



### 3. Compressor System Literature Additions

1. AKCTL100D, Model Number Installed
2. Emergency Operations;  
In the event of equipment failure or abnormal operation, disconnect power from unit at electrical disconnect box.
3. Environmental Conditions;  
The compressor system should be installed in a clean, dry equipment room, on a stable, level surface. The ambient air temperature in the room should be between 40 degrees Fahrenheit (4 C) minimum to 100 degrees Fahrenheit (38 C) maximum. Temperatures outside of this range will detrimentally effect the overall operation and continued reliability of the system.
4. Lubrication Data;  
Lubrication data is given on Page 9 of the Installation and Operation Manual in the Maintenance Procedure Table.
5. Wiring Diagrams are included in the Installation and Operation Manual, Pages 1 and 5.
6. Removal and Replacement Instructions;  
For entire system Removal, the reverse of the installation instructions on page 2 of the manual is used. For major system components, removal instructions are as follows;  
Compressor Head/ Electrical Motor –
  1. Disconnect power at electrical disconnect box.
  2. Remove power line conduit at electrical motor.
  3. Disconnect intake and exhaust lines plumbed into compressor head.
  4. Unbolt head/motor assembly from mounting platform, 4 places each.
7. Replacement Parts List included in manual, Page 13.
8. Corrective maintenance man-hours;
  9. Complete System Installation – 4 hours
  10. Compressor Head/ Motor Replacement – 1 hour
  11. Desiccant Dryer Tank Replacement – 1 hour
  12. Air Intake Filter Replacement – 0.25 hour
  13. Q.E.V. Solenoid Service/Replacement – 0.5 hour
  14. Electrical Repair, Control Box – 1 hour
  15. Electrical Repair, General – 1 hour
  16. Compressor Head/Motor Belt Replacement – 0.5 hour
9. Identification of Parts;  
Parts of the vacuum system are identified on Pages 1, 7, and 9 of the Installation and Operation Manual.
10. Personal Training Requirements;  
Only a qualified technician familiar with electrical and mechanical systems should perform maintenance on the vacuum system. Identification and replacement of major system components should only be done by qualified personnel. Regular maintenance and cleaning can be done by anyone after carefully reading the installation and operation manuals for this equipment, and following the instructions as outlined.
11. Test Equipment and Special Tool Information;  
Tools required for major component replacement are; a standard inch end wrench and ½" socket set, ¼" – 1 1/8", with 8" extension, a true RMS voltmeter and ammeter, a plastic fuse puller, a six inch pipe wrench, an 8" adjustable end wrench, and a medium standard and phillips screwdriver.
12. Local Representative and Service Facility;  
Virge Hoadley, Apollo Manufacturer Representative, ph (805)306-0618 fax (805)306-0619

#### APOLLO DENTAL PRODUCTS, INC.

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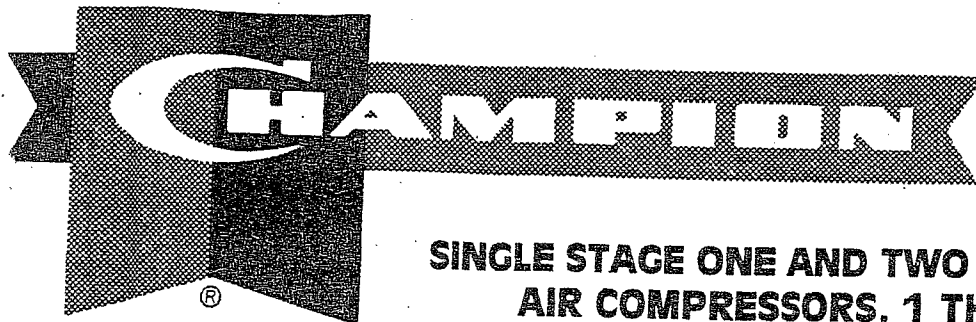
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## **Installation Instructions King Air Compressor System**

### **Index for Installation and Operations Manual**

<b>Page</b>	<b>Subject</b>
1	Unpacking the System
2	Installing the Compressor System
3	Simplex Unit Start-Up
4	Wiring Diagram, Simplex Units
5	Wiring Diagram, Duplex Units
6	Duplex Unit Start-Up
7	Air Compressor Operational Description
8	Compressor Operation (cont'd), Drying System
9	Periodic Maintenance Intervals
10	Periodic Maintenance Instructions
11	Compressor System Troubleshooting
12	Compressor System Troubleshooting (cont'd)
13	Replacement Parts List, Warranty Information



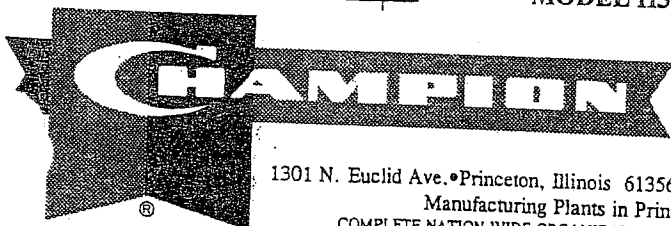
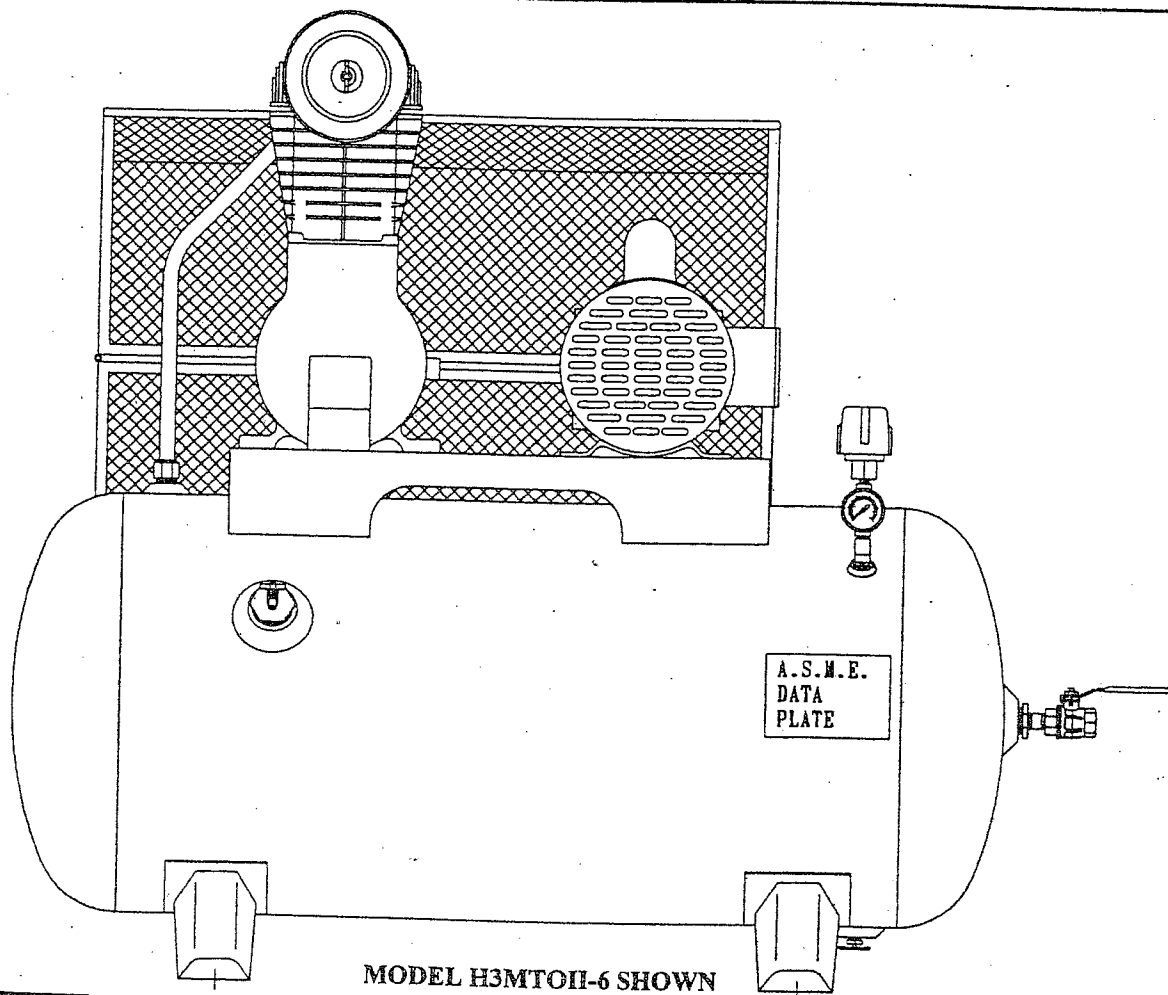
OPERATION/MAINTENANCE  
MANUAL & PARTS LIST

**SINGLE STAGE ONE AND TWO CYLINDER OIL-LESS  
AIR COMPRESSORS, 1 THROUGH 5 HP**



**WARNING**

**THIS MANUAL CONTAINS IMPORTANT SAFETY INFORMATION AND SHOULD  
ALWAYS BE AVAILABLE TO THOSE PERSONNEL OPERATING THIS UNIT.  
READ, UNDERSTAND AND RETAIN ALL INSTRUCTIONS BEFORE OPERATING THIS UNIT, TO  
PREVENT INJURY OR EQUIPMENT DAMAGE.**



**PNEUMATIC MACHINERY CO., INC.**

1301 N. Euclid Ave. • Princeton, Illinois 61356-9990 • Phone (815) 875-3321 • FAX (815) 872-0421  
Manufacturing Plants in Princeton, Illinois • Manteca, California  
COMPLETE NATION-WIDE ORGANIZATION OF CHAMPION REPRESENTATIVES AT YOUR SERVICE

# TABLE OF CONTENTS

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Subject	Page
Safety Precautions.....	3 & 4
Introduction.....	5
Warranty.....	5
Specifications.....	6
Installation .....	7
Preparation for Initial Start-Up and Operation.....	8
Maintenance.....	8 & 9
Troubleshooting Chart.....	10 & 11
Parts List.....	12, 13, 14, 15, 16, & 17
Maintenance Schedule Fill-In Chart.....	18 & 19

# SAFETY AND OPERATION PRECAUTIONS

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Because an air compressor is a piece of machinery with moving and rotating parts, the same precautions should be observed as with any piece of machinery of this type where carelessness in operation or maintenance is hazardous to personnel. In addition to the many obvious safety rules that should be followed with this type of machinery, the additional safety precautions as listed below must be observed:

1. Read all instructions completely before operating air compressor or unit.
2. For installation, follow all local electrical and safety codes, as well as the National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).
3. Electric motors must be securely and adequately grounded. This can be accomplished by wiring with a grounded, metal-clad raceway system to the starter; by using a separate ground wire connected to the bare metal of the motor frame; or other suitable means.
4. Protect the power cable from coming in contact with sharp objects. Do not kink power cable and never allow the cable to come in contact with oil, grease, hot surfaces, or chemicals.
5. Make certain that the power source conforms to the requirements of your equipment.
6. Pull main disconnect switch and disconnect any separate control lines, if used, before attempting to work or perform maintenance on the air compressor or unit. "Tag Out" or "Lockout" disconnect switch.
7. Do not attempt to remove any compressor parts without first relieving the entire system of pressure.
8. Do not attempt to service any part while machine is in an operational mode.
9. Do not operate the compressor at pressures in excess of its rating.
10. Periodically check all safety devices for proper operation. Do not change pressure setting or restrict operation in any way.
11. Do not use flammable solvents, gasoline or fuel oil for cleaning the air inlet filter or element and other parts.
12. Exercise cleanliness during maintenance and when making repairs. Keep dirt away from parts by covering parts and exposed openings with clean cloth or Kraft paper.
13. Do not operate the compressor without guards, shields and screens in place.
14. Do not install a shut-off valve in the discharge line, unless a pressure relief valve, of proper design and size, is installed in the line between the compressor unit and shut-off valve.
15. Do not operate compressor in areas where there is a possibility of ingesting flammable or toxic fumes.
16. Be careful when touching the exterior of a recently run motor - it may be hot enough to be painful or cause injury. With modern motors this condition is normal if operated at rated load - modern motors are built to operate at higher temperatures.
17. Inspect unit daily to observe and correct any unsafe operating conditions found.
18. Do not "play around" with compressed air, nor direct air stream at body, because this can cause injuries.
19. Compressed air from this machine absolutely must not be used for food processing or breathing air without adequate downstream filters, purifiers and controls.
20. Always use an air pressure regulating device at the point of use, and do not use air pressure greater than marked maximum pressure of attachment.
21. Check hoses for weak or worn condition before each use and make certain that all connections are secure.
22. Always wear safety glasses when using compressed air gun.

The user of any air compressor package manufactured by Champion Pneumatic Machinery Company, Inc., is hereby warned that failure to follow the preceding Safety and Operation Precautions can result in injuries or equipment damage. However, Champion Pneumatic Machinery Company, Inc., does not state as fact nor does not mean to imply that the preceding list of Safety and Operating Precautions is all inclusive, and further that the observance of this list will prevent all injuries or equipment damage.

## EXPLANATION OF SAFETY INSTRUCTIONS SYMBOLS AND DECALS



Indicates immediate hazards which will result in severe injury or death.



Indicates hazards or unsafe practice which could result in severe injury or death.



Indicates hazards or unsafe practice which could result in damage to the Champion compressor or minor injury.

OBSERVE, UNDERSTAND, AND RETAIN THE INFORMATION GIVEN IN THE SAFETY PRECAUTION DECALS AS SHOWN IN THE PARTS LIST SECTION.



This Oil-Less Compressor must not be used for breathing air without adequate downstream filters, purifiers and controls. To do so will cause serious injury whether air is supplied direct from the compressor source or to breathing tanks for later use. Any and all liabilities for damage or loss due to injuries, death and/or property damage including consequential damages stemming from the use of this compressor to supply breathing air will be disclaimed by the manufacturer.



The use of this compressor as a booster pump and/or to compress a medium other than atmospheric air is strictly non-approved and can result in equipment damage and/or injury. Non-approved uses will also void the warranty.



This unit may be equipped with special options which may not be included in this manual. User must read, understand and retain all information sent with special options.

# INTRODUCTION

Your new Champion Oil-Less Air Compressor is constructed to exacting standards of material and workmanship.

The instructions in this manual have been prepared to ensure that The CHAMPION will give long and satisfactory service.

A copy of this manual must be given to the personnel responsible for installing and operating The CHAMPION air compressor or unit.

Although precautions have been taken to prevent damage to your compressor or unit by freight carrier, the unit must be carefully examined and the carrier notified within 24 hours in the event of mishandling.

All requests for information, service, spare parts or Owners Manual should include machine serial number and be directed to:

**CHAMPION PNEUMATIC MACHINERY CO., INC.**  
**Service Department**

1301 N. Euclid Avenue  
Princeton, Illinois 61356 USA  
Phone: (815) 875-3321  
Fax: (815) 872-0421

## Express Limited Warranty

**CHAMPION** warrants each new piece of equipment manufactured by **CHAMPION** to be free from defects in material and workmanship under normal use and service for a period of twelve (12) months from date of installation or fifteen (15) months from date of shipment by **CHAMPION** or **CHAMPION** distributor, whichever may occur first.

**CHAMPION** makes no warranty in respect to components and accessories furnished to **CHAMPION** by third parties, such as **ELECTRIC MOTORS**, and **CONTROLS**, which are warranted only to the extent of the original manufacturer's warranty to **CHAMPION**. To have warranty consideration, electric motors must be equipped with thermal overload protection.

When a compressor pump, or component is changed or replaced during the warranty period, the newly replaced item is warranted for only the remainder of the original warranty period.

Repair, replacement or refund in the manner and within the time provided shall constitute **CHAMPION'S** sole liability and your exclusive remedy resulting from any nonconformity or defect. **CHAMPION** SHALL NOT IN ANY EVENT BE LIABLE FOR ANY DAMAGES, WHETHER BASED ON CONTRACT, WARRANTY, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, INCLUDING WITHOUT LIMITATION ANY CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES, ARISING WITH RESPECT TO THE EQUIPMENT OR ITS FAILURE TO OPERATE EVEN IF **CHAMPION** HAS BEEN ADVISED OF THE POSSIBILITY THEREOF.

**CHAMPION** MAKES NO OTHER WARRANTY OR REPRESENTATION OF ANY KIND, EXCEPT THAT OF TITLE, AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY EXPRESSLY DISCLAIMED. NO SALESMAN OR OTHER REPRESENTATIVE OF **CHAMPION** HAS AUTHORITY TO MAKE ANY WARRANTIES.

### COMPRESSOR UNIT SPECIFICATIONS

COMPRESSOR MODEL	DISPL (CFM)	MOTOR H.P.	PUMP/MOTOR SPEED (RPM)	NORMAL OPERATING PRESSURE (PSIG)	COOLING AIR FLOW (CFM)	HEAT REJECTION (BTU/HR)
2MTOC	11.0	2	650	70-100	1500	4480
3MTOC	17.1	3	650	70-100	1500	6700
5MTOC	27.4	5	650	70-100	1500	12,000

Minimum Ambient Temperature 20°F  
Maximum Ambient Temperature 100°F

ELECTRIC WIRING (BASED ON 1996 NEC)							
Wire Size (Rubber Covered) AWG NO. Copper Conductor -- 75°C Temp Rating -- 30° Ambient -- 3 Phase							
MOTOR HP	3 PHASE				1 PHASE		
	200/208V	230V	460V	575V	115V	208V	230V
1-1½	14	14	14	14	10	14	14
2	14	14	14	14	8	12	12
3	14	14	14	14	8	10	10
5	10	12	14	14	--	8	8

### MINIMUM PIPE SIZES FOR COMPRESSED AIR LINES FOR THESE MODELS (Based on Clean, Smooth Schedule 40 Pipe)

COMPRESSOR MODEL	LENGTH OF PIPE LINES IN FEET							
	25	50	75	100	150	200	250	300
2MTO	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
3MTO	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
5MTO	3/4	3/4	3/4	3/4	1	1	1	1



**WARNING**

Never use plastic pipe or improperly rated metal pipe. Improper piping materials can burst and cause injury or property damage.



## INSTALLATION

1. Permanently installed compressors must be located in a clean, well ventilated dry room so compressor receives adequate supply of fresh, clean, cool and dry air. It is recommended that a compressor, used for painting, be located in a separate room from that area wherein body sanding and painting is done. Abrasive particles or paint, found to have clogged the air intake filters and intake valves, shall automatically void warranty.
2. Compressors should never be located so close to a wall or other obstruction that flow of air through the cooling fan, which cools the compressor, is impeded. Permanently mounted units should have cooling fan at least 12" from wall.
3. Place stationary compressors on firm level ground or flooring. Permanent installations require bolting to floor, and, bolt holes in tank or base feet are provided. Before bolting or lagging down, shim compressor level to avoid putting a stress on a tank foot. Champion vibro-isolator pads must be used for warranty to apply. Tanks bolted directly to a concrete floor without padding will not be warranted against cracking.
4. If installing a base mounted unit, make certain the pressure switch furnished with the unit is installed in the proper location for start/stop control.



Do not install isolating valves between compressor outlet and air receiver. This will cause excessive pressure if valve is closed and cause injury and equipment damage.



Always use an air pressure regulating device at the point of use. Failure to do so can result in injury or equipment damage.



- Do not install in an area where ambient temperature is below 20 degrees F. or above 100 degrees F.
- Do not install unit in an area where air is dirty and/or chemical laden.
- Unit is not to be installed outdoors.

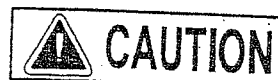
### ELECTRICAL POWER SUPPLY

It is essential that the power supply and the supply wiring are adequately sized and that the voltage correspond to the unit specifications.

All wiring should be performed by a licensed electrician or electrical contractor. Wiring must meet applicable codes for area of installation.

Recommended electrical wiring specifications are listed on page 6.

If ordered with a mounted starter, compressor unit is pre-wired at factory. It is necessary only to bring lines from properly sized disconnect switch to magnetic starter mounted on compressor, and attach to terminals as indicated on schematic diagram located inside cover of control. Be sure that power circuit and voltage correspond with the specifications.



Make sure motor is wired so that motor/fan rotate in the direction indicated by the arrow located on fan and fan guard. Wrong direction rotation for any length of time will result in damage to compressor.

### GROUNDING INSTRUCTIONS

This product should be connected to a grounded, metallic, permanent wiring system, or an equipment-grounding terminal or lead on the product.

### AIR LINE PIPING

Connection to air system should be of the same size, or larger, than discharge pipe out of unit. Recommended pipe sizes are listed on page 6. A union connection to the unit and water drop leg is recommended. Facility air piping should be periodically inspected for leaks using a soap and water solution for detection on all pipe joints. Air leaks waste energy and are expensive. Facility air piping materials should be in conformance with any codes or local requirements.

## PREPARATION FOR INITIAL START-UP AND OPERATION

1. Pull main disconnect switch to unit to assure that no power is coming into the unit. Connect power leads to starter.



Do not attempt to operate compressor on voltage other than that specified on order or on compressor motor.

2. Inspect unit for any visible signs of damage that would have occurred in shipment or during installation.
3. Activate main disconnect switch
4. "Jog" motor and check for proper rotation by direction arrow. If rotation is wrong, reverse input connections on the magnetic starter.
5. Close receiver outlet hand valve and start unit.
6. With receiver hand valve closed, let machine pump up to operating pressure. At this stage the automatic controls will take over. Check for proper cycling operation.
7. Check for proper operation of any options furnished with the unit
8. When the initial run period has shown no operating problems, open receiver hand valve and to air system. The air compressor unit is now ready for use.

## GUIDE TO MAINTENANCE

To obtain reliable and satisfactory service, this unit requires a consistent preventive maintenance schedule. A maintenance schedule form is included to aid in keeping the proper records.



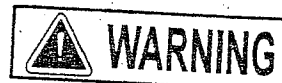
Before performing any maintenance function, switch main disconnect switch to "off" position to assure no power is entering unit. Lock out or tag out all sources of power. Be sure all air pressure in unit is relieved. Failure to do this may result in injury or equipment damage.

## DAILY MAINTENANCE

1. Drain moisture from tank by opening tank drain cock located in bottom of tank. Do not open drain valve if tank pressure exceeds 25 PSIG.
2. Turn off compressor at the end of each day's operation. Turn off power supply at wall switch.

## WEEKLY MAINTENANCE

1. Clean dust and foreign matter from cylinder, cylinder head, motor, fan, air lines, crankcase and aftercooler, (if so equipped).
2. Remove and clean intake air filters.✓



Do not exceed 15 PSIG nozzle pressure when cleaning element parts with compressed air. Do not direct compressed air against human skin. Serious injury could result. Never wash elements in fuel oil, gasoline or flammable solvent.

3. Check V-belts for tightness. The V-belts must be tight enough to transmit the necessary power to the compressor. Adjust the V-belts as follows:

Remove bolts and guard to access compressor drive.

Loosen mounting hardware which secures motor to base. Slide motor within slots of baseplate to desired position.

Apply pressure with finger to one belt at midpoint span. Tension is correct if top of belt aligns with bottom of adjacent belt. Make further adjustments if necessary.

Check the alignments of pulleys. Adjust if necessary.

Re-install guard and secure with bolts.



Never operate unit without belt guard in place. Removal will expose rotating parts which can cause injury or equipment damage.

### EVERY 90 DAYS OR 500 HOURS MAINTENANCE

1. Check entire system for air leakage around fittings, connections, and gaskets, using soap solution and brush.
2. Tighten nuts and capscrews as required.
3. Pull ring on all pressure relief valves to assure proper operation.

### GENERAL MAINTENANCE NOTES

**PRESSURE RELIEF VALVE:** The pressure relief valve is an automatic pop valve. Each valve is properly adjusted for the maximum pressure of the unit on which it is installed. If it should pop, it will be necessary to drain all the air out of the tank or line in order to reset properly. Do not readjust.

**TANK DRAIN VALVE:** Drain valve is located at bottom of tank. Open drain valve daily to drain condensation. Do not open drain valve if tank pressure exceeds 25 PSIG. The automatic tank drain equipped compressor requires draining manually once a week.

**PRESSURE SWITCH:** The pressure switch is automatic and will start compressor at the low pressure and stop when the maximum pressure is reached. It is adjusted to start and stop compressor at the proper pressure for the unit on which it is installed. Do not readjust.

**COMPRESSOR VALVES:** Once per year, or if compressor fails to pump air or seems slow in filling up tank, disconnect unit from power source and remove valves and clean thoroughly, using compressed air or a soft wire brush. After cleaning exceptional care must be taken that all parts are replaced in exactly the same position and all joints must be tight or the compressor will not function properly. When all valves are replaced and connections tight, close hand valve at tank outlet for final test.



Valves must be replaced in original position. Valve gaskets should be replaced each time valves are serviced.

**CHECK VALVE:** The check valve closes when the compressor stops operating, preventing air from flowing out of the tank through the pressure release valve. After the compressor stops operating, if air continues to escape through the release valve, it is an indication that the check valve is leaking. This can be corrected by removing check valve and cleaning disc and seat. If check valve disc is worn badly, replace same.



Before removing check valve be sure all air is drained out of tank and power is disconnected. Failure to do so may result in injury or equipment damage.

### PARTS REPLACEMENT SCHEDULE

1. Replace compression rings every 3 years (2 years if 60 or more hours/week run time).
2. Replace control rings every 3 years (2 years if more hours/week run time).
3. Change both main shaft and con rod bearings every 4 years (3 years if 60 or more hours/week run time).
4. Replace head valves every 2 years (1 year if 60 or more hours/week run time).

## TROUBLE SHOOTING GUIDE FOR COMPRESSOR



Always disconnect unit from power supply and relieve all pressure from air tank before performing any maintenance. Tagout or Lockout disconnect switch. Failure to do so may result in equipment damage or injury. Never use gasoline or flammable solvent on or around compressor unit. Explosion may result.

### SERVICE PROBLEM

A	Motor will not Start
B	Motor is Noisy or Overheats
C	Motor Stops
D	Compressor Runs Hot
E	Compressor Pumps Too Slowly
F	Compressor Won't Shut Off
G	Noisy Check Valve
H	Abnormal Pressure Fluctuation
I	Air Escapes From Pressure Switch Unloader When Stopped
J	Compressor Cycles (runs) Too Often
K	Starter Kicks Out

### POSSIBLE CAUSE OF PROBLEM

	K	J	I	H	G	F	E	D	C	B	A	
1												1
2												2
3												3
4												4
5												5
6												6
7												7
8												8
9												9
10												10
11												11
12												12
13												13
14												14
15												15

FOR EXPLANATION SEE NEXT PAGE

## EXPLANATION OF TROUBLE SHOOTING GUIDE

- 1-2. Check all fuses and switches on lines to motor to be sure it is receiving power. Check for loose or faulty wires.
3. A magnetic starter embodies a reset button which may be used to place the motor back in service after some unusual power conditions.
- 4-5. A pressure switch uses a diaphragm to open and close a set of points. Points may become pitted or dirty through use. Clean by "touching" up with sandpaper or replace. See instructions in pressure switch cover.



Disconnect unit from power source before checking pressure switch.

6. Low voltage is prime cause of motor trouble. Ask your power company to test for low voltage.
7. Water in the form of vapor is compressed along with incoming air and condenses in tank. Tank must be drained daily so that full storage capacity of tank may be used. To drain, reduce tank pressure, open valve at bottom of horizontal tank or vertical tank.



Do not open drain valve if tank pressure exceeds 25 PSIG

8. The fins on the cylinder, head, and tubing should be free of dirt which acts as an insulation. This is easily done by periodically blowing them clean or through the use of a wire brush.
9. The flywheel must rotate in the direction shown by the arrows.
10. Compressor valves may become fouled by ingesting foreign matter. To service, remove valve covers, extract valves and clean. Reinstall, taking caution that all parts are returned to their original position. Use new valve gaskets.
11. All air lines from compressor to tank and from tank to air operated devices should be tight. A soap solution will show bubbles when put on a leaky joint.
- 12-13. Before servicing check valve, be sure pressure in tank is **ZERO**. Replace check valve.
14. Determine what parts or areas are causing the restrictions. These parts should be cleaned or replaced.



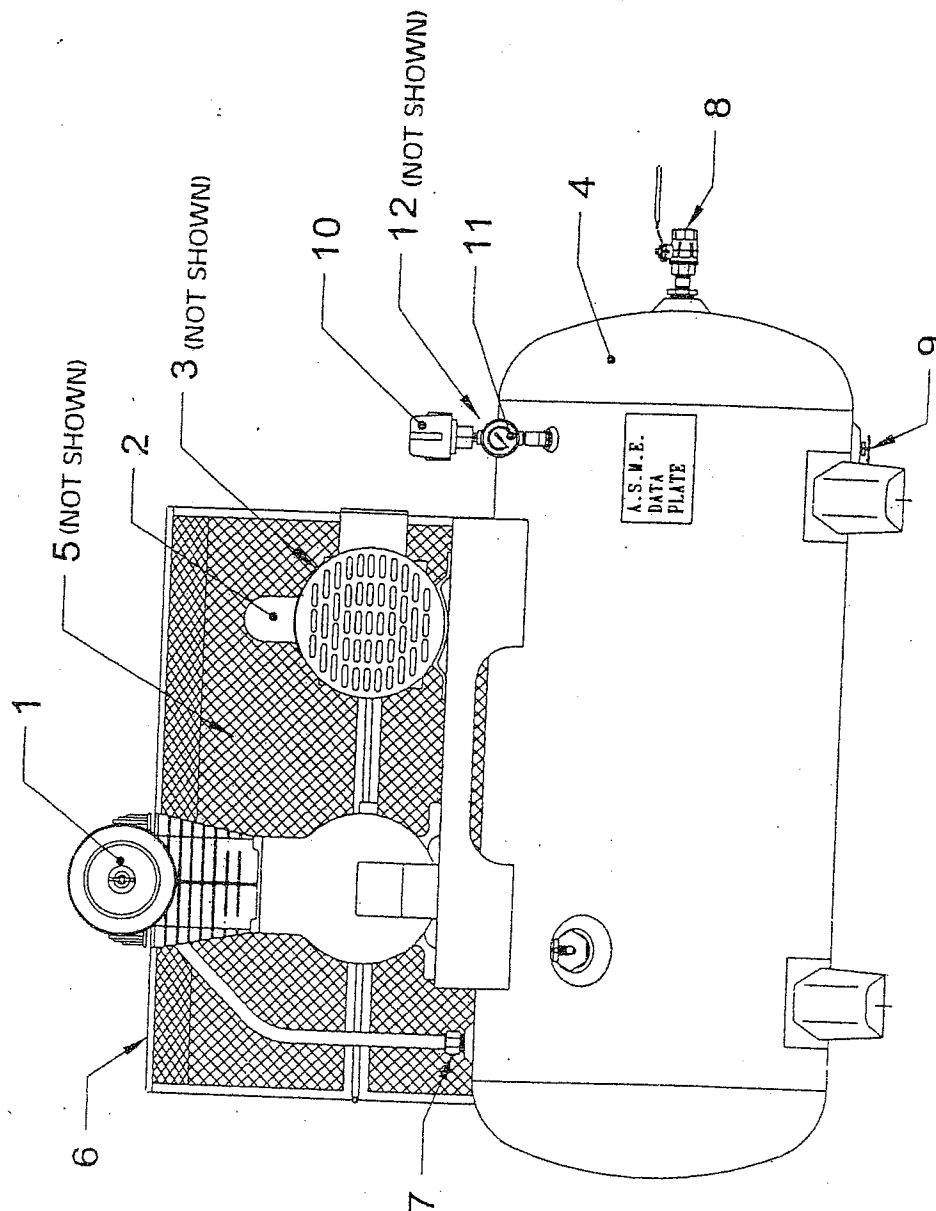
Disconnect unit from power source and relieve tank pressure before servicing these components.

15. Intake filter should be cleaned weekly to allow unrestricted flow of entering air. To service filter, remove wing nut, metal cover and filter element. Element may be blown clean with an air nozzle if moderately dusty. Heavily fouled elements should be replaced. **Never** clean element with fuel oil, gasoline, or flammable solvent.

**MTOII UNITS  
PARTS LIST  
MAJOR COMPRESSOR COMPONENTS**

MODEL NUMBER	1 PUMP	2 ELEC. MOTOR	3 MOTOR PULLEY		4 AIR RECEIVER	5 V-BELT	6 BELTGUARD	7 CHECK VALVE	8 HAND VALVE	9 TANK DRAIN VALVE	10 PRESSURE SWITCH	11 PRESSURE GAUGE	12 PRESSURE RELIEF VALVE
			1 PHASE	3 PHASE									
12MTOII	CE20	2HP					P11729D			---	---	---	---
13MTOII	CE30	3HP					P11729D			---	---	---	---
5MTOII	VE50	5HP	P07784A-PULLEY P09855A-BUSHING	P07784A-PULLEY P09855A-BUSHING		B48	P11729D			---	---	---	---
2MTOII-3	CE20	2HP					P11729D	P07538A		P05813A	P05007A	MS19C	M2839
3MTOII-3	CE30	3HP					P11729D	P07538A		P05813A	P05007A	MS19C	M2839
2MTOII-6	CE20	2HP			P01136D		P11729D	P07538A	M2685	P05813A	P05007A	MS19C	M2839
3MTOII-6	CE30	3HP			P01136D		P11729D	P07538A	M2685	P05813A	P05007A	MS19C	M2839
5MTOII-6	VE50	5HP	P07784A-PULLEY P09855A-BUSHING	P07784A-PULLEY P09855A-BUSHING	P01136D	B48	P11729D	P07538A	M2685	P05813A	P05007A	MS19C	M2839
2MTOIID-6	CE20 (2)	2HP(2)					P11729D	P07538A (2)		P05813A	P05007A	MS19C	M2839
3MTOIID-6	CE30 (2)	3HP(2)					P11729D	P07538A		P05813A	P05007A	MS19C	M2839
5MTOIID-8	VE50 (2)	5HP(2)	P07784A-PULLEY (2) P09855A-BUSHING (2)	P07784A-PULLEY (2) P09855A-BUSHING (2)		B48	P11729D (2)	P07538A (2)		P05813A (2)	P05007A	MS19C	M2839

PARTS LIST  
MAJOR COMPRESSOR COMPONENTS  
MTOII UNIT



# **SERVICE PARTS LIST FOR OIL-LESS COMPRESSORS**

HP SIZE COMPRESSOR	1-1½-2 CCE20	3 CCE30	5 CVE50
PARTS DESCRIPTION	P/N	P/N	P/N
	QUANTITY PER COMPRESSION	QUANTITY PER COMPRESSION	QUANTITY PER COMPRESSION
PISTON RING SET	P11859A	P11866A	P11859A
	1	1	2
SUCTION VALVE W/GASKET	P11860A	P11867A	P11860A
	1	1	2
DISCHARGE VALVE W/GASKET	P11861A	P11868A	P11861A
	1	1	2
VALVE COVER "O" RING	P11862A	P11869A	P11862A
	2	2	4
CYLINDER/HEAD GASKET	P11863A	P11863A	P11863A
	1	1	2
CYLINDER/HEAD GASKET	P11864A	P11864A	P11864A
	1	1	2
INTAKE FILTER ELEMENT	P11865A	P11865A	P11865A
	1	1	2



## HAZARD DECAL LISTING

### ITEM

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q

### DESCRIPTION

Retain Labels  
DANGER - Breathing Air  
DANGER - Drain Tank Daily  
DANGER - Valve Maintenance  
DANGER - High Voltage  
DANGER - Auto Start  
WARNING - Pressure/Safety Valve  
WARNING - Rotating Parts  
WARNING - Hot Surfaces  
WARNING - Tank Pressure  
CAUTION - Clean Filters  
Unit Location  
Rotation Direction  
Pressure Setting: Master  
Pressure Setting: 70-100 PSIG  
Maintenance Instructions  
Service Information

### PART NO.

P09879A  
P09376B  
P09430B  
P09750B  
P04934B  
P10249B  
P09752B  
P10250B  
P09758A  
P04983A  
M1736  
P04518A  
M442  
P09388A  
P04990A  
P10248B  
P04995A

## HAZARD TAG LISTING

### ITEM

R  
S  
T

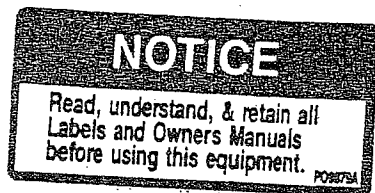
### DESCRIPTION

IMPORTANT - Electrical Specs  
DANGER - Valve Instructions  
WARNING - Read Owners Guide

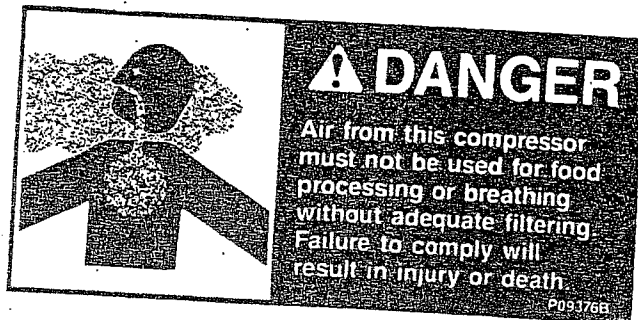
### PART NO.

P05257A  
P09852A  
P04996A

A



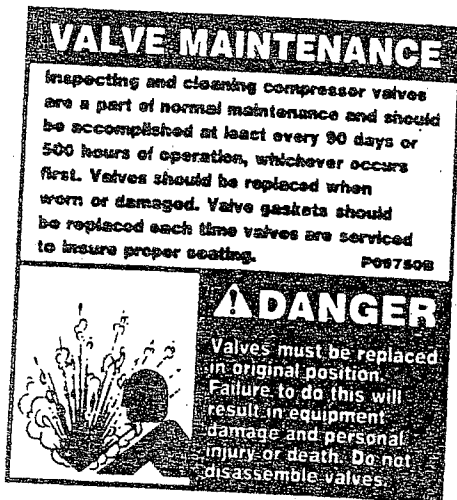
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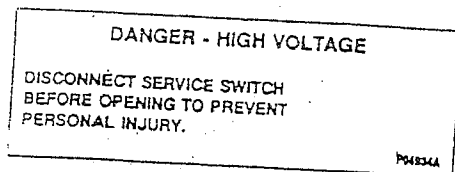
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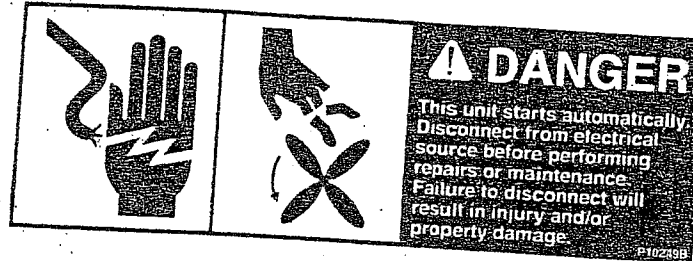
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E



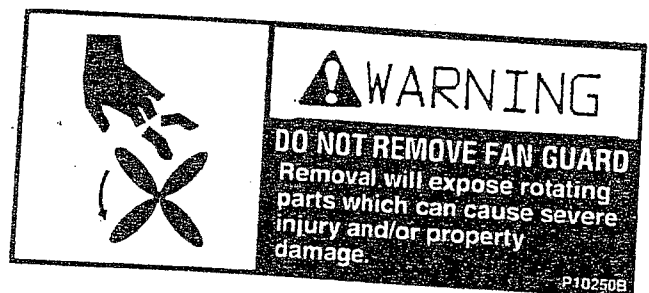
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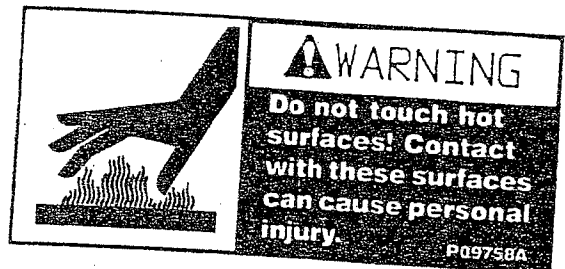
G

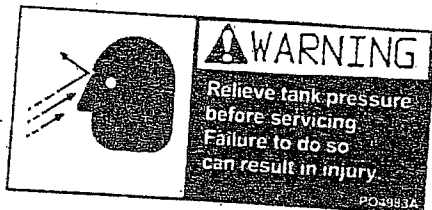


H

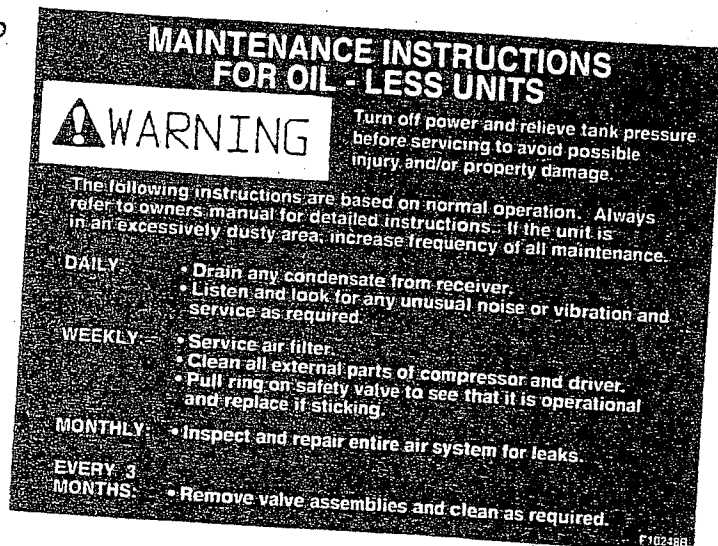
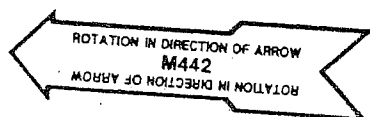


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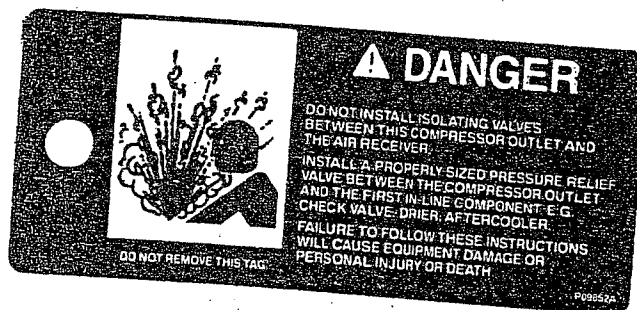
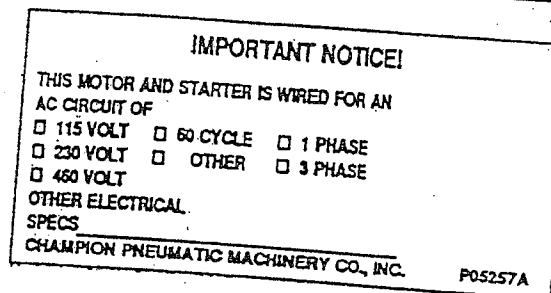
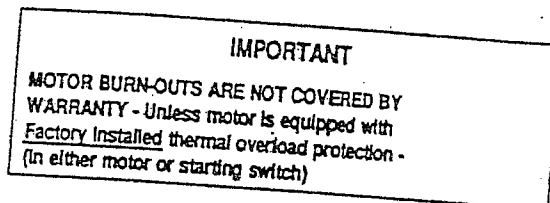




K  
**CAUTION, SERVICE FILTER ELEMENTS WEEKLY**  
 MORE OFTEN IN DUSTY CONDITIONS M1706

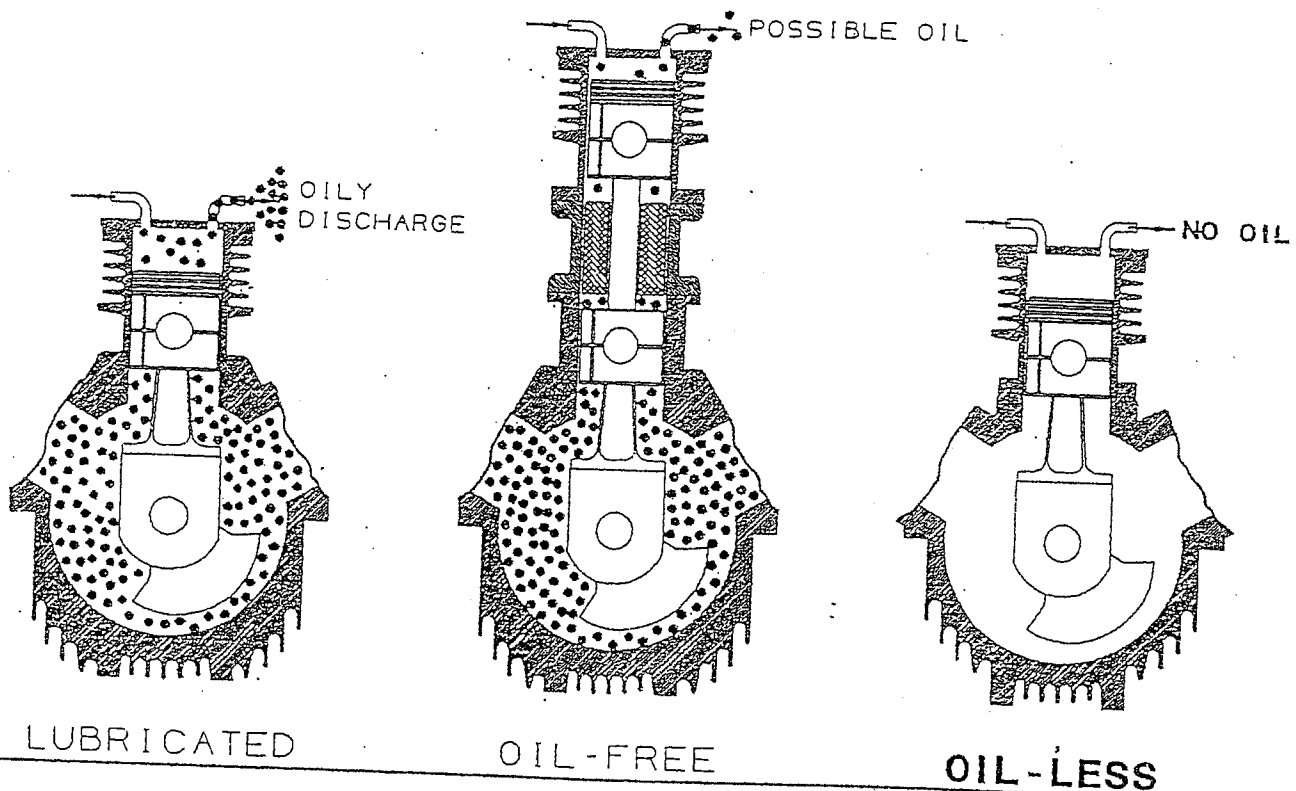


Q  
**SERVICE INFORMATION**  
 FOR SERVICE CALL "SERVICE DEPARTMENT" AT 815 /875-3321 OR WRITE TO:  
 CHAMPION PNEUMATIC MACH. CO.  
 1301 NORTH EUCLID AVE.  
 PRINCETON, ILLINOIS 61356 P4995A



T  
**WARNING**  
 DO NOT OPERATE UNIT BEFORE READING AND UNDERSTANDING OWNERS GUIDE FOR INSTALLATION, ASSEMBLY, AND OPERATION OF THIS EQUIPMENT. FAILURE TO COMPLY CAN CAUSE INJURY AND/OR PROPERTY DAMAGE. P4996A

# THE DIFFERENCE IS . . .



Lubricated compressors are constructed with an oil filled crankcase. As a result oil vapor is always present in the compression chamber and the discharge air.

Recent advancements in the application of pneumatic power are resulting in an increased use of air operated equipment that cannot tolerate compressor oil in the air stream. Also, there is a corresponding increase in our need to limit the pollution of our

atmosphere.

Filtration, the common solution, is both expensive and requires constant maintenance to prevent failure.

Yesterday's state of the art solution employed various techniques to separate a dry cylinder from an oil lubricated crosshead piston and crank mechanism. With all oil seals functioning perfectly, the discharge air might possibly be

99.9+% oil-free. With wear, the possibility of additional oil migration increases.

\* It should also be noted that with the compressor providing 99.9+% oil-free air, a 10 horsepower machine could discharge as much as 2.5 gallons of oil per year into the system.

\* *Inroads for Oil-Free Air, February, 1975 issue of Factory Magazine.*

**Oil-less air is no longer a specialty item, it is a mandate for the future!**



# CHAMPION

## CHAMPION WARRANTY - V & W SERIES OIL-LESS COMPRESSORS

CHAMPION warrants each new V & W Series Oil-Less Compressor Pump manufactured by CHAMPION to be free from defects in material and workmanship under normal use and service for a period of thirty six (36) months maximum or specified number of operating hours whichever may occur first. This applies to the compressor pumps **ONLY**, excluding head valves which are warranted for the first year only. The unit is warranted for one year after start up or 18 months after shipment, whichever comes first.

The specified operating hours are as follows:

Compression Rings and Guide Rings	10,000 hours or 3 years
Driving Set (sealed ball bearings mounted in connecting rod), Piston set	10,000 hours or 3 years
Crankshaft Bearing Set	20,000 hours or 3 years
Reed Valves	5,000 hours or 1 year

The above applies to CHAMPION manufactured compressor units only.

## EXPRESS LIMITED WARRANTY

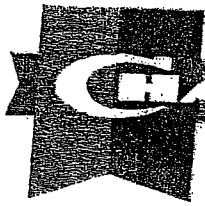
CHAMPION makes no warranty with respect to components and accessories furnished to CHAMPION by third parties, such as electric motors, aftercoolers, control panels, air receivers, etc. These components and accessories are warranted only to the extent of the original manufacturer's warranty to CHAMPION.

When a compressor pump, or component is changed or replaced during the warranty period, the new/replaced item is warranted for only the remainder of the original warranty period. Replacement parts purchased during the normal operation of the unit for non warranted replacement due to normal wear and tear are warranted against defects in material and workmanship for a period of ninety (90) days.

Repair, replacement or refund in the manner and within the time provided shall constitute CHAMPION'S sole liability and your exclusive remedy resulting from any nonconformity or defect. CHAMPION shall not in any event be liable for any damages, whether based on contract, warranty, negligence, strict liability or otherwise, including without limitation any consequential, incidental or special damages, arising with respect to the equipment or its failure to operate, even if CHAMPION has been advised of the possibility thereof.

CHAMPION makes no other warranty or representation of any kind, except that of title, and all other warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, are hereby expressly disclaimed. No salesman or other representative of CHAMPION has the authority to make any warranties.

Warranty periods are from date of start up by the Distributor or customer at his place of business. If any extended period of storage prior to start up is expected it is the responsibility of the customer or Distributor to so advise CHAMPION Service Department of the expected storage time prior to start up. If this is longer than six (6) months it must be advised in writing and approved by CHAMPION to protect the warranty period after start up.



**CHAMPION PNEUMATIC MACHINERY CO., INC.**

1301 N. EUCLID AVE. • PRINCETON, ILLINOIS 61356-9990  
• Phone: 815-875-3321 • Fax: 815-872-0421

## Owner's Responsibilities

### INSTALLATION:

Compressor must be located in a clean, well-ventilated, dry room to insure an adequate supply of fresh, clean, cool and dry air.

Compressor cooling fan should have a minimum clearance of 14" from any obstruction to insure proper cooling of unit.

Lagging compressor unit to the floor is required. Tank-mounted units must have the legs shimmed to avoid undue stress on the tank welds. For warranty to apply, tank must be mounted on vibro isolator pads. Lag bolts should be "snug", and not tight.

Necessary electrical wiring and connections should be made by a qualified electrician and must be installed in accordance with all national and local electrical codes.

### MAINTENANCE:

Refer to owner's manual for safety rules and detailed maintenance instructions and service schedule.

Refer to Maintenance Schedule outlined in Owners Manual and perform maintenance based on accumulated running time on hourmeter.

Keep complete unit clean.

Keep intake filters clean. Inspect and clean valves every 5,000 hours.

Keep belts adjusted properly.

Keep nuts, bolts, capscrews and all fittings tight. Refer to manual for torque recommendations.

Failure of owner to comply with safety rules, installation and maintenance procedures outlined in Owner's Manual will void warranty.

### FREIGHT DAMAGE:

Freight damages do not constitute warranty or service adjustment. CHAMPION'S terms are FOB point of shipment/factory, and CHAMPION'S responsibility ceases upon delivery of material to carrier and obtaining receipt for same. It is the responsibility of the receiving customer to file damage, shortage or concealed damage claim with the delivering carrier on receipt of material.