



ACHIEVER™ 5000 Overhead Stirrer Selector Guide

*Choose the Best Overhead Stirrer
for Your Application*

Choosing the Achiever 5000 Overhead Stirrer:

| | Achiever 020 | Achiever 040 | Achiever 060 | Achiever 100 | Achiever 200 |
|------------------------------|----------------|----------------|----------------|----------------|-------------------------------|
| Trade name | e-A51ST020 | e-A51ST040 | e-A51ST060 | e-A51ST100 | e-A51ST200 |
| Max Torque (Ncm) | 20 | 40 | 60 | 100 | 200 |
| Capacity (H ₂ O) | Up to 25 L | Up to 25 L | Up to 40 L | Up to 100 L | Up to 100 L |
| Max Viscosity (mPa × s = cP) | 10 000 | 25 000 | 50 000 | 70 000 | 100 000 |
| Speed Range | 30 – 2 000 rpm | 30 – 2 000 rpm | 30 – 2 000 rpm | 30 – 1 300 rpm | 6 – 400 rpm 30 – 2 000 rpm |

5 Questions to Ask

1. Sample Type
2. Sample Viscosity
3. Sample Volume
4. Speed Range
5. Mixing Preference

Choosing Stirring Shaft Accessory:

| Stirring Shafts | | | | | | | | |
|---------------------|--|---|--|---|---|---|--|---|
| Shape | | | | | | | | |
| Flow Diagram | | | | | | | | |
| Stirring Shaft with | Floating Blades | Fixed Blade | Folding Blade | Turbine | Propeller | Turbo Propeller | Paddle, 6 Holes | Anchor |
| Item Number | 30586777 | 30586776 | 30586778 | 30586781 | 30586780 | 30586782 | 30586779 | 30586775 |
| Blade | 93 × 11 mm | 50 × 10 mm | 60 × 15 mm | 49 × 10 mm | 60 × 9 mm | 46 × 14 mm | 69 × 75 mm | 45 × 54 mm |
| Shaft Ø | 7 mm | 7 mm | 7 mm | 7 mm | 7 mm | 7 mm | 7 mm | 7 mm |
| Shaft Length | 400 mm | 400 mm | 400 mm | 400 mm | 400 mm | 400 mm | 510 mm | 400 mm |
| Speed Range | 250 – Max rpm | 250 – Max rpm | 250 – Max rpm | 250 – Max rpm | 250 – Max rpm | 250 – Max rpm | Up to 800 rpm | All Speeds |
| Viscosity Range* | ● – ●● | ● – ●● – ●●● | ● – ●● | ●●● – ●●●● | ● – ●● – ●●● | ●●● – ●●●● | ●● – ●●● | ●●● – ●●●● |
| Flow Pattern | Radial | Radial | Radial | Radial | Axial | Axial | Tangential | Tangential |
| Description | Floating Blades align during stirring and create radial flow from top to bottom in the vessel. This blade is ideal for stirring in narrow neck vessels such as flasks. | Fixed Blade creates radial flow from top to bottom in the vessel. Ideal for use at medium to high speeds for stirring light solids, mixing thickening materials, flocculation, etc. | Folding Blade aligns during stirring and creates radial flow from top to bottom in the vessel. This blade is used for stirring in narrow neck vessels. | Turbine creates a high shear, high turbulence radial flow in the vessel. This flow is from top to bottom. | Propeller creates axial flow with limited shearing forces. This flow pulls the sample from top to bottom in the vessel. | Turbo Propeller creates a low shearing axial flow in the vessel. This flow pulls the sample from top to bottom and the ring limits the contact of the blade with walls of the vessel or probes. | Paddle creates a reduced turbulence radial flow in the vessel producing gentle mixing of the sample. | Anchor creates tangential flow with high shearing forces on the ends. This flow can prevent sedimentation on the walls of the vessel. |

*Consult the Viscosity Range table (below) for values.

| Viscosity Range | Very Low | Low | Medium | High |
|-----------------|----------|-------------|----------------|------------------|
| cP Range | 0 – 100 | 100 – 1 000 | 1 000 – 10 000 | 10 000 – 100 000 |
| Symbol | ● | ●● | ●●● | ●●●● |

Viscosity of Common Materials:



| Material | Water | Blood | Castor Oil | Honey | Shampoo | Face/Hand Cream | Chocolate Syrup | Butter | Cream Cheese (soft cheese) | Ketchup | Peanut Butter | Silicone Sealant | Window Putty |
|----------|-------|-------|------------|-----------|---------|-----------------|-----------------|--------|----------------------------|-------------|---------------|------------------|--------------|
| cP Range | 1 – 5 | 10 | 250 – 500 | 2 – 3 000 | 3 000 | 780 – 8 000 | 10 – 25 000 | 30 000 | 30 000 at 60°C | 50 – 70 000 | 150 – 200 000 | 5 – 10 000 000 | 100 000 000 |