



### MINISTAR 20 control

The new MINISTAR series by IKA: Developed using the latest cutting-edge technology, this high-tech overhead stirrer with its compact design is ideal for special applications.

Combining high performance with particular excellence, they require minimum space and come with a lifetime guarantee. See for yourself:

"The Fast One" in the high-tech mini class, perfect for low viscosities!

- Hardened glass enclosed, fast response display for maximum visibility and chemical resistance
- State-of-art vibration sensors detect deviations from permissible thresholds and automatically stop the process
- Clear display for all essential information at a glance
- Integrated timer / counter for the control of kinetic sensitive reactions and reminders
- Viscosities up to 10,000 mPas and volumes of up to 15 l
- Continuously adjustable speed between 0/30 - 2,000 rpm
- USB interface, e.g. for documenting parameters using labworldsoft® or installing firmware updates
- Intuitive and simple handling; touch-sensitive surface for long service life
- Temperature reading on display
- Chemical resistant housing
- Key lock function
- Microprocessor-controlled speed governor for constant rotational speed, even with changes in viscosity

Accessories: R 1342 Propeller stirrer, 4-bladed, R 1345 Propeller stirrer, 4-bladed, R 1381 Propeller stirrer, 3-bladed, R 1382 Propeller stirrer, 3-bladed, R 1389 (PTFE-coated) Propeller stirrer, 3-bladed, R 1311 Turbine stirrer, R 1312 Turbine stirrer, R 1352 Centrifugal stirrer, R 1355 Centrifugal stirrer, R 1300 Dissolver stirrer, R 1303 Dissolver stirrer, R 1375 Paddle stirrer, R 1330 Anchor stirrer, R 1331 Anchor stirrer, R 3003 Spiral stirrer, R 3004 Blade stirrer, R 3004.1 Blade stirrer, R 1001 Paddle stirrer, R 1002 Screw-type stirrer, H 67.60 Temperature sensor, stainless steel, H 70 Extension cable, BC 1000 Beaker cap, FK 1 Flexible coupling, R 182 Boss head clamp, R 270 Boss head clamp, R 271 Boss head clamp, RH 3 Strap clamp, RH 5 Strap clamp, R 1825 Plate stand, R 1826 Plate stand, R 1827 Plate stand, R 2722 H-Stand, R 2723 Telescopic stand, labworldsoft®

**Technical Data**

Stirring quantity max. per stirring position (H2O) [l]	15
Motor rating input [W]	60
Motor rating output [W]	46
Motor principle	Brushless DC
Speed display	LCD
Speed min. [rpm]	50
Speed min. [rpm]	0/50
Speed max. [rpm]	2000
Viscosity max. [mPas]	10000
Output max. at stirring shaft [W]	42
Permissible ON time [%]	100
Torque max. at stirring shaft [Ncm]	20
Torque max. at stirring shaft at 60 1/min (overload) [Ncm]	20
Torque max. at stirring shaft at 100 1/min [Ncm]	20
Torque max. at stirring shaft at 1.000 1/min [Ncm]	20
torque I max. [Ncm]	20
Speed range I (50 Hz) [rpm]	50 - 2000
Speed range I (60 Hz) [rpm]	50 - 2000
Speed control	Turning knob
Setting accuracy speed [±rpm]	1
Deviation of speed measurement n > 300rpm [±%]	1
Deviation of speed measurement n < 300rpm [±rpm]	3
Stirring element fastening	chuck
Connection for ext. temperature sensor	PT1000
Temperature display	yes
Chuck range diameter [mm]	0.5 - 8
Hollow shaft, inner diameter [mm]	8.5
Hollow shaft (push-through - when stopped)	yes
Fastening on stand	extension arm
Extension arm diameter [mm]	13
Extension arm length [mm]	160
Torque display	yes
Speed control	electronic
Nominal torque [Nm]	0.2
Torque measurement	trend
deviation of torque measurement I [±Ncm]	3
Timer	yes
Timer display	LCD
Time setting range [min]	0 - 6000
Temperature measuring range [°C]	-10 - 350
Temperature measurement resolution [K]	0.1
Accuracy of temperature measurement [K]	±0.5 + tolerance PT1000 (DIN IEC 751 Class A)
Limit deviation temperature sensor [K]	≤ ± (0.15 + 0.002x T )
housing material	alu-cast coating / thermoplastic polymer
communication distance (depend onbuilding) max. [m]	150
Dimensions (W x H x D) [mm]	70 x 193 x 154
Weight [kg]	1.56
Permissible ambient temperature [°C]	5 - 40
Permissible relative humidity [%]	80
Protection class according to DIN EN 60529	IP 54
USB interface	yes
Voltage [V]	100 - 240
Frequency [Hz]	50/60
Power input [W]	69
DC Voltage [V=]	24
Current consumption [mA]	2900

**Ident. No. 0025001988**