

3/4 HP (550 W) MOTOR

Air-Driven Agitators

307154M
EN

For use with water-reducible fluids. For professional use only.

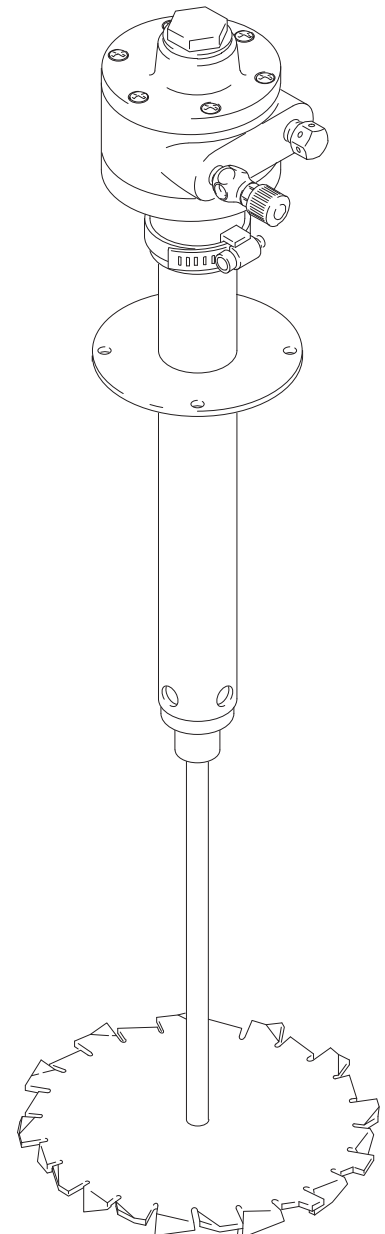
100 psi (0.7 MPa, 7 bar) Maximum Working Pressure

See page 2 for model information and approvals.



Important Safety Instructions

Read all warnings and instructions in this manual before using the equipment.
Save these instructions.






05465

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Models






Part	Series	Description	Agency Approvals
210067	B	15-gallon mix tank size	 II 1/2 G Ex h IIB T4 Ga/Gb ITS03ATEX11226X ITS21UKEX0224X  2575  0359
962947		15-gallon mix tank size	
210068		30-gallon mix tank size	

Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

 <h2 style="margin: 0;">WARNING</h2>	
   	<p>FIRE AND EXPLOSION HAZARD</p> <p>Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. Paint or solvent flowing through the equipment can cause static sparking. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in well ventilated area. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc). • Ground all equipment in the work area. See Grounding instructions. • Never spray or flush solvent at high pressure. • Keep work area free of debris, including solvent, rags, and gasoline. • Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present. • Use only grounded hoses. • Hold gun firmly to side of grounded pail when triggering into pail. Do not use pail liners unless they are antistatic or conductive. • Stop operation immediately if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area.
 	<p>MOVING PARTS HAZARD</p> <p>Moving parts can pinch, cut or amputate fingers and other body parts.</p> <ul style="list-style-type: none"> • Keep clear of moving parts. • Do not operate equipment with protective guards or covers removed. • Do not wear loose clothing, jewelry or long hair while operating equipment. • Equipment can start without warning. Before checking, moving, or servicing equipment, follow the Pressure Relief Procedure and disconnect all power sources.
	<p>SPECIAL CONDITIONS FOR SAFE USE</p> <ul style="list-style-type: none"> • Electrostatic charging hazard. Clean surfaces with a damp cloth and read instructions for additional techniques to mitigate risk of electrostatic discharge. • The Ambient Temperature Range of each agitator depends on the air motor included in the assembly. Refer to Models and Technical Specifications in Instruction manual for additional information.

WARNING

 	<p>EQUIPMENT MISUSE HAZARD Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • Do not operate the unit when fatigued or under the influence of drugs or alcohol. • Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See Technical Specifications in all equipment manuals. • Use fluids and solvents that are compatible with equipment wetted parts. See Technical Specifications in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheets (SDSs) from distributor or retailer. • Do not leave the work area while equipment is energized or under pressure. • Turn off all equipment and follow the Pressure Relief Procedure when equipment is not in use. • Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only. • Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards. • Make sure all equipment is rated and approved for the environment in which you are using it. • Use equipment only for its intended purpose. Call your distributor for information. • Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. • Do not kink or over bend hoses or use hoses to pull equipment. • Keep children and animals away from work area. • Comply with all applicable safety regulations.
 	<p>TOXIC FLUID OR FUMES HAZARD Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> • Read Safety Data Sheets (SDSs) to know the specific hazards of the fluids you are using. • Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
	<p>PERSONAL PROTECTIVE EQUIPMENT Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. Protective equipment includes but is not limited to:</p> <ul style="list-style-type: none"> • Protective eyewear, and hearing protection. • Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

Installation

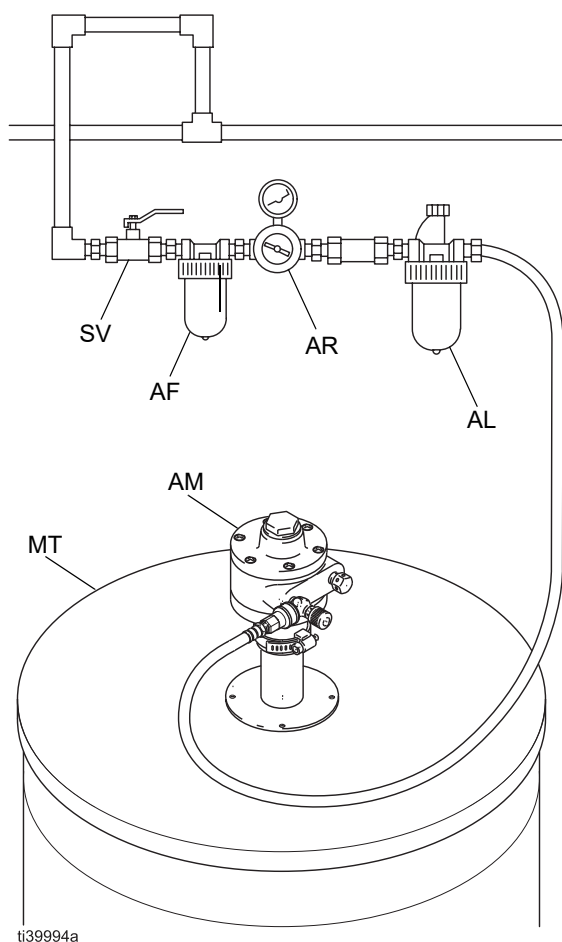
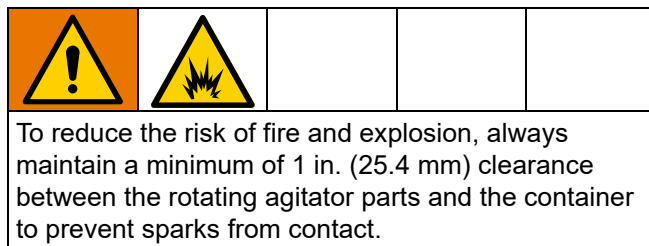


Fig. 1: Typical Installation

Key:

SV:	Bleed-type air shutoff valve
AF:	Air line filter
AR:	Air regulator and gauge
AL:	Air line lubricator
AM:	Agitator motor
MT:	Mix tank (reference only)

NOTE: Reference numbers and letters in parentheses refer to the callouts in the figures and in **Parts** on page 10.

Air Requirements

For continuous use, the 3/4 HP (550 W) agitator air motor requires 3 to 4 cfm (0.08 to 0.11 m³/min).

Air Line Accessories

A bleed-type air shutoff valve (SV) is required; it isolates the air line components for servicing. The air shutoff valve should be installed in the supply line and can be used to stop and start the agitator. If the valve is used to stop and start the agitator, you do not need to set the agitator speed each time it is used.

Order air shutoff valves by the part numbers listed below:

110223 1/4" npt(f) x 1/4" npt(f)

110224 3/8" npt(f) x 3/8" npt(f)

113333 3/8" npt(m) x 3/8" npt(f)

Install an air line filter (AF) to remove harmful dirt and moisture from the air supply. To order an air line filter, order by the part numbers listed below:

106148 3/8" npt, 20-micron element, 5 oz. bowl, without gauge

106146 1/2" npt, 40-micron element, 40 oz. bowl, 0 to 200 psi (0 to 14 bar) regulated pressure range

NOTICE

Not lubricating the air motor will cause air motor failure.




Downstream from the filter, install an air line lubricator (AL) for automatic air motor lubrication. Set the lubricator feed rate at 1 drop of oil per minute for high speed or continuous duty usage. Do not overfeed oil or exhaust air may become contaminated. To manually lubricate the air motor, see **Lubricate the Air Motor** on page 8. To order a 3/8" npt air line lubricator, order Part No. 214847.

Install the Agitator on the Drum

NOTE: The mounting gasket is not included with the agitator. To order, see **Mounting Hole Layout** on page 14 for the gasket part number.

1. Bolt the agitator onto the cover of the fluid supply tank with the gasket in place. Position the agitator so that the air line can be attached easily and will not obstruct other tank openings, lines, etc. See **Dimensions** and **Mounting Hole Layout** on page 14.
2. Connect the air line to the 1/8" npt(f) air inlet of the needle valve (14).

Grounding

				
<p>The equipment must be grounded to reduce the risk of static sparking. Static sparking can cause fumes to ignite or explode. To reduce the risk of static sparking, all electrically conductive objects or devices in the spray area must be properly grounded.</p>				

Check your local electrical code for detailed grounding instructions for your area and type of equipment.

To ground the agitator, connect one end of the ground wire (A) to the ground connector (B) on the agitator. See FIG. 2. Connect the other end of the ground wire to a true earth ground.

For an additional ground wire and clamp, order part number 237569.

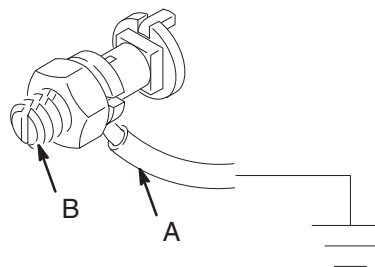






FIG. 2

Operation






				
<p>Moving parts, such as an impeller blade, can cut or amputate fingers. To reduce the risk of serious injury, always shut off the agitator and disconnect the air line before moving, checking, or repairing the agitator.</p>				

Find the Proper Agitator Speed

NOTE: Attach ground wire before using agitator.

1. Fill the fluid supply container to about 3–4 inches (75–100 mm) above the agitator blade.
2. Start the agitator, and gradually increase the speed by turning the needle valve (14) until a vortex begins to form in the paint.
3. Reduce the speed slightly, then fill the fluid container. Use the lowest agitator speed needed for thorough agitation of the paint. Excessive agitator speed may cause the paint to foam.

Pressure Relief Procedure

				
<p>This equipment stays pressurized until pressure is manually relieved. To help prevent serious injury from splashing fluid and moving parts, follow the Pressure Relief Procedure before cleaning, checking, or servicing the equipment.</p>				

1. Close the bleed-type air shutoff valve (SV) to relieve pressure to the air motor.
2. Disconnect the air line.

Operate the Agitator

NOTICE
<p>To avoid damaging the equipment, do not operate the agitator at a high speed for a long period of time. Excessive agitator speed can cause foaming of fluid (making the fluid unusable), vibration, and increased wear on parts. Only agitate the fluid enough to maintain even mixing.</p>



Operate the agitator continuously while supplying paints or other fluids to the system. Use the needle valve (14) to regulate the agitator speed. Set the agitator speed to thoroughly mix the paint, using the lowest speed possible.





To stop the agitator, close the bleed-type air shutoff valve (SV) or close the needle valve (14).

Stop the agitator before removing it from the pail.

Maintenance

Flush the Air Motor

				
Do not use kerosene or other flammable solvents to flush the air motor. Flushing with flammable solvents could cause fire or explosion and result in serious injury or property damage.				



				
Hazardous fluids or toxic fumes can cause serious injury or death if splashed in the eyes or on the skin, swallowed, or inhaled. When flushing the air motor:				
<ul style="list-style-type: none"> • Perform the procedure in a well ventilated area. • Keep your face away from the exhaust port. • Wear the appropriate protective clothing, gloves, eyewear, and respirator. 				

If the air motor is sluggish or inefficient, follow this procedure.

The recommended solvent for air motors and lubricated pumps is Gast® Flushing Solvent (Gast part number AH255 or AH255A) or Inhibisol® Safety Solvent.

1. Disconnect the air line and muffler (8). See **Parts** on page 10.
2. Add several teaspoons of solvent, or spray the solvent directly into the motor.
3. Rotate the shaft by hand in both directions for a few minutes.
4. Reconnect the air line, and slowly increase the air pressure until there is not trace of solvent in the exhaust air.
5. Re-lubricate the motor with a squirt of lightweight oil in the chamber.

Agitator Blades

				
Materials can become electrostatically charged when stirred or blended. To prevent fire and explosion, ground equipment and do not allow material to build up on agitator. Dried material could allow static build up and interfere with grounding.				

Regularly check the agitator for dried material buildup. Clean using a rag soaked in solvent that is compatible with the spray material and the surfaces being cleaned. Additionally, extra precautions need to be taken if using lower conductive materials (<1000 pS/m) such as:

- Avoid stirring/mixing at high speeds.
- Avoid insoluble mixtures.
- When possible, increase the material conductivity with additives.
- Use liquids with a high conductivity (>1000 pS/m)

Lubricate the Air Motor

NOTICE
Not lubricating the air motor will cause air motor failure.

If an air line lubricator (AL) is not installed, the air motor must be manually lubricated every 8 hours. Lubricate the agitator air motor by placing 10–20 drops of SAE #10 light oil in the motor's air inlet. Oil must have an auto-ignition rating of 365°F (185°C) or greater. Run the agitator for about 30 seconds.

Clean the Shaft

Each week, clean any dried fluid from around the bearing (11) and housing (21) area of the shaft (12).

Service

If the unit requires more than installation of a service kit, it is usually quickest and easiest to send the unit to the Graco distributor for repair or replacement.

NOTICE

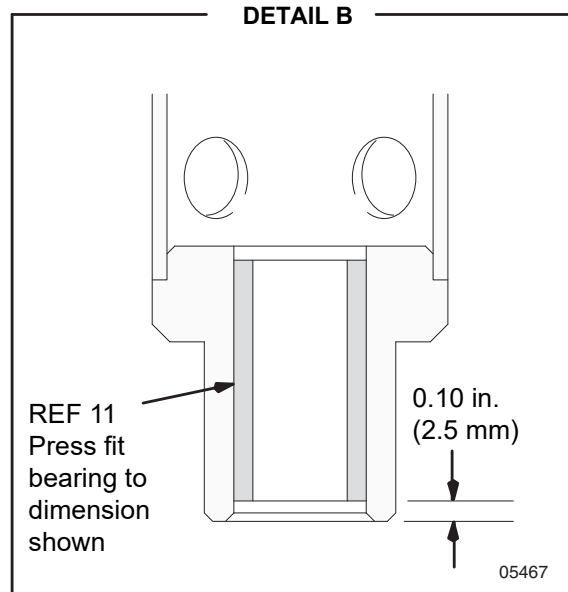
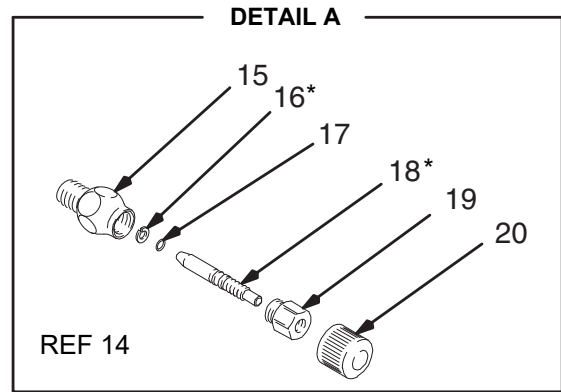
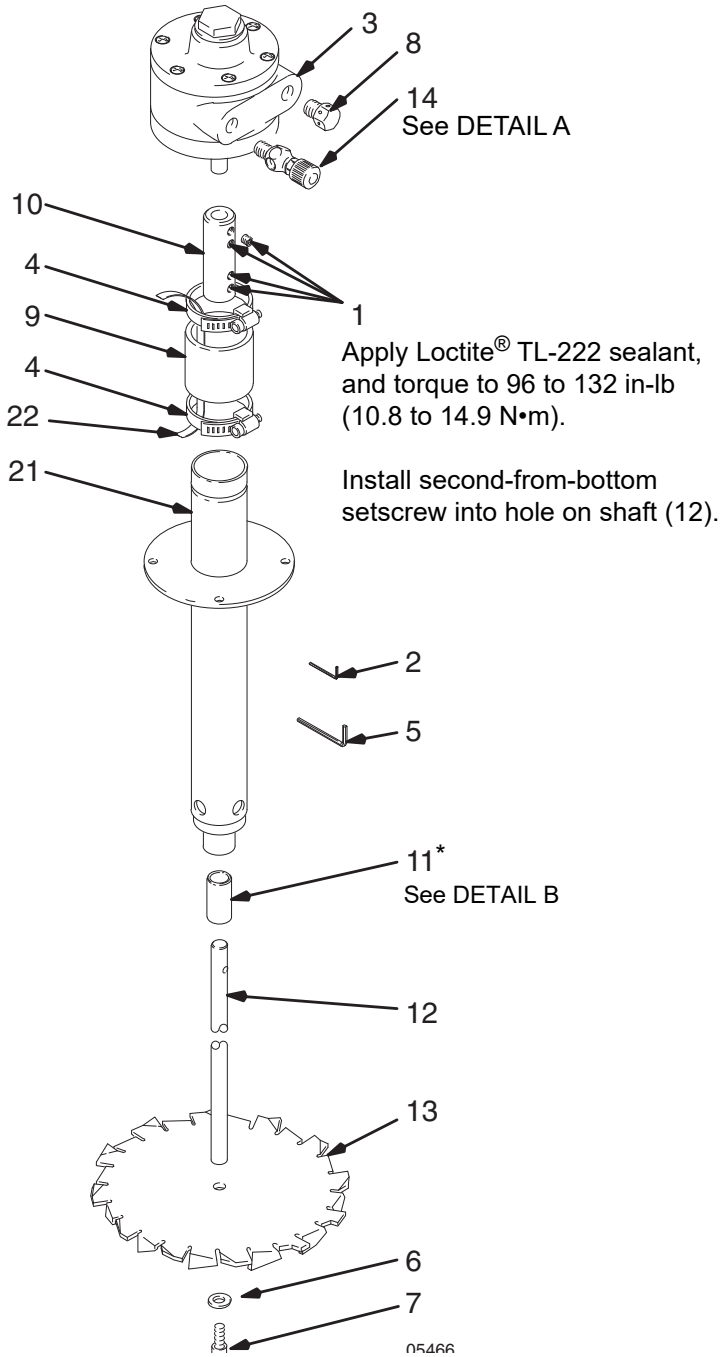
Do not pry with a screwdriver. It will dent the surface of the plate and body, causing leaks. Use a puller tool, which will remove the end plate while maintaining the position of the shaft.

- If the vanes need replacing, or foreign material is present in the motor chamber, an experienced mechanic may remove the end plate opposite the drive shaft end.
- New vanes should have the edges with cut corners (or the notched edges, if the vanes are reversible) pointing toward the bottom of the vane slot.

NOTE: Air Motor Repair Kit is available. Order part number 207335.

Parts

Model 210067, Series B, 15-gallon mix tank size
Model 210068, Series B, 30-gallon mix tank size



Model 210067, Series B, 15-gallon mix tank size
Model 210068, Series B, 30-gallon mix tank size

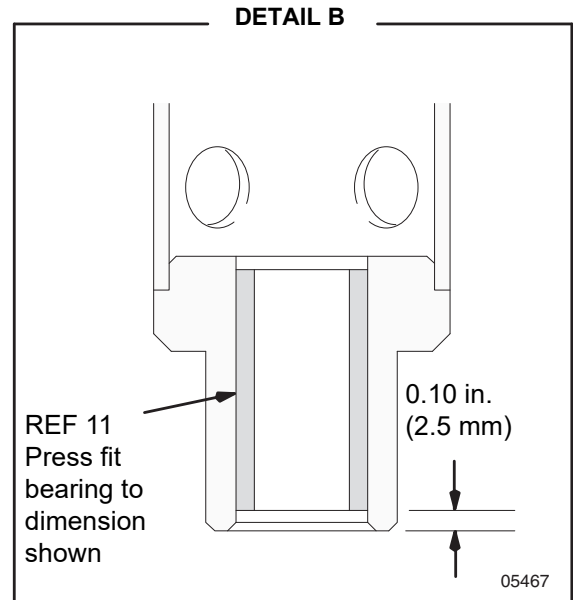
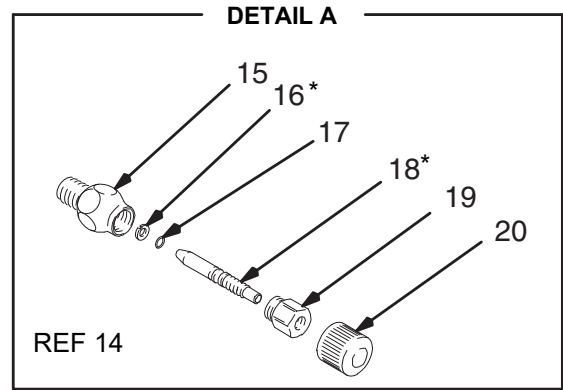
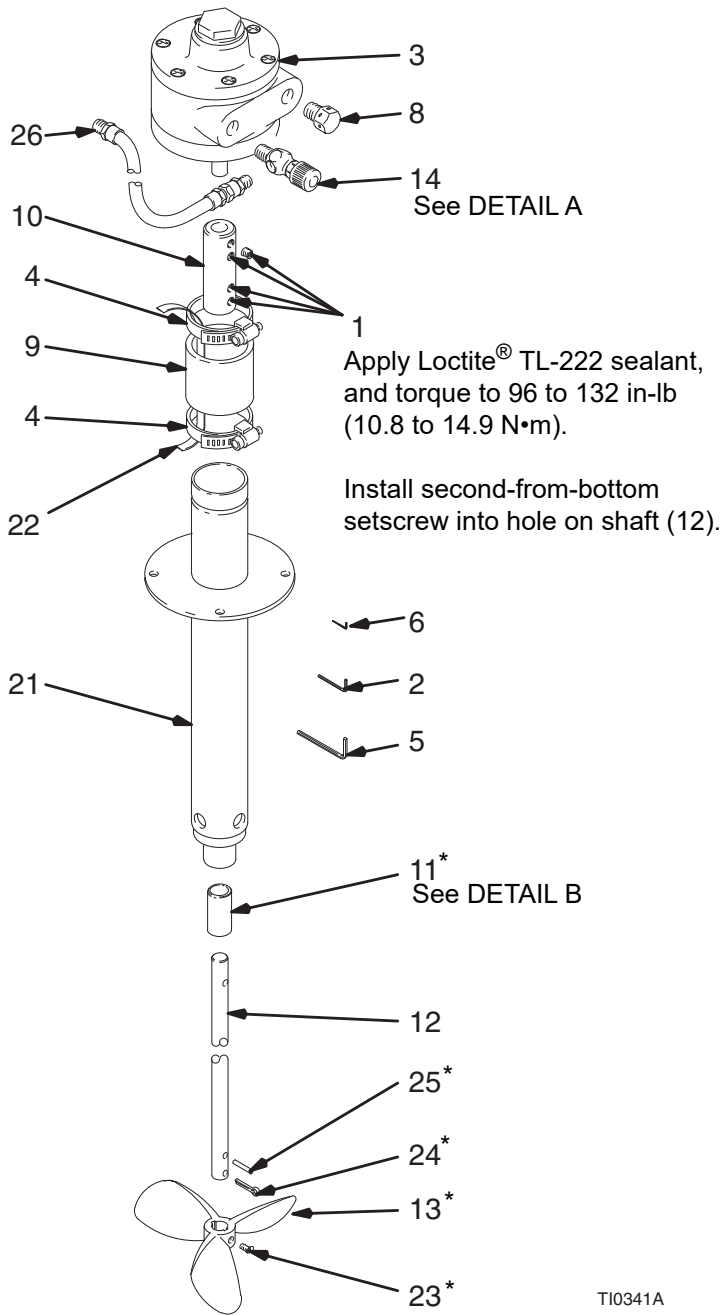
Ref.	Part	Description	Qty.
1	100053	SCREW, soc hd cup pt. set; 0.312", 18 x 0.25"	4
2	100633	WRENCH, hex key; 0.312" setscrew size	1
3**	101140	MOTOR, air; 3/4 HP (550 W)	1
4	101368	CLAMP, hose	2
5	101976	WRENCH, hex key; no. 10 size	1
6	104034	WASHER, plain; 0.312", 18 x 1.0"	1
7	104035	SCREW, soc hd cap; 0.312", 18 x 1"	1
8	156969	MUFFLER, air exhaust	1
9	158865	COUPLING, rubber	1
10	159858	COUPLING, steel	1
11*	166565	BEARING, <i>Model 210067</i>	1
	115166	BEARING, <i>Model 210068</i>	1
12	172355	SHAFT, agitator, <i>Model 210067</i>	1
	172356	SHAFT, agitator, <i>Model 210068</i>	1
13	171391	IMPELLER, agitator	1
14	206264	NEEDLE VALVE ASSY. Includes items 15 to 20	1
15	165722	HOUSING, air valve	1
16*	166531	WASHER	1
17	157628	O-RING; nitrile rubber	1
18*	166529	NEEDLE	1
19	166532	NUT, packing	1
20	164698	KNOB, adjusting	1
21	210070	TUBE, mounting, <i>Model 210067</i>	1
	222696	TUBE, mounting, <i>Model 210068</i>	1
22	065251	WIRE, ground, braided, 3"	1
23▲	17P806	KIT, safety tag (not shown)	1

* *Keep spares of these parts on hand to reduce down time.*

** *Air Motor Repair Kit is available. Order part number 207335.*

▲ *Replacement safety labels, tags, and cards are available at no cost.*

Model 962947, Series B, 15-gallon mix tank size



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Model 962947, Series B, 15-gallon mix tank size

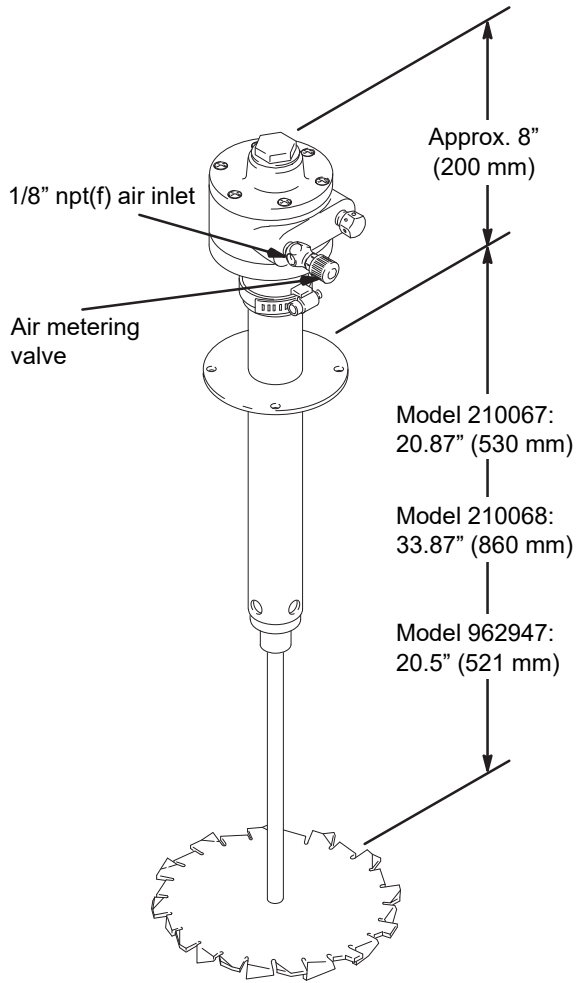
Ref.	Part	Description	Qty.
1	100053	SCREW, soc hd cup pt. set; 0.312", 18 x 0.25"	4
2	100633	WRENCH, hex key; 0.312" setscrew size	1
3**	101140	MOTOR, air; 3/4 HP (550 W)	1
4	101368	CLAMP, hose	2
5	101976	WRENCH, hex key; no. 10 size	1
6	101369	WRENCH, hex key; .0927" size	
8	156969	MUFFLER, air exhaust	1
9	158865	COUPLING, rubber	1
10	159858	COUPLING, steel	1
11*	166565	BEARING	1
12	193485	SHAFT, agitator	1
13*	185398	IMPELLER, agitator	1
14	206264	NEEDLE VALVE ASSY. Includes items 15 to 20	1
15	165722	HOUSING, air valve	1
16*	166531	WASHER	1
17	157628	O-RING; nitrile rubber	1
18*	166529	NEEDLE	1
19	166532	NUT, packing	1
20	164698	KNOB, adjusting	1
21	210070	TUBE, mounting	1
22	065251	WIRE, ground, braided, 3"	1
23*	110248	SCREW, set, sch	1
24*	100579	PIN, cotter	1
25*	185401	PIN, shear	1
26	160023	HOSE, coupled	1
27▲	17P806	KIT, safety tag (not shown)	1

* *Keep spares of these parts on hand to reduce down time.*

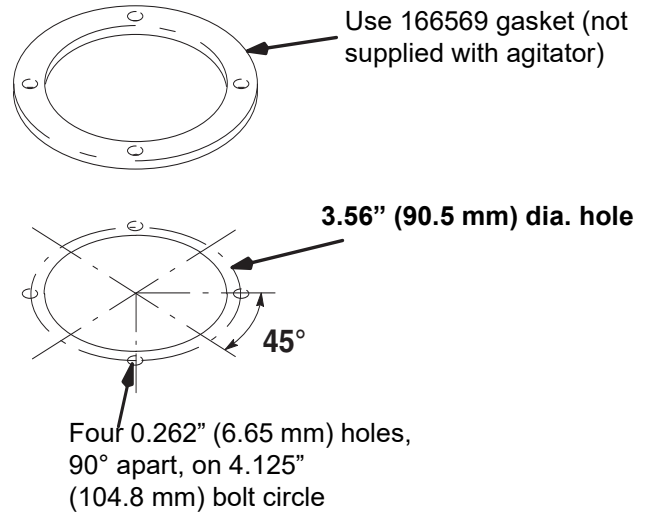
** *Air Motor Repair Kit is available. Order part number 207335.*

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Dimensions

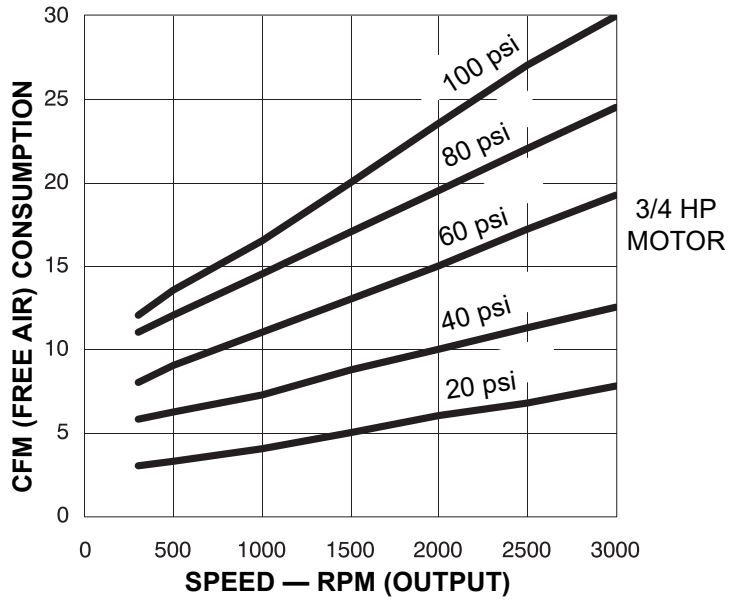


Mounting Hole Layout



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Air Consumption Chart



Technical Specifications

3/4 HP (550 W) Motor Air-Driven Agitators		
	US	Metric
Maximum working pressure	100 psi	0.7 MPa, 7 bar
Maximum recommended speed Model 210067, 260068 Model 962947	300 RPM 500 RPM	
Ambient operating temperature range	+33.8°F < Ta < +104°F	+1°C < Ta < +40°C
Motor power rating	3/4 HP	550 W
Air consumption	See following graph	
Noise (dBa)		
*Sound level at 800 RPM, 100 psi, normal load Pressure level Power level	65.0 dBa 73.9 dBa	
*Sound level at maximum RPM, 100 psi, no load Pressure level Power level	82.1 dBa 91.9 dBa	
*Tested to CAGI-PNEUROP-1969.		
Materials of Construction		
Wetted materials	Stainless steel	
Weight		
All models	14.0 lb	6.4 kg


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Inhibisol® is a registered trademark of Penetone Corp.

Loctite® is a registered trademark of the Loctite Corporation.

California Proposition 65

CALIFORNIA RESIDENTS

 **WARNING:** Cancer and reproductive harm – www.P65warnings.ca.gov.

Graco Standard Warranty

Graco warrants all equipment referenced in this document which is manufactured by Graco and bearing its name to be free from defects in material and workmanship on the date of sale to the original purchaser for use. With the exception of any special, extended, or limited warranty published by Graco, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by Graco to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility of Graco equipment with structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claimed defect. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

THIS WARRANTY IS EXCLUSIVE, AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Graco's sole obligation and buyer's sole remedy for any breach of warranty shall be as set forth above. The buyer agrees that no other remedy (including, but not limited to, incidental or consequential damages for lost profits, lost sales, injury to person or property, or any other incidental or consequential loss) shall be available. Any action for breach of warranty must be brought within two (2) years of the date of sale.

GRACO MAKES NO WARRANTY, AND DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IN CONNECTION WITH ACCESSORIES, EQUIPMENT, MATERIALS OR COMPONENTS SOLD BUT NOT MANUFACTURED BY GRACO. These items sold, but not manufactured by Graco (such as electric motors, switches, hose, etc.), are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

In no event will Graco be liable for indirect, incidental, special or consequential damages resulting from Graco supplying equipment hereunder, or the furnishing, performance, or use of any products or other goods sold hereto, whether due to a breach of contract, breach of warranty, the negligence of Graco, or otherwise.

FOR GRACO CANADA CUSTOMERS

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Graco Information

For the latest information about Graco products, visit www.graco.com.

For patent information, see www.graco.com/patents.

TO PLACE AN ORDER, contact your Graco distributor or call to identify the nearest distributor.

Phone: 612-623-6921 **or Toll Free:** 1-800-328-0211, **Fax:** 612-378-3505

*All written and visual data contained in this document reflects the latest product information available at the time of publication.
Graco reserves the right to make changes at any time without notice.*

Original instructions. This manual contains English. MM 307154

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