

High Speed Homogenizer

D-500 / D-500 Pro / D-600

Used for homogenizing, emulsifying or suspending. There is a broad spectrum of dispersing tools to choose from.

Features

- > Continuously adjustable speeds for better results
- > Light-weighted and small-dimensioned for better handling
- > Triple safety of the drive (overload protection. Smooth start – against jerky work, safety switch)
- > High quality dispersing tools as standard for better resistance to corrosion (SS 316 L steel)
- > Quick-change system of the dispersing tools for a short changing time between preparations
- > Viscosities up to 10,000 cps
- > One shaft size
- > High quality lab dispersing unit, at a competitive price!
- > D-500pro can maintain constant motor speed by feedback control even under changing loads

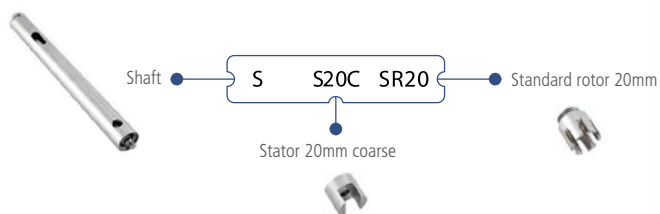
Specifications

Model	D-500	D-500 Pro	D-600
Speed setting	Knob	Knob	Knob
Speed display	Scale	LED	LED
Process Range H ₂ O(mL)	10~40,000mL	10~40,000mL	10~40,000mL
Speed with Zero-Load (rpm)	10,000~30,000 rpm	500~30,000 rpm	500~30,000 rpm
Applicable aggregates	Ø4~Ø23 mm	Ø4~Ø23 mm	Ø4~Ø23 mm
Sound pressure level (dB)	72 dB (30,000 rpm)	66 dB (2500 rpm); 72 dB (30,000 rpm)	66 dB (2500 rpm); 72 dB (30,000 rpm)
Motor	AC	AC	AC
Input / Output Power (W)	500 W	500 W	600 W
Supply voltage (V)	220V/50~60Hz	220V/50Hz	220V/50Hz
Relative humidity (max.)	80% RH	80% RH	80% RH
Operating temperature	0~40°C	0~40°C	0~40°C
IP Code	IP30	IP30	IP30
Dimensions (W x L x H in mm)	Drive:70×70×255 mm	Drive:76×157×236 mm	Drive:95×163×236 mm

Recommend purchasing the set. The standard set includes: homogenizer, dispersing shaft, stand.



Shaft Selection Guide for High Speed Homogenizer



Shaft 5

Includes: Shaft, PTFE bearing, 5 mm stator, 4 mm rotor



SS20CSR20

Includes: Shaft, PTFE bearing, 20 mm stator, standard rotor SR20



SS20FER20

Includes: Shaft, PTFE bearing, 20 mm stator, emulsification rotor ER20



SS30CSR30

Includes: Shaft, PTFE bearing, 30 mm stator, standard rotor SR30



SS30FER30

Includes: Shaft, PTFE bearing, 30 mm stator, emulsification rotor ER30



SS40CMR30

Includes: Shaft, PTFE bearing, 40 mm stator, mixing rotor MR30



Composition Diagram



Shaft / Order Table

Rotor Name	Function Description	Process Volume	Linear Velocity	Rotor Diameter	Stator Diameter	Min. / Max.	Ultimate Fineness (in microns)		Disinfection Method	Application*
Order No.		mL	m/s	mm	mm	Immersion Depth	suspension	emulsion		
SS20CSR20	Solid-Liquid Mixing Material	10-5000	23.5	15	20	40/170	10-50	1-10		P,CI,PC,SD
SS20CCR20	Fiber Material	10-5000	23.5	15	20	40/170	10-50	1-10		SP,M,F,PT,TI
SS20CMR20	Solid-Liquid Mixing Material	10-5000	23.5	15	20	40/170	10-50	1-10		CI,PI
SS20FER20	Latices	10-5000	23.5	15	20	40/170	10-50	1-10		SP,PI,PT,P
SS20FCR20	Fiber Material	10-5000	23.5	15	20	40/170	10-50	1-10		SP,BT,M,F,PT,TI
SS20FMR20	Solid-Liquid Mixing Material	10-5000	23.5	15	20	40/170	10-50	1-10		CI,C,PI,F,PT,PC
SS30CMR20	Stirring Paddle Function	250-20000	36.1	15	30	40/170	High-speed mixer			CI,F,SP
SS30CSR30	Solid-Liquid Mixing Material	100-8000	36.1	23	30	40/170	5-25	1-5		SP,M,F,PT,P
SS30CCR30	Fiber Material	100-8000	36.1	23	30	40/170	5-25	1-5		SP,M,F,PT,P
SS30CMR30	Solid-Liquid Mixing	100-8000	36.1	23	30	40/170	5-25	1-5	all methods	CI,PI
SS30FSR30	Solid-Liquid Mixing Material	100-8000	36.1	23	30	40/170	5-25	1-5		SP,PI,PT,P
SS30FER30	Latices	100-8000	36.1	23	30	40/170	5-25	1-5		SP,PI,PT,P
SS30FCR30	Fiber Material	100-8000	36.1	23	30	40/170	5-25	1-5		SP,PI,PT,P
SS30FMR30	Solid-Liquid Mixing Material	100-8000	36.1	23	30	40/170	5-25	1-5		CI,C,P,F,DT,TI
SS40CMR30	Stirring Paddle	1000-40000	36.1	23	40	40/170	High-speed mixer			CI,F,SP
Shaft 5	Solid-Liquid Mixing Material	0.2-50	6.3	4	5	40/60	10-50	1-10		BT,M
Shaft 10	Solid-Liquid Mixing Material	1-250	6.3	9	10	10/60	10-50	1-10		BT,M
Shaft 14	Solid-Liquid Mixing Material	100-1000mL	6.3	13	14	10/60	10-50	1-10		BT,M

Note: BT = Biology; F = Food Industry; P = Pharmaceutical Industry; C = Cosmetic Industry; M = Medical Analysis; PC = Petrochemical Industry; PT = Paper Production Industry; SP = Wastewater Analysis; CI = Ceramic Industry; CH = Chemical Industry; PI = Paint Industry; TI = Tobacco Industry

Dispersing Vessel

- > Deep baffles improve aeration and mixing, which is crucial for good homogenization. The Wiggens dispersing vessels help to get better experiment result.
- > The flasks or beakers in traditional homogenization or mixing experiment without baffles can easily create a vortex. Since the process will increase the surface between the liquid and air so that there is extra air introducing to the sample. The efficiency of the mixing or homogenization decreases to some extent. Prolonging dispersing time and changing dispersing shaft have to be considered to get optimal result.
- > WIGGENS vessels designed with deep baffles make the mixing procedure easier. The baffles decrease the vortex when the high dispersing speed happens. At higher dispersing speeds, the baffles interrupt the flow in the radial direction and increases counteracting forces. The turbulent liquid flow will get high performance.

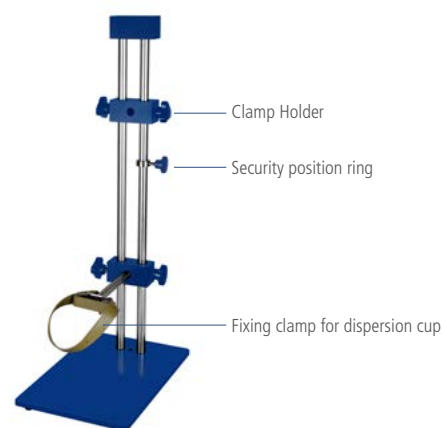


Model	Dim. (mm) Ø / H	Working Vol.	Shape	Material	Features	Order No.
DV500	80 / 200	500 ml	Cloverleaf shaped	Borosilicate glass	Top open without cover	W3050100

Stand

- > Strong base for optimal weight distribution
- > Base made of cast iron and shafts made of stainless steel
- > Different heights available
- > Designed for D-500 and D-500Pro homogenizers
- > High quality clamp and fixing set included in the package of stand.

Order No.	Description	Suitable for
WF11-D	Extendable flat bracket (double rod design)	D-500, D-500Pro, D-600
11045011	Vessel holder with boss head clamp for WF11-D	WF11-D, WH11-D
11045030	Safety ring for stand WF	WF11-D, WH11-D































Dispersing tests D-130

No.	Material	Amount	Pregrinded	Liquid	Vessel	Speed	Duration	Result	Shaft	Test okay? Yes/no	Sample before Dispersing	Sample after Dispersing
1	Rose flower	0.2g	no	5ml water	10ml Conical Tube	level 4	4 min	homogeneous suspension	DS-130/7	yes		
2	Rose flower	0.2g	no	5ml water	10ml Conical Tube	level 6	3 min	homogeneous suspension	DS-130/7	yes		
3	Rose flower	0.1g	no	5ml water	10ml Conical Tube	level 4	1 min	homogeneous suspension	DS-130/10	yes		
4	Rose flower	0.1g	no	5ml water	10ml Conical Tube	level 4	1 min	homogeneous suspension	DS-130/10	yes		
5	Rose stamens	0.05g	no	1.5ml water	2ml Conical Tube	level 4	1 min	homogeneous suspension	DS-130/5	yes		
6	Rose stamens	0.1g	no	2ml water	10ml Conical Tube	level 4	2 min	homogeneous suspension	DS-130/10	yes		

Dispersing tests D-130

No.	Material	Amount	Pregrinded	Liquid	Vessel	Speed	Duration	Result	Remarks	Recommended or not	Sample before Dispersing	Sample after Dispersing
1	Rape oil	20 drops	no	10 mL water	test tube 16 mm	max.	1 min	stable emulsion		yes		
2	Chicken liver	1 g	5 mm pieces	10 mL water	test tube 16 mm	max.	30 s	homogeneous suspension	sample completely homogenized	yes		
3	Rice	1g	no	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	only very small pieces of rice left	yes		
4	Basil leaf	1 piece	5 mm pieces	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	only small pieces of leaves left	yes		
5	Spelt flakes	2 g	no	15 mL water	test tube 16 mm	max.	1 min	homogeneous pulp		yes		
6	Cooked ham	2 g	5 mm pieces	50 ml water	150 mL beaker	max.	30 s	homogeneous suspension	only very small pieces of leaves left	yes		
7	Confetti	about 20 pieces	no	10 mL water	test tube 16 mm	max.	1 min	homogeneous cellulose suspension		yes		
8	Wood	1 toothpick	5 mm pieces	10 mL water	test tube 16 mm	max.	1 min	The pick was not grinded	slight abrasion of the wood pieces	no		
9	Tobacco	0,5 cigarettes	no	10 mL water	test tube 16 mm	max.	30 s	homogeneous Pulp	a few fibres stick in the gaps of the stator	yes		
10	Cloves	5 pieces	no	10 mL water	test tube 16 mm	max.	1 min	no grinding effect	no cloves was grinded	no		
11	Mustard seeds	1 g	no	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	all seeds were grinded	yes		
12	Herbal tea	0,5 g	no	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	the herbal tea was completely Grinded	yes		
13	Sunflower seeds	2 g	no	15 mL water	test tube 16 mm	max.	1,5 min	homogeneous suspension	all seeds were grinded	yes		
14	Dragee	1 piece	no	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	the dragee was completely grinded	yes		

Dispersing tests D-130

No.	Material	Amount	Pregrinded	Liquid	Vessel	Speed	Duration	Result	Remarks	Recommended or not	Sample before Dispersing	Sample after Dispersing
15	Chicken meat	2 g	5 mm pieces	10 mL water	test tube 16 mm	max.	20 s	homogeneous suspension	part of tendons wrapped around the rotor	yes		
16	Ivy	2 leaves	5 mm pieces	10 mL water	test tube 16 mm	max.	2 min	inhomogeneous suspension	20 % of the leaves were not grinded	no		
17	Rose blossom	2 leaves	5 mm pieces	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	some fibres stick in the gaps of the stator	yes		
18	Whole grain Bread	2 g	5 mm pieces	15 mL water	test tube 16 mm	max.	30 s	homogeneous suspension		yes		
19	Carrot	2 g	5 mm pieces	10 mL water	test tube 16 mm	max.	2 min	no grinding effect	carrots are too hard	no		
20	Harzer cheese	2 g	5 mm pieces	10 mL water	test tube 16 mm	max.	10 s	homogeneous sample		yes		
21	Rapes with Kernels	5 pieces	5 mm pieces	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	only very small pieces of rapes left	yes		
22	Coffee beans	1 piece	quartered	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	only very small pieces of coffee left	yes		
23	Soil sample	1 g	no	10 mL water	test tube 16 mm	max.	30 s	homogeneous suspension	only very small pieces of stones left	yes		
24	Pork meat (fat and sinewy)	1 g	5 mm pieces	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	part of tendons wrapped around the rotor	yes		
25	Pet food	1 g	5 mm pieces	10 mL water	test tube 16 mm	max.	30 s	homogeneous suspension	part of tendons wrapped around the rotor	yes		
26	Styrofoam	0,5 cm ³	5 mm pieces	10 mL water	test tube 16 mm	max.	1 min	no grinding effect		no		
27	Berries mix	2 g	no	10 mL water	test tube 16 mm	max.	30 s	homogeneous suspension	all berries are grinded	yes		
28	Tomatoes	15 g	10 mm pieces	without	50 mL beaker	max.	2 min	homogeneous tomato pulp	parts of the bowl are not grinded	yes		

Dispersing tests D-500 / D-500Pro / D-600

No.	Material	Amount	Pregrinded	Liquid	Vessel	Speed	Duration	Result	Remarks	Recommended or not	Sample before Dispersing	Sample after Dispersing
1	Rape oil	5 mL	no	80 mL water	100mL measuring cylinder	max.	1 min	stable emulsion		yes		
2	Liver	20 g	10 mm pieces	200 mL water	500 mL beaker	max.	30 s	homogeneous suspension	sample completely homogenized	yes		
3	Rice	20 g	no	80 mL water	100mL measuring cylinder	max.	1 min	homogeneous suspension	only small pieces of rice left	yes		
4	Basil leaf	10 pieces	10 mm pieces	200 mL water	500 mL beaker	max.	1 min	homogeneous suspension	only small pieces of leaves left	yes		
5	Spelt flakes	25 g	no	80 mL water	100mL measuring cylinder	max.	1 min	homogeneous Pulp		yes		
6	Cooked ham	20 g	1 cm pieces	200 mL water	500 mL beaker	max.	30 s	homogeneous suspension	only very small pieces of fibres left	yes		
7	Confetti	about 200 pieces	no	70 mL water	100mL measuring cylinder	max.	1 min	homogeneous cellulose suspension	a very small part stick between the rotor and the stator	yes		
8	Wood	5 toothpicks	1 cm pieces	200 mL water	500 mL beaker	max.	1 min	about 60 % of the picks were grinded	some parts of the Picks are not grinded and stick	yes		
9	Tobacco	1 cigarette	no	150 mL water	250 mL beaker	max.	1 min	bad homogenizing Most of the tobacco floats ungrinded on the surface	a few fibres stick in the gaps between the rotor and the stator	no		
10	Cloves	30 pieces	no	200 mL water	500 mL beaker	max.	1 min	homogeneous suspension	all cloves were grinded	yes		
11	Mustard seeds	10 g	no	150 mL water	500 mL beaker	max.	1 min	homogeneous suspension	all seeds were grinded	yes		
12	Herbal tea	2 g	no	500 mL water	2 l beaker	max.	1 min	homogeneous suspension	the herbal tea was completely Grinded	yes		
13	Sunflower seeds	20 g	no	150 mL water	500 mL beaker	max.	1 min	homogeneous suspension	all seeds were grinded	yes		
14	Dragees	5 pieces	no	60 mL water	100mL measuring cylinder	max.	1 min	homogeneous suspension	the dragee was completely grinded	yes		

Dispersing tests D-500 / D-500Pro / D-600

No.	Material	Amount	Pregrinded	Liquid	Vessel	Speed	Duration	Result	Remarks	Recommended or not	Sample before Dispersing	Sample after Dispersing
15	Chicken meat	10 g	10 mm pieces	200 mL water	500 mL beaker	max.	20 s	homogeneous suspension	part of tendons wrapped around the rotor	yes		
16	Ivy	10 leaves	10 mm pieces	200 mL water	500 mL beaker	max.	2 min	homogeneous suspension	only very small pieces of leaves left	yes		
17	Rose blossom	10 leaves	10 mm pieces	200 mL water	500 mL beaker	max.	2 min	homogeneous suspension	only very small pieces of leaves left	yes		
18	Whole grain Bread	20 g	10 mm pieces	200 mL water	500 mL beaker	max.	2 min	homogeneous suspension	the vessel must be moved	yes		
19	Carrot	10 g	10 mm pieces	200 mL water	500 mL beaker	max.	2 min	homogeneous suspension	the vessel must be moved	yes		
20	Harzer cheese	20 g	10 mm pieces	200 mL water	500 mL beaker	max.	20 s	homogeneous suspension	the vessel must be moved	yes		
21	Rapes with Kernels	5 pieces	10 mm pieces	200 mL water	500 mL beaker	max.	1 min	homogeneous suspension	only very small pieces of rapes left	yes		
22	Coffee beans	10 pieces	no	60 mL water	100mL measuring cylinder	max.	1 min	homogeneous suspension	only very small pieces of coffee left	yes		
23	Soil sample	20 g	no	200 mL water	500 mL beaker	max.	1 min	homogeneous suspension	only very small pieces of stones left	yes		
24	Pork meat (fat and sinewy)	10 g	10 mm pieces	200 mL water	500 mL beaker	max.	1 min	homogeneous suspension	part of tendons wrapped around the rotor	yes		
25	Pet food	20 g	10 mm pieces	200 mL water	500 mL beaker	max.	30 s	homogeneous suspension	part of tendons wrapped around the rotor	yes		
26	Styrofoam	2 cm ³	10 mm pieces	200 mL water	500 mL beaker	max.	1 min	no grinding effect		no		
27	Berries mix	20 g	no	200 mL water	500 mL beaker	max.	30 s	homogeneous suspension	all berries were grinded	yes		
28	Tomatoes	50 g	10 mm pieces	without	250 mL beaker	max.	2 min	homogeneous tomato pulp	the vessel must be moved	yes		