390 × 800 × 850 mm 70 kg
Dimensions (SMART 6)	600 × 1250 × 1300 mm 195 kg

Product description

The direct cooling (WDC) series operates as a closed, pressurised water system – there is no tank. The higher system pressure raises the boiling point of the water, enabling operation at 140°C. During cooling, mains cooling water flows directly into the process water circuit. Its compact design and fast response time (small water volume) make it ideal where the open tank model is no longer sufficient in temperature terms but indirect cooling is not required.

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SMART plus WIC – Indirect cooling series

Pressurized Water Units – Indirect Cooling System

Max. temperature: 140°C / 150°C / 160°C / 180°C | Heating capacity: 9–64 kW



SMART 2/4 plus WIC (140–160°C)



SMART 2 plus WIC 160/180°C

Technical features

Parameter	Value / Description
Series	SMART 2/4/6 plus WIC
Max. temperature	140°C 150°C 160°C 180°C
Cooling method	Indirect (via heat exchanger, two separate circuits)
Heating capacity	9–64 kW
System pressure	2.3–6 bar
Pump – max. flow	40–250 l/min
Process connection	1"
Cooling connection	1/2"
Control	TG111 (touchscreen)
Power supply	400V / 3-phase / 50 Hz
Dimensions (SMART 2 plus)	330 × 625 × 790 mm 55–65 kg
Dimensions (SMART 4 plus)	390 × 800 × 850 mm 85–95 kg
Dimensions (SMART 6 plus)	600 × 1250 × 1300 mm 195 kg

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SMART A – Oil series (open tank and pressurised)

Oil Units – Open Tank (max. 150°C) and Pressurized (max. 180°C / 300°C)

SMART 2A / 4A / 5A (150°C) | SMART 5 A180 (180°C) | SMART 6 plus A300 (300°C)



SMART 2A / 4A / 5A (open tank, max. 150°C)



SMART 5 A180 / 6 A300 (pressurised, max. 300°C)

Technical features

Oil open tank (max. 150°C)	
Series	SMART 2A / 4A / 5A
Max. temperature	150°C
Heating capacity	6–30 kW
Tank capacity	20–70 litres
Pump max. flow	60–200 l/min
Dimensions (2A)	325×610×700 mm
Dimensions (4A)	355×750×790 mm
Oil pressurised (180°C / 300°C)	
Series	SMART 5 A180 / SMART 6 plus A300
Max. temperature	180°C (A180) / 300°C (A300)
Heating capacity	9–72 kW
System pressure	6–8 bar
Pump max. flow	60–200 l/min
Dimensions (5 A180)	510×1000×930 mm
Dimensions (6 A300)	600×1250×1300 mm

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