

MATIC Duo

90/150 18 E

90/150 18 H



TT
TOOLTEMP

Heat-transfer fluid	Water	Oil
Max. temperature	90 °C	150 °C
Heating capacity	18 kW	6 kW
Cooling capacity	45 kW @ 90 °C	10 kW @ 150 °C
Cooling method	indirect (tube)	

Robust Mechanical Design

- Tin-bronze submersible pump
- Calcification-free heat exchanger
- Fully immersed heaters made of high-temperature corrosion-free Nickel alloy (Incoloy 800)
- Maintenance-free flow meter
- Stainless-steel solid piping

Features

- IRIS control system
- Pt100 temperature sensors in feed and return lines
- Heater control by solid-state relays
- Variable-speed pump with automatic eco-mode
- Time limited water refill
- Mould evacuation
- Leakstop operating mode

Predictive Maintenance

- Continuous monitoring and self-diagnosis of the system
- Clear indication and description of errors
- Condition monitoring of the heat-transfer fluid (oil)
- *Condition monitoring of the pump (coming soon)*

Safety

- Redundant, mechanical temperature limiter
- Pump motor monitored by the variable-frequency drive
- Configurable safeguard limits and corresponding reactions
- Configurable audible alarm

Operation

- Industrial-grade, tiltable 7" IPS touch-screen
- Intuitive user interface for commissioning and operation
- Broad range of connectivity features (see page 3) including external temperature sensor
- Automatic actions for common operations
- User-defined time-resolved recipes



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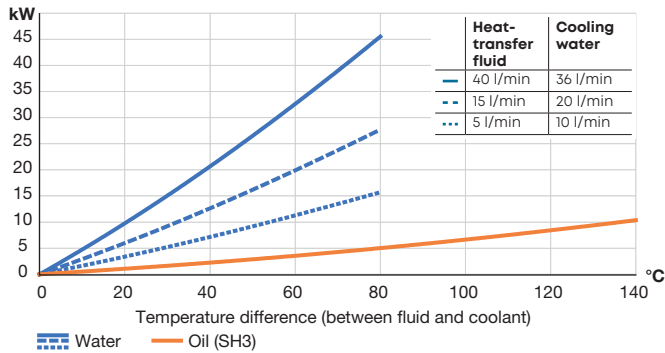
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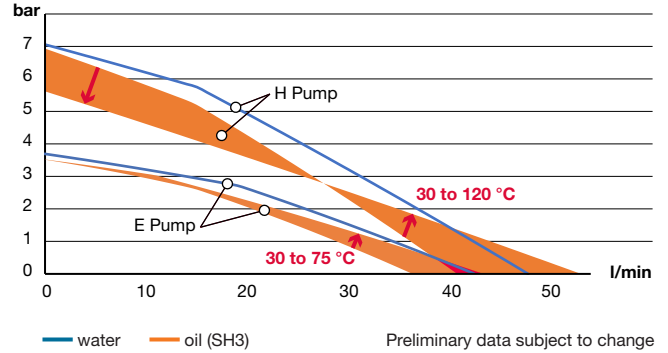
Technical Specifications

- Cooling capacity
- Pump capacity

Cooling capacity



Pump capacity



Technical specifications

Maximum temperature	
Water	90 °C
Oil	150 °C
Heating capacity	
Water	18 kW
Oil	6 kW
Filling volume (heat-transfer fluid)	
Maximum	20 litres
Minimum	16 litres
Pump	
Pump type: MATIC Water 90 18 E	
Maximum pressure	4.0 bar @ 50 Hz (standalone pump, operated with water)
Maximum flow rate	60 l/min @ 50 Hz (standalone pump, operated with water)
Motor rated power	0.75 kW
Pump type: MATIC Water 90 18 H	
Maximum pressure	7.0 bar @ 50 Hz (standalone pump, operated with water)
Maximum flow rate	60 l/min @ 50 Hz (standalone pump, operated with water)
Motor rated power	1.5 kW
Control system	
Temperature measurement	3-wire Pt-100 (F0.15 acc. IEC 60751), feed and return
Pump-pressure measurement	Piezoresistive pressure transmitter
Flow measurement (heat-transfer fluid)	0-60 l/min, paddle-wheel sensor with inductive pickup



Controller IRIS

Features

- Digital intelligence
- Flexible connectivity
- Simple and intuitive operation
- Everything at a glance

Main Features

- Modular, extendable design
- Control voltage of 24 V DC
- Intuitive 7" touch-screen interface for seamless user interaction
- Three user levels with configurable password protection
- Automatic actions for common operations (e.g. mould evacuation, end of shift)
- User-defined time-resolved recipes
- Custom-engineered adaptive control algorithms
- Flexible timer functionality (coming soon)
- Down- and upload of controller configuration (coming soon)

Data Availability

- Expressive list of messages (informations, warnings, errors)
- Visualisation of time-resolved recipes (preview and live)
- Live visualisation of sensor data (coming soon)
- Downloadable data and error logs (coming soon)

Focus on Energy Efficiency

- Pump power on demand by full integration of variable-frequency drive in control logic
- Three pump-control modes to fit every demand
- Intelligent, coordinated heating and cooling
- Dedicated energy-monitoring screen with resettable counters (coming soon)

Localisation

- Physical units, date format, and accessibility features freely configurable
- Languages: EN, DE, FR, IT, ES

Interfaces and protocols

EtherNet

OPC-UA (coming soon)

REST API (HTTP) (coming soon)

WLAN (coming soon)

Remote UI (screen as on controller) (coming soon)

USB

Firmware update

Download of error and data logs (coming soon)

Other interfaces require an extension module:

I/O Module 1

CAN, RS-485, RS-232, Current Loop

I/O Module 2

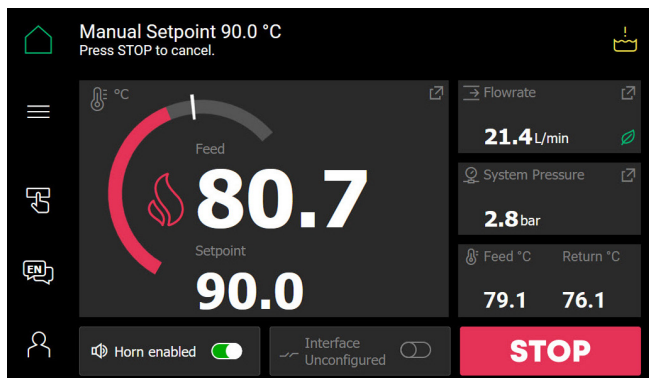
Profibus, Profinet, EtherNet/IP

I/O Module 3 (coming soon)

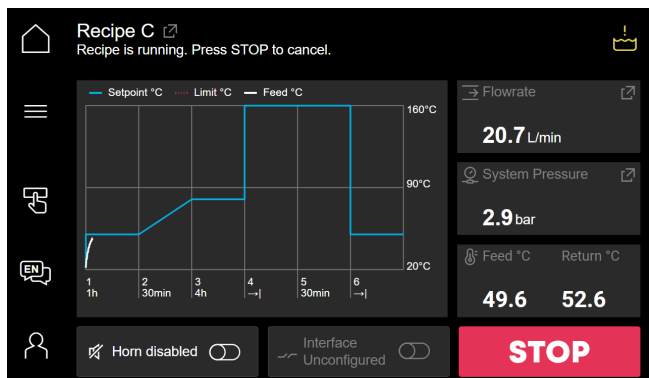
Digital inputs (24 V DC) and outputs (up to 230 V)

Analogue inputs and outputs (0-10 V, 0/4-20 mA)

External temperature measurement: all thermocouple types and Pt resistors (up to 4-wire)



Main screen: Clear and intuitive.



Live visualisation of time-resolved recipe.

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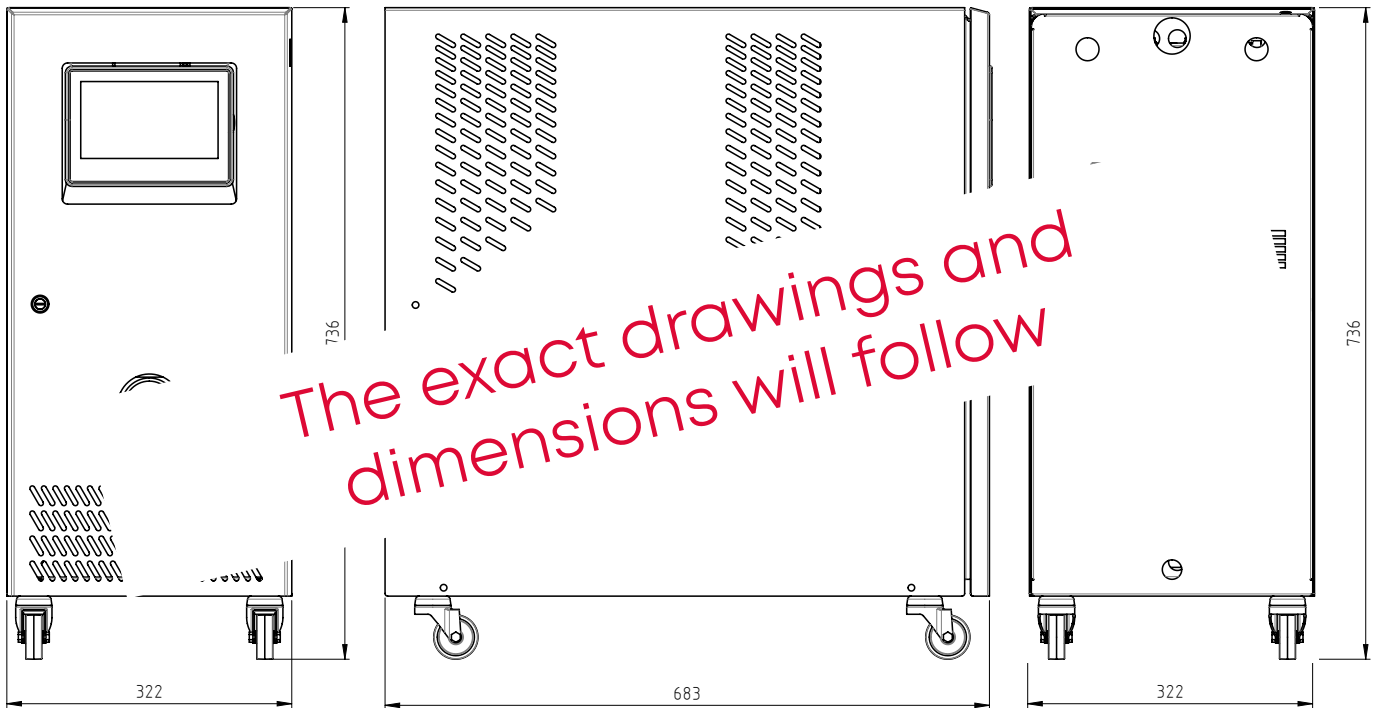
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Connections & Dimensions

- Metric specifications



General technical data

Dimensions (L x W x H)	683 x 322 x 736 mm, incl. castors, approximate
Connections	
Heat-transfer fluid (feed and return)	½" BS female thread
Cooling water inlet	¾" BS female thread, with water filter
Cooling water outlet	¾" BS external thread
Weight	67 kg
Colour	RAL 7035
Environment	
Temperature range	5-40 °C
Relative humidity	35-85 % RH (non-condensing)
Continuous noise level	< 70 dB (A)
Power supply	200-240 V and 380-480 V, 50 and 60 Hz
Ingress protection code	IP44, IP54 optional
Marking	CE, UL-ready