

# MATIC Duo

90/150 18 E

90/150 18 H



Heat-transfer fluid	Water	Oil
Max. temperature	90 °C	150 °C
Heating capacity	<b>18 kW</b>	<b>6 kW</b>
Cooling capacity	<b>45 kW</b>	<b>10 kW</b>
	@ 90 °C	@ 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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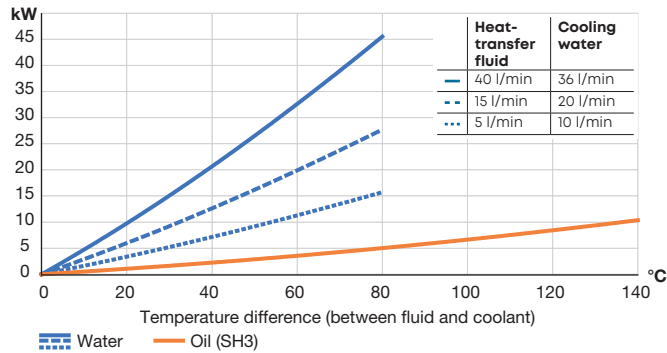
90/150 18 H



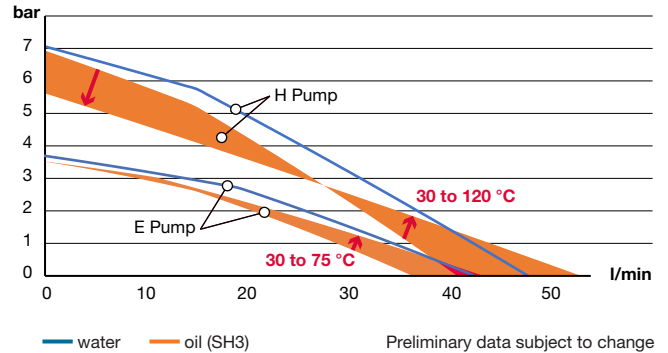
## Technical specifications

- Cooling capacity
- Pump capacity

### Cooling capacity



### Pump capacity



## Technical specifications

<b>Maximum temperature</b>	
Water	90 °C
Oil	150 °C
<b>Heating capacity</b>	
Water	18 kW
Oil	6 kW
<b>Filling volume (heat-transfer fluid)</b>	
Maximum	20 litres
Minimum	16 litres
<b>Pump</b>	
<b>Pump type: MATIC Duo 90/150 18 E</b>	
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
<b>Pump type: MATIC Duo 90/150 18 H</b>	
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
<b>Control system</b>	
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

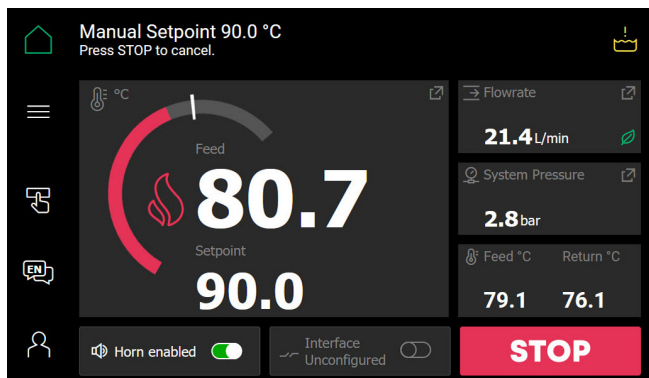
CAN, RS-485, RS-232, Current Loop

#### I/O Module 2

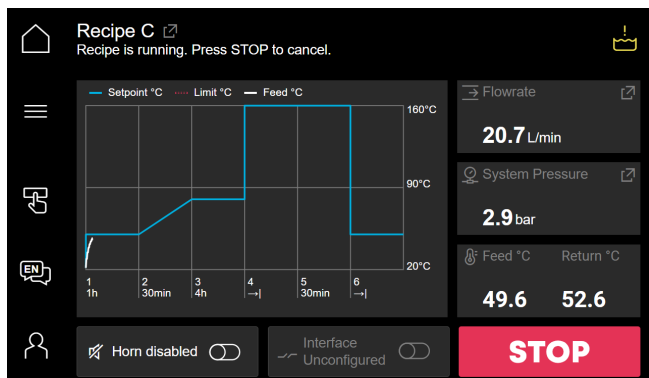
Profibus, Profinet, EtherNet/IP

#### 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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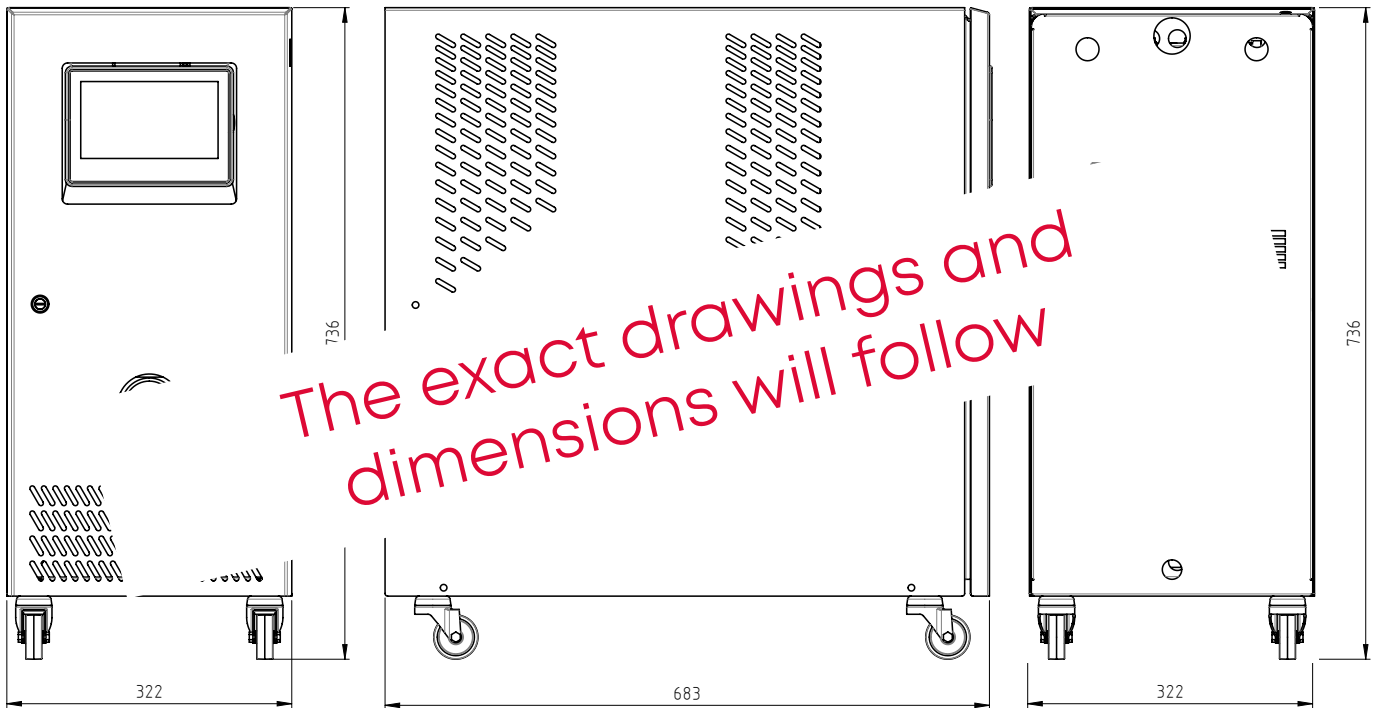
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## Connections & Dimensions

- Metric specifications



## General technical data

<b>Dimensions</b> (L x W x H)	683 x 322 x 736 mm, incl. castors, approximate
<b>Connections</b>	
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
<b>Weight</b>	67 kg
<b>Colour</b>	RAL 7035
<b>Environment</b>	
Temperature range	5-40 °C
Relative humidity	35-85 % RH (non-condensing)
<b>Continuous noise level</b>	< 70 dB (A)
<b>Power supply</b>	200-240 V and 380-480 V, 50 and 60 Hz
<b>Ingress protection code</b>	IP44, IP54 optional
<b>Marking</b>	CE, UL-ready