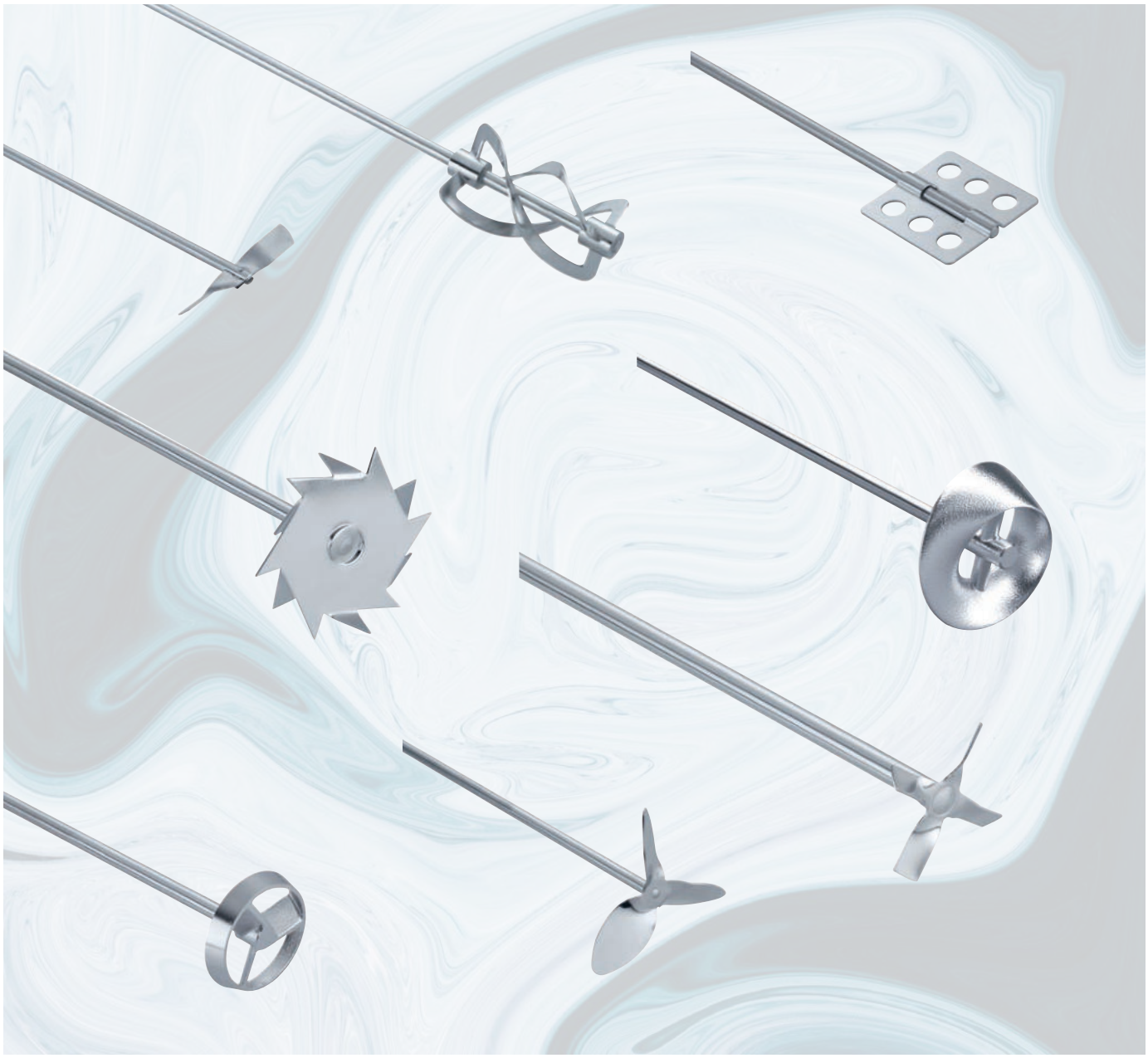
IKA

designed for scientists

EN



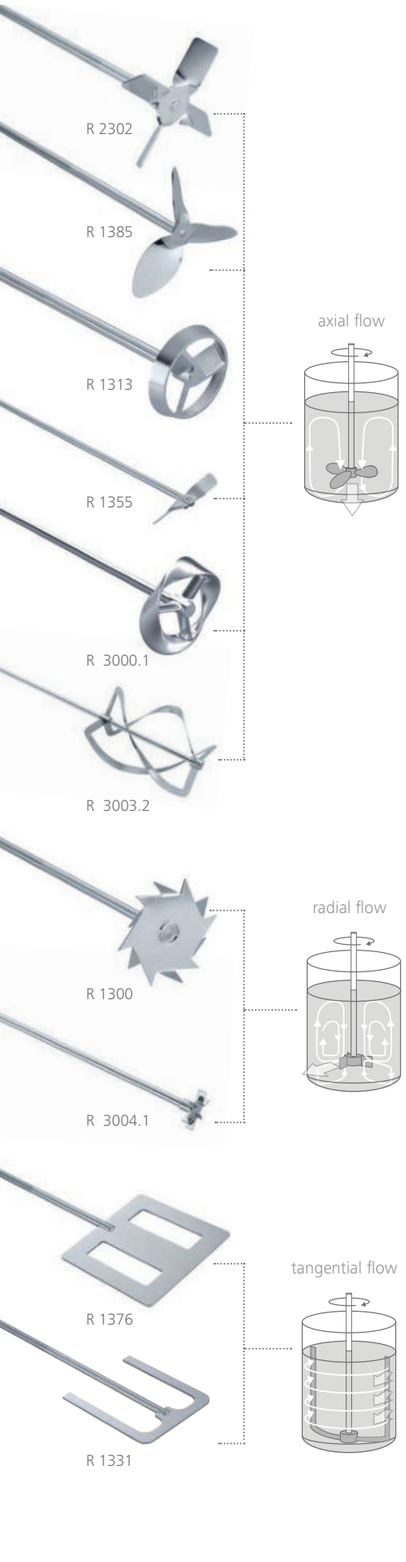
Overview I Geometry of stirring tools

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.

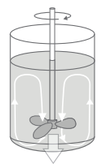
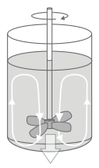
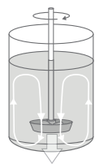
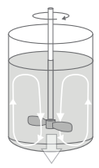
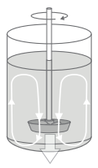


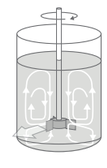
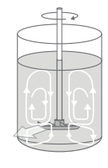
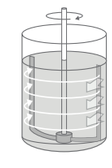
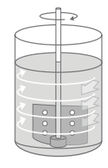


Product	Shaft length Shaft diameter Stirrer diameter	Max. speed	Material	Ident. No.	NANO-STAR 7.5 digital	MICRO-STARS digital | control	MINI-STARS digital | control	EUROSTAR 20 | 40 digital	EUROSTAR 60 digital | control	EUROSTAR 100 digital | control	EUROSTAR 200 digital | control	EUROSTAR 400 digital | 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	++	++	++	++	+	+	+	+	+	++	+	+

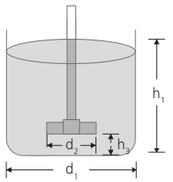
* (PTFE-coated)

++ 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