

# IKA®

## Dispersers



designed  
to work perfectly

# Dispersers | From Invention to Innovation

## Proven and precise technology for 60 years

ULTRA-TURRAX® – the epitome of first-rate dispersing devices enable the best possible results whether used for homogenization, emulsification or suspensions. The IKA® range of dispersers are used for volumes ranging from 0.5 to 50,000 ml (H<sub>2</sub>O) and come equipped with a digital display. These dispersers offer a wide speed range up to 30,000 rpm that enables users to work at high circumferential speeds even with small rotor diameters. The high-performance drive ensures immense speed stability. Due to their broad spectrum of dispersing tools, IKA® dispersers are highly effective for a variety of uses.

The unique and patented ULTRA-TURRAX® Tube Drive system is the world's first disperser system with disposable and sealed sample tubes. Multiple tube styles are available for mixing, homogenizing and grinding for a variety of applications.

The magic LAP® is a unique and multi-functional small-scale laboratory machine. It is designed for mixing, dispersing, wet milling and for the incorporation of powders into liquids. The magic LAP® is most frequently used for the development of new products or for optimizing existing process techniques. It is an ideal machine for continuous, circulating and batch processing with interchangeable modules.

**3** Year warranty\*

\* 2+1 years after registering at [www.ika.com/register](http://www.ika.com/register), glassware and wearing parts excluded

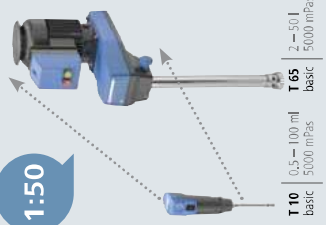
CE

Protection class according to DIN EN 60529: IP 42

**IKA®+**

**Scale-up principle**  
IKA® dispersers have a high degree of flexibility and scalability. Therefore, ensuring reliable scale-up by offering the possibility to work with the same method from formulation development to production.

1:50



Patented



reddot design award  
winner 2012

# T-series | Innovative solutions for dispersion technology



T-series range of dispersers are designed for mixing and dispersing of products with a wide range of viscosities. This series of dispersers enables the best possible results for any application with improved product quality and better stability.



**Digital display** for precise monitoring of set and actual speeds



Wide selection of dispersing tools to suit your application



Rotating knob for adjusting the speed



Motor protection against overload



Quick-connect coupling to exchange dispersing tools easily



2+1 year after registering at [www.ika.com/register](http://www.ika.com/register)

**IKA+**

**Trial devices**  
You may request demo units in order to experience our high-quality disperser offerings first hand.



# Special features | Accessories



- ① Plate stands
- R 1825 560 mm
- R 1826 800 mm
- R 1827 1000 mm
- With slip-resistant foil.

Ident. No.	
0003160000	R 1825 560 mm
0003160100	R 1826 800 mm
0003160200	R 1827 1000 mm



- ② R 182 Boss head clamp

Ident. No.	
0002657700	

- ③ Dispersing element S 25 N – 18 G



Ident. No.	
0000932400	

**IKA+**  
To get customized and additional accessories, please visit [www.ika.com/service](http://www.ika.com/service)



# Technical data | T-series ULTRA-TURRAX® Dispensers

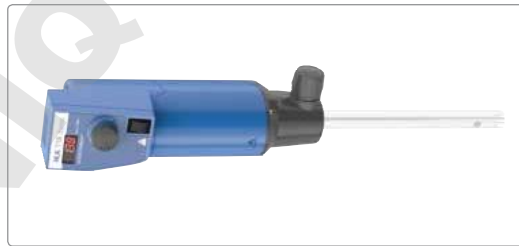


reddot design award  
winner 2012



T 25 digital	
Motor rating input / output	800 / 500 W
Volume range (H±0)	1 – 2000 ml
Viscosity max.	5000 mPaS
Speed range	300 – 35,000 rpm
Speed display	LED
Speed control	stepless
Noise without element	75 dB(A)
Extension arm diameter	13 mm
Extension arm length	160 mm
Process type	batch
Dimensions (W x D x H)	87 x 106 x 271 mm
Weight	2,5 kg
Perm. ambient temperature	5 – 40 °C
Permissible relative moisture	80 %
Protect. class DIN EN 60529	IP 20
Interface	no
Voltage	200 – 240 V
Frequency	50/60 Hz

Ident. No. 0003725000



T 18 digital	
Motor rating input / output	500 / 300 W
Volume range (H±0)	1 – 1500 ml
Viscosity max.	5000 mPaS
Speed range	3000 – 25,000 rpm
Speed display	LED
Speed control	stepless
Noise without element	75 dB(A)
Extension arm diameter	13 mm
Extension arm length	160 mm
Process type	batch
Dimensions (W x D x H)	87 x 106 x 271 mm
Weight	2,5 kg
Perm. ambient temperature	5 – 40 °C
Permissible relative moisture	80 %
Protect. class DIN EN 60529	IP 20
Interface	no
Voltage	200 – 240 V
Frequency	50/60 Hz

Ident. No. 0003720000



T 10 basic   T 10 standard PCR kit	
Motor rating input / output	125 / 75 W
Volume range (H±0)	0,5 – 100 ml
Viscosity max.	5000 mPaS
Speed range	8000 – 30,000   8,000 – 26,000 rpm
Speed display	scale
Speed control	stepless
Noise without element	65 dB(A)
Extension arm diameter	8 mm
Extension arm length	130 mm
Process type	batch
Dimensions (W x D x H)	56 x 66 x 178 mm
Weight	0,5 kg
Perm. ambient temperature	5 – 40 °C
Permissible relative moisture	80 %
Protect. class DIN EN 60529	IP 30
Interface	no
Voltage	230 V
Frequency	50/60 Hz

Ident. No. 0003737000 | 0004095500

T10 standard PCR Kit Includes:

- > T10 basic
- > Clamp B 200
- > Storage case
- > Dispensing elements
- > S 10-D-7 G-KS-65
- > S 10-D-7 G-KS-110
- > 12 x S 10-D-7 G-KS-65

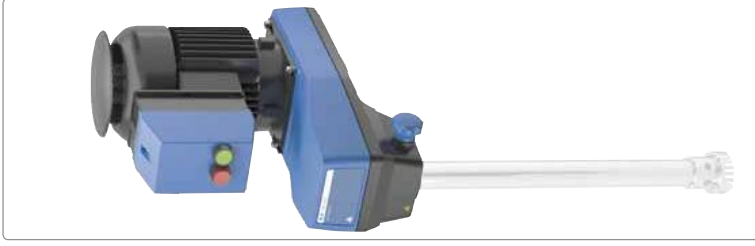


Dispensing tools are not included  
in delivery



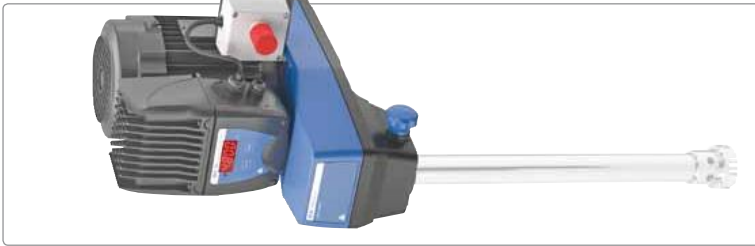
T 50 digital	
Motor rating input / output	1100 / 700 W
Volume range (H±0)	0,25 – 30 l
Viscosity max.	5000 mPaS
Speed range	600 – 10,000 rpm
Speed display	LED
Speed control	stepless
Noise without element	72 dB(A)
Extension arm diameter	16 mm
Extension arm length	220 mm
Process type	batch
Dimensions (W x D x H)	115 x 139 x 355 mm
Weight	5,76 kg
Perm. ambient temperature	5 – 40 °C
Permissible relative moisture	80 %
Protect. class DIN EN 60529	IP 20
Interface	no
Voltage	200 – 240 V
Frequency	50/60 Hz

Ident. No. 0003767000



T 65 basic	
Motor rating input / output	1800 / 1500 W
Volume range (H±0)	2 – 50 l
Viscosity max.	5000 mPaS
Speed range	7200 rpm (fixed)
Speed display	–
Speed control	fixed
Noise without element	75 dB(A)
Extension arm diameter	16 mm
Extension arm length	–
Process type	batch
Dimensions (W x D x H)	185 x 400 x 450 mm
Weight	26 kg
Perm. ambient temperature	5 – 40 °C
Permissible relative moisture	80 %
Protect. class DIN EN 60529	IP 54
Interface	no
Voltage	3 x 400 V
Frequency	50 Hz

Ident. No. 0004023500



T 65 digital	
Motor rating input / output	3600 / 2200 W
Volume range (H±0)	2 – 50 l
Viscosity max.	5000 mPaS
Speed range	1000 – 9500 rpm
Speed display	LED
Speed control	stepless
Noise without element	75 dB(A)
Extension arm diameter	16 mm
Extension arm length	–
Process type	batch
Dimensions (W x D x H)	300 x 400 x 390 mm
Weight	29 kg
Perm. ambient temperature	5 – 40 °C
Permissible relative moisture	80 %
Protect. class DIN EN 60529	IP 54
Interface	no
Voltage	3 x 400 V
Frequency	50/60 Hz

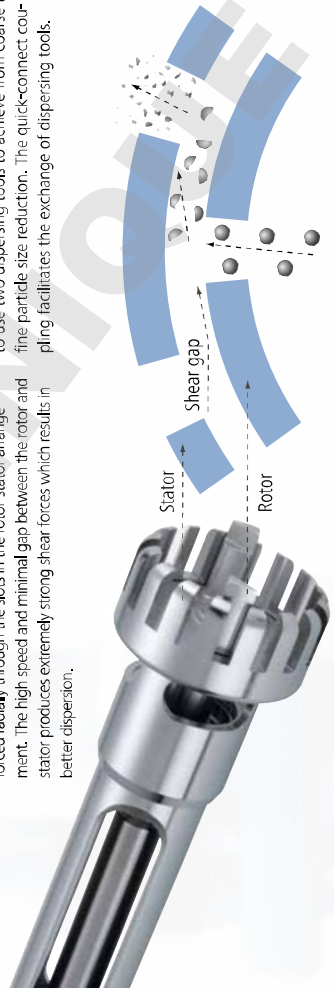
Ident. No. 0004234500

# IKA® Original | Dispersing tools

# Find the right dispersing tool to suit your application

IKA® dispersing technology works by using the rotor-stator principle. The system consists of a rotor within a stationary stator. Due to the high circumferential speed, the medium to be processed is drawn axially into the dispersion head and then forced radially through the slots in the rotor-stator arrangement. The high speed and minimal gap between the rotor and stator produces extremely strong shear forces which results in better dispersion.

A wide variety of rotor-stator configurations and seals are required to process different mediums. In order to make the device adaptable to the user's specific needs, it is sometimes necessary to use two dispersing tools to achieve from coarse to fine particle size reduction. The quick-connect coupling facilitates the exchange of dispersing tools.



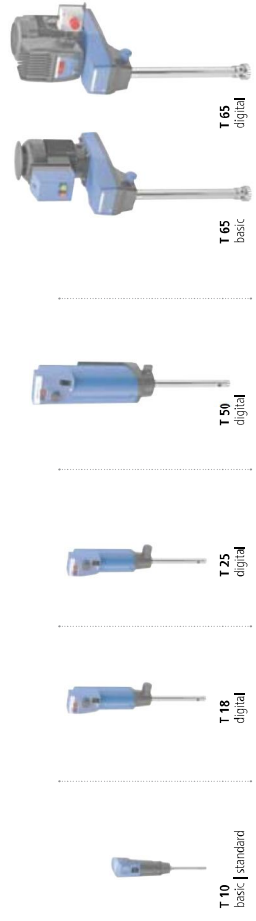
## IKA+

### Special accessories!

- > Bronze bearings to serve in a variety of applications
- > FDA-variant KV shafts are only available through special order

For dispersing instrument	Dispersing element Shaft / agitator shaft	With seal or bearing type*	Generator or element**	With outer diameter (mm)	Degree of fineness achieved**
T 10 basic	S 10	N	-	5 / 8 / 10	G
T 18 digital	S 18	N	-	10 / 19	G
T 25 digital	S 25	N / KV / HK / KR	-	8 / 10 / 18 / 19 / 25	G / F
T 50 digital	S / R 50	N / B / KR	G / W	45 / 65 / 80	G / M / F
T 65 basic	S 65	KG - HH / KR	G	65	G / M / F
T 65 digital	S 65	KG - HH / KR	G	65	G / M / F

- \*N = PTFE bearing
- KV = Ball bearing with vacuum-tight sliding-ring seal with silicon carbide seal rings
- NK = PTFE bearing with additional ball bearing without seal
- KG - HH = Ball bearing with sliding-rings seals of hard metal allow with FPM seals rings
- B = Bronze bearing
- \*\*G = Proved configuration
- W = Special element
- \*\*\*G = Coarse
- M = Medium
- F = Fine



Volume Range Liter	10 ml	50 ml	100 ml	500 ml	2 l	10 l	20 l	50 l	Vacuum operation	Circumferential speed (m/s)	Ultimate fineness, suspensions (µm)	Ultimate fineness, emulsions (µm)
S 10 N - 5 G	Yes								No	6.0	5-25	1-10
S 10 N - 8 G	Yes	Yes							No	9.6	5-25	1-10
S 10 N - 10 G	Yes	Yes	Yes						No	11.9	5-25	1-10
S 10 D - 7 G - KS - 65	Yes	Yes	Yes						No	7.5	10-50	5-20
S 10 D - 7 G - KS - 110	Yes	Yes	Yes						No	7.5	10-50	5-20
S 18 N - 10 G	Yes	Yes	Yes	Yes					No	9.8	10-50	1-10
S 18 N - 19 G	Yes	Yes	Yes	Yes					No	16.6	10-50	1-10
S 18 D - 10 G - KS	Yes	Yes	Yes	Yes					No	8.8	10-50	5-20
S 18 D - 14 G - KS	Yes	Yes	Yes	Yes					No	12.4	10-50	5-20
S 25 N - 8 G	Yes	Yes	Yes	Yes					No	8	10-50	1-10
S 25 N - 10 G	Yes	Yes	Yes	Yes					No	9.8	10-50	1-10
S 25 N - 18 G	Yes	Yes	Yes	Yes					No	16.6	10-50	1-10
S 25 KV - 18 G	Yes	Yes	Yes	Yes					Yes	16.6	10-50	1-10
S 25 NK - 19 G	Yes	Yes	Yes	Yes					No	16.6	10-50	1-10
S 25 N - 25 G	Yes	Yes	Yes	Yes					No	22.3	15-50	1-10
S 25 KV - 25 G	Yes	Yes	Yes	Yes					Yes	22.3	15-50	1-10
S 25 N - 25 F	Yes	Yes	Yes	Yes					No	23.6	5-25	1-5
S 25 KV - 25 F	Yes	Yes	Yes	Yes					Yes	23.6	5-25	1-5
S 25 D - 10 G - KS	Yes	Yes	Yes	Yes					No	8.8	10-50	5-20
S 25 D - 14 G - KS	Yes	Yes	Yes	Yes					No	12.4	10-50	5-20
S 25 - KR - 18 G	Yes	Yes	Yes	Yes					Yes	16.5	10-50	1-10
S 25 - KR - 25 G	Yes	Yes	Yes	Yes					Yes	22.2	15-50	1-10
S 25 - KR - 25 F	Yes	Yes	Yes	Yes					Yes	23.6	5-25	1-5
S 50 N - G 45 G	Yes	Yes	Yes	Yes					No	18.8	40-100	10-30
S 50 N - G 45 M	Yes	Yes	Yes	Yes					No	21.2	25-50	5-20
S 50 N - G 45 F	Yes	Yes	Yes	Yes					No	20.9	10-30	1-10
S 50 B - G 45 G	Yes	Yes	Yes	Yes					Yes	18.8	40-100	10-30
S 50 KR - G 45 M	Yes	Yes	Yes	Yes					Yes	21.2	25-50	5-20
S 50 KR - G 45 F	Yes	Yes	Yes	Yes					Yes	20.9	10-30	1-10
S 50 KG - HH - G 45 G	Yes	Yes	Yes	Yes					Yes	18.8	40-100	10-30
S 50 KG - HH - G 45 M	Yes	Yes	Yes	Yes					Yes	21.2	25-50	5-20
S 50 KG - HH - G 45 F	Yes	Yes	Yes	Yes					Yes	20.9	10-30	1-10
S 65 KG - HH - G 65 G	Yes	Yes	Yes	Yes					Yes	21.9 (28.8: T 65 digital)	25-75	5-25
S 65 KG - HH - G 65 M	Yes	Yes	Yes	Yes					Yes	21.9 (28.8: T 65 digital)	25-50	5-15
S 65 KG - HH - G 65 F	Yes	Yes	Yes	Yes					Yes	21.9 (28.8: T 65 digital)	25-75	5-25
S 65 KR - G 65 G	Yes	Yes	Yes	Yes					Yes	21.9 (28.8: T 65 digital)	25-50	5-15
S 65 KR - G 65 M	Yes	Yes	Yes	Yes					Yes	21.9 (28.8: T 65 digital)	25-50	5-15
S 65 KR - G 65 F	Yes	Yes	Yes	Yes					Yes	21.9 (28.8: T 65 digital)	25-75	5-25

# IKA® Original | Dispersing tools

**IKA+**

## Plastic disposable tools <sup>(D)</sup>

- > Ideal for applications where cross-contamination is not permitted
- > Disposable & single-use
- > No cleaning required



S 10 N-10 G

S 18 N-19 G

S 25 KV-25 F

S 50 N-G 45 G

S 65 KG-III-G 65 G



## T 18 digital

Dispersing element	S 18 N-10 G	S 18 N-19 G	S 18 D-10 G-KS	S 18 D-14 G-KS
Ident. No.	1004639	1004640	000345200	000345200
Working range	1-100 ml	10-1500 ml	10-100 ml	10-500 ml
Stator diameter	10 mm	19 mm	10 mm	14 mm
Rotor diameter	7,5 mm	12,7 mm	6,75 mm	9,5 mm
Gap between rotor and stator	0,35 mm	0,4 mm	0,25 mm	0,35 mm
Min. / max. immersion depth	25 / 70 mm	35 / 70 mm	15 / 85 mm	15 / 85 mm
Shaft length	108 mm	204 mm	150 mm	150 mm
Material in contact with medium	PTFE, ARI 316L	PTFE, ARI 316L	Polycarbonate (PC)	Polycarbonate (PC)
pH range	2-13	2-13	-	-
Suitable for solvents	yes	yes	-	-
Max. temperature	180 °C	180 °C	100 °C	100 °C
Sterilization methods	all methods	all methods	yes, autoclavable	yes, autoclavable

## Disposable Tube

Dispersing element	S 18 / 25 - E150
Ident. No.	000345200
Working range	-
Stator diameter	-
Rotor diameter	-
Gap between rotor and stator	-
Min. / max. immersion depth	-
Shaft length	-
Material in contact with medium	Polyethylenetherketon (PEEK)
pH range	-
Suitable for solvents	-
Max. temperature	-
Sterilization methods	-

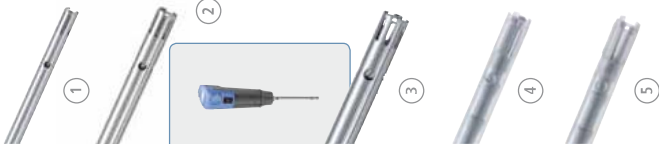
For attaching onto plastic tools from S 18 D and S 25 D series.  
Material: PEEK

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩



## T 10 basic | T 10 standard

Dispersing element	S 10 N-5 G	S 10 N-8 G	S 10 N-10 G	S 10 D-7 G-KS-65	S 10 D-7 G-KS-110
Ident. No.	0003304000	0003305500	0003370100	0020002076 (24 pcs.)	0020002075 (24 pcs.)
Working range	0,5-10 ml	1-50 ml	1-100 ml	1-20 ml	1-40 ml
Stator diameter	5 mm	8 mm	10 mm	7 mm	7 mm
Rotor diameter	3,8 mm	6,1 mm	7,6 mm	4,8 mm	4,8 mm
Gap between rotor and stator	0,1 mm	0,25 mm	0,2 mm	0,3 mm	0,3 mm
Min. / max. immersion depth	20 / 75 mm	20 / 95 mm	20 / 100 mm	20 / 50 mm	20 / 50 mm
Shaft length	92 mm	115 mm	115 mm	65 mm	110 mm
Material in contact with medium	PTFE, ARI 316L	PTFE, ARI 316L	PTFE, ARI 316L	Polycarbonate (PC)	Polycarbonate (PC)
pH range	2-13	2-13	2-13	-	-
Suitable for solvents	yes	yes	yes	-	-
Max. temperature	180 °C	180 °C	180 °C	100 °C	100 °C
Sterilization methods	all methods	all methods	all methods	yes, autoclavable	yes, autoclavable





Example of the S 50 N - G 45 M dispersing element set-up

**T 25 digital**

Dispersing element	S 25 N - 8 G	S 25 N - 10 G	S 25 N - 18 G	S 25 KV - 18 G	S 25 NK - 19 G
Ident. No.	0001024200	0003594000	0003593400	0003248000	0002494700
Working range	1 - 50 ml	1 - 100 ml	10 - 1500 ml	10 - 1500 ml	25 - 1500 ml
Stator diameter	8 mm	10 mm	18 mm	18 mm	19 mm
Rotor diameter	6,1 mm	7,5 mm	12,7 mm	12,7 mm	12,7 mm
Gap between rotor and stator	0,25 mm	0,35 mm	0,3 mm	0,3 mm	0,3 mm
Min. / max. immersion depth	27 / 85 mm	22 / 85 mm	40 / 165 mm	40 / 225 mm	40 / 165 mm
Shaft length	108 mm	105 mm	194 mm	270 mm	194 mm
Materials in contact with medium	PTE, AKI 316L	PTE, AKI 316L	PTE, AKI 316L	FPFM / SIC, AKI 316L	PTE, AKI 316L
pH range	2 - 13	2 - 13	2 - 13	2 - 13	2 - 13
Suitable for solvents	yes	yes	yes	yes	yes
Max. temperature	180 °C	180 °C	180 °C	220 °C	120 °C
Sterilization methods	all methods	all methods	all methods	wet chemical	wet chemical
Min. vacuum	-	-	-	1 mbar	-
Max. pressure	-	-	-	6 bar	-

**T 25 digital**

Dispersing element	S 25 N - 25 G	S 25 KV - 25 G	S 25 N - 25 F	S 25 KV - 25 F	S 25 D - 10 G - KS	S 25 D - 14 G - KS	S 25 D - 14 G - KS
Ident. No.	0001713300	0002466900	0001713800	0002404000	0003453200	0003452100	0003452100
Working range	50 - 2000 ml	50 - 2000 ml	100 - 2000 ml	100 - 2000 ml	10 - 100 ml	10 - 100 ml	10 - 500 ml
Stator diameter	25 mm	25 mm	25 mm	25 mm	10 mm	14 mm	14 mm
Rotor diameter	17 mm	17 mm	18 mm	18 mm	6,75 mm	6,75 mm	9,5 mm
Gap between rotor and stator	0,5 mm	0,5 mm	0,5 mm	0,5 mm	0,25 mm	0,25 mm	0,35 mm
Min. / max. immersion depth	40 / 165 mm	40 / 225 mm	40 / 165 mm	40 / 225 mm	15 / 85 mm	15 / 85 mm	15 / 85 mm
Shaft length	194 mm	270 mm	194 mm	270 mm	150 mm	150 mm	150 mm
Materials in contact with medium	PTE, AKI 316L	FPFM / SIC, AKI 316L	PTE, AKI 316L	FPFM / SIC, AKI 316L	Polycarbonate (PC)	Polycarbonate (PC)	Polyethersulfon (PEEK)
pH range	2 - 13	2 - 13	2 - 13	2 - 13	-	-	-
Suitable for solvents	yes	yes	yes	yes	-	-	-
Max. temperature	180 °C	220 °C	180 °C	220 °C	100 °C	100 °C	100 °C
Sterilization methods	all methods	wet chemical	all methods	wet chemical	yes, autoclavable	yes, autoclavable	yes, autoclavable
Min. vacuum	-	1 mbar	-	1 mbar	-	-	-
Max. pressure	-	6 bar	-	6 bar	-	-	-

**T 25 digital**

Dispersing element	S 25 - KR - 18 G	S 25 - KR - 25 G	S 25 - KR - 25 F
Ident. No.	0020002971	0020002972	0020002975
Working range	10 - 1500 ml	50 - 2000 ml	100 - 2000 ml
Stator diameter	18 mm	25 mm	25 mm
Rotor diameter	12,7 mm	17 mm	18 mm
Gap between rotor and stator	0,3 mm	0,5 mm	0,5 mm
Min. / max. immersion depth	40 - 185 mm	40 - 185 mm	40 - 185 mm
Shaft length	194 mm	194 mm	194 mm
Materials in contact with medium	FKM, PTFE, AKI 316L	FKM, PTFE, AKI 316L	FKM, PTFE, AKI 316L
pH range	2 - 13	2 - 13	2 - 13
Suitable for solvents	no	no	no
Max. temperature	110 °C	110 °C	110 °C
Sterilization methods	wet chemical	wet chemical	wet chemical
Min. vacuum	50 mbar	50 mbar	50 mbar

**TS 25-3**

Cleaning tool for cleaning three dispersing elements. The cleaning tool consists of an aluminum stand, three cleaning tubes (PP) and three covers with openings (PP).

Material tubes: PP  
 Material lid: PP  
 Material stand: aluminum anodized  
 Ident. No.: 0020003013

Fits the following dispersing elements:

S25N-18G/18G-ST  
 S25N-25G/25G-ST  
 S25KR-8G/18G-ST  
 S25KR-25G/25G-ST  
 S25K14-8G/25G-ST

**T 50 digital**

Dispersing element	S 50 N - G 45 G	S 50 N - G 45 M	S 50 N - G 45 F
Ident. No.	0008003000	0008003300	0008003900
Working range	0,5 - 20 l	0,5 - 15 l	0,25 - 10 l
Stator diameter	45 mm	45 mm	45 mm
Rotor diameter	36 mm	40,5 mm	40 mm
Gap between rotor and stator	0,5 mm	0,25 mm	0,5 mm
Min. / max. immersion depth	70 / 250 mm	70 / 250 mm	70 / 250 mm
Shaft length	300 mm	290 mm	290 mm
Materials in contact with medium	PTE, AKI 316L	PTE, AKI 316L	PTE, AKI 316L
pH range	2 - 13	2 - 13	2 - 13
Suitable for solvents	yes	yes	yes
Max. temperature	180 °C	180 °C	180 °C
Sterilization methods	all methods	all methods	all methods



13



14



15



16



17



18



19



# IKA® Original | Dispersing tools

## T 50 digital

Dispersing element	S 50 KG – HH – G 45 G	S 50 KG – HH – G 45 M	S 50 KG – HH – G 45 F	S 50 KG – HH – G 45 F FDA
Client. No.	0010000637	0010000638	0010000639	0008004100
Working range	0.5 – 20 l	0.5 – 15 l	0.25 – 10 l	
Stator diameter	45 mm	45 mm	45 mm	45 mm
Rotor diameter	36 mm	40.5 mm	40 mm	40 mm
Gap between rotor and stator	0.5 mm	0.25 mm	0.5 mm	0.5 mm
Min. / max. immersion depth	70 / 260 mm	70 / 250 mm	70 / 250 mm	70 / 250 mm
Shaft length	300 mm	300 mm	290 mm	
Materials in contact with medium	FFPM / SIC, ABSI 316L	FFPM / SIC, ABSI 316L	FFPM / SIC, ABSI 316L	FFPM / SIC, ABSI 316L
pH range	2 – 13	2 – 13	2 – 13	2 – 13
Suitable for solvents	yes	yes	yes	yes
Max. temperature	180 °C	180 °C	180 °C	180 °C
Sterilization methods	wet chemical	wet chemical	wet chemical	wet chemical
Min. vacuum	1 mbar	1 mbar	1 mbar	1 mbar
Max. pressure	6 bar	6 bar	6 bar	6 bar

## T 65 basic I digital

Dispersing element	S 65 KG – HH – G 65 G	S 65 KG – HH – G 65 M	S 65 KG – HH – G 65 F
Client. No.	0008005500	0008005700	0008005900
Working range	2 – 50 l	2 – 40 l	2 – 30 l
Stator diameter	65 mm	65 mm	65 mm
Rotor diameter	58 mm	58 mm	58 mm
Gap between rotor and stator	0.5 mm	0.5 mm	0.5 mm
Min. / max. immersion depth	90 / 450 mm	80 / 450 mm	80 / 450 mm
Shaft length	520 mm	510 mm	500 mm
Materials in contact with medium	FFPM / SIC, ABSI 316L	FFPM / SIC, ABSI 316L	FFPM / SIC, ABSI 316L
pH range	2 – 13	2 – 13	2 – 13
Suitable for solvents	yes	yes	yes
Max. temperature	180 °C	180 °C	180 °C
Sterilization methods	wet chemical	wet chemical	wet chemical
Min. vacuum	1 mbar	1 mbar	1 mbar
Max. pressure	6 bar	6 bar	6 bar

## T 50 digital

Dispersing element	S 50 B – G 45 G	S 50 B – G 45 M	S 50 B – G 45 F	S 50 KR – G 45 G	S 50 KR – G 45 M	S 50 KR – G 45 F
Client. No.	0010000633	0010000634	0010000635	0010000629	0010000630	0010000631
Working range	0.5 – 20 l	0.5 – 15 l	0.25 – 10 l	0.5 – 20 l	0.5 – 15 l	0.25 – 10 l
Stator diameter	45 mm	45 mm	45 mm	45 mm	45 mm	45 mm
Rotor diameter	36 mm	40.5 mm	40 mm	36 mm	40.5 mm	40 mm
Gap between rotor and stator	0.5 mm	0.25 mm	0.5 mm	0.5 mm	0.25 mm	0.5 mm
Min. / max. immersion depth	70 / 250 mm	70 – 250 mm	70 – 250 mm	70 – 260 mm	70 – 260 mm	70 – 260 mm
Shaft length	300 mm	300 mm	300 mm	300 mm	300 mm	300 mm
Materials in contact with medium	ABSI 316L, bronze	ABSI 316L, bronze	ABSI 316L, bronze	PtFE, ABSI 316L	PtFE, ABSI 316L	PtFE, ABSI 316L
pH range	2 – 13	2 – 13	2 – 13	2 – 13	2 – 13	2 – 13
Suitable for solvents	yes	yes	yes	no	no	no
Max. temperature	180 °C	220 °C	180 °C	110 °C	110 °C	110 °C
Sterilization methods	all methods	all methods	all methods	wet chemical	wet chemical	wet chemical
Min. vacuum	1 mbar	1 mbar	1 mbar	100 mbar	100 mbar	100 mbar
Max. pressure	6 bar	6 bar	6 bar	100 mbar	100 mbar	100 mbar

## T 65 basic I digital

Dispersing element	S 65 KR – G 65 G	S 65 KR – G 65 M	S 65 KR – G 65 F
Client. No.	0010000641	0010000642	0010000643
Working range	2 – 50 l	2 – 40 l	2 – 30 l
Stator diameter	65 mm	65 mm	65 mm
Rotor diameter	53 mm	58 mm	58 mm
Gap between rotor and stator	0.5 mm	0.5 mm	0.5 mm
Min. / max. immersion depth	90 – 450 mm	80 – 450 mm	80 – 450 mm
Shaft length	520 mm	510 mm	500 mm
Materials in contact with medium	PtFE, ABSI 316L	PtFE, ABSI 316L	PtFE, ABSI 316L
pH range	2 – 13	2 – 13	2 – 13
Suitable for solvents	no	no	no
Max. temperature	80 °C	80 °C	80 °C
Sterilization methods	wet chemical	wet chemical	wet chemical
Min. vacuum	100 mbar	100 mbar	100 mbar
Max. pressure	100 mbar	100 mbar	100 mbar



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# IKA® Original | Special dispersing tools

**IKA+**  
**Saw Tooth (ST) dispersing tools**  
 > ST tools are recommended for use with tissue and other fibrous materials  
 > Saw tooth design creates a cutting and tearing action for shredding fibrous materials  
 > Made of high quality stainless steel

**Silentstream**  
 The flow breaker is used to prevent vortexing and to minimize air induction into the medium.  
 Ident. No. 0003754000

Fit the following dispersing elements:  
 S 25 N+18 G  
 S 25 N+25 G  
 S 25 N+25 F  
 S 25 N+19 G



**T 10 basic**

Dispersing element	S 10 N – 8 G – ST	S 10 N – 10 G – ST	S 10 N – 18 G – ST	S 25 N – 10 G – ST	S 25 N – 18 G – ST	S 25 N – 25 G – ST	S 25 N – KR – 18 G – ST	S 25 N – KR – 25 G – ST
Ident. No.	000446500	000446700	000447300	000447100	000447300	000447500	0020002973	0020002974
Working range	1 – 50 ml	1 – 100 ml	10 – 1500 ml	1 – 100 ml	10 – 1500 ml	50 – 2000 ml	10 – 1500 ml	50 – 2000 ml
Stator diameter	8 mm	10 mm	18 mm	10 mm	18 mm	25 mm	18 mm	25 mm
Rotor diameter	6,1 mm	7,6 mm	12,7 mm	7,5 mm	12,7 mm	17 mm	13,4 mm	20 mm
Gap between rotor and stator	0,25 mm	0,2 mm	0,3 mm	0,35 mm	0,3 mm	0,5 mm	0,25 mm	0,5 mm
Min. / max. immersion depth	20 / 95 mm	20 / 100 mm	40 / 165 mm	22 / 85 mm	40 / 165 mm	40 / 165 mm	40 – 185 mm	40 – 185 mm
Shaft length	115 mm	115 mm	194 mm	105 mm	194 mm	194 mm	194 mm	194 mm
Materials in contact with medium	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, PTFE, AISI 316L	FKM, PTFE, AISI 316L

**T 50 digital**

Dispersing element	S 50 N – 8 G – ST	S 50 N – 10 G – ST	S 50 N – 18 G – ST	S 50 N – 25 G – ST	S 50 B – G 45 G – ST	S 50 KR – G 45 G – ST	S 50 KG – HH – G 45 G – ST	S 50 KG – HH – G 45 G – ST, FDA
Ident. No.	0007689300*	0008005100	0008005100	0008005100	0010000632	0010000632	0010000648	0010000640
Working range	0,25 – 30 l	1 – 10 l	1 – 10 l	0,5 – 20 l	0,5 – 15 l	0,5 – 20 l	0,5 – 20 l	0,5 – 20 l
Max. circumferential speed	15,7 – 23 m/s	–	–	–	–	–	–	–
Max. permissible rotor diameter	50 mm	–	–	–	–	–	–	–
Material	Stainless steel (AISI 316)	–	–	–	–	–	–	–
Generator diameter	–	65 mm	–	–	–	–	–	–
Min. / max. immersion depth	–	80 / 350 mm	–	–	–	–	–	–
Available seal	–	5 S 0 N	–	–	–	–	–	–
Materials in contact with medium	–	–	–	–	–	–	–	–
pH range	–	–	–	–	–	–	–	–
Suitable for solvents	–	–	–	–	–	–	–	–
Max. temperature	–	–	–	–	–	–	–	–
Sterilization methods	–	–	–	–	–	–	–	–

**T 50 digital**

Dispersing element	S 50 N – 8 G – ST	S 50 N – 10 G – ST	S 50 N – 18 G – ST	S 50 N – 25 G – ST	S 50 B – G 45 G – ST	S 50 KR – G 45 G – ST	S 50 KG – HH – G 45 G – ST	S 50 KG – HH – G 45 G – ST, FDA
Ident. No.	0007689300*	0008005100	0008005100	0008005100	0010000632	0010000632	0010000648	0010000640
Working range	0,25 – 30 l	1 – 10 l	1 – 10 l	0,5 – 20 l	0,5 – 15 l	0,5 – 20 l	0,5 – 20 l	0,5 – 20 l
Max. circumferential speed	15,7 – 23 m/s	–	–	–	–	–	–	–
Max. permissible rotor diameter	50 mm	–	–	–	–	–	–	–
Material	Stainless steel (AISI 316)	–	–	–	–	–	–	–
Generator diameter	–	65 mm	–	–	–	–	–	–
Min. / max. immersion depth	–	80 / 350 mm	–	–	–	–	–	–
Available seal	–	5 S 0 N	–	–	–	–	–	–
Materials in contact with medium	–	–	–	–	–	–	–	–
pH range	–	–	–	–	–	–	–	–
Suitable for solvents	–	–	–	–	–	–	–	–
Max. temperature	–	–	–	–	–	–	–	–
Sterilization methods	–	–	–	–	–	–	–	–

**T 50 digital**

Dispersing element	S 50 N – W 65 SK cutting head	S 50 N – W 80 SMK jet mixer head
Ident. No.	0007689300*	0008005100
Working range	0,25 – 30 l	1 – 50 l
Max. permissible rotor diameter	50 mm	–
Material	Stainless steel (AISI 316)	–
Generator diameter	–	80 mm
Min. / max. immersion depth	–	140 / 350 mm
Available seal	–	5 S 0 N
Materials in contact with medium	–	–
pH range	–	–
Suitable for solvents	–	–
Max. temperature	–	–
Sterilization methods	–	–

\* Included with delivery:  
 R 1402 Dissolver  
 Ident. No. 00011243300

AVAILABLE 06/2015

# UTTD | ULTRA-TURRAX® Tube Drive control



▶ THE TUBE: UTTD control  
Watch the video now:  
[www.ika.com/video](http://www.ika.com/video)

**USB interface** to control and document all the parameters using Labworks® software and for updating your firmware



**Multilingual OLED display** for simple and precise menu navigation



**ULTRA-TURRAX® Tube Drive Control**

**Turbo function** for short time intensive mixing, homogenizing or grinding



**Built-in program library** for tests to be repeated under identical conditions



**Reverse rotation switch** to optimize mixing and crushing performance



Cross-contamination free  
No cleaning required  
Reproducible test results



Included with delivery	UTTD Workstation	UTTD control Workstation
ULTRA-TURRAX® Tube Drive control	1	1
5x20 Tube with stirring device	2	1
Dt=20 Tube with rotor-stator element	2	1
BMT20 G/S Tube for grinding with glass (G) or stainless steel balls (S)	2	2
Removal hook for removal of rotor-stator	1	1
Power supply	1	1
	Ident. No. 0003645000	Ident. No. 0003827500

UTTD ULTRA-TURRAX® Tube Drive	UTTD ULTRA-TURRAX® Tube Drive control
20/17 W	20/17 W
300 – 6000 rpm / –	400 – 6000 rpm / 8000 rpm
LED (timer) / scale	OLED / digital
1 s – 29 min	10 s – 30 min (infinitely adjustable)
–	10 – 60 s
100 x 40 x 160 mm	122 x 178 x 48 mm
0.75 kg	1.0 kg
IP 20	IP 20
yes	yes
100 – 240 V	100 – 240 V
50/60 Hz	50/60 Hz
Ident. No. 0003646000	Ident. No. 0004135300

Technical data
Inlet rating input / output
Speed range / Turbo speed
Display / Speed display
Timer
Reverse rotation interval
Dimensions (W x D x H)
Weight
Protection class DIN EN 60529
Interface
Voltage
Frequency

# Accessories | IKA® Tubes

ST Tube with stirring devices

	Ident. No.
ST=20 (pack of 25)	0003703000
ST=20-M-gamma (pack of 20)	0003700500
ST=50 (pack of 10)	0003699500
ST=50-M (pack of 10)	0003629500
ST=50-M-gamma (pack of 10)	0003701500



DT Tube with rotor-stator element

	Ident. No.
DT=20 (pack of 25)*	0003703100
DT=20-M-gamma (pack of 20)*	0003700600
DT=20 eco (pack of 25)**	0020003207
DT=50 (pack of 10)*	0003699600
DT=50-M (pack of 10)*	0003629600
DT=50-M-gamma (pack of 10)*	0003701600
DT=50 eco (pack of 10)**	0020003213



\* Rotor-stator element made with PEEK  
\*\* Rotor-stator element made with PSU

BMT-S/G Tube for grinding with stainless steel (S) or glass (G) balls

	Ident. No.
BMT=20-S (pack of 25)	0003703200
BMT=20-G (pack of 25)	0003703300
BMT=20-M-gamma (pack of 20)	0003700700
BMT=50-S (pack of 10)	0003699700
BMT=50-G (pack of 10)	0003699800
BMT=50-M-gamma (pack of 10)	0003629700
BMT=50-S-M (pack of 10)	0003629800
BMT=50-G-M (pack of 10)	0003701700



Cover for BMT tube

	Ident. No.
TC=50 for 50 ml tubes (10 pcs.)	0003749800
TC=20-M, with pierceable membrane for 20 ml tubes (25 pcs.)	0003749900
TC=50-M, with pierceable membrane for 50 ml tubes (10 pcs.)	0003750000

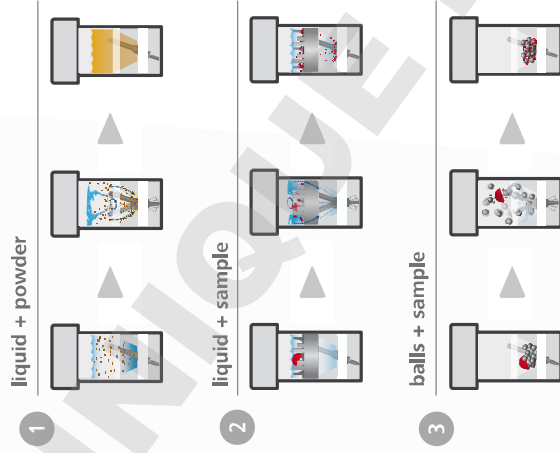


Balls for BMT tube

	Ident. No.
Glass balls Ø 6 mm (250 g)	0003599200
Stainless steel balls Ø 5 mm (250 g)	0003599300

# UTTD | ULTRA-TURRAX® Tube Drive control

# Accessories | IKA® Tubes



**IKA+**

**Special UTTD features**

- > Simple and safe disposal
- > Sealed disposable sample tubes
- > No cross-contamination
- > No cleaning required
- > Reproducible tests supports GLP and GMP reporting
- > Chemical resistant plastic
- > Patented
- > Available sterile
- > Available with pierceable lids
- > Batch traceability ensured

UTTD is ideal for preparing samples in an easier, faster, simpler and safer method.

The UTTD tube drive system, with its universal, single use tubes is particularly suitable for processing infectious, toxic and high odor sample materials. Tests can be reproduced at any time with no risk of cross-contamination between individual samples.



## magic LAB® | Exceptional and flexible scalability

One machine for numerous mixing and homogenization tasks. Same working modules for laboratory and production.



1

Module DISPAK-REACTOR® DR



2

Module MK/MKO  
(Colloid Mill/Cone Mill)



3

Module MHD  
(mixing, homogenizing, dispersing)



4

Module CMS



magic LAB® with module UTL



magic LAB® with module CMS and accessories

> for powder/granule incorporation into liquids in recirculation mode



magic LAB® with module Micro-Plant 1 I

> with exchangeable modules (UTL/DR/MK/MKO)



magic LAB® with module Micro-Plant 2 I

> with exchangeable modules (UTL/DR/MK/MKO)



magic LAB® with module UTC

> for dispersing/mixing in a batch operation

## Smooth changeover from laboratory to production



**magic LAB®**

Multifunction storage and transportation box

**magic LAB®**

- > Designed for mixing, dispersing, wet milling and for the incorporation of powders into liquids
- > Ideal machine for continuous, circulating and batch processing with interchangeable modules
- > Ensures reliable scale-up from formulation development to mass production
- > Optimal results due to rotor tip speed up to 40 m/s
- > Simple heating or cooling of all modules
- > Easy and quick exchange of each module
- > Flexibility and ease of use: one machine suits for many applications

magic LAB®	
<b>Technical data</b>	
Motor power	900 W
Speed range (40 m/s)	3000 – 26.000 rpm
Operating voltage	220 – 240 V
Frequency	50 – 60 Hz
Process pressure	up to 2,5 bar
Product temperature in continuous operation	up to 80° C
In short time operation (up to 18 min/h)	up to 120° C
Materials in contact with the medium	Stainless steel (AISI 316i and AISI 316Ti)
Sealing material	PTFE-compound
Shaft sealing ring	Standard IPM
elastomers in the working chamber	optional EPDM (FDA), FPM
Dimensions (W x D x H)	170 x 270 x 215 mm
Ident. No. 000078310	

## Industries & Applications

### > Food

food paste  
fruit juice concentrate  
orange peel  
vegetables  
cheese  
pork meat  
salami  
spices  
peanuts



### > Chemistry

oil  
fuel oil  
crude oil  
waste water  
calcium carbonate  
polymer solution  
dishwasher tabs  
surfactant  
manganese dioxide



### > Building material

ceramic glaze  
wood  
clay powder  
loam  
glass fiber  
engobe powder  
bentonite  
wall paint  
iron mica



### > Environment

soil samples  
compost  
algae  
roots  
resin  
disposal waste  
biogas mud  
plant leaves  
animal excrements



### > Medicine & Pharmacy

Medicine analgetic  
capsules  
tablets  
acetate  
muscle tissue  
collagen granules  
pills  
beta carotin  
calcium phosphate



### > Cosmetics

ointments  
baby cream  
body lotion  
collagen  
flavors  
carnival make-up  
day cream  
showering gel  
shaving gel



## FAQ

### What does "continuous operation" mean for dispersers? Are 4 hours OK?

4 hours equates to continuous operation! A further particle size reduction with rotor-stator systems does not happen after more than 15 mins. Only heat (due to friction) is transferred into the medium. For the drive itself, continuous operation is not a problem.

### Due to the technical data, the ambient temperature of a disperser is 5 - 40 °C. What can be done, if the sample requires higher temperatures?

The prescribed ambient temperature of 5 - 40 °C is only valid for the drive. Of course, it is possible to work in mediums with higher temperatures, e.g. a dispersing element with "N" (PTFE) bearing can be used in mediums up to 180 °C.

### Is it possible to disperse an abrasive material such as sand, glass or similar material?

In general, it is possible to disperse abrasive material, but a frequent change of the bearing is necessary. In addition, the shaft and spindle can wear off very quickly under these conditions.

### Is it possible to disperse frozen samples?

Yes, in general this is possible if the sample is treated in some liquid. However, it is not possible to work with liquid nitrogen.

### The teflon seal (PTFE) of my dispersing element is ripped. Can a new one be ordered?

Those PTFE parts are slotted and it is not a defect. They are used as a bearing. However, a new seal may be ordered from the spare parts list.

### How often can we use disposable dispersing elements for the T 10 basic, T 18 basic and T 25 digital?

The disposable dispersing tools are designed for single use only.

### Does IKA® offer high pressure dispersers?

Yes, it is possible to work under a pressure of up to 6 bar with dispersing tools having "KV" in their product description. IKA® also offers High Pressure Homogenizer system.

### How does one avoid foam generation during dispersing?

To avoid this scenario, a ULTRA-TURRAX® disperser with "KV" tools are recommended. These tools are closed systems, which avoid the generation of foam.

### The ULTRA-TURRAX® dispersing elements should not run dry. Does that mean that the bottom bore hole has to be in the medium?

Yes, the circulation hole should be in the medium on all accounts. This is the only way to guarantee the optimum cooling effect on the bearing.

### Which is the right dispersing tool to crush vegetables and fruits? How should one clean this properly (sterile)?

The new Saw Tooth (ST) dispersing tools and a T 50 digital with cutting head S 50 N - W 65 SK would be suitable for this application. This tool can be cleaned, e.g. with acetone or every commonly used sterilization method.

IKA +

### Application Support!

For questions regarding applications and processes, you can call our hotline number: 00 8000 4522777 (00 8000 IKAAPP5)\* E-Mail: [applicationsupport@ika.de](mailto:applicationsupport@ika.de)

\* Monday – Thursday from 8:30 - 16:30  
Friday from 8:30 - 15:30

**IKA® offers more**

**Modern  
manufac-  
turing**

**Application  
Support**

**Worldwide  
service  
network**

**Customizing  
Center**

### Modern manufacturing

During manufacturing, IKA® focuses on high quality, not only with well-trained and experienced personnel, but also with standardized processes and quality checks.

The assembly of the printed circuit boards is fully automated and includes an automated 100% quality control check of every PCB.



### Customizing Center

It is important that IKA products work for your application. We are introducing a new program: product solutions tailored to your needs.

Should you not find the appropriate device in our standard product range, please send us your requested specifications through the online form. Our team will determine its feasibility and offer a solution to you.

Please visit [www.ika.com/customizingcenter](http://www.ika.com/customizingcenter) to review already implemented product modifications.

### Worldwide service network – direct contact in your region

Our dedicated team of engineers provides comprehensive worldwide technical service. Please feel free to contact IKA® directly or your dealer in case of any service questions.

For spare parts IKA® guarantees 10 years of availability. In the event of an equipment malfunction or technical questions regarding devices, maintenance and spare parts, please call us at 00 8000 4524357 (00 8000 IKAHELP) or send an email to [service@ika.com](mailto:service@ika.com)

### IKA® Application Support

Our Application Center spans 400sqm and offers modern facilities for presenting and testing lab devices and processes. This brings us even closer to our customers and improves our service. Here, prospective buyers and customers can test processes that involve stirring, shaking, dispersing, grinding, heating, analyzing and distilling.

Call us at 00 8000 4527777 (00 8000 IKAAPPS) or send an email to [applicationsupport@ika.com](mailto:applicationsupport@ika.com) or visit our website at [www.ika.com/applicationsupport](http://www.ika.com/applicationsupport)

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