

DI 10 Dispersing device

+++ New +++ New +++ New +++ New +++ New +++ 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.

- Quick-release coupling makes changing the dispersing elements easy
- 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
- Included with delivery: empty storage case (for drive, clamp, dispersing elements) and spare seals and clamp R 200

Accessories:

R 200 Clamp, R 104 Stand, H 44 Boss head clamp,
Dispersing elements: S 10 N – 5 G, S 10 N – 8 G,
S 10 N – 10 G. Plastic dispersing elements:
www.imlab.be

DI 10 available: December 2008

Motor rating input / output	125 / 75 W
Volume range (H ₂ O)	0,5 - 100 ml
Max. viscosity	5.000 mPas
Speed adjustment	stepless
Speed range	8.000 - 30.000 rpm
Speed display	scale
Noise without dispersing element	65 dB (A)
Overload protection	yes
Permitted ON-time (ON / OFF)	max. 10 min / min. 5 min
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 30



DI 10

Id-No. 3310000

Subject to technical changes. Indications not binding for delivery.

yellow MAG HS 10 / HS 7 / HS 4

New magnetic stirrers with heating

- Heating plate made of glass-ceramic
- Excellent resistance to chemicals
- Exact temperature setting via digital potentiometer
- Target value display for hot plate control
- Simultaneous digital display of target and actual temperatures via LCD display
- Display of actual temperature value in medium with 0,1°C resolution when using PT 1000 temperature sensor
- Control accuracy in medium +/- 0,5 °C (in combination with PT 1000)
- Integrated contact thermometer TC 3 (all TC 3 functions contained in appliance)
- Device control using two microcontrollers
- Option of directly connecting PT 1000 temperature sensor
- Error code display for faults
- Safety temperature limit: appliance switches off over 550 °C
- 3 operating modes to choose from (standard, safe, adjustment protection)
- Warning when plate is hot: flashing display "HOT" to prevent burns

Accessories:

H 16 V Support rod, H 44 Boss head clamp, H 38 Holding rod, RS 1 Set of magnetic stirring bars, RSE Strirring bar remover, IKAFLON® Magnetic stirring bars, TRIKA® Magnetic stirring bars

	yellow MAG HS 10	yellow MAG HS 7	yellow MAG HS 4
Stirring quantity (H ₂ O)	15 l	10 l	5 l
Speed range	100 - 1.500 min ⁻¹	100 - 1.500 min ⁻¹	100 - 1.500 min ⁻¹
Heat output	1.500 W	1.000 W	250 W
Temperature range	50 - 500 °C	50 - 500 °C	50 - 500 °C
Safety circuit (fixed)	550 °C	550 °C	550 °C
Heating plate (L x W)	260 x 260 mm	180 x 180 mm	100 x 100 mm
Dimensions (W x D x H)	300 x 415 x 105 mm	220 x 330 x 105 mm	150 x 260 x 105 mm
Weight	approx. 6 kg	approx. 5 kg	approx. 3 kg
Protection class acc. to DIN EN 60529	IP 21	IP 21	IP 21
Id-No.	3597000	3596600	3596000



**yellow MAG
HS 10 incl. PT 1000**

Id-No. 3597000

**yellow MAG
HS 7 Package**

(HS 7, PT 1000,
H 16 V, H 44, H 38)

Package Id-No. 9013500

**yellow MAG
HS 4 incl. PT 1000**

Id-No. 3596000

MST digital

Magnetic stirrer with heating

Magnetic stirrer with revolutionary technology and new functions:

- Integrated temperature control
- Incl. PT 1000 temperature sensor (PT 1000.60)
- Exact temperature and speed setting via digital display, even when switched off
- Set safety temperature limit displayed digitally
- Hot Top indicator >> hot surface warning to prevent burns!
- Digital error code display
- With adjustable safety circuit of heating plate temperature (50 - 360 °C)
- Safety magnetic stirrer with heating, suitable for unsupervised operation
- Bushing according to DIN 12878 for connecting a contact thermometer, e.g. TC 3, enables precise temperature control
- High level of safety thanks to improved heat control technology
- Enclosed assembly (IP 42) guarantees long service life
- Highly polished aluminium heating plate for optimum heat transfer
- High magnetic adhesion
- Incl. protection cover



Accessories:

Electronic contact thermometers: TC 3 Electronic contact thermometer, PT 1000.70 Temperatur sensor, glass-coated, IKAFLON®- Stirring bars, TRIKA®-Stirring bars, RS 1 Set of stirring bars, RSE Stirring bar remover, Bath attachments: H15, H28, Oil bath attachments: H29, H30

Included with unit:

PT 1000.60 temperature sensor



MST digital Package

(MST digital, TC 3, H 16 V, H 44, H38, PT 1000.60)

Package Id-No. 9015600

- Integrated temperature control
- Incl. PT 1000 temperature sensor
- With digital display



Contact thermometer TC 3

With optimised PID control and RESET function, incl. sensor H 62.51. For magnetic stirrers and heating plates according to DIN 12878 cl.2. Ensures perfect temperature control without overshooting the set temperature, even in the case of quick heating.

	Ident. No.	3657000
Sensor	PT 1000	
Measuring / control range	-50 - 450 °C	
Resolution	0,1 K	
Setting accuracy	0,1 K	
Measuring accuracy	± 0,2 + Sensor tolerance PT 1000 DIN IEC 751 Class A	
Control deviation	± 0,5 K	
Protection class acc. to DIN EN 60529	IP 54	



Support rod H 16 V

Support rod made of stainless steel for secure clamping of the electronic contact thermometer TC 3 to the MST digital.

	Ident. No.	1545100
Diameter	10 mm	
Length	450 mm	



Boss head clamp H 44

The boss head clamp is used to fasten the holding rod H 38 to the support rod H 16 V.

	Ident. No.	2437700
--	------------	---------



Holding rod H 38

The holding rod is used to support the electronic contact thermometer TC 3 to the support rod H 16 V.

	Ident. No.	3547700
--	------------	---------

Stirring quantity (H ₂ O)	20 L
Motor rating input / output	9,5 / 3,5 W
Speed display	digital
Speed range	50 - 1.500 rpm
Heat output	600 W
Temperature range	RT - 310 °C
Adjustable safety circuit	50 - 360 °C
Control accuracy with sensor	PT 1000 / ± 1 K TC 3 / ± 0,5 K
Dimensions heating plate	Ø 135 mm
Dimensions (W x D x H)	160 x 270 x 85 mm
Weight	2,5 kg
Protection class acc. to DIN EN 60529	IP 42

MSH basic

Magnetic stirrer with stainless steel heating plate

Stirring quantity (H ₂ O)	5 L
Temperature range	RT - 350 °C
Speed range	0 - 2,000 rpm
Heat output	400 W
Heating plate surface	Ø 125 mm
Dimensions (W x D x H)	160 x 210 x 105 mm
Weight	2.3 kg
Protection class acc. to DIN EN 60529	IP21

MSH basic

Id-Nr. 3131200



MST mini

Magnetic stirrer without heating

Stirring quantity (H ₂ O)	800 ml
Motor rating input / output	4 / 0.5 W
Speed range	0 - 1,500 rpm
Set-up surface	115 x 115 mm
Max. load	2 kg
Dimensions (W x D x H)	115 x 130 x 40 mm
Weight	0.23 kg
Protection class acc. to DIN EN 60529	IP42



MST mini

Id-Nr. 3287000

BIG SQUID

Magnetic stirrer without heating

- With very good chemical resistance provided by glass top
- Electronically controlled motor with infinitely variable speed

Stirring quantity (H ₂ O)	1.5 L
Motor rating input / output	2 / 1 W
Speed range	0 - 1,500 rpm
Set-up surface	Ø 160 mm
Max. load	5 kg
Dimensions (W x D x H)	180 x 180 x 48 mm
Weight	1 kg
Protection class acc. to DIN EN 60529	IP54



BIG SQUID

Id-Nr. 3286000

Topolino

Magnetic mini-stirrer

Extremely convenient magnetic mini-stirrer for mixing quantities up to 250ml

- * Durable, brushless motor
- * Infinitely variable speed range
- * High magnetic adhesion

Stirring quantity (H ₂ O)	max. 250 ml
Motor rating input / output	1.1 / 0.8 W
Speed range	300 - 1,800 rpm
Max. magnetic bar (L x Ø)	40 x 6 mm
Set-up plate material / dimensions	PP / 81 x 70 mm (oval)
Dimensions (W x D x H)	100 x 130 x 55 mm
Weight	300 g
Permissible ambient temperature / relative humidity	5 - 40°C / 80%
Protection class acc. to DIN EN 60529	IP21



Topolino

Id-Nr. 3377000

new

yellow MAG MS 10 / MS 7 / MS 4

New magnetic stirrers without heating

- Ceramic top plate
- Excellent resistance to chemicals
- Microprocessor technology: guarantees maximum speed control accuracy



yellow MAG MS 10

Id-No. 3644500

yellow MAG MS 7

Id-No. 3644300

yellow MAG MS 4

Id-No. 3644100

	yellow MAG MS 10	yellow MAG MS 7	yellow MAG MS 4
Stirring quantity (H ₂ O)	15 L	10 L	5 L
Speed range	100 - 1,500 min ⁻¹	100 - 1,500 min ⁻¹	100 - 1,500 min ⁻¹
Set-up surface (L x W)	260 x 260 mm	180 x 180 mm	100 x 100 mm
Dimensions (W x D x H)	300 x 415 x 105 mm	220 x 330 x 105 mm	150 x 260 x 105 mm
Weight	approx. 6 kg	approx. 5 kg	approx. 3 kg
Protection class acc. to DIN EN 60529	IP 21	IP 21	IP 21
Id-No.	3644500	3644300	3644100

RST digital

New magnetic stirrer without heating

- Digital speed display
- Non-locking, electronically controlled motor
- Constant speed even during changes in load
- Infinitely variable speed
- Incl. protection cover

Stirring quantity (H ₂ O)	20 l
Motor rating input / output	9,5 W / 3,5 W
Speed display	digital
Speed range	0 - 1.700 rpm
Max. magnetic bar (L x Ø)	80 x 10 mm
Material set-up plate	stainless steel
Dimensions set-up plate (Ø)	135 mm
Dimensions (W x D x H)	160 x 270 x 85 mm
Weight	2,4 kg
Protection class acc. to DIN EN 60529	IP 42

new



RST digital

Id-No. 5002500

RST digital available: December 2008

yellow MAG HP 10 / HP 7 / HP 4

New heating plates

- New heating plate with ceramic top plate
- Simultaneous digital display of target and actual temperatures via LCD display
- Display of actual temperature value in medium with 0,1°C resolution when using PT 1000 temperature sensor
- Control accuracy in medium +/- 0,5 °C (in combination with PT 1000)
- Incl. PT 1000 temperature sensor
- Further data same as heating function of yellow MAG HS 10 / 7 / 4 (see p. 2)



Accessories:

H 16 V Support rod, H 44 Boss head clamp,
H 38 Holding rod, PT 1000.70 Temperature sensor

yellow MAG HP 10 incl. PT 1000

Id-No. 3644400

yellow MAG HP 7 incl. PT 1000

Id-No. 3644200

yellow MAG HP 4 incl. PT 1000

Id-No. 3644000

	yellow MAG HP 10	yellow MAG HP 7	yellow MAG HP 4
Max. volume	15 l	10 l	5 l
Heat output	1.500 W	1.000 W	250 W
Temperature range	50 - 500 °C	50 - 500 °C	50 - 500 °C
Safety circuit (fixed)	550 °C	550 °C	550 °C
Heating plate surface (L x B)	260 x 260 mm	180 x 180 mm	100 x 100 mm
Dimensions (W x D x H)	300 x 415 x 105 mm	220 x 330 x 105 mm	150 x 260 x 105 mm
Weight	approx. 6 kg	approx. 5 kg	approx. 3 kg
Protection class acc. to DIN EN 60529	IP 21	IP 21	IP 21
Id-No.	3644400	3644200	3644000

HST digital

New heating plate

Universal laboratory heating plate with revolutionary technology and new functions:

- new: Integrated temperature control
- new: Incl. PT 1000 temperature sensor (PT 1000.60)
- new: Exact temperature setting via digital display, even when switched off
- new: Set safety temperature limit displayed digitally
- new: Hot Top indicator >> hot surface warning to prevent burns!
- new: Digital error code display
- With adjustable safety circuit of heating plate temperature (50 - 360 °C)
- Heating plate, suitable for unsupervised operation
- Bushing according to DIN 12878 for connecting a contact thermometer, e.g. TC 3 enables precise temperature control
- High level of safety thanks to improved heat control technology
- Enclosed assembly (IP 42) guarantees long service life
- Highly polished aluminium heating plate for optimum heat transfer

Accessories:

TC 3 Electronic Contact Thermometer, H 16 V Support rod, H 44 Boss head clamp, H 38 Holding rod

Temperature display	digital
Heat output	600 W
Heating rate (1 l H ₂ O in H 15)	6,5 K/min
Temperature range	RT - 310 °C
Adjustable safety circuit	50 - 360 °C
Max. volume (H ₂ O)	20 l
Material heating plate	aluminium alloy
Dimensions heating plate (Ø)	135 mm
Dimensions (W x D x H)	160 x 270 x 85 mm
Weight	2,5 kg
Protection class acc. to DIN EN 60529	IP 42

HST digital available: December 2008

HST digital

Id-No. 5002600



OST basic

Electronic overhead stirrer

- For use up to the "medium viscosity" range
- With constant torque through micro-processor-driven control
- Push-through agitator shafts, drive protected against overload

	OST basic
Stirring quantity (H ₂ O)	20 l
Speed range	50 - 2.000 min ⁻¹
Max. viscosity	10.000 mPas
Motor rating input / output	75 / 55 W
Output at stirring shaft	53 W
Max. torque at chuck	30 Ncm
Speed display	-
Chuck range	0,5 - 10 mm
Dimensions (W x D x H)	80 x 190 x 222 mm
Weight	2,8 kg
Protection class acc. to DIN EN 60529	IP 42
Id-Nr.	3145000

Accessories:

R 301 Stirring shaft protection, RH 3 Strap clamp, Plate Stand R 1826



Package

(OST basic, R 1342, R 1826, R 182)
Package Id-No. 9006300

Propeller stirrer R 1342

Matches OST basic



Material stainless steel	AISI 316L
Diameter of stirrer	50 mm
Shaft length	350 mm
Diameter of shaft	8 mm
Id-No.	0741000

Plate stand R 1826

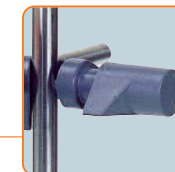
Stable, slip-free plate stand



Diameter of support rod	16 mm
Height (including PUR cover)	800 mm
Id-No.	3160100

Boss head clamp R 182

Matches R 1826



Clamping range	
Stand	6 - 16 mm
Extension arm	6 - 16 mm
Id-No.	2657700

OST 20 digital

Mechanical overhead stirrer

- Sturdy, slim stirrer
- Up to 20 l (H₂O) with constant power drive
- Two speed ranges for universal use from 60 - 2.000 min⁻¹
- Push-through agitator shafts
- OST 20 digital with digital display

	OST 20 digital
Stirring quantity (H ₂ O)	20 l
Speed range	I) 60 - 500 min ⁻¹ II) 240 - 2.000 min ⁻¹
Max. viscosity	10.000 mPas
Motor rating input / output	75 / 35 W
Output at stirring shaft	26 W
Max. torque at chuck	150 Ncm (100 min ⁻¹)
Speed display	digital
Chuck range	0,5 - 10 mm
Dimensions (W x D x H)	88 x 212 x 294 mm
Weight	3 kg
Protection class acc. to DIN EN 60529	IP 20
Id-No.	3293000



Accessories:

R 301 Stirring shaft protection, RH 3 Strap clamp, Plate Stand R 1826

Package
(OST 20 digital, R 182, R 1342, R 1826)
Package Id-No. 9008800

Propeller stirrer R 1342

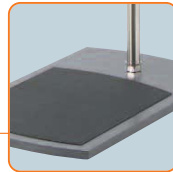
Matches OST basic



Material stainless steel	AISI 316L
Diameter of stirrer	50 mm
Shaft length	350 mm
Diameter of shaft	8 mm
Id-No.	0741000

Plate stand R 1826

Stable, slip-free plate stand



Diameter of support rod	16 mm
Height	800 mm
(including PUR cover)	
Id-No.	3160100

Boss head clamp R 182

Matches R 1826



Clamping range	
Stand	6 - 16 mm
Extension arm	6 - 16 mm
Id-No.	2657700

OST 20 hightorque

Mechanical overhead stirrer

- Suitable for small quantities of highly viscous media
- Due to the high torque the stirrer has to be fixed to a stand with 34 mm diameter (e.g. R 2723)
- With digital display

	OST 20 hightorque
Stirring quantity (H ₂ O)	20 l
Speed range (50 Hz)	16 - 135 min ⁻¹
Max. viscosity	100.000 mPas
Motor rating input / output	70 / 35 W
Output at stirring shaft	26 W
Max. torque at chuck	370 Ncm (100 min ⁻¹) 600 Ncm (60 min ⁻¹)
Speed display	digital
Chuck range	0,5 - 10 mm
Hollow shaft	not push-through
Diameter of extension arm	16 mm
Dimensions (W x D x H)	88 x 212 x 383 mm
Weight	4,2 kg
Protection class acc. to DIN EN 60529	IP 20
Id-No.	3294000



Package
(OST 20 hightorque, R 1331, R 2723, R 271)
Package Id-No. 9008900

Accessories:

RH 301 Stirring shaft protection, RH 5 Strap clamp

Anchor stirrer R 1331

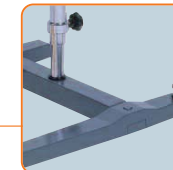
Matches OST 20 hightorque



Material stainless steel	AISI 316L
Diameter of stirrer	90 mm
Shaft length	350 mm
Diameter of shaft	8 mm
Id-No.	2022400

Telescopic stand R 2723

For heavy instruments and attachments



Diameter of support rod	34 mm
Height	620 - 1010 mm
Stroke	390 mm
Id-No.	1412100

Boss head clamp R 271

Matches stand R 2723



Clamping range	
Stand	34 mm
Extension arm	16 mm
Id-No.	2664000

Stirring elements (stainless steel AISI 316L) : Application examples

	Stirring elements	Ident No.	Stirrer Ø	Shaft Ø	Shaft length	Max speed	OST basic		
							OST 20 digital	OST 20 hightorque	
1	Propeller stirrer, 4-bladed	R 1342	0741000	50 mm	8 mm	350 mm	2,000 rpm	•	•
		R 1345	0741300	100 mm	8 mm	540 mm	800 rpm	•	•
2	Propeller stirrer, 3-bladed	R 1381	1296000	45 mm	8 mm	350 mm	2,000 rpm	•	•
		R 1382	1295900	55 mm	8 mm	350 mm	2,000 rpm	•	•
		R 1385	0477700	140 mm	10 mm	550 mm	800 rpm		•
		R 1388	0477800	140 mm	10 mm	800 mm	400 rpm	•	
3	R 1389 (PTFE-coated)	2343600	75 mm	8 mm	350 mm	800 rpm	•	•	
4	Turbine stirrer	R 1311	2332900	30 mm	8 mm	350 mm	2,000 rpm	•	•
		R 1312	2333000	50 mm	8 mm	350 mm	2,000 rpm	•	•
		R 1313	2333100	70 mm	10 mm	400 mm	800 rpm		•
5	Dissolver stirrer	R 1300	0513500	80 mm	8 mm	350 mm	2,000 rpm	•	•
		R 1302	2387900	100 mm	10 mm	350 mm	1,000 rpm		•
		R 1303	2746700	42 mm	8 mm	350 mm	2,000 rpm	•	•
6	Centrifugal stirrer	R 1352	0756900	60/15 mm	8 mm	350 mm	2,000 rpm	•	•
		R 1355	1132700	100/24 mm	8 mm	550 mm	800 rpm	•	
7	Paddle stirrer	R 1373	0757600	70 mm	8 mm	350 mm	1,000 rpm	•	•
		R 1375	0757700	70 mm	8 mm	550 mm	800 rpm	•	•
		R 1376	0757800	150 mm	10 mm	550 mm	800 rpm		•
8	Anchor stirrer	R 1330	2022300	45 mm	8 mm	350 mm	1,000 rpm	•	•
		R 1331	2022400	90 mm	8 mm	350 mm	1,000 rpm		•
9	R 1332 (PTFE-coated)	2343700	2343700	60 mm	8 mm	350 mm	800 rpm	•	•
		R 1333	2747400	150 mm	10 mm	550 mm	800 rpm		•
10	Kneading stirrer	R 1335	2022500	45 mm	8 mm	350 mm	2,000 rpm	•	•

Propeller stirrer, 4-bladed

Standard stirring element. For drawing the material to be mixed from the top to the bottom. Local shearing forces. Generates axial flow in the vessel. Used at medium to high speeds.

Propeller stirrer, 3-bladed

Flow-efficient design. For drawing the material to be mixed from the top and the bottom. Minimum shearing forces. Used at medium to high speeds.

Turbine stirrer

For drawing the material to be mixed from above. Generates axial flow in the vessel. Minimum danger of injury when contact is made with vessel. Minimum shearing forces. Used at medium to high speeds.

Dissolver stirrer

Radial flow, for drawing the material to be mixed from the top and the bottom. High turbulence, high shearing forces. Particle reduction. Used at medium to high speed.

Centrifugal stirrer

Two-bladed, blades open with increasing speed. For stirring in round vessels with narrow necks. Effect is similar to that of a 4-bladed propeller stirrer. Medium to high speeds required.

Paddle stirrer

Tangential flow, minimum turbulence, good heat exchange gentle treatment of product. Used at low to medium speeds.

Anchor stirrer

Tangential flow, high shearing rate at edges, minimum deposits on the vessel walls. Used at low speeds. Polymer reactions, even distribution of high mineral contents in liquids. The ideal stirrers for medium to highly viscous fluids.

Kneading stirrer

Tangential flow with oscillating compacting between the kneading surfaces. Minimum deposits on vessel. Used at low speeds.

IKA® ULTRA TURRAX® Tube drive**Universal disposable disperser system**

- World first
- High level of user safety
- No possibility of cross-contamination
- Quick/simple and hygienic/clean
- Disperse, stir, and grind using a single drive unit
- Hermetically sealable disposable sample tubes
- Covers with pierceable membranes available on request
- Volumes from 2 - 50 ml
- Suitable for individual use and use in series
- Standardised working
- Worldwide service guaranteed by IKA®
- Patent pending

**Workstation**

(IKA® ULTRA TURRAX® Tube drive,
2 x ST-20, 2 x DT-20, 2 x BMT-20 G/S)

Package Id-No. 3553500



Motor rating input / output	20 / 17 W
Speed range	300 - 6.000 min ⁻¹
Timer	1 - 59 sec. (300 - 6.000 min ⁻¹) 1 - 29 min. (300 - 4.000 min ⁻¹)
Display time	digital
Dimensions (W x D x H)	100 x 160 x 40 mm
Weight	0,75 kg
Protection class acc. to DIN EN 60529	IP 20
ULTRA TURRAX® Tube Drive	Id-No. 3553600
ULTRA TURRAX® Workstation	Id-No. 3553500

Id-No.	Product name	with pierceable membrane	γ-sterilized	Packaging unit
3703000	ST-20			
3703100	DT-20	-	-	25
3703200	BMT-20-S			
3703300	BMT-20-G			
3749300	ST-20-gamma			
3749400	DT-20-gamma	-	+	20
3749500	BMT-20-S-gamma			
3749700	TC-20	-	-	25
3702500	ST-20-M			
3702600	DT-20-M	+	-	25
3702700	BMT-20-S-M			
3702800	BMT-20-G-M			
3700500	ST-20-M-gamma			
3700600	DT-20-M-gamma	+	+	20
3700700	BMT-20-S-M-gamma			
3749900	TC-20-M	+	-	25

ST

- Tube with stirring element, suitable for:
- Mixing
 - Stirring
 - Extractions
 - Preparation of soil sample suspensions
 - Solubility testing for medications



ST-20



ST-50

DT

- Tube with dispersing element, suitable for:
- Dispersion
 - Homogenisation
 - Suspensions
 - Pharmacokinetics
 - Metabolism studies
 - Diagnosis



DT-20



DT-50

BMT G/S

- Grinding tube with glass balls (G) or with stainless steel balls (S), suitable for:
- Dry milling of dry and brittle samples (e.g. kaolin, gypsum, coloured pigments, tablets)
 - Cell maceration
 - Processing of materials mixed with fluids



BMT-20-G



BMT-50-G

M

- Tube with pierceable membrane, suitable for:
- Additional media quantities may be added during mixing, dispersing and grinding operation
 - Sampling during mixing, dispersing and grinding operation



ST-20-M



ST-50-M

gamma

- γ-sterilized Tube, suitable for:
- Grinding, mixing and dispersing under sterile conditions
 - Germ free conservation of samples (tissue, blood, etc.)



BMT-20-S-gamma



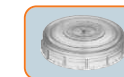
BMT-50-S-gamma

TC

- Cover:
- for 20 ml and 50 ml tubes
 - with pierceable membran



TC-20



TC-50-M

Id-No.	Product name	with pierceable membrane	γ-sterilized	Packaging unit
3699500	ST-50			
3699600	DT-50	-	-	10
3699700	BMT-50-S			
3699800	BMT-50-G			
3799500	ST-50-gamma			
3799600	DT-50-gamma	-	+	10
3799700	BMT-50-S-gamma			
3749800	TC-50	-	-	25
3629500	ST-50-M			
3629600	DT-50-M	+	-	10
3629700	BMT-50-S-M			
3629800	BMT-50-G-M			
3701500	ST-50-M-gamma			
3701600	DT-50-M-gamma	+	+	10
3701700	BMT-50-S-M-gamma			
3750000	TC-50-M	+	-	25

For more information and the application list please visit:

DI 18 basic

Dispersing device

- An affordable low cost high value unit for simple mixing tasks
- The wide speed range makes it possible to work at high circumferential speed
- Accepts plug-in dispersing tools

	DI 18 basic
Volume range (H ₂ O)	1 - 1.500 ml
Speed range	3.500 - 24.000 min ⁻¹
Motor rating input / output	500 / 300 W
Speed adjustment	infinitely variable
Speed display	scale
Dimensions (W x D x H)	65 x 80 x 240 mm
Weight	1,6 kg
Protection class acc. to DIN EN 60529	IP 20
Id-No.	3567000



Package

(DI 18 basic, S 18 N-10G, R 1826, R 182)

Package Id-No. 9007900

Accessories:

RH 3 Strap clamp, dispersing elements see page 20

Dispersing tool S 18 N-10 G

With PTFE bearing

- Suitable for solvents and aggressive substances
- Dispersion tool can be sterilized using all methods



Material	stainless steel	PTFE / AISI 316L
Diameter of stator	10 mm	
Working range	1 - 100 ml	
Temperature range	180 °C	

Id-No. L004639

Plate stand R 1826

Stable, slip-free plate stand



Diameter of support rod	16 mm
Height	800 mm
	(including PUR cover)

Id-No. 3160100

Boss head clamp R 182

Matches R 1826



Clamping range	
Stand	6 - 16 mm
Extension arm	6 - 16 mm

Id-No. 2657700

DI 25 basic

Dispersing device

- High performance dispersion device for use in numerous applications
- Wide volume range
- Long service life

	DI 25 basic
Volume range (H ₂ O)	1 - 2.000 ml
Speed range	8.000 - 24.000 min ⁻¹
Motor rating input / output	600 / 350 W
Speed adjustment	infinitely variable
Speed stability	1 %
Speed display	colour scale
Dimensions (W x D x H)	77 x 66 x 221 mm
Weight	1,6 kg
Protection class acc. to DIN EN 60529	IP 20
Id-No.	3130000



Package

(DI 25 basic, S 25 N-18G, R 1826, R 182)

Package Id-No. 9006400

Accessories:

RH 3 Strap clamp, dispersing elements see page 20/21

Dispersing tool S 25 N-18 G

With PTFE bearing

- Suitable for solvents and aggressive substances
- Dispersion tool can be sterilized using all methods

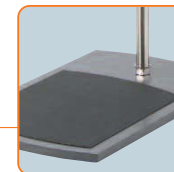


Material	stainless steel	PTFE / AISI 316L
Diameter of stator	18 mm	
Working range	10 - 1.500 ml	
Temperature range	180 °C	

Id-No. 0593400

Plate stand R 1826

Stable, slip-free plate stand

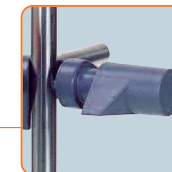


Diameter of support rod	16 mm
Height	800 mm
	(including PUR cover)

Id-No. 3160100

Boss head clamp R 182

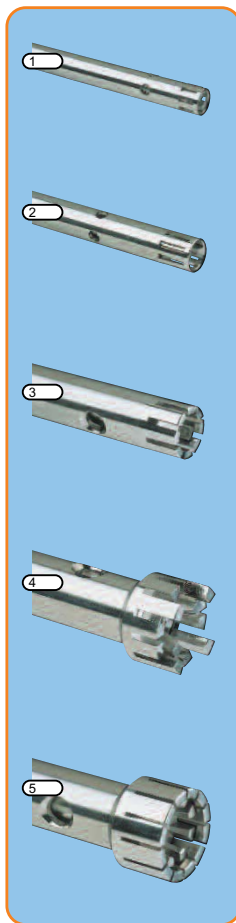
Matches R 1826



Clamping range	
Stand	6 - 16 mm
Extension arm	6 - 16 mm

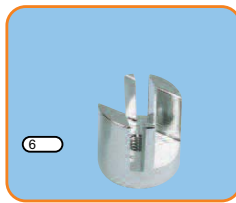
Id-No. 2657700

Dispersing elements (DI 18 basic, DI 25 basic)



Dispersing element Fig. Ident No.	S 18 N - 10 G L004639	S 18 N - 19 G L004640	S 25 N - 8 G 1 1024200	S 25 N - 10 G 2 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
Suitable for dispersing instrument	DI 18 basic	DI 18 basic	DI 25 basic	DI 25 basic	DI 25 basic	DI 25 basic	DI 25 basic	DI 25 basic
Technical data								
Working range	1 - 100 ml	10 - 1,500 ml	1 - 50 ml	1 - 100 ml	1 - 100 ml	10 - 1,500 ml	10 - 1,500 ml	10 - 1,500 ml
Stator diameter	10 mm	19 mm	8 mm	10 mm	10 mm	18 mm	18 mm	18 mm
Rotor diameter	7.5 mm	12.7 mm	6.1 mm	7.5 mm	7.5 mm	12.7 mm	12.7 mm	12.7 mm
Gap between rotor and stator	0.35 mm	0.4 mm	0.25 mm	0.35 mm	0.35 mm	0.3 mm	0.3 mm	0.3 mm
Circumferential speed	9.4 m/s	15.9 m/s	7.7 m/s	9.4 m/s	9.4 m/s	15.9 m/s	15.9 m/s	15.9 m/s
Min. / Max. immersion depth	25 / 70 mm	35 / 170 mm	27 / 85 mm	22 / 85 mm	22 / 85 mm	40 / 165 mm	40 / 185 mm	40 / 225 mm
Shaft length	108 mm	204 mm	108 mm	105 mm	105 mm	194 mm	194 mm	270 mm
Materials in contact with medium	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	Viton, AISI 316L	FFPM/SIC, AISI 316L
pH range	2 - 13	2 - 13	2 - 13	2 - 13	2 - 13	2 - 13	2 - 13	2 - 13
Suitable for solvents	yes	yes	yes	yes	yes	yes	no	yes
Suitable for abrasive substances	yes	yes	yes	yes	yes	yes	no	no
Max. temperature	180°C	180°C	180°C	180°C	180°C	180°C	80°C	220°C
Sterilization methods	all methods	all methods	all methods	all methods	all methods	all methods	wet chemical	wet chemical
Min. vacuum	-	-	-	-	-	-	50 mbar	1 mbar
Max. pressure	-	-	-	-	-	-	-	6 bar
Ultimate fineness, suspensions	10 - 50 um	10 - 50 um	10 - 50 um	10 - 50 um	10 - 50 um	10 - 50 um	10 - 50 um	10 - 50 um
Ultimate fineness, emulsions	1 - 10 um	1 - 10 um	1 - 10 um	1 - 10 um	1 - 10 um	1 - 10 um	1 - 10 um	1 - 10 um

Dispersing element Fig. Ident No.	S 25 NK - 19 G 3 2494700	S 25 N - 25 G 4 1713300	S 25 KR - 25 G 1713400	S 25 KV - 25 G 2466900	S 25 N - 25 F 5 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
Suitable for dispersing instrument	DI 25 basic	DI 25 basic	DI 25 basic	DI 25 basic	DI 25 basic	DI 25 basic	DI 25 basic	DI 25 basic	DI 25 basic
Technical data									
Working range	25 - 1,500 ml	50 - 2,000 ml	50 - 2,000 ml	50 - 2,000 ml	100 - 2,000 ml	100 - 2,000 ml	100 - 2,000 ml	inline	inline
Stator diameter	19 mm	25 mm	25 mm	25 mm	25 mm	25 mm	25 mm	25 mm	25 mm
Rotor diameter	12.7 mm	17 mm	17 mm	17 mm	18 mm	18 mm	18 mm	17 mm	18 mm
Gap between rotor and stator	0.3 mm	0.5 mm	0.5 mm	0.5 mm	0.5 mm	0.5 mm	0.5 mm	0.5 mm	0.5 mm
Circumferential speed	15.9 m/s	21.4 m/s	21.4 m/s	21.4 m/s	22.6 m/s	22.6 m/s	22.6 m/s	21.4 m/s	22.6 m/s
Min. / Max. immersion depth	40 / 165 mm	40 / 165 mm	40 / 185 mm	40 / 225 mm	40 / 165 mm	40 / 185 mm	40 / 225 mm	40 / 85 mm	40 / 85 mm
Shaft length	194 mm	194 mm	194 mm	270 mm	194 mm	194 mm	270 mm	110 mm	110 mm
Materials in contact with medium	PTFE, AISI 316L	PTFE, AISI 316L	Viton, AISI 316L	FFPM/SIC, AISI 316L	PTFE, AISI 316L	Viton, AISI 316L	FFPM/SIC, AISI 316L	FFPM/SIC, AISI 316L	FFPM/SIC, AISI 316L
pH range	2 - 13	2 - 13	2 - 13	2 - 13	2 - 13	2 - 13	2 - 13	2 - 13	2 - 13
Suitable for solvents	yes	yes	no	yes	yes	no	yes	yes	yes
Suitable for abrasive substances	yes	yes	no	no	yes	no	no	no	no
Max. temperature	120°C	180°C	80°C	220°C	180°C	80°C	220°C	220°C	220°C
Sterilization methods	wet chemical	all methods	wet chemical	wet chemical	all methods	wet chemical	wet chemical	wet chemical	wet chemical
Min. vacuum	-	-	50 mbar	1 mbar	-	50 mbar	1 mbar	1 mbar	1 mbar
Max. pressure	-	-	-	6 bar	-	-	6 bar	6 bar	6 bar
Ultimate fineness, suspensions	10 - 50 um	15 - 50 um	15 - 50 um	15 - 50 um	5 - 25 um	5 - 25 um	5 - 25 um	15 - 50 um	5 - 25 um
Ultimate fineness, emulsions	1 - 10 um	1 - 10 um	1 - 10 um	1 - 10 um	1 - 5 um	1 - 5 um	1 - 5 um	1 - 10 um	1 - 5 um



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

Dispersing element Fig. Ident No.	SW 18 Slab rotor 6 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	stainless steel, AISI 316L
Applications	viscous, fibrous tissue

Nomenclature dispersing elements

For dispersing instrument	Dispersing element Shaft / Agitator shaft	With seal or bearing type*	With outer diameter (mm)	Degree of fineness achieved**	Additional features***
DI 18 basic	S 18	N	10 / 19	G	-
DI 25 basic	S 25	N / KR / KV / NK	8 / 10 / 18 / 19 / 25	G / F	VS / IL

* N = PTFE bearing, KR = Ball bearing with FKM- 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 = coarse, M = medium, F = fine

*** VS = ground joint NS 14,5, IL = Inline operation

For more information and the applicationslist please visit:

TTS 3 basic / TTS 3 digital / TTS 3 control

Small-sized shaker

Compact, universal small shaker suitable for shaking tasks with all small vessels and microtiter plates

- Wide range of attachments
- Attachment detection
- Continuous or touch operation (with standard attachment)
- Two operating modes:
 - Modus A (safe mode with attachment detection)
The maximum speed of 3.000 min⁻¹ is only reached with the standard attachment in touch mode. When using other attachments the speed is limited to 1.300 min⁻¹.
 - Modus B (without attachment detection)
A speed of 3.000 min⁻¹ is possible with all attachments.
- Stable in all speed ranges
- Sturdy zinc die cast casing

TTS 3 digital additionally:

- Timer with countdown function
- LED display

TTS 3 control additionally:

- LCD display
- Digital display presents rated and actual speed, timer and mode
- An RS 232 interface makes it possible to control and document all functions with a PC, via labworldsoft®

Shaking motion	orbital	
Orbital diameter	4,5 mm	
Max. permitted shaking weight (with attachment)	0,5 kg	
Motor rating input / output	10 / 8 W	
Permissible ON-time	100 %	
Infinitely adjustable speed range	TTS 3 basic	0 - 3.000 min ⁻¹
	TTS 3 digital	0 - 3.000 min ⁻¹
	TTS 3 control	0 - 3.000 min ⁻¹
Speed display	TTS 3 basic	scale
	TTS 3 digital	scale
	TTS 3 control	LCD
Dimensions (W x D x H)	148 x 205 x 63 mm	
Weight	2,9 kg	
Protection class acc. to DIN EN 60529	IP 21	
Plug-in power supply unit	100 - 240 V 50/60 Hz	
TTS 3 basic	Id-No. 3627000	
TTS 3 digital	Id-No. 3627000	
TTS 3 control	Id-No. 3379000	



TTS 3 basic

(MS 1.21, MS 3.1, MS 3.3)

Id-No. 3627000



TTS 3 digital

(MS 1.32, MS 1.21, MS 3.1, MS 3.3, MS 3.4)

Id-No. 3627000



TTS 3 control

(MS 1.32, MS 1.21, MS 3.1, MS 3.3, MS 3.4)

Id-No. 3379000



Included in delivery:

- * TTS 3 basic
- ** TTS 3 digital
- *** TTS 3 control



MS 1.34 Test tube insert

Without bore holes, for adding any number of holes

Id-No. L001830



MS 1.33 Test tube insert

4 bore holes, Ø 15 mm

Id-No. L001860



MS 1.32 Test tube insert

6 bore holes, Ø 10 mm

Id-No. L001850



MS 1.31 Test tube insert

14 bore holes, Ø 8 mm

Id-No. L001840



MS 1.21 One-hand insert

Foam inlay

Id-No. L001540



MS 3.1 Standard attachment

For mounting test tubes and other small vessels of up to 30 mm in diameter

Id-No. 3426300



MS 3.3 Universal attachment

For various foam inserts

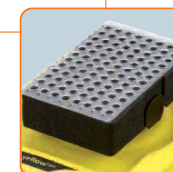
Id-No. 3426600



MS 3.4 Microtiter plate attachment

For use with a microtiter plate

Id-No. 3426400



MS 3.5 PCR attachment

For use with one 96-PCR plate

Id-No. 3428000

lab dancer vario

Test tube shaker

New test tube shaker with touch function. Specially for mixing small sample volumes.

- The lab dancer can be used with all small vessels of up to 30 mm in diameter, e. g. test tubes, centrifuge tubes, Eppendorf vessels
- Excellent mixing action
- The upper casing and the test tube surface are made from inert plastic, coated zinc die cast base

Shaking motion	orbital
Orbital diameter	4,5 mm
Max. permitted shaking weight (with attachment)	0,1 kg
Motor rating input / output	1,2 / 0,8 W
Permissible ON-time	100 %
Infinitely adjustable speed range	1.000 – 2.800 min ⁻¹
Material	Casing PP
	Attachment TPU
	Bottom zinc, coated
Dimensions (W x D x H)	95 x 110 x 70 mm
Weight	0,55 kg
Protection class acc. to DIN EN 60529	IP 40



lab dancer vario

Id-No. 3417700

OS 2 basic

Orbital shaker

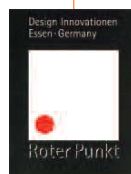
- Cost effective orbital shaker that includes universal attachment, 2 clamping rolls and 4 fastening screws
- Very stable and sturdy housing – concrete casing
- Drive protected against overload
- Intrinsically safe by permanent supervision of all electric components
- Incl. protection cover
- Awarded with the design prize “Roter Punkt”

Shaking motion	orbital
Orbital diameter	Ø 4 mm
Max. permitted shaking weight (with attachment)	2 kg
Motor rating input / output	45 / 10 W
Permissible ON-time	100 %
Infinitely adjustable speed range	0 - 1.100 min ⁻¹
Speed display	scale
Dimensions (W x D x H)	375 x 383 x 152 mm
Weight	11,6 kg
Protection class acc. to DIN EN 60529	IP 21



OS 2 basic
incl. attachment

Id-No. 3295000



OS 5 basic

Orbital shaker

- Quiet operation, wear-free
- Electrical adjustment of speed
- Adjustable timer from 5 - 50 min or continuous operation
- LED display for speed and time setting
- With constant torque through micro-processor-driven control
- Drive protected against overload
- Intrinsically safe by permanent supervision of all electric components



Package

(OS 5 basic, AS 130.1)

Package Id-No. 9007300

OS 5 control

Orbital shaker

Details as per OS 5 basic plus the following:

- Digital display for speed and time
- An RS 232 interface makes it possible to control and document all functions with a PC, via labworldsoft®
- Adjustable timer up to max. 9 hrs 59 min or continuous operation

Accessories: see page 28

Shaking motion	orbital
Orbital diameter	Ø 4 mm
Max. permitted shaking weight (with attachment)	2 kg
Motor rating input / output	45 / 10 W
Permissible ON-time	100 %
Infinitely adjustable speed range	80 - 800 min ⁻¹
Speed display	LED line
Timer	5 - 50 min
Dimensions without attachment (W x D x H)	270 x 316 x 98 mm
Weight	7,7 kg
Protection class acc. to DIN EN 60529	IP 21

OS 5 basic Id-Nr. 3180100

OS 5 control Id-Nr. 3180200



Package

(OS 5 control, AS 130.1)

Package Id-No. 9007400



Universal attachment AS 130.1

Can be adjusted to fit all types of vessels with 3 universal, infinitely adjustable clamping rolls.

Dimensions (W x D x H)	325 x 234 x 88 mm
Holding surface	220 x 220 mm
Weight	0,85 kg
Id-No.	8017300

OS 10 basic / RS 10 basic

Orbital shaker/ Reciprocating shaker

- Compact, flat laboratory shakers
- Electronical adjustment of speeds
- Adjustable timer from 5 - 50 min or continuous operation
- LED display for speed and time setting
- With constant torque, protected against overload and intrinsically safe operation, like OS 5 basic



Accessories: see page 29

Shaking motion	orbital (OS), reciprocating (RS)
Orbital diameter	10 mm (OS), 20 mm (RS)
Max. permitted shaking weight (with attachment)	7,5 kg
Motor rating input / output	45 / 10 W
Permissible ON-time	100 %
Infinitely adjustable speed range	20 - 500 min ⁻¹ (OS), 20 - 300 min ⁻¹ (RS)
Speed display	LED line
Timer	5 - 50 min
Dimensions (W x D x H)	360 x 420 x 98 mm
Weight	8,3 kg
Protection class acc. to DIN EN 60529	IP 21

OS 10 basic	Id-No. 3180300
RS 10 basic	Id-No. 3180700
OS 10 control	Id-No. 3180400
RS 10 control	Id-No. 3180800

Optional accessories:

AS 260.2 Fixing clip attachment	Id-No. 3115500
AS 260.3 Dish attachment	Id-No. 3120600
AS 260.5 Separating funnel attachment	Id-No. 3120900

Package

(OS 10 basic, AS 260.1)
Package Id-No. 9007500

(RS 10 basic, AS 260.1)
Package Id-No. 9007700

OS 10 control / RS 10 control

Orbital shaker/ Reciprocating shaker

Details as per OS 10 basic / RS 10 basic, but with these additional features:

- Digital display for speed and time
- An RS 232 interface makes it possible to control and document all functions with a PC, via labworldsoft®
- Adjustable timer up to max. 9 hrs 59 min or continuous operation
- Adjustable speed range
10 - 500 min⁻¹ (OS 10 control)
10 - 300 min⁻¹ (RS 10 control)

Accessories: see page 29



Universal attachment AS 260.1

Can be adjusted to fit all types of vessels with 4 universal, infinitely adjustable clamping rolls.

Dimensions (W x D x H)	425 x 335 x 135 mm
Holding surface	320 x 320 mm
Weight	1,6 kg

Id-No. 8017400

Package

(OS 10 control, AS 260.1)
Package Id-No. 9007600

(RS 10 control, AS 260.1)
Package Id-No. 9007800

 labworldsoft®

Shakers accessories (OS 5 basic / control)

**AS 130.1 Universal attachment**

For use with various types of vessels by means of universal, infinitely variable clamping rolls.

Dimensions (W x D x H)	325 x 234 x 88 mm
Set-up surface	220 x 220 mm
Weight	850 g

Included with delivery:
1 x AS 1.30 Basic holder
3 x AS 1.31 Clamping roll
6 x AS 1.5 Fastening screw

Ident No. 8017300

**AS 130.2 Fixing clip attachment**

For processing round flasks, measuring flasks and Erlenmeyer flasks. Please order fixing clips separately.

Fixing clips

AS 2.1	1234300
AS 2.2	1234400
AS 2.3	1234500
AS 2.4	1234600
AS 2.5	1234700

Dimensions (W x D x H)	230 x 230 x 24 mm
Capacity: Number of fixing clips (volume)	20 x AS 2.1 (25ml) 12 x AS 2.2 (50 ml) 12 x AS 2.3 (100 ml) 6 x AS 2.4 (250 ml) 4 x AS 2.5 (500 ml)
Weight	650 g

Ident No. 3115000

**AS 130.3 Dish attachment**

For smooth shaking operations in the low viscosity range, e.g. Petri dishes or culture bottles. With integrated slip-resistant foil (PP).

Dimensions (W x D x H)	420 x 270 x 32 mm
Set-up surface	220 x 340 mm
Weight	370 g

Ident No. 3120000

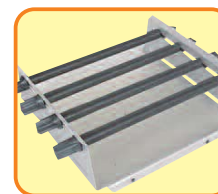
**AS 130.4 Test tube support**

For intensive shaking, e.g. small tubes, test tubes, cuvettes, centrifuge tubes.

Dimensions (W x D x H)	220 x 230 x 95 mm
Capacity	64
Vessel Ø	10 - 16 mm
Min. height of vessel	80 mm
Weight	670 g

Ident No. 3120300

Shakers accessories (OS / RS 10)

**AS 260.1 Universal attachment**

For various types of vessels. Infinitely variable clamping rolls allow universal adaption to the vessels.

Dimensions (W x D x H)	425 x 335 x 135 mm
Set-up surface	320 x 320 mm
Weight	1,600 g

Included with delivery:
1 x AS 1.60 Basic holder
4 x AS 1.61 Clamping roll
8 x AS 1.5 Fastening screw

Ident No. 8017400

**AS 260.2 Fixing clip attachment**

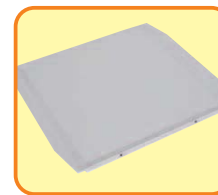
For shaking flasks, Erlenmeyer flasks and bottles with a round cross-section (without fixing clips).

Fixing clips

AS 2.1	1234300
AS 2.2	1234400
AS 2.3	1234500
AS 2.4	1234600
AS 2.5	1234700

Dimensions (W x D x H)	330 x 330 x 24mm
Capacity: Number of fixing clips (volume)	56 x AS 2.1 (25 ml) 23 x AS 2.2 (50 ml) 23 x AS 2.3 (100 ml) 11 x AS 2.4 (250 ml) 9 x AS 2.5 (500 ml)
Weight	1,290 g

Ident No. 3115500

**AS 260.3 Dish attachment**

For smooth movement for cell cultures, nutrient media in Petri dishes, culture bottles and vessels with a low center of gravity. With integrated slip-resistant foil (PP).

Dimensions (W x D x H)	410 x 370 x 32 mm
Set-up surface	320 x 320 mm
Weight	460 g

Ident No. 3120600

**AS 260.5 Separating funnel attachment**

For shaking out, salting out, extracting, eluting, enriching. The 3 clamping rolls (included in deliver) are height-adjustable for adaption to different separating funnel sizes. The separating funnels are secured with O-rings (5 O-rings included).

Dimensions (W x D x H)	334 x 425 x 145 mm
Capacity (number of separating funnels per volumes, pear-shaped)	6 x 50 ml 5 x 100 ml 3 x 250 ml 3 x 500 ml
Weight	1,550 g

Ident No. 3120900

A 10 basic

Analytical grinder

- With a built-in cooling chamber
- Suitable for low-loss dry grinding of soft, hard and brittle substances
- Removable, easy-to-clean, high-grade steel chamber
- 3 interchangeable cutters available
- Electronic overload protection

Maximum task granularity	6 - 7 mm
Nominal speed	20.000 min ⁻¹
Effective vol. of grinding chamber	50 ml
Duty cycle ON / OFF	5 min / 10 min
Dimensions (W x D x H)	120 x 105 x 225 mm
Weight	2,2 kg
Protection class acc. to DIN EN 60529	IP 21

A 14 (included with delivery)	Id-No. 1059300
A 18 (included with delivery)	Id-No. 2318200
A 15	Id-No. 1059100
A 17	Id-No. 1462700



A 10 basic
incl. A 14 and A 18

Id-No. 3250000

Stainless steel cutter A 14
For pulverizing most brittle materials, suitable for Mohs hardness up to 5 (included with delivery).



Grinding chamber reduction A 18
For pulverizing only very small test samples (included with delivery).

Hard metal cutter A 15
Made of tungsten carbide for hard materials suitable for Mohs hardness up to 9.



Star-shaped cutter A 17
Suitable to grind fibrous substances such as paper and dried vegetation, soil samples, frozen meat and plastic granulates with low volume weight.

ET basic

Immersion Thermostat

- For temperature control up to 100 °C, in all open water baths
- Universal mounting
- Safe operation and maintenance free
- Analog temperature setting
- Adjustable safety circuit (25 - 200 °C)

Classification according to DIN 12876	I / NFL
Working temperature	25 - 100 °C
Temperature constancy acc. to DIN 12876	± 0,12 K (70 °C and 12 l H ₂ O)
Heat output	1.500 W
Bath volume max.	18 l
Pump pressure max. (0 bar back pressure)	5 l / min
Bath depth	75 - 160 mm
Dimensions (W x D x H)	105 x 139 x 319 mm
Weight	2,3 kg
Protection class acc. to DIN EN 60529	IP 31
ET basic	Id-No. 3163000



EH 4.1 / EH 4.2 / EH 4.3

Bath vessels

- Suitable for the immersion thermostat ET basic
- Constructed of Polycarbonate



Bath vessels:	EH 4.3	EH 4.2	EH 4.1
Filling quantity without vessels	max. 18 l	max. 11 l	max. 5 l
Working temperature range	25 - 100 °C	25 - 100 °C	25 - 100 °C
Outer dimensions (W x D x H)	350 x 473 x 168 mm	350 x 313 x 168 mm	132 x 280 x 160 mm
Inner dimensions (W x D x H)	302 x 455 x 150 mm	302 x 295 x 150 mm	120 x 262 x 150 mm
Id-No.	3335200	3335100	3335000

Package

(ET basic, EH 4.3)
Package Id-No. 9009200

Package

(ET basic, EH 4.2)
Package Id-No. 9009100

Package

(ET basic, EH 4.1)
Package Id-No. 9009000