

Pressure Lubricated Air Compressor Installation, Maintenance, And Service Data

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Please read this manual before installing or using your Air Compressor Unit. It contains valuable information that will help in the receiving, installation, use, and maintenance of the Unit.

Please keep this manual in a safe place for future reference.

All of the information, policies, and procedures in this reference manual apply exclusively to Ingersoll Rand.

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Safety Precautions

To operate the Compressor Unit safely and correctly, we have opted to use the following symbols to make you aware of important points. These points relate to user safety and preventing equipment problems. Please pay close attention to these sections.

WARNING

Important safety information. A hazard that may cause serious injury or loss of life.

CAUTION

Important information that indicates how to prevent damage to equipment, or how to avoid a situation that may cause minor injury.

NOTE

Information that you should pay special attention to.

WARNING

The following hazards may occur during the normal use of the equipment. Please read the following chart.


Area:	Hazard:	Safeguards:
What to look for:	What may occur if precautions are not observed.	How to avoid the hazard.
	Tampering with the Unit while under full or partial pressure may cause an explosion.	Relieve all pressure from the Unit before attempting any repair or maintenance work.
	As the Unit starts and stops automatically, serious injury may result from working on the Unit with the power still in the on position.	Shut off all power to the Unit before attempting any repair or maintenance work.
	As the Unit starts and stops automatically, do not come into contact with moving parts.	Shut off all power to the Unit before attempting any repair or maintenance work.
	Air compressed by the Unit is not suitable for inhaling. It may contain vapours harmful to your health. Compressor capable of pressures >50 psi.	Never directly inhale compressed air produced by the Compressor. Risk of injury, do not direct air stream at body.
	The Compressor Pump, Motor, and Tubing become hot when running. Touching these areas may cause severe burns.	Never touch the Pump, Motor, or Tubing during or immediately after operation.
	As the electrical components on the Unit are General Purpose, there is a potential for explosion should vapours be present in the area.	The Compressor must be a minimum of 20 feet (6.1 meters) from any source of potentially explosive vapours.

Preventative Maintenance Schedule

Noted below are general maintenance guidelines, which must be followed and documented, this in accordance with the Ingersoll Rand Warranty. It is based on an approximate Compressor usage of 30 hours per week. If your particular application varies from this, please adjust accordingly.



When servicing the Air Compressor, shut off all power to the Unit, and drain the Tank of air pressure. Always re-install the Beltguard after adjusting the Belts or Pulleys.

 Insist on Genuine Ingersoll Rand parts and kits when maintaining your Compressor Unit and Pump.	Notes	Daily	Weekly	Monthly	Every 3 Months	Every 12 Months	1 st Year Maint.	2 nd Year Maint.	3 rd Year Maint.	4 th Year Maint.	5 th Year Maint.	6 th Year Maint.	7 th Year Maint.
		Normal Maintenance											
Drain moisture from Air Receiver		✓											
Check oil level and top up as required			✓										
Clean Air Filter			✓										
Check Belt Tension					✓								
Check Safety Valves					✓								
Check that Unit unloads when shutting down					✓								
Clean and/or blow dust/dirt off Unit					✓								
Replace Air Filter	1					✓							
Replace Oil (synthetic)	2					✓							
Check lubrication of Motor							✓		✓		✓		✓
Inspect Valve Assemblies in Cylinder Head(s)							✓		✓		✓		✓
Replace Check Valve							✓		✓		✓		✓
Inspect Pressure Gauge							✓		✓		✓		✓
Replace Belts	3							✓		✓		✓	
Replace Valve Discs and Springs	4							✓		✓		✓	
Replace CPR Unloader Kit	5									✓			
Replace Pressure Switch										✓			
Replace Safety Valves on Pump and Tank										✓			
Replace Pressure Gauge										✓			

'Normal Maintenance' items at left to be carried out regularly throughout the years.

- Notes:
1. Air Filters are available separately or in a Maintenance Kit. Consult your Pump bulletin.
 2. Synthetic Oil is available separately or in a Maintenance Kit. Consult your Pump bulletin.
 3. Belts are available through your local Ingersoll Rand Distributor.
 4. Valve Discs and Springs are available separately or in a Kit. Consult your Pump bulletin.
 5. The CPR Unloader Assembly and Kit is noted in your Pump bulletin.

Unpacking and Inspection

 **NOTE**

Each Ingersoll-Rand Air Compressor is carefully tested and inspected before shipment. Though every attempt is made to ensure the safe and complete shipment of our product, freight damage or misplacement of goods may occur.

Shipments of Ingersoll-Rand products are the property of the Consignee when the products leave our facility. Ingersoll-Rand Inc. is not responsible for any damages or shortages caused to the product after it has left our shipping dock.

It is the responsibility of the receiver of the goods, either the Distributor or Customer, to ensure that the product has been shipped in full and has arrived in suitable condition. Damage to the product may not be visible at time of off-loading but may only become apparent upon unpacking or start-up.

Some areas to initially check are as follows:

- a) Check for damage to the crating and/or packaging.
- b) Check for damage to the Beltguard.
- c) If the BeltGuard appears damaged, remove the Guard and turn the Flywheel by hand to ensure the Crankshaft has not been bent, and the Belt drive is properly aligned and free of distortion.
- d) Check the Air Tank thoroughly for possible damage.

Should there be damage to the product or shortages in shipment:

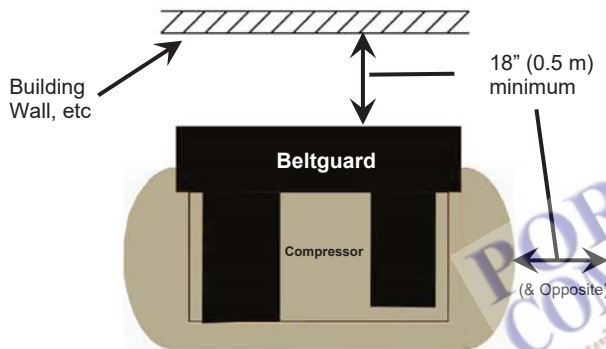
- 1) Stop any further unpacking or operation of the product.
- 2) Make note of the problem on the Freight Bill, should it concern a shortage or visible damage to the product.
- 3) Should the damage be noticed only after the product has been received, contact the transport company immediately to file a claim.
Depending on the problem, it may be wise to photograph the damage. Also, it may be wise to discuss with the carrier representative the time allotted to give notice of loss or damage to the product; there may be guidelines which limit timeframes of same.
- 4) Do not attempt further unpacking or operation of the product. Also, do not discard any packing material used.
- 5) A Loss or Damage Claim must be submitted to the carrier and supported by the following documents:
 - Copy of Freight Bill of Lading
 - Copy of the Invoice and Estimate to repair, in case of damage
 - Damage Report
 - Copy of photos, if applicable.

Installation – Mechanical

Location of the Unit.

Items to consider when installing the Unit are as follows:

- The Unit must be located indoors in a dry, clean, cool, dust free, and well-ventilated area. If possible, the Compressor should be located in a separate room or area, away from the general operations of the shop.
- Allow a minimum of 18" around and 24" above the Unit, this being for both the proper ventilation of the Unit and ease of servicing.

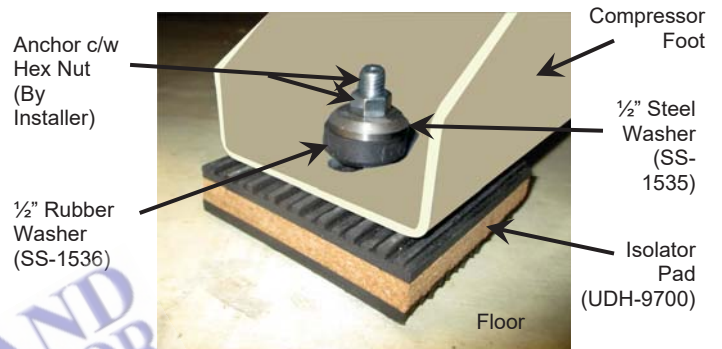


- Ensure that the floor under the Unit is smooth, level and capable of bearing the weight of the Compressor. The Compressor must sit squarely on the floor.
- This unit must be anchored to the floor as indicated at above-right. Ingersoll-Rand has available Installation Kits which include (4) Vibration Isolator Pads, (1) Stainless Steel Flex Hose, and Steel and Rubber Washers.



Ingersoll-Rand Installation Kit	Compressor Horsepower
IK515	5 to 15 HP
IK2530	25 and 30 HP

- If installing the Unit on a mezzanine, ensure that the structure can safely support the weight of the Unit. The Vibration Pads will help to lessen the sound level of the Unit caused by harmonics created by the structure.
- All Compressor Units must be anchored and installed as shown below. Failure to do this will affect the Tank Warranty.



WARNING

Never clamp or bolt Air Receiver Feet to the floor or support structure. Doing so can greatly increase stress on the Tank, causing it to weaken and/or fracture. Use Vibration Pads.

CAUTION

To reduce the risk of electric shock or injury, use indoors only.

NOTE

The Compressor must not be operated in a confined area where the heat from the Unit cannot readily escape.

- If installed in a compressor room, ensure that the room is adequately ventilated (One Horsepower produces approximately 2500 BTU/HR.).
Eg: 15 HP Unit x 2500 BTU/HP = 37,500 BTU/hour.
- The ambient temperature should be between 50°F and 104°F (10°C to 40°C).

Lubrication

Initial Start-up.

Each Compressor Unit built is extensively tested at the factory before shipment.

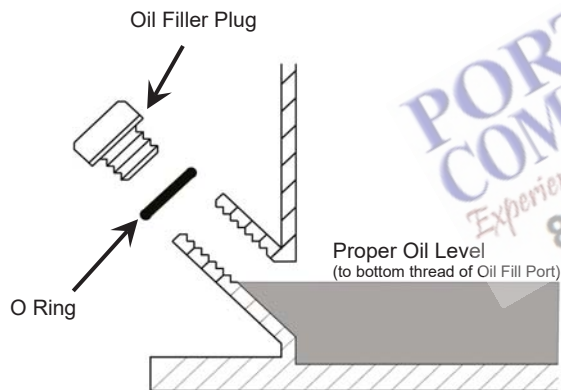
Check the oil level and for any oil leaks on a daily basis. This must be done when the Unit is off. Top up the Oil level on a monthly basis.

Use only Ingersoll-Rand All Season Select Oil. Also, do not mix the Ingersoll-Rand oil with any other lubricant.

Oil Changes.

Drain the existing oil from the Unit. Running the Unit prior to draining the oil will ensure that the oil will drain relatively quickly.

Fill the Oil Reservoir to the bottom thread at the Oil Filler Plug. Do not under or overfill. See drawing below.



**Section Through Crankcase
At Oil Fill Port**



Do not attempt to operate the Unit without first checking whether there is oil in the Pump Crankcase. Add oil as required. Serious damage may result from use, however limited, without oil.



Use of improper oil may negatively affect Compressor performance or shorten Unit life. Resulting problems are not covered by the Ingersoll-Rand Warranty.



Condensation (water) may form in the Pump if the Compressor has limited use or is installed in a very humid environment. As the water will tend to settle on the bottom of the Reservoir, drain the water from the Reservoir until you notice oil draining. Top up with new oil. Also, change the oil more often than indicated on the Maintenance Schedule.

Compressor Lubricant

All Season Select is a synthetic fluid specifically formulated to protect and preserve you Ingersoll Rand small reciprocating air compressor through a broad range of temperature as well as better start-up in colder climate conditions. With its outstanding formulation, All Season Select enables you to run 2000 hours of service between changeouts under normal operating conditions.

PART NO.	DESCRIPTION
32318875	Lubricant, All Season Select - QUART
32318883	Lubricant, All Season Select - CASE OF 12 QUARTS

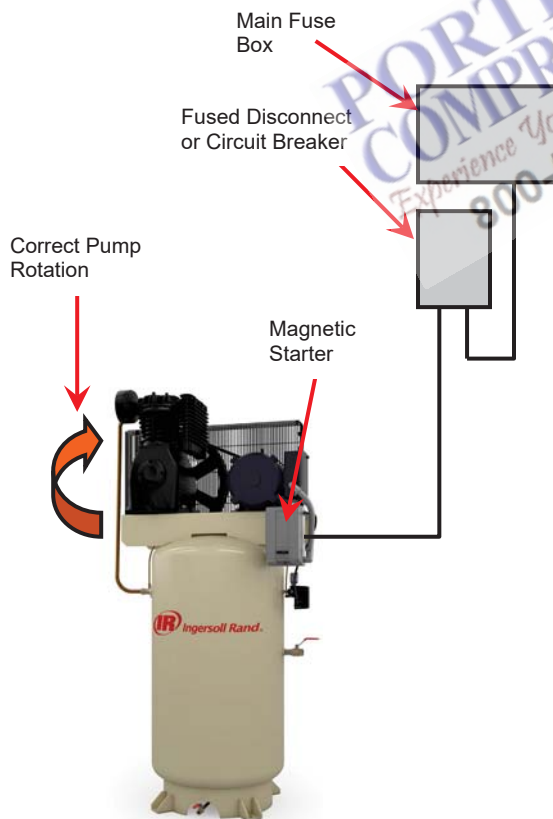
Installation - Electrical

General Information.

It is your responsibility to ensure that the Compressor Unit is electrically connected in a safe and correct manner. **Any electrical work must be carried out by a competent Electrician and be done in such a way that it meets all applicable Codes and Regulations.**

Ensure that a suitable Fused Disconnect or Breaker (by others than Ingersoll-Rand) is installed in the electrical supply before the Compressor Unit.

A Magnetic Starter must be an integral part of the Compressor Unit circuit as it provides overload protection to the electric Motor. A Magnetic Starter can be purchased separate from the Unit, or factory-mounted at the time of Unit manufacture.

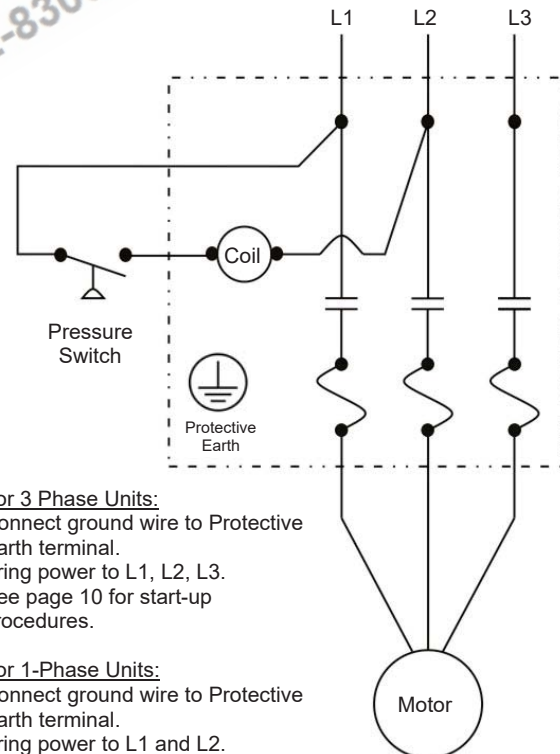


**Typical Electrical Installation
Of a Compressor Unit**

WARNING

- **Failure to correctly connect the Compressor to your building's electrical services may result in serious personal injury or damage to the equipment.**
- **Before servicing the Unit, ensure the power source has been shut down and locked off.**
- **Read and understand the information contained in this manual before installing or operating the Unit.**
- **This product must be connected to a grounded, metallic, permanent wiring system, or an equipment-grounding terminal or lead on the product.**

Failure to observe any of the above precautions could result in severe personal injury or death, and/or damage to the Unit.



For 3 Phase Units:
Connect ground wire to Protective Earth terminal.
Bring power to L1, L2, L3.
See page 10 for start-up procedures.

For 1-Phase Units:
Connect ground wire to Protective Earth terminal.
Bring power to L1 and L2.
See page 10 for start-up procedures.

Typical Magnetic Starter Wiring
(Subject to Local Codes and Authorities)

Installation – Electrical (cont'd)

Motors.

Ensure that the voltage on your site is reflected on the Motor nameplate, +/- 10%. In the case of 208 volts 3 phase electrics, the Unit must be 200 volts.

For single phase Motors, the voltage variance is 230 volts +/- 10%. A 208 volt power supply requires a transformer to increase the voltage to 230 volts.



Use of an incorrect Motor for your particular building service will result in premature Motor failure, something not covered by the Ingersoll-Rand or Motor manufacturers Warranty.

The Warranty that exists on the Electric Motor is that of the original Motor manufacturer. In the event of a Motor failure, contact your Ingersoll-Rand Distributor or Service Centre for the location of the nearest authorized Motor Service Centre.

Pump Rotation.

The Compressor is to be wired in a manner that the rotation of the Pumps Flywheel causes the air to be blown from the Beltguard forward over the Pump. This, coupled with the unobstructed area behind the Beltguard of 18" (0.5 m) minimum, allows the Pump to cool properly.

When facing the Compressor (as shown at right), the Flywheel must rotate in a clockwise direction.

Why Hire a Licensed Electrician?

To ensure that your new Ingersoll-Rand Unit works as designed and required, you must ensure that it is correctly wired to your building service. It is the responsibility of your Licensed Electrician to ensure that:

- The Unit you purchased is suitable for your particular buildings electrical service.
- Protective devices such as Magnetic Starters, Fused Disconnects, etc have been sized and installed correctly.
- Any electrical accessories purchased with your Compressor have been installed and wired correctly.
- The wiring of the Unit meets with all applicable codes and regulations.
- When completed, the Unit works in both a safe and correct manner.

Failure of the Compressor Unit due to an incorrect electrical installation is not covered by the manufacturer's warranty.



Start-up Procedures



CAUTION

Do not attempt to operate the Unit without first checking whether there is oil in the Pump. Add oil as required. Serious damage may result from use, however limited, without oil.

Initial Start-up

- 1) Remove the Oil Filler Plug and ensure that there is sufficient Oil in the Crankcase. Refer to the 'Lubrication' section (Page 6) in this manual for proper type and level of Oil.
- 2) Replace the Oil Filler Plug and use a crescent wrench to tighten snug plus 1/4 turn.
- 3) Do a visual inspection of the Unit and ensure that all Bolt heads are sufficiently tightened. This must be done, as some fasteners may become loose in transit.
- 4) Turn the Compressor 'On' momentarily by positioning the Fused Disconnect or Breaker in the 'On' position. Ensure that the Flywheel is turning in the correct direction. See the 'Pump Rotation' (Page 8).



NOTE

On Compressors with 3 phase power, switch 'L1' and 'L3' at the input into the Magnetic Starter if the rotation is incorrect.

- 5) Open the Compressor's Ball Valve and start the Unit. Ensure that air is escaping to atmosphere. Allow the Unit to operate in this fashion for 5 minutes. This lubricates the Pistons, Bearings, and all internal surfaces.



CAUTION

Do not place any materials near the Compressor. Placing materials against or close to the Unit will limit the cooling required and could lead to premature failure.

- 6) After having run the Unit unloaded for 5 minutes, close the Ball Valve, and allow the Unit to reach maximum operating pressure.
- 7) Ensure that the Compressor shuts off at the factory preset maximum pressure, and the head pressure is released through the Unloader at either the front of the Pump (the 'CPR') or at the Pressure Switch.
- 8) Measure the amp draw as the Unit reaches maximum pressure. It should not exceed the motor amp.
- 9) Once off, check the Compressor and piping systems for any air leaks. Correct as required.



WARNING

Shut off all power to the Compressor Unit before attempting any repair or maintenance.



NOTE

During the first few days of operation, check the Unit periodically to ensure it is running smoothly. Should you have any concerns, contact your Ingersoll-Rand Distributor.

Trouble Shooting Guide



When servicing the Air Compressor, shut off all power to the Unit, and drain it of air pressure.

The 'Conditions', 'Causes', and 'Suggested Corrections' as indicated below and on the following page(s) are only a guideline for failures that we have found to be most common.

Though this information is provided in this booklet, it is assumed and expected that any personnel involved in the servicing of an Air Compressor Unit is knowledgeable with this type of equipment. Do not attempt to service a Compressor Unit unless you are familiar with it, as there are many issues that may come into play, the most important being personal safety and the welfare of the Unit.

Should you have any questions, or require servicing to your Unit, please contact your local Ingersoll-Rand Distributor.

<u>Condition:</u>	<u>Cause:</u>	<u>Suggested Correction:</u>
A. Unit won't start.	No power to the Unit. Pressure may not be low enough in the Tank to allow the Unit to start. Loose and/or missing wires in the electrical circuit. Starter Overload is tripped. If an Oil Monitor is mounted on the Unit, the oil level in the Pump could be too low.	Check that power at the disconnect or breaker is on. Also, check any fuses. Drop pressure below the Pressure Switch 'cut-in' pressure. Check that all wiring connections are tight. With a wiring schematic, check that all wiring is present and correct. Reset the overload in the Magnetic Starter. Check the oil level and add oil as required.
B. No or Insufficient Air Flow.	Air Filter is dirty. Restricted air intake piping if a remote air intake is used. Loose Belts. Pump Valves, Aftercooler, or Tank Check Valve leaking, sticking, or plugged. Air leaks at Compressor in piping system. Unit is too small for the compressed air requirements.	Replace the Air Filter. Clean the intake Filter and piping. Tighten as required. Do not over-tighten. Clean, repair, or replace. Fix leaks. Soap/water mixture will assist in finding small leaks. Contact your Ingersoll-Rand Distributor for assistance.

Condition:	Cause:	Suggested Correction:
<p>C. Excessive Noise.</p>	<p>Normal sound amplified through floor or carried through remote air intake, when used.</p> <p>Loose Beltguard, Flywheel or Motor Pulley.</p> <p>Loose Valve in the Cylinder Head.</p> <p>If noisy only during start-up, check for loose Belts.</p> <p>Unit not installed level.</p> <p>Improper level or grade of oil in Pump.</p> <p>Carbon or other foreign material on Piston head.</p> <p>If the Pump is knocking, and cannot be attributed to any of the above, the Bearings in the Pump may be worn.</p>	<p>Mount Unit on Vibration Isolators. Insulate remote intake piping from building.</p> <p>Tighten as required.</p> <p>Inspect the Valves. Ensure they are seated properly in the Cylinder Head. Reinstall, making sure that you re-torque as necessary.</p> <p>Tighten Belts until no slippage is apparent.</p> <p>Ensure the Unit is mounted level. Use Vibration Pads.</p> <p>Use correct Ingersoll-Rand oil, and check that level is correct.</p> <p>Clean top of Piston. Check Cylinder walls for scoring.</p> <p>Worn Main Bearings can usually be detected by noticeable end play on the Flywheel. Replace the Main Bearings.</p> <p>Worn Connecting Rod Bearing Inserts can be detected by removing a Valve and watching the Piston while moving the Flywheel by hand. If the Flywheel can be moved at mid-stroke without the Piston moving, the Bearing Inserts or Connecting Rod may need to be replaced.</p>
<p>D. Oil Passing Downstream of Unit and Excessive Carbon Build-up.</p>	<p>Ambient temperature is too high.</p> <p>Little or no air circulation around and over Unit.</p> <p>High percentage of running time.</p> <p>Obstructed Air Filter or air intake piping (if remote air intake is used).</p> <p>Too much oil in the Pump.</p> <p>Using wrong type of compressor oil.</p> <p>Worn Valves.</p> <p>Worn Piston Rings.</p>	<p>Introduce cool air, better air flow, or move Unit to cooler location.</p> <p>Check the air circulation around the Unit. Ensure Flywheel rotation is correct, and there is 18" minimum around and 24" above Unit.</p> <p>Check for air leaks. If no air leaks are present, the Compressor may be too small for the application.</p> <p>Clean or replace as necessary.</p> <p>Reduce the amount of oil in the Pump.</p> <p>Change to the factory recommended oil.</p> <p>Check and repair as necessary.</p> <p>Replace Piston Rings as necessary.</p>

Condition:	Cause:	Suggested Correction:
E. Appearance of Water in the Air Lines and/or Oil 'milky' in Colour.	<p>Tank is not being drained regularly.</p> <p>Unit is not being used enough to burn off any water in the Pump.</p>	<p>Drain the Tank on a daily basis. Purchase a Tank Autodrain if required.</p> <p>If using the Unit very infrequently, run for 30 minutes when used to burn off water.</p> <p>An oil/water mixture can cause premature issues with the Pump. Check the oil regularly and change more often than suggested in the Maintenance Schedule.</p>
F. Compressor Overheating.	<p>Undersized Unit for air requirements.</p> <p>Dirt accumulation on outside of Pump.</p> <p>Compressor too close to building wall/obstructions.</p> <p>Pump rotating in wrong direction.</p> <p>Air leaks on Unit or in air lines.</p> <p>Non-ventilated Room.</p> <p>Improper level or type of oil in Pump.</p> <p>Worn or carbonned Valves in Cylinder Head, Aftercooler Tube, or Check Valve.</p>	<p>Maximum operating time, based on an 8 hour day, is 75% to 80%, which related to 45 minutes per hour.</p> <p>Clean Pump.</p> <p>Move Compressor so Beltguard is a minimum of 18" away from nearest obstruction. See Page 2.</p> <p>Correct rotation of the Flywheel. See Page 8.</p> <p>Fix leaks. Soap/water mixture will assist in finding small leaks.</p> <p>Require fresh air ducting and ventilation.</p> <p>Refer to 'Lubrication' on Page 6.</p> <p>Clean or replace as required.</p>
G. Belts Roll Off Motor Pulley and/or Flywheel.	<p>Flywheel and Motor Pulley are not aligned.</p> <p>If two or more Belts are used, Belts may not be matched set.</p> <p>A nick or tear on the edge of a belt.</p> <p>Belts do not match the Flywheel/Pulley groove (such as 'A' or 'B' section).</p>	<p>Align using a straight edge.</p> <p>Purchase a new set of matched belts.</p> <p>Purchase a new set of matched belts.</p> <p>Purchase a new set of Belts, paying close attention to 'A' or 'B' section requirement.</p>
H. Unloader Does Not Function, or Leaks When Unit Operating.	<p>Unloader may be dirty or faulty.</p> <p>If using a CPR, the Pump may not be turning fast enough for CPR Valve to close. Minimum rpm for CPR Valve to close is 500 rpm.</p>	<p>Clean, repair, or replace.</p> <p>Ensure the Pump is operating at a minimum of 500 rpm.</p>
I. Unloader Leaks Constantly When Unit is Not Operating.	<p>The Disc inside the Tank Check Valve is not seating properly, allowing the compressed air in the Tank to escape.</p>	<p>Clean or replace the Check Valve as required.</p>

<u>Condition:</u>	<u>Cause:</u>	<u>Suggested Correction:</u>
J. Intercooler Safety Valve Pops Continuously.	Dirty or defective Valves will cause back pressure. Intercooler clogged with carbon.	Clean, repair or replace the Valves. Clean or replace.

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WARRANTY AND LIMITATION OF LIABILITY

WARRANTY

Ingersoll Rand company warrants that the equipment manufactured by it and delivered hereunder shall be free of defects in material and workmanship for a period of twelve (12) months from the date of placing the equipment in operation or eighteen (18) months from the date of shipment, whichever shall occur first. The foregoing warranty period shall apply to all equipment, except the following:

- Compressors purchased with an accompanying Start Up Kit that are operated solely on the included Ingersoll Rand synthetic lubricant will have their bare compressor warranted for the earlier of twenty-four (24) months from the date of initial operation or thirty (30) months from the date of shipment.
- Compressors purchased with an accompanying Extended Warranty Kit that are operated solely on the included Ingersoll Rand synthetic lubricant and installed with the included pads and bolts will be warranted for the earlier of twenty-four (24) months from the date of initial operation or thirty (30) months from the date of shipment, and will have their tanks and bare compressors warranted for the earlier of sixty (60) months from the date of initial operation or sixty-six (66) months from the date of shipment.
- Replacement parts will be warranted for six (6) months from the date of shipment.

Should any failure to confirm this warranty be reported in writing to the company within said period, the company shall, at its option, correct such non-conformity by suitable repair to such equipment, or furnish a replacement part F.O.B point of shipment, provided the purchaser has installed, maintained and operated such equipment in accordance with good industry practiced and has complied with specific recommendations of the company. Accessories or equipment furnished by the company, but manufactured by others, shall carry whatever warranty the manufacturer conveyed to Ingersoll Rand Company and which can be passed on to the purchaser. The company shall not be liable for any repairs, replacements, or adjustments to the equipment or any costs of labour performed by the purchaser without company's prior written approval.

The company makes no performance warranty unless specifically stated within its proposal and the effects of corrosion, erosion and normal wear and tear are specifically excluded from the company's warranty. In the event performance warranties are expressly included, the company's obligation shall be to correct in the manner and for the period of time provided above.

THE COMPANY MAKES NO OTHER WARRANTY OF REPRESENTATION OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND HEREBY DISCLAIMED.

Correction by the company of non-conformities, whether patent or latent, in the manner and for the period of time provided above, shall constitute fulfillment of all liabilities of the company and its distributors for such non-conformities with respect to or arising out of such equipment.

LIMITATION OF LIABILITY

THE REMEDIES OF THE PURCHASER SET FORTH HEREIN ARE EXCLUSIVE, AND THE TOTAL LIABILITY OF THE COMPANY, ITS DISTRIBUTORS AND SUPPLIERS WITH RESPECT TO CONTRACT OR THE EQUIPMENT AND SERVICES FURNISHED, IN CONNECTION WITH THE PERFORMANCE OR BRANCH THEREOF, OR FROM THE MANUFACTURE, SALE, DELIVERY, INSTALLATION, REPAIR OR TECHNICAL DIRECTION COVERED BY OR FURNISHED UNDER CONTRACT, WHETHER BASED ON CONTRACT, WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE SHALL NOT EXCEED THE PURCHASE PRICE OF THE UNIT OF EQUIPMENT UPON WHICH SUCH LIABILITY IS BASED.

THE COMPANY, ITS DISTRIBUTORS AND ITS SUPPLIERS SHALL IN NO EVENT BE LIABLE TO THE PURCHASER, ANY SUCCESSORS IN INTEREST OR ANY BENEFICIARY OR ASSIGNEE OF THE CONTRACT FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, SPECIAL OR PUNITIVE DAMAGES ARISING OUT OF THIS CONTRACT OR ANY BREACH THEREOF, OR ANY DEFECT IN, OR FAILURE OF, OR MALFUNCTION OF THE EQUIPMENT, WHETHER OR NOT BASED UPON LOSS OF USE, LOSS PROFITS OR REVENUE, INTEREST, LOST GOODWILL, WORK STOPPAGE, IMPAIRMENT OF THE OTHER GOODS, LOSS BY REASON OF SHUTDOWN OR NON-OPERATION, INCREASED FOR SERVICE



PL-MANW

Rev.B, Nov'20

INTERRUPTION WHETHER OR NOT SUCH LOSS OR DAMAGE IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE.

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