



## Hot runner control technology

### Devices with system character

- A unified concept for all device sizes
- Superior for all hot runner systems

#### VARIO

- ✓ Tabletop device for 4 to 32 zones in steps of 4
- ✓ Control via microcontroller with tilttable 7" multi touch panel

#### JETmaster TP

- ✓ Standalone device for 24 to 240 zones in steps of 8
- ✓ Control via industrial PC with 15" touch panel

## User interface



1. Tiltable 7" multi touch panel
2. USB connection
3. Power button
4. Fuses

## Device rear view



1. Customized mould connection
2. Customized power supply
3. Ethernet connection
4. Alarm contact
5. ext. reduction and boost

Depending on specification, the rear view may differ from this picture.

## User interface



1. Industrial PC with 15" touch panel
2. Fuses

## Device rear view



1. USB- and Ethernet connection
2. Customized mould connection
3. Customized power switch
4. ext. reduction and boost
5. Alarm contact
6. Power switch

Depending on specification, the rear view may differ from this picture.

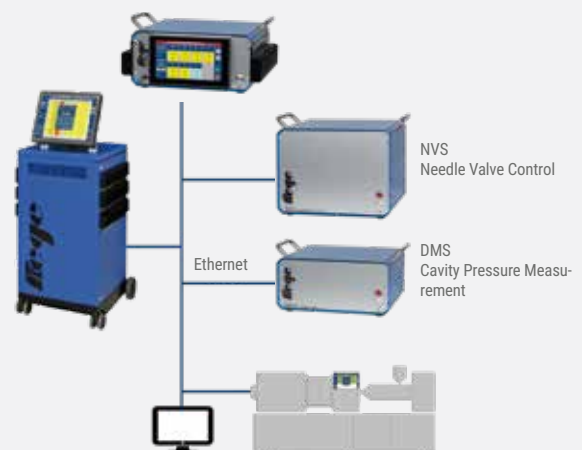
## Possible combinations

All device data and tool settings can be centrally stored and managed via the ethernet connection.

The ethernet connection will continue to be used to connect additional devices, such as needle valve control NVS\* and cavity pressure measurement DMS\*, to the devices. These then perform the operation and visualisation.

Various injection moulding machines can be connected via conventional data interfaces or via the ethernet so that operation and visualisation occurs on the machine's screen.

\*See separate data sheet



## Technical Data

### Housing:

Aluminum, colour RAL 5010 gentian blue, special colours available upon request

### Dimension/weight:

According to table of "equipment designs"

### Temperature control:

Microprocessor controlled multi-loop controller with automatic computation of the control parameters for each zone

### Operation/ Visualisation:

VARIO: Microcontroller with tiltable 7" multi touch panel  
JETmaster TP: Industrial PC with 15" touch panel

### Sensor input:

Thermocouple Fe/CuNi, switchable to Ni/CrNi with internal thermocouple reference junction

### Temperature range:

0 - 500°C, can be converted to 32 - 932°F

### Calibration accuracy:

≤ 0,25 %

### Heating outputs:

230 VAC/16 A ≈3680 W per zone, trouble-free switching algorithm, secured by super-fast-acting (FF) safety fuses 16 A, 6.3 x 32 mm

### Alarm output:

Potential-free alarm contact, max. load up to 250 VAC / 2A (can be inverted)

### Safety shutdown:

Load shedding in the case of broken-down Triac (short circuit)

### Reduction / Boost:

Can be switched both manually and externally via the 24 VDC control circuit.

### Mould connection:

According to customer specification

### Power supply:

400 VAC +10...-10%, 50...60 Hz, 3P / N / PE, other voltages upon request

### Power supply:

VARIO: CEE 16A, CEE 32A, 4m

JETmaster TP: CEE 32A, CEE 63A, CEE 125A, Multiple feed, connector

### Interfaces:

1xUSB-external, 1xEthernet, OPC/UA, optional: RS232, RS485, TTY

### Control fuse:

VARIO: 2 A 250V slow (miniature fuse radially wired round)  
JETmaster TP: Fusible cut-out MT 6.3 A, 5 x 20 mm

### Ambient temperature:

Operation 0...+50°C, storage -30...+70°C

### Climatic application class:

According to DIN 40 040, relative air humidity ≤ 75% annual average, non condensing

### Protective system:

IP20

### Protection class:

I

## Device models

Type	Zones	Type-no.	Size(mm) B x H x T	Weight app. (kg)
VARIO 4	4	2410-xxxx-04	341 x 175 x 250	6
VARIO 8	8	2410-xxxx-08	341 x 175 x 250	7
VARIO 12	12	2410-xxxx-12	341 x 260 x 250	9
VARIO 16	16	2410-xxxx-16	341 x 260 x 250	10
VARIO 20	20	2410-xxxx-20	341 x 345 x 250	12
VARIO 24	24	2410-xxxx-24	341 x 345 x 250	13
VARIO 28	28	2410-xxxx-28	341 x 430 x 250	15
VARIO 32	32	2410-xxxx-32	341 x 430 x 250	16
JETmaster TP	24 to 96	1610-xxxx-96*	480 x 1360 x 470	
JETmaster TP	104 to 144	1610-xxxx-144*	480 x 1590 x 470	
JETmaster TP	152 to 192	1610-xxxx-192*	480 x 1800 x 470	
JETmaster TP	200 to 240	1610-xxxx-240*	special	

\*corresponds to the number of zones

xxxx: will be replaced by a customized version number when the order is placed.

## Options

### Serial interfaces

RS485

### Type-no.

xxx1-xxxx-xx

RS232

xxx2-xxxx-xx

TTY

xxx3-xxxx-xx

## Functions

- Micro-process controller with PID algorithm and automatic adaptation
- Each zone 230V / 16 A, 3680W
- Access levels for operators, setters and administrators
- Functional in any desired language
- Automatic starting control for drying of moist heaters
- Temperature monitoring
- Display of sensor breakage and polarity reversal
- Automatic and manual switching to manual mode in case of sensor error
- Any number of zones can be switched in parallel and controlled by the pilot zone
- Temperature reduction can be controlled manually and by the injection moulding machine, with or without reduction delay
- Device shutdown timer in case of timeout of an external reduction (adjustable)
- Boost function can be controlled manually and externally by the injection moulding machine using safety timer
- Start timer for stored tool data set via integrated timer
- Power-[A] or output display of the individual heaters, already with switched off zones
- Display of the mould connection power, already with switched off zones
- Heating monitoring
- Power consumption display
- Power reduction in the event of overload of the mains connection
- Synchronisation function for uniform heating of all zones
- Group management for multiple, stack and multi-component moulds
- Heatup order in groups
- Early detection of leakage in the mould
- Change over from control zone to monitoring zone with limit value monitoring
- Potential-free alarm contact configurable as opener or closer
- Safety switch-off in the case of broken-down Triac
- Mould data memory for more than 500 moulds
- Mould data can be transferred to all devices of the TP- and VARIO-series. Therefore, the moulds are operational without restart.
- Temperature recorder for all active zones with export function
- Automatic tool inspection and diagnostic function with logging (analyze wiring)
- VARIO: Connection of two devices up to a total of max 32 zones. Operation is via a device.
- Further external devices, e. g. needle valve control and cavity pressure measurement, connectable via ethernet which are operated, visualised and managed via the devices of the TP- and VARIO- series
- JETmaster TP: up to 8 photos can be added and labelled per mould
- JETmaster TP: optionally available with external monitor
- PC-Software for administration, evaluation, documentation and archiving of mould data
- Process documentation via log book function on USB or internal storage
- Screenshot function for the screen content displayed directly as an image file on USB
- Interfaces: 1 external USB, 1 Ethernet, additional interfaces optionally for control by the machine screen of the injection moulding machine
- Extremely compact, uniform, simple and logical operation
- Fanless and maintenance-free
- VARIO: easy transport through practical carry handles; devices stackable
- Customized mould connection and mains connection without extra charge
- If required, Triacs are exchangeable in a few simple steps
- Fuses accessible from outside
- Free software updates



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Do you have any questions about our products?

Our service advisors will be happy to help.