

Homogenizer

D-160 & D-500



Applications

The Homogenizer widely used in fields of Biotechnology, Human and veterinary medicine/ clinical medicine, Pharmaceutical industry, Cosmetics industry, Food industry, Petrochemistry, Paint and lacquer industry etc.

The material is repeatedly cycled through narrow slits in the stator where it is rapidly sheared and disintegrated by high shear mechanical action. Complete homogenization of tissues (muscle, liver, breast tissue, etc.) is usually achieved in a few seconds. Little, if any, heat is produced during the process.

D-160 Handheld Homogenizer

Use for mixing, emulsification, shredding, or chopping. Practical answer for small samples. D-160 is a rotor/stator type hand held tissue homogenizer which can rapidly homogenize, disperse and emulsify samples in 0.1-250ml. During operation, the suspended material is drawn into the core of the homogenizer by a rotor turning at up to 30,000 rpm.

Features

- Easy to hold and light weight for one hand operation
- Sample Volume Range: 0.1-50 ml or 1-250ml
- Autoclavable 316 L stainless steel shafts, inert to aggressive solutions
- All shafts are interchangeable shafts and are easily removed for cleanup
- High speed motor. Speed control from 8,000 to 30,000 rpm.

Specifications

Power Supply	110-120V/60Hz, 220-240V / 50-60 Hz
Motor Type	Universal motor, 160 Watt
Speed Range	8000-30000rpm
Max. Circum. Speed	6.3-14m/sec
Speed Control	Dial knob 6 stage
Working Volume (ml, H ₂ O)	0.1-50ml (Dispersing shaft DS-160/5) 1-250ml (Dispersing shaft DS-160/10)
Max. Viscosity	5000mPas
Material of Dispersing Shaft	SS 316L stainless steel / PTFE
Weight	0.6 kg
Dimension L x W x H	46mm x 55mm x 230mm
Noise	72 dB(A)
Operating Environment	0-40°C, 85% rel. humidity
Protection Class	IP20



Dispersing Shaft Table

CAT NO.	Dispersing Shaft	Compatibility	Description of Shaft	Function	Applications	Industry Examples
18900113	DS-160/5	D-160		Solid/liquid media		Biotechnology, Pharmaceutical industry
18900114	DS-160/10	D-160		Solid/liquid media		Biotechnology, Pharmaceutical industry
18900117	DS-500/5	D-500	SS5CSR5	Solid/liquid media	Dispersing of tissue decomposition, clinical & medical diagnostics and suspensions	Biotechnology, Pharmaceutical industry, Ceramic
18900115	DS-500/1	D-500	SS20CSR20	Solid/liquid media	Coarse crushing of hard solids in liquid	Pharma, Petro Industry, Ceramic Industry
18900116	DS-500/2	D-500	SS20FER20	W/O or O/W emulsions	Emulsions, intensive mixing of w/o and o/w emulsions. Dispersing of resins and pigments for paint and lacquer industry	Sewage/Pollution Control, Paint Industry, Paper &
18900118/ 18900125	/	D-500	S20C CR20	dispersing tool with knives for fibrous/stringy materials	Fragmentation of vegetable, animal and human tissues	Sewage/Pollution Control, Pharma, Food, Paper Industry
18900118/ 18900127	/	D-500	S20C MR20	Solid/liquid media	Suspensions, intensive mixing	Ceramic Industry, Paint Industry
18900119/ 18900125	/	D-500	S20F CR20	dispersing tool with knives for fibrous/stringy materials	Fragmentation of vegetable, animal and human tissues	Sewage/Pollution Control, Bio Technology, Pharm Industry, Tobacco Industry
18900119/ 18900127	/	D-500	S20F MR20	Solid/liquid media	Emulsions, intensive mixing of w/o and o/w emulsions	Ceramic Industry, Cosmetic, Paint Industry, Food Petro Chemistry
18900120/ 18900124	/	D-500	S30C SR30	Solid/liquid media	Coarse crushing of hard solids in liquid	Sewage/Pollution Control, Pharma, Food, Paper Chemistry
18900120/ 18900126	/	D-500	S30C CR30	dispersing tool with knives for fibrous/stringy materials	Fragmentation of vegetable, animal and human tissues	Sewage/Pollution Control, Pharma, Food, Paper Industry
18900120/ 18900128	/	D-500	S30C MR30	Solid/liquid media	Suspensions, intensive mixing	Ceramic Industry, Paint Industry
18900121/ 18900124	/	D-500	S30F SR30	Solid/liquid media	Dispersing of resins and pigments for paint and lacquer industry	Sewage/Pollution Control, Paint Industry, Paper &
18900121/ 18900130	/	D-500	S30F ER30	W/O or O/W emulsions	Emulsions, intensive mixing of w/o and o/w emulsions. Dispersing of resins and pigments for paint and lacquer industry	Sewage/Pollution Control, Paint Industry, Paper &
18900121/ 18900128	/	D-500	S30F MR30	Solid/liquid media	Emulsions, intensive mixing of w/o and o/w emulsions	Sewage/Pollution Control, Cosmetic, Pharma, Tobacco Industry
18900120/ 18900127	/	D-500	S30C MR20	Stirring Shaft	High speed mixing without crushing	Ceramic Industry, Food, Sewage/Pollution Control
18900122/ 18900128	/	D-500	S40C MR30	Stirring Shaft	High speed mixing without crushing	Ceramic Industry, Food, Sewage/Pollution Control

D-500 Homogenizer

Philosophy made simple, so easy to handle. Ability to achieve quality results fast. It has the speed and power to emulsify, suspend, cut-up and disrupt to yield accurate results every time. Full flexibility as hand-held, post or wall mounted, with H-stand or plate-stand support.

Top speed of high 10000-30000 rpm, reduces processing time significantly. Big safety switch for unexpected emergency stop. Smooth motor drive makes working, very safe and comfortable. Additional feature of automatic overload protection increases the life span of the motor. Smooth start also prevents unnecessary spills

Process of dispersing

The material is sucked in to the head axially, then accelerated using the rotor's high rpm rate, circumferential or peripheral velocity. The centrifugal acceleration between the outer rotor wall and the inner stator wall propels the material through the stator shearing slits.

Quick-change system

DragonLab tools consists of only a few parts. One shaft, one axle, one Teflon bearing and one rotor stator. No special tools are needed to disassemble. Only requirement is a simple piece of cloth.

Features

- Viscosity up to 10,000 mPas
- Continuously adjustable speeds for better results
- Light-weighted and small-dimensioned for better handling
- Triple safety of the drive, overload protection and smooth start – against jerky work, safety switch
- 316L steel High quality dispersing tools as standard for better resistance to corrosion
- Quick change system of the dispersing tools for a short changing time between preparations

Specifications

Power Supply	110-120V/60Hz, 220-240V/50-60 Hz
Motor Type	Universal motor, 500 Watt
Speed Range	10000-30000rpm
Max. Circum. Speed	22.7-36m/sec
Speed Control	Dial knob 7 stage
Working Volume (ml, H ₂ O)	10-40000ml (Optional)
Max. Viscosity	10,000 mPas
Material of Dispersing Shaft	SS 316L stainless steel/PTFE
Weight	1.3 kg
Dimension L x W x H	70mm x 70mm x 255mm
Noise	79 dB(A)
Operating Environment	0-40°C, 85% rel. humidity
Protection Class	IP20



Dispersing shaft 1

SS20CSR20
Cat No. 18900115

- Volume 10-5000 ml
- Max. Circum. Speed 22.7m/sec
- Applications:
Dispersing shaft 1 for solid/liquid media
Ultimate emulsion fitness 1-10 μm
Ultimate suspension fitness 10-50μm



Dispersing shaft 2

SS20FER20
Cat No. 18900116

- Volume 10-5000 ml
- Max. Circum. Speed 22.7m/sec
- Applications:
Dispersing shaft 2 for W/O or O/W emulsions
Ultimate emulsion fitness 1-10μm
Ultimate suspension fitness 10-50μm



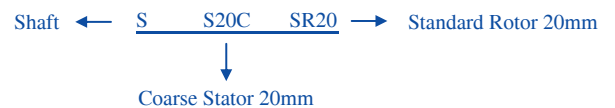
Dispersing shaft 5 mm

SS5CSR5
Cat No. 18900117

- Volume 1-50 ml
- Max. Circum. Speed 5.8m/sec
- Applications:
Dispersing shaft 5mm for solid/liquid media
Dispersing of tissue decomposition, clinical & medical diagnostics and suspensions.
Suitable for centrifuge products and Eppendorf tubes, centrifugal glasses etc.

	Treatable Volume(ml)	Max. Circum. Speed (m/sec)	Diam. of the Rotor (mm)	Diam. of the Stator (mm)	Min/Max Emersion Depth (mm)	Ultimate Fineness(μm)		Sterilisation
						Suspension	Emulsion	
	0.1-50	6.3	3	5	7/50	10-50	1-10	All kind of sterilisation possible
	1-250	14	6	10	10/120	10-50	1-10	
Industry	1-50ml	6.3	4	5	10/60	10-50	1-10	
	10-5000ml	23.5	15	20	40/175	10-50	1-10	
& Tissue Industry, Pharma	10-5000ml	23.5	15	20	40/175	10-50	1-10	
& Tissue Industry, Tobacco	10-5000ml	23.5	15	20	40/175	10-50	1-10	
	10-5000ml	23.5	15	20	40/175	10-50	1-10	
na, Food, Paper&Tissue	10-5000ml	23.5	15	20	40/175	10-150	1-10	
, Paper&TissueIndustry,	10-5000ml	23.5	15	20	40/175	10-150	1-10	
& Tissue Industry, Petro	100-8000ml	36.1	23	30	40/175	5-25	1-5	
& Tissue Industry, Pharma	100-8000ml	36.1	23	30	40/175	5-25	1-5	
	100-8000ml	36.1	23	30	40/175	5-25	1-5	
Tissue Industry, Pharma	100-8000ml	36.1	23	30	40/175	5-25	1-5	
Tissue Industry, Pharma	100-8000ml	36.1	23	30	40/175	5-25	1-5	
acco Industry	100-8000ml	36.1	23	30	40/175	5-25	1-5	
ol	250-20000ml	36.1	23	30	40/175	High-Speed Mixer		
ol	1000-40000ml	36.1	23	30	40/175	High-Speed Mixer		

Summary of Options



- Material used for shaft is high grade fine 316L stainless steel and PTFE for seal
- Dispersing shaft consists of shaft tube, axle, PTFE seal, a rotor and a stator

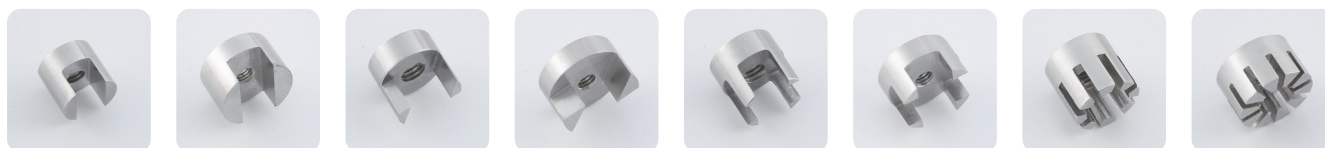


Components of Dispersing shaft

Stator



Rotor



Homogenizers of D-160			
Cat. No.	P/N	Descriptions	Power supply
850101010000	D-160 Package 1	D160 drive, H 370 Stand, DS-160/5 shaft, volumes from 0.1-50ml	USA plug, 110-120V, 50/60Hz
850101020000			Cn plug, 220-240V, 50/60Hz
850102010000	D-160 Package 2	D160 drive, H 370 Stand, DS-160/10 shaft, volumes from 1- 250ml	USA plug, 110-120V, 50/60Hz
850102020000			Cn plug, 220-240V, 50/60Hz

* Free of adaptor for UK, Euro, AU plug requirements

D-160 Dispersing shaft		
Cat. No.	P/N	Descriptions
18900113	DS-160/5	Dispersing shaft 5mm, for solid/liquid media and volumes from 0.1-50ml
18900114	DS-160/10	Dispersing shaft 10mm, for solid/liquid media and volumes from 1- 250ml

Homogenizers of D-500			
Cat. No.	P/N	Descriptions	Power supply
850201010000	D-500 Package 1	D-500 drive, with dispersing shaft 1 and H-600 stand,10-5000ml	USA plug, 110-120V, 50/60Hz
850201020000			Cn plug, 220-240V, 50/60Hz
850202010000	D-500 Package 2	D-500 drive, with dispersing shaft 2 and H-600 stand,10-5000ml	USA plug, 110-120V, 50/60Hz
850202020000			Cn plug, 220-240V, 50/60Hz

* Free of adaptor for UK, Euro, AU plug requirements

D-500 Dispersing shaft		
Cat. No.	P/N	Descriptions
18900115	DS-500/1	Dispersing shaft 1 for solid/liquid media, 10-5000ml
18900116	DS-500/2	Dispersing shaft 2 for W/O or O/W emulsions, 10-5000ml
18900117	DS-500/5	Dispersing shaft 5mm, for solid/liquid media and volumes from 1-50ml

Stator and Rotor of D-500		
18900118	S20C Stator	20 coarse (C)
18900119	S20F Stator	20 fine (F)
18900120	S30C Stator	30 coarse (C)
18900121	S30F Stator	30 fine (F)
18900122	S40C Stator	40 coarse (C)
18900123	SR20 Rotor	Standard 20
18900124	SR30 Rotor	Standard 30
18900125	CR20 Rotor	Cutter rotor 20
18900126	CR30 Rotor	Cutter rotor 30
18900127	MR20 Rotor	Mixing rotor 20
18900128	MR30 Rotor	Mixing rotor 30
18900129	ER20 Rotor	Emulsifying rotor 20
18900130	ER30 Rotor	Emulsifying rotor 30

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