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RCT basic

/// Data Sheet

For almost half a century, RCT basic has not only been our bestseller, but also the standard and reference device in laboratories and research facilities worldwide. The RCT basic magnetic stirrer stands for reliability, exceptionally long product lifetimes and the highest safety standards.

RCT basic is suitable for stirring tasks up to 20 l (H2O) and reaches a hotplate temperature of up to 310°C. With the connection option for an external temperature sensor (PT 1000.60 included in delivery), the temperature can be measured and controlled directly in the reaction medium.

Thanks to perfect insulation of the aluminum heating plate, maintenance-free EC motor and electronic switching power

supply, RCT basic features excellent energy efficiency as well as reduced self-heating of the heating plate during stirring operation, thus contributing to a more sustainable laboratory.

In the latest generation, RCT basic presents itself in proven quality and with numerous new features:

- Tempered shatterproof glass surface for optimal chemical resistance and easy cleaning
- Largest display in its class with easy-to-read LED display
- Illuminated symbols for displaying important status information (set and actual temperature, heating status, temperature sensor
- USB and RS232 interface for control or documentation of the test parameters via a PC
- Compatible with labworldsoft® laboratory software
- QR code for quick access to device information, accessories, downloads and extended warranty
- Easily accessible main switch on the front of the device

Safe, robust and compliant with standards

RCT basic contains the proven safety features for IKA magnetic stirrers. In accordance with the DIN EN 61010-2-010 standard, it meets all safety requirements for laboratory equipment for heating substances and is therefore also suitable for unattended operation.

- Tested and certified by TÜV SÜD according to standard IEC 61010-1 (cTÜVus)
- Adjustable hotplate temperature safety circuit (with tool)
- Confirmation mode (operating mode D) prevents the unintentional change of the set setpoints. At restart, the confirmation of the safety temperature is necessary.
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- Automatic switch-off of the temperature control function if the connected external temperature sensor is not immersed in the medium or is defective. Function selectable, timeout time adjustable (Error 5).
- Enclosed design (protection class IP42) guarantees long service life, even under extreme conditions in the laboratory
- Reliable operation even with cold media. Extended temperature display down to -20°C (with external sensor).
- Protected electronic connections on the back of the device
- Fireproof die-cast aluminum housing with high quality and durable powder coating
- DIN socket 12878 for connecting an electronic contact thermometer, e.g. ETS-D5 for high-presence temperature control. In this combination, the experimental setup is extended by a further independent safety circuit for the reaction medium.

Proven technology

- Heating plate made of aluminum for optimal and homogeneous heat transfer
- Excellent magnetic coupling
- Soft start prevents magnetic stir bars from breaking off during the start phase

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- Two optimized temperature control modes ensure fast heating or precise temperature control without overshooting
- Push and turn buttons for independent adjustment of the setpoints and starting / stopping of temperature and speed

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Technical Data

Number of stirring positions	1
Stirring quantity max. per stirring position (H2O) [l]	20
Motor rating output [W]	9
Direction of rotation	right
Speed display set-value	LED
Speed display actual-value	LED
Speed adjustment	Turning knob
Speed range [rpm]	50 - 1500
Setting accuracy speed [rpm]	10
Stirring bar length [mm]	20 - 80
Self-heating of the set-up plate by max. stirring (RT:22°C/duration:1h) [K]	+13
Heat output [W]	600
Temperature display set-value	LED
Temperature display actual-value	LED
Temperature unit	°C
Heating temperature range [°C]	Room temp. + device self heating - 310
Heat control	Turning knob
Temperature setting range [°C]	0 - 310
Temperature setting resolution of heating plate [K]	1
Connection for ext. temperature sensor	PT1000, ETS-D5, ETS-D6
Heating rate medium [K/min]	6.5
Temperature setting resolution of medium [K]	1
Adjustable safety circuit [°C]	50 - 360
Set-up plate material	Aluminium alloy
Set-up plate dimensions [mm]	Ø 135
Sensor in medium detection (Error 5)	yes
Temperature measure range PT1000 [°C]	-20 - 310
Speed deviation (no load,nominal voltage, at 1500rpm + 25 °C) [%]	±2
Heating rate (1l H2O in H1500) [K/min]	6.5
Heat control accuracy of heating plate (at 100°C) [K]	±5
Heat control accuracy with ext. PT1000 (500ml H2O in 600ml beaker,40mm stirring bar,600rpm,50°C) [K]	±1
Heat control accuracy with ETS-D5 (500ml H2O in 600ml beaker,40mm stirring bar,600rpm,50°C) [K]	±0.5
Heat control accuracy with ETS-D6 (500ml H2O in 600ml beaker,40mm stirring bar,600rpm,50°C) [K]	±0.2
Dimensions (W x H x D) [mm]	160 x 85 x 270
Weight [kg]	2.4
Permissible ambient temperature [°C]	5 - 40
Permissible relative humidity [%]	80
Protection class according to DIN EN 60529	IP 42
RS 232 interface	yes
USB interface	yes
Voltage [V]	220 - 230
Frequency [Hz]	50/60
Power input [W]	650
Power input standby [W]	1.6