



47597581001
Revision B
April 2024

Permanently Installed Stationary Reciprocating Air Compressors

Installation Guide

- EN** Installation Guide
- ES** Manual inicio rápido
- FR** Guide de démarrage rapide

Refer to the QR Label for Operators Manual on installation, operation, maintenance, and troubleshooting.



Save These Instructions

IR Ingersoll Rand®

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SELECTING A LOCATION

- Provide 1,000 cubic feet of fresh air per minute per 5 horsepower.
- Locate the compressor at least 15 inches (38 cm) from walls, and make sure the main power supply is clearly identified and accessible.
- Unless the electrical components of the compressor are specially protected for outdoor use, do not install an electric motor compressor outdoors or in an area that will expose the electrical components to rain, snow or sources of appreciable moisture.

AMBIENT TEMPERATURE CONSIDERATIONS

- Ideal operating temperatures are between 32°F and 100°F (0°C and 37.8°C).
- If temperatures consistently drop below 32°F (0°C), install the compressor in a heated area.
- If this is not possible, you must protect safety/relief valves and drain valves from freezing.

MOUNTING

Ensure adequate lifting equipment is available for unloading and moving the compressor to the installation site.

- Lifting equipment must be properly rated for the weight of the compressor. Weight information is printed on a label attached to the shipping container.
- Lift the compressor by the shipping skid only.
- Do not use the motor lifting eye to lift the entire compressor. The motor lifting eye is for removing the motor from the compressor only.
- Do not work on or walk under the compressor while it is suspended.
- Use suitable lifting equipment to lift and transport the compressor to the installation site. Ensure the lifting equipment, straps, etc. are capable of supporting the weight of the compressor.

NOTICE

**DO NOT OPERATE COMPRESSOR PACKAGE ON SHIPPING SKID
Remove and secure to mounting surface before operating!**

NOTICE

- Secure the compressor to a solid, flat and level mounting surface.
- Do not install the compressor on I-beams, open-grid flooring systems, or non-solid surfaces.
- If vibration isolation mounts/pads or mounting hardware are included with your compressor, they must be properly installed.
- Follow guidelines within this manual where kits are not provided.
- Failure to install per instructions may result in mechanical failure to the compressor and cancellation of warranty coverage.
- Mounting kits may be ordered through your Ingersoll Rand dealer if not included with the compressor. Consult your local Ingersoll Rand dealer for more information.
- Local codes may mandate specific mounting requirements.

NOTICE

You must utilize your own hardware, unless the compressor is provided with a mounting hardware kit. Hardware kits are available within the extended warranty kit, refer to your manual for specific kits for your package.

To mount the compressor to a concrete surface, use the following procedure:

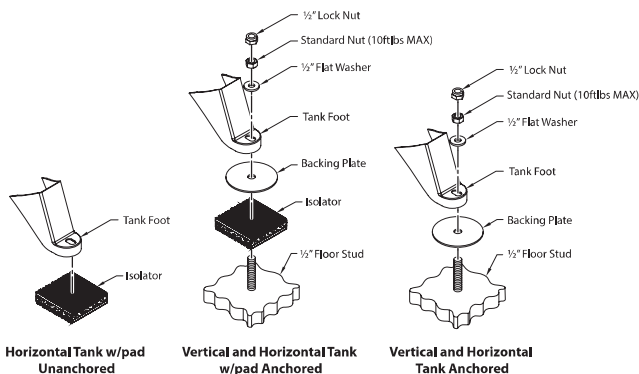
1. Mark the location of the mounting holes.
2. Drill holes to the proper depth based on the concrete stud. Using a concrete stud sized per the following table and follow the concrete stud instructions to determine proper drill bit size.
Note: It may be helpful to use a piece of tape on the drill bit to mark the proper depth.

Tank Size (Gal.)	Stud Size (In.)
≤ 120	1/2
≥ 240	5/8

3. Add a backing plate as depicted in illustration, while maintaining a level mounting surface.
4. Position the compressor feet holes over the studs and slowly lower the compressor feet onto the studs.
5. Install the first standard nut and torque each in a criss-cross pattern to 10 ft.lb*. After all mounting nuts are installed, check for receiver stress by loosening each nut individually to check for upward movement of the foot. Upward movement indicates the requirement for an appropriately sized metal shim to fill in the open elevation under the foot.
6. After all required shims have been inserted, re-tighten the nuts to 10 ft.lb*.
7. Add a backup nut to keep the primary nut from backing off. Backup nut may be a locknut or a second standard nut. Ensure to not tighten the primary nut.

Do not secure uneven feet tightly, as this will cause excessive stress on the receiver tank.

* For gas or diesel engine compressors, use the torque specification indicated in the mounting hardware kit installation instructions.



***NOTE:** IF COMPRESSOR SUPPLIED WITH MOUNTING HARDWARE KIT OR YOU PURCHASE AN IR MOUNTING KIT, USE THE SPECIFIC INSTRUCTIONS PROVIDED WITH THAT KIT.

AIR DISCHARGE CONNECTIONS

Do not use plastic pipe, soldered copper fittings, rubber hose, or lead-tin soldered joints anywhere in the compressed air system. All hoses, piping, fittings, air receiver tanks, etc. must be certified safe for at least the maximum working pressure and temperature of the compressor.

NOTICE

DO NOT USE PVC PLASTIC IN THE COMPRESSED AIR DISCHARGE LINE
Use flexible piping at the compressor's discharge service valve connection.

NOTICE

THIS UNIT IS EQUIPPED WITH A PRE-SET (NON-ADJUSTABLE) PRESSURE SWITCH.
The pressure switch is set to the appropriate cut-in / cut-out pressure . If the unit is shutting off at improper pressures, then check the system for any abnormalities, specifically validating pressure gauge reading. Do not attempt to adjust the pressure switch, contact IR for assistance.

ELECTRICAL CONNECTIONS

WARNING

Electrical installation and service must be performed by a qualified electrician who is familiar with all applicable electrical codes.

GENERAL. The motor rating, as shown on the motor nameplate, and the power supply must have compatible voltage, phase and hertz characteristics.

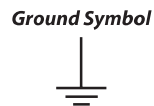
WIRE SIZE. Refer to the applicable electric codes in your area for information on selecting the proper wire size and securing electrical connections. Install adequately sized power leads to protect against excessive voltage drop during start-up. For distances exceeding 50ft it may be necessary to use larger wire to avoid any voltage drop.

NOTICE

DO NOT USE UNDERSIZE WIRE

FUSES. Refer to applicable local codes to determine the proper fuse or circuit breaker rating required. When selecting fuses, remember the momentary starting current of an electric motor is greater than its full load current. Time Delay or "slow-blow" fuses are recommended.

GROUNDING INSTRUCTIONS. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. Ground terminals are identified with a ground symbol and/or the letters "G", "GR" or "PE" (Potential Earth).



The ground terminal is located within either the pressure switch or starter, depending on the compressor (the difference is shown in the following sections). Ground must be established with a grounding wire sized according to the voltage and minimum branch circuit requirements printed on the compressor specifications decal. Ensure good bare metal contact at all grounding connection points, and ensure all connections are clean and tight.

WARNING

Improper grounding can result in electrical shock and can cause severe injury or death. This product must be connected to a grounded, metallic, permanent wiring system or an equipment-grounding terminal or lead on the product. All grounding must be performed by a qualified electrician and comply with applicable electric codes.

NOTICE

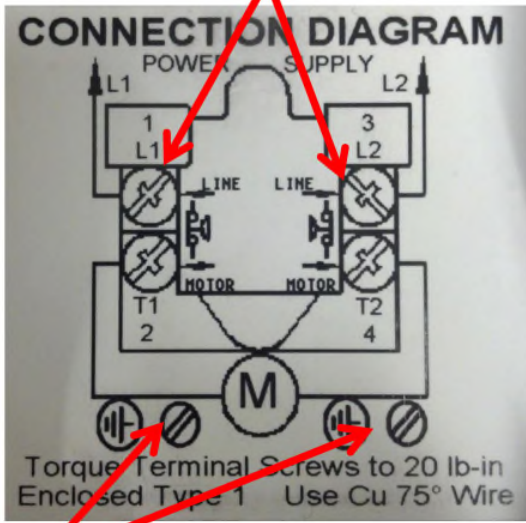
Verify grounding connections after initial installation and periodically thereafter to ensure good contact and continuity has been maintained. Consult with a qualified electrician or service technician if the grounding instructions are not completely understood, or if in doubt as to whether the product is properly grounded.

NOTICE

DO NOT MANIPULATE THE CONDUIT OPENING FOR INCOMING POWER SUPPLY
The conduit opening is designed for the incoming power supply to be contained and secured within a 1/2" flexible conduit.

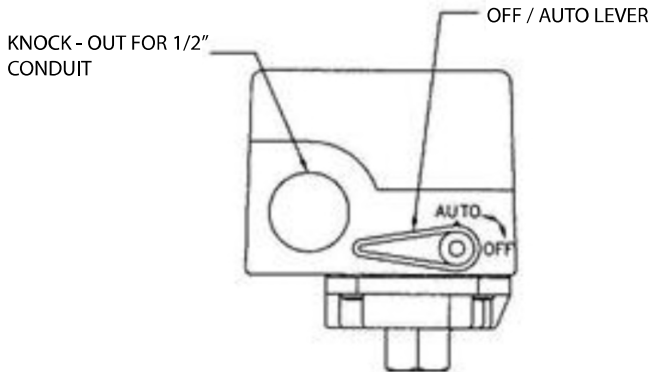
PRESSURE SWITCH ELECTRICAL CONNECTIONS

(A) Incoming Power Leads



(B) Grounding Lugs

Ground wires not shown for clarity. Equipment must be properly grounded.

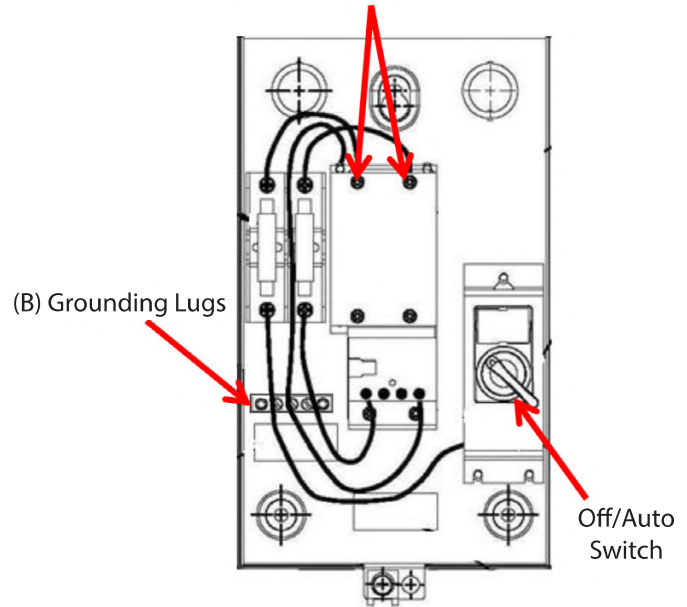


A = Incoming power leads (see notes 3 & 4)
 B = Incoming grounding lug (see note 2)

1. Confirm that the supply voltage matches the voltage rating of the pressure switch (label can be found inside the cover of the pressure switch).
2. Connect the power supply to a properly grounded electrical circuit with specified voltage and fuse protection.
3. When connecting the incoming power wires to the pressure switch, ensure that the existing control circuit wires remain under the terminal pressure plates and are secure after tightening the screw terminals. Utilize the split ring terminal type of connector for the incoming power leads.
4. Refer to the torque values listed on side of the pressure switch when tightening the wire terminal screws.

STARTER BOX ELECTRICAL CONNECTIONS

(A) Incoming Power Leads



Ground wires not shown for clarity. Equipment must be properly grounded.

A = Incoming power leads (see notes 3 & 4)
 B = Incoming grounding lug (see note 2)

1. Confirm that the supply voltage matches the voltage rating of the starter/contactor.
2. Connect the power supply to a properly grounded electrical circuit with specified voltage and fuse protection.
3. When connecting the incoming power wires to the contactor, ensure that the existing control circuit wires remain under the terminal pressure plates and are secure after tightening the screw terminals.
4. Refer to the torque values listed on side of the contactor when tightening the wire terminal screws.

NOTICE

DO NOT CREATE HOLES IN THE STARTER BOX
 The starter box has designated knockouts for incoming power leads. These predetermined locations are constructed for the purpose of ensuring your safety and the longevity of the connections throughout the starter.

COMPRESSOR LUBRICATION

CAUTION

Do not operate without lubricant or with inadequate lubricant. Ingersoll Rand is not responsible for compressor failure caused by inadequate lubrication.

RECOMMENDED LUBRICANT

Ingersoll Rand recommends All Season Select® synthetic lubricant from startup. If you decide to use an alternate lubricant, refer to the main owner's manual for specifications.

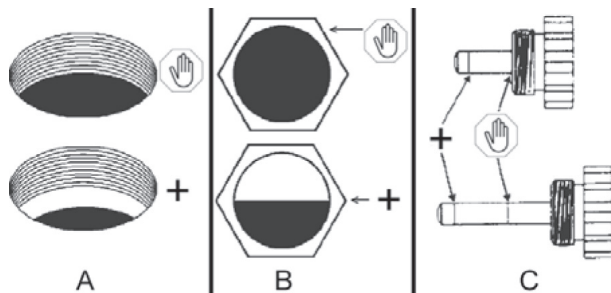
FILLING PROCEDURES

1. Unscrew and remove the oil fill plug.
2. Fill the crankcase with lubricant.
3. Replace the oil fill plug **HAND TIGHT ONLY**

CAUTION

Do not remove the oil fill plug while the compressor is running.

Use one of the following methods illustrated to determine when the crankcase is full.



A = Oil fill opening, B = Sight glass, C = Dipstick

- Oil level is full

⊕ - Add more oil

START-UP (ELECTRIC MOTOR DRIVEN COMPRESSORS)

1. Close the service valve .
2. Apply power to the compressor. Move the selector switch, located on the starter, to the "Auto" position. **(NOTE: This will engage the system, so be aware of moving parts.)**
3. Slowly open the service valve.

NOTICE

Ensure the direction of rotation is correct per the arrow on the motor or on the beltguard above the motor. If the rotation is incorrect on three phase compressors, disconnect the main power and contact a qualified electrician to interchange any two of the three leads per the ELECTRICAL CONNECTIONS section of this manual.

Stops and Starts

The automatic start and stop is intended for use when the motor will start no more than 6 times per hour.

- When the pressure switch experiences max pressure from the receiver, it disengages the motor, and this is indicative of a stop.
- When the receiver pressure drops below the preset minimum, the pressure switch engages the motor, indicating a start.

THE QR LABEL

Scan the QR Label located on the compressor and it will direct you to installation, operation, maintenance, troubleshooting and repair parts information not covered in this manual or visit IRRECIP.COM.

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