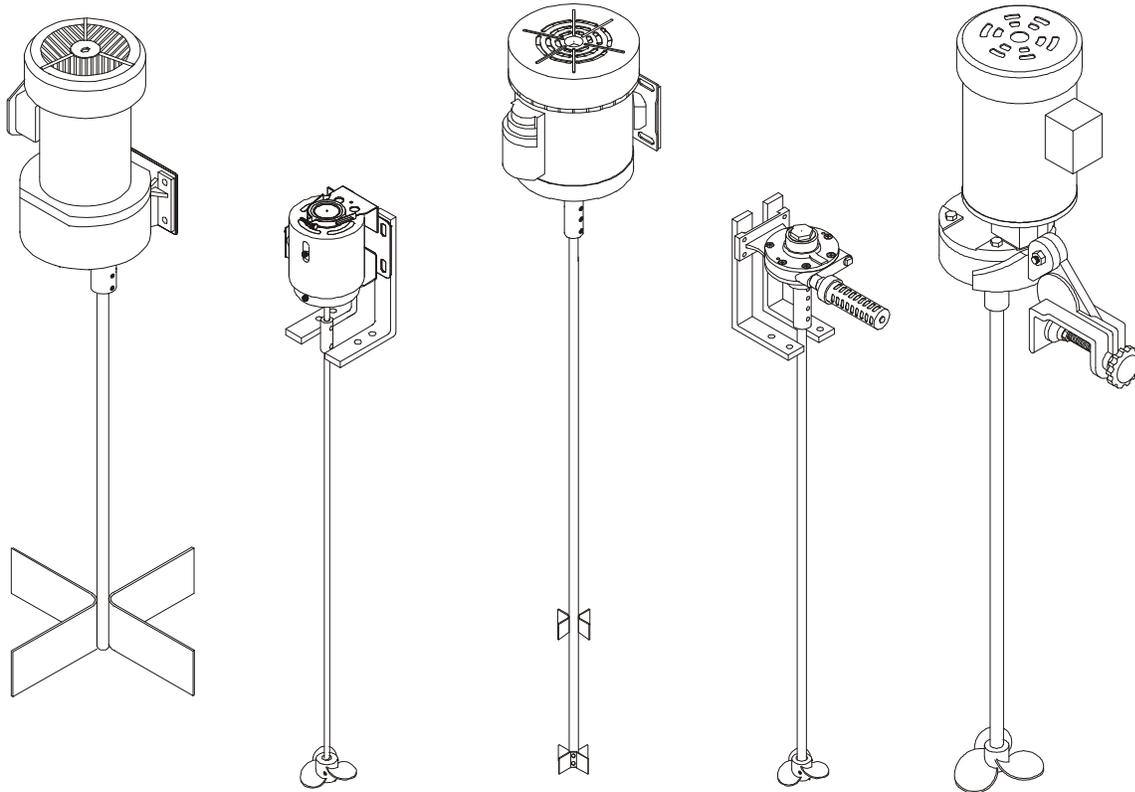


J.L. WINGERT CO.

GENERAL PURPOSE MIXERS OPERATION & MAINTENANCE MANUAL



PLEASE RECORD THE FOLLOWING DATA

(Information is located on the product label or packing slip)

Model Number: _____

Code: _____

Installation Date: _____

Installation Location / Application: _____

The above information will help when ordering replacement parts and accessories for your Wingert General Purpose Mixer

MANUFACTURING: Mixers, Bypass Feeders, Filter Feeders, Bromine Feeders, Sample Coolers, Sludge Traps, Separators, Separator Systems, Tank Stands, Tank Package Systems, Glycol Feed Systems, Control Stations, Coupon Racks, NEMA Enclosures, Custom Packaged Systems and Specialty Welding

P.O. Box 6207 • Garden Grove, CA 92846-6207 / 11800 Monarch St. • Garden Grove, CA 92841-2113 •
Phone (714) 379-5519 • Fax (714) 379-5549 • Email: customerservice@jllwingert.com
Northern California Region • Phone (510) 487-5310 • Southwest Region • (602) 470-1015
On the Internet: [http:// www.jllwingert.com](http://www.jllwingert.com)

1.0 INTRODUCTION

Wingert General Purpose Mixers are designed for durable and reliable continuous duty in mixing applications ranging from 5-5000 gallons. Designed for ease of installation and the flexibility to conform, the complete line of Wingert Mixers offers a wide variety of mounts, motor selections, mixing elements and many installation-enhancing accessories. Whether you are blending liquids, suspending or dissolving solids, there is a dependable Wingert Mixer for every job.

2.0 WARRANTY

With the exception of the motor and gear reducer, Wingert Mixers are guaranteed for one year from the date of shipment against manufacturing defects in material and workmanship which develop in the service for which they are designed. We will repair or replace defective material when returned to our factory with transportation prepaid: providing that the material is found to be defective upon inspection. We assume no liability for labor and/or other expenses in making repairs or adjustments. All replacements will be F.O.B. factory. Motors and gear reducers are guaranteed the same as above except that the guarantee is contingent upon the manufacturer inspection. Their findings are final and beyond our control.

Please note: A topical coating (such as epoxy) when applied to a shaft assembly carries a limited warranty. Epoxy coating does have excellent resistance against a wide variety of non-abrasive chemicals. However, if you are using solutions with abrasive characteristics, or chemicals that are in granular form, the epoxy coating will degrade and expose the shaft material to chemical attack.

**• ALL WINGERT AIR POWERED MIXERS MUST HAVE
LUBRICATED AIR SUPPLIES TO VALIDATE WARRANTY •**

3.0 UNPACKING

Wingert General Purpose Mixers are shipped unassembled. Unpack and inspect all components for physical damage. If any part is damaged, notify the freight carrier immediately.

NOTE: You only have 3-5 days after receipt of goods to file a freight claim.



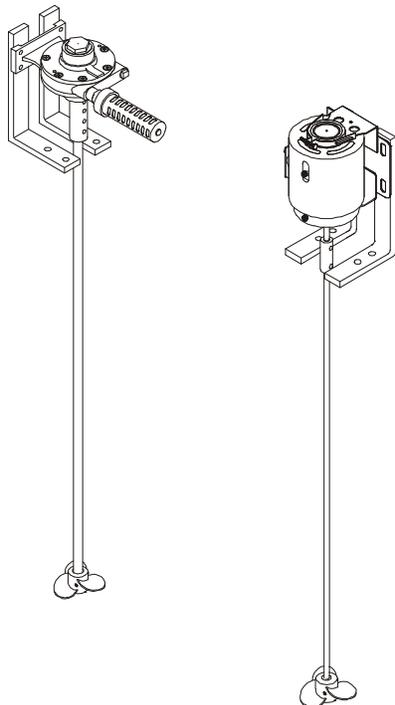
4.0 MODEL NUMBER VERIFICATION

High Speed Mixers

	B	-1	-TE	-PRP	/WRD-EK
Mount:					
"B" Bracket					
"C" Clamp					
"F" Flange					
"T" Thread					
"X" Tank Stand Mount					
Horsepower and Voltage Codes:					
"M" 1/20HP					
"1" 1/4HP					
"2" 1/3HP					
"3" 1/2HP					
"4" 1HP					
Motor Type:					
"O" Open					
"TE" TEFC					
"EXP" Explosion Proof					
Mixing Agent:					
"PRP" Stainless Steel Propeller					
"A" Neoprene Impeller					
"H" Stainless Steel Impeller					
Options:					
"WRD" Factory Power Cord					
"EK" Epoxy Coating					
"STS" Suction Tube Shield					
"SCP" Stainless Steel Coupling					
"AM" Angle Mount					
"316" Stainless Steel Shaft & Impeller					
" * " Variable Shaft Length (specify inches)					

Variable Speed Mixers

	VB	-1	-TE	-PRP	/WRD-EK
Series Mixer and Mount:					
"VB" Bracket					
"VC" Clamp					
"VF" Flange					
"VT" Thread					
"VX" Tank Stand Mount					
Horsepower and Voltage Codes:					
"M" 1/20HP					
"1" 1/4HP					
"2" 1/3HP					
"3" 1/2HP					
"4" 1HP					
Motor Type:					
"TE" TEFC					
Mixing Agent:					
"PRP" Stainless Steel Propeller					
"A" Neoprene Impeller					
"H" Stainless Steel Impeller					
Options:					
"WRD" Factory Power Cord					
"EK" Epoxy Coating					
"STS" Suction Tube Shield					
"SCP" Stainless Steel Coupling					
"AM" Angle Mount					
"316" Stainless Steel Shaft & Impeller					
" * " Variable Shaft Length (specify inches)					



High Speed Air Mixers

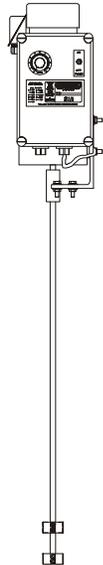
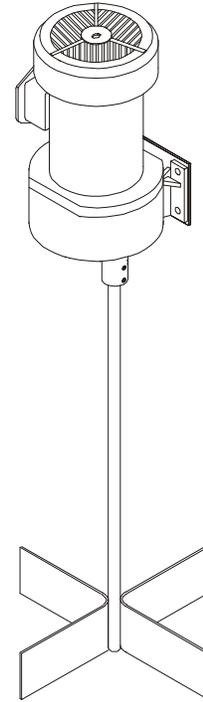
	A	11	-TE	-PRP	/316-EK
Series:					
"A" Air Mixer					
Horsepower:					
"11" 1/4HP, 9 CFM/40#					
"12" 1/3HP, 11 CFM/43#					
"21" 1/4HP, 15 CFM/18#					
"22" 1/3HP, 20 CFM/20#					
"23" 1/2HP, 27 CFM/38#					
"24" 1HP, 40 CFM/70#					
Mount:					
"B" Bracket					
"C" Clamp					
"F" Flange					
"T" Thread					
"X" Tank Stand Mount					
Mixing Agent:					
"PRP" Stainless Steel Propeller					
"A" Neoprene Impeller					
"H" Stainless Steel Impeller					
Options:					
"EK" Epoxy Coating					
"STS" Suction Tube Shield					
"SCP" Stainless Steel Coupling					
"316" Stainless Steel Shaft & Impeller					
" * " Variable Shaft Length (specify inches)					

Low Speed Mixers

	B	-1	60	/WRD-EK
Mount:				
"B"	Bracket			
"C"	Clamp			
"X"	Tank Stand Mount			
Horsepower:				
"1"	1/4HP			
"2"	1/3HP			
"3"	1/2HP			
Motor Type / Voltage:				
"60"	115 V, TEFC			
"62"	230 V, TEFC			
"64"	230 V, Explosion Proof			
Options:				
"WRD"	Factory Power Cord			
"EK"	Epoxy Coating			
"STS"	Suction Tube Shield			
"CP"	Stainless Steel Coupling			
"316"	Stainless Steel Shaft & Impeller			
" * "	Variable Shaft Length (specify inches)			

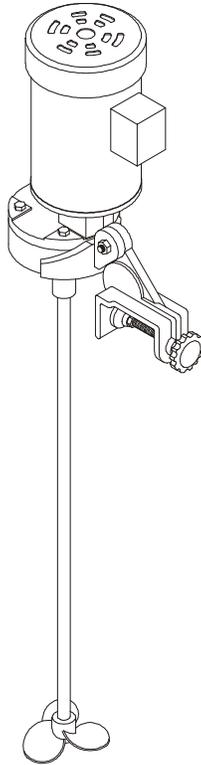
Low Speed Air Mixers

	A	B	-160	/316-EK
Series:				
"A"	Air Mixer			
Mount:				
"B"	Bracket			
"C"	Clamp			
"X"	Tank Stand Mount			
Horsepower:				
"160"	1/4HP, 15 CFM/18#			
"260"	1/3HP, 20 CFM/20#			
"360"	1/2HP, 27 CFM/38#			
Options:				
"EK"	Epoxy Coating			
"STS"	Suction Tube Shield			
"CP"	Stainless Steel Coupling			
"316"	Stainless Steel Shaft & Impeller			
" * "	Variable Shaft Length (specify inches)			



"LD" Mixers

	LDB	-005	0	-PRP	/EK-SCP
Series and Mount:					
"LDB"	Bracket				
"LDC"	Clamp				
"LDF"	Flange				
"LDT"	Thread				
"LDX"	Tank Stand Mount				
Horsepower :					
"005"	1/20HP				
Motor Type and Voltage:					
"0"	TEFC, 115 VAC, 1 Phase, 60 Hertz				
Mixing Agent:					
"PRP"	Stainless Steel Propeller				
"A"	Neoprene Impeller				
"H"	Stainless Steel Impeller				
Options:					
"EK"	Epoxy Coating				
"STS"	Suction Tube Shield				
"SCP"	Stainless Steel Coupling				
" * "	Variable Shaft Length (specify inches)				



"WXL" Mixers

Series:	WXL	-2	0	B	/WRD-EK
"WXL" WXL					
Horsepower:					
"2"	1/3HP				
"3"	1/2HP				
"4"	3/4HP				
"5"	1HP				
"6"	1 1/2HP				
"7"	2HP				
"8"	3HP				
"9"	5HP				
Motor Type:					
"0"	TEFC				
"1"	TEFC				
"2"	Explosion Proof				
"3"	Explosion Proof				
"4"	Air-operated				
Mount:					
"B"	Bracket				
"C"	Clamp				
Options:					
"WRD"	Factory Power Cord				
"EK"	Epoxy Coating				
" * "	Variable Shaft Length (specify inches)				
"DUAL"	Dual Stainless Steel Propellers				

MIXER SIZING GRAPH

To select the proper mixer horsepower and speed, follow the sizing graph below. For example; a 50 gallon tank at 100 cps would require a 1/4HP 1725 RPM mixer, a 3,000 gallon tank at 500 cps would require a 1 1/2HP 350 RPM mixer.

FLUID VISCOSITY	TANK SIZE IN GALLONS									
	30	50	100	200	300	500	1000	2000	3000	5000
1 CPS	1/20HP	1/20HP	1/4HP	1/3HP	1/2HP	1HP	1/3HP	1/3HP	1/3HP	1/2HP
100 CPS	1/20HP	1/4HP	1/3HP	1/2HP	1HP	1/3HP	1/2HP	1/3HP	1/2HP	1HP
300 CPS	1/4HP	1/3HP	1/2HP	1HP	1/3HP	1/2HP	1/3HP	3/4HP	1HP	1HP
500 CPS	1/2HP	1HP	1/4HP	1/3HP	1/2HP	1/3HP	1/2HP	1HP	1 1/2HP	2HP
1000 CPS	1/4HP	1/3HP	1/2HP	1/3HP	1/3HP	1/3HP	3/4HP	1 1/2HP	2HP	3HP
2000 CPS	1/3HP	1/2HP	1/3HP	1/2HP	1/2HP	1/3HP	1HP	1 1/2HP	3HP	5HP

HIGH SPEED MIXERS	LOW SPEED MIXERS	W XL MIXERS
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NOTE: Use the above mixing graph for basic mixer sizing. Application or intended use may change manufacturer recommendations. Contact factory for assistance.



5.0 LOCATION AND ENVIRONMENT

The environment for a mixer is mostly determined by the motor enclosure. Open motors should be installed indoors and in low moisture areas. TEFC, Air and explosion proof motors can be installed in direct weather conditions, although protection from direct weather can prolong the life of any mixer. Extreme conditions such as rain, snow, heat and wind should be avoided at all times.

Reading the motor data label will also give more insight to proper installation. For example, each motor has a duty cycle, ambient temperature and a thermal insulation rating. All these factors should be considered when installing the mixer.

6.0 INSTALLATION

There are a variety of mixing applications and several different ways of installing or orienting a mixer to the tank. Choose the mixing topic below that best suits the needs for your installation.

INSTALLATION FOR A BASIC BLENDING APPLICATION: *Basic blending is the mixing of two liquid solutions to a homogenous liquid. This is achieved by mixing the contents of the tank without vortexing (see diagrams on opposite page). When solids are involved, mixing should be increased or altered to compensate for solids collected (consult factory for assistance).*

INSTALLATION FOR A DRY CHEMICAL DISPERSION APPLICATION: *Dry chemical dispersion is the mixing of dry chemicals into a liquid. This is best achieved by mixing the contents of the tank with a vortex (see diagrams on opposite page). The vortexing of the liquid will help pull in and liquefy the dry chemicals. The most important part of dry chemical dispersion is the introduction of the chemicals. When adding the dry chemicals, the mixing tank should already be mixing. Once the tank volume is moving, the dry chemical should be slowly introduced. Dumping dry contents into the mixture all at once will typically age the motor, shaft and motor bearing prematurely. If chemicals have settled and are not mixing, move the mixer shaft orientation similar to the non-vortexing diagram. This will help in sweeping the bottom. If the dry chemicals are still settling, contact the factory for assistance.*

INSTALLATION FOR A SOLIDS SUSPENSION APPLICATION: *When solids need to be suspended, it is best to increase mixer size, pumping rate and blending the contents with internal baffles. Generalized instructions can not be given here, as solids that need suspension are different for every application. If this is an installation your are working with, please contact the factory for assistance.*

• **SEE INSTALLATION DIAGRAMS ON FOLLOWING PAGE** •

Note: The mixer shown on the following page is for diagram purposes only. Clamp mount mixers should not be clamped to side walls of plastic tanks.

INSTALLATION DIAGRAMS

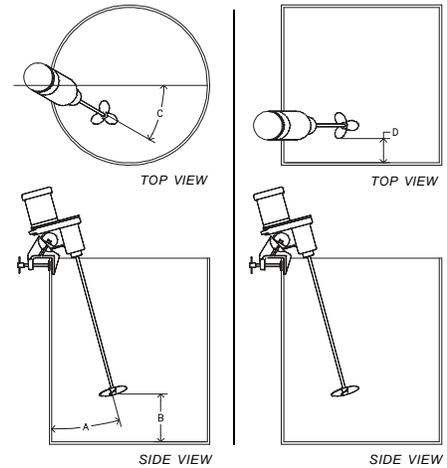
BLENDING:

Dimension A should be 5° to 15° from the sidewall

Dimension B should be 1 to 1.5 times the diameter of the impeller / propeller

Dimension C should be no greater than 30° from center

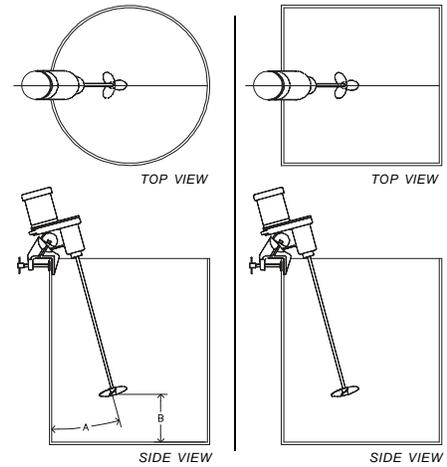
Dimension D should be 1 to 1.5 times the diameter of the impeller / propeller



VORTEXING (DRY CHEMICAL DISPERSION):

Dimension A should be 5° to 15° from the sidewall

Dimension B should be 1 to 1.5 times the diameter of the impeller / propeller

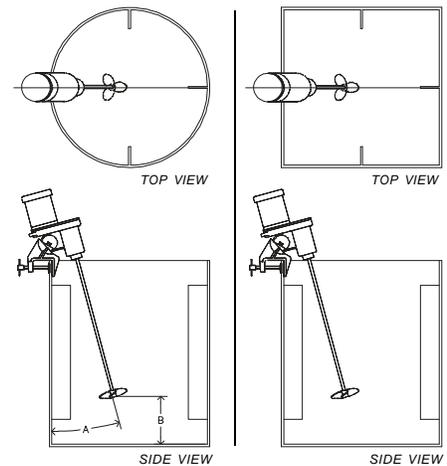


SOLIDS SUSPENSION:

Dimension A should be 5° to 15° from the sidewall

Dimension B should be as close to the bottom as possible

Baffles are added to keep heavy mixing from vortexing



7.0 ELECTRICAL

Except for mixers that come standard with the option “WRD”, each mixer needs to be wired by qualified personnel. All wiring should comply with local codes. Mixers that come unwired from the factory can be wired by simply following the wiring diagram affixed to each motor. The permanent wiring diagram designates which wires to group and which wires to connect to the voltage. Before applying power, verify that the wiring diagram has been followed.

*Bidirectional motors will have an improper rotation when misapplied to a mixing propeller. **All bidirectional motors should spin counter clockwise when viewed from the top of the motor.** This will cause the mixing propeller to push the liquid toward the bottom of the tank and avoid low level splashing.*

8.0 ASSEMBLY

Wingert Mixers come partially assembled. Refer to the parts breakdown for assembly of mounts and shaft. The most important part of assembling the mixer is in the placement of the mixer shaft. Each mixer has a reference on the shaft for a balanced installation that is designated with a red arrow. This arrow should line up with the coupling set screws.

9.0 START-UP

Once the mixer has been assembled, installed, and all hardware has been secured, you are ready for start-up. Before starting the mixer motor, verify that the tank volume is at least 1 foot above the mixing impeller and that the mixing impeller is not encased in sediment inside the tank. Perform a final check to assure all mounting hardware is secure. To begin, apply brief voltage to check mixer for correct rotation. If the impeller is rotating counterclockwise (when viewed from the top of the motor) have the mixer checked for incorrect wiring. Typically the motor data label will state how to reverse the motor rotation. If the motor is spinning clockwise (when viewed from the top) reapply the voltage. Run the mixer briefly to ensure that the shaft is in balance. If the mixer is shaking or wobbling, disconnect the mixer voltage and check shaft for proper alignment, as explained in the assembly paragraph above. If it is aligned properly and still shaking, contact the factory immediately. If the mixer is running smooth and rotating properly, start-up is complete.

10.0 MAINTENANCE

Wingert Mixers require very little maintenance. For the first three to four weeks of operation, the mixer should be checked for balance, shaft or coating wear and mixing performance. Following the initial period, all that is required is a periodic check for balance and verification that all mounting hardware is firmly secured.