



Guarantee



MODEL \_\_\_\_\_ SERIAL # RECEIVER \_\_\_\_\_

SERIAL # PUMP \_\_\_\_\_ SERIAL # MOTOR \_\_\_\_\_

DISTRIBUTOR \_\_\_\_\_

ADDRESS \_\_\_\_\_

\_\_\_\_\_ TEL \_\_\_\_\_

OWNER \_\_\_\_\_

ADDRESS \_\_\_\_\_

\_\_\_\_\_ TEL \_\_\_\_\_

EMAIL \_\_\_\_\_

DATE PURCHASED \_\_\_\_\_ INVOICE \_\_\_\_\_

\_\_\_\_\_  
DISTRIBUTOR SIGNATURE

\_\_\_\_\_  
OWNER SIGNATURE

HINDIN MARQUIP LTD  
PO BOX 5360  
WELLESLEY STREET  
AUCKLAND 1141



# AIR COMPRESSOR INSTALLATION AND OPERATING INSTRUCTIONS



## FOR PISTON RECIPROCATING MODELS

### UNPACKING

The machine should be examined on arrival for any signs of damage or loss in transit. Any such loss or damage should be reported before the machine is put into service and a claim lodged against the carrier.

### INITIAL START-UP

Compressors and allied equipment require a suitable operating environment if they are to perform satisfactorily. Certain factors such as location, lubrication, start-up procedures, running checks and maintenance must be observed or the guarantee may be rendered void.

### PLEASE READ AND FOLLOW THE INSTRUCTIONS AND TECHNICAL DATA PROVIDED BEFORE COMMENCING OPERATION.

<b>Auckland</b> 1012 Great South Rd Penrose 0-9-579 9667	<b>Hamilton</b> 13 Norton Road Hamilton 0-7-847 6076	<b>Wellington</b> 021-478 111	<b>Christchurch</b> 105 Main South Rd Christchurch 0-3-343 0306
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[www.hml.co.nz](http://www.hml.co.nz)

## GUARANTEE

Any part of our work proved to our satisfaction to be defective owing to faulty materials and/or workmanship and notified to us within twelve months from the date of sale will be repaired or replaced free of charge provided the faulty part is returned to the manufacturer freight paid. The guarantee does not cover labour and other costs for service operations in the field. The manufacturer shall be the sole authority in determining whether or not any claim comes under the coverage of the guarantee.

This guarantee does not apply to:

- Damage in transit
- Misuse or carelessness in handling
- Noncompliance with instructions given.
- Unauthorised repairs or alterations
- Consequential damage resulting from misuse or initial faults

The guarantee excludes any responsibility on the part of the manufacturer for direct or indirect loss or damage to persons or things.

Any warranty issues should in the first instance be referred to the dealer who sold the compressor.

Where a component is covered by another agents warranty (eg. petrol and electric motors) Hindin Marquip may opt to rely on that warranty.

This guarantee applies only to the original purchaser.

**Important:** To validate your guarantee and enable the company to keep an accurate record of this equipment please complete the attached card and post it immediately after purchase. Original invoice should be retained as proof of purchase.

## INSTALLATION

The plant must be positioned so that all parts that require servicing are easily accessible.

### Foundation

The compressor should not be operated on the shipping skid. Stationary units should be securely bolted onto a firm level floor to avoid excess vibration. Before tightening the bolts check to see that the feet are resting on the foundation. Shim up if necessary to eliminate stress on the receiver when tightening the bolts.

### Clean & Cool Atmosphere

Compressors must be installed and operate in a well ventilated clean location and not in a confined space. A plentiful supply of clean cool air is required for cooling as well as compression.

Impurities (such as workshop dust, sand blasting waste, paint fumes, French Polish and the like) if drawn into the air intake or crankcase may damage the compressor. This may cause the valves to seize, excessive carbon deposits and over heating. Such contamination may result in failure of the pump and bearings, check valves, unloader valves and other parts; or the pressure control system to be damaged.

The intake filter does not offer complete protection.

Operating in a hot atmosphere is to be avoided otherwise issues may arise from excessive water in the compressed air lines.

Where possible the air intake should be led to a source of cool air such as a point outside the building. The size of the pipe should not be less than the diameter of the compressor head inlet. If the pipe is greater than 2m the diameter should be increased.

Free air circulation is essential for both the compressor and motor.

Ensure flow of air to the fly wheel is unobstructed and it is turning in the correct direction as indicated by the arrow on the flywheel.

### Electric Power Supply

Voltage drop can seriously damage electrical equipment. This can be caused by inadequate mains supply, extension lead too long, other equipment drawing off power.

Voltage drop can cause excessive amperage draw, burn out of the motor and damage of the automatic controls such as starters, relays and contactors rendering these controls ineffective. If in doubt refer to your Registered Electrician.

**Single Phase** units are wired, tested and controls adjusted during assembly. Ensure electricity supply is suitable for electric motor e.g 2.0 kW (2.7 HP) units require 15amp supply and fuses.

**Three Phase** units must be wired by a registered or appropriately certified electrician in accordance with Wiring Regulations and local supply authority requirements. **Some power authorities may require star-delta or soft-start systems as mandatory.** Wiring to ensure flywheel rotation blows air onto compressor. If starters are supplied by the installing electrical contractor, starters must be wired to carry start and restart load and must have sufficient rating to suit the motor. Starters must be fitted with adequate overload mechanisms. NOTE: DOL models are fitted with thermal overload only and further line protection is required.

Pressure switch pressure differential should be set at 20-30 psi (1.5 bar) below pressure switch cut out. When the lower pressure is reached the switch reactivates the starter. **The pressure switch is an activating switch only and must not be wired to carry starting loads.**

On those models that are fitted with an electric solenoid pressure unloader, the electric pressure switch must be connected to the starter auxiliaries and not the motor lines. The electric solenoid is connected such that it is de-energised during start-up mode, (i.e. Compressor is unloading during start-up and stop conditions) and energised when switched over to delta or run.

## MAINTENANCE (Unplug or switch off power first)

Refer Lubrication, Drainage and General.

### Every 3 Months or 500 hours (whichever occurs first):

Examine Valves and clean any residue. Replace worn parts. Check and tighten bolts.

For oil type units drain & refill crankcase.

A Hindin or Marquip compressor will give many years of service if maintained regularly.

## ACCESSORIES

Also available from your distributor.

MARQUIP Air dryers & filters.  
HINDIN MARQUIP hoses and fittings.  
WELLMMADE pneumatic tools.



Electric stop-start units overloading at restart may be caused through solenoid or Unloader Valve malfunction not unloading the compressor.

## **Petrol Units**

Refer to special instructions issued by the engine supplier.

Units are usually fitted with an unloading device which operates a throttle control, reducing the speed of the engine to idle at full pressure in the air receiver.

Smaller models may simply discharge compressed air to atmosphere at maximum pressure through a valve fitted to the air receiver. For ease of starting it may be necessary to open relief valve.

## **GENERAL**

**Check belt for tightness:** Neither allow to run too slack nor too tight. Adjust or replace. Belt slip may cause pulley to heat up.

**Air intake filter:** Inspect periodically (or frequently in industrial/paint spray atmospheres) and ensure filter pad or element is not blocked. Renew filter element. Do not clean with petrol or paraffin.

**Note:** Blocked pads reduce compressor output and also cause oil to be drawn up from sump and into air line. Oil on compressor valves causes malfunction and overheating.

**Safety valve:** is set to release just above maximum pre-set pressure.

Valve should not blow off during operation. If it does the pressure switch or unloader pilot is not operating and requires adjustment or repair.

## **Petrol Engines**

The engines are usually supplied with special instruction books issued by the makers. The book should be carefully studied and the instructions strictly observed particularly in regard to lubrication and start procedures.

### **LUBRICATION** (only for oil type units)

Both compressor (and petrol engine if any) may be drained of oil to avoid spillage in transit. Fill to correct level BEFORE operation.

Run in period is 100 hours. Completely drain crankcase and refill to correct level.

Check oil weekly and perform oil change regularly.

**Compressors:** Use Castrol Hyspin AWS 100, Shell Corina P 100, Caltex RPM100, BP Energol RCR100, Mobil Rarus 427 or equivalent.

**Petrol Engines:** As per special instructions.

**INCORRECT OR INADEQUATE LUBRICATION MAY RESULT IN SERIOUS AND COSTLY DAMAGE.**

## **DRAINAGE**

Drain taps at the bottom of the air receiver (and the after cooler and air filter, if any) should be opened daily for about one minute to let accumulated water and impurities escape.

## **STARTING**

The compressor unit is thoroughly tested before leaving our works however before switching on check for any damage that may have occurred in transit. Check control valves, pipework, belt guard and turn compressor by hand to ensure free movement.

## Single Phase Units

**Pressure Switch only model** (intermittent use). Turns off the motor when the high or cut out pressure setting is reached. Motor and compressor stops and compression ceases. As the air is drawn off from the air receiver the pressure drops until the low cut in pressure setting is reached. The electric pressure switch then turns on the motor and compressor recommences pumping.

**Air Governor only model** (continuous use). Operates by means of a Pilot Unloader Valve and Compressor Head unloaders. The Pilot Unloader Valve opens when high or offload setting is reached and high pressure air passes to the compressor head unloaders. Pressure holds the inlet valves open allowing the compressor and motor to freewheel. Air compression ceases and motor power requirement is reduced. As the air is drawn off the pressure drops until the low or onload pressure is reached. The Pilot Unloader Valve then closes and the compressor head unloaders reverse positions allowing the compressor inlet valves to function. The compressor recommences pumping.

**Dual Control** units allow flexibility of controlled operations to users where air draw off requirements vary greatly, where the user wishes to leave the unit switched on during the period for relatively low volume intermittent draw off (pressure switch control) or continuously run for high or consistent delivery (Air Governor Control).

For Electric Pressure Switch Control /intermittent draw off close the isolating cock between the air receiver and Pilot Unloader Valve.

The electric stop/start pressure settings are above those of the Pilot Unloader Valve so the switch should not open when the isolating cock is open.

**IMPORTANT NOTE:** The unit must not be operated on Electric Pressure Switch stop/start when air draw off volume is high and switching cycle is excessive or if voltage drop in power supply causes motor to labour. The absolute maximum switching cycle should not exceed 10 start/stops per hour. Switch to Air Governor Control.

For Air Governor Control/continuous operation open the isolating cock between the air receiver and the pilot unloader valve.

## **CORRECT OPERATION OF THE UNIT IS THE RESPONSIBILITY OF THE USER.**

### Three Phase Units

On reaching full pressure in the air receiver the electric pressure switch deactivates the starter cutting off power to the motor.

Some models are fitted with unloading non-return valves to facilitate no load restarting.

Larger units are fitted with solenoid valves. On starting the compressor will freewheel for a few seconds before the solenoid position is reversed and the compressor comes onto load.

When full pressure is attained the electric pressure switch deactivates the starter cutting off power to the motor and reversing the solenoid to unload the compressor head allowing the unit to freewheel to stop.

### Electric Malfunction

If the unit has been running and will not restart check power supply and thermal overload on motor or starter.

If motor has overloaded then proceed as follows:

- . Switch off power supply.
- . Release all air from air receiver.
- . Wait three to five minutes to cool unit.
- . Press overload button on motor until it clicks.
- . Switch power back on.

**NOTE:** The overload mechanism is a warning device to protect the motor and should not operate frequently. If it does, check that sufficient power supply is available at the power point or if extension lead is used at the motor plug. Check also for vee belt slipping.