

# V & W Series

5-15 HP OIL-LESS RECIPROCATING AIR COMPRESSOR SYSTEMS

► Clean Compressed Air



► Medical and Industrial Packages



► All Units Built to ISO 9001 Standards



**CHAMPION**<sup>®</sup>

# Oil-Less Air Compressors

NEW TECHNOLOGY CREATES NEW APPLICATIONS

With the perfection of oil-less air technology by Champion, new applications are being developed everyday:

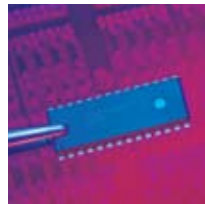
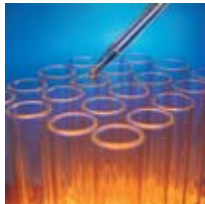
- ▶ Medical Complexes
- ▶ Laboratories
- ▶ Consumer Use
- ▶ Waste Water Facilities
- ▶ Ozone Generation
- ▶ Steel/Coke Processing
- ▶ Chemical Processing
- ▶ Electronics Production

- ▶ Food Processing
- ▶ Instrument Manufacturing
- ▶ Pharmaceutical Production
- ▶ Research Facilities
- ▶ Plastics Manufacturing
- ▶ Aquariums/SCUBA
- ▶ Beverage Dispensing
- ▶ Theme Parks
- ▶ Aviation

Champion Medical Air Systems meet NFPA99 standard requirements for medical air compressors.

NFPA was created in 1896 as a standards making body. Today, over 66,000 fire safety professionals belong to the NFPA, the world's largest and most influential fire safety organization.

NFPA has published almost 300 codes and standards with the mission of preventing the loss of life and property. Topics include fire prevention equipment, extinguishing systems, inspection, residential and commercial dwellings, safety of flammable gases, and the very important National Electrical Code.



Champion Oil-less Compressors are designed to meet the most precise standards for compressed air purity in industrial and institutional applications. With advanced design features and a system that combines quality, durability and state-of-the-art lubrication technology, the V & W Series offers freedom from oil... freedom from maintenance...freedom from noise...freedom from worry!

The concept is simple: No oil in the compressor equals no oil in the air. All oil, even in the crankcase, is eliminated. The unique design of the V & W Series assures the long life and productivity you've come to expect from Champion.

## Champion Meets the Need

The need was already there: Find a reliable way to completely eliminate any oil getting from the compressor into the delivered air stream. Champion met the challenge by applying new technology, new materials and new manufacturing techniques to our compressor design. Internal moving parts in the Champion Oil-less design are protected from wear without conventional lubrication. Crankshaft and rod bearings are lubricated by exclusive sealed, solid synthetic lubricants. The result is low maintenance, high durability and pure, oil-less air!

## Clean Compressed Air

Champion has always been at the forefront of air compressor technology. Champion V & W Series oil-less compressors are no exception. We offer 100% duty cycle, sealed anti-friction bearings and filled PTFE rings.

Champion's continuing program of product research and development assures that your Champion compressor includes the latest advancements in oil-less technology. We can design and build a system that meets your demand.

# Heart of a Thoroughbred...

## Oil-Less Compressed Air Applications

Air that is produced by oil-less compressors is used to drive pneumatic devices in surgical areas, critical care areas, nurseries, operating rooms, intensive care, post operative care, emergency rooms and hyperbaric chambers.

### OPTIONAL FEATURES

A wide selection of configurations and options allows you to customize the compressor system to your specific needs:

- ▶ Control Panel
- ▶ Fusible Disconnect Switches
- ▶ Automatic Tank Drain
- ▶ Flexible Discharge Line
- ▶ Vibro-Isolators
- ▶ Vinyl-Lined or Galvanized Receivers
- ▶ Water-Cooled Aftercooler
- ▶ Remote Intake Air Filter/Silencer
- ▶ High Temperature Shutdown/  
Lag Compressor Alarm
- ▶ Air Dryer and Bypass Piping
- ▶ Downstream Filter Banks and  
Indicator Gauges

## Leading Edge Technology Delivered With Responsive, Local Service

From air intake to end use, Champion can supply all the components and systems needed for your oil-less compressor application. We're a complete systems designer, manufacturer, and supplier.

When you work with Champion you get the best of both worlds. Utilizing powerful CAD systems, our application engineers will work closely with you to develop specifications and build a system to meet your needs. In turn, all installation and service is handled by locally-based representatives and distributors who are well versed in compressor technology. We maintain a worldwide sales and service network to support this effort.

No one else has the experience or scope to design, build and maintain complete air management systems for medical, institutional and industrial use. Count on Champion to be your single source for oil-less air compressor technology.

All Champion medical air systems meet current NFPA99 standards for health care facilities. Staying abreast of the changing regulations and requirements for medical compressed air systems is a high priority at Champion.



# Our Unique Medical Compressors System

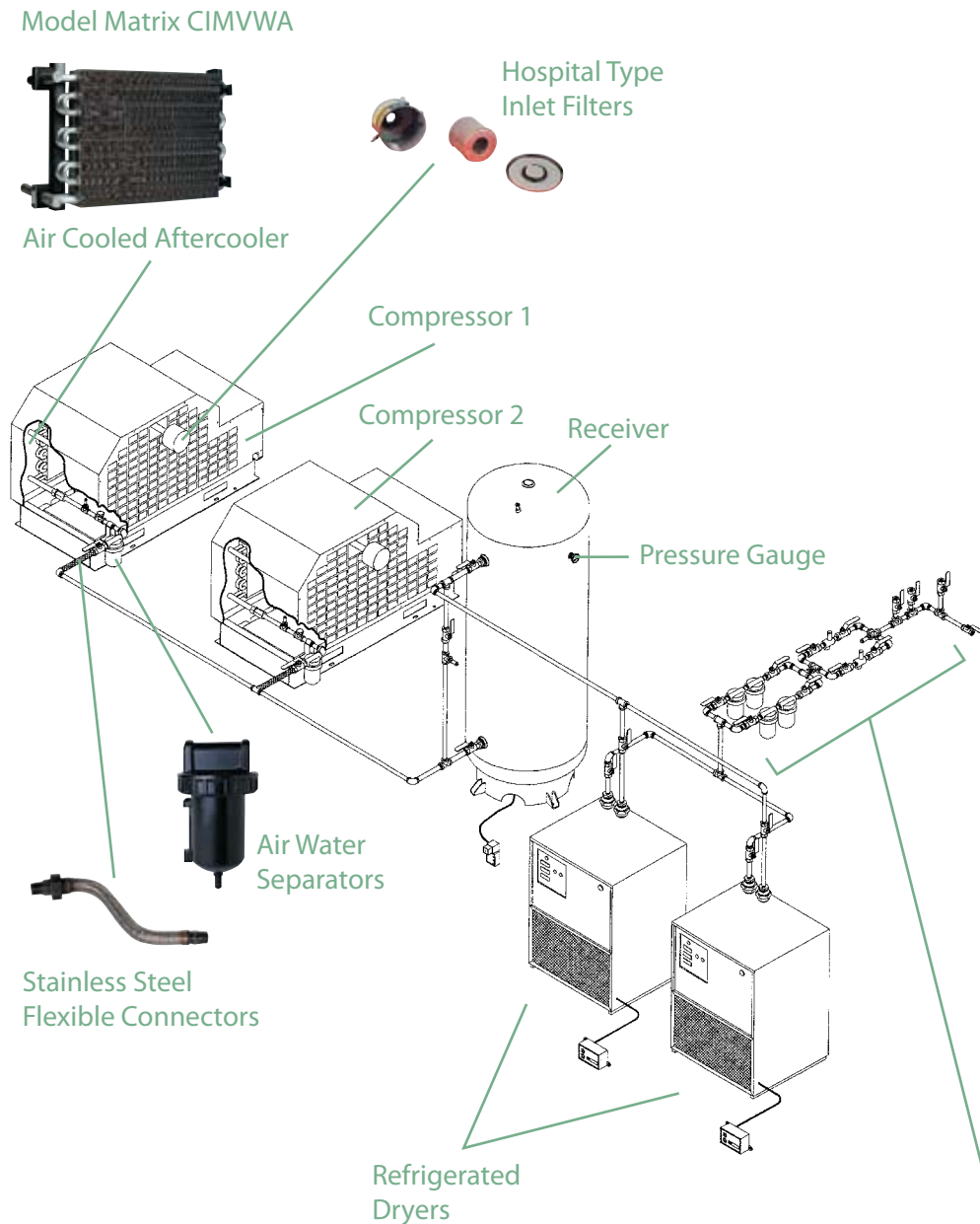
## We Take a Systems Approach to Your Compressed Air Management Needs

Champion understands that your medical facility's oil-less compressor is part of a more comprehensive air management system. That's why we supply complete air compressor packages that can include air dryers, specialized filter banks, dewpoint/CO monitor, and complete controls.

Our approach to medical compressor system design is unique. Rather than offering a single, large system, we offer smaller, multiple-compressor units connected to a single air receiver. This energy-saving design means that you have maximum air delivery only when you need it. You have the flexibility of single unit operation alternating between compressors or multiple-compressor operation, depending on air demand.

This redundant design assures that you always have a reliable source of compressed air and the small footprint of our oil-less packages saves valuable floor space and allows for easy installation.

- ▶ Filter Bank
- ▶ PRV Station
- ▶ Bypass Valve



Model Matrix CIMVWA



Air Cooled Aftercooler



Hospital Type Inlet Filters

Compressor 1

Compressor 2

Receiver

Pressure Gauge

Air Water Separators

Stainless Steel Flexible Connectors

Refrigerated Dryers



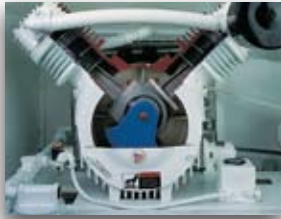
Monitors

- ▶ Dewpoint Monitor
- ▶ CO Monitors



# Compare These Features

UNMATCHED IN THE INDUSTRY!



## Totally Dry Crankcase

Designed to maintain continuous operation. Finned to maximize efficient heat transfer. Large cover provides easy access to internal parts for service.



## Bearings

Long-lasting ball bearing design; 100% oil-less. 10,000-hour life on drive set bearings, 20,000 hours on main bearings.

## Piston Rings

Designed for oil-less compressor service with three compression rings and two guide rings. Exclusive "O" ring bumper prevents axial movement of the guide rings and eliminates end wear. Formulated of filled PTFE material for long life and compatibility with the hardened nickel-plated, polished surface of the cylinder bore.



## Valves

Plated valve plates and reeds of highest grade Swedish steel extend operating life and durability.



## 100% Duty Cycle Operation

All models are rated for 100% continuous duty cycle at 100 PSIG for single-stage units and 175 PSIG for two-stage units.



## Cast-Iron Cylinders

Permanently nickel-plated and hardened to resist wear and corrosion, even under extreme operating conditions. Smooth bore, polished finish, minimizes friction and reduces heat build-up for long ring wear life.

## Spring-Isolated Base

Eliminates need for special foundations. Compressor and motor are mounted on a common inner base plate. This inner base is mounted on vibro-isolation springs to absorb all vibration. Meets NFPA guidelines for medical air compressors (Over-and-under unit configuration uses elastomeric vibro-isolators).



## Crankshaft

Cantilevered crankshaft design provides superior balance and long life.



## Air-Cooled Aftercooler

(Optional) Oversized, with ample reserve for cooling discharged air to within 5 - 10 degrees of ambient temperature. Enables air dryer to work at its highest efficiency.

# Specifications

## Horizontal base mount, two stage, electric motor driven CIBVWA

| Unit Model | HP  | Pump | RPM  | CFM Delivery* |          | Bore DIA IN | Stroke IN | Dimensions<br>L x W x H IN | WT LBS |
|------------|-----|------|------|---------------|----------|-------------|-----------|----------------------------|--------|
|            |     |      |      | 125 PSIG      | 175 PSIG |             |           |                            |        |
| 5VTR20     | 5   | VTR  | 1000 | 16.1          | 15.8     | 4.72 & 2.56 | 1.97      | 57¼ x 37½ x 37¾            | 1035   |
| 7VTR20     | 7.5 | VTR  | 1300 | 21.4          | 21.2     | 4.72 & 2.56 | 1.97      | 57¼ x 37½ x 37¾            | 1115   |
| 10WTR45    | 10  | WTR  | 1065 | 36.0          | 35.4     | 4.72 & 3.54 | 1.97      | 57¼ x 37½ x 37¾            | 1155   |
| 15WTR45    | 15  | WTR  | 1450 | 48.4          | 48.0     | 4.72 & 3.54 | 1.97      | 57¼ x 37½ x 37¾            | 1195   |

## Horizontal base mount, single stage, electric motor driven CIBVWA

| Unit Model | HP  | Pump | RPM  | CFM Delivery* |          | Bore DIA IN | Stroke IN | Dimensions<br>L x W x H IN | WT LBS |
|------------|-----|------|------|---------------|----------|-------------|-----------|----------------------------|--------|
|            |     |      |      | 50 PSIG       | 100 PSIG |             |           |                            |        |
| 5VTS35     | 5   | VTS  | 740  | 21.7          | 16.8     | 4.72        | 1.97      | 57¼ x 37½ x 37¾            | 1030   |
| 7VTS35     | 7.5 | VTS  | 1065 | 31.6          | 25.9     | 4.72        | 1.97      | 57¼ x 37½ x 37¾            | 1105   |
| 10VTS35    | 10  | VTS  | 1450 | 43.0          | 35.2     | 4.72        | 1.97      | 57¼ x 37½ x 37¾            | 1120   |
| 15WTS55    | 15  | WTS  | 1140 | 69.0          | 56.5     | 4.72        | 2.36      | 57¼ x 37½ x 37¾            | 1180   |

## Horizontal tank mount, two stage, electric motor driven CISVWA

| Unit Model | HP  | Tank Size | Pump | RPM  | CFM Delivery* |          | Bore DIA IN | Stroke IN | Dimensions<br>L x W x H IN | WT LBS |
|------------|-----|-----------|------|------|---------------|----------|-------------|-----------|----------------------------|--------|
|            |     |           |      |      | 125 PSIG      | 175 PSIG |             |           |                            |        |
| 12T5VTR20  | 5   | 120       | VTR  | 1000 | 16.1          | 15.8     | 4.72 & 2.56 | 1.97      | 69 x 37½ x 67              | 1480   |
| 25T5VTR20  | 5   | 250       | VTR  | 1000 | 16.1          | 15.8     | 4.72 & 2.56 | 1.97      | 92 x 37½ x 73              | 1845   |
| 12T7VTR20  | 7.5 | 120       | VTR  | 1300 | 21.4          | 21.2     | 4.72 & 2.56 | 1.97      | 69 x 37½ x 67              | 1545   |
| 25T7VTR20  | 7.5 | 250       | VTR  | 1300 | 21.4          | 21.2     | 4.72 & 2.56 | 1.97      | 92 x 37½ x 73              | 1910   |
| 12T10WTR45 | 10  | 120       | WTR  | 1065 | 36.0          | 35.4     | 4.72 & 3.54 | 1.97      | 69 x 37½ x 67              | 1570   |
| 25T10WTR45 | 10  | 250       | WTR  | 1065 | 36.0          | 35.4     | 4.72 & 3.54 | 1.97      | 92 x 37½ x 73              | 2145   |
| 12T15WTR45 | 15  | 120       | WTR  | 1450 | 48.4          | 48.0     | 4.72 & 3.54 | 1.97      | 69 x 37½ x 67              | 1725   |
| 25T15WTR45 | 15  | 250       | WTR  | 1450 | 48.4          | 48.0     | 4.72 & 3.54 | 1.97      | 92 x 37½ x 73              | 2145   |

## Horizontal tank mount, single stage, electric motor driven CISVWA

| Unit Model | HP  | Tank Size | Pump | RPM  | CFM Delivery* |          | Bore DIA IN | Stroke IN | Dimensions<br>L x W x H IN | WT LBS |
|------------|-----|-----------|------|------|---------------|----------|-------------|-----------|----------------------------|--------|
|            |     |           |      |      | 50 PSIG       | 100 PSIG |             |           |                            |        |
| 12T5VTS35  | 5   | 120       | VTS  | 740  | 21.7          | 16.8     | 4.72        | 1.97      | 69 x 37½ x 67              | 1515   |
| 25T5VTS35  | 5   | 250       | VTS  | 740  | 21.7          | 16.8     | 4.72        | 1.97      | 92 x 37½ x 73              | 1875   |
| 12T7VTS35  | 7.5 | 120       | VTS  | 1065 | 31.6          | 25.9     | 4.72        | 1.97      | 69 x 37½ x 67              | 1530   |
| 25T7VTS35  | 7.5 | 250       | VTS  | 1065 | 31.6          | 25.9     | 4.72        | 1.97      | 92 x 37½ x 73              | 1890   |
| 12T10VTS35 | 10  | 120       | VTS  | 1450 | 43.0          | 35.2     | 4.72        | 1.97      | 69 x 37½ x 67              | 1550   |
| 25T10VTS35 | 10  | 250       | VTS  | 1450 | 43.0          | 35.2     | 4.72        | 1.97      | 92 x 37½ x 73              | 1910   |
| 12T15WTS55 | 15  | 120       | WTS  | 1140 | 69.0          | 56.5     | 4.72        | 2.36      | 69 x 37½ x 67              | 1720   |
| 25T15WTS55 | 15  | 250       | WTS  | 1140 | 69.0          | 56.5     | 4.72        | 2.36      | 92 x 37½ x 73              | 2125   |

\* Units tested in accordance with CAGI/PEUROP acceptance test code PN2CPTC2.

**Vertical two stage, cabinet enclosed, electric motor driven**      **CICVWA**

| Unit Model | HP  | Pump | RPM  | CFM Delivery* |          | Bore DIA IN | Stroke IN | Dimensions<br>L x W x H IN | WT LBS |
|------------|-----|------|------|---------------|----------|-------------|-----------|----------------------------|--------|
|            |     |      |      | 125 PSIG      | 175 PSIG |             |           |                            |        |
| 5EVTR20    | 5   | VTR  | 1000 | 16.1          | 15.8     | 4.72 & 2.56 | 1.97      | 40 x 37 x 65¾              | 1053   |
| 7EVTR20    | 7.5 | VTR  | 1300 | 21.4          | 21.2     | 4.72 & 2.56 | 1.97      | 40 x 37 x 65¾              | 1058   |
| 10EWTR45   | 10  | WTR  | 1065 | 36.0          | 35.4     | 4.72 & 3.54 | 1.97      | 40 x 37 x 65¾              | 1096   |
| 15EWTR45   | 15  | WTR  | 1450 | 48.4          | 48.0     | 4.72 & 3.54 | 1.97      | 40 x 37 x 65¾              | 1244   |

**Vertical single stage, cabinet enclosed, electric motor driven**      **CICVWA**

| Unit Model | HP  | Pump | RPM  | CFM Delivery* |          | Bore DIA IN | Stroke IN | Dimensions<br>L x W x H IN | WT LBS |
|------------|-----|------|------|---------------|----------|-------------|-----------|----------------------------|--------|
|            |     |      |      | 50 PSIG       | 100 PSIG |             |           |                            |        |
| 5EVTS35    | 5   | VTS  | 740  | 21.7          | 16.8     | 4.72        | 1.97      | 40 x 37 x 65¾              | 999    |
| 7EVTS35    | 7.5 | VTS  | 1065 | 31.6          | 25.9     | 4.72        | 1.97      | 40 x 37 x 65¾              | 1004   |
| 10EVTS35   | 10  | VTS  | 1450 | 43.0          | 35.2     | 4.72        | 1.97      | 40 x 37 x 65¾              | 1040   |
| 15EWTS55   | 15  | WTS  | 1140 | 69.0          | 56.5     | 4.72        | 2.36      | 40 x 37 x 65¾              | 1180   |

**Horizontal duplex tank mount, two stage, electric motor driven**      **CIDVWA**

| Unit Model  | HP      | Tank<br>Size GA | Pump | RPM  | CFM Delivery* |          | Bore DIA IN | Stroke IN | Dimensions<br>L x W x H IN | WT LBS |
|-------------|---------|-----------------|------|------|---------------|----------|-------------|-----------|----------------------------|--------|
|             |         |                 |      |      | 125 PSIG      | 175 PSIG |             |           |                            |        |
| 12TD5VTR20  | 5 (2)   | 120             | VTR  | 1000 | 32.2          | 31.6     | 4.72 & 2.56 | 1.97      | 88¼ x 57¼ x 60½            | 2575   |
| 25TD5VTR20  | 5 (2)   | 250             | VTR  | 1000 | 32.2          | 31.6     | 4.72 & 2.56 | 1.97      | 84 x 67 x 72               | 2935   |
| 12TD7VTR20  | 7.5 (2) | 120             | VTR  | 1300 | 42.8          | 42.4     | 4.72 & 2.56 | 1.97      | 88¼ x 57¼ x 60½            | 2750   |
| 25TD7VTR20  | 7.5 (2) | 250             | VTR  | 1300 | 42.8          | 42.4     | 4.72 & 2.56 | 1.97      | 84 x 67 x 72               | 3110   |
| 12TD10WTR45 | 10 (2)  | 120             | WTR  | 1065 | 72.0          | 70.8     | 4.72 & 3.54 | 1.97      | 88¼ x 57¼ x 60½            | 2820   |
| 25TD10WTR45 | 10 (2)  | 250             | WTR  | 1065 | 72.0          | 70.8     | 4.72 & 3.54 | 1.97      | 84 x 67 x 72               | 3220   |
| 12TD15WTR45 | 15 (2)  | 120             | WTR  | 1450 | 96.8          | 96.0     | 4.72 & 3.54 | 1.97      | 88¼ x 57¼ x 60½            | 3060   |
| 25TD15WTR45 | 15 (2)  | 250             | WTR  | 1450 | 96.8          | 96.0     | 4.72 & 3.54 | 1.97      | 84 x 67 x 72               | 3480   |

**Horizontal duplex tank mount, single stage, electric motor driven**      **CIDVWA**

| Unit Model  | HP      | Tank<br>Size GA | Pump | RPM  | CFM Delivery* |          | Bore DIA IN | Stroke IN | Dimensions<br>L x W x H IN | WT LBS |
|-------------|---------|-----------------|------|------|---------------|----------|-------------|-----------|----------------------------|--------|
|             |         |                 |      |      | 50 PSIG       | 100 PSIG |             |           |                            |        |
| 12TD5VTS35  | 5 (2)   | 120             | VTS  | 740  | 43.4          | 33.6     | 4.72        | 1.97      | 88¼ x 57¼ x 60½            | 2545   |
| 25TD5VTS35  | 5 (2)   | 250             | VTS  | 740  | 43.4          | 33.6     | 4.72        | 1.97      | 84 x 67 x 72               | 1875   |
| 12TD7VTS35  | 7.5 (2) | 120             | VTS  | 1065 | 63.2          | 51.8     | 4.72        | 1.97      | 88¼ x 57¼ x 60½            | 2760   |
| 25TD7VTS35  | 7.5 (2) | 250             | VTS  | 1065 | 63.2          | 51.8     | 4.72        | 1.97      | 84 x 67 x 72               | 3125   |
| 12TD10VTS35 | 10 (2)  | 120             | VTS  | 1450 | 86.0          | 70.4     | 4.72        | 1.97      | 88¼ x 57¼ x 60½            | 2815   |
| 25TD10VTS35 | 10 (2)  | 250             | VTS  | 1450 | 86.0          | 70.4     | 4.72        | 1.97      | 84 x 67 x 72               | 3220   |
| 12TD15WTS35 | 15 (2)  | 120             | WTS  | 1140 | 138.0         | 113.0    | 4.72        | 2.36      | 88¼ x 57¼ x 60½            | 3055   |
| 25TD15WTS35 | 15 (2)  | 250             | WTS  | 1140 | 138.0         | 113.0    | 4.72        | 2.36      | 84 x 67 x 72               | 3440   |

\* Units tested in accordance with CAGI/PEUROP acceptance test code PN2CPTC2.

# Warranty

## Ensuring Dependable Performance

From design... to materials selection... to construction, the Champion team strives for perfection. Knowing the critical necessity for an uninterrupted supply of oil-less compressed air, Champion craftsmen take the extra care needed to ensure trouble-free operation and economical performance. At every step of the manufacturing process, stringent inspection procedures assure accuracy and future dependability. Rigid testing determines if the Champion symbol of excellence can be assigned to the final product. Others have copied, none have equaled, the strict standards established by Champion. Though users have little need for the warranty that backs each Champion product, an extended three year warranty is provided.

## 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 occurs first.

Warranty hours for pump components are as follows:

- |  |                         |
|--|-------------------------|
| ▶ Compression Rings and Guide Rings                            | 10,000 hours or 3 years |
| ▶ Driving Set (sealed ball bearings mounted in connecting rod) | 10,000 hours or 3 years |
| ▶ 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   |

## 5 Year Electric Motor Warranty

The above applies to Champion manufactured compressor units only.

All Units Built to ISO 9001 Standards.



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Member

