



 **Cole-Parmer®**

**Stir-Pak® AND
SERVO DYNE™ MIXERS**

LABORATORY MIXERS FOR
EVERY NEED



For more than 30 years, Stir-Pak® and ServoDyne™ overhead stirrers have helped laboratory scientists with virtually all their mixing and stirring needs. Whether working with relatively simple and straightforward applications such as water-like solutions, to viscous and precise mixing times or cycles, the line of Stir-Pak and Servodyne mixers has the answer to your requirements.

Stir-Pak General-Purpose Mixers

FULL-RANGE PERFORMANCE AT A VERY AFFORDABLE PRICE!

- Highly reliable—perfect for your easy, light-duty mixing needs
- Variable speed from 40 to 4000 rpm

Our general-purpose mixer is ideal for routine mixing of water-like viscosities. Speed ramps to set speed.

Brushed DC motor has a compact speed controller integrated by a custom anodized aluminum potentiometer, which controls both on/off and variable-speed settings for single-direction mixing. LED light indicates when motor is turned on, or when an overload, over-temperature situation occurs.

Keyless chuck accepts mixing shafts from $\frac{5}{16}$ " to $\frac{3}{8}$ " (8 to 10 mm) dia.

Mixer includes: $\frac{3}{8}$ " (9.5 mm) dia x 12" (305 mm) L, 316 stainless steel shaft; 1 $\frac{1}{2}$ " (38 mm) dia propeller; 6" (152 mm) mounting rod; and 6-ft (1.8-m) grounded cord with power supply.

Complete system adds: double clamp and support stand.



Catalog number	Description	Speed (rpm)	hp	Max torque (in-oz)	Power (VAC, Hz)
MK-04555-00	Mixer only	40 to 4000	$\frac{1}{50}$	9.5	115/230, 50
MK-04555-50	Complete mixer system				

Accessories

MK-04552-25 Shaft, $\frac{3}{8}$ " dia x 24"L (10 mm dia x 610 mm L); 316 stainless steel. Accepts a $\frac{5}{16}$ " (8 mm) bore dia propeller

MK-04552-60 Propeller, 3" (76 mm) overall dia x $\frac{5}{16}$ " (8 mm) bore dia; 316 stainless steel

MK-08041-22 Double clamp for mounting the mixer head onto a stand; holds rods up to $\frac{7}{8}$ " (22 mm) dia. 316 stainless steel

MK-04552-90 Replacement keyless chuck, includes adapter and key

MK-50801-50 Mixer stand, 24" x 9 $\frac{1}{2}$ " (610 x 241 mm) with $\frac{5}{8}$ " dia x 24"L (16 x 610 mm) SS solid rod



Stir-Pak Dual-Shaft Mixer

IDEAL FOR APPLICATIONS WITH CHANGING VISCOSITY REQUIREMENTS

- Use for either high-speed or high-torque mixing
- Solid-state controller for precise speed control

Two motor axles give you two mixers in one! The direct-drive axle provides high-speed, low-viscosity mixing; switch to the gear-reduction axle for your low-speed, high-viscosity mixing needs.

Rugged, permanent-magnet, totally enclosed nonventilated (TENV) motor has permanently lubricated ball bearings. Gear-shaft gear ratio is 20:1. Our solid-state controller maintains speed regulation better than $\pm 2\%$ —critical for materials that change viscosity as mixing progresses.

Improved torque limiting feature protects against motor gear failure. Controller is totally enclosed and has an IP24 rating for protection against dust and water; it is UL-listed and CSA-approved. A 6-ft (1.8-m) cord connects the controller and the motor.

Keyless chuck accepts shafts from $\frac{5}{16}$ " to $\frac{3}{8}$ " (8 to 10 mm) dia.

Mixer includes: Controller 6" (152 mm) L mounting rod and 6-ft (1.8-m) three-wire cord with plug.

Complete system adds: $\frac{3}{8}$ " (9.5 mm) dia x 12" (305 mm) L, shaft; 3" dia (76 mm dia) propeller; double clamp; and support stand.



Catalog number	Description	Speed (rpm)	hp	Max torque (in-oz)	Power (VAC, Hz)
MK-04555-25	Mixer only	Direct-drive shaft: 50 to 5000 Gear shaft: 3 to 250 rpm	$\frac{1}{50}$	Direct-drive shaft: 4 Gear shaft: 80	115, 50/60
MK-04555-60	Complete mixer system				

Accessories

MK-04552-00 Shaft, $\frac{3}{8}$ " dia x 24"L (10 mm dia x 610 mm L); 316 stainless steel. Accepts a $\frac{5}{16}$ " (8 mm) bore dia propeller

MK-04552-60 Propeller, 3" (76 mm) overall dia x $\frac{5}{16}$ " (8 mm) bore dia; 316 stainless steel

MK-04552-80 Mixer support stand has a corrosion-resistant base and 303 stainless steel support rod. Rod measures 29"H x $\frac{5}{8}$ " dia (740 mm H x 16 mm dia). Both legs accept extra support rod (sold below)

MK-04552-85 Extra support rod for stand 04552-80

MK-08041-22 Double clamp for mounting the mixer head onto a stand; holds rods up to $\frac{7}{8}$ " (22 mm) dia. 316 stainless steel

MK-04552-75 Support platform for mounting controller adjacent to mixer head

MK-01578-05 Transformer for 230 VAC operation

MK-04552-82 Replacement keyless chuck, includes adapter and key

MK-04552-81 Replacement motor brush set (set of two brushes)

MK-04552-42 Replacement controller



Direct-drive axle provides higher speeds for use with water-like fluids.

Gear-driven axle provides greater torque for more viscous fluids.

Stir-Pak Heavy-Duty Mixers

MODULAR SYSTEM FOR MAXIMUM VERSATILITY— ORDER COMPONENTS SEPARATELY OR IN ONE COMPLETE SYSTEM

Our modular Stir-Pak heavy-duty mixer system allows you the flexibility to create the best system for your mixing applications. System components are sold separately or as convenient complete system packages—customize your own system or select one of ours.

To customize your own system, simply start with a solid-state speed controller, add one of the four mixing heads depending on your speed and torque requirements, select a shaft and propeller, then choose from clamps and stands that best suit your application.

SOLID-STATE SPEED CONTROLLER

Controller offers precise speed control with a 100:1 adjustment range. A separate “forward/off/reverse” switch works independently from the speed control dial—allowing you to repeat mixer speed settings from one run to the next. Electronic control maintains speed regulation better than $\pm 2\%$. Torque limiting provides greater system protection and reduced motor gear failure. An LED indicates when power is on.

Remote controller is connected to the mixer head via a 6-ft (1.8-m), three-wire cord—protects electronics from hazardous spills or splashes. Controller measures 7"W x 3 $\frac{3}{16}$ "H x 4 $\frac{7}{8}$ "D (178 mm W x 81 mm H x 124 mm D).

The 115 VAC model has a 6-ft (1.8-m) cord with grounded plug. The 230 VAC model has an 8-ft (2.4-m) modular line cord and IEC320/CEE22 connector. When ordering, specify country of destination to receive correct line cord.



Catalog number	Description	Power (VAC, Hz)
MK-50007-00	Stir-Pak controller	115, 50/60
MK-50007-05		230, 50/60

Build your own system! Order shafts, propellers, clamps, and stands on last page.



MIXER HEADS

Heads feature a TENV, permanent-magnet DC motor with permanently lubricated ball bearing construction. Choose from four models depending on your desired speed and torque ranges. All mixer heads are equipped with an integral adjustable-tilt mounting assembly that permits the rotation of the mixer head from 0 to 30° for proper placement of shaft and propeller. Heads measure approximately 11½"H x 3⅝" dia (292 mm H x 92 mm dia).

High-Torque, Low-Speed Mixer Heads feature a keyless chuck that accepts mixing shafts from ⅝" to ⅜" (8 to 9.5 mm) dia.

High-Speed, Low-Torque Mixer Heads incorporate a hollow through-shaft and a precision hand-tightened collet; collet accepts ⅜" (9.5 mm) dia mixing shafts. The design lets you quickly position the mixing propeller at any depth within the container without moving the mixer head. The design also minimizes shaft "wobble" common at higher speeds and with longer shaft lengths.



Catalog number	Speed (rpm)	hp	Max torque (in-oz)	Power (VAC, Hz)
High-torque, low-speed mixer heads				
MK-50007-10	2 to 180	⅓	340	115, 50/60
MK-50007-15				230, 50/60
MK-50007-20	9 to 900	⅓	70	115, 50/60
MK-50007-25				230, 50/60
High-speed, low-torque mixer heads				
MK-50007-30	23 to 2300	⅓	45	115, 50/60
MK-50007-35				230, 50/60
MK-50007-40	60 to 6000	⅓	17	115, 50/60
MK-50007-45				230, 50/60

Accessories

MK-04552-83 Replacement collet set including nut and key

MK-04552-90 Replacement keyless chuck, includes adapter and key



COMPLETE SYSTEM—EVERYTHING YOU NEED!

These convenient, ready-made systems come complete with a mixer head, speed controller, shaft, propeller, clamp, and stand. **Note:** High-torque models include keyless chuck. Low-torque models include collet.

Catalog number	Speed (rpm)	hp	Max torque (in-oz)	Power (VAC, Hz)
High-torque, low-speed complete mixer systems				
MK-50007-12	2 to 180	⅓	340	115, 50/60
MK-50007-17				230, 50/60
MK-50007-22	9 to 900	⅓	70	115, 50/60
MK-50007-27				230, 50/60
High-speed, low-torque complete mixer systems				
MK-50007-32	23 to 2300	⅓	45	115, 50/60
MK-50007-37				230, 50/60
MK-50007-42	60 to 6000	⅓	17	115, 50/60
MK-50007-47				230, 50/60



Servodyne Electronic Mixers

MODULAR DESIGN FEATURES EASY CUSTOMIZATION TO SUIT YOUR NEEDS

- Monitor and control speed, torque, and batch time through a computer interface
- Permanent-magnet DC motor with permanently lubricated ball-bearing construction for maintenance-free operation

Our modular Servodyne electronic mixer system allows you the flexibility to create the best system for your mixing applications. System components are sold separately or as convenient complete system packages—customize your own system or select one of ours.

To customize your own system, simply start with a solid-state speed controller, add one of the four mixing heads depending on your speed and torque requirements, select a shaft and propeller, then choose from clamps and stands that best suit your application.

CONTROLLER

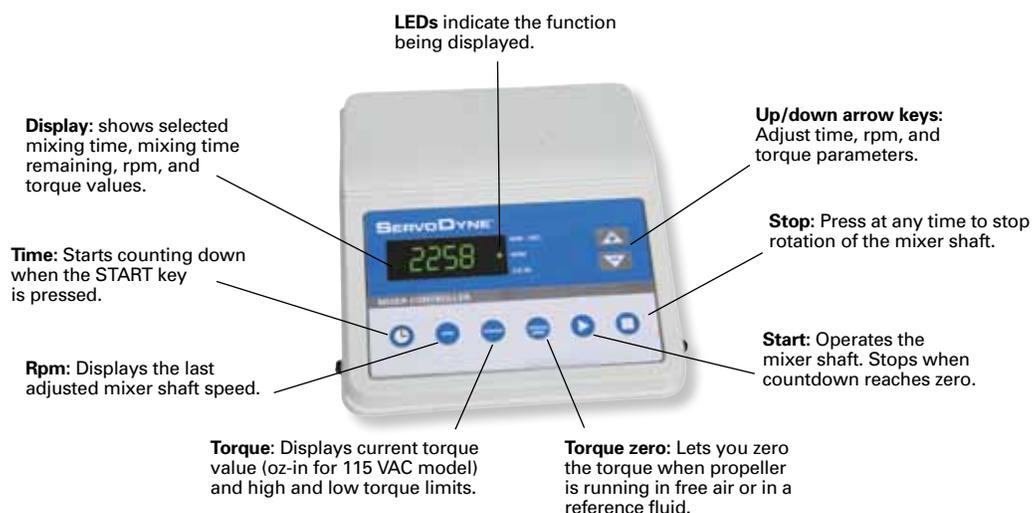
Provide precise control of mixing speed within $\pm 0.2\%$ despite changes in viscosity, temperature, or line voltage. Monitor torque, set torque limits, or measure and control differential torque with mixer head in use and sets the appropriate rpm and torque limits for that motor. Controller measures 6½"W x 3½"H x 7¾"D (165 mm W x 89 mm H x 197 mm D).

Controller allows mixer system to be monitored and controlled via computer interface. Software program lets you control up to 16 Servodyne mixers and Masterflex® computer-compatible pump drives (go to www.coleparmer.com for compatible pump drives).

Controller includes a 6-ft (1.8-m) modular line cord with IEC320/CEE22 connector; specify country of final destination to receive correct line cord.



Catalog number	Description	Power (VAC, Hz)
MK-50008-00	Servodyne controller	115, 50/60



MIXER HEADS

Optical shaft encoder relays the exact motor rotation speed data to the electronic mixer controller. Adjustable-tilt mounting assembly permits rotation of mixer head from 0° to 30° for proper positioning of shaft and propeller. Mixer heads include a chuck/collet (depending on the model), 5" L x 1/2" dia (127 mm L x 13 mm dia) mounting rod, and 6-ft (1.8-m) multi-conductor cable to connect to the controller.

High-Torque, Low-Speed Mixer Heads have a keyless chuck that accepts mixing shafts up to 3/8" (9.5 mm) dia.

High-Speed, Low-Torque Mixer Heads have an adjustable, through-shaft precision hand-tightened collet that accepts 3/8" (9.5 mm) dia mixing shafts. Through-shaft design allows positioning the mixing propeller at any depth without moving the mixer head—minimizes shaft “wobble” that occurs at higher speeds or with longer shafts.



Catalog number	Speed (rpm)	hp	Max torque (in-oz)	
			Continuous	Intermittent
High-torque, low-speed mixer heads				
MK-50008-10	3 to 180	1/15	340	510
MK-50008-20	20 to 900	1/15	70	105
High-speed, low-torque mixer heads				
MK-50008-30	60 to 2300	1/10	45	65
MK-50008-40	150 to 6000	1/10	17	25

COMPUTER SOFTWARE AND CABLE

Monitor and control your Servodyne mixer system from an IBM® or compatible computer via computer interface. Software program lets you control up to 16 Servodyne mixers and Masterflex® computer-compatible pump drives. Various application programs let you dedicate your automated setup for mixing and diluting, sequence control, flow proportioning, reversible batch dispensing, delivering single and multiple slope gradients, or customizing procedures for specialized applications.

MK-07551-70 Software for Windows® v3.1 or later, CD-ROM format. Requires RS-232 cable 07550-64 below

MK-07550-64 RS-232 interface cable, 8-ft (2.4-m) long. Connects Servodyne mixer system to a PC. RJ11 to DB25 connection; includes DB25/DB9 adapter

Accessories

MK-04552-83 Replacement collet set including nut and key

MK-04552-90 Replacement keyless chuck, includes adapter and key

COMPLETE SYSTEM—EVERYTHING YOU NEED!

These convenient, ready-made systems come complete with speed controller, mixer head, shaft, propeller, clamp, and stand. **Note:** High-torque models include keyless chuck. Low-torque models include collet.

Catalog number	Speed (rpm)	hp	Max torque (in-oz)		Power (VAC, Hz)
			Continuous	Intermittent	
High-torque, low-speed complete mixer systems					
MK-50008-12	3 to 180	1/15	340	510	115, 50/60
MK-50008-22	20 to 900		70	105	
High-speed, low-torque complete mixer systems					
MK-50008-32	60 to 2300	1/10	45	65	115, 50/60
MK-50008-42	150 to 6000		17	25	



In the U.S.

625 E. Bunker Court
Vernon Hills, IL 60061
Call toll-free 800-323-4340
Phone: 847-549-7600
Fax: 847-247-2929
www.coleparmer.com

In Canada

Call toll-free 800-363-5900
Phone: 514-355-6100
Fax: 514-355-7119
www.coleparmer.ca

In the United Kingdom

Free phone: 0500-345-300
Phone: 020-8574-7556
Fax: 020-8574-7543
www.coleparmer.co.uk

In India

Phone: 91-22-6716-2222
Fax: 91-22-6716-2211
www.coleparmer.in

International customers

Call 847-549-7600 to reach our International Sales Department or contact your local dealer.

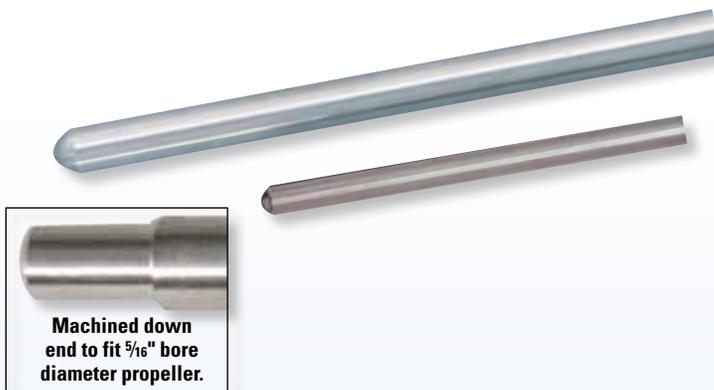


**FREE TECHNICAL
APPLICATIONS ASSISTANCE!**

MIXING SHAFTS

Shafts are 316 stainless steel. All 3/8" (9.5 mm) dia shafts are machined on one end to accept a 5/16" (8 mm) bore diameter propeller.

Catalog number	Shaft dimensions (dia x L)
MK-04552-20	5/16" x 12" (8 x 305 mm)
MK-04552-30	5/16" x 18" (8 x 457 mm)
MK-04552-25	3/8" x 12" (9.5 x 305 mm)
MK-04552-35	3/8" x 18" (9.5 x 457 mm)
MK-04552-00	3/8" x 24" (9.5 x 69.5 mm)
MK-04552-05	3/8" x 30" (9.5 x 762 mm)



PROPELLERS

Use these three-bladed electro-polished propellers for your general-purpose mixing. Use singly or mount several on a shaft for thorough agitation. Choose marine-style propellers for your general-purpose mixing or choose turbine style for your airless mixing in deep containers.

Catalog number	Description	Bore diameter	Overall diameter
MK-04552-40	Marine style	5/16" (8 mm)	1" (25 mm)
MK-04552-45	Marine style	5/16" (8 mm)	1 1/2" (38 mm)
MK-04552-50	Marine style	5/16" (8 mm)	2" (51 mm)
MK-04552-55	Marine style	3/8" (9.5 mm)	2" (51 mm)
MK-04552-60	Marine style	5/16" (8 mm)	3" (76 mm)
MK-04552-10	Turbine style	5/16" (8 mm)	2" (51 mm)
MK-04552-15	Turbine style	3/8" (9.5 mm)	2" (51 mm)



Accessories

MK-04552-65 Tank clamp lets you mount a mixer head and a controller support (either model 04552-70 or 04552-75) directly onto an open top drum or container (maximum 1 1/2" [38 mm] wall thickness)

MK-08041-22 Double clamp for mounting the mixer head onto a stand; holds rods up to 7/8" (22 mm) dia. 316 stainless steel

MK-04552-80 Support stand has an electropolished cast steel base and 303 stainless steel support rod measuring 29"H x 5/8" dia (737 mm H x 16 mm dia). Both legs of base accept an optional screw-in support rod

MK-04552-85 Optional screw-in support rod for 04552-80 stand

MK-04552-70 Pivot-mount controller support secures on to the controller. A hinged rod lets you adjust the controller for easy access from various angles. Includes a dual-rod clamp

MK-04552-75 Controller support platform. Mount controller adjacent to the mixer head. Rack-mount 1/2" (13 mm) dia rod fits into a dual-rod clamp (included) or use with our tank clamp 04552-65 (sold at left)

MK-04552-83 Replacement collet set including nut and key

MK-04552-90 Replacement keyless chuck, includes adapter and key