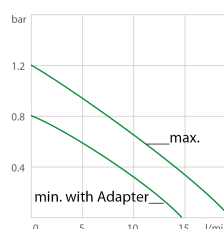


## HT60-M3-CU High Temperature Circulator

### 2-zone technique for working temperatures up to 400 °C

JULABO high temperature circulators: The response to present requirements in the market. Peak performance, rapid heating and cooling, fast action in case of exotherm reactions - these are only few of the features of our high temperature circulators. The self-optimizing controller (ICC - Intelligent Cascade Control) ensures high temperature stability. The classic PID control parameters are available at the touch of a button for modification at any time. MULTI-DISPLAY (LED) and interactive LCD display offer convenient operation. The implemented heating automation, strong pump and controlled cooling produce rapid and precise results for temperature applications to +4 00 °C. The instruments are completely sealed. This prevents the release of oil fumes and results in long life time of the heat transfer liquid. Automatic air-purge allows easy filling. Electrical connections and the optional Profibus permit future-oriented automation technology. JULABO high temperature circulators are recommended for applications using jacketed reactors and autoclaves, distillation columns as well as laboratory, miniplant and process-scale applications.



● Pump capacity (thermal h350)

### Your advantages

- Working temperature range up to 400 °C
- Self-optimizing ICC temperature controller
- Strong pumping capacity 18 l/min - 1.2 bar max
- Automatic air-purge allows easy filling
- Automated heat-up feature adjusts to external systems
- Bright MULTI-DISPLAY (LED) with display resolution 0.01 °C
- Backlit interactive 4-line LCD display
- On-line communication via built-in RS232 interface
- Stand-by input for external emergency switch-off
- Integrated programmer stores up to 6 profiles (60 sections each)
- Electronic level indication
- ATC function for simple correction of temperature variations
- ATC function allows use as testing instrument according to ISO 9000
- Tap water cooling for temperatures from 40 to 400 °C and rapid cooling
- Cooling capacity up to 15 kW (with tap water 20°C)


### Technical Data


|                                |                                       |
|--------------------------------|---------------------------------------|
| Order No.                      | 9800066                               |
| Category                       | High Temperature Circulators Forte HT |
| Working temperature range (°C) | +40 ... +400                          |
| Temperature stability (°C)     | ±0.01-0.1                             |
| Setting / display resolution   | 0.01 °C                               |
| Integrated programmer          | 6x60 steps                            |
| Temperature Display            | LCD, LED                              |


|  |  |
|--|--|
| Heating capacity (kW)                        | 6  |
| Cooling capacity                             | °C 20<br>kW 15                                 |
| Pump capacity flow rate (l/min)              | 14-18  |
| Pump capacity flow pressure (bar)            | 0.8-1.2  |
| Pump connections                             | M16x1  |
| Filling volume liters                        | 2  |
| External Pt100 sensor connection             | integrated                                     |
| Digital interface                            | RS232, RS485<br>Optional: Profibus             |
| Ambient temperature                          | 5...40 °C                                      |
| Dimensions W x L x H (cm)                    | 43 x 23 x 58                                   |
| Weight (kg)                                  | 35   |
| Classification according to DIN12876-1       | Classification III (FL)                        |
| Display for pump pressure and filling volume | Backlit indicator                              |
| Filling volume expansion vessel liters       | 1.6+0.9  |
| Dimensions Control unit B x T x H            | 25 x 25 x 18                                   |
| Available voltage versions                   | 208 V / 3 Ph. / 60 Hz<br>230 V / 3 Ph. / 60 Hz |

## Characteristics


### Display

 **Easy to read**  
Large LED temperature display for actual value and setpoint (resolution 0.1 °C)


 **Additional plain text information**  
Comfortable LCD dialog display for interactive operation with plain text display


 **Pump stage and liquid level**  
Backlit indicator for selected pump stages and filling volume on Presto® PLUS, Magnum 91 & Forte HT


### Operation

 **Clearly structured**  
Comfortable, splash-proof keypad for setpoint adjustment, high/low temperatures, timer and shaking frequency (SW models)


### Temperature Control


 **For perfect results**  
'Intelligent Cascade Control', automatic & self optimizing adjustment of PID control parameters, temperature stability ±0.005 °C internal, <±0.05 °C external


 **Full control**  
'Temperature Control Features' for individual optimization, access to all important control parameters, additional settings for band limit, limits, Co-Speedfactor etc.

 **High measuring accuracy**  
'Absolute Temperature Calibration' for manual compensation of a temperature difference, 1-point calibration


### Technical Features


 **Control from the external application**  
External Pt100 sensor connection for precise measurement and control directly in the external application

 **Connection compliant to standard**  
RS232/RS485 dual-interface for serial data transmission according to EIA-485 industry standard (2-wire bus technology), upgradable with Profibus DP

 **Optimal program control**  
For the execution of time and temperature dependant profiles, 6 temperature profiles with 60 steps max., with real time clock

### Warning & Safety Functions

 **Early warning system for high/low temperature limits**  
Maximum safety for applications, optical and audible alarm, convertible to automated cut-off function

 **Enhanced protective functions**  
Maximum safety, adjustable high temperature cut-off or dry-running protection, additional display of setpoints permits easy and precise adjustments

**For flammable bath fluids**

Classification III (FL) according to  
DIN 12876-1