

High-Flo[®] 4-Ball Pumps

3A3382D

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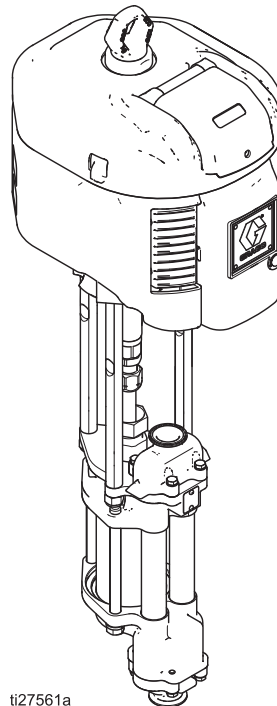
Air-powered pumps for low pressure, high volume circulation of finishing materials. Do not use for flushing or purging lines with caustics, acids, abrasive line strippers, and other similar fluids. For professional use only.



Important Safety Instructions

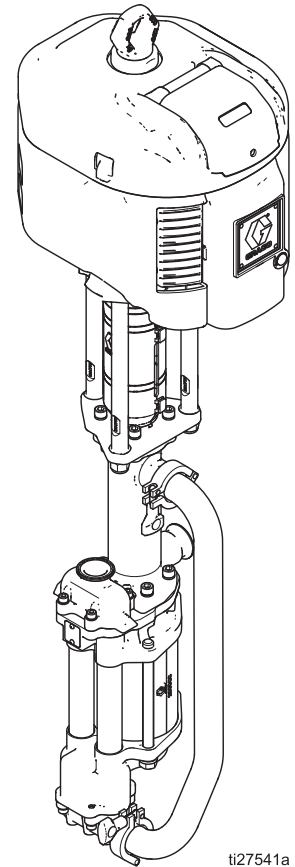
Read all warnings and instructions in this manual. Save these instructions.

See pages 3 and 25 for model information, including maximum working pressure.



ti27561a

**High-Flo Pump with
1000cc, Open Wet
Cup, 4-Ball Lower**



ti27541a

**High-Flo Pump with
2000cc, Sealed,
4-Ball Lower**



II 2 G Ex h IIB T3 Gb

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Related Manuals

Part No.	Description
311238	NXT Air Motor
333022	Sealed 4-Ball Lower (750cc, 1000cc, 1500cc, and 2000cc)
3A3452	4-Ball Lower with Open Wet Cup (750cc, 1000cc, 1500cc, and 2000cc)




Models

Your model number is marked on the pump identification plate located toward the rear of the air motor. To determine the model number of your pump from the following matrix, select the six digits which describe your pump. The first digit is always J for circulation pumps. The remaining five digits define the construction. For example, a circulation pump with stainless steel construction, a 3.5:1 ratio, low noise exhaust, no DataTrak option, an open wet cup lower with npt fittings, and an Ultralife rod and cylinder is model number **J S 35 L 9**. To order replacement parts, see page 15.







J	S	35			L			9			
First Digit	Second Digit	Third and Fourth Digit			Fifth Digit			Sixth Digit			
	Material	Ratio Code ‡	Motor Size	Lower Size		Exhaust	DataTrak™		Lower Style and Fittings	Rod	Cylinder
J (all circulation pumps)	C (carbon steel)	35	3400	2000	L	Low Noise	No	8	Sealed, tri-clamp	Ultralife	Ultralife
	S (stainless steel)	45	3400	1500	M	Low Noise	Yes	9	Open wet cup, npt	Ultralife	Ultralife
		20	2200	2000	R	Remote	No	0	Open wet cup, tri-clamp	Ultralife	Ultralife
		30	2200	1500	S	Remote	Yes				
		40	2200	1000							
		‡ Ratio Code XX = X.X:1 ratio									

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.

 <h1 style="margin: 0;">WARNING</h1>	
	<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 sparking). • 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 anti-static 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. If there is static sparking or you feel a shock, stop operation immediately. Do not use equipment until you identify and correct the problem. <p>Static charge may build up on plastic parts during cleaning and could discharge and ignite flammable vapors. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Clean plastic parts only in a well ventilated area. • Do not clean with a dry cloth. • Keep a working fire extinguisher in the work area.
	<p>PRESSURIZED EQUIPMENT HAZARD</p> <p>Fluid from the equipment, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.</p> <ul style="list-style-type: none"> • Follow the Pressure Relief Procedure when you stop spraying/dispensing and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.

! WARNING

 	<p>EQUIPMENT MISUSE HAZARD</p> <p>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 Data in all equipment manuals. • Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheet (SDS) from distributor or retailer. • 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>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. • Pressurized equipment can start without warning. Before checking, moving, or servicing equipment, follow the Pressure Relief Procedure and disconnect all power sources.
	<p>TOXIC FLUID OR FUMES HAZARD</p> <p>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 Sheet (SDS) 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</p> <p>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

Grounding



The equipment must be grounded to reduce the risk of static sparking. Static sparking can cause fumes to ignite or explode. Grounding provides an escape wire for the electric current.

Pump: use a ground wire and clamp. See FIG. 1. Remove the green ground screw (Z) from the bottom of the air motor. Insert the screw through the loop on the end of the ground wire (Y) and reattach the screw to the air motor. Connect the ground clamp to a true earth ground. Order Part No. 244524, Ground Wire and Clamp.

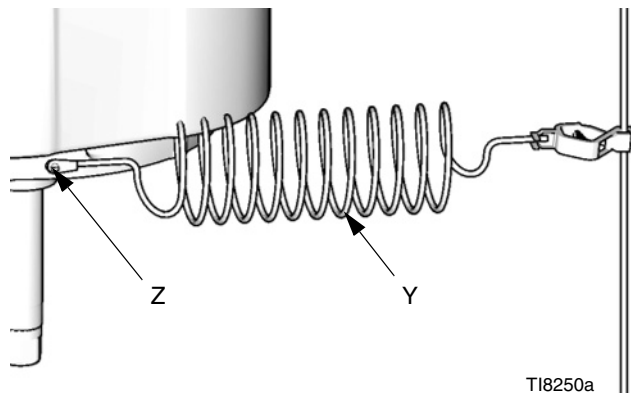


FIG. 1. Ground Wire

Air and fluid hoses: use only electrically conductive hoses with a maximum of 500 ft. (150 m) combined hose length to ensure grounding continuity. Check the electrical resistance of hoses. If total resistance to ground exceeds 25 megohms, replace hose immediately.

Air compressor: follow manufacturer's recommendations.

Surge tank: use a ground wire and clamp.

Dispense valve: ground through a connection to a properly grounded fluid hose and pump.

Fluid supply container: follow local code.

Object being sprayed: follow local code.

Solvent pails used when flushing: follow local code. Use only conductive metal pails, placed on a grounded surface. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts grounding continuity.

To maintain grounding continuity when flushing or relieving pressure: hold metal part of the spray gun or valve firmly to the side of a grounded metal pail, then trigger the gun or open the valve.

Mounting

Stand Mount

Mount the pump in the accessory pump stand (B). Use Part No. 253692 Stand for 1000, 1500, and 2000cc Pumps (see FIG. 2, page 9).

See **Mounting Hole Layouts for Stand** on page 21. Secure the stand to the floor with M19 (5/8 in.) bolts which engage at least 152 mm (6 in.) into the concrete floor to prevent the pump from tipping.

Wall Mount

1. Ensure the wall is strong enough to support the weight of the pump assembly and accessories, fluid, hoses, and stress caused during pump operation.
2. Ensure that the mounting location has sufficient clearance for easy operator access.
3. Position the wall bracket at a convenient height, ensuring that there is sufficient clearance for the fluid connections and for servicing the lower.
4. Drill four 7/16 in. (11 mm) holes using the bracket as a template. Use any of the three mounting hole groupings in the bracket. See **255143 Wall Mount Bracket**, page 22.
5. Bolt the bracket securely to the wall using bolts and washers designed to hold in the wall's construction.
6. Attach the pump assembly to the mounting bracket.
7. Connect air and fluid hoses.

Plumbing

Install a fluid shutoff valve (D) between the mix tank (A) and the pump.

When using a stainless steel pump, use stainless steel plumbing to maintain a corrosion-resistant system.

Flush Before Using Equipment

The equipment was tested with lightweight oil, which is left in the fluid passages to protect parts. To avoid contaminating your fluid with oil, flush the equipment with a compatible solvent before using the equipment. See **Flushing**, page 11.

Accessories

Install the following accessories in the order shown in FIG. 2, using adapters as necessary.

NOTE: Accessory Air Control Kits are available for the NXT Air Motor. The kits include a master air valve, air regulator, and filter. Order the kit separately. See manual 311239 for more information.

Air Line

See FIG. 2.

- **Bleed-type master air valve (M):** required in your system to relieve air trapped between it and the air motor when the valve is closed.



Trapped air can cause the pump to cycle unexpectedly, which could result in serious injury from splashing or moving parts. Be sure the valve is easily accessible from the pump and located downstream from the air regulator. Be sure the air bleed hole points away from the operator.

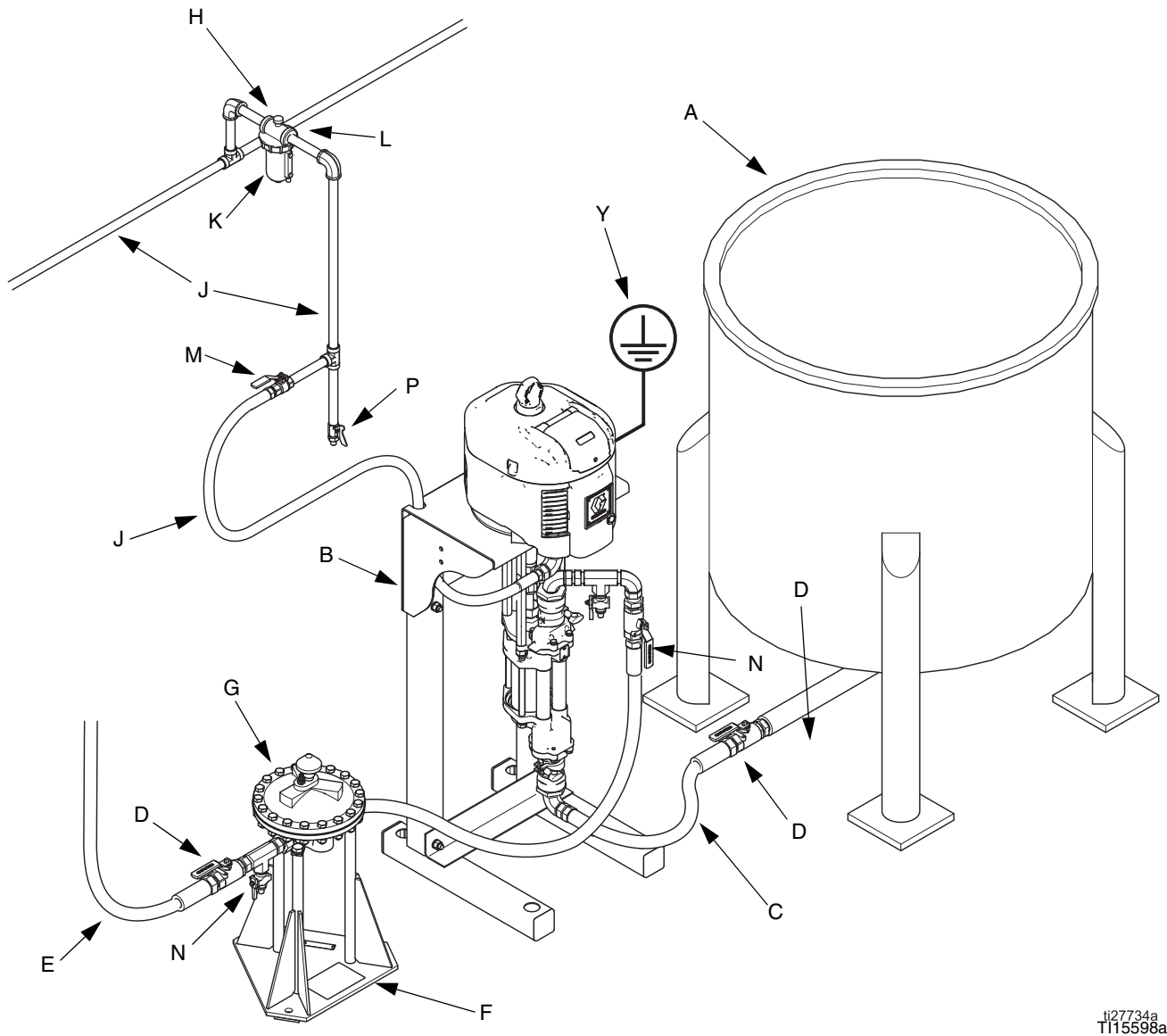
To help prevent fluid over pressurization, do not exceed the maximum air inlet pressure rating to the air motor (see page 3). If you can apply more than the maximum air input pressure to the system, install a safety relief valve between the bleed-type master air valve and the air motor. The safety relief valve must be set to open if the air inlet pressure to the motor exceeds the motor rating.

- **Pump air regulator (L):** to control pump speed and outlet pressure. Locate close to the pump.
- **Air line filter (K):** removes harmful dirt and moisture from compressed air supply.
- **Second bleed-type air valve (H):** isolates air line accessories for servicing. Locate upstream from all other air line accessories.

Fluid Line

See FIG. 2.

- **Fluid filter:** with a 60 mesh (250 micron) stainless steel element to filter particles from the fluid as it leaves the pump.
- **Fluid drain valve (N):** required in your system, to relieve fluid pressure in the hose and gun.
- **Fluid shutoff valve (D):** shuts off fluid flow.



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FIG. 2. Typical Installation

Key:

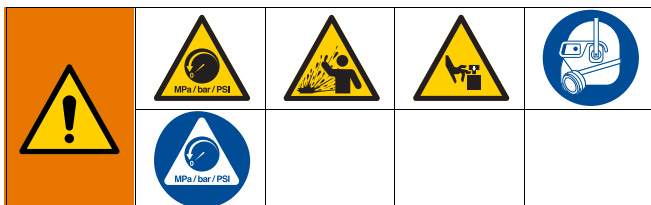
- | | | | |
|---|---|---|---|
| A | Mix Tank | H | Air Shutoff Valve (bleed-type) |
| B | 253692 Pump Stand | J | Air Supply Line |
| C | Fluid Supply Line; 1-1/2 in. (38 mm) minimum diameter | K | Air Line Filter |
| D | Fluid Shutoff Valve | L | Air Regulator and Gauge |
| E | Fluid Line | M | Bleed-Type Master Air Valve |
| F | Surge Tank Stand | N | Fluid Drain Valve |
| G | Surge Tank | P | Air Line Drain Valve |
| | | Y | Pump Ground Wire (required see page 6 for installation) |

Operation

Pressure Relief Procedure



Follow the Pressure Relief Procedure whenever you see this symbol.



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 when you stop spraying and before cleaning, checking, or servicing the equipment.

1. Close the bleed-type master air valve (M).
2. Open the dispensing valve, if used.
3. Open all fluid drain valves (N) in the system, having a waste container ready to catch drainage.
4. Leave drain valve(s) open until you are ready to pump again.

Prime the Pump

1. Fill the wet cup with Throat Seal Liquid (TSL).

NOTE: Sealed 4-ball lowers with bellows do not require TSL.

2. Close pump air regulator (L) by turning knob counterclockwise reducing pressure to zero. Close bleed-type air valve (M). Also verify that all drain valves (N) are closed.
3. Connect air line (J) to bleed type air valve (M).
4. Check that all fittings throughout system are tightened securely.
5. Connect the fluid supply line (C) from the mix tank shutoff valve (D) to the pump.
6. Connect the fluid line (E) to the pump outlet.

NOTE: If your pump has DataTrak, see your separate NXT air motor manual for DataTrak instructions.

7. *Units with runaway protection only:* enable the prime/flush function by pushing the prime/flush button on the DataTrak.
8. Open bleed-type air valve (M). Slowly turn pump air regulator (L) clockwise, increasing pressure until pump starts.
9. Cycle pump slowly until all air is pushed out and pump and hoses are fully primed.
10. *Units with runaway protection only:* disable the prime/flush function by pushing the prime/flush button on the DataTrak.
11. Close the fluid shutoff valve (D) downstream of the pump. The pump should stall against pressure.

NOTE: In a circulation system, the pump operates continuously until the power supply is shut off. In a direct-supply system, the pump starts when the dispense valve is opened, and stops when the dispense valve is closed.

Stop Pump at Bottom of Stroke



Relieve the pressure when you stop the pump for any reason. Stop the pump on the down stroke, before the air motor changes over.

NOTICE

Failure to stop the pump at the bottom of its stroke allows fluid to dry on the piston rod, which can damage the throat packings when the pump is restarted.

Shutdown



Follow **Pressure Relief Procedure**, page 10.

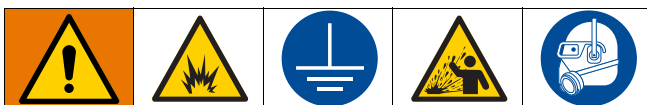
Always flush the pump before the fluid dries on the displacement rod. See **Flushing** on page 11.

Maintenance

Preventive Maintenance Schedule

The operating conditions of your particular system determine how often maintenance is required. Establish a preventive maintenance schedule by recording when and what kind of maintenance is needed, and then determine a regular schedule for checking your system. Your maintenance schedule should include the following:

Flushing



To avoid fire and explosion, always ground equipment and waste container. To avoid static sparking and injury from splashing, always flush at the lowest possible pressure.

- Flush before changing colors, before fluid can dry in the equipment, at the end of the day, before storing, and before repairing equipment.
- Flush at the lowest pressure possible. Check connectors for leaks and tighten as necessary.
- Flush with a fluid that is compatible with the fluid being dispensed and the equipment wetted parts.

Air Line Filter

Drain and clean as necessary.

Mix Tank Volume

Do not let the mix tank run dry. When the tank is empty, the pump demands more power as it tries to suck in some fluid. This causes the pump to run too fast, which can seriously damage the pump.

Stall Test

Perform a stall test periodically to ensure the piston seal is in good working condition and prevent system over-pressurization:

Close the fluid shutoff valve (D) closest to the pump on the down stroke and be sure that the pump stalls. Open the fluid shutoff valve to restart the pump. Close the fluid shutoff valve (D) closest to the pump on the upstroke and be sure that the pump stalls.

NOTICE

Do not allow the pump to run quickly for a long period of time as this may damage the packings.

Stop the pump on the down stroke, before the air motor changes over.

NOTICE

Failure to stop the pump at the bottom of its stroke allows fluid to dry on the piston rod, which can damage the throat packings when the pump is restarted.

Changing the TSL On Wet Cup Models

On Wet Cup Models check the condition of the TSL and the level in the reservoir every week, minimum. TSL should be changed at least every month.

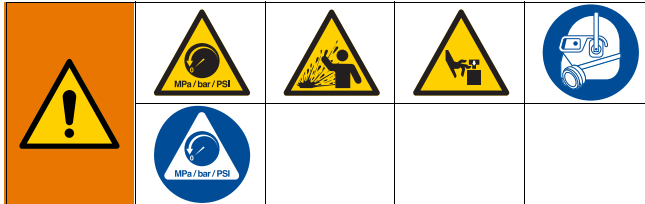
Troubleshooting



Problem	Cause	Solution
Pump output low on both strokes.	Restricted air supply lines.	Clear any obstructions; be sure all shutoff valves are open; increase pressure, but do not exceed maximum working pressure.
	Exhausted fluid supply.	Refill and reprime pump.
	Clogged fluid outlet line, valves, etc.	Clear.
	Worn piston packing.	Replace. See lower manual.
Pump output low on only one stroke.	Held open or worn ball check valves.	Check and repair.
	Worn piston packings.	Replace. See lower manual.
No output.	Improperly installed ball check valves.	Check and repair.
Pump operates erratically.	Exhausted fluid supply.	Refill and reprime pump.
	Held open or worn ball check valves.	Check and repair.
	Worn piston packing.	Replace. See lower manual.
Pump will not operate.	Restricted air supply lines.	Clear any obstructions; be sure all shut off valves are open; increase pressure, but do not exceed maximum working pressure.
	Exhausted fluid supply.	Refill and reprime pump.
	Clogged fluid outlet line, valves, etc.	Clear.
	Damaged air motor.	See air motor manual.
	Fluid dried on piston rod.	Disassemble and clean pump. See lower manual. In future, stop pump at bottom of stroke.

Repair

Disassembly



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 when you stop spraying and before cleaning, checking, or servicing the equipment.

1. Relieve the pressure. Follow the **Pressure Relief Procedure**, page 10.
2. Disconnect the hoses from the lower and plug the ends to prevent fluid contamination.
3. **Pumps with Sealed Lowers:** See FIG. 3. Remove the 2-piece shield (22) by inserting a screwdriver straight into the slot, and using it as a lever to release the tab. Repeat for all tabs. **Do not** use the screwdriver to pry the shields apart.
4. Loosen the coupling nut (3) and remove the collars (4). Remove the coupling nut from the piston rod (R). Unscrew the lock nuts (7) from the tie rods (6). Separate the motor (1) and lower (2). See FIG. 3.
5. To repair the air motor or lower, see the separate manuals listed under **Related Manuals**, on page 2.

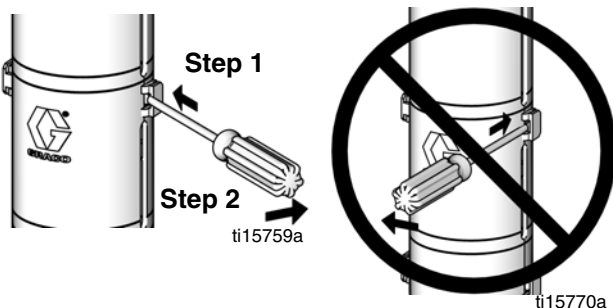


FIG. 3. Shield Disassembly

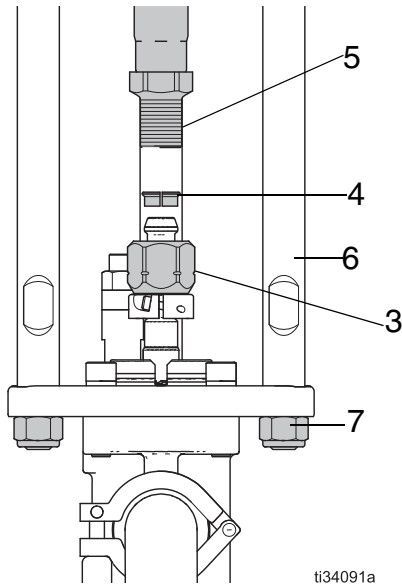
Reassembly

1. If the coupling adapter (5) and tie rods (6) have not been disassembled from the motor, skip to step 2.

If the coupling adapter (5) and tie rods (6) have been disassembled from the motor, follow these steps:

- a. Screw the tie rods (6) into the motor (1) and torque to 50-60 ft-lb (68-81 N•m). See FIG. 5.
 - b. Install the moisture cover (20) on the motor shaft.
 - c. Apply blue thread locker to the coupling adapter (5).
 - d. Screw the coupling adapter (5) into the motor shaft and torque to 90-100 ft-lb (122-135 N•m).
 - e. Continue to step 2.
2. Assemble the coupling nut (3) over the piston rod (R).
 3. Orient the lower (2) to the motor (1). Position the lower on the tie rods (6).
 4. If you are reusing lock nuts (7) and the nylon of the lock nut is worn or cut, add blue thread locker to the tie rod threads.

- Screw the lock nuts (7) onto the tie rods. Leave the lock nuts (7) loose enough to allow the lower to move so that it can be aligned correctly.



- Insert the collars (4) into the coupling nut (3). Tighten the coupling nut onto the coupling adapter (5) and torque to 90-100 ft-lb (122-135 N•m) to align the motor shaft with the piston rod.
- Tighten the lock nuts (7) and torque to 50-60 ft-lb (68-81 N•m).
- Models with Sealed Lowers:** Install the shields (22) by engaging the bottom lips with the groove in the top plate. Snap the two shields together.

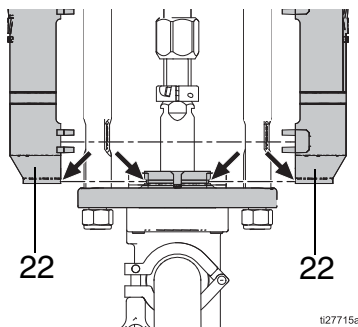
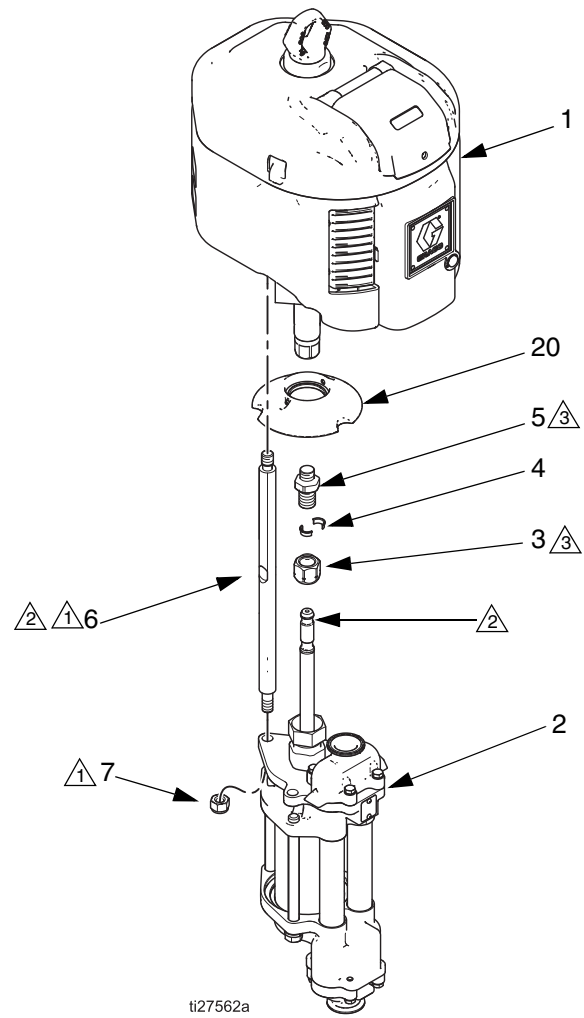


FIG. 4. Shield Reassembly

- Flush and test the pump before reinstalling it in the system. Connect hoses and flush the pump. While it is pressurized, check for smooth operation and leaks. Adjust or repair as necessary before reinstalling in the system.
- Reconnect the pump ground wire before operating.

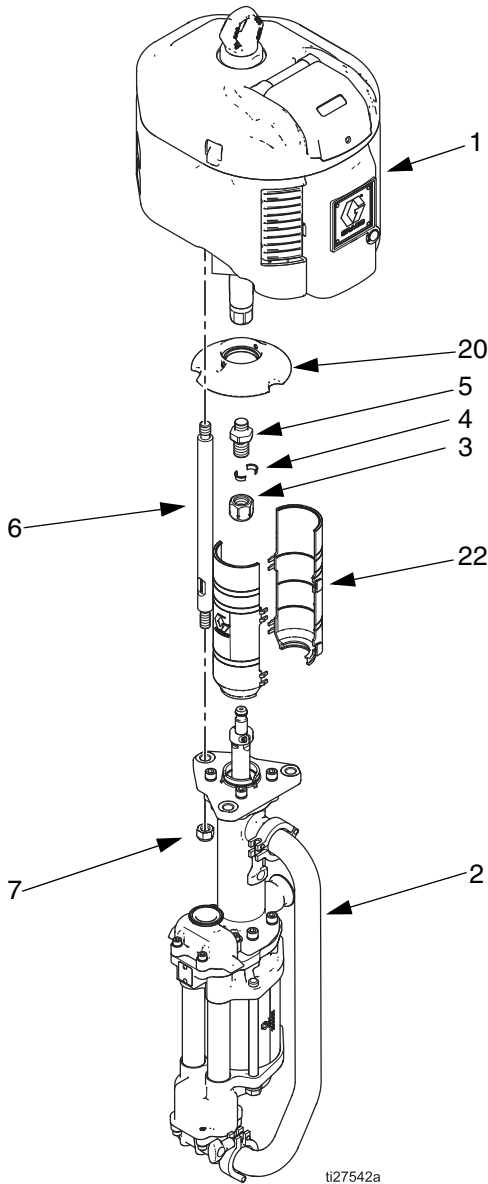


- Torque to 50-60 ft-lb (68-81 N•m).
- Apply lubricant.
- Torque to 90-100 ft-lb. (122-135 N•m).

FIG. 5. Reassembly (1000cc Pump Shown)

Parts

High-Flo Pumps with 1000cc, 1500cc, or 2000cc Sealed 4-Ball Lowers

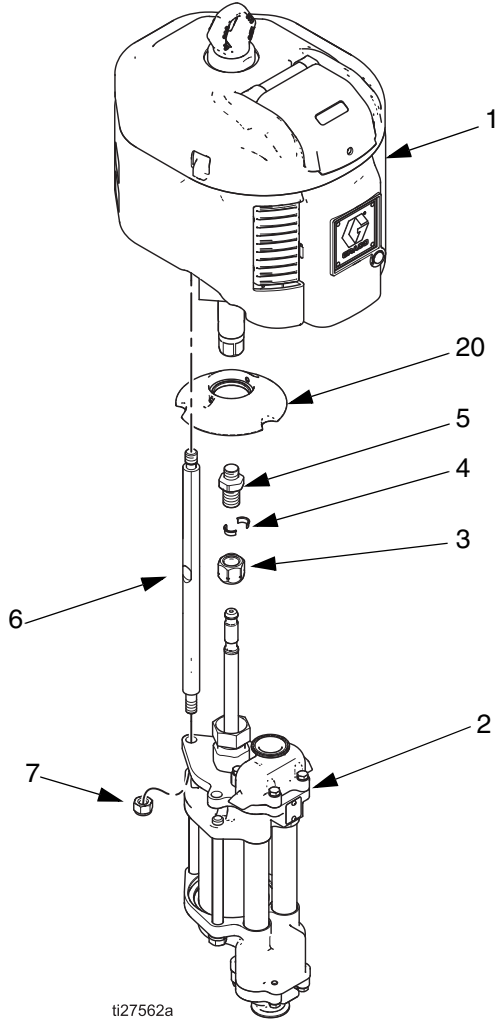


Common Parts

Ref. No.	Part No.	Description	Qty.
1	see tables, pages 17-18	MOTOR, NXT, see manual 311238	1
2	see tables, pages 17-18	LOWER, 4-Ball, see manual 333022A	1
3	17F000	NUT, coupling, M22 x 1.5	1
4	184128	COLLAR, coupling	2
5	15H369	ADAPTER, coupling, M22 x 1.5	1
6	16X771	TIE ROD, 14.37 in (365 mm) - 12.09 in. (307.09 mm) between shoulders	3
7	108683	NUT, lock, hex; 9/16-12 unc	3
20	247362	COVER, moisture	1
22	24F251	SHIELD, coupler kit; includes 2 shields	1

High-Flo Pumps, 1000cc 4-Ball Lower, with Open Wet Cup

Common Parts



Ref. No.	Part No.	Description	Qty.
1	see tables, pages 17-18	MOTOR, NXT, see manual 311238	1
2	see tables, pages 17-18	LOWER, 4-Ball, see manual 3A3452A	1
3	17F000	NUT, coupling, M22 x 1.5	1
4	184128	COLLAR, coupling	2
5	15H369	ADAPTER, coupling, M22 x 1.5	1
6	15G924	TIE ROD, 16.55 in. (420 mm) - 14.25 in (362 mm) between shoulders	3
7	108683	NUT, lock, hex; 5/8-11	3
20	247362	COVER, moisture	1

2.0:1 Ratio, 2000cc Pumps

		Ref. 1	Ref. 2
Pump (See page 3)	Pump Series	NXT Air Motor (See 311238)	4-Ball Lower (See 333022A manual for sealed lower. 3A3452 for open lower)
JC20L9	A	N22LN0	17K663 (Open)
JC20M9	A	N22LT0	17K663 (Open)
JS20L8	A	N22LN0	17K659 (Sealed)
JS20M8	A	N22LT0	17K659 (Sealed)
JS20R8	A	N22RN0	17K659 (Sealed)
JS20S8	A	N22RT0	17K659 (Sealed)
JS20L9	A	N22LN0	17K671 (Open)
JS20M9	A	N22LT0	17K671 (Open)
JS20R9	A	N22RN0	17K671 (Open)
JS20S9	A	N22RT0	17K671 (Open)
JS20L0	A	N22LN0	17K667 (Open)
JS20M0	A	N22LT0	17K667 (Open)
JS20R0	A	N22RN0	17K667 (Open)
JS20S0	A	N22RT0	17K667 (Open)

3.5:1 Ratio, 2000cc Pumps

		Ref. 1	Ref. 2
Pump (See page 3)	Pump Series	NXT Air Motor (See 311238)	4-Ball Lower (See 333022A manual for sealed lower. 3A3452 for open lower)
JC35L9	A	N34LN0	17K663 (Open)
JC35M9	A	N34LT0	17K663 (Open)
JS35L8	A	N34LN0	17K659 (Sealed)
JS35M8	A	N34LT0	17K659 (Sealed)
JS35R8	A	N34RN0	17K659 (Sealed)
JS35S8	A	N34RT0	17K659 (Sealed)
JS35L9	A	N34LN0	17K671 (Open)
JS35M9	A	N34LT0	17K671 (Open)
JS35R9	A	N34RN0	17K671 (Open)
JS35S9	A	N34RT0	17K671 (Open)
JS35L0	A	N34LN0	17K667 (Open)
JS35M0	A	N34LT0	17K667 (Open)
JS35R0	A	N34RN0	17K667 (Open)
JS35S0	A	N34RT0	17K667 (Open)

3.0:1 Ratio, 1500cc Pumps

		Ref. 1	Ref. 2
Pump (See page 3)	Pump Series	NXT Air Motor (See 311238)	4-Ball Lower (See 333022A manual for sealed lower. 3A3452 for open lower)
JC30L9	A	N22LN0	17K662 (Open)
JC30M9	A	N22LT0	17K662 (Open)
JS30L8	A	N22LN0	17K658 (Sealed)
JS30M8	A	N22LT0	17K658 (Sealed)
JS30R8	A	N22RN0	17K658 (Sealed)
JS30S8	A	N22RT0	17K658 (Sealed)
JS30L9	A	N22LN0	17K670 (Open)
JS30M9	A	N22LT0	17K670 (Open)
JS30R9	A	N22RN0	17K670 (Open)
JS30S9	A	N22RT0	17K670 (Open)
JS30L0	A	N22LN0	17K666 (Open)
JS30M0	A	N22LT0	17K666 (Open)
JS30R0	A	N22RN0	17K666 (Open)
JS30S0	A	N22RT0	17K666 (Open)

4.0:1 Ratio, 1000cc Pumps

Pump (See page 3)	Pump Series	Ref. 1	Ref. 2
		NXT Air Motor (See 311238)	4-Ball Lower (See 333022A manual for sealed lower. 3A3452 for open lower)
JC40L9	A	N22LN0	17K661 (Open)
JC40M9	A	N22LT0	17K661 (Open)
JS40L8	A	N22LN0	17K657 (Sealed)
JS40M8	A	N22LT0	17K657 (Sealed)
JS40R8	A	N22RN0	17K657 (Sealed)
JS40S8	A	N22RT0	17K657 (Sealed)
JS40L9	A	N22LN0	17K669 (Open)
JS40M9	A	N22LT0	17K669 (Open)
JS40R9	A	N22RN0	17K669 (Open)
JS40S9	A	N22RT0	17K669 (Open)
JS40L0	A	N22LN0	17K665 (Open)
JS40M0	A	N22LT0	17K665 (Open)
JS40R0	A	N22RN0	17K665 (Open)
JS40S0	A	N22RT0	17K665 (Open)

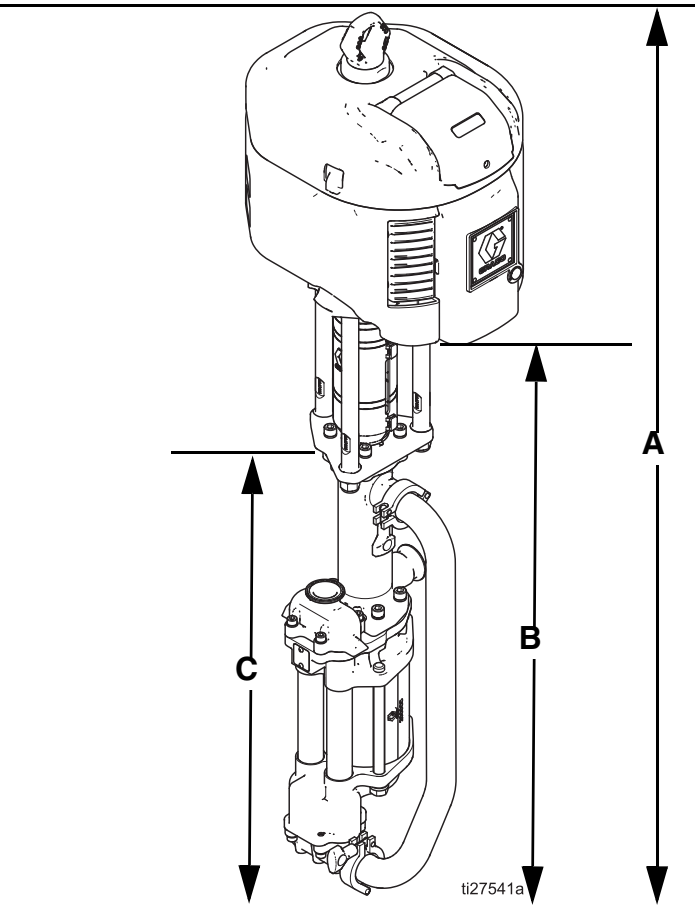
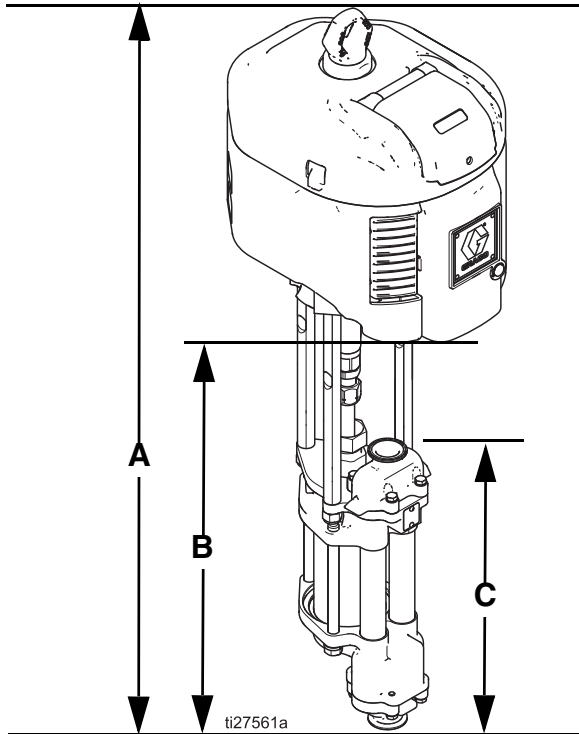
4.5:1 Ratio, 1500cc Pumps

Pump (See page 3)	Pump Series	Ref. 1	Ref. 2
		NXT Air Motor (See 311238)	4-Ball Lower (See 333022A manual for sealed lower. 3A3452 for open lower)
JC45L9	A	N34LN0	17K662 (Open)
JC45M9	A	N34LT0	17K662 (Open)
JS45L8	A	N34LN0	17K658 (Sealed)
JS45M8	A	N34LT0	17K658 (Sealed)
JS45R8	A	N34RN0	17K658 (Sealed)
JS45S8	A	N34RT0	17K658 (Sealed)
JS45L9	A	N34LN0	17K670 (Open)
JS45M9	A	N34LT0	17K670 (Open)
JS45R9	A	N34RN0	17K670 (Open)
JS45S9	A	N34RT0	17K670 (Open)
JS45L0	A	N34LN0	17K666 (Open)
JS45M0	A	N34LT0	17K666 (Open)
JS45R0	A	N34RN0	17K666 (Open)
JS45S0	A	N34RT0	17K666 (Open)

Dimensions

High-Flo Pumps with 1000cc,

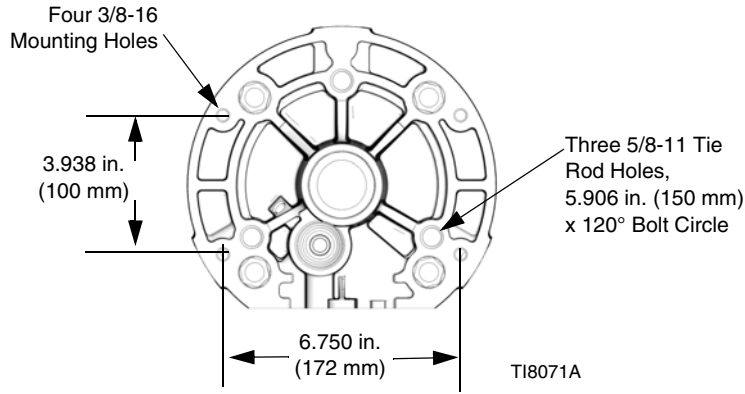
**High-Flo Pumps with 2000cc,
Sealed, 4 Ball Lower**



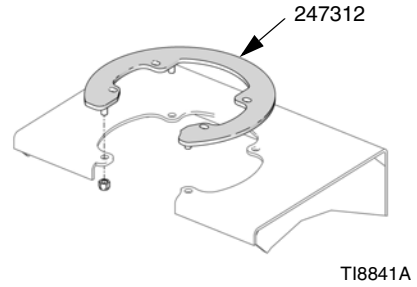
Model		Motor	Lower Size	A in. (mm)	B in. (mm)	C in. (mm)	Approx. Weight lb (kg)
JX40X9	JX40X0	NXT2200	1000cc	45.6 (1158)	28.78 (731)	17.4 (442)	94 (42.6)
JX30X9	JX30X0	NXT2200	1500cc				95 (43.1)
JX20X9	JX20X0	NXT2200	2000cc				96 (43.5)
JX45X9	JX45X0	NXT3400	1500cc				99 (44.9)
JX35X9	JX35X0	NXT3400	2000cc				100 (45.4)
JX40X8		NXT2200	1000cc	50.82 (1291)	37.18 (944)	25.12 (638)	124 (46.3)
JX30X8		NXT2200	1500cc				125 (46.1)
JX20X8		NXT2200	2000cc				126 (47.3)
JX45X8		NXT3400	1500cc				129 (48.1)
JX35X8		NXT3400	2000cc				130 (48.5)

Motor Mounting Hole Diagrams

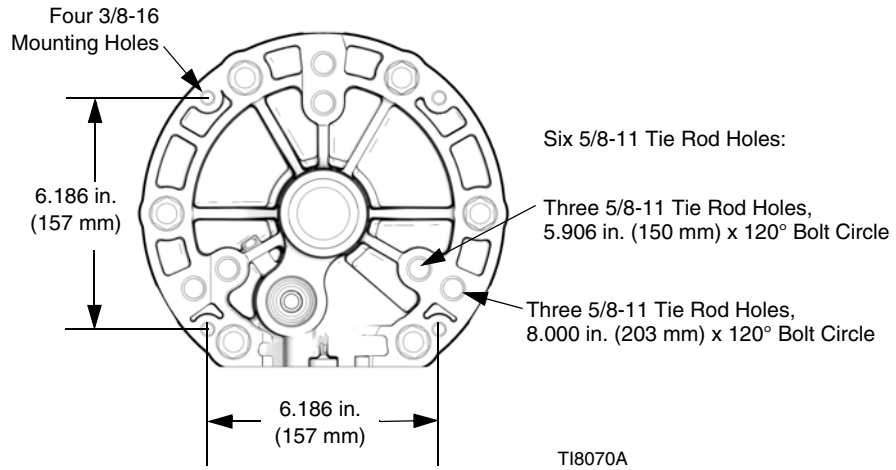
NXT Model 2200



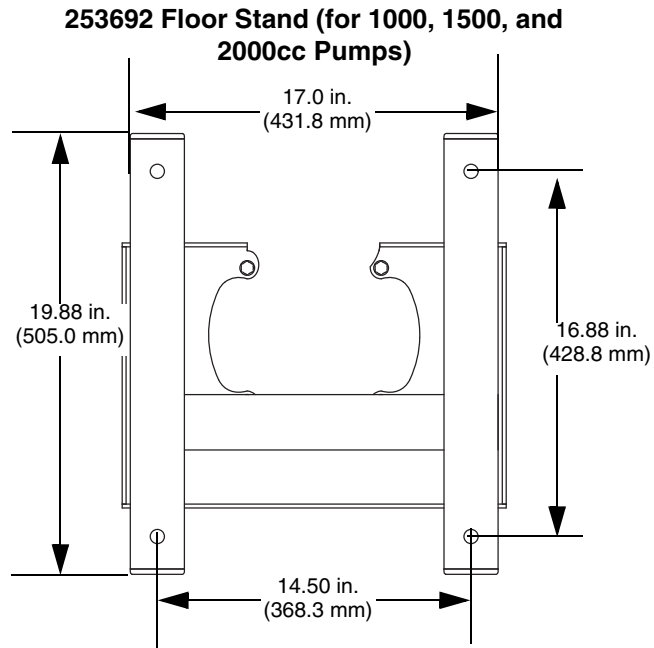
NOTE: Adapter Plate 247312 is required to mount an NXT 2200 air motor to the 255143 Wall Bracket. Order separately.



NXT Model 3400

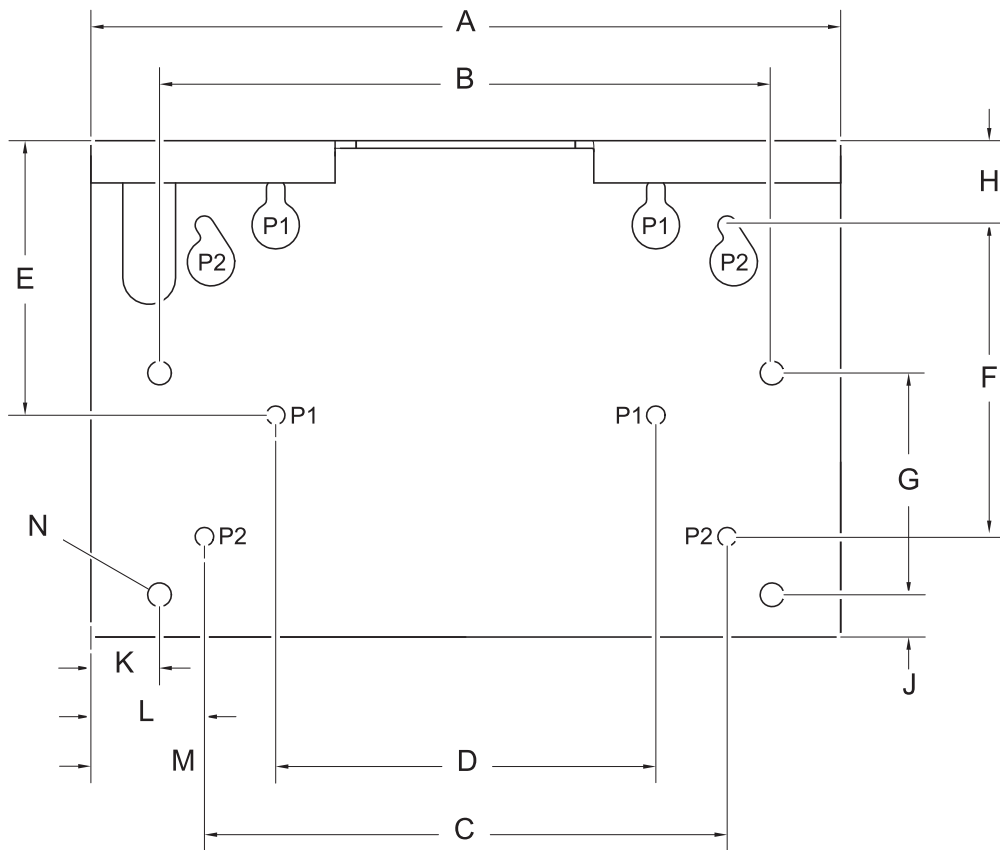


Mounting Hole Layouts for Stand



TI15859a

255143 Wall Mount Bracket



ti20467a

A	17.8 in. (451 mm)
B	14.5 in. (368 mm)
C	12.4 in. (314 mm)
D	9.0 in. (229 mm)
E	5.4 in. (137 mm)
F	7.4 in. (187 mm)
G	5.3 in. (133 mm)
H	2.0 in. (51 mm)
J	1.0 in. (25 mm)
K	1.6 in. (41 mm)
L	2.7 in. (69 mm)
M	4.4 in. (112 mm)
N	Four 0.562 in. (14 mm) diameter holes for mounting to stand
P	Four 0.438 in. (11 mm) diameter holes for mounting to wall

Performance Charts

Fluid Outlet Pressure - Black Curves

To find Fluid Outlet Pressure (psi/MPa/bar) at a specific fluid flow (gpm/lpm) and operating air pressure (psi/MPa/bar):

1. Locate desired flow along bottom of chart.
2. Follow vertical line up to intersection with selected fluid outlet pressure curve (black).
3. Follow left to scale to read fluid outlet pressure.

Key:

- A 100 psi (0.7 MPa, 7.0 bar) air pressure
- B 70 psi (0.49 MPa, 4.9 bar) air pressure
- C 40 psi (0.28 MPa, 2.8 bar) air pressure

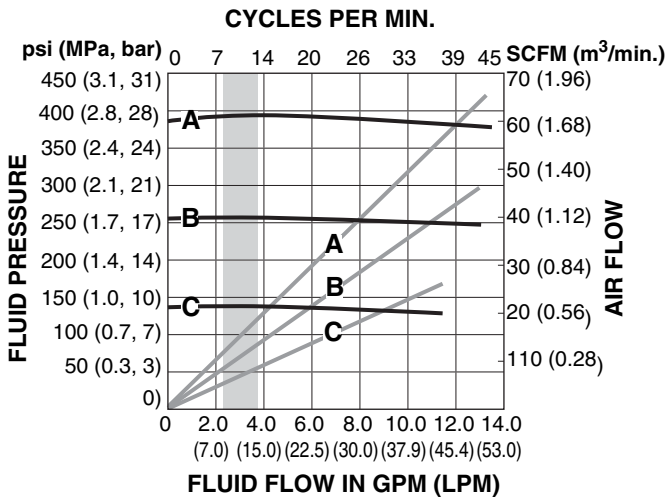
Air Consumption - Gray Curves

To find Pump Air Consumption (scfm or m³/min.) at a specific fluid flow (gpm/lpm) and air pressure (psi/MPa/bar):

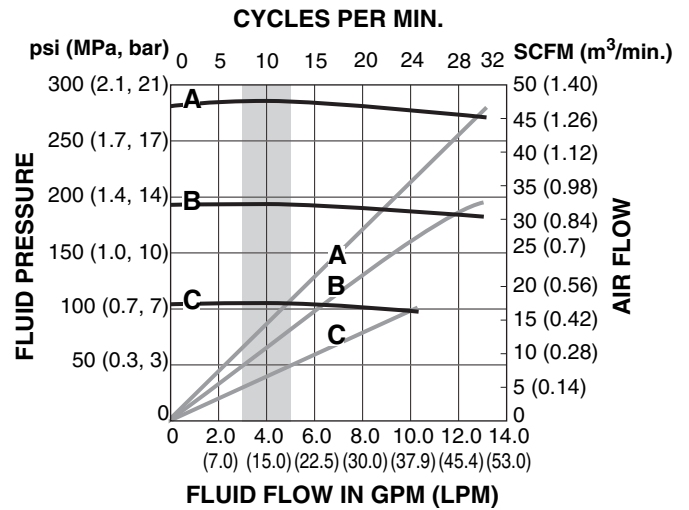
1. Locate desired flow along bottom of chart.
2. Read vertical line up to intersection with selected air consumption curve (dashes).
3. Follow right to scale to read air consumption.

NOTE: See **Models** on page 3 for your pump part number.

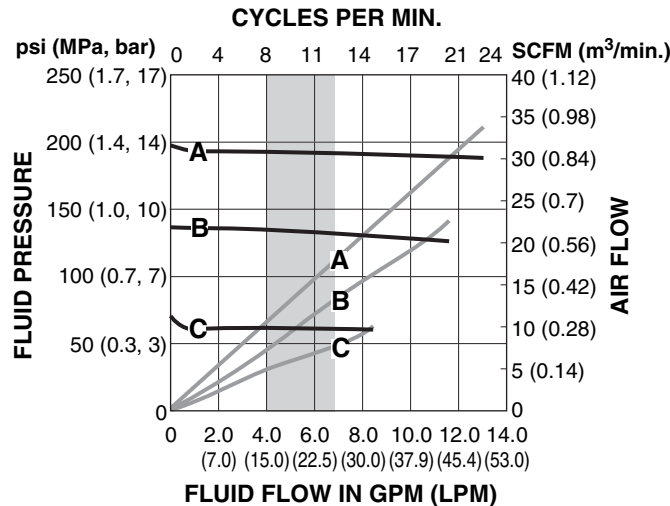
NXT 2200 Air Motor, 1000cc Lower (JX40XX)



NXT 2200 Air Motor, 1500cc Lower (JX30XX)



NXT 2200 Air Motor, 2000cc Lower (JX20XX)



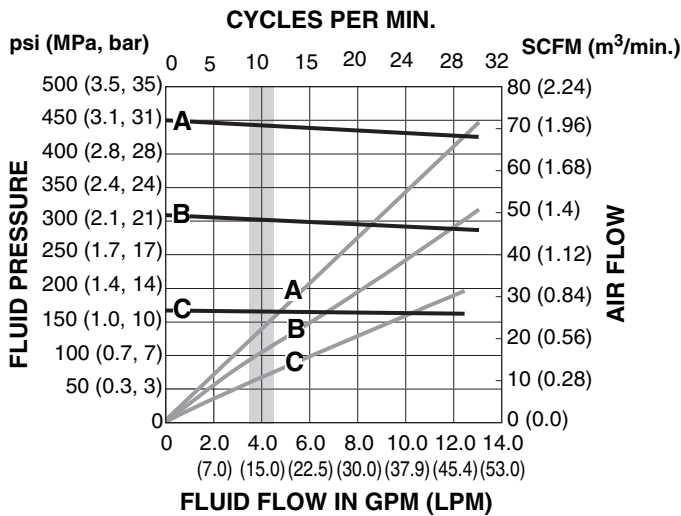
NOTE: See **Models** on page 3 for your pump part number.

Key:

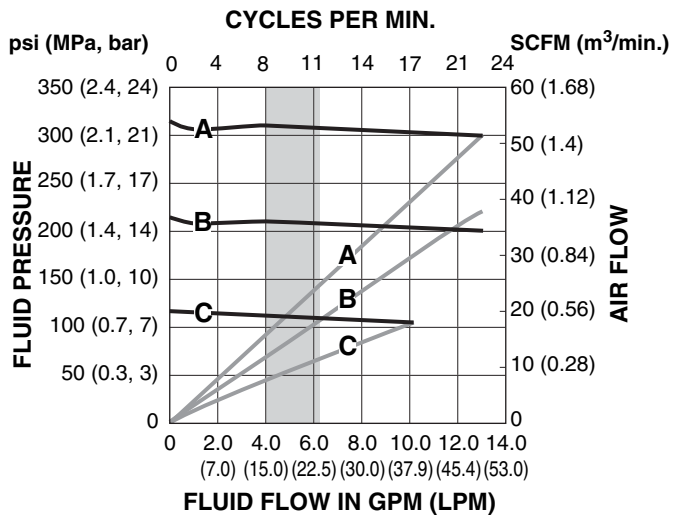
- A 100 psi (0.7 MPa, 7.0 bar) air pressure
- B 70 psi (0.49 MPa, 4.9 bar) air pressure
- C 40 psi (0.28 MPa, 2.8 bar) air pressure

The shaded area within the table shows the recommended range for continuous duty circulation applications.

NXT 3400 Air Motor, 1500cc Lower (JX45XX)



NXT 3400 Air Motor, 2000cc Lower (JX35XX)



Technical Data

High-Flo Pumps		
	U.S.	Metric
Maximum Working Pressure		
Model JX20XX	200 psi	1.4 MPa, 14 bar
Model JX30XX	300 psi	2.1 MPa, 21 bar
Model JX35XX	350 psi	2.4 MPa, 24 bar
Model JX40XX	400 psi	2.8 MPa, 28 bar
Model JX45XX	450 psi	3.1 MPa, 31 bar
Maximum Air Input Pressure	100 psi	0.7 MPa, 7.0 bar
Air Consumption	See Performance Charts.	See Performance Charts.
Dimensions	See Dimensions , Page 19.	See Dimensions , Page 19.
Weight	See Dimensions , Page 19.	See Dimensions , Page 19.
Fluid Flow at 60 cycles per minute gpm (lpm)		
Model JX20XX	31.5 gpm	119.2 lpm
Model JX30XX	23.2 gpm	87.8 lpm
Model JX35XX	31.5 gpm	119.2 lpm
Model JX40XX	16.9 gpm	64.0 lpm
Model JX45XX	23.2 gpm	87.8 lpm
Output per Cycle gal (cc)		
Model JX20XX	2000cc	
Model JX30XX	1500cc	
Model JX35XX	2000cc	
Model JX40XX	1000cc	
Model JX45XX	1500cc	
Maximum Fluid Temperature Rating	150°F	66°C

Sound data: See NXT motor manual 311238.

Wetted parts: See Sealed 4-Ball Lower manual 333022, or 4-Ball Lower with Open Wet Cup manual 3A3452.

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