

Laboratory kneader (measuring kneader see page 130)



HKD-T 06 D IKA® High-performance laboratory kneader

For processing non-flowable, highly viscous media. Uniform mixing is based on intensive processing by means of wide-bladed kneading elements. The kneading medium is moved within the trough both horizontally and vertically. Additional media quantities may be added during the kneading operation.

- The double-walled kneading chamber allows cooling or heating of the product
- The product temperature may be measured directly behind the kneading blades
- Trough can easily be removed
- Kneading blades can easily be removed
- Short kneading time
- The narrow gap between the kneading blades and trough wall ensures efficient wipe-off
- Standard version equipped for vacuum operation
- Trough cover with inspection glass and safety screen

Accessories (Page):

HKD 06.2 Plunger (130),
DTM 12 Digital temperature measuring device (109),
LT 6 control Circulation thermostat (89),
VC 2 Vacuum controller (112),
HKD 06.10 Kneading blade (130)

| | |
|---|-----------------------------|
| Shape of kneading blades | duplex |
| Trough | |
| Useful volume min. / max. | 100 / 300 ml |
| Total volume | 600 ml |
| Attainable vacuum | 50 mbar |
| Trough base for heating up to | 210 °C |
| Bore hole for accomodating temperature measuring sensor PT 100.27 | yes |
| Materials in contact with medium | stainl. steel (AISI 316 Cb) |
| Drive | |
| Motor rating input / output | 320 / 180 W |
| Motor principle | asynchronous |
| Motor protection | thermo contact |
| Nominal torque | 48 Nm |
| Speed of front kneading blade | 35 rpm |
| Speed of back kneading blade | 18 rpm |
| Safety device | cover contact |
| General data | |
| Dimensions (W x D x H) | 660 x 250 x 380 mm |
| Weight | 27 kg |
| Permissible ambient temperature | 5 - 40 °C |
| Permissible relative humidity | 80 % |
| Protection class acc. to DIN EN 60529 | IP 54 |

| | |
|----------------------------------|----------------------------------|
| Ident. No. | Ident. No. |
| 1911800 3 x 400 V / 50 Hz | 1911803 3 x 230 V / 60 Hz |

IKA® Particle size reduction Dispersers (batch operation)



T 8 ULTRA-TURRAX®

Dispersing instrument for volumes from 0,5 ml - 50 ml (H₂O). With rotor-stator configurations which have been specifically developed for tissue decomposition, for clinical and medical diagnostics and for suspensions, e.g. centrifuge products.

- Mini-dispersing elements with 5 mm diameter for Eppendorf tubes, centrifugal glasses, cuvettes, ect. are available
- Powerful 100 W drive with infinitely variable speed control (5.000 - 25.000 rpm)
- Safety provided by 12 V low voltage
- Lightweight, the drive weighs only 400 g
- May be optionally used as hand-held or standing instrument
- Power pack included
- Dispersing elements not included with delivery

Accessories (Page):

Dispersing elements (62),
T 8.10 Dispersing station (70)

| | |
|---------------------------------------|----------------------------------|
| Motor rating input / output | 100 / 70 W |
| Volume range (H ₂ O) | 0,5 - 50 ml |
| Max. viscosity | 5.000 mPas |
| Speed range | 5.000 - 25.000 min ⁻¹ |
| Speed adjustment | stepless |
| Speed display | scale (1 - 6) |
| Noise without dispersing element | 64 dB (A) |
| Overload protection | yes |
| Dimensions (W x D x H) | 42 x 44 x 250 mm |
| Weight | 0,4 kg |
| Permissible ambient temperature | 5 - 40 °C |
| Permissible relative humidity | 80 % |
| Protection class acc. to DIN EN 60529 | IP 20 |

| | |
|-------------------------------|-------------------------------|
| Ident. No. | Ident. No. |
| 8002000 230 V 50/60 Hz | 8002001 115 V 50/60 Hz |

IKA® Particle size reduction

Dispersers (batch operation)



T 10 basic

New, competitively priced dispersing instrument for volumes of 0,5 to 100 ml. A wide speed range allows you to work at high circumferential speeds even with small rotor diameters. Perfect ergonomic finish.

- Immense speed stability with various media thanks to high performance 125 Watt drive
- Ideal for manual operation thanks to its light weight and ergonomic form
- Extremely mobile thanks to direct mains operation (no transformer required)
- Stainless steel dispersing elements (5 mm, 8 mm and 10 mm diameter) can be cleaned quickly and easily as they can be dismantled without tools
- Plastic disposable dispersing elements in two sizes, particularly suitable for PCR analysis
- **Quick-release coupling makes changing the dispersing elements easy**
- Included with delivery: storage case for drive, clamp, dispersing elements and spare seals and clamp R 200

| | |
|---------------------------------------|--------------------------|
| Motor rating | |
| input / output | 125 W / 75 W |
| Volume range (H ₂ O) | 0,5 - 100 ml |
| Max. viscosity | 5000 mPas |
| Speed adjustment | stepless |
| Speed range | 8.000 - 30.000 rpm |
| Speed stability | < 6 % |
| Speed display | scale |
| Noise without dispersing element | 65 (dB) A |
| Overload protection | yes |
| Permitted ON-time (ON/OFF) | max. 10 min / min. 5 min |
| General data | |
| Dimensions (W x D x H) | 45 x 60 x 180 mm |
| Weight | 0,4 kg |
| Permissible ambient temperature | 5 - 40 °C |
| Permissible relative humidity | 80 % |
| Protection class acc. to DIN EN 60529 | IP 31 |

Accessories (Page):

R 200 Clamp (108), R 104 Stand (106), H 44 Boss head clamp (108), Dispersing elements (64): S 10 N - 5 G, S 10 N - 8 G, S 10 N - 10G, Plastic dispersing elements (66): S 10 D - 7 G - KS - 65, S 10 D - 7 G - KS - 110

Available 2. quarter 2005

| | |
|-------------------------------|-------------------------------|
| Ident. No. | Ident. No. |
| 3420000 230 V 50/60 Hz | 3420001 115 V 50/60 Hz |



T 18 ULTRA-TURRAX®

An excellent dispersing instrument at a remarkable price! Volume range: 1 - 1.500 ml (H₂O). An extended speed range allows to work at high circumferential speeds.

- Electronic speed control
- Electronic temperature control
- Electronic overload protection
- Quick release button for dispersing element
- Dispersing elements not included with delivery

Accessories (Page):

Dispersing elements (62), Stands (106): R 1825, R 1826, R 1827, R 182 Boss head clamp (108), DZM control.o Revolution counter (111)

| | |
|---------------------------------------|--------------------|
| Motor rating | |
| input / output | 300 / 160 W |
| Volume range (H ₂ O) | 1 - 1.500 ml |
| Max. viscosity | 5.000 mPas |
| Speed range | 6.000 - 24.000 rpm |
| Speed adjustment | stepless |
| Speed display | scale (1 - 6) |
| Noise without dispersing element | 78 dB (A) |
| Overload protection | yes |
| Diameter / length of extension arm | 13 mm / 165 mm |
| Dimensions (W x D x H) | 78 x 78 x 220 mm |
| Weight | 1,2 kg |
| Permissible ambient temperature | 5 - 40 °C |
| Permissible relative humidity | 80 % |
| Protection class acc. to DIN EN 60529 | IP 20 |

| | |
|-------------------------------|-------------------------------|
| Ident. No. | Ident. No. |
| L004638 230 V 50/60 Hz | L004637 115 V 50/60 Hz |

IKA® Particle size reduction

Dispersers (batch operation)



Configuration example

1 T 18 basic ULTRA-TURRAX®
Dispersing instrument for quantities up to approx. 1.500 ml, page 57.

2 S 18 N - 19 G
Dispersing element for quantities between 10 - 1.500 ml, page 62.

5 R 1827
Plate stand, page 106.

6 R 182
Boss head clamp, page 108.

7 RH 3
Strap clamp, page 108.

3 T 25 basic ULTRA-TURRAX®
Dispersing instrument for quantities up to 2.000 ml, page 59.

4 S 25 N - 18 G
Dispersing element for quantities between 10 - 1.500 ml, page 63.

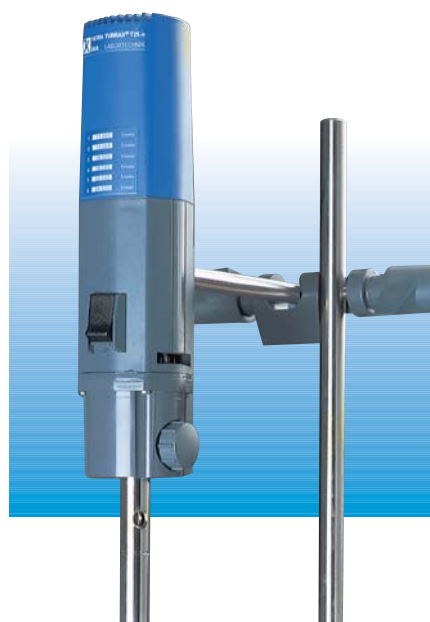
5 R 1827
Plate stand, page 106.

6 R 182
Boss head clamp, page 108.

7 RH 3
Strap clamp, page 108.

IKA® Particle size reduction

Dispersers (batch operation)



T 25 basic ULTRA-TURRAX®

High-performance dispersing instrument for volumes from 1 - 2.000 ml (H₂O). The spectrum of applications ranges from homogenizing waste water samples to the use in laboratory reactors, to dispersion tasks under vacuum / pressure and sample preparation in medical diagnostics.

- Three types of shaft bearings
- As standard, the T 25 basic is equipped with a connection for a revolution counter
- Rotor-Stator configurations have thirty years of proven, guaranteed comparability of test results
- Wide range of dispersing elements (not included with delivery)

Accessories (Page):

Dispersing elements (62/63), Stands (106): R 1825, R 1826, R 1827, R 182 Boss head clamp (108), DZM control.o Revolution counter (111), RH 3 Strap clamp (108)

| | |
|---------------------------------------|--------------------|
| Motor rating | |
| input / output | 500 / 300 W |
| Volume range (H ₂ O) | 1 - 2.000 ml |
| Max. viscosity | 5.000 mPas |
| Speed adjustment | stepless |
| Speed range | 6.500 - 24.000 rpm |
| Speed stability | 1 % |
| Speed display | scale |
| Noise without dispersing element | 73 dB (A) |
| Diameter / length of extension arm | 13 mm / 175 mm |
| Overload protection | yes |
| Dimensions (W x D x H) | 65 x 80 x 240 mm |
| Weight | 1,6 kg |
| Permissible ambient temperature | 5 - 40 °C |
| Permissible relative humidity | 80 % |
| Protection class acc. to DIN EN 60529 | IP 20 |

| | | | |
|----------------|----------------|----------------|----------------|
| Ident. No. | | Ident. No. | |
| 2953000 | 230 V 50/60 Hz | 2953001 | 115 V 50/60 Hz |



T 50 basic ULTRA-TURRAX®

High-performance dispersing instrument for volumes from 0,25 - 30 l (H₂O).

- Three types of shaft bearings
- Several rotor-stator configurations
- Agitator shaft R 50 allows the use of the T 50 basic as a "high-speed stirrer" (not included in delivery)
- Infinitely variable speed control, for continuous operation
- Reproducible operations due to constant speed even with viscosity changes
- Large selection of dispersing elements
- Plug-in connectors facilitate exchange of dispersing elements
- Electronic safety circuit and smooth start
- As standard, the T 50 basic is equipped with a connection for the revolution counter
- Wide range of dispersing elements (not included in delivery)

Accessories (Page):

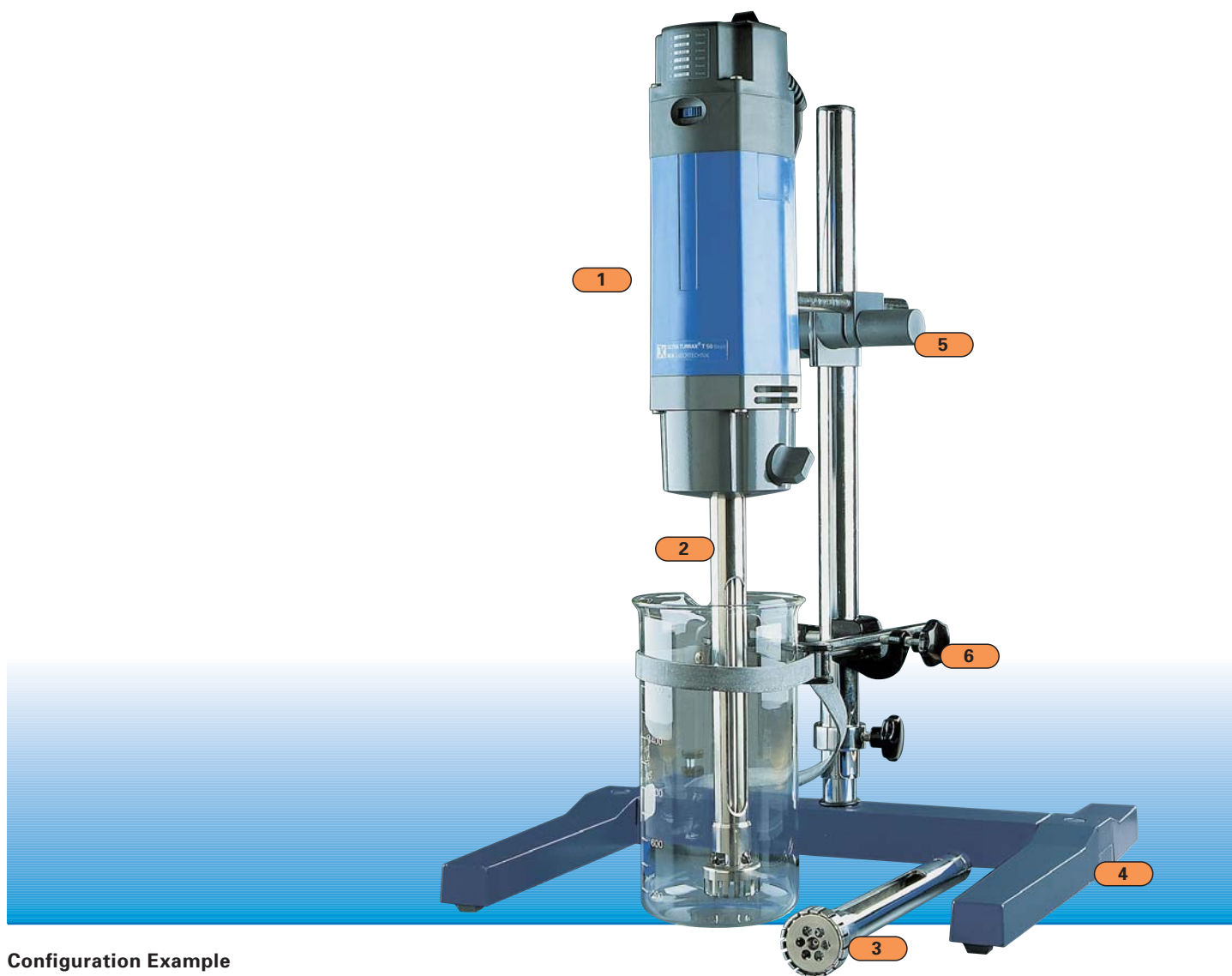
Dispersing elements (64/65), Special dispersing elements (68), Stands (106): R 2722, R 2723, R 271 Boss head clamp (108), DZM control.o Revolution counter (111), RH 5 Strap clamp (108)

| | |
|---------------------------------------|--------------------|
| Motor rating | |
| input / output | 1.100 / 700 W |
| Volume range (H ₂ O) | 0,25 - 30 l |
| Max. viscosity | 5.000 mPas |
| Speed adjustment | stepless |
| Speed range | 4.000 - 10.000 rpm |
| Speed stability | 1 % |
| Speed display | scale |
| Noise without dispersing element | 72 dB(A) |
| Diameter / length of extension arm | 16 mm / 220 mm |
| Overload protection | yes |
| Dimensions (W x D x H) | 125 x 120 x 367 mm |
| Weight | 6 kg |
| Permissible ambient temperature | 5 - 40 °C |
| Permissible relative humidity | 80 % |
| Protection class acc. to DIN EN 60529 | IP 21 |

| | | | |
|----------------|----------------|----------------|----------------|
| Ident. No. | | Ident. No. | |
| 2953100 | 230 V 50/60 Hz | 2953101 | 115 V 50/60 Hz |

IKA® Particle size reduction

Dispersers (batch operation)



Configuration Example

1 **T 50 basic ULTRA-TURRAX®**
Dispersing instrument for quantities up to approx. 30 l, page 59.

2 **S 50 N - G 45 G**
Dispersing element for coarse crushing, page 64.

3 **S 50 N - G 45 F**
Dispersing element for subsequent fine crushing, page 65.

4 **R 2723**
Telescopic stand, page 106.

5 **R 271**
Boss head clamp, page 108.

6 **RH 5**
Strap clamp, page 108.

IKA® Particle size reduction

Dispersers (batch operation)

T 65 D ULTRA-TURRAX®

The high-performance T 65 D dispersing instrument has been designed for typical pilot plant stations quantities from 2 - 50 l (H₂O).

- Three rotor-stator configurations for a variety of applications (not included with delivery)
- Plug-in connectors facilitate exchange of dispersing elements
- Speed controller on request
- Dispersing instruments for the production area: ask for our process technology catalogs
- Cables and plugs not included with delivery

Accessories (Page):

Dispersing elements (64), T 653 Stand (107), SI 400 Safety switch (39), SI 474 Fixing device (39)

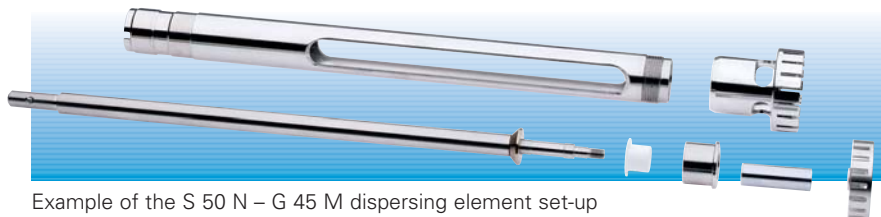
| | |
|---------------------------------------|--------------------|
| Motor rating | |
| input / output | 1.800 / 1.500 W |
| Volume range (H ₂ O) | 2 - 50 l |
| Max. viscosity | 5.000 mPas |
| Speed range - fixed | 7.200 rpm |
| Speed stability | 5 % |
| Noise without dispersing element | 75 dB (A) |
| Overload protection | yes |
| Dimensions (W x D x H) | 190 x 580 x 380 mm |
| Weight | 28 kg |
| Permissible ambient temperature | 5 - 40 °C |
| Permissible relative humidity | 80 % |
| Protection class acc. to DIN EN 60529 | IP 54 |



| | |
|------------------------------|------------------------------|
| Ident. No. | Ident. No. |
| 1602800 3x400 V 50 Hz | 1602802 3x230 V 60 Hz |

Dispersing elements

The variety of media to be processed also requires a variety of rotor-stator configurations and seals. In many cases it is necessary to use subsequently two dispersing elements, for pre-crushing and fine crushing. The plug-in connectors facilitate the exchange of the dispersing elements.



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

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

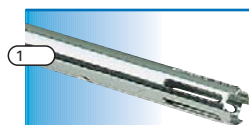
* N = N = PTFE bearing, KR = Ball bearing with Viton®- seal, KV = Ball bearing with vacuum-tight sliding-ring seal with silicon carbide seal rings, NK = PTFE bearing with additional ball bearing without seal, KG - HH = Ball bearing with sliding-ring seals of hard metal allow with FFPM seal rings

** G = proved configuration, W = special element

*** G = coarse, M = medium, F = fine

IKA® Particle size reduction

Dispersing elements (T 8, T 18 basic, T 25 basic)

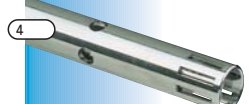
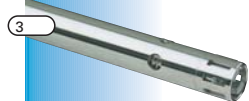
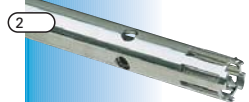


| Dispersing element | S 8 N - 5 G | S 8 N - 8 G | S 18 N - 10 G | S 18 N - 19 G |
|--------------------|----------------|----------------|----------------|----------------|
| Fig. | | | | |
| Ident. No. | 2969000 | 2560000 | L004639 | L004640 |

Suitable for dispersing instrument T 8 T 8 T 18 basic T 18 basic

Technical data

| | | | | |
|----------------------------------|-----------------|-----------------|-----------------|-----------------|
| Working range | 0,5 - 5 ml | 1 - 50 ml | 1 - 100 ml | 10 - 1.500 ml |
| Stator diameter | 5 mm | 8 mm | 10 mm | 19 mm |
| Rotor diameter | 3,8 mm | 6,1 mm | 7,5 mm | 12,7 mm |
| Gap between rotor and stator | 0,15 mm | 0,275 mm | 0,35 mm | 0,4 mm |
| Circumferential speed | 5,0 m/s | 8,0 m/s | 9,4 m/s | 15,9 m/s |
| Min. / max. immersion depth | 25 / 85 mm | 25 / 110 mm | 25 / 70 mm | 35 / 170 mm |
| Shaft length | 120 mm | 140 mm | 108 mm | 204 mm |
| Materials in contact with medium | PTFE, AISI 316L | PTFE, AISI 316L | PTFE, AISI 316L | PTFE, AISI 316L |
| pH range | 2 - 13 | 2 - 13 | 2 - 13 | 2 - 13 |
| Suitable for solvents | yes | yes | yes | yes |
| Suitable for abrasive substances | yes | yes | yes | yes |
| Max. temperature | 180 °C | 180 °C | 180 °C | 180 °C |
| Sterilization methods | all methods | all methods | all methods | all methods |
| Min. vacuum | - | - | - | - |
| Max. pressure | - | - | - | - |
| Ultimate fineness, suspensions | 5 - 25 µm | 5 - 25 µm | 10 - 50 µm | 10 - 50 µm |
| Ultimate fineness, emulsions | 1 - 10 µm | 1 - 10 µm | 1 - 10 µm | 1 - 10 µm |



| Dispersing element | S 25 NK - 19 G | S 25 N - 25 G | S 25 KR - 25 G |
|--------------------|----------------|----------------|----------------|
| Fig. | | | |
| Ident. No. | 2494700 | 1713300 | 1713400 |

Suitable for dispersing instrument T 25 basic T 25 basic T 25 basic

Technical data

| | | | |
|----------------------------------|-----------------|-----------------|------------------|
| Working range | 25 - 1.500 ml | 50 - 2.000 ml | 50 - 2.000 ml |
| Stator diameter | 19 mm | 25 mm | 25 mm |
| Rotor diameter | 12,7 mm | 17 mm | 17 mm |
| Gap between rotor and stator | 0,3 mm | 0,5 mm | 0,5 mm |
| Circumferential speed | 15,9 m/s | 21,4 m/s | 21,4 m/s |
| Min. / max. immersion depth | 40 / 165 mm | 40 / 165 mm | 40 / 185 mm |
| Shaft length | 194 mm | 194 mm | 194 mm |
| Materials in contact with medium | PTFE, AISI 316L | PTFE, AISI 316L | Viton, AISI 316L |
| pH range | 2 - 13 | 2 - 13 | 2 - 13 |
| Suitable for solvents | yes | yes | no |
| Suitable for abrasive substances | yes | yes | no |
| Max. temperature | 120 °C | 180 °C | 80 °C |
| Sterilization methods | wet chemical | all methods | wet chemical |
| Min. vacuum | - | - | 50 mbar |
| Max. pressure | - | - | - |
| Ultimate fineness, suspensions | 10 - 50 µm | 15 - 50 µm | 15 - 50 µm |
| Ultimate fineness, emulsions | 1 - 10 µm | 1 - 10 µm | 1 - 10 µm |



Additional rotor for dispersing elements S 25 N - 18 G, S 25 KR - 18 G, S 25 KV - 18 G

| Dispersing element | Slab rotor SW 18 |
|--------------------|------------------|
| Fig. | |
| Ident. No. | 8011900 |

Technical data

| | |
|----------------------------------|-------------------------|
| Rotor diameter | 12,8 mm |
| Gap between rotor and stator | 0,35 mm |
| Circumferential speed | 16,1 m/s |
| Materials in contact with medium | stainl. steel AISI 316L |
| Applications | viscous, fibrous tissue |



IKA® Particle size reduction

Dispersing elements (T 25 basic)

| S 25 N - 8 G 3 1024200 | S 25 N - 10 G 4 0594000 | S 25 N - 10 G - VS 1899000 | S 25 N - 18 G 0593400 | S 25 KR - 18 G 0560300 | S 25 KV - 18 G 2348000 |
|------------------------------|-------------------------------|-------------------------------|--------------------------|---------------------------|---------------------------|
| T 25 basic | T 25 basic | T 25 basic | T 25 basic | T 25 basic | T 25 basic |
| 1 - 50 ml | 1 - 100 ml | 1 - 100 ml | 10 - 1.500 ml | 10 - 1.500 ml | 10 - 1.500 ml |
| 8 mm | 10 mm | 10 mm | 18 mm | 18 mm | 18 mm |
| 6,1 mm | 7,5 mm | 7,5 mm | 12,7 mm | 12,7 mm | 12,7 mm |
| 0,25 mm | 0,35 mm | 0,35 mm | 0,3 mm | 0,3 mm | 0,3 mm |
| 7,7 m/s | 9,4 m/s | 9,4 m/s | 15,9 m/s | 15,9 m/s | 15,9 m/s |
| 27 / 85 mm | 22 / 85 mm | 22 / 85 mm | 40 / 165 mm | 40 / 185 mm | 40 / 225 mm |
| 108 mm | 105 mm | 105 mm | 194 mm | 194 mm | 270 mm |
| PTFE, AISI 316L | PTFE, AISI 316L | PTFE, AISI 316L | PTFE, AISI 316L | Viton, AISI 316L | FFPM / SIC, AISI 316L |
| 2 - 13 | 2 - 13 | 2 - 13 | 2 - 13 | 2 - 13 | 2 - 13 |
| yes | yes | yes | yes | no | yes |
| yes | yes | yes | yes | no | no |
| 180 °C | 180 °C | 180 °C | 180 °C | 80 °C | 220 °C |
| all methods | all methods | all methods | all methods | wet chemical | wet chemical |
| - | - | - | - | 50 mbar | 1 mbar |
| - | - | - | - | - | 6 bar |
| 10 - 50 µm | 10 - 50 µm | 10 - 50 µm | 10 - 50 µm | 10 - 50 µm | 10 - 50 µm |
| 1 - 10 µm | 1 - 10 µm | 1 - 10 µm | 1 - 10 µm | 1 - 10 µm | 1 - 10 µm |

| S 25 KV - 25 G 2466900 | S 25 N - 25 F 7 1713800 | S 25 KR - 25 F 1713900 | S 25 KV - 25 F 2404000 | S 25 KV - 25 G - IL 2563000 | S 25 KV - 25 F - IL 2830200 |
|---------------------------|-------------------------------|---------------------------|---------------------------|--------------------------------|--------------------------------|
| T 25 basic | T 25 basic | T 25 basic | T 25 basic | T 25 basic | T 25 basic |
| 50 - 2.000 ml | 100 - 2.000 ml | 100 - 2.000 ml | 100 - 2.000 ml | inline | inline |
| 25 mm | 25 mm | 25 mm | 25 mm | 25 mm | 25 mm |
| 17 mm | 18 mm | 18 mm | 18 mm | 17 mm | 18 mm |
| 0,5 mm | 0,5 mm | 0,5 mm | 0,5 mm | 0,5 mm | 0,5 mm |
| 21,4 m/s | 22,6 m/s | 22,6 m/s | 22,6 m/s | 21,4 m/s | 22,6 m/s |
| 40 / 225 mm | 40 / 165 mm | 40 / 185 mm | 40 / 225 mm | 40 / 85 mm | 40 / 85 mm |
| 270 mm | 194 mm | 194 mm | 270 mm | 110 mm | 110 mm |
| FFPM / SIC, AISI 316L | PTFE, AISI 316L | Viton, AISI 316L | FFPM / SIC, AISI 316L | FFPM / SIC, AISI 316L | FFPM / SIC, AISI 316L |
| 2 - 13 | 2 - 13 | 2 - 13 | 2 - 13 | 2 - 13 | 2 - 13 |
| yes | yes | no | yes | yes | yes |
| no | yes | no | no | no | no |
| 220 °C | 180 °C | 80 °C | 220 °C | 220 °C | 220 °C |
| wet chemical | all methods | wet chemical | wet chemical | wet chemical | wet chemical |
| 1 mbar | - | 50 mbar | 1 mbar | 1 mbar | 1 mbar |
| 6 bar | - | - | 6 bar | 6 bar | 6 bar |
| 15 - 50 µm | 5 - 25 µm | 5 - 25 µm | 5 - 25 µm | 15 - 50 µm | 5 - 25 µm |
| 1 - 10 µm | 1 - 5 µm | 1 - 5 µm | 1 - 5 µm | 1 - 10 µm | 1 - 5 µm |

SV NS 29 Screw cap

For dispersing operations (use seal types KR and KV) in ground section apparatus and for operations under hermetically sealed conditions or in a protective gas atmosphere (for dispersion elements used with the T 25 basic).

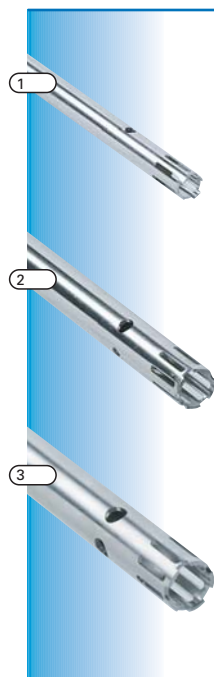


| | |
|---------------|--------------------------|
| Seal diameter | 17 mm |
| Material | borosilicate glass, PTFE |

Ident. No.
0767700

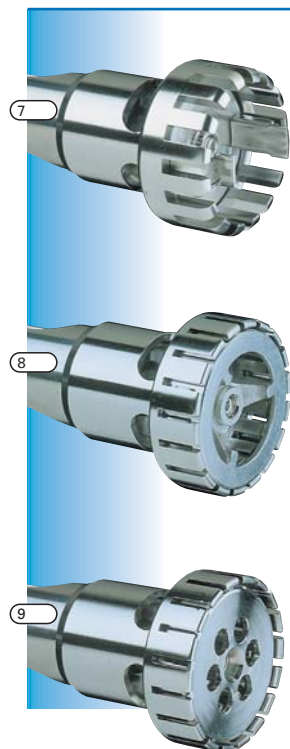
IKA® Particle size reduction

Dispersing elements (T 10 basic)



| Dispersing element | S 10 N - 5 G | S 10 N - 8 G | S 10 N - 10 G |
|------------------------------------|-----------------|-----------------|-----------------|
| Fig. | 1 | 2 | 3 |
| Ident. No. | 3304000 | 3305500 | 3370100 |
| Suitable for dispersing instrument | T 10 basic | T 10 basic | T 10 basic |
| Technical data | | | |
| Working range | 0,5 - 10 ml | 1 - 50 ml | 1 - 100 ml |
| Stator diameter | 5 mm | 8 mm | 10 mm |
| Rotor diameter | 3,8 mm | 6,1 mm | 7,6 mm |
| Gap between rotor and stator | 0,1 mm | 0,25 mm | 0,2 mm |
| Circumferential speed (30.000 rpm) | 6 m/s | 9,6 m/s | 11,9 m/s |
| Min. / max. immersion depth | 20 / 75 mm | 20 / 95 mm | 20 / 100 mm |
| Shaft length | 92 mm | 115 mm | 115 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 |
| Suitable for abrasive substances | yes | yes | yes |
| Max. temperature | 180 °C | 180 °C | 180 °C |
| Sterilization methods | all methods | all methods | all methods |
| Min. vacuum | - | - | - |
| Max. pressure | - | - | - |
| Ultimate fineness, suspensions | 5 - 25 µm | 5 - 25 µm | 5 - 25 µm |
| Ultimate fineness, emulsions | 1 - 10 µm | 1 - 10 µm | 1 - 10 µm |

Dispersing elements (T 50 basic)

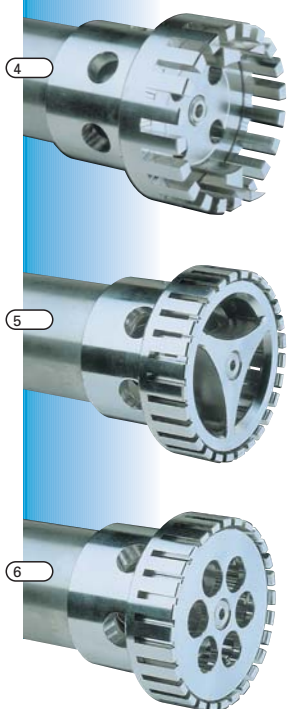


| Dispersing element | S 50 N - G 45 G | S 50 KR - G 45 G | S 50 N - G 45 M | S 50 KR - G 45 M |
|------------------------------------|-----------------|------------------|-----------------|------------------|
| Fig. | 7 | | 8 | |
| Ident. No. | 8003000 | 8003100 | 8003300 | 8003400 |
| Suitable for dispersing instrument | T 50 basic | T 50 basic | T 50 basic | T 50 basic |
| Technical data | | | | |
| Working range | 0,5 - 20 l | 0,5 - 20 l | 0,5 - 15 l | 0,5 - 15 l |
| Stator diameter | 45 mm | 45 mm | 45 mm | 45 mm |
| Rotor diameter | 36 mm | 36 mm | 40,5 mm | 40,5 mm |
| Circumferential speed | 18,8 m/s | 18,8 m/s | 21,2 m/s | 21,2 m/s |
| Min. / max. immersion depth | 70 / 250 mm | 70 / 260 mm | 70 / 250 mm | 70 / 260 mm |
| Shaft length | 300 mm | 300 mm | 290 mm | 290 mm |
| Materials in contact with medium | PTFE, AISI 316L | Viton, AISI 316L | PTFE, AISI 316L | Viton, AISI 316L |
| pH range | 2 - 13 | 2 - 13 | 2 - 13 | 2 - 13 |
| Suitable for solvents | yes | no | yes | no |
| Suitable for abrasive substances | yes | no | yes | no |
| Max. temperature | 180 °C | 80 °C | 180 °C | 80 °C |
| Sterilization methods | all methods | wet chemical | all methods | wet chemical |
| Min. vacuum | - | 100 mbar | - | 100 mbar |
| Max. pressure | - | - | - | - |
| Ultimate fineness, suspensions | 40 - 100 µm | 40 - 100 µm | 25 - 50 µm | 25 - 50 µm |
| Ultimate fineness, emulsions | 10 - 30 µm | 10 - 30 µm | 5 - 20 µm | 5 - 20 µm |

S 50 N - Special length shafts also available in 430 mm (order label S 50 N 1)

IKA® Particle size reduction

Dispersing elements (T 65 D)



Dispersing element

Fig.

Ident. No.

S 65 KG - HH - G 65 G

8005500

S 65 KG - HH - G 65 M

8005700

S 65 KG - HH - G 65 F

8005900

Suitable for dispersing instrument

T 65 D

T 65 D

T 65 D

Technical data

| | | | |
|----------------------------------|-----------------------|-----------------------|-----------------------|
| 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 |
| Circumferential speed | 21,9 m/s | 21,9 m/s | 21,9 m/s |
| 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 |
| Suitable for abrasive substances | no | no | no |
| 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 |
| Ultimate fineness, suspensions | 25 - 75 µm | 20 - 50 µm | 5 - 20 µm |
| Ultimate fineness, emulsions | 5 - 25 µm | 5 - 15 µm | 1 - 10 µm |

S 50 N - G 45 F

8003900

S 50 KR - G 45 F

8004000

S 50 KV - G 45 G - IL

8015800

S 50 KG - HH - G 45 G

8003200

S 50 KG - HH - G 45 M

8003500

S 50 KG - HH - G 45 F

8004100

T 50 basic

T 50 basic

T 50 basic

T 50 basic

T 50 basic

T 50 basic

0,25 - 10 l

0,25 - 10 l

inline

0,5 - 20 l

0,5 - 15 l

0,25 - 10 l

45 mm

45 mm

45 mm

45 mm

45 mm

45 mm

40 mm

40 mm

36 mm

36 mm

40,5 mm

40 mm

20,9 m/s

20,9 m/s

18,8 m/s

18,8 m/s

21,2 m/s

20,9 m/s

70 / 250 mm

70 / 260 mm

70 mm

70 / 260 mm

70 / 250 mm

70 / 250 mm

290 mm

290 mm

105 mm

300 mm

300 mm

290 cm

PTFE, AISI 316L

Viton, AISI 316L

FFPM / SIC, AISI 316L

FFPM / SIC, AISI 316L

FFPM / SIC, AISI 316L

FFPM / SIC, AISI 316L

2 - 13

2 - 13

2 - 13

2 - 13

2 - 13

2 - 13

yes

no

yes

yes

yes

yes

yes

no

no

no

no

no

180 °C

80 °C

220 °C

180 °C

180 °C

180 °C

all methods

wet chemical

wet chemical

wet chemical

wet chemical

wet chemical

-

100 mbar

1 mbar

1 mbar

1 mbar

1 mbar

-

-

6 bar

6 bar

6 bar

6 bar

10 - 30 µm

10 - 30 µm

40 - 100 µm

40 - 100 µm

25 - 50 µm

10 - 30 µm

1 - 10 µm

1 - 10 µm

10 - 30 µm

10 - 30 µm

5 - 20 µm

1 - 10 µm

IKA® Particle size reduction

Dispersing elements

Plastic dispersing elements for T 10 basic:

| Dispersing element | S10 D - 7G - KS - 65 | | S10 D - 7G - KS - 110 | |
|------------------------------------|---|---------|---|---------|
| Fig. | 1 | | 2 | |
| Ident. No. | 3433212 | 3433225 | 3433312 | 3433325 |
| Packing unit (pcs.) | 12 | 25 | 12 | 25 |
| Suitable for dispersing instrument | T 10 basic | | T 10 basic | |
| Technical data | | | | |
| Working range | 1 - 20 ml | | 1 - 40 ml | |
| Stator diameter | 7 mm | | 7 mm | |
| Rotor diameter | 4,8 mm | | 4,8 mm | |
| Circumferential speed (30.000 rpm) | 7,5 m/s | | 7,5 m/s | |
| Min. / max. immersion depth | 20 / 45 mm | | 20 / 90 mm | |
| Shaft length | 65 mm | | 110 mm | |
| Materials in contact with medium | Polycarbonate (PC), Polysulfon (PSU) | | Polycarbonate (PC), Polysulfon (PSU) | |
| Max. temperature | 100 °C | | 100 °C | |
| Sterilization methods | yes, autoclavable | | yes, autoclavable | |

Plastic materials used approved by FDA.

Plastic dispersing elements for T 18 basic:

| Dispersing element | S18 D - 10 G - KS | | S18 D - 14 G - KS | |
|------------------------------------|---|---------|---|---------|
| Fig. | 3 | | 4 | |
| Ident. No. | 3452000 | 3452400 | 3451900 | 3452300 |
| Packing unit (pcs.) | 5* | 10* | 5* | 10* |
| Suitable for dispersing instrument | T 18 basic | | T 18 basic | |
| Technical data | | | | |
| Working range | 10 - 100 ml | | 10 - 500 ml | |
| Stator diameter | 10 mm | | 14 mm | |
| Rotor diameter | 6,75 mm | | 9,5 mm | |
| Circumferential speed (30.000 rpm) | 8,5 m/s | | 12 m/s | |
| Min. / max. immersion depth | 15 / 85 mm | | 15 / 85 mm | |
| Shaft length | 150 mm | | 150 mm | |
| Materials in contact with medium | Polycarbonate (PC), Polyetheretherketon (PEEK) | | Polycarbonate (PC), Polyetheretherketon (PEEK) | |
| Max. temperature | 100 °C | | 100 °C | |
| Sterilization methods | yes, autoclavable | | yes, autoclavable | |

* incl. 1 Disposable tube

Plastic materials used approved by FDA.



1

2

3

4

5

6

IKA® Particle size reduction

Dispersing elements



Plastic dispersing elements for T 25 basic:

| Dispersing element | S 25 D - 10 G - KS | | S 25 D - 14 G - KS | |
|------------------------------------|---|---------|---|---------|
| Fig. | 5 | | 6 | |
| Ident. No. | 3451800 | 3452200 | 3451700 | 3452100 |
| Packing unit (pcs.) | 5* | 10* | 5* | 10* |
| Suitable for dispersing instrument | T 25 basic | | T 25 basic | |
| Technical data | | | | |
| Working range | 10 - 100 ml | | 10 - 500 ml | |
| Stator diameter | 10 mm | | 14 mm | |
| Rotor diameter | 6,75 mm | | 9,5 mm | |
| Circumferential speed (30.000 rpm) | 8,5 m/s | | 12 m/s | |
| Min. / max. immersion depth | 15 / 85 mm | | 15 / 85 mm | |
| Shaft length | 150 mm | | 150 mm | |
| Materials in contact with medium | Polycarbonate (PC), Polyetheretherketon (PEEK) | | Polycarbonate (PC), Polyetheretherketon (PEEK) | |
| Max. temperature | 100 °C | | 100 °C | |
| Sterilization methods | yes, autoclavable | | yes, autoclavable | |

* incl. 1 Disposable tube

Plastic materials used approved by FDA.

Plastic dispersing elements are ideal for those applications where absolutely no cross-contamination is permitted. They are disposable and can be thrown away after a single use. The element is disposable and designed for one-way use. However, it can be re-used several times in applications where this is permitted. If you decide to re-use the element, make sure that you follow the cleaning instructions carefully. Example use: homogenizing tissue samples.

Nomenclature for S 25 D - 10 G - KS

S 25: shaft for drive T 25

D: without seal

10 G: diameter stator 10 mm, coarse

KS: plastic



Disposable tube S 50 18/25-ET50

50 ml for attaching onto plastic tools from S 18 D and S 25 D series. Allows dispersing in a closed system (splash guard).

| | |
|----------|----|
| Material | PP |
|----------|----|

| | |
|------------|---------|
| Ident. No. | 3452500 |
|------------|---------|

IKA® Particle size reduction

Special dispersing elements (T 50 basic)

R 50 "high speed" stirring shaft

With the stirring shaft R 50, the T 50 basic is quickly converted into a high speed stirrer. 700 W and 10.000 rpm are provided for rapid mixing, dissolving, and disagglomerating pigment agglomerates. The conical shaft is supported by means of ball bearings, the mixing elements have a screw connection. For operational safety a protective cage is fitted around the mixing element.



| | |
|---------------------------------|---------------------------|
| Immersion depth | 180 mm |
| Working range | 0,25 - 30 l |
| Max. circumferential speed | 15,7 - 23 m/s |
| Max. permissible rotor diameter | 50 mm |
| Material | stainl. steel (AISI 316L) |

Accessories (Page):

Dispersing elements (68): R 1405 , R 1402

Included with delivery (Page):

Dissolver R 1402 (68)

Ident. No.

1689300



1 R 1405 Propeller

Working range 0,25 - 10 l

Rotor diameter 45 mm



2 R 1402 Dissolver

Working range 1 - 30 l

Rotor diameter 42 mm

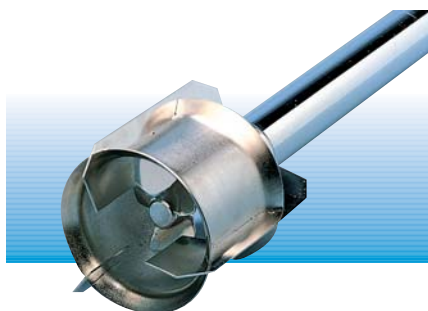
Ident. No.

1289800 R 1405

1243300 R 1402

S 50... - W 80 SMK Jet mixer head

For shortening mixing and dissolving times. The vertical flow and the high circumferential speed up to 10.000 rpm ensure intensive mixing. The head is used for adding gases or liquids, for lump-free suspension of difficult to dissolve powders or for dissolving sedimented, already hardened substances.



Min. / max. immersion depth 140 / 350 mm

Working range 1 - 50 l

Generator diameter 80 mm

Available seals S 50 N
S 50 KR

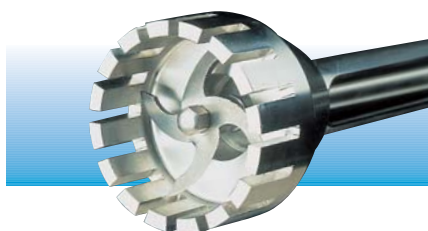
Ident. No.

8006300 S 50 N - W 80 SMK

8006400 S 50 KR - W 80 SMK

S 50 N - W 65 SK Cutting head

To crush large pieces (up to 50 mm) of fibrous materials, such as vegetation, vegetables and fruit.



Min. / max. immersion depth 80 / 350 mm

Working range 1 - 10 l

Generator diameter 65 mm

Available seal S 50 N

Ident. No.

8005100

IKA® Particle size reduction

Dispersers (inline operation)

UTL 25 basic Inline ULTRA-TURRAX®

For circulation or flow-through processes in the laboratory.

- Simple, compact and sturdy modular design
- Sterilizable, autoclave-compatible
- Table-top or stand-supported device, low space requirement
- Easy disassembly
- Large delivery capacity of 4,4 to 11,6 l/min with open outlet (the mounting of a valve can reduce the flow rate)
- For air-free, sterile, and inline suspension, emulsifying and desagglomeration
- For vacuum or pressurized operation (up to 6 bar)
- If the DK 25.11 is used, air induction is also prevented in batch operation
- Not self-priming
- A pump can be integrated between intake nozzle and vessel. As a result, viscous fluids can be processed
- **Not suitable for continuous operation or cyclical continuous operation**



| | |
|---------------------------------------|---------------------------------|
| Flow rate (H ₂ O) | 11,6 l/min |
| Speed range | 6.500 - 24.000 rpm |
| Materials in contact with medium | stainl. steel (AISI 316L), FFPM |
| Max. operating temperature | 180 °C |
| Dimensions (W x D x H) | 450 x 100 x 120 mm |
| Weight | 3,8 kg |
| Permissible ambient temperature | 5 - 40 °C |
| Permissible humidity | 80 % |
| Protection class acc. to DIN EN 60529 | IP 20 |
| Chamber volume | 26 ml |
| Min. vacuum | 1 mbar |
| Max. pressure | 6 bar |

Accessories (Page):

Dispersing element S 25 KV - 25 F - IL (63)

Included with delivery (Page):

T 25 basic (59), AD 25 Mounting (70), DK 25.11 Flow chamber (70), Dispersing element S 25 KV - 25 G - IL (63)

| | |
|----------------|----------------|
| Ident. No. | Ident. No. |
| 8014400 | 8014401 |
| 230 V 50/60 Hz | 115 V 50/60 Hz |

UTL 50 basic Inline ULTRA-TURRAX®

For circulation or flow-through processes in the laboratory or pilot plant stations.

- Stand-supported device, low space requirement
- Large flow rate of 24 l/min with open outlet (the mounting of a valve reduces the delivery capacity)
- For vacuum or pressurized operation to 6 bar
- If the DK 50.11 is used, air induction is also prevented in batch operation
- **Not suitable for continuous operation or cyclical continuous operation**

Additional features as UTL 25 basic inline.



| | |
|---------------------------------------|---------------------------------|
| Flow rate (H ₂ O) | 24 l/min |
| Speed range | 4.000 - 10.000 rpm |
| Materials in contact with medium | stainl. steel (AISI 316L), FFPM |
| Max. operating temperature | 180 °C |
| Dimensions (W x D x H) | 130 x 150 x 500 mm |
| Weight | 6,1 kg |
| Permissible ambient temperature | 5 - 40 °C |
| Permissible Humidity | 80 % |
| Protection class acc. to DIN EN 60529 | IP 21 |
| Chamber volume | 94 ml |
| Min. vacuum | 1 mbar |
| Max. pressure | 6 bar |

Accessories (Page):

R 2723 Telescopic stand (106), R 271 Boss head clamp (108)

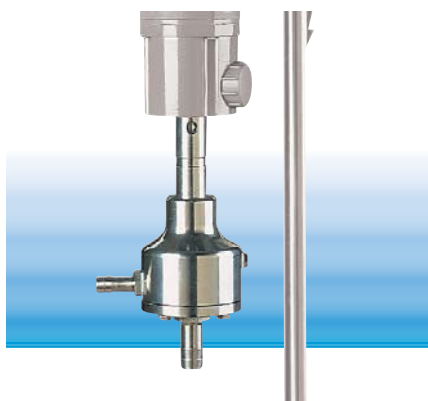
Included with delivery (Page):

T 50 basic (59), DK 50.11 Flow chamber (70), Dispersing element S 50 KV - G 45 G - IL (65)

| | |
|----------------|----------------|
| Ident. No. | Ident. No. |
| 8015900 | 8015901 |
| 230 V 50/60 Hz | 115 V 50/60 Hz |

IKA® Particle size reduction

Disperser accessories



DK 25.11 Flow chamber

For S 25 KV - 25 ... - IL dispersing elements. Allows inline operation mode, see UTL 25 basic, page 69.

Batch operation:

DK 25.11 is mounted around the dispersing element. The DK 25.11 must be at a lower elevation than the surface of the liquid during operation. With this operating mode, no air is drawn in as a result of turbulence in the vessel.

| | |
|----------------|--------|
| Chamber volume | 26 ml |
| Vacuum | 1 mbar |
| Pressure | 6 bar |

Ident. No.
2518000



AD 25

Mounting support for DK 25.11

Ident. No.
2562500



DK 50.11 Flow chamber

For S 50 KV - G 45 ... - IL dispersing elements. Allows operation in inline mode, see UTL 50 basic, page 69.

If used in batch mode: DK 50.11 is mounted around the dispersing element. Additional features as DK 25.11.

| | |
|----------------|--------|
| Chamber volume | 94 ml |
| Vacuum | 1 mbar |
| Pressure | 6 bar |

Ident. No.
2810000



T 8.10 Dispersion station

Allows the T 8 to be used as a stand-supported device.

- Used to hold dispersing elements
- Sterilizable, removable working surface
- Serves as a protective cover for the power pack

Stands for T 25 basic and T 50 basic

See mechanical accessories, page 106.

Ident. No.
2602500