













101

Overhead Mixer Selection Guide

| |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| | 101 | 102 | 105 | 103 | 103A | 103X |
| Horsepower | 1/75 | 1/75 | 1/80 | 1/12 | 1/12 | 1/12 |
| Type of Speed Control | Electronic | Electronic | Fixed | Electronic | Electronic | Fixed |
| Number of Output Shafts | 1 | 2 | 1 | 1 | 1 | 1 |
| Speed Range: Direct Drive | 500 to 7500rpm | 500 to 7500rpm | 1550rpm | 1000 to 7500rpm | 1000 to 7500rpm | 7500rpm |
| 10:1 | N/A | 50 to 750rpm | N/A | N/A | N/A | N/A |
| 60:1 | N/A | N/A | N/A | N/A | N/A | N/A |
| Torque: Direct Drive | 0.15 in-lbs | 0.15 in-lbs | 0.5 in-lbs | 0.7 in-lbs | 0.7 in-lbs | 0.7 in-lbs |
| 10:1 | N/A | 1 in-lbs | N/A | N/A | N/A | N/A |
| 60:1 | N/A | N/A | N/A | N/A | N/A | N/A |
| Electrical Specifications: Volts | 120 AC | 120 AC | 120 AC | 120 AC | 120 AC | 120 AC |
| Amps | 0.33 | 0.33 | 0.77 | 1.3 | 1.3 | 1.3 |
| Overall Usage Rating | Light | Light | Light | High Speed | High Speed | High Speed |
| Type of Chuck | Collet, Model 192 | Collet, Model 193 | Collet, Model 192 | Collet, Model 193 | Collet, Model 193 | Collet, Model 193 |
| Recommended Paddles | 150, 153A, 155, 165 | 151, 153B, 156, 161, 166 | 150, 153A, 155, 165 | 151, 153B | 151, 153B | 151, 153B |

| |  |  |  |  |
|---|---|---|---|---|
| | 134-2 | 138 | 4136 | 409 |
| Horsepower | 1/18 | 1/8 | 1/6 | 1/4 |
| Type of Speed Control | Transi-Stir | Transi-Stir | Transi-Stir | Transi-Stir |
| Number of Output Shafts | 3 | 2 | 2 | 1 |
| Speed Range: Direct Drive | 500 to 7500rpm | 500 to 7500rpm | 1000 to 5000rpm | 50 to 500rpm |
| 10:1 | 50 to 750rpm | 50 to 750rpm | 100 to 500rpm | N/A |
| 60:1 | 10 to 125rpm | N/A | N/A | N/A |
| Torque: Direct Drive | 0.5 in-lbs | 1.2 in-lbs | 1.5 in-lbs | 25 in-lbs |
| 10:1 | 4.7 in-lbs | 12 in-lbs | 15 in-lbs | N/A |
| 60:1 | 15 in-lbs | N/A | N/A | N/A |
| Electrical Specifications: Volts | 120 AC | 120 AC | 120 AC | 120 AC |
| Amps | 1.1 | 2.2 | 2.5 | 1.8 |
| Overall Usage Rating | Heavy | Heavy | Heavy | Heavy |
| Type of Chuck | Adjustable, Model 191D | Collet, Model 193 & Adjustable, Model 191D | Collet, Model 193 & Adjustable, Model 191D | Adjustable, Model 191L |
| Recommended Paddles | All | All | All | All |

Three components that make up an Overhead Mixer system:

1. Motor Unit



2. Mixing Paddle



3. Support Stand and Holder



All mixers include an 8" (20.3cm) mounting rod with carriage bolt and wrench for mounting motor to support stands. An additional holder is required to attach the motor's mounting rod to a support stand except the model 409 (429) which includes Model 112 Heavy-Duty holder. Support stands and holders sold separately.

Overhead Mixer Selection Guide



133 104 104A 104X 107 107SC 134-1

| | 133 | 104 | 104A | 104X | 107 | 107SC | 134-1 |
|---|-------------------|--------------------------------|--------------------------------|--------------------------------|-----------------------------|-----------------------------|------------------------|
| Horsepower | 1/12 | 1/18 | 1/18 | 1/18 | 1/30 | 1/30 | 1/18 |
| Type of Speed Control | Transi-Stir | Electronic | Electronic | Fixed | Fixed | Electronic | Transi-Stir |
| Number of Output Shafts | 1 | 2 | 2 | 2 | 1 | 1 | 2 |
| Speed Range: Direct Drive | 500 to 750rpm | 1000 to 750rpm | 1000 to 750rpm | 750rpm | 1600rpm | 100 to 1600rpm | 500 to 750rpm |
| 10:1 | N/A | 100 to 750rpm | 100 to 750rpm | 750rpm | N/A | N/A | 50 to 750rpm |
| 60:1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Torque: Direct Drive | 0.7 in-lbs | 0.5 in-lbs | 0.5 in-lbs | 0.5 in-lbs | 1.3 in-lbs | 1.3 in-lbs | 0.5 in-lbs |
| 10:1 | N/A | 4.7 in-lbs | 4.7 in-lbs | 4.7 in-lbs | N/A | N/A | 4.7 in-lbs |
| 60:1 | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Electrical Specifications: Volts | 120 AC | 120 AC | 120 AC | 120 AC | 120 AC | 120 AC | 120 AC |
| Amps | 1.3 | 1.1 | 1.1 | 1.1 | 1.2 | 1.2 | 1.1 |
| Overall Usage Rating | High Speed | Medium | Medium | Medium | Medium | Medium | Heavy |
| Type of Chuck | Collet, Model 193 | Collet, Model 193 | Collet, Model 193 | Collet, Model 193 | Collet, Model 193 | Collet, Model 193 | Adjustable, Model 191D |
| Recommended Paddles | 151, 153B | All 5/16" Accessory Shafts* | All 5/16" Accessory Shafts* | All 5/16" Accessory Shafts* | 151, 152, 153B, 156, 166 | 151, 152, 153B, 156, 166 | All |

* Be sure the accessory shaft is 5/16" in diameter to fit Model 193 Collet Chuck.

How to Select an Overhead Mixer

Review the following information to help you select the appropriate motor and accessories for your unique applications.

Paddle Selection

- Viscosity of the sample
- Volume of the sample
- Size and shape of mixing vessel and vessel opening
- Speed needed to achieve proper mixing
- Paddle depth for effective mixing
- Paddle material: stainless steel, PTFE, or glass; may be dependent on the nature of the material being mixed
- Fluid flow: axial, radial

Motor Selection

- Mixing speed
- Viscosity
- Duty Rating:
 - Light:
 - Ideal for low viscosity materials
 - Volumes under 10 gallons
 - High Speed:
 - Ideal for high speed dispersion and low viscosity
 - Medium:
 - Multi-purpose units designed for various mixing tasks
 - Gear reduction shaft provides more torque for higher viscosity mixing
 - Direct drive shaft is ideal for lower viscosity and high speed mixing
 - Heavy:
 - Designed for high viscosity applications or large batch mixing
 - Gear reduction provides the torque required for more difficult mixing applications.

Speed Control

- Transi-stir:
 - Provides variable speed control throughout the entire speed range
 - Available top mounted or remotely attached
- Electronic:
 - Maintains set speed even under changing viscosity or load
 - Provides stepless, variable speed control
- Fixed:
 - Maintains fixed speed

Support Stands and Holders

- Support stands are not included with motors
- Available in a variety of lengths
- Standard Holder supports the supplied rod for mounting most mixers
- Heavy-Duty Holder accommodates a wider range of sizes and is sturdier thus decreasing vibration

Chucks

- Adjustable Jacobs style:
 - Not recommended for high speed mixing
- Precision Collet style:
 - Used when motor shaft and accessory shaft are the same diameter
 - Recommended when running at higher speeds
- Glass Rod:
 - Required chuck when using glass mixing rods
 - Designed to eliminate wobble and vibration common with glass mixing rods
 - Nylon inserts help maintain the integrity of glass mixing rods

Light Duty Mixers

- General purpose mixers
- Economical, compact, and durable
- Up to 7500rpm

For low viscosity mixing. These light duty mixers offer low torque for general purpose mixing and have a continuous duty rating. Mixers include collet chuck and 8" (20.3cm) mounting rod with carriage bolt and wrench for mounting motor to support stands. An additional clamp (110B or 112) is required to attach the motor's mounting rod to a support stand. Support stands and holders sold separately (see page 137).



Model 101

- Top mounted Basic Speed Control
- Compact and economical for light duty mixing
- Offers a single shaft, direct drive motor
- Mixes up to five gallons of water

Recommended accessory shafts:
150, 153A, 155, 165



Model 102

- Top mounted Basic Speed Control
- Provides increased torque with 10:1 gear reduction
- Offers the capability of two mixing shafts for multiple applications and added versatility
- Mixes up to two gallons of lightweight oils

Recommended accessory shafts:
151, 153B, 156, 161, 166



Model 105

- Economic, light duty batch mixer without speed control offers a fixed speed of 1550rpm.
- An internal overload feature shuts down motor when it becomes too hot.
- Mixes five gallons of water.
- Adjusta-Speed Control (part number 115) upgrade available for this model (sold separately, see page 115)

Recommended accessory shafts:
150, 153A, 155, 165

| Specifications | | | |
|--------------------------------|--|--|--|
| Model | 101 | 102 | 105 |
| Horsepower | 1/75 | 1/75 | 1/80 |
| Speed Range | | | |
| Direct Drive | 500 to 7500rpm | 500 to 7500rpm | 1550rpm |
| 10:1 | N/A | 50 to 750rpm | N/A |
| Torque | | | |
| Direct Drive | 0.15 in-lbs | 0.15 in-lbs | 0.5 in-lbs |
| 10:1 | N/A | 1 in-lbs | N/A |
| Electrical | 120 volt, 0.33 amps | 120 volt, 0.33 amps | 120 volt, 0.77 amps |
| Shaft Size | 1/4" (6.4mm) | 5/16" (7.9mm) | 1/4" (6.4mm) |
| Chuck Type | Collet | Collet | Collet |
| Overall Dimensions (L x W x H) | 5 x 4.5 x 8" (12.7 x 11.4 x 20.3cm) | 6.5 x 8.5 x 7" (16.5 x 21.6 x 17.8cm) | 5 x 4.5 x 4" (12.7 x 11.4 x 10.2cm) |
| Ship Weight | 4.6lbs (2.1kg) | 5.1lbs (2.3kg) | 4.6lbs (2.1kg) |
| Part Number | 101 | 102 | 105 |

High Speed Mixers

- Ideal for high speed dispersion up to 7500rpm
- Direct drive
- Continuous duty

Compact design for low torque, high speed mixing. Perfect units for low viscosity mixing. Each is configured with different speed control options. Mixers include collet chuck and 8" (20.3cm) mounting rod with carriage bolt and wrench for mounting motor to support stands. An additional clamp (110B or 112) is required to attach the motor's mounting rod to a support stand. Support stands and holders sold separately (see page 137).

**Model 103**

- Table mounted Basic Speed Control
- The speed control is remotely attached by a 42" (107cm) cord
- Speed control can be placed on a counter top or shelf close to the stirring apparatus

**Model 103A**

- Top mounted Basic Speed Control
- Compact, sturdy design

**Model 103X**

- An economical 7500rpm fixed speed mixer
- Powered with an on/off switch
- Adjusta-Speed Control (part number 115) upgrade available for this model (sold separately, see page 115)

**Model 133**

- Top mounted Standard Speed Control
- The perfect mixer for emulsions that require high speeds and more torque
- Maintains constant speed even when viscosity changes

Recommended accessory shafts:
151, 153B

Recommended accessory shafts:
151, 153B

Recommended accessory shafts:
151, 153B

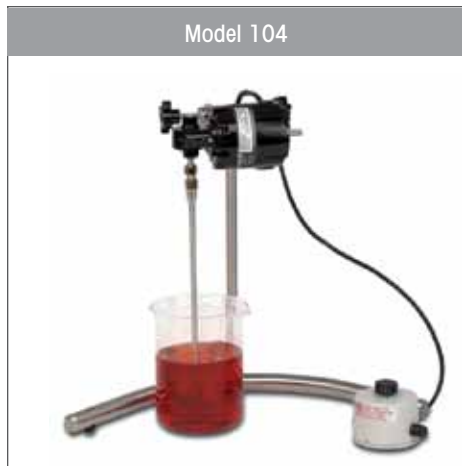
Recommended accessory shafts:
151, 153B

| Specifications | | | | |
|---------------------------------------|--|--|--|--|
| Model | 103 | 103A | 103X | 133 |
| Horsepower | 1/12 | 1/12 | 1/12 | 1/12 |
| Speed Range | | | | |
| Direct Drive | 1000 to 7500rpm | 1000 to 7500rpm | 7500rpm | 500 to 7500rpm |
| 10:1 | N/A | N/A | N/A | N/A |
| Torque | | | | |
| Direct Drive | 0.7 in-lbs | 0.7 in-lbs | 0.7 in-lbs | 0.7 in-lbs |
| 10:1 | N/A | N/A | N/A | N/A |
| Electrical | 120 volt, 1.3 amps | 120 volt, 1.3 amps | 120 volt, 1.3 amps | 120 volt, 1.3 amps |
| Shaft Size | 5/16" (7.9mm) | 5/16" (7.9mm) | 5/16" (7.9mm) | 5/16" (7.9mm) |
| Chuck Type | Collet | Collet | Collet | Collet |
| Overall Dimensions (L x W x H) | 5 x 4.4 x 8" (12.7 x 11.2 x 20.3cm) | 5 x 4.4 x 8" (12.7 x 11.2 x 20.3cm) | 5 x 4.4 x 8" (12.7 x 11.2 x 20.3cm) | 5 x 4.4 x 8" (12.7 x 11.2 x 20.3cm) |
| Ship Weight | 4.6lbs (2.1kg) | 4.6lbs (2.1kg) | 4.6lbs (2.1kg) | 4.6lbs (2.1kg) |
| Part Number | 103 | 103A | 103X | 133 |

Medium Duty Mixers

- Durable and rugged multi-purpose mixers
- Wide range of speeds
- Moderate torque

The 104 models are medium duty, multi-purpose mixers that offer more power. All of these units offer two mixing shafts for versatility. The high speed drive shaft mixes emulsions. The low speed drive shaft handles high viscosity mixing. Mixers include collet chuck and 8" (20.3cm) mounting rod with carriage bolt and wrench for mounting motor to support stands. An additional clamp (110B or 112) is required to attach the motor's mounting rod to a support stand. Support stands and holders sold separately (see page 137).



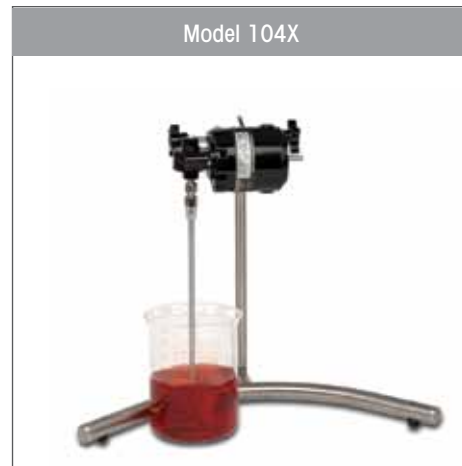
Model 104

- Table mounted Basic Speed Control
- The speed control is remotely attached by a 42" (107cm) cord
- Dual shafts add versatility



Model 104A

- Top mounted Basic Speed Control
- Compact design saves space
- Dual shafts add versatility



Model 104X

- Economic dual shaft mixer without speed control
- Outfitted with an on/off switch
- Speeds of 7500 or 750rpm
- Adjusta-Speed Control (part number 115 upgrade available for this model (sold separately, see page 115)

Recommended accessory shafts:

All 5/16" accessory shafts

Recommended accessory shafts:

All 5/16" accessory shafts

Recommended accessory shafts:

All 5/16" accessory shafts

| Specifications | | | |
|--------------------------------|--|--|--|
| Model | 104 | 104A | 104X |
| Horsepower | 1/18 | 1/18 | 1/18 |
| Speed Range | | | |
| Direct Drive | 1000 to 7500rpm | 1000 to 7500rpm | 7500rpm |
| 10:1 | 100 to 750rpm | 100 to 750rpm | 750rpm |
| Torque | | | |
| Direct Drive | 0.5 in-lbs | 0.5 in-lbs | 0.5 in-lbs |
| 10:1 | 4.7 in-lbs | 4.7 in-lbs | 4.7 in-lbs |
| Electrical | 120 volt, 1.1 amps | 120 volt, 1.1 amps | 120 volt, 1.1 amps |
| Shaft Size | 5/16" (7.9mm) | 5/16" (7.9mm) | 5/16" (7.9mm) |
| Chuck Type | Collet | Collet | Collet |
| Overall Dimensions (L x W x H) | 6.5 x 8.5 x 4" (16.5 x 21.6 x 10.2cm) | 6.5 x 8.5 x 7" (16.5 x 21.6 x 17.8cm) | 6.5 x 8.5 x 4" (16.5 x 21.6 x 10.2cm) |
| Ship Weight | 5.1lbs (2.3kg) | 5.1lbs (2.3kg) | 5.1lbs (2.3kg) |
| Part Number | 104 | 104A | 104X |

Medium Duty Mixers

- Direct drive
- Brushless motors
- Fan cooled

The 107 models are comprised of a single shaft construction to maintain quiet mixing. This product line mixes large amounts of low viscous solutions when equipped with two Model 152A propellers. Both models have a continuous duty rating. Mixers include collet chuck and 8" (20.3cm) mounting rod with carriage bolt and wrench for mounting motor to support stands. An additional clamp (110B or 112) is required to attach the motor's mounting rod to a support stand. Support stands and holders sold separately (see page 137).

**Model 107**

- An economical mixer with a fixed speed of 1600rpm
- Utilizes an on/off switch
- Ideal for batch mixing
- Adjusta-Speed Control (part number 115) upgrade available for this model (sold separately, see page 115)

Recommended accessory shafts:

151, 152, 153B, 156, 166

**Model 107SC**

- Table mounted Basic Speed Control
- The speed control is remotely attached by a 42" (107cm) cord
- Offers a variable speed option
- Useful for working under a fume hood

Recommended accessory shafts:

151, 152, 153B, 156, 166

| Specifications | | |
|--------------------------------|--|--|
| Model | 107 | 107SC |
| Horsepower | 1/30 | 1/30 |
| Speed Range | | |
| Direct Drive | 1600rpm | 100 to 1600rpm |
| 10:1 | N/A | N/A |
| Torque | | |
| Direct Drive | 1.3 in-lbs | 1.3 in-lbs |
| 10:1 | N/A | N/A |
| Electrical | 120 volt, 1.2 amps | 120 volt, 1.2 amps |
| Shaft Size | 5/16" (7.9mm) | 5/16" (7.9mm) |
| Chuck Type | Collet | Collet |
| Overall Dimensions (L x W x H) | 5.5 x 5.5 x 4" (13.4 x 13.4 x 10.2cm) | 5.5 x 5.5 x 4" (13.4 x 13.4 x 10.2cm) |
| Ship Weight | 4.6lbs (2.1kg) | 4.6lbs (2.1kg) |
| Part Number | 107 | 107SC |

Heavy Duty Mixers

- Durable and rugged, extremely versatile high viscosity mixers
- High torque
- Maintains constant speed

This product line offers the power and versatility required for viscous mixing. Heavy-Duty Mixers offer higher horsepower and greater torque over available speed ranges for difficult mixing jobs. Each mixer maintains constant speed even when the viscosity changes. Mixers are fitted with an adjustable Jacobs style chuck that accepts any accessory shaft. Mixers include adjustable chuck and 8" (20.3cm) mounting rod with carriage bolt and wrench for mounting motor to support stands. An additional clamp (110B or 112) is required to attach the motor's mounting rod to a support stand. Support stands and holders sold separately (see page 137).



Model 134-1

- Top mounted Standard Speed Control
- Heavy-duty power at an economical price
- Offers higher torque over a wide speed range
- Perfect for mixing emulsions that require high speed and torque
- Mixes light oils at speeds of 50 to 750rpm

Model 134-2

- Top mounted Standard Speed Control
- Features a unique triple shaft design
- Extremely powerful and versatile
- Offers high torque for slow speed mixing
- Mixes small quantities of high viscosity materials

Recommended accessory shafts: All

Recommended accessory shafts: All

| Specifications | | |
|--------------------------------|--|--|
| Model | 134-1 | 134-2 |
| Horsepower | 1/18 | 1/18 |
| Speed Range | | |
| Direct Drive | 500 to 7500rpm | 500 to 7500rpm |
| 10:1 | 50 to 750rpm | 50 to 750rpm |
| 60:1 | N/A | 10 to 125rpm |
| Torque | | |
| Direct Drive | 0.5 in-lbs | 0.5 in-lbs |
| 10:1 | 4.7 in-lbs | 4.7 in-lbs |
| 60:1 | N/A | 15 in-lbs |
| Electrical | 120 volt, 1.1 amps | 120 volt, 1.1 amps |
| Shaft Size | 5/16" (7.9mm) | 5/16" (7.9mm) |
| Chuck Type | Adjustable | Adjustable |
| Overall Dimensions (L x W x H) | 6.5 x 8.5 x 7" (16.5 x 21.6 x 17.8cm) | 6.5 x 8.5 x 7" (16.5 x 21.6 x 17.8cm) |
| Ship Weight | 5.1lbs (2.3kg) | 5.1lbs (2.3kg) |
| Part Number | 134-1 | 134-2 |

Heavy Duty Mixers

- Powerful permanent magnet gear motors
- Maintains constant speed
- High torque

Powerful DC permanent magnet motors deliver power and reliability for high viscosity mixing. Each mixer maintains constant speed even when the viscosity changes. The mixers are fitted with an adjustable Jacobs style chuck that accepts any accessory shaft. Model 138 (238) and 4136 mixers include collet and adjustable chucks and 8" (20.3cm) mounting rod with carriage bolt and wrench for mounting motor to support stands. An additional clamp (110B or 112) is required to attach the motor's mounting rod to a support stand. The model 409 (429) mixer includes adjustable chuck, model 112 heavy-duty holder, and 8" (20.3cm) mounting rod for mounting motor to support stands. Support stands and holders sold separately (see page 137).

**Model 138 (238)**

- Top mounted Standard Speed Control
- This dual shaft mixer offers high torque at all speeds
- Dual shafts add versatility
- Features a permanent magnet and high output motor

Recommended accessory shafts: All

**Model 4136**

- Top mounted Standard Speed Control
- Ideal for difficult applications
- This dual shaft mixer contains multiple speed ranges with excellent torque
- Features a permanent magnet and high output motor
- Mixes high viscous materials like oils, grease, and gels

Recommended accessory shafts: All

**Model 409 (429)**

- Top mounted Standard Speed Control
- The powerhouse of Overhead Mixers
- This single shaft mixer creates maximum torque
- Features permanent magnet and high output motor
- The perfect unit for mixing tar and epoxy-like materials

Recommended accessory shafts: All

| Specifications | | | |
|--------------------------------|--|--|--|
| Model | 138 (238) | 4136 | 409 (429) |
| Horsepower | 1/8 | 1/6 | 1/4 |
| Speed Range | | | |
| Direct Drive | 500 to 7500rpm | 1000 to 5000rpm | 50 to 500rpm |
| 10:1 | 50 to 750rpm | 100 to 500rpm | N/A |
| Torque | | | |
| Direct Drive | 1.2 in-lbs | 1.5 in-lbs | 25 in-lbs |
| 10:1 | 12 in-lbs | 15 in-lbs | N/A |
| Electrical | 120 volt, 2.2 amps 230 volt, 2.2 amps | 120 volt, 2.5 amps N/A | 120 volt, 1.8 amps 230 volt, 1.8 amps |
| Shaft Size | 5/16" (7.9mm) | 5/16" (7.9mm) | 3/4" (19mm) |
| Chuck Type | Collet and Adjustable | Collet and Adjustable | Adjustable |
| Overall Dimensions (L x W x H) | 6.5 x 8.5 x 7" (16.5 x 21.6 x 17.8cm) | 6.5 x 8.5 x 7" (16.5 x 21.6 x 17.8cm) | 6.5 x 8.5 x 7" (16.5 x 21.6 x 17.8cm) |
| Ship Weight | 6.3lbs (2.9kg) | 6.3lbs (2.9kg) | 5.1lbs (2.3kg) |
| Part Number | 138 (120V) 238 (230V) | 4136 (120V) | 409 (120V) 429 (230V) |

Chucks & Holders

Collet Chuck

Stainless steel precision collet type chuck is used when the motor shaft and accessory shaft are the same diameter. It is true running and is the preferred choice when running at high speeds.

| Description | Part Number |
|--|-------------|
| Fits 1/4" (6.4mm) diameter motor shafts | 192 |
| Fits 5/16" (7.9mm) diameter motor shafts | 193 |



192

Adjustable Chuck

Should be ordered based on the diameter of the motor shaft you are using. Each adjustable Jacobs style chuck can accommodate accessory shafts from 1/16" to 3/8" diameter. These products include a chuck key.

| Description | Part Number |
|--|-------------|
| Fits 1/4" (6.4mm) diameter motor shafts | 191C |
| Fits 5/16" (7.9mm) diameter motor shafts | 191D |
| Fits 3/4" (19mm) diameter motor shafts | 191L |



191C

Glass Rod Chuck

Holds glass mixing rods. It eliminates wobbling and vibration problems associated with glass mixing rods. This chuck accepts 1/4", 5/16", or 3/8" diameter motor shafts. It is equipped with nylon inserts needed for 0.24", 0.31" and 0.39" diameter mixing rods.

| Description | Part Number |
|--|-------------|
| Fits 1/4" (6.4mm) diameter motor shafts | 199A |
| Fits 5/16" (7.9mm) diameter motor shafts | 199B |
| Fits 3/8" (9.5mm) diameter motor shafts | 199C |



199A

Standard Support Holder

Has a strong stainless steel construction. It is equipped with oversized, easy to grip knobs for precise tightening. It also accommodates 1/2" (12.7mm) diameter shaft of a motor mounting rod and 5/8" (16mm) diameter support stand rod.

| Description | Part Number |
|-------------------------|-------------|
| Standard Support Holder | 110B |



110B

Heavy-Duty Holder

For mounting stirrers and other apparatus. Holder is constructed of strong aluminum alloy; fitted with oversized knobs for very secure positioning. Rods supported on 102mm (4") long surface to avoid vibration and wobble.

| Material | Min. to Max. Grip Size | Part Number |
|----------|---------------------------|-------------|
| Aluminum | 0.24 to 0.95" (6 to 24mm) | 112 |



112

Accessories

Propeller Shafts

All stainless steel 303/304 are constructed with 15° pitched blades which creates an axial flow. Various shaft lengths and diameters with permanent 2" or 3.5" 3-blade propeller for every mixing need available. PTFE coating available.

2" Propeller Shafts, Stainless Steel

| Blade Dia. | Shaft Dia. | Shaft Length | Part Number |
|------------|---------------|--------------|-------------|
| 2" (51mm) | 1/4" (6.4mm) | 12" (305mm) | 150 |
| 2" (51mm) | 1/4" (6.4mm) | 18" (457mm) | 150L |
| 2" (51mm) | 1/4" (6.4mm) | 24" (610mm) | 150XL |
| 2" (51mm) | 5/16" (7.9mm) | 12" (305mm) | 151 |
| 2" (51mm) | 5/16" (7.9mm) | 18" (457mm) | 151L |
| 2" (51mm) | 5/16" (7.9mm) | 24" (610mm) | 151XL |

2" Propeller Shafts, PTFE Coated

| Blade Dia. | Shaft Dia. | Shaft Length | Part Number |
|------------|---------------|--------------|-------------|
| 2" (51mm) | 1/4" (6.4mm) | 12" (305mm) | 150T |
| 2" (51mm) | 1/4" (6.4mm) | 18" (457mm) | 150LT |
| 2" (51mm) | 1/4" (6.4mm) | 24" (610mm) | 150XLT |
| 2" (51mm) | 5/16" (7.9mm) | 12" (305mm) | 151T |
| 2" (51mm) | 5/16" (7.9mm) | 18" (457mm) | 151LT |
| 2" (51mm) | 5/16" (7.9mm) | 24" (610mm) | 151XLT |

3.5" Propeller Shafts, Stainless Steel

| Blade Dia. | Shaft Dia. | Shaft Length | Part Number |
|-------------|---------------|--------------|-------------|
| 3.5" (89mm) | 5/16" (7.9mm) | 12" (305mm) | 152 |
| 3.5" (89mm) | 5/16" (7.9mm) | 18" (457mm) | 152L |
| 3.5" (89mm) | 5/16" (7.9mm) | 24" (610mm) | 152XL |
| 3.5" (89mm) | 5/16" (7.9mm) | 30" (762mm) | 152XXL |
| 3.5" (89mm) | 3/8" (9.5mm) | 12" (305mm) | 154 |
| 3.5" (89mm) | 3/8" (9.5mm) | 18" (457mm) | 154L |
| 3.5" (89mm) | 3/8" (9.5mm) | 24" (610mm) | 154XL |
| 3.5" (89mm) | 3/8" (9.5mm) | 30" (762mm) | 154XXL |

3.5" Propeller Shafts, PTFE Coated

| Blade Dia. | Shaft Dia. | Shaft Length | Part Number |
|-------------|---------------|--------------|-------------|
| 3.5" (89mm) | 5/16" (7.9mm) | 12" (305mm) | 152T |
| 3.5" (89mm) | 5/16" (7.9mm) | 18" (457mm) | 152LT |
| 3.5" (89mm) | 5/16" (7.9mm) | 24" (610mm) | 152XLT |
| 3.5" (89mm) | 5/16" (7.9mm) | 30" (762mm) | 152XXLT |
| 3.5" (89mm) | 3/8" (9.5mm) | 12" (305mm) | 154T |
| 3.5" (89mm) | 3/8" (9.5mm) | 18" (457mm) | 154LT |
| 3.5" (89mm) | 3/8" (9.5mm) | 24" (610mm) | 154XLT |
| 3.5" (89mm) | 3/8" (9.5mm) | 30" (762mm) | 154XXLT |

NOTE: Additional and custom sizes are available. Call customer service for more information.



Propeller Blades

Made of stainless steel. You can customize the propeller to the shaft of your choice. Several blades can be attached for increased agitation. Creates axial flow. Blades come on a bushing with a stainless steel hex-head screw and Allen key for attaching to mixing shafts.

| Blade Dia. | Fits Shaft Dia. | Part Number |
|-------------|-----------------|-------------|
| 1" (25mm) | 1/4" (6.4mm) | 987406 |
| 2" (51mm) | 1/4" (6.4mm) | 153A |
| 2" (51mm) | 5/16" (7.9mm) | 153B |
| 3.5" (89mm) | 5/16" (7.9mm) | 152A |
| 3.5" (89mm) | 3/8" (9.5mm) | 154A |



987406

High Speed Dispersion Blades

Designed for high speed dispersion. These blades tear particles apart and disperse them uniformly throughout the sample. Constructed of stainless steel with welded bushing and a set screw for mounting on mixer shafts.

| Blade Dia. | Fits Shaft Dia. | Part Number |
|------------|-----------------|-------------|
| 3" (76mm) | 5/16" (7.9mm) | 987407 |
| 3" (76mm) | 3/8" (9.5mm) | 987408 |



987407

Mixing Shafts

Made of stainless steel. Can add propeller blades to these shafts to customize a propeller shaft. Increase agitation with multiple blades on one shaft.

| Blade Dia. | Shaft Length | Part Number |
|---------------|--------------|-------------|
| 1/4" (6.4mm) | 6" (152mm) | 180 |
| 1/4" (6.4mm) | 12" (305mm) | 180A |
| 1/4" (6.4mm) | 18" (457mm) | 180L |
| 1/4" (6.4mm) | 24" (610mm) | 180XL |
| 1/4" (6.4mm) | 30" (762mm) | 180XXL |
| 1/4" (6.4mm) | 36" (914mm) | 180XXXL |
| 5/16" (7.9mm) | 6" (152mm) | 181 |
| 5/16" (7.9mm) | 12" (305mm) | 181A |
| 5/16" (7.9mm) | 18" (457mm) | 181L |
| 5/16" (7.9mm) | 24" (610mm) | 181XL |
| 5/16" (7.9mm) | 30" (762mm) | 181XXL |
| 5/16" (7.9mm) | 36" (914mm) | 181XXXL |
| 3/8" (9.5mm) | 6" (152mm) | 182 |
| 3/8" (9.5mm) | 12" (305mm) | 182A |
| 3/8" (9.5mm) | 18" (457mm) | 182L |
| 3/8" (9.5mm) | 24" (610mm) | 182XL |
| 3/8" (9.5mm) | 30" (762mm) | 182XXL |
| 3/8" (9.5mm) | 36" (914mm) | 182XXXL |



180

Accessories

Extension Sleeves

Comprised of precision bored stainless steel tubing. Mixing paddles are joined to shafts of the same diameter to increase the paddle length. You can connect the mixing paddle directly to the motor shaft by using the extension sleeve in place of a chuck.

| Description | Part Number |
|--|-------------|
| Fits 1/4" (6.4mm) Diameter Motor Shafts | 170 |
| Fits 5/16" (7.9mm) Diameter Motor Shafts | 171 |
| Fits 3/8" (9.5mm) Diameter Motor Shafts | 172 |



170

Swivel Blade Paddles

Mixes the contents of narrow-mouthed vessels. Creates radial flow. Constructed of durable stainless steel. Swivel blade is attached to the shaft. The blade measures 2W x 0.5H" (51 x 13mm)

| Blade Dia. | Shaft Length | Part Number |
|---------------|--------------|-------------|
| 1/4" (6.4mm) | 12" (305mm) | 165 |
| 1/4" (6.4mm) | 18" (457mm) | 165L |
| 1/4" (6.4mm) | 24" (610mm) | 165XL |
| 5/16" (7.9mm) | 12" (305mm) | 166 |
| 5/16" (7.9mm) | 18" (457mm) | 166L |
| 5/16" (7.9mm) | 24" (610mm) | 166XL |
| 3/8" (9.5mm) | 12" (305mm) | 167 |
| 3/8" (9.5mm) | 18" (457mm) | 167L |
| 3/8" (9.5mm) | 24" (610mm) | 167XL |



165

Chain Paddles

An efficient option for mixing the contents of narrow-necked containers. Fits openings as small as 5/8" (15.9mm). Blends suspensions and mixes both low and high viscosity liquids. Constructed entirely of stainless steel. Shafts vary in diameter and length. Swing diameter of chain is approximately 3" (76mm).

| Blade Dia. | Shaft Length | Part Number |
|---------------|--------------|-------------|
| 1/4" (6.4mm) | 12" (305mm) | 155 |
| 1/4" (6.4mm) | 18" (457mm) | 155L |
| 1/4" (6.4mm) | 24" (610mm) | 155XL |
| 5/16" (7.9mm) | 12" (305mm) | 156 |
| 5/16" (7.9mm) | 18" (457mm) | 156L |
| 5/16" (7.9mm) | 24" (610mm) | 156XL |
| 3/8" (9.5mm) | 12" (305mm) | 157 |
| 3/8" (9.5mm) | 18" (457mm) | 157L |
| 3/8" (9.5mm) | 24" (610mm) | 157XL |



155

Accessories

Beater Paddles

Designed for high torque, heavy-duty mixers. Paddle design inhibits incorporation of air, making it suitable for stirring shampoos and other foaming liquids. Constructed of stainless steel and available with PTFE coating. Creates radial flow. Small paddle blade is 4.5L x 3W" (114.3 x 76.2mm), large paddle blade is 5.5L x 4W" (139.7 x 101.6mm).

| Size | Shaft Dia. | Shaft Length | Part Number |
|------------------------|---------------|--------------|-------------|
| Small, Stainless Steel | 5/16" (7.9mm) | 12" (305mm) | 162S |
| Small, Stainless Steel | 5/16" (7.9mm) | 18" (457mm) | 162SL |
| Large, Stainless Steel | 5/16" (7.9mm) | 12" (305mm) | 162 |
| Large, Stainless Steel | 5/16" (7.9mm) | 18" (457mm) | 162L |
| Large, Stainless Steel | 5/16" (7.9mm) | 24" (610mm) | 162XL |
| Small, PTFE Coated | 5/16" (7.9mm) | 12" (305mm) | 162ST |
| Small, PTFE Coated | 5/16" (7.9mm) | 18" (457mm) | 162SLT |
| Large, PTFE Coated | 5/16" (7.9mm) | 12" (305mm) | 162T |
| Large, PTFE Coated | 5/16" (7.9mm) | 18" (457mm) | 162LT |
| Large, PTFE Coated | 5/16" (7.9mm) | 24" (610mm) | 162XLT |



162S

U-Shaped Paddles

Designed for high viscosity materials or large batch mixing. Constructed of stainless steel and available with PTFE coating. Creates radial flow. Recommended for high torque, heavy-duty mixers. Paddle blade is 4.5L x 4.5W" (114 x 114mm).

| Size | Shaft Dia. | Shaft Length | Part Number |
|-----------------|--------------|--------------|-------------|
| Stainless Steel | 3/8" (9.5mm) | 18" (457mm) | 987409 |
| Stainless Steel | 3/8" (9.5mm) | 24" (610mm) | 987410 |
| PTFE Coated | 3/8" (9.5mm) | 18" (457mm) | 987411 |
| PTFE Coated | 3/8" (9.5mm) | 24" (610mm) | 987412 |



987409

Solid Glass Mixer Paddles

Ideal for very sensitive samples. Constructed of chemical-resistant borosilicate glass that has been precision ground and polished. Creates radial flow. Requires Glass Rod Chuck to attach to mixer (see page 110).

| Size | Shaft Dia. | Shaft Length | Part Number |
|-------------|--------------|--------------|-------------|
| 2.5" (64mm) | 3/8" (9.5mm) | 12" (305mm) | 987420 |
| 2.5" (64mm) | 3/8" (9.5mm) | 18" (457mm) | 987421 |
| 2.5" (64mm) | 3/8" (9.5mm) | 24" (610mm) | 987422 |
| 3.5" (89mm) | 3/8" (9.5mm) | 12" (305mm) | 987423 |
| 3.5" (89mm) | 3/8" (9.5mm) | 18" (457mm) | 987424 |
| 3.5" (89mm) | 3/8" (9.5mm) | 24" (610mm) | 987425 |



987420

Don't see the length of the shaft you need? Gives us a call, we have other sizes in stock.

Accessories

Zig-Zag Paddles

Constructed of stainless steel and designed for durability. The zig-zag shape of this rod promotes mixing of heavy fluids like paints, pastes, and creams. Available in different shaft diameters and lengths. Also available with PTFE coating.

| Size | Shaft Dia. | Shaft Length | Part Number |
|-----------------|---------------|--------------|-------------|
| Stainless Steel | 1/4" (6.4mm) | 12" (305mm) | 160 |
| Stainless Steel | 1/4" (6.4mm) | 18" (457mm) | 160L |
| Stainless Steel | 1/4" (6.4mm) | 24" (610mm) | 160XL |
| Stainless Steel | 5/16" (7.9mm) | 12" (305mm) | 161 |
| Stainless Steel | 5/16" (7.9mm) | 18" (457mm) | 161L |
| Stainless Steel | 5/16" (7.9mm) | 24" (610mm) | 161XL |
| PTFE Coated | 1/4" (6.4mm) | 12" (305mm) | 160T |
| PTFE Coated | 1/4" (6.4mm) | 18" (457mm) | 160LT |
| PTFE Coated | 1/4" (6.4mm) | 24" (610mm) | 160XLT |
| PTFE Coated | 5/16" (7.9mm) | 12" (305mm) | 161T |
| PTFE Coated | 5/16" (7.9mm) | 18" (457mm) | 161LT |
| PTFE Coated | 5/16" (7.9mm) | 24" (610mm) | 161XLT |



160

Coil Impellers

Constructed of stainless steel and designed for durability. Creates radial flow. The rotating coils force the solution outward from the coil, creating a vacuum that pulls the particles through the coil, effectively reducing and dispersing the sample. Ideal for dissolving powders.

Bow-Tie Coils: Ideal for lower viscosity fluids

Straight Coils: Ideal for higher viscosity materials and larger solids

| Coil Type | Coil Length | Shaft Dia. | Shaft Length | Part Number |
|-----------|--------------|---------------|--------------|-------------|
| Bow-Tie | 1.5" (38mm) | 5/16" (7.9mm) | 12" (305mm) | 987426 |
| Bow-Tie | 2.5" (64mm) | 5/16" (7.9mm) | 12" (305mm) | 987427 |
| Bow-Tie | 3.5" (89mm) | 3/8" (9.5mm) | 12" (305mm) | 987428 |
| Bow-Tie | 4.5" (114mm) | 3/8" (9.5mm) | 18" (457mm) | 987429 |
| Straight | 1.5" (38mm) | 5/16" (7.9mm) | 12" (305mm) | 987430 |
| Straight | 2.5" (64mm) | 5/16" (7.9mm) | 12" (305mm) | 987431 |
| Straight | 3.5" (89mm) | 3/8" (9.5mm) | 12" (305mm) | 987432 |
| Straight | 4.5" (114mm) | 3/8" (9.5mm) | 18" (457mm) | 987433 |



987426

Adjusta-Speed Control

Excellent upgrade for units with no speed control. Solid state, electronic, voltage control varies speed steplessly over the motor's range. Ideal for use with models 105, 103X, 104X, and 107.

| Description | Part Number |
|-----------------------|-------------|
| Adjusta-Speed Control | 115 |



115