# **Instructions – Parts List**



# Agitators Agitators

308371K

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



### **Important Safety Instructions**

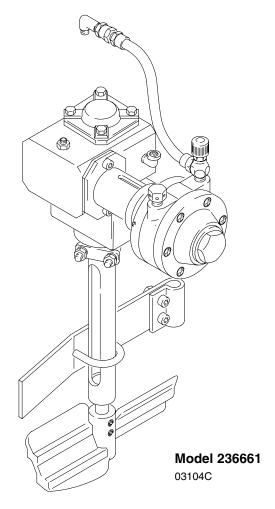
Read all warnings and instructions in this manual. Save these instructions.

Tank Size gallons (liters)	Heavy-Duty Agitator P/N				
5 (19)	236661				
10 (38)	236662				
15 (57)	236663				
For fluid vicessities above 900 and (continuing					

For fluid viscosities above 800 cps (centipoise)

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Approved

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# **Symbols**

### **Warning Symbol**

# **WARNING**

This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.

### Caution Symbol

# **A** CAUTION

This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.

# **▲** WARNING



#### **EQUIPMENT MISUSE HAZARD**

Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury.

- This equipment is for professional use only.
- Read all instruction manuals, tags, and labels before operating the equipment.
- Use the equipment only for its intended purpose. If you are not sure, call your Graco distributor.
- Do not alter or modify this equipment.
- Check equipment daily. Repair or replace worn or damaged parts immediately.
- Do not exceed the maximum working pressure of the lowest rated component in your system. This equipment has a **100 psi (0.7 MPa, 7 bar) maximum working pressure.**
- Use fluids and solvents which are compatible with the equipment wetted parts. Refer to the Technical Data section of all equipment manuals. Read the fluid and solvent manufacturer's warnings.
- Always wear protective eyewear, gloves, clothing, and respirator as recommended by the fluid and solvent manufacturer.
- Comply with all applicable local, state, and national fire, electrical, and safety regulations.

# **A** WARNING



#### FIRE AND EXPLOSION HAZARD

Improper grounding, poor ventilation, open flames, or sparks can cause a hazardous condition and result in a fire or explosion and serious injury.

- Ground the equipment and the object being sprayed. Refer to Grounding on page 4.
- If there is any static sparking or you feel an electric shock while using this equipment, **stop spraying immediately.** Do not use the equipment until you identify and correct the problem.
- Do not use 1,1,1–trichloroethane, methylene chloride, other halogenated hydrocarbon solvents, or fluids containing such solvents in aluminum pumps. Such use could result in a serious chemical reaction, with the possibility of explosion.
- Do not use kerosene or other flammable solvents or combustible gases to flush the unit.
- Provide fresh air ventilation to avoid the buildup of flammable fumes from solvents or the fluid being sprayed.
- Keep the spray area free of debris, including solvent, rags, and gasoline.
- Before operating this equipment, electrically disconnect all equipment in the spray area.
- Before operating this equipment, extinguish all open flames or pilot lights in the spray area.
- Do not smoke in the spray area.
- Do not turn on or off any light switch in the spray area while spraying or while there are any fumes in the air.
- Do not operate a gasoline engine in the spray area.
- Keep a fire extinguisher in the work area.



#### **MOVING PARTS HAZARD**

Moving parts, such as the rotating blades of the agitator, can pinch or amputate your fingers or other body parts and can cause splashing in the eyes or on the skin.

- Keep clear of all moving parts when starting or operating the agitator.
- Always shut off the agitator and disconnect the air line before adjusting the angle of the agitator, removing the agitator from the drum, or checking or repairing any part of the agitator.



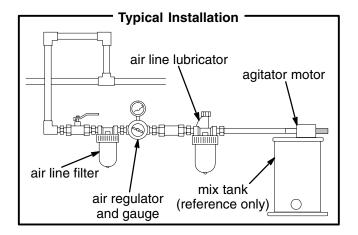
#### **HAZARDOUS VAPORS**

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, keep your face away from the exhaust port.

# Installation

## **▲ WARNING**

FIRE AND EXPLOSION HAZARD Always maintain a minimum of 1 in. clearance between rotating agitator parts and container to prevent sparks from contact.



**NOTE:** Reference numbers and letters in parentheses refer to the numbers and letters in the Figures and the Parts Drawings.

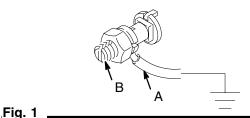
## Grounding

Proper grounding is an essential part of maintaining a safe system.

To reduce the risk of static sparking, all electrically conductive objects or devices must be properly grounded. 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 agitator mounting bracket. See Fig. 1. Connect the other end of the ground wire to a true earth ground.

For a ground wire and clamp, order Part No. 237569.



#### **Pressure Relief Procedure**

## **WARNING**

To reduce the risk of serious bodily injury, including splashing in the eyes or on the skin, or injury from moving parts, which can result if the tank pressure is not fully relieved, always follow this procedure before opening the pressure tank cover or fill port.

- 1. Shut off the air supply to the tank by closing the air inlet valve (A). Refer to Fig. 2.
- 2. Open the drain cock fitting (B) by turning it counterclockwise.
- 3. Wait until there is no air escaping through the fitting before removing the cover or opening the fill port.
- 4. Leave the drain cock fitting open until you have reinstalled the cover or filler cap.

# **Notes**



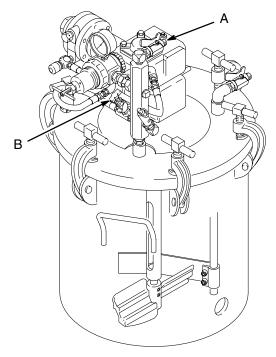
# Installation

If installing an agitator onto a non-agitated tank, follow steps 1, 2, and 7 through 15. If installing a heavy-duty agitator in place of a standard agitator, follow pages 1, 3 through 12, 14, and 15.

- Follow the Pressure Relief Procedure above.
   Then remove the pressure tank cover from the tank.
- 2. See Fig. 3. Unscrew and remove the hex jam nut (C), plug (D), and O-ring (E) from the tank cover.
- 3. Remove the upper U-bolt (26).
- 4. See Fig. 4. Loosen the two set screws (13) and remove the agitator paddle (12).
- 5. On 10 and 15 gallon tanks, remove the lower U-bolt (26), loosen screws (24) and slide the baffle (23) off the fluid tube (K).
- 6. Unscrew and remove the hex jam nut (C), gasket (17), and agitator from the tank cover.
- 7. See Fig. 3. Place the gasket (17) on top of the tank cover center hole. Insert the agitator drive shaft (14) through the center hole.

**NOTE:** Position the air motor so it faces away from the air regulator mounting as shown in Fig. 2.

- 8. Install the jam nut (C) below the tank cover. Tighten the jam nut firmly to assure a seal between the gasket (17) and tank cover.
- 9. Install the shaft support (11) onto the shaft housing (9). Clamp with U-bolt (26), clamp (10), lock washer (36) and nut (25).
- 10. Tighten the U-bolt at a position leaving approximately 0.015 in. (0.006 mm) clearance gap between the thrust washer and the top of the shaft support. See the **Parts Drawing** on page 12.
- 11. See Fig. 4. On the 10 and 15 gallon tanks, place the lower bearing assembly (2) and (3) on the shaft. On the 5 gallon tank, clamp U-bolt directly to shaft support (11). Slide the baffle (23) over the fluid tube (K) and position the baffle about 1/2 in. (13 mm) above the highest point on the agitator paddle (12). Clamp in place with U-bolt (26), washer (36), and nut (25).



5 Gallon Tank with Heavy-Duty Agitator

Fig. 2 \_\_\_\_\_

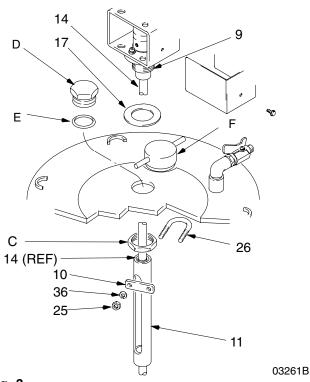


Fig. 3.

# Installation

Align the agitator paddle (12) on the agitator shaft
 (14) as instructed for your model, as follows:

Models 236662 and 236663 (10 & 15 Gallon) Align the top of the paddle hub (G) with the mark (H) on the agitator shaft (14).

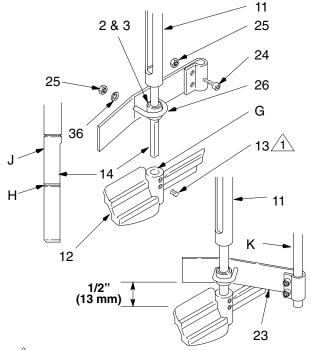
#### Model 236661 (5 Gallon)

If a 5 gallon pail is to be placed inside the pressure tank (5 gallon tank only), align the top of the paddle hub (G) with the upper mark (J) on the agitator shaft (14). If a pail will not be placed inside the tank, align top of hub (G) with the lower mark (H) on the agitator shaft (14).

After the paddle (12) is properly aligned, apply low strength sealant to the two setscrews (13) and firmly secure the paddle with the setscrews.

- See Fig. 5. Remove plug from air inlet manifold (N). Remove the elbow (37) from the end of the air hose (21) and attach to the pressure tank's air inlet manifold (N).
- 14. Connect the swivel end of the air hose (21) to the elbow (37).
- 15. See Fig. 5. Remove the gear reducer's oil level plug (L) from the street elbow and check the oil level in the reducer housing. The oil should never be higher than the oil level plug. If necessary, drain or add oil until the proper oil level is attained. Screw the oil level plug back onto the street elbow.

**NOTE:** Special high temperature synthetic gear oil is required for the gear reducer. **Use only Graco oil,** part number 204559.



ackslash Apply low strength (cyanoacrylate) thread sealant.

Fig 4

# **Operation**

## **▲** WARNING

To reduce the risk of serious bodily injury, which can result if the tank pressure is not fully relieved, *always* follow the **Pressure Relief Procedure** on page 6 before opening the tank cover or fill port.

- Fill the pressure tank as explained in the Pressure Tank Instruction Manual 308369.
- 2. Screw on the filler cap (F) (see Fig. 3), or if the tank cover was removed, place the agitator and cover on the pressure tank and secure the cover with the c-clamp handles (M). See Fig. 5.

## **A** WARNING

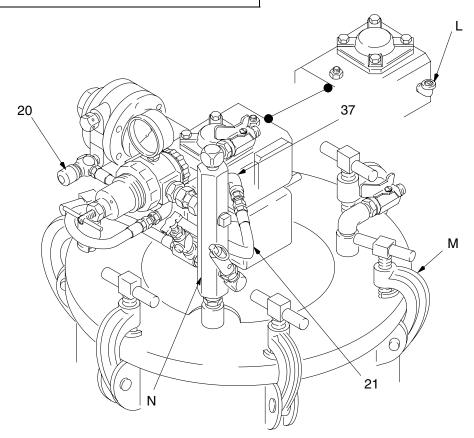
Over-pressurizing the tank or accessories could cause a part to rupture. To reduce the risk of serious injury, including fluid injection and splashing in the eyes or on the skin, or property damage, *never* exceed the maximum air and fluid working pressure of the lowest rated component in your system.

- 3. Close the tank air regulator(s) by turning the knob(s) counterclockwise. Turn on the air supply.
- To start the agitator, slowly open the needle valve (20). Adjust the speed of the agitator, with the needle valve, to about 40 to 60 rpm.

## **A** CAUTION

**Do not** operate the agitator at a high speed for a long period of time. Excessive agitator speed can cause foaming of fluid (making fluid unusable), or vibration and increased wear on parts. Always agitate the fluid only enough to maintain even mixing.

5. To stop the agitator, close the needle valve (20).



**Heavy-Duty Agitator** 

03283A

Fig. 5.

## Service

## **▲** WARNING

To reduce the risk of serious bodily injury, including cuts, amputation of fingers, and splashing in the eyes or on the skin, *always* follow the **Pressure Relief Procedure** on page 6, shut off the agitator, and disconnect the air line before checking or repairing the agitator.

## **Lubricating the Heavy-Duty Agitator**

## **A** CAUTION

Not lubricating the air motor will cause air motor failure.

**Air Motor:** Install an air line lubricator 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 order a 3/8 in. npt air line lubricator, order Part No. 214847.

If an air line lubricator 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. Run the agitator for about 30 seconds.

**Gear Reducer:** After the first 100 hours or two weeks of operation, remove the oil plug (T) and the oil level plug (L), drain the oil, and thoroughly flush the housing with light flushing oil. See Fig. 6.

Refill with Graco oil (part number 204559) to the proper level.

Afterward, change the oil every six months or 2500 hours of operation (whichever occurs first) under normal operating conditions. More frequent oil changes are needed under severe operating conditions or in atmospheres containing excessive moisture or abrasives. Contact your Graco distributor.

### Flushing the Air Motor

## **WARNING**



#### FIRE AND EXPLOSION HAZARD

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.

## **▲** WARNING



#### **HAZARDOUS VAPORS**

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:

- Keep your face away from the exhaust port.
- Wear the appropriate protective clothing, gloves, eyewear, and respirator.

If the motor is sluggish or inefficient, flush it with non-flammable solvent in a well ventilated area.

The recommended solvent for air motors and lubricated pumps is Gast® Flushing Solvent (Part No. AH255 or AH255A) or Inhibisol® Safety Solvent.

- 1. Disconnect the air line and muffler.
- 2. Add several teaspoons of solvent or spray the solvent directly into the motor.
- Rotate the shaft by hand in both directions for a few minutes.
- Reconnect the air line, and slowly increase the air pressure until there is no trace of solvent in the exhaust air.
- 5. Re-lubricate the motor with a squirt of light-weight oil in the chamber.

# **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.
- If the vanes need replacing, or if foreign material is present in the motor chamber, an experienced mechanic may remove the end plate opposite the drive shaft end. 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.
- 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.

## Cleaning the Shaft

Each week, clean any dried fluid from around the bearing (38) area of the shaft (14).

# **Replacing the Heavy-Duty Air Motor** (See Fig. 6)

#### Removing the Heavy-Duty Air Motor

- 1. Disconnect the air hose (21).
- 2. Loosen the two setscrews (32) on the collar (2) and remove the air motor (1).

#### **Installing the Heavy-Duty Air Motor**

- Place one-half of the coupling (3a) on the air motor shaft (S), flush with the end of the shaft. Tighten the coupling setscrew against the flat on the shaft.
- Install the load cushion (P) on the gear reducer coupling half. Slide the clamp (2) onto the collar (4).
- 3. Align the two coupling halves (3a), and push the air motor hub into the collar (4) until it bottoms out, then back it out 0.015 in. (0.38 mm). Make sure the air motor inlet and outlet face up.
- Apply Loctite<sup>®</sup> No. 222 to the two clamp setscrews (32). Align the setscrews to one side of the slots on the collar (4), and tighten them.
- 5. Apply pipe thread sealant to the inlet (20) and outlet (22) fittings, and install them in the air motor.

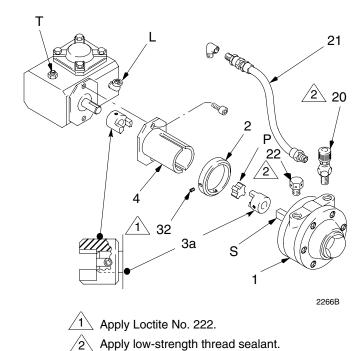


Fig. 6

# **Replacing the Heavy-Duty Gear Reducer** (See Fig. 7)

- 1. Do not attempt to repair the gear reducer (5) yourself. Contact your Graco distributor.
- 2. When replacing the gear reducer, turn it upside down and remove the cap screws (33) and washers (40) from the bottom of the old gear reducer. Remove the top coupling half (19a) from the old gear reducer, and install the coupling half on the new gear reducer. Wipe the screw holes clean with a rag.
- 3. Apply Loctite No. 271, or equivalent, to the four cap screws (33). Install them with the washers (40) through the bracket (6) and into the gear reducer. Make sure the three hole pattern on the bottom of the bracket (6) is orientated in relation to the gear reducer (5) as shown in Fig. 7. Run the agitator to let the bracket (6) center itself. Torque the screws to 160 in-lb (18 N•m). Leave the gear reducer upside down for 30 minutes to allow the Loctite to cure. Set the coupling as instructed under Setting the Agitator Shaft Coupling, on page 11.

## **A** CAUTION

Do not use the four screws supplied with the new gear reducer to secure it; those screws will not properly secure the gear reducer. Use the cap screws and washers (33 and 40) removed from the old gear reducer. Be careful not to spill any oil from the gear reducer.

# **Service**

# **Servicing the Agitator Shaft and Couplings** (See Fig. 7)

#### Setting the Agitator Shaft Coupling

- With the agitator shaft (14) pushed up against the washer (15a), secure the lower portion of the coupling half (19b) to the shaft by tightening the coupling setscrew against the flat on the shaft. Leave about a 0.015 in. gap between the coupling half and washer (15b).
- Secure the upper coupling half (19a) to the gear reducer shaft by tightening the coupling setscrew into the keyway. Leave about a 0.015 in. gap between each of the coupling halves (19a, 19b) and the load cushion (R).

### Replacing the Agitator Shaft

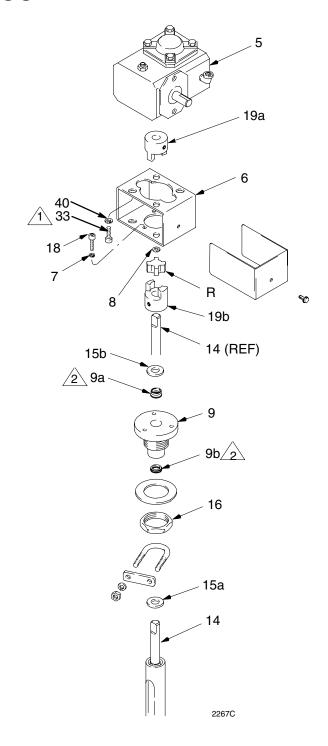
- Remove the agitator paddle. Remove the setscrew from the lower coupling (19b). Pull out the agitator shaft (14) and install the new shaft. Replace the agitator paddle.
- 2. With the agitator shaft (14) pushed up against the washer (15a), secure the lower portion of the coupling half (19b) to the shaft by tightening the coupling setscrew against the flat on the shaft. Leave about a 0.015 in. gap between the coupling half and washer (15b).

#### Replacing the Coupling

- Remove the three cap screws (18), washers (7) and spacers (8) from the mounting bracket (6). Lift the air motor and gearbox off the tank cover. Remove the two coupling halves (19a, 19b) from the shaft ends.
- Install the new coupling halves on the shaft ends. Replace the air motor/bracket assembly and the three cap screws (18), washers (7) and spacers (8) to fasten the mounting bracket.

#### Replacing the Shaft Seals

- Remove the three cap screws (18), washers (7), and spacers (8) from mounting bracket (6), and move the air motor assembly.
- 2. With air motor assembly removed, remove the setscrew from the lower coupling half (19b). Pull out the agitator shaft (14).
- 3. Remove the hex nut (16) and remove the shaft housing (9). Remove the seals (9a, 9b) from the shaft housing, and install the new seals.
- Reinstall the shaft housing and shaft. Use installation steps listed in Setting the Agitator Shaft Coupling.



1

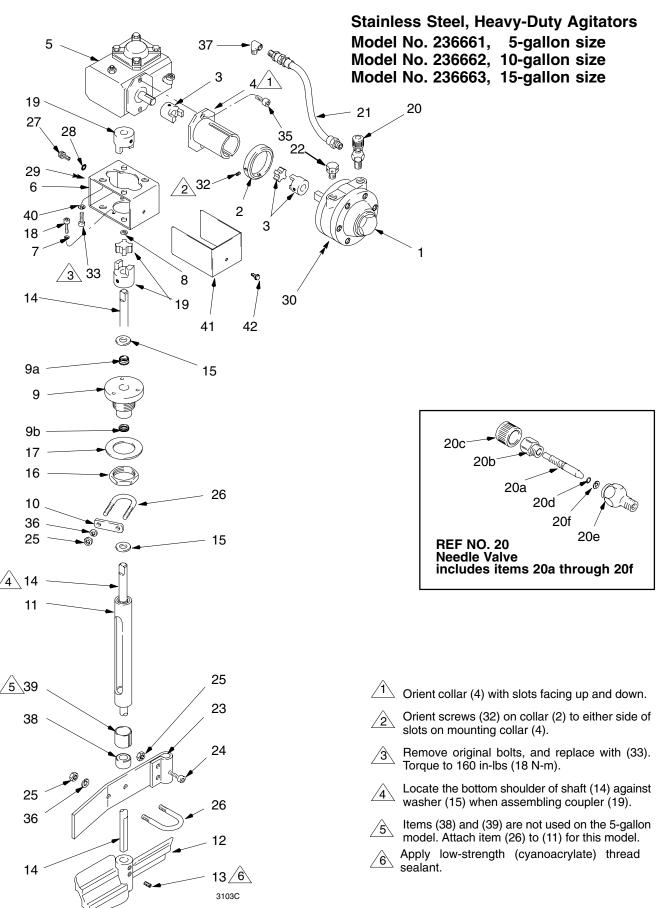
Apply Loctite No. 271. Torque to 160 in-lbs (18 N-m)



Install seals with open spring-loaded side toward tank

Fig. 7 \_

# **Parts Drawing**



# **Parts List**

Stainless Steel, Heavy-Duty Agitators

Model No. 236661, 5-gallon size Model No. 236662, 10-gallon size Model No. 236663, 15-gallon size

1 162425 MOTOR, air 2 181849 COLLAR 1 3 100828 COUPLING, flexible 1 20a 166529 · NEEDLE, valve 1 4 220416 COLLAR, mounting; 20b 166532 · NUT, packing 1 Includes items 4a & 4b 1 20c 164698 · KNDB, packing 1 4a 181848 SLEEVE, mounting, air motor 1 20d 157628 · O-RING; buna-N 1 4b 170751 PLATE, mounting 1 20e 165722 · BODY, valve 1 5 181794 REDUCER, gear 1 201 166931 · WASHER, Involon 1 6 181749 BRACKET, mounting 1 21 160023 HOSE, coupled; 400 psi (2.8 MPLER, exhaust 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ref No.	Part No.	Description	Qty.	Ref No.	Part No.	Description	Qty.
3		162425	MOTOR, air	1	20	206264		
4				1				1
Includes items 4a & 4b   1   20c   164688   ·KNOB, packing   1	3	100828		1	20a	166529		1
4a 181848 SLEEVE, mounting, air motor 1 20d 157628 · O-RING; buna-N 1 4b 170751 PLATE, mounting 1 20d 165722 · BODY, valve 1 5 181794 REDUCER, gear 1 20f 166531 · WASHER, nylon 1 6 181749 BRACKET, mounting 1 21 160023 · WASHER, nylon 1 7 100020 WASHER, lock 3 3 8 108462 SPACER 3	4	220416	COLLAR, mounting;		20b	166532		1
4b				1				
5         181794         REDUCER, gear         1         20f         166531         - WASHER, nylon         1           6         181749         BRACKET, mounting         1         21         160023         - WASHER, nylon         1           7         100020         WASHER, lock         3         - Recompleted (2.8 MPa, 28 bar)								
6       181749       BRACKET, mounting       1       21       160023       HOSE, coupled; 400 psi (2.8 MPa, 28 bar)         7       100020       WASHER, lock       3       (2.8 MPa, 28 bar)       maximum working pressure       1         9       236092       HOUSING, shaft; Includes replaceable items 9a & 9b       1       23       171989       BAFFLE, aglitator, sst       1         9a       103553       SEAL, shaft       1       24       112222       SCREW, cap, socket head;       1         9b       104431       SEAL, shaft       1       24       112222       SCREW, cap, socket head;       1         10       112533       CLAMP, plate, sst       1       25       112223       NUT, hex, regular; 1/4–20, (19 mm) sst       2         11       210576       SUPPORT, shaft;       sst       0       U-BOLT, clamp; sst       2         12*       23698       PADDLE, aglitator; plastic       1       27       111593       SCREW, cap; soket head;       1         13       112230       SCREW, set, sch, 1/4–20 x 0.5 in.       28       157021       WASHER, lock, internal       1         14       188886       SHAFT, aglitator, 31 in., 15 gal size (18 mg)       1       32       101118       SCREW, ca	4b	170751		1				
7				1			· •	1
8		181749			21	160023		
9		100020	WASHER, lock					
Includes replaceable items 9a & 9b		108462	SPACER	3			<b>.</b>	1
9a 103553 · SEAL, shaft 1 24 112222 SCREW, cap, socket head; 9b 104431 · SEAL, shaft 1 25 112223 NUT, hex, regular; 1/4-20, (19 mm) sst 2 10 112533 CLAMP, plate, sst 1 25 112223 NUT, hex, regular; 1/4-20, (19 mm) sst st 1 210576 SUPPORT, shaft;	9	236092	HOUSING, shaft;			156969	•	
9b 104431 · SEAL, shaft 1 1 25 11223 NUT, hex, regular; 1/4-20, (19 mm) sst 1 210576 SUPPORT, shaft; st Includes replaceable item 38 1 26 110278 U-BOLT, clamp; sst 2 2 12* 236098 PADDLE, agitator; plastic 1 27 111593 SCREW, grounding 1 1 12230 SCREW, set, sch, 1/4-20 x 0.5 in. 28 157021 WASHER, lock, internal 1 (13 mm) 2 29 186620 LABEL, grounding symbol 1 1 1 1 88886 SHAFT, agitator, 20.75 in., 10 gal size (37.8 liters); sst 1 32 101118 SCREW, set, sch; 10-24 x 0.25 in. (6 mm) long 2 (22 mm) long 4 1 1 88888 SHAFT, agitator, 31 in., 15 gal size (56.7 liters); sst 1 35 116940 SCREW, cap, sch; 1/4-20 x .875 in. (22 mm) long 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				1	23	171989		1
10 112533 CLAMP, plate, sst 1 25 112223 NUT, hex, regular; 1/4−20, (19 mm) sst 6 SUPPORT, shaft; 12 236098 PADDLE, agitator, plastic 1 27 111593 SCREW, grounding 1 1 1230 SCREW, set, sch, 1/4−20 x 0.5 in. (13 mm) 2 29 186620 LABEL, grounding symbol 1 (13 mm) 2 291 186620 LABEL, grounding symbol 1 1 1 188886 SHAFT, agitator, 15 in., 5 gal size (37.8 liters); sst 1 32 101118 SCREW, set, sch; 10−24 x 0.25 in. (22 mm) long 2 (37.8 liters); sst 1 33 110298 SCREW, cap, sch; 1/4−20 x .875 in. (22 mm) long 4 (56.7 liters); sst 1 37 112307 SCREW, cap; 5/16−18 x 1/2 in. (13 mm) ong 2 1 1 12307 SCREW, cap, sch; 1/4−20 x .875 in. (22 mm) long 2 1 1 12230 SCREW, cap, sch; 1/4−20 x .875 in. (22 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (22 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (22 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (22 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (22 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (22 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (22 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (22 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (22 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (22 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (22 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (23 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (24 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (25 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (25 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (25 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (25 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (25 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (25 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (25 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (25 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (25 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (25 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (25 mm) long 2 1 1 12307 SCREW, cap; 5/16−18 x 1/2 in. (25 mm) long 2 1 1 12307 SCREW, cap; 5/	9a			1	24	112222		
11								2
Includes replaceable item 38	10			1	25	112223	NUT, hex, regular; 1/4–20, (19 mm)	
12*       236098       PADDLE, agitator; plastic       1       27       111593       SCREW, grounding       1         13       112230       SCREW, set, sch, 1/4–20 x 0.5 in. (13 mm)       2       29       186620       LABEL, grounding symbol       1         14       188886       SHAFT, agitator, 15 in., 5 gal size (18.9 liters); sst       1       32       101118       SCREW, set, sch; 10–24 x 0.25 in. (6 mm) long       2         14       188887       SHAFT, agitator, 20.75 in., 10 gal size (37.8 liters); sst       1       33       110298       SCREW, cap, sch; 1/4–20 x .875 in. (22 mm) long       2         14       188888       SHAFT, agitator, 31 in., 15 gal size (56.7 liters); sst       1       35       116940       SCREW, cap, sch; 1/4–20 x .875 in. (22 mm) long       4         15       104373       WASHER, thrust; 1/2 in. ID x 1 in. OD 2       1       35       116940       SCREW, cap; 5/16–18 x 1/2 in. (22 mm) long       2         16       188784       NUT, jam, hex; 1–1/2 in.–12; stainless steel       1       37       112307       ELBOW, street; 90° x 1/8–27 npt(f)         17       196309       GASKET, LDPE foam       1       1       1/8–27 npt(m)       1         18       102598       SCREW, cap, socket head; 10–32 x 0.5 in. (13 mm)       39       187324	11	210576						
13								
14       188886       SHAFT, agitator, 15 in., 5 gal size (18.9 liters); sst       1       30 ▲ 290152       LABEL, grounding symbol       1         14       188887       SHAFT, agitator, 20.75 in., 10 gal size (37.8 liters); sst       1       32       101118       SCREW, set, sch; 10–24 x 0.25 in. (6 mm) long       2         14       188887       SHAFT, agitator, 20.75 in., 10 gal size (37.8 liters); sst       1       33       110298       SCREW, set, sch; 10–24 x 0.25 in. (6 mm) long       2         14       188888       SHAFT, agitator, 31 in., 15 gal size (56.7 liters); sst       1       33       110298       SCREW, cap, sch; 1/4–20 x .875 in. (22 mm) long       4         15       104373       WASHER, thrust; 1/2 in. ID x 1 in. OD 2 (56.7 liters); sst       1       35       116940       SCREW, cap; 5/16–18 x 1/2 in. (13 mm) long       2         16       188784       NUT, jam, hex; 1–1/2 in.—12; stainless steel       36       104123       WASHER, lock, sst       4         17       196309       GASKET, LDPE foam       1       37       112307       ELBOW, street; 90° x 1/8–27 npt(f)       1         18       102598       SCREW, cap, socket head; 10–32 x 0.5 in. (13 mm)       38       171970       BEARING PTFE; Included with Models 236662 and 236663 only; sst       4         19       108463				1				
14 18886 SHAFT, agitator, 15 in., 5 gal size (18.9 liters); sst 1 32 101118 SCREW, set, sch; 10–24 x 0.25 in. (6 mm) long 2 (37.8 liters); sst 1 33 110298 SCREW, cap, sch; 1/4–20 x .875 in. (22 mm) long 4 (22 mm) long 4 (23 mm) long 2 (37.8 liters); sst 1 35 116940 SCREW, cap; 5/16–18 x 1/2 in. (13 mm) long 2 (13 mm) long 3 (13 mm) long 4 (14 mm) long 4 (15 mm) long 5 liters); stainless steel 8 liters 1 liters 2 liters 1 liters 1 liters 1 liters 1 liters 2 liters 1 liters 2 lit	13	112230						
(18.9 liters); sst 1 32 101118 SCREW, set, sch; 10–24 x 0.25 in. (6 mm) long 2 (37.8 liters); sst 1 33 110298 SCREW, cap, sch; 1/4–20 x .875 in. (22 mm) long 4 (56.7 liters); sst 1 35 116940 SCREW, cap; 5/16–18 x 1/2 in. (13 mm) long 2 (13 mm) long 2 (14 mm) long 2 (15 mm) long 4 (15 mm) long 2 (15 mm) long 2 (15 mm) long 2 (16 mm) long 3 mm) long 4 mm long 5 mm long 6 mm long 6 mm long 6 mm long 7 mm long 7 mm long 7 mm long 8 mm long 8 mm long 8 mm long 9				2	-	186620		1
14       188887       SHAFT, agitator, 20.75 in., 10 gal size	14	188886						1
(37.8 liters); sst 1 33 110298 SCREW, cap, sch; 1/4–20 x .875 in.  14 188888 SHAFT, agitator, 31 in., 15 gal size (56.7 liters); sst 1 35 116940 SCREW, cap; 5/16–18 x 1/2 in.  15 104373 WASHER, thrust; 1/2 in. ID x 1 in. OD 2 (13 mm) long 2  16 188784 NUT, jam, hex; 1–1/2 in.–12; 36 104123 WASHER, lock, sst 4 stainless steel 1 37 112307 ELBOW, street; 90° x 1/8–27 npt(f)  17 196309 GASKET, LDPE foam 1 1/8–27 npt(m) 1  18 102598 SCREW, cap, socket head; 38 171970 BEARING PTFE; Included with Models 236662 and 236663 only 1  19 108463 COUPLING, flexible 1 39 187324 HOUSING, bearing; Included with Models 236662 and 236663 only; sst 1  * Stainless steel agitator paddle 186517, 304 stainless steel welded construction, replaces plastic agitator paddle 236098.					32	101118		
14       188888       SHAFT, agitator, 31 in., 15 gal size       (22 mm) long       4         (56.7 liters); sst       1       35       116940       SCREW, cap; 5/16–18 x 1/2 in.       1         15       104373       WASHER, thrust; 1/2 in. ID x 1 in. OD 2       (13 mm) long       2         16       188784       NUT, jam, hex; 1–1/2 in.–12;       36       104123       WASHER, lock, sst       4         stainless steel       1       37       112307       ELBOW, street; 90° x 1/8–27 npt(f)       1         17       196309       GASKET, LDPE foam       1       1/8–27 npt(m)       1         18       102598       SCREW, cap, socket head;       38       171970       BEARING PTFE; Included with         19       108463       COUPLING, flexible       1       39       187324       HOUSING, bearing; Included with         Models 236662 and 236663 only;       sst       1         * Stainless steel agitator paddle 186517, 304 stainless       sst       1         * Stainless steel welded construction, replaces plastic agitator paddle       40       170772       WASHER, flat; 0.26 x 0.69 dia;         * sst       4         41       194701       GUARD       1	14	188887	SHAFT, agitator, 20.75 in., 10 gal siz	e				
(56.7 liters); sst 1 35 116940 SCREW, cap; 5/16–18 x 1/2 in.  15 104373 WASHER, thrust; 1/2 in. ID x 1 in. OD 2 (13 mm) long 2  16 188784 NUT, jam, hex; 1–1/2 in.–12; 36 104123 WASHER, lock, sst 4			· //	1	33	110298	SCREW, cap, sch; 1/4-20 x .875 in.	
15       104373       WASHER, thrust; 1/2 in. ID x 1 in. OD 2       (13 mm) long       2         16       188784       NUT, jam, hex; 1–1/2 in.–12; stainless steel       36       104123       WASHER, lock, sst       4         17       196309       GASKET, LDPE foam       1       37       112307       ELBOW, street; 90° x 1/8–27 npt(f)       1         18       102598       SCREW, cap, socket head; sREARING PTFE; Included with Models 236662 and 236663 only street; 90° x 1/8–27 npt(f)       1         19       108463       COUPLING, flexible       1       39       187324       HOUSING, bearing; Included with Models 236662 and 236663 only; sst       1         * Stainless steel agitator paddle tonstruction, replaces plastic agitator paddle steel welded construction, replaces plastic agitator paddle sst       40       170772       WASHER, flat; 0.26 x 0.69 dia; sst       4         236098.       41       194701       GUARD       1	14	188888						4
16       188784       NUT, jam, hex; 1–1/2 in.–12;       36       104123       WASHER, lock, sst       4         17       196309       GASKET, LDPE foam       1       17       196309       GASKET, LDPE foam       1       1/8–27 npt(m)       1         18       102598       SCREW, cap, socket head;       38       171970       BEARING PTFE; Included with       1         19       108463       COUPLING, flexible       1       39       187324       HOUSING, bearing; Included with         * Stainless steel agitator paddle 186517, 304 stainless steel welded construction, replaces plastic agitator paddle       40       170772       WASHER, flat; 0.26 x 0.69 dia; sst       4         236098.       41       194701       GUARD       1				-	35	116940		
Stainless steel   1   37   112307   ELBOW, street; 90° x 1/8–27 npt(f)   17   196309   GASKET, LDPE foam   1   1/8–27 npt(m)   1   18   102598   SCREW, cap, socket head;   38   171970   BEARING PTFE; Included with   10–32 x 0.5 in. (13 mm)   3   Models 236662 and 236663 only   1   19   108463   COUPLING, flexible   1   39   187324   HOUSING, bearing; Included with   Models 236662 and 236663 only;   sst   1   steel welded construction, replaces plastic agitator paddle   40   170772   WASHER, flat; 0.26 x 0.69 dia;   sst   4   194701   GUARD   1   1   1   1   1   1   1   1   1	15	104373		D 2			(13 mm) long	
17       196309       GASKET, LDPE foam       1       1/8–27 npt(m)       1         18       102598       SCREW, cap, socket head; 10–32 x 0.5 in. (13 mm)       38       171970       BEARING PTFE; Included with Models 236662 and 236663 only       1         19       108463       COUPLING, flexible       1       39       187324       HOUSING, bearing; Included with Models 236662 and 236663 only;       sst       1         * Stainless steel agitator paddle 186517, 304 stainless steel welded construction, replaces plastic agitator paddle 236098.       40       170772       WASHER, flat; 0.26 x 0.69 dia; sst       4         41       194701       GUARD       1	16	188784	NUT, jam, hex; 1-1/2 in12;			-	·	4
18       102598       SCREW, cap, socket head; 10–32 x 0.5 in. (13 mm)       38       171970       BEARING PTFE; Included with Models 236662 and 236663 only       1         19       108463       COUPLING, flexible       1       39       187324       HOUSING, bearing; Included with Models 236662 and 236663 only;         * Stainless steel agitator paddle 186517, 304 stainless steel welded construction, replaces plastic agitator paddle 236098.       40       170772       WASHER, flat; 0.26 x 0.69 dia; sst       4         41       194701       GUARD       1				1	37	112307		
10–32 x 0.5 in. (13 mm) 3		196309		1				1
19       108463       COUPLING, flexible       1       39       187324       HOUSING, bearing; Included with Models 236662 and 236663 only;         * Stainless steel agitator paddle 186517, 304 stainless steel welded construction, replaces plastic agitator paddle 236098.       40       170772       WASHER, flat; 0.26 x 0.69 dia; sst       4         41       194701       GUARD       1	18	102598			38	171970		
* Stainless steel agitator paddle 186517, 304 stainless steel welded construction, replaces plastic agitator paddle 40 170772 WASHER, flat; 0.26 x 0.69 dia; sst 4 1 194701 GUARD 1			10-32 x 0.5 in. (13 mm)	3			Models 236662 and 236663 only	1
* Stainless steel agitator paddle 186517, 304 stainless steel welded construction, replaces plastic agitator paddle 40 170772 WASHER, flat; 0.26 x 0.69 dia; sst 4 1 194701 GUARD 1	19	108463	COUPLING, flexible	1	39	187324	HOUSING, bearing; Included with	
steel welded construction, replaces plastic agitator paddle 40 170772 WASHER, flat; 0.26 x 0.69 dia; 236098. sst 4 41 194701 GUARD 1							Models 236662 and 236663 only;	
236098. sst 4 41 194701 GUARD 1							sst	1
41 194701 GUARD 1	stee	steel welded construction, replaces plastic agitator padd			40	170772	WASHER, flat; 0.26 x 0.69 dia;	
	2360	098.					sst	4
42 100078 SCREW, #8–32x3/8 in. 1						194701		1
					42	100078	SCREW, #8-32x3/8 in.	1

<sup>▲</sup> Extra warning labels are available for free.

# **Technical Data**

### Heavy-Duty Models 236661, 236662, and 236663

For fluid viscosity above 800 cps (centipoise)

Air motor: air driven, gear reduced,

1/2 HP (373 W)

Air pressure: 100 psi (0.7 MPa, 7 bar) maximum

Gear ratio: reduced 20:1

shaft rpm is 1/20 of air motor rpm

Wetted parts: 304 and 316 stainless steel, PTFE,

Zytel®, and bronze

Weight: 21.0 lb (9.5 kg)

\*Sound data:

Sound pressure

At no load at maximum rpm: 83.4 dB(A) Under load at 50 rpm: 64.0 dB(A)

Sound power

At no load at maximum rpm: 96.6 dB(A) Under load at 50 rpm: 77.2 dB(A) \* Sound level measurements taken at 1 meter per CAGI-PNEUROP, 1971.

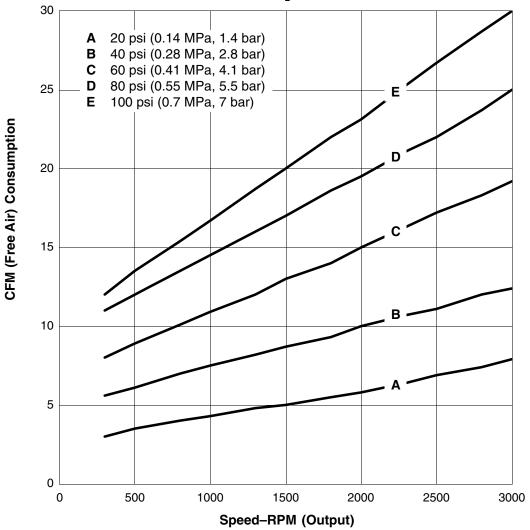
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# **Air Consumption Chart**



# **Notes**



# **Graco Standard Warranty**

Graco warrants all equipment 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.

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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.

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