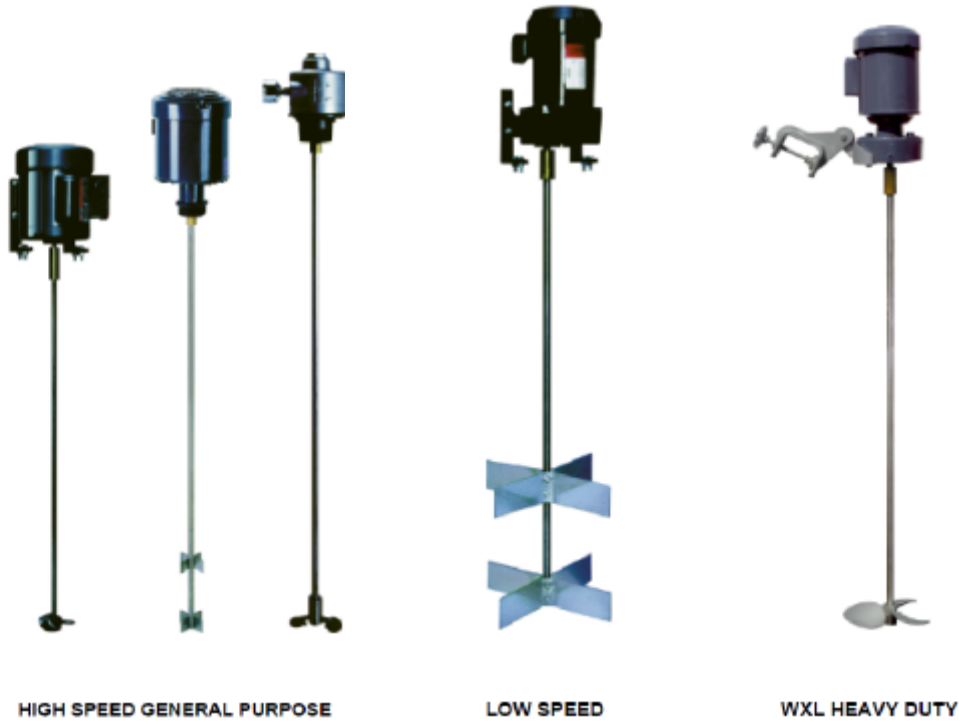


J.L. WINGERT CO.

GENERAL PURPOSE MIXERS OPERATION & MAINTENANCE MANUAL



HIGH SPEED GENERAL PURPOSE

LOW SPEED

WXL HEAVY DUTY

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 Mixer.

J.L. WINGERT MANUFACTURED PRODUCTS

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

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 or suspending or dissolving solids there is a dependable Wingert Mixer for every job.

2.0 WARRANTY

Wingert General Purpose Mixers are warranted against manufacturing defects in material and workmanship for one year from the date of shipment. Applications outside the service for which the product is designed will automatically void any warranty. Final determination will be made upon inspection at receipt. J.L. Wingert Co. assumes no liability for labor and/or other expenses in making repairs or adjustments. All replacements will be F.O.B. factory. There are no other implied or expressed warranties.

Motors and gear reducers are not manufactured by J.L. Wingert Co. and thus are only warranted by the original manufacturer. Repair or replacement is contingent upon inspection and determination by the original manufacturer. 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. Inspect packaging upon receipt for any damage. Unpack and inspect the product for physical damage and verify that goods received correlate with packing list. The factory must be notified within 3 days after receipt of any discrepancies. If any product is damaged due to freight handling, contact the freight carrier to register a claim and contact the factory immediately for further assistance. It is highly recommended that any damage be photo documented to further support any claim.

NOTE: Most freight carriers only allow 3-5 days after receipt of goods to file a freight claim.

4.0 MODEL NUMBER VERIFICATION

HIGH SPEED MIXERS

Series Mixer and Mount:		B	-1	-TE	-PRP	WRD-EK
"B"	Bracket					
"C"	Clamp					
"F"	Flange					
"T"	Thread					
"X"	Tank Stand Mount					
Horsepower and Voltage Codes:						
"M"	1/20HP					
"1"	1/4 HP					
"2"	1/3 HP					
"3"	1/2 HP					
"4"	1 HP					
Mixer Type:						
"O"	Open					
"TE"	TEFC					
"EXP"	Explosion Proof					
"AIR"	Air					
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					
"SW"	Switch, On/Off installed					
"AM"	Angle Mount					
"316"	Stainless Steel Shaft & Impeller					
" * * "	Variable Shaft Length (specify inches)					

VARIABLE SPEED MIXERS

Series Mixer and Mount:		VB	-1	-TE	-PRP	WRD-EK
"VB"	Bracket					
"VC"	Clamp					
"VF"	Flange					
"VT"	Thread					
"VX"	Tank Stand Mount					
Horsepower and Voltage Codes:						
"M"	1/20HP					
"1"	1/4 HP					
"2"	1/3 HP					
"3"	1/2 HP					
"4"	1 HP					
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

Series:		A	11	-B	-PRP	/316-EK
"A"	Air Mixer					
Horsepower:						
"11"	1/4 HP, 9 CFM / 40#					
"12"	1/3 HP, 11 CFM / 43#					
"21"	1/4 HP, 15 CFM / 18#					
"22"	1/3 HP, 20 CFM / 20#					
"23"	1/2 HP, 27 CFM / 70#					
"24"	1 HP, 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

Mount:	B	-1	60	/WRD-EK
"B"	Bracket			
"C"	Clamp			
"X"	Tank Stand Mount			
Horsepower:				
"1"	1/4 HP			
"2"	1/3 HP			
"3"	1/2 HP			
Motor Type/Voltage:				
"60"	115V, TEFC			
"63"	230/460, 3phase, 60 hertz (260 & 360 series only)			
"65"	110/220 volts, 1 phase, 50 hertz (260 & 360 series only)			
"66"	230/460 V, 3 phase, 50/60 hertz (260 series only) EXP			
Options:				
"WRD"	Factory Power Cord			
"EK"	Epoxy Coating			
"SW"	Switch, ON/OFF installed			
"CP"	Coupling, 316 stainless in place of standard brass			
"316"	Stainless Steel Shaft & Impeller			
"()"	Variable Shaft Length (specify inches)			



LOW SPEED

LOW SPEED AIR MIXERS

Series:	A	B	-160	/316-EK
"A"	Air Mixer			
Mount:				
"B"	Bracket			
"C"	Clamp			
"X"	Tank Stand Mount			
Horsepower:				
"160"	1/4 HP, 15 CFM / 18#			
"260"	1/3 HP, 20 CFM / 20#			
"360"	1/2 HP, 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)			

LIGHT DUTY



"LD" Mixers

Mount:	LD	-005	0	-PRP	/EK-SCP
"LDB"	Bracket				
"LDC"	Clamp				
"LDF"	Flange				
"LDT"	Thread				
"LDX"	Tank Stand Mount				
Horsepower:					
"005"	1/20 HP				
Motor Type and Voltage:					
"0"	TEFC, 115VAC, 1 Phase, 60 Hertz				
Mixing Agent:					
"PRP"	Stainless Steel Propeller				
"A"	Neoprene Impeller				
"H"	Stainless Steel Impeller				
Options:					
"AM"	Angle Mount 5° on F-M-T-E- Only				
"EK"	Epoxy				
"SW"	Switch, ON/OFF in-				
"SCP"	Coupling, 316 stainless in place of standard brass				
"STS"	Suction Tube Shield				
"()"	Variable Shaft Length (specify inches)				



WXL HEAVY DUTY

"WXL" MIXERS

Series:	WXL	WXL	-2	0	-B	NRD-EK										
Horsepower:	"2"	1/3 HP	"3"	1/2 HP	"4"	3/4 HP	"5"	1 HP	"6"	1 1/2 HP	"7"	2 HP	"8"	3 HP	"9"	5 HP
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								

4.1 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 1/4 HP high speed mixer. A 3,000 gallon tank at 500 cps would require a 1-1/2HP 350 WXL mixer.

FLUID VISCOSITY	TANK SIZE IN GALLONS									
	30	50	100	200	300	500	1000	2000	3000	5000
1 CPS	1/20 HP	1/20 HP	1/4 HP	1/3 HP	1/2 HP	1 HP	1/3 HP	1/3 HP	1/3 HP	1/2 HP
100 CPS	1/20 HP	1/4 HP	1/3 HP	1/2 HP	1 HP	1/3 HP	1/2 HP	1/3 HP	1/2 HP	1 HP
300 CPS	1/4 HP	1/3 HP	1/2 HP	1 HP	1/3 HP	1/2 HP	1/3 HP	3/4 HP	1 HP	1 HP
500 CPS	1/2 HP	1 HP	1/4 HP	1/3 HP	1/2 HP	1/3 HP	1/2 HP	1 HP	1 1/2 HP	2 HP
1000 CPS	1/4 HP	1/3 HP	1/2 HP	1/3 HP	1/3 HP	1/3 HP	3/4 HP	1 1/2 HP	2 HP	3 HP
2000 CPS	1/3 HP	1/2 HP	1/3 HP	1/2 HP	1/2 HP	1/2 HP	1 HP	1 1/2 HP	3 HP	5 HP
MIXER SIZING LEGEND			1550RPM MIXERS		1725RPM MIXERS		60RPM MIXERS		350RPM MIXERS	

NOTE: Use the above 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 into 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. Dry chemical should only be slowly introduced into a tank with liquid and when the mixer is in operation. Dumping dry contents into the mixture all at once will put an undue strain on the motor and shaft possibly causing premature mixer wear or failure. 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 dry chemical is still settling while mixer is in operation, contact the factory for assistance.

INSTALLATION FOR A SOLIDS SUSPENSION APPLICATION: When solids need to be suspended, it is best to increase mixer size and pumping rate and to blend the contents using internal baffles. Generalized instructions cannot be given here, as solids that need suspension are different for every application. If this is your type of installation, 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

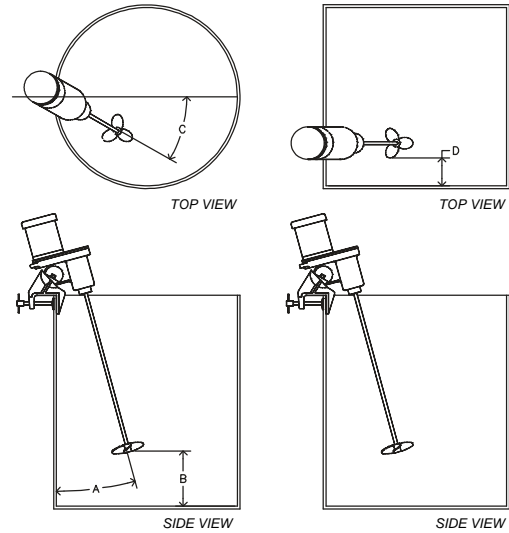
BLENDING:

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

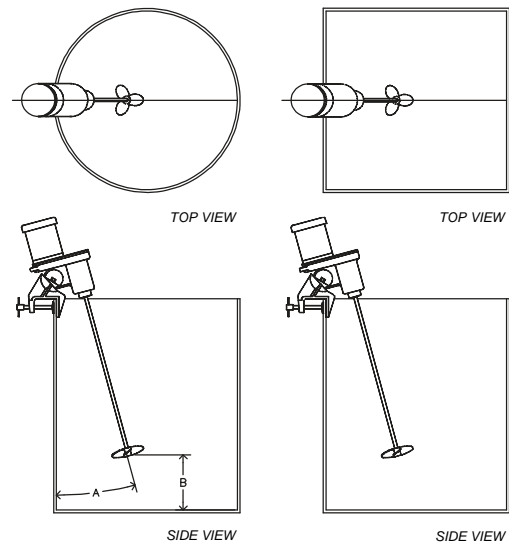
Dimension D should be 1 to 1.5 times the diameter of the impeller / propeller



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

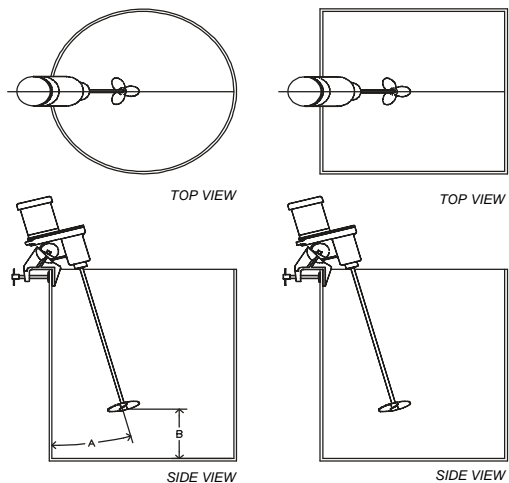


SOLIDS SUSPENSION:

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 standard mixers option “WRD”, each mixer needs to be wired by qualified personnel. All wiring should comply with local codes. Wiring diagrams are affixed to each motor of all non-wired mixers. 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, briefly apply an electrical charge to check mixer for correct rotation. The motor should spin clockwise when viewed from the top. If the impeller is rotating counterclockwise, disconnect from electrical source and correct the wiring to reverse the motor rotation. Typically the motor data label will state how to reverse the motor rotation. Again run the mixer briefly this time to ensure that the shaft is in balance. If the mixer is shaking or wobbling, disconnect the mixer from electrical source and check shaft for proper alignment as explained in 8.0 Assembly. If it is aligned properly and still shaking, contact the factory immediately. If the mixer is operating smoothly 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 and 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.