

Operations Manual

Items:

IPS2050-20 (-E) and IPS2050-40 (-E)



Introduction:

This manual covers the Benchmark Digital Overhead Stirrers (Models OS-20L and OS-40L). **In order to ensure the safe operation of the equipment enclosed, please read this manual prior to use.**

Specifications

Model	OS-40L	OS-20L
Item Number	IPS2050-40	IPS2050-20
Mixing Capacity (H ₂ O)	40L	20L
Torque	60Ncm	40Ncm
Input Power	120W	60W
Output Power	100W	50W
Net Weight (Mixer)	2.8KG	2.6KG
Maximum Viscosity	50000mPas	10000mPas
Speed Range	30-2200rpm	
Speed Accuracy	< ±3RPM	
Motor Type	DC brushless motor	
Speed display	LCD	
Speed Resolution	±1rpm	
Overload Protection	Display Error, stop automatically	
Motor Protection	Display Error, stop automatically	
Chuck Diameter Range	0.5-10mm	
Exterior Dimensions (DXWXH)	7.3 x 3.3 x 8.7 in. 18.6 x 8.3 x 22.0 cm	
Protection Mode	IP42	
Ambient Operating Range	5-40(°C)	
Max. Ambient Humidity	80%	
Voltage	100-240AC, 50-60Hz	

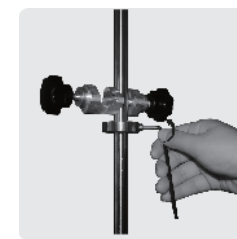
Installation:



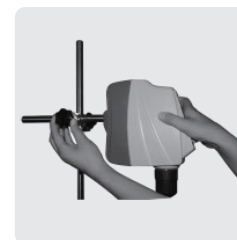
1. Place the bottom of the stand on a flat and stable surface. Insert the large threaded rod into the back of the base and **FULLY** tighten by hand.



2. Tighten the rod securing clamp to the large-vertical rod. (see image)



3. Tighten the safety ring under the rod securing clamp to prevent any slippage (see image)



4. Clamp the mixer heads as shown with the rod securing clamp. (see image)



5. Insert the rod of the accessory paddle into the opening of the chuck (loosen by turning the tip of the chuck counter-clockwise). Select the desired height of the accessory paddle and tighten firmly by turning the top part of the chuck clockwise and holding the lower part if the chuck steady. **ALWAYS** ensure that the chuck is **FULLY** tightened.

Protective Cover: A plastic cover is provided to protect the chuck from splashing and debris. If desired, this cover can be placed over the chuck once the paddle has been tightened.



This instrument utilizes a powerful motor drive for mixing speeds as high as 2200rpm. It is important to follow proper assembly procedures and to full tighten all parts. Failure to do so may result in damage to the device or personal injury.

Operation and Controls

- Plug the included power supply into an outlet of the appropriate voltage and place the power switch (top of instrument) into the ON position ("I").
- Set the stir speed by pressing the "Mode" button (the set speed "S" illuminates) Turn the adjustment knob to select the desired stir speed in rotations per minute (RPM)
- Set the time by pressing the "Mode" button (the set time illuminates "T". Turn the adjustment knob to select the desired time in minutes.
- The desired speed and time are now displayed. Press the adjustment knob to start. (To stop the mixer at any time, press the adjustment knob.)



ALWAYS ensure that the paddle is fully tightened into the chuck prior to starting the mixer.



Maintenance:

- To ensure performance and longevity of the instrument please keep the outer body and surface plate clean. To clean the instrument, disconnect from power source and use a lint free rag to wipe down all surfaces when cool. Do not immerse in water or spray cleaner directly on the instrument.
- The instrument is covered by a 2-year warranty. In the event of failure or defect, disconnect the unit from the power source and contact the manufacturer as soon as possible.

Troubleshooting:

	Check	Trouble Shooting
Not stirring	Check power cord	Plug firmly into socket
	Check Fuse	Replace Fuse

Error Messages:

Er03: Overload Protection

High viscosity detected. Press the knob to stop the stirrer, reduce the stirring speed and restart. If the error continues, repeat, and reduce the speed further.

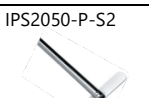
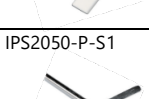
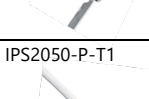
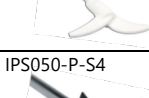
Er04: Motor Protection

The motor shaft is stuck. Press the knob to stop the stirrer and remove the blockage – restart.

Service and Contact:

In the event that service or technical support is required, please contact **Benchmark** by phone at **1-908-769-5555** or by email at info@benchmarkscientific.com.

Accessories:

Attachments	Description	Application
IPS2050-P-S3 	Flat hole propeller Length: 400mm Diameter: 68mm Material: 316 Stainless Steel	Gently mixing, low speed
IPS2050-P-T3 	Flat hole propeller Length: 350mm Diameter: 68mm Material: PTFE Coating	Gently mixing, low speed
IPS2050-P-S2 	One line propeller Length: 400mm Diameter: 60mm Material: 316 Stainless Steel	Low viscosity mixing, mid-high speed
IPS2050-P-T2 	One line propeller Length: 350mm Diameter: 70mm Material: PTFE Coating	Low viscosity mixing, mid-high speed
IPS2050-P-S1 	Centrifugal propeller Length: 400mm Diameter: 90mm Material: 316 Stainless Steel	Flexible, Good for small mouth Round flasks, mid-high speed
IPS2050-P-T1 	Centrifugal propeller Length: 350mm Diameter: 85mm Material: PTFE Coating	Flexible, Good for small mouth Round flasks, mid-high speed
IPS050-P-S4 	4 Blades Propeller Length: 400mm Diameter: 50mm Material: 316 Stainless Steel	4 Arm, mid-high speed
IPS2050-P-T4 	4 Blades Propeller Length: 350mm Diameter: 65mm Material: PTFE Coating	4 Arm, mid-high speed

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