

# IKA®

## Dispersers



designed  
to work perfectly

imLab



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# 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 LAB® 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 LAB® 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.



**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.



Patented



**3** Year warranty\*



Protection class according to DIN EN 60529: IP 42



# 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

**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.  
0000593400

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



### T10 standard PCR Kit Includes:

- > T 10 basic
- > Clamp R 200
- > Storage case
- > Dispersing elements
  - > S 10 D - 7 G - KS - 65
  - > S 10 D - 7 G - KS - 110
  - > 12 x S 10 D - 7 G - KS - 65



Dispersing tools are not included in delivery

T 10 basic | T 10 standard PCR kit

Technical data	
Motor rating input / output	125 / 75 W
Volume range (H <sub>2</sub> O)	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



reddot design award  
winner 2012



T 18 digital

Motor rating input / output	500 / 300 W
Volume range (H <sub>2</sub> O)	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 25 digital

Motor rating input / output	800 / 500 W
Volume range (H <sub>2</sub> O)	1 – 2000 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. 0003725000



T 50 digital

Technical data	
Motor rating input / output	1100 / 700 W
Volume range (H <sub>2</sub> O)	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. 0003787000



T 65 basic

Motor rating input / output	1800 / 1500 W
Volume range (H <sub>2</sub> O)	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	flange
Extension arm length	flange
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

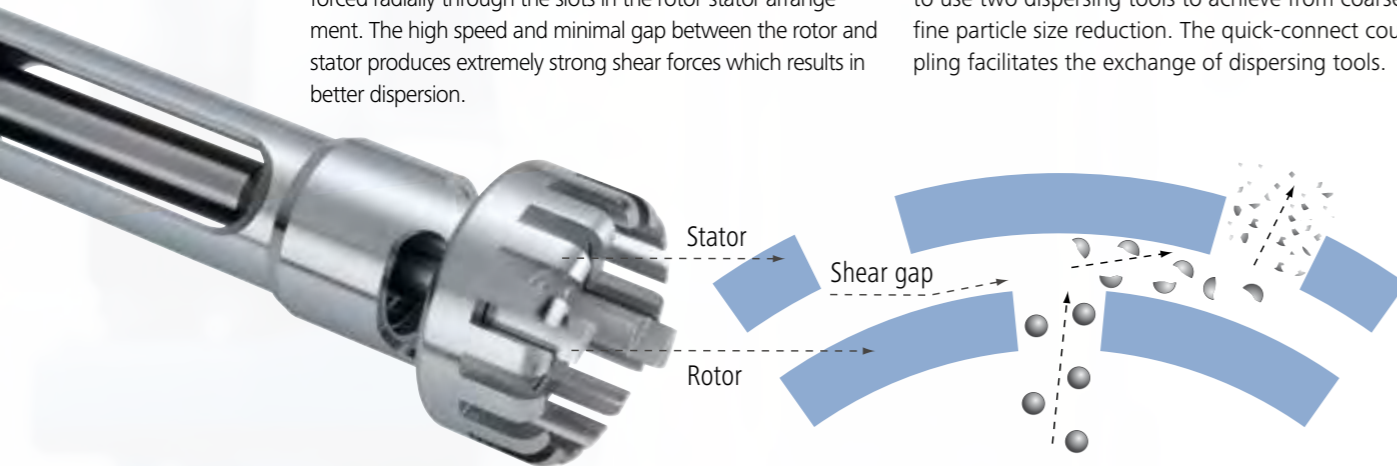
Motor rating input / output	2600 / 2200 W
Volume range (H <sub>2</sub> O)	2 – 50 l
Viscosity max.	5000 mPas
Speed range	1000 – 9500 rpm
Speed display	LED
Speed control	stepless
Noise without element	75 dB(A)
Extension arm diameter	flange
Extension arm length	flange
Process type	batch
Dimensions (W x 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

Dispersing tools are not included in delivery

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.



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 / NK / 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-ring seals of hard metal allow with FFPM seals rings
- B = Bronze bearing
- KR = Ball bearing with FKM or FFPM seal
- \*\*G = Proved configuration
- W = Special element
- \*\*\*G = Coarse
- M = Medium
- F = Fine

**IKA+ Special accessories!**

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



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



# IKA® Original | Dispersing tools

**IKA+**

## Plastic disposable tools **D**

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



### 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 / 90 mm
Shaft length	92 mm	115 mm	115 mm	65 mm	110 mm
Materials in contact with medium	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	Polycarbonate (PC) Polysulfon (PSU)	Polycarbonate (PC) Polysulfon (PSU)
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

①      ②      ③      ④ **D**      ⑤ **D**

### T 18 digital

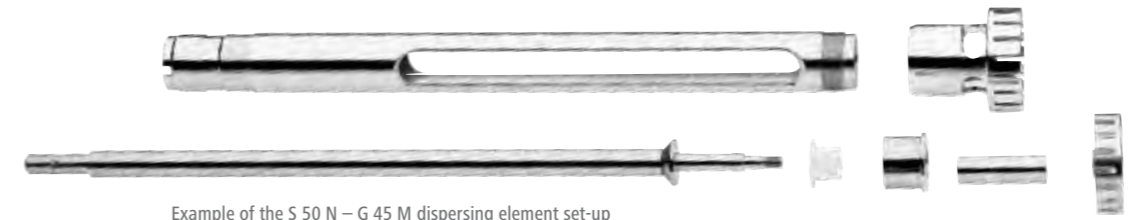
Dispersing element	S 18 N - 10 G	S 18 N - 19 G	S 18 D - 10 G - KS	S 18 D - 14 G - KS
Ident. No.	L004639	L004640	0003452400	0003452300
Working range	1 - 100 ml	10 - 1500 ml	10 - 100 ml	10 - 500 ml
Stator diameter	10 mm	19 mm	10 mm	14 mm
Rotor diameter	7.5 mm	12.7 mm	6.75 mm	9.5 mm
Gap between rotor and stator	0.35 mm	0.4 mm	0.25 mm	0.35 mm
Min. / max. immersion depth	25 / 70 mm	35 / 170 mm	15 / 85 mm	15 / 85 mm
Shaft length	108 mm	204 mm	150 mm	150 mm
Materials in contact with medium	PTFE, AISI 316L	PTFE, AISI 316L	Polycarbonate (PC) Polyetheretherketon (PEEK)	Polycarbonate (PC) Polyetheretherketon (PEEK)
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

⑥      ⑦      ⑧ **D**      ⑨ **D**      ⑩

### Disposable Tube

**S 18 / 25 - ET50**  
0003452500  
For attaching onto plastic tools from S 18 D and S 25 D series.  
Material PP

# IKA® Original | Dispersing tools



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	0000594000	0000593400	0002348000	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	40 / 165 mm
Shaft length	108 mm	105 mm	194 mm	270 mm	194 mm
Materials in contact with medium	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	FFPM / SIC, AISI 316L	PTFE, AISI 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	–

10

11

12

## 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, AISI 316L	FKM, PTFE, AISI 316L	FKM, PTFE, AISI 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/F/25G-ST  
S25KR-18G/18G-ST  
S25KR-25G/25F/25G-ST  
S25KV-18G/25G/25F

## T 25 digital

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
0001713300	0002466900	0001713800	0002404000	0003452200	0003452100
50 – 2000 ml	50 – 2000 ml	100 – 2000 ml	100 – 2000 ml	10 – 100 ml	10 – 500 ml
25 mm	25 mm	25 mm	25 mm	10 mm	14 mm
17 mm	17 mm	18 mm	18 mm	6.75 mm	9.5 mm
0.5 mm	0.5 mm	0.5 mm	0.5 mm	0.25 mm	0.35 mm
40 / 165 mm	40 / 225 mm	40 / 165 mm	40 / 225 mm	15 / 85 mm	15 / 85 mm
194 mm	270 mm	194 mm	270 mm	150 mm	150 mm
PTFE, AISI 316L	FFPM / SIC, AISI 316L	PTFE, AISI 316L	FFPM / SIC, AISI 316L	Polycarbonate (PC) Polyetheretherketon (PEEK)	Polycarbonate (PC) Polyetheretherketon (PEEK)
2 – 13	2 – 13	2 – 13	2 – 13	–	–
yes	yes	yes	yes	–	–
180 °C	220 °C	180 °C	220 °C	100 °C	100 °C
all methods	wet chemical	all methods	wet chemical	yes, autoclavable	yes, autoclavable
–	1 mbar	–	1 mbar	–	–
–	6 bar	–	6 bar	–	–

13

14

15 D

16 D

## 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	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 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

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18

19

# IKA® Original | Dispersing tools



## T 50 digital

	S 50 KG – HH – G 45 G	S 50 KG – HH – G 45 M	S 50 KG – HH – G 45 F
Dispersing element	S 50 KG – HH – G 45 G FDA	S 50 KG – HH – G 45 M FDA	S 50 KG – HH – G 45 F FDA
Ident. No.	0008003200	0008003500	0008004100
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 / 260 mm	70 / 250 mm	70 / 250 mm
Shaft length	300 mm	300 mm	290 mm
Materials in contact with medium	FFPM / SIC, AISI 316L	FFPM / SIC, AISI 316L	FFPM / SIC, AISI 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 65 basic I digital

	S 65 KG – HH – G 65 G	S 65 KG – HH – G 65 M	S 65 KG – HH – G 65 F
Ident. 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, AISI 316L	FFPM / SIC, AISI 316L	FFPM / SIC, AISI 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

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
0010000633	0010000634	0010000635	0010000629	0010000630	0010000631
0.5 – 20 l	0.5 – 15 l	0.25 – 10 l	0.5 – 20 l	0.5 – 15 l	0.25 – 10 l
45 mm	45 mm	45 mm	45 mm	45 mm	45 mm
36 mm	40.5 mm	40 mm	36 mm	40.5 mm	40 mm
0.5 mm	0.25 mm	0.5 mm	0.5 mm	0.25 mm	0.5 mm
70 – 250 mm	70 – 250 mm	70 – 250 mm	70 – 260 mm	70 – 260 mm	70 – 260 mm
300 mm	300 mm	300 mm	300 mm	300 mm	300 mm
AISI 316L, bronze	AISI 316L, bronze	AISI 316L, bronze	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L
2 – 13	2 – 13	2 – 13	2 – 13	2 – 13	2 – 13
yes	yes	yes	no	no	no
180 °C	220 °C	180 °C	110 °C	110 °C	110 °C
all methods	all methods	all methods	wet chemical	wet chemical	wet chemical
–	–	–	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
Ident. 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, AISI 316L	PTFE, AISI 316L	PTFE, AISI 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	–	–	–





# 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

Fits the following dispersing elements:

S 25 N-18 G	S 25 KV-18 G
S 25 N-25 G	S 25 KV-25 G
S 25 N-25 F	S 25 KV-25 F
S 25 NK-19 G	S 18 N-19 G

## T 10 basic

Dispersing element	S 10 N – 8 G – ST	S 10 N – 10 G – ST
Ident. No.	0004446500	0004446700
Working range	1 – 50 ml	1 – 100 ml
Stator diameter	8 mm	10 mm
Rotor diameter	6.1 mm	7.6 mm
Gap between rotor and stator	0.25 mm	0.2 mm
Min. / max. immersion depth	20 / 95 mm	20 / 100 mm
Shaft length	115 mm	115 mm
Materials in contact with medium	PTFE, AISI 316L	PTFE, AISI 316L

①

## T 25 basic

S 25 N – 8 G – ST	S 25 N – 10 G – ST	S 25 N – 18 G – ST	S 25 N – 25 G – ST	S 25 – KR – 18 G – ST	S 25 – KR – 25 G – ST
0004446900	0004447100	0004447300	0004447500	0020002973	0020002974
1 – 50 ml	1 – 100 ml	10 – 1500 ml	50 – 2000 ml	10 – 1500 ml	50 – 2000 ml
8 mm	10 mm	18 mm	25 mm	18 mm	25 mm
6.1 mm	7.5 mm	12.7 mm	17 mm	13.4 mm	20 mm
0.25 mm	0.35 mm	0.3 mm	0.5 mm	0.25 mm	0.5 mm
27 / 85 mm	22 / 85 mm	40 / 165 mm	40 / 165 mm	40 – 185 mm	40 – 185 mm
108 mm	105 mm	194 mm	194 mm	194 mm	194 mm
PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	FKM, PTFE, AISI 316L	FKM, PTFE, AISI 316L

②

③

## T 50 digital

Dispersing element	R 50 "high speed" stirring shaft	S 50 N – W 65 SK Cutting head	S 50 N – W 80 SMK Jet mixer head
Ident. No.	0001689300*	0008005100	0008006300
Working range	0.25 – 30 l	1 – 10 l	1 – 50 l
Max. circumferential speed	15.7 – 23 m/s	–	–
Max. permissible rotor diameter	50 mm	–	–
Material	Stainless steel (AISI 316L)	–	–
Generator diameter	–	65 mm	80 mm
Min. / max. immersion depth	–	80 / 350 mm	140 / 350 mm
Available seals	–	S 50 N	S 50 N

④

⑤

⑥

\* Included with delivery:  
R 1402 Dissolver  
Ident. No. 0001243300

## T 50 digital

Dispersing element	S 50 N – G 45 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.	0008039500	0010000636	0010000632	0010000648   0010000640
Working range	0.5 – 20 l	0.5 – 15 l	0.5 – 20 l	0.5 – 20 l
Stator diameter	45 mm	45 mm	45 mm	45 mm
Rotor diameter	36 mm	38 mm	38 mm	38 mm
Gap between rotor and stator	0.5 mm	0.5 mm	0.5 mm	0.5 mm
Min. / max. immersion depth	70 / 250 mm	70 – 250 mm	70 – 260 mm	70 – 260 mm
Shaft length	300 mm	300 mm	300 mm	300 mm
Materials in contact with medium	PTFE, AISI 316L	AISI 316L, bronze	PTFE, AISI 316L	PTFE, AISI 316L
pH range	–	2 – 13	2 – 13	2 – 13
Suitable for solvents	–	yes	no	no
Max. temperature	–	180 °C	110 °C	110 °C
Sterilization methods	–	all methods	wet chemical	wet chemical

AVAILABLE 06/2015

# UTTD | ULTRA-TURRAX® Tube Drive control

# Accessories | IKA® Tubes

- TURBO** 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
- USB interface** to control and document all the parameters using labworldsoft® software and for updating your firmware
- OLED-Display** Multilingual OLED display for simple and precise menu navigation
- ULTRA-TURRAX® Tube Drive control**



**reddot design award winner 2012**



## 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-S-M-gamma (pack of 20)	0003700700
BMT-50-S (pack of 10)	0003699700
BMT-50-G (pack of 10)	0003699800
BMT-50-S-M (pack of 10)	0003629700
BMT-50-G-M (pack of 10)	0003629800
BMT-50-S-M-gamma (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

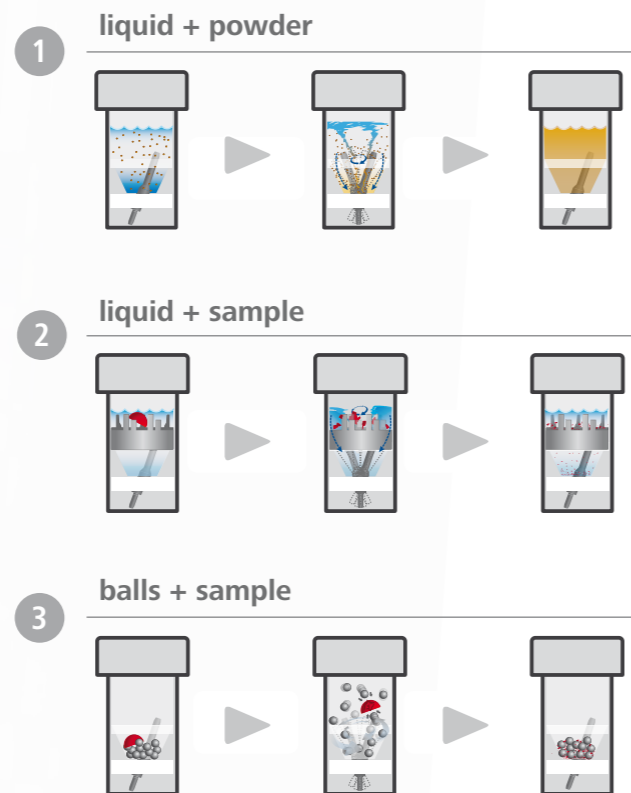
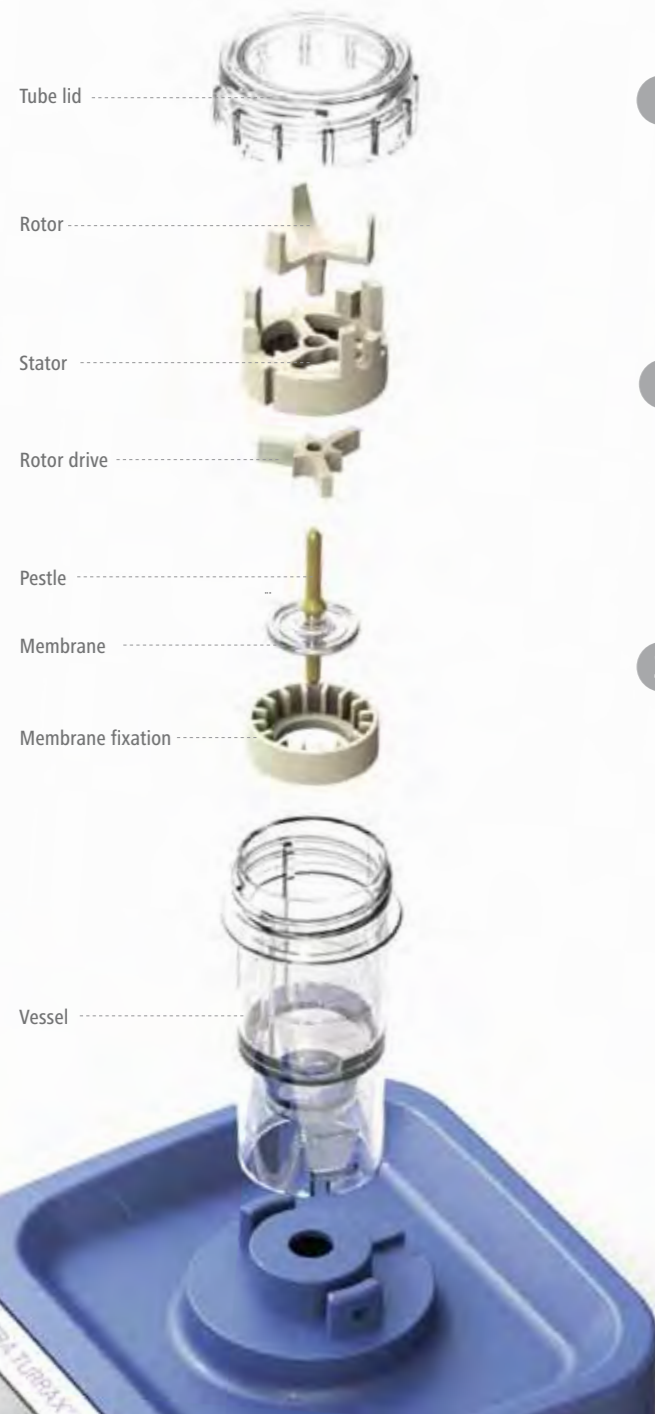
## Balls for BMT tube

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

Cross-contamination free  
No cleaning required  
Reproducible test results

	UTTD ULTRA-TURRAX® Tube Drive	UTTD ULTRA-TURRAX® Tube Drive control
<b>Technical data</b>		
Motor rating input / output	20 / 17 W	20 / 17 W
Speed range / Turbo speed	300 – 6000 rpm / –	400 – 6000 rpm / 8000 rpm
Display / Speed display	LED (timer) / scale	OLED / digital
Timer	1 s – 29 min	10 s – 30 min (infinitely adjustable)
Reverse rotation interval	–	10 – 60 s
Dimensions (W x D x H)	100 x 40 x 160 mm	122 x 178 x 48 mm
Weight	0.75 kg	1.0 kg
Protection class DIN EN 60529	IP 20	IP 20
Interface	yes	yes
Voltage	100 – 240 V	100 – 240 V
Frequency	50/60 Hz	50/60 Hz
	Ident. No. 0003646000	Ident. No. 0004135300

	UTTD Workstation	UTTD control Workstation
<b>Included with delivery</b>		
ULTRA-TURRAX® Tube Drive control	1	1
ST-20 Tube with stirring device	2	1
DT-20 Tube with rotor-stator element	2	1
BMT-20 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 is ideal for preparing samples in an easier, faster, simpler and safer method.

**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



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.

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

1



Module DISPAX-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

**Technical data**

magic LAB®	
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 316L and AISI 316Ti)
Sealing material	PTFE-compound
Shaft sealing ring	Standard FPM
Elastomers in the working chamber	optional EPDM (FDA), FFPM
Dimensions (W x D x H)	170 x 270 x 215 mm

Ident. No. 000U078310



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

# 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 analeptic  
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.

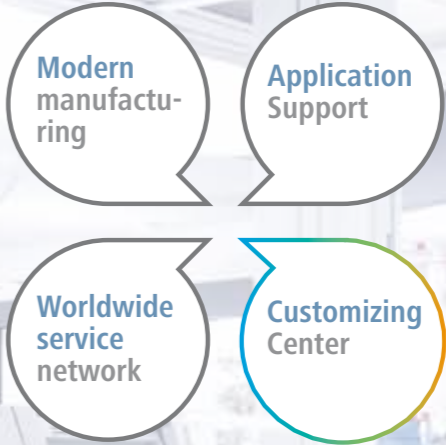
## The ULTRA-TURRAX® dispersing elements should not run dry. Does that mean that the bottom bore hole has to be in the medium?

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® offers more



### 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.



### 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.



### 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.

