IKA

designed for scientists

EN

SPACE-SAVING STIRRING | IKA NANO-, MICRO- and MINISTAR series

NANO- MICRO- and MINISTARS

/// The new compact stirrers

The space-saving high performers of the IKA NANOSTAR, MICROSTAR and MINISTAR series convince with perfect basic functionalities, have a compact design and are easy-to-use.

Lifetime warranty for MICRO- & MINISTAR

Compact design

The reduced design and the focus on the most essential aspects make the IKA NANOSTAR, MICROSTAR and MINISTAR stirrers reliable laboratory companions.

Constant torque

All models of the IKA NANOSTAR, MICROSTAR and MINISTAR series guarantee a constant torque over the entire rpm range. The stirrers MICROSTAR and MINISTAR are available in six different versions with rpms of up to 2 000 rpm and a torque of up to 80 Ncm, each in a digital or control variant. The latest model NANOSTAR is as 7.5 digital version available.

Ease of operation

Operation takes place using a stable rotary knob. The display of the digital version clearly shows the rotational speed, while the display of the control version shows further information, such as medium temperature or torque. The integrated timer and counter function enables the monitoring of sensitive chemical reactions.

NANOSTAR

7.5 digital

Original size

MICROSTARS

7.5 digital | 7.5 control | 15 digital | 15 control | 30 digital | 30 control

MINISTARS

20 digital | 20 control | 40 digital | 40 control | 80 digital | 80 control

Special safety precautions

The display of the stirrers is made of hardened and chemical-resistant glass, thus ensuring maximum safety. In addition, the state-of-the-art vibration sensors integrated in the control version detect deviations from permissible thresholds and automatically stop the process. The external, low-voltage power supply unit also contributes to increased safety.

Fast updates

Periodic software updates can be carried out quickly and easily via the USB interface. In addition, PC control and documentation of the test parameters is possible via the interface of the control devices.

NANOSTAR 7.5 digital
Ident. No. 0025004356

MICROSTAR 7.5 digital Ident. No. 0025004715	MICROSTAR 15 digital Ident. No. 0025004883	MICROSTAR 30 digital Ident. No. 0025004884
MICROSTAR 7.5 control Ident. No. 0025001984	MICROSTAR 15 control Ident. No. 0025001986	MICROSTAR 30 control Ident. No. 0025001987

MINISTAR 20 digital Ident. No. 0025004885	MINISTAR 40 digital Ident. No. 0025004886	MINISTAR 80 digital Ident. No. 0025004887
MINISTAR 20 control Ident. No. 0025001988	MINISTAR 40 control Ident. No. 0025001989	MINISTAR 80 control Ident. No. 0025001990

Technical data

TECHNICAL DATA	NANOSTAR 7.5 DIGITAL
Stirring quantity max. (H_2O)	5 l
Speed	min.: 0/50 rpm max.: 2 000 rpm
Viscosity max.	4 000 mPas
Torque max. at stirring shaft	7,5 Ncm
Dimensions (W × H × D)	53 × 147 × 130 mm
Weight	0,8 kg

NEW!

TECHNICAL DATA	MICROSTAR 7.5 DIGITAL | CONTROL	MICROSTAR 15 DIGITAL | CONTROL	MICROSTAR 30 DIGITAL | CONTROL	MINISTAR 20 DIGITAL | CONTROL	MINISTAR 40 DIGITAL | CONTROL	MINISTAR 80 DIGITAL | CONTROL
Stirring quantity max. (H_2O)	5 l	10 l	20 l	15 l	25 l	50 l
Speed	digital: 0/50 rpm control: 0/30 rpm max.: 2 000 rpm	digital: 0/50 rpm control: 0/30 rpm max.: 1 000 rpm	digital: 0/50 rpm control: 0/30 rpm max.: 500 rpm	min.: 0/50 rpm max.: 2 000 rpm	digital: 0/50 rpm control: 0/30 rpm max.: 1 000 rpm	digital: 0/50 rpm control: 0/30 rpm max.: 500 rpm
Viscosity max.	4 000 mPas	8 000 mPas	20 000 mPas	10 000 mPas	30 000 mPas	60 000 mPas
Torque max. at stirring shaft	7,5 Ncm	15 Ncm	30 Ncm	20 Ncm	40 Ncm	80 Ncm
Dimensions (W × H × D)	60 × 173 × 126 mm			70 × 193 × 147 mm		
Weight	1,18 kg	1,26 kg	1,26 kg	1,56 kg	1,72 kg	1,72 kg

GENERAL TECHNICAL DATA	NANO- MICRO- AND MINISTAR DIGITAL | CONTROL
Speed display	LED | LCD
Permissible ON time	100 %
Motor type	Brushless DC
Setting accuracy speed	± 1 rpm
Deviation of speed measurement n > 300 rpm	± 1 %
Deviation of speed measurement n < 300 rpm	± 3 rpm
Plug-in coupling	5,5 mm (Ø)
Chuck range diameter	min. 0,5 mm max. 8 mm
Hollow shaft (push-through - when stopped)	Yes
Housing material	Alu-cast coating/ thermoplastic polymer
Protection class according to DIN EN 60529	IP 54
Interface	USB

Additional products

If required, the following IKA devices are available for your lab to enhance stirring with the IKA NANO-, MICRO- and MINISTAR:

IKA [scale]
Stand scale
Ident. No. 0025004318

IKA Plate (RCT digital)
Magnetic stirrer
Ident. No. 0025004601

T 25 easy clean digital
High-performance disperser
Ident. No. 0025002560

Accessories NANO-, MICRO- and MINISTAR digital

R 1303 Dissolver stirrer

Radial flow, for drawing the material to be mixed from the top and bottom. High turbulence, high shearing forces. Particle reduction. Used at medium to high speeds.
Ident. No. 0002746700

R 1381 Propeller stirrer, 3-bladed

Flow-efficient design. For drawing the material to be mixed from the top and bottom. Minimum shearing forces. Used at medium to high speeds.
Ident. No. 0001296000

R 1825 Plate stand

With slip resistant foil. Diameter of support rod: 16 mm; max. load: 5 kg; Dimensions (W x D): 200 x 316 mm; Height: 560 mm.
Ident. No. 0003160000

Find more accessories on www.ika.com

201908_Rührer_NANO_MICRO_MINISTAR_IKA_EN_94000600

IKA-Werke GmbH & Co. KG
Janke & Kunkel-Straße 10, 79219 Staufen, Germany
Phone: +49 7633 831-0, Fax: +49 7633 831-98
eMail: sales@ika.de

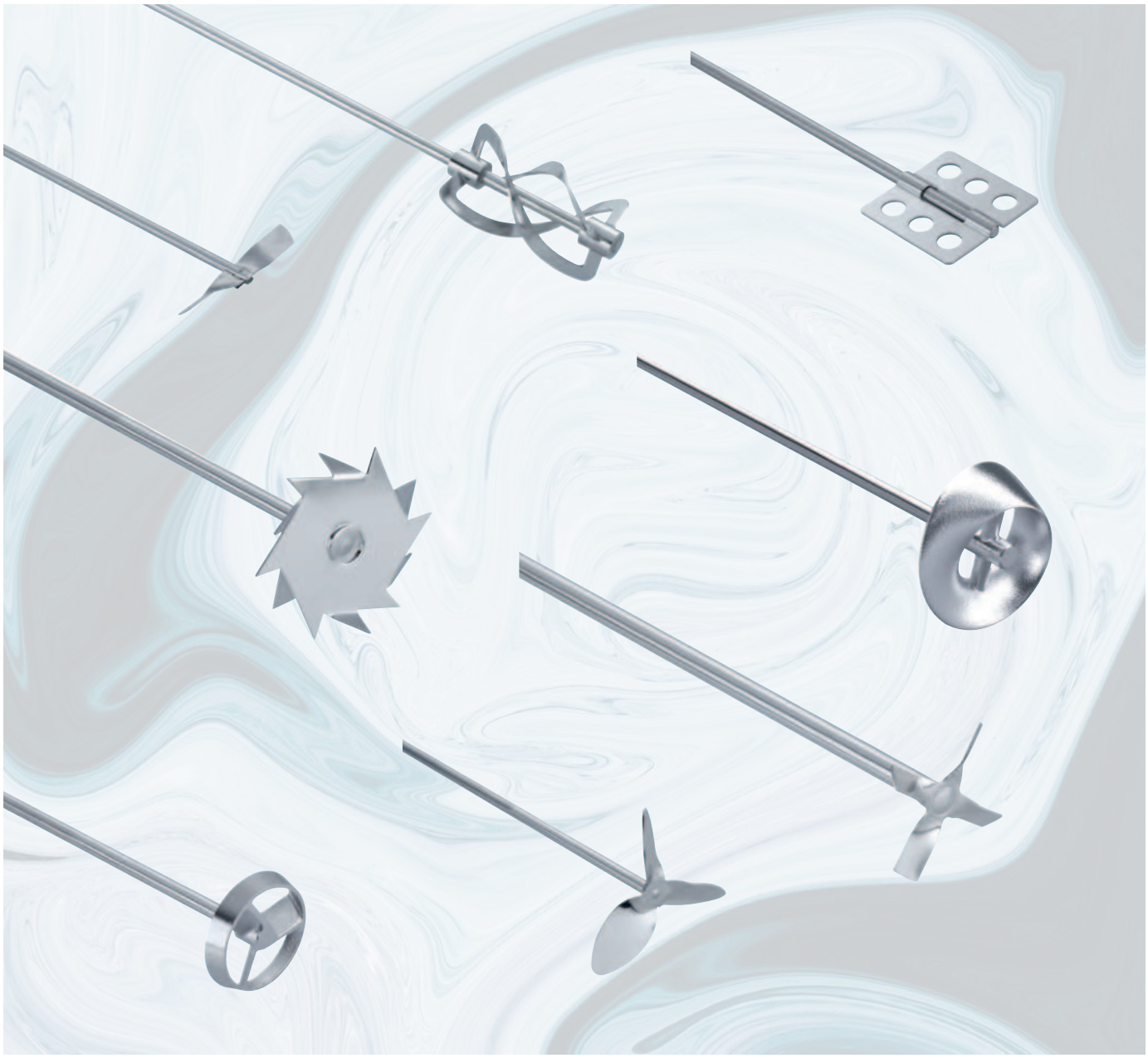
www.ika.com

IKAworldwide // #lookattheblue

IKA

designed for scientists

EN

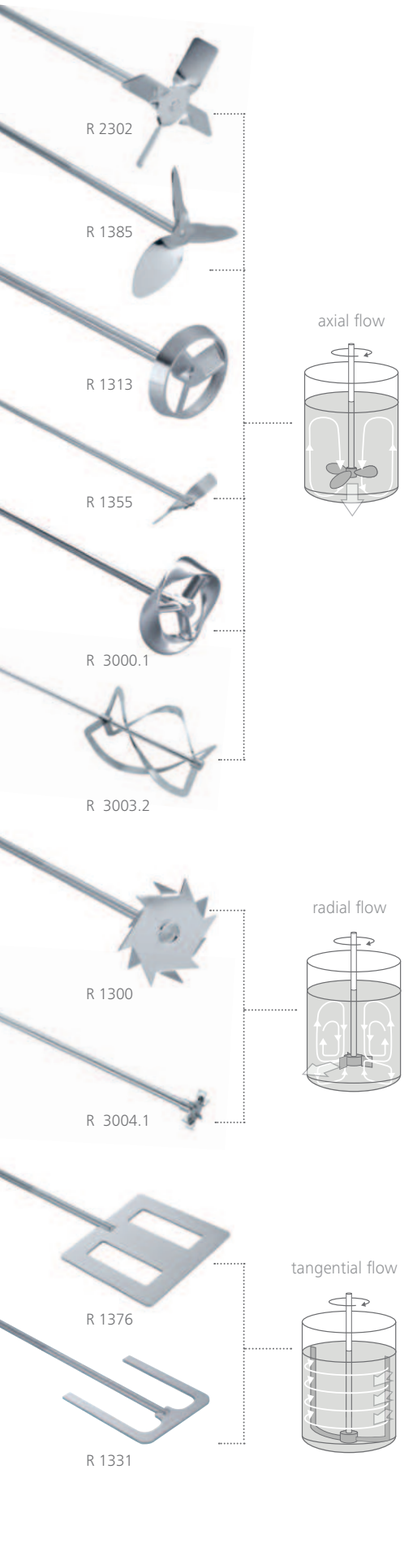


Overview I Geometry of stirring tools

GEOMETRY OF STIRRING TOOLS

/// The key to successful mixing

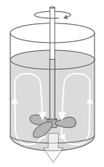
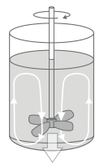
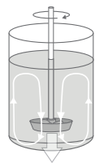
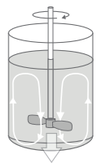
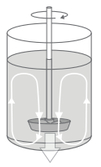
IKA overhead stirrers are strong, sturdy and safe because we understand the most important aspects during development. From low to high viscosities, and with up to 200 liters of stirring volume, all mixing and stirring tasks constitute no challenge for our stirrers. This is a good foundation for differentiated functionalities, which include: a safety circuit, a clear display, convenient control using labworldsoft® laboratory software and a wide range of stirring tools. Whether it is propeller stirrers, anchor stirrers or spiral stirrers – you will find the right tool for all applications in our range.

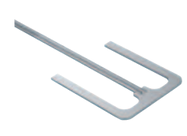
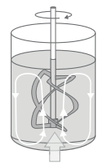
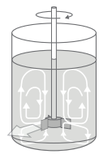
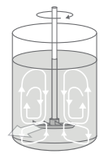
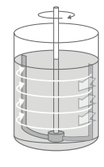
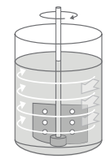


Product	Shaft length Shaft diameter Stirrer diameter	Max. speed	Material	Ident. No.	NANO-STAR 7.5 digital	MICRO-STARS digital | control	MINI-STARS digital | control	EUROSTAR 20 | 40 digital	EUROSTAR 60 digital | control	EUROSTAR 100 digital | control	EUROSTAR 200 digital | control	EUROSTAR 400 digital | control	EUROSTAR 100 & 200 control P4	RW 20 digital	RW 28 digital	RW 47 digital
PROPELLER STIRRERS, 4-BLADED																
R 1342	350 | 8 | 50 mm	≤ 2000 rpm	Stainless steel	0000741000	++	++	++	++	++	++	++	++	++	++	++	–
R 1345	550 | 8 | 100 mm	≤ 800 rpm	Stainless steel	0000741300	–	–	–	–	++	++	++	++	++	–	++	++
R 2302	800 | 13 | 150 mm	≤ 600 rpm	Stainless steel	0000739000	–	–	–	–	–	–	–	++	–	–	–	++
PROPELLER STIRRERS, 3-BLADED																
R 1381	350 | 8 | 45 mm	≤ 2000 rpm	Stainless steel	0001296000	++	++	++	++	++	++	++	++	++	++	++	–
R 1382	350 | 8 | 55 mm	≤ 2000 rpm	Stainless steel	0001295900	++	++	++	++	++	++	++	++	++	++	++	–
R 1385	550 | 10 | 140 mm	≤ 800 rpm	Stainless steel	0000477700	–	–	–	–	–	–	++	++	++	–	++	++
R 1388	800 | 10 | 140 mm	≤ 400 rpm	Stainless steel	0000477800	–	–	–	–	–	–	++	++	–	–	++	++
R 1389*	350 | 8 | 75 mm	≤ 800 rpm	PTFE-coated	0002343600	++	++	++	++	++	++	++	++	++	++	++	–
TURBINE STIRRERS																
R 1311	350 | 8 | 30 mm	≤ 2000 rpm	Stainless steel	0002332900	++	++	++	++	++	++	++	++	++	++	++	–
R 1312	350 | 8 | 50 mm	≤ 2000 rpm	Stainless steel	0002333000	++	++	++	++	++	++	++	++	++	++	++	–
R 1313	400 | 10 | 70 mm	≤ 800 rpm	Stainless steel	0002333100	–	–	–	–	++	++	++	++	++	–	++	–
CENTRIFUGAL STIRRERS																
R 1352	350 | 8 | 60/15 mm	≤ 2000 rpm	Stainless steel	0000756900	++	++	++	++	++	++	++	++	++	++	+	–
R 1355	550 | 8 | 100/24 mm	≤ 800 rpm	Stainless steel	0001132700	–	–	–	–	++	++	++	++	++	–	++	++
DISSOLVER STIRRERS																
R 1300	350 | 8 | 80 mm	≤ 2000 rpm	Stainless steel	0000513500	++	++	++	++	++	++	++	++	++	++	++	–
R 1302	350 | 10 | 100 mm	≤ 1000 rpm	Stainless steel	0002387900	–	–	–	–	++	++	++	++	++	–	++	++
R 1303	350 | 8 | 40 mm	≤ 2000 rpm	Stainless steel	0002746700	++	++	++	++	++	++	++	++	++	++	++	–
PADDLE STIRRERS																
R 1375	550 | 8 | 70 mm	≤ 800 rpm	Stainless steel	0000757700	+	+	+	+	++	++	++	++	++	–	++	–
R 1376	550 | 10 | 150 mm	≤ 800 rpm	Stainless steel	0000757800	–	–	–	–	–	–	++	++	++	–	++	++
R 2311	800 | 13 | 150 mm	≤ 600 rpm	Stainless steel	0000739500	–	–	–	–	–	–	–	++	–	–	–	++
ANCHOR STIRRERS																
R 1330	350 | 8 | 45 mm	≤ 1000 rpm	Stainless steel	0002022300	++	++	++	++	++	++	++	++	++	++	–	–
R 1331	350 | 8 | 90 mm	≤ 1000 rpm	Stainless steel	0002022400	–	–	–	–	++	++	++	++	++	–	++	–
R 1333	550 | 10 | 150 mm	≤ 800 rpm	Stainless steel	0002747400	–	–	–	–	–	–	++	++	++	–	++	++
MOEBIUS STIRRERS																
R 3000.1	565 | 10 | 100 mm	≤ 800 rpm	Stainless steel	0020001192	–	–	–	++	++	++	++	++	++	++	++	++
R 3001.1	575 | 10 | 100 mm	≤ 800 rpm	Stainless steel	0020001195	–	–	–	++	++	++	++	++	++	++	++	++
SPIRAL STIRRERS																
R 3003	350 | 8 | 50 mm	≤ 800 rpm	Stainless steel	0020001203	+	+	+	++	++	++	++	++	++	++	++	++
R 3003.1	550 | 10 | 100 mm	≤ 800 rpm	Stainless steel	0020001204	–	–	–	++	++	++	++	++	++	++	++	++
R 3003.2	800 | 10 | 150 mm	≤ 800 rpm	Stainless steel	0020001205	–	–	–	–	–	+	+	++	–	–	++	++
BLADE STIRRERS																
R 3004	359 | 8 | 30 mm	≤ 1000 rpm	Stainless steel	0020001206	++	++	++	++	++	++	++	++	++	++	++	++
R 3004.1	565 | 10 | 50 mm	≤ 1000 rpm	Stainless steel	0020001207	–	–	–	++	++	++	++	++	++	++	++	++
R 3004.2	819 | 10 | 70 mm	≤ 1000 rpm	Stainless steel	0020001208	–	–	–	++	++	++	++	++	–	++	++	++
PADDLE STIRRERS | SCREW-TYPE STIRRERS																
R 1001	160 | 4 | 34 mm	2000 rpm	Stainless steel	0000527400	++	++	++	++	+	+	+	+	+	++	–	–
R 1002	140 | 4 | 12 mm	2000 rpm	Stainless steel	0000527500	++	++	++	++	+	+	+	+	+	++	–	–

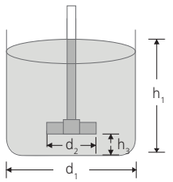
* (PTFE-coated)

++ IKA recommended | + Installable | – Not compatible

STIRRER	PROPELLER 3-BLADED	PROPELLER 4-BLADED	TURBINE	CENTRIFUGAL	MOEBIUS
Image					
Flow direction (Diagram)					
Tip speed / circumferential speed (m/s)	2 – 15	2 – 15	2 – 15	2 – 15	2 – 10
Direction	AXIAL	AXIAL	AXIAL	AXIAL	AXIAL
Mixing speed	Medium – high	Medium – high	Medium – high	Medium – high	Medium
Shear forces	Medium	Medium	Low	Low	Very low
Viscosity	Low – medium	Low – medium	Low	Low	Low – medium
Applications	Flow-efficient design to provide up and bottom flow pattern while creating minimum shearing forces.	Standard stirring element for general mixing applications. It creates local shearing forces and axial flow in the vessel.	This stirrer is used for drawing the material to be mixed from above within the vessel. It carries a minimum level of danger of injury when contact is made with sensor or vessel.	Two-bladed stirrer whose blades open with increasing speed. Perfect for stirring in round vessels with narrow necks and the effect is similar to that of a 4-bladed propeller stirrer.	Drawing the material to be mixed from the top and the bottom while creating minimum shearing forces.
Prefered geom. dimension d_2/d_1	0,1 – 0,5	0,2 – 0,5	0,2 – 0,5	0,2 – 0,5	0,2 – 0,5
Prefered geom. dimension h_3/d_1	0,3 – 3	0,3 – 3	0,3 – 3	0,3 – 3	0,3 – 3
Prefered geom. dimension h_1/d_1	1,0	1,0	1,0	1,0	1,0

SPIRAL	BLADE	DISSOLVER	ANCHOR	PADDLE
				
				
2	3 – 7	8 – 20	1 – 5	1 – 3
AXIAL	RADIAL	RADIAL	TANGENTIAL	TANGENTIAL
Low – medium	Medium – high	Medium – high	Low	Low – medium
low	High	Very High	Low	Low
Medium – high	Low – medium	Low	High	Medium – high
Medium is conveyed from the bottom upwards. For homogeneous mixing and heat exchange of medium.	This stirrer draws the material to be mixed from the top and the bottom while creating high turbulence and high shearing forces for dispersion or gassing of liquid.	This stirrer provides drawing the material to be mixed from the top and the bottom while creating high turbulence and high shearing forces for particle reduction or break down agglomeration.	This stirrer creates tangential flow, high shearing rate at the edges, minimum deposits on the vessel wall making them great for polymer reactions and even distribution of high mineral contents in liquids.	This stirrer creates tangential flow, minimum turbulence, good heat exchange, and gentle treatment of the product.
0,9 – 0,98	0,2 – 0,5	0,2 – 0,5	0,9 – 0,98	0,5 – 0,7
–	0,3 – 3	0,3 – 3	–	–
1,0	1,0	1,0	1,0	0,75

d_1: container diameter
d_2: stirrer diameter
h_1: fill height
h_3: bottom distance



Mixing Range	Speed
Low	< 150 rpm
Medium	150 to 800 rpm
High	> 800 rpm

Viscosity Range	mPas	Example (at 20 °C)
Low	< 1000	Water to motor oil
Medium	< 10 000	Honey
High	> 10 000	Asphalt