

# Digital Overhead Stirrer

## Product Line / Selection Guide

	High Speed						High Torque					
	Analog Model		Digital Model				Analog Model		Digital Model			
	Integrated Controller		Integrated Controller		Remote Controller		Integrated Controller		Integrated Controller		Remote Controller	
	HS-50A	HS-120A	HS-30D	HS-100D	HS-30T	HS-100T	HT-50AX	HT-120AX	HT-50DX	HT-120DX	HT-50T	HT-120T
<b>Max. Stirring Capacity (HzO)</b>	10 Lit.	20 Lit.	10 Lit.	20 Lit.	10 Lit.	20 Lit.	40 Lit.	60 Lit.	40 Lit.	60 Lit.	40 Lit.	60 Lit.
<b>Max. Viscosity (mPas)</b>	10,000	50,000	10,000	50,000	10,000	50,000	100,000	150,000	100,000	150,000	100,000	150,000
<b>Motor Rating (Input / Output)</b>	83/75W (1/10 hp)	130/120W (1/6 hp)	83/75W (1/10 hp)	130/120W (1/6 hp)	83/75W (1/10 hp)	130/120W (1/6 hp)	83/75W (1/10 hp)	130/120W (1/6 hp)	83/75W (1/10 hp)	130/120W (1/6 hp)	83/75W (1/10 hp)	130/120W (1/6 hp)
<b>Max. Torque (Ncm) at Chuck</b>	85	145	85	145	85	145	300	500	300	500	300	500
<b>Max. Impeller Diameter (mm)</b>	8						10					
<b>Speed Range (rpm)</b>	200 ~ 3,000						50 ~ 1,000					
<b>Motor Rating (Input / Output)</b>	Direct Driven Motor						3.5:1 Ratio Worm-Geared Motor					
<b>Controller</b>	Analog Phase Controller		Digital Feedback Controller with Jog Shuttle Switch(Turn+Push)		Digital Feedback Controller with Jog Shuttle Switch(Turn+Push), Remote type		Analog Phase Controller		Digital Feedback Controller with Jog Shuttle Switch (Turn+Push)		Digital Feedback Controller with Jog Shuttle Switch (Turn+Push), Remote type	
<b>Display</b>	None		Digital LCD (Timer, RPM & Power Bar-graph)				None		Digital LCD (Timer, RPM & Power Bar-graph)			
<b>Operating Environment</b>	<b>Ambient Temp. Range (°C)</b>	0 ~ 40										
	<b>Max. Permissible Humidity (%)</b>	80										
<b>Safety Device</b>	Over Heat Protector for motor		Over Load & Heat Protector for motor				Over Heat Protector for motor		Over Load & Heat Protector for motor			
<b>Body Dimension (w×d×h mm)</b>	90×145×180				90×100×180		90×180×130	90×210×130	90×180×130	90×210×130	155×180×110	155×230×110
<b>Body Weight (kg)</b>	4.5	5.3	4.5	5.3	3*	3.8*	3.5	4	3.5	4	3.5	4
<b>Others</b>	- Smooth Start and Change of the Stirring Speed for stable running - Storage Function (RPM & Timer) : Only Digital Models						- Smooth Start and Change of the Stirring Speed for stable running - Storage Function (RPM & Timer) : Only Digital Models - Locking Mode (Jog-Shuttle Input disabled) : Only Digital Models - Alarm (Error Status and Timer-end) : Only Digital Models					
<b>Power Supply**</b>	AC 230V, 50/60Hz											

\* Weight of Remote Controller = 2.5kg

\*\* Other Specifications are Available Upon Customer's Request.

# Standard Viscosity

(Unit: mPas)

Material	Viscosity	Recommended Models			
Water	1	HS-30D HS-50A HS-30T	HS-100D HS-120A HS-100T	HT-50DX HT-50AX HT-50T	HT-120DX HT-120AX HT-120T
Milk	3				
Soybean oil	160				
Varnish	500				
Lacquer	1,000				
Honey	3,000				
Standard Viscosity	10,000				
Standard Viscosity	15,000				
Ketchup	30,000				
Standard Viscosity	50,000				
Mustard	70,000				
Corn Syrup	100,000				
Standard Viscosity	150,000				
Peanut Butter	250,000				

DAIHAN-brand® High-Speed Digital Overhead Stirrer, “HS-D”, Max.10/20Lit., 200 ~ 3,000 rpm with Digital Feedback Control, Steady & Constant Stirring Speed Against Viscosity, up to 50,000 mPas



High-Speed Digital Overhead Stirrer “HS-30D-Set”



High-Speed Digital Overhead Stirrer “HS-100D-Unit”

- with Certificate & Traceability : Controlled by Serial Number, Certificate, Delivery-information, and Traceable Data Base System
- Digital Feedback Control: Steady and Constant Stirring Speed against Viscosity Change of a Sample during Reaction
- Patented Jog-Shuttle Control System
- CE Certified
- PL(Product Liability) Insurance

- \* General Purpose Basic Laboratory Mixing
- \* Ideal for Stirring Low-to Medium-Viscous Material
- \* Digital Feedback Control: Steady and Constant Stirring Speed against Viscosity Change of a sample during Reaction
- \* Digital LCD with Back-Light Function
- \* Smooth Start and Change of the Stirring Speed
- \* Overload Protection and Over-Heat Protection Functions for Motor
- \* High Speed Stirring by Direct Driven Motor
- \* Digital Timer Function (99hr 59min)
- \* Alarm Function : Error status and Timer-end
- \* The Position(Height) of Impeller is Adjustable.
- \* Storage Function for Set Value : RPM & Timer
- \* Chrome -Plated & Stainless steel Chuck - Prevention from Corrosion

Specification

Stirring Capacity & Models	Max. 10 Lit. (H <sub>2</sub> O) “HS-30D”	Max. 20 Lit. (H <sub>2</sub> O) “HS-100D”
Maximum Viscosity	10,000 mPas	50,000 mPas
Maximum Torque	85 Ncm	145 Ncm
Speed Range & Resolution	200 ~ 3,000 rpm, 1 rpm-Display / 1 rpm-Control	
Motor	Worm -Geared DC Motor	
Motor Rating (Input / Output)	83 / 75 W, 1 / 10 HP	130 / 120 W, 1 / 6 HP
Timer & Alarm	99hr 59min (with Continuous run.), Error status & Timer-end	
Display	Digital LCD with Back-Light Function	
Controller	Digital Feedback Controller with Jog Shuttle Switch (Turn + Push)	
Max. Impeller Shaft Diameter	8 mm	
Permissible Temp. & Humidity	0 ~ 40°C, 80%	
Safety Device	Overload & Heat Protector for Motor	
Material	ABS and Aluminum	
Dimension & Weight	90×145×h180mm, 4.5 kg	90×145×h180mm, 5.3 kg
Packing Size & Gross Weight	320×300×h180mm, 5 kg	320×300×h180mm, 8 kg
Power Consumption	85 W	130 W
Power Supply & Cord Plug**	1 Phase, AC 120 V, 60 Hz or AC 230 V, 50 / 60 Hz	

\* Other Specifications are available upon Customer's Request.

Ordering Information

- \* “HS-30D”Package-set : Complete with ① Overhead Stirrer Unit ② “PL010” Stainless steel Impeller (Rod  $\phi$  8 × L500mm, Blade  $\phi$  50mm) ③ “CL200” Clamp ④ “ST110” Standard Plate Stand (Rod  $\phi$  16 × L800mm, Plate w20 × d35cm)
- \* “HS-100D”Package-set : Complete with ① Overhead Stirrer Unit ② “PL015” Stainless steel Impeller (Rod  $\phi$  8 × L500mm, Blade  $\phi$  70mm) ③ “CL200” Clamp ④ “ST120” Wide Plate Stand (Rod  $\phi$  23 × L1,000mm, Plate w30 × d40cm)

With 10 Lit. Stirring Capa., 10,000 mPas, “HS-30D” Package-set & Unit

- DH.WOS01016 High Speed-type Overhead Stirrer, Package-set, 230V, 120V
- DH.WOS02016 High Speed-type Overhead Stirrer, Unit only, 230V, 120V

With 20 Lit. Stirring Capa., 50,000 mPas, “HS-100D” Package-set & Unit

- DH.WOS01026 High Speed-type Overhead Stirrer, Package-set, 230V, 120V
- DH.WOS02026 High Speed-type Overhead Stirrer, Unit only, 230V, 120V

※ Refer to page 212 ~ 213 for Accessory Specifications.  
 ※ Refer to page 204 for Product Line & Selection Guide

## Standard Accessories for Overhead Stirrers

### DAIHAN-brand® Stirring Impeller for Overhead Stirrer, Stainless steel #304



(1) Propeller-type 3×Bladed

- Specially designed Stainless steel #304 (High-grade) used
- Excellent Resistance of Acids, Chemicals, Corrosion and High Temperature.
- Universal-Types and Wide-Ranges

#### For Both High Speed-type & High Torque-type Overhead Stirrers

(1) Propeller-types, 3×Bladed, Rod  $\phi 8 \times L500/650$  mm, Blade  $\phi 50/60/80/100$  mm

DH.WOS501010 Impeller, "PL010", #304,  $\phi 8 \times L500$ mm Rod,  $\phi 50$ mm Blade  
 DH.WOS501011 , "PL011", #304,  $\phi 8 \times L500$ mm Rod,  $\phi 60$ mm Blade  
 DH.WOS501012 , "PL012", #304,  $\phi 8 \times L650$ mm Rod,  $\phi 80$ mm Blade  
 DH.WOS501013 , "PL013", #304,  $\phi 8 \times L650$ mm Rod,  $\phi 100$ mm Blade



(2) Propeller-type 4×Bladed

(2) Propeller-types, 4×Bladed, Rod  $\phi 8 \times L500/650$  mm, Blade  $\phi 70/90/100$  mm

DH.WOS501015 Impeller, "PL015", #304,  $\phi 8 \times L500$ mm Rod,  $\phi 70$ mm Blade  
 DH.WOS501016 , "PL016", #304,  $\phi 8 \times L650$ mm Rod,  $\phi 90$ mm Blade  
 DH.WOS501017 , "PL017", #304,  $\phi 8 \times L650$ mm Rod,  $\phi 100$ mm Blade



(3) Diamond-type 4×Bladed

(3) Diamond-types, 4×Bladed, Rod  $\phi 8 \times L500/650$  mm, Blade  $\phi 90/100$  mm

DH.WOS501020 Impeller, "PL020", #304,  $\phi 8 \times L500$ mm Rod,  $\phi 90$ mm Blade  
 DH.WOS501021 , "PL021", #304,  $\phi 8 \times L650$ mm Rod,  $\phi 100$ mm Blade

(4) Centrifugal-type, 2×Bladed, Rod  $\phi 8 \times L500$ mm, Blade  $\phi 100$ mm

DH.WOS501025 Impeller, "PL025", #304,  $\phi 8 \times L500$ mm Rod,  $\phi 100$ mm Blade

(5) Teflon Coated Centrifugal-type, 2×Bladed, Rod  $\phi 8 \times L500/650$ mm,  
 Blade  $\phi 90/120$ mm

DH.WOS501030 Impeller, "PL030", #304,  $\phi 8 \times L500$ mm Rod,  $\phi 90$ mm Blade  
 DH.WOS501031 , "PL031", #304,  $\phi 8 \times L650$ mm Rod,  $\phi 120$ mm Blade

(6) Anchor-types, 2×Bladed, Rod  $\phi 8 \times L500/650$  mm, Blade  $\phi 70/90$  mm

DH.WOS501035 Impeller, "PL035", #304,  $\phi 8 \times L500$  mm Rod,  $\phi 70$ mm Blade  
 DH.WOS501036 , "PL036", #304,  $\phi 8 \times L650$  mm Rod,  $\phi 90$ mm Blade



(4) Centrifugal-type 2×Bladed

#### For High Torque-type Overhead Stirrers (HT-AX, HT-DX, HT-T)

(1) Propeller-types, 3×Bladed, Rod  $\phi 10 \times L500/650/800$  mm, Blade  $\phi 60/80/100$  mm

DH.WOS501111 Impeller, "PL111", #304,  $\phi 10 \times L500$ mm Rod,  $\phi 60$ mm Blade  
 DH.WOS501112 , "PL112", #304,  $\phi 10 \times L650$ mm Rod,  $\phi 80$ mm Blade  
 DH.WOS501113 , "PL113", #304,  $\phi 10 \times L650$ mm Rod,  $\phi 100$ mm Blade

(2) Propeller-types, 4×Bladed, Rod  $\phi 10 \times L650$  mm, Blade  $\phi 90/100$  mm

DH.WOS501116 Impeller, "PL116", #304,  $\phi 10 \times L650$ mm Rod,  $\phi 90$ mm Blade  
 DH.WOS501117 , "PL117", #304,  $\phi 10 \times L650$ mm Rod,  $\phi 100$ mm Blade

(3) Diamond-types, 4×Bladed, Rod  $\phi 10 \times L650$  mm, Blade  $\phi 100$  mm

DH.WOS501121 Impeller, "PL121", #304,  $\phi 10 \times L650$ mm Rod,  $\phi 100$ mm Blade

(6) Anchor-types, 2×Bladed, Rod  $\phi 10 \times L650/800$  mm, Blade  $\phi 90/140$  mm

DH.WOS501135 Impeller, "PL135", #304,  $\phi 10 \times L650$  mm Rod,  $\phi 90$ mm Blade  
 DH.WOS501136 , "PL136", #304,  $\phi 10 \times L800$  mm Rod,  $\phi 140$ mm Blade



(5) Teflon Coated Centrifugal-type



(6) Anchor-type 2×Bladed

#### ※ Please Note!

Other Specification of a Rod or Blade is available upon Customer's Request.

Cat. No	Description	Articles
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## DAIHAN-brand® Premium Plate Stand, High Quality, with Stainless steel Rod $\phi$ 16/23 mm

- High-Quality Plate-type Stand with Support Rod
- Silicon Rubber Pad adhered
- Wide and Thick Steel Plate for Safety Mechanism
- Support Rod made of Stainless steel specially designed

- DH.WOS501510 (1) Standard Plate Stand, "ST110",  
for Stirrer and Homogenizer  
 $\phi$  16  $\times$  h800 mm/1.5P Screw Rod, "RD 511",  
20  $\times$  35 cm Plate, with Silicone Pad
- DH.WOS501515 (2) Wide Plate Stand, "ST120",  
for Stirrer and Homogenizer  
 $\phi$  23  $\times$  h1000 mm/1.5P Screw Rod, Rod, "RD 522",  
30  $\times$  40 cm Plate, with Silicone Pad



(1) "ST110" (2) "ST120"

## DAIHAN-brand® Heavy Duty Safety Stand, High Safety, with Stainless steel Rod $\phi$ 23 mm

- Never Fall Down by Safety Mechanism.
- High-Safety H-/U-type Stand with Support Rod
- Provides Sturdy Support for Stirrers during Mixing Procedure
- Support Rod made of Stainless steel specially designed
- Adjustable Foot Distance (ST200)

- DH.WOS501520 (3) Deluxe Safety Stand, "ST200", H-type  
 $\phi$  23  $\times$  h1200 mm Rod, 39  $\times$  up to 75cm Stand Base
- DH.WOS1177 (4) Safety Stand, "KA1177", U-type  
 $\phi$  23  $\times$  h800 mm Rod, 34  $\times$  29 cm Stand Base



(3) "ST200" (4) "KA1177"

## DAIHAN-brand® Universal Jumbo Clamp Holder, for Stand/Rod

- DH.WOS502020 (5) Clamp Holder, "CL200"  
Cast Aluminum, Grip Capacity,  $\phi$  23mm for Stand/Rod



(5) Clamp "CL200"

## Usbeck® Steel Retort Base Duo Stand, up to $\phi$ 16mm Rods, for 2 Rods

Nonskid Feet equipped, with Hinged Screw M6, Rod Excluded

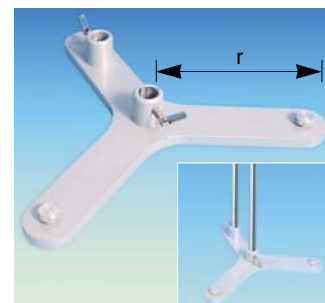
\* Can Fix Rods up to 2ea (Below  $\phi$  16mm) \* Stand Thickness : 8mm

### Retort Stand, Only Stand Base

- US.2040 Stand, "US2040", r = 150 mm  
US.2041, "US2041", r = 185 mm

### Optional Stainless steel Rod

- DH.WOS502001 Stainless steel Rod, "RD501",  $\phi$  16  $\times$  h800mm, Non-screw  
DH.WOS502002, "RD502",  $\phi$  16  $\times$  h1000mm, Non-screw  
DH.WOS502003, "RD503",  $\phi$  16  $\times$  h1200mm, Non-screw



Steel Retort Base Duo Stand

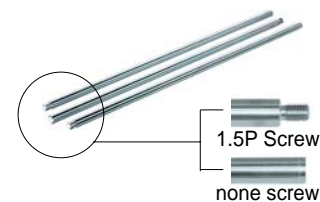
## DAIHAN-brand® High-Quality Stainless steel (#304) Rod. for Plate Stand, $\phi$ 16/23 mm

### Plain-type $\phi$ 16mm Rod, without Screw

- DH.WOS502001 Stainless steel Rod, "RD501",  $\phi$  16  $\times$  h800mm, Non-screw  
DH.WOS502002, "RD502",  $\phi$  16  $\times$  h1000mm, Non-screw  
DH.WOS502003, "RD503",  $\phi$  16  $\times$  h1200mm, Non-screw  
DH.WOS502031, "RD531",  $\phi$  23  $\times$  h800mm, Non-screw  
DH.WOS502033, "RD533",  $\phi$  23  $\times$  h1200mm, Non-screw

### 1.5P Screw-type $\phi$ 16 & 23mm Rod

- DH.WOS502011 Stainless steel Rod, "RD511",  $\phi$  16  $\times$  h800mm, 1.5P Screw  
DH.WOS502012, "RD512",  $\phi$  16  $\times$  h1000mm, 1.5P Screw  
DH.WOS502013, "RD513",  $\phi$  16  $\times$  h1200mm, 1.5P Screw  
DH.WOS502021, "RD521",  $\phi$  23  $\times$  h800mm, 1.5P Screw  
DH.WOS502022, "RD522",  $\phi$  23  $\times$  h1000mm, 1.5P Screw  
DH.WOS502023, "RD523",  $\phi$  23  $\times$  h1200mm, 1.5P Screw



Stainless steel Rod

## DAIHAN-brand® Flexible Coupling for Safety Stirring, Up to $\phi$ 14mm Shafts

(6) "Witeg" Basic Rubber / Metal Coupling, for  $\phi$  6~10mm Shafts

- WI.1445000 Coupling, "W1-COR-6", for  $\phi$  6~8mm Shafts  
WI.1445010, "W1-COR-8", for  $\phi$  8~10mm Shafts



(6) Basic-type Coupling

(7) "KGW" Heavy-duty Metal Coupling, for  $\phi$  6~ $\phi$  14mm Shafts

- KG.40477 Coupling, Metal, "PKK-10", for  $\phi$  6~8mm Shafts  
KG.40478, "PKK-16", for  $\phi$  12~14mm Shafts



(7) Heavy-duty Metal Coupling