

**D6 (TD), D7.5 (TD)
Rotary Screw
Air Compressor
Units
- - -
Installation
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 Champion.

Authorized distributor service technicians are factory trained and skilled in compressor maintenance and repair. They are ready to respond and assist you by providing fast, expert maintenance and repair services.

To contact Champion or locate your local distributor:

Visit: www.championpneumatic.com

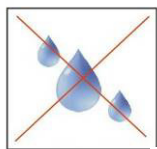
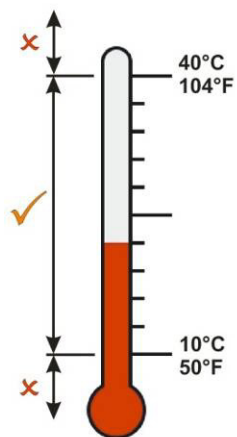
Or

Call: (888) 436-5499

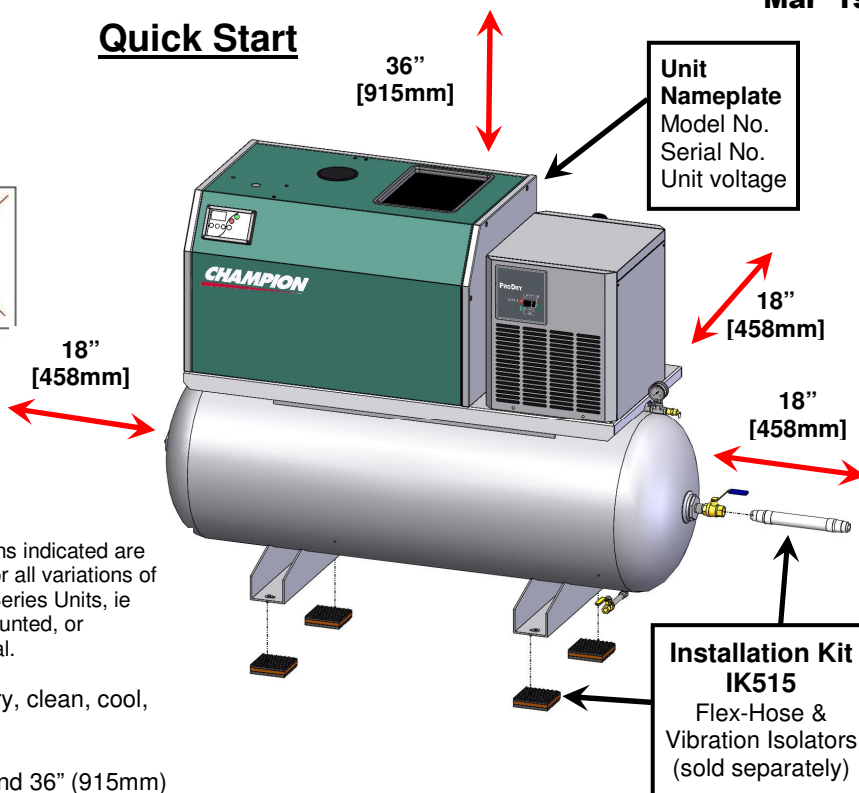
Quick Start

Mechanical Installation

(Refer to Page 6)



Note: Dimensions indicated are typical for all variations of D6-7.5 Series Units, ie base mounted, or horizontal.



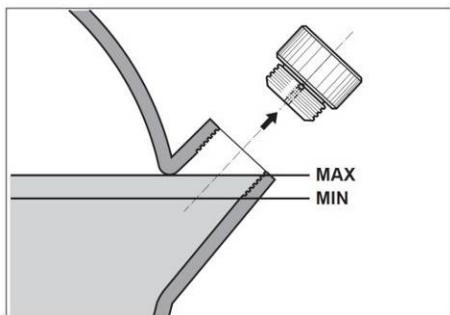
- The Unit must be located indoors, in a dry, clean, cool, dust free, and well ventilated area.
- Allow a minimum 18" (458mm) around and 36" (915mm) above Unit.
- The ambient temperature should be between 10°C and 40°C (50°F and 104°F).
- Ensure that the floor under the Unit is smooth, level and capable of bearing the weight of the Compressor.
- If installed in a compressor room, ensure that the room is adequately ventilated.
- The unit must be anchored to the floor using isolator pads.

CAUTION

Drain condensate (water) from oil tank. If compressor work cycle experiences long pauses, condensate will gather in oil tank. Drain condensate EVERY 50HRS OR WEEKLY.
(Refer to Page 8 for details)

Lubrication

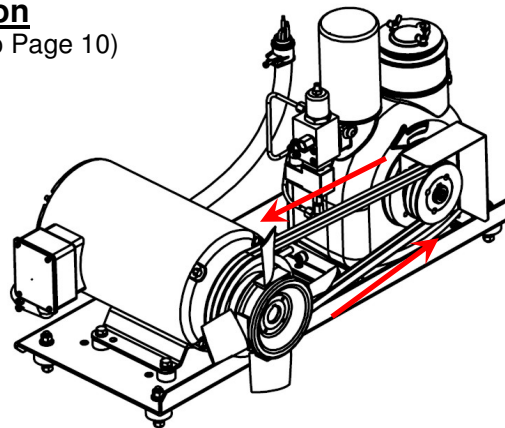
(Refer to Page 8)



- Ensure the oil level in the Air End is between the top (maximum) or bottom (minimum) thread as shown.

Rotation

(Refer to Page 10)



- The correct rotation is as shown.
- The Unit is equipped with an Anti-Rotation Switch. Check that the rotation is correct.

Quick Start (cont'd)

Unit Operation

Shown below is the 'CSC50' Controller which regulates the operation of the Unit. It is used to start and stop the Unit, and it provides information as to system pressure, temperature, etc.

Starting the Unit: Press the '**Start**' Button.

Stopping the Unit: Press the '**Stop**' Button

Note:

1. Do not stop the Unit by use of a disconnect or breaker.

NOTE

Using the disconnect, or breaker to stop the Unit will not allow the Unit to go through an unloading sequence, and could result in damage to the Motor, Starter, or other electrical components. Damage caused in this manner is not covered by the manufacturers Warranty.

Digital Readout

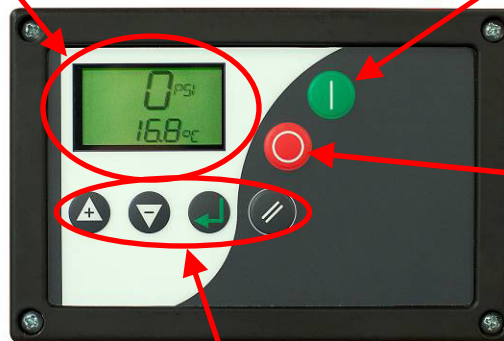
Provides system pressure, temperature, etc.

Start

Allows the Unit to begin compressing air.

Stop

Causes the Unit to enter 'Idle' mode and then shut off.



Up, Down, Enter & Reset

Used in the programming and changing of operating parameters of the Unit.

Safety Precautions

In order 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.



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









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



Information that you should pay special attention to.



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 Compressor with the power still in the 'on' position.	Shut off all power to the Unit before attempting to repair or maintain the Compressor.
	As the Unit starts and stops automatically, do not come into contact with moving parts.	Shut off all power to the Unit before attempting to repair or maintain the Compressor.
	Air compressed by the Unit is not suitable for inhaling. It may contain vapours harmful to your health. Compressor capable of pressures >50psi.	Never breath untreated compressed air produced by the Compressor. Do not direct air stream at body.
	Compressor Air End, Motor, and Tubing become hot when running. Touching these areas may cause serious burns.	Never touch the Air End, Motor, or Tubing during or immediately after operation.
	As the electrical components on the Compressor are General Purpose, there is a potential for explosion, should vapours be present in the area.	Do not install in hazardous locations. The Compressor must be a minimum of 20 feet (6.1 meters) from any source of potentially explosive vapours.

Unpacking and Inspection

 **NOTE**

Each Champion 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 Champion products are the property of the Consignee when the products leave our facility. Champion 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 the exterior of the Cabinet for damage, either cosmetic or mechanical.
- c) If there is mechanical damage, open the Cabinet to determine whether there is any internal damage to the Unit.

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

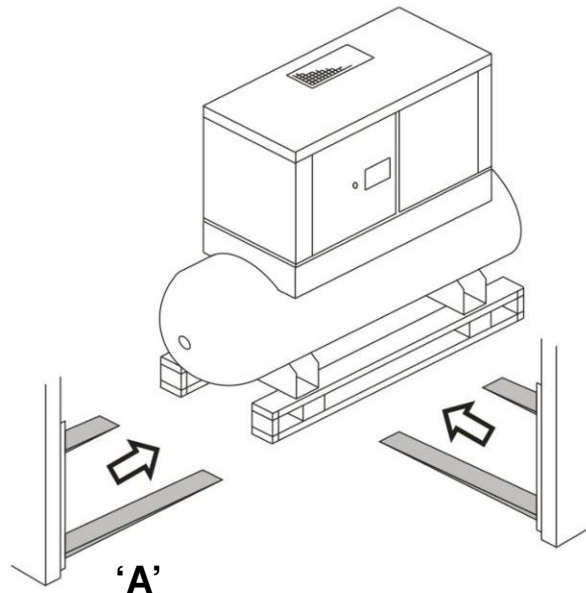
Installation – Mechanical

Moving of the Unit

When moving the Air Compressor, the forklift or hand lift forks go under the Unit from the directions as indicated.

When lifting from position 'A', use extended forks.

Please be advised that, though care must be taken when moving all Units, extra care must be taken when positioning a vertical Compressor as they are top heavy.



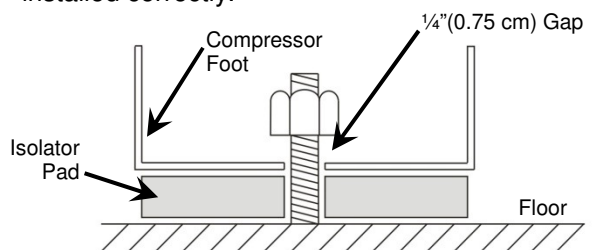
Location of the Unit

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 approximately a minimum of 18" (458mm) around and 3 feet (915mm) above the Unit for easy access to the various sides, 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.
- Ensure that the Units is anchored to the floor using isolator pads.
- If installed in a compressor room, ensure that the room is adequately ventilated. (One Horsepower produces approximately 2500 BTU/HR.)

- If installing the Unit on a mezzanine, ensure that the structure can safely support the weight of the Unit. As well, the sound level of the Unit may increase due to the harmonics created by the structure; use Vibration Pads to lessen this.
- When anchoring the Unit, ensure that there is approx.. 1/4" (0.75cm) between the Nut and the Compressor Foot (as shown below). Do not bolt down tightly.

Many common Compressor problems can be attributed to the location or installation of the Unit. Make sure the Unit is in a suitable location, and installed correctly.

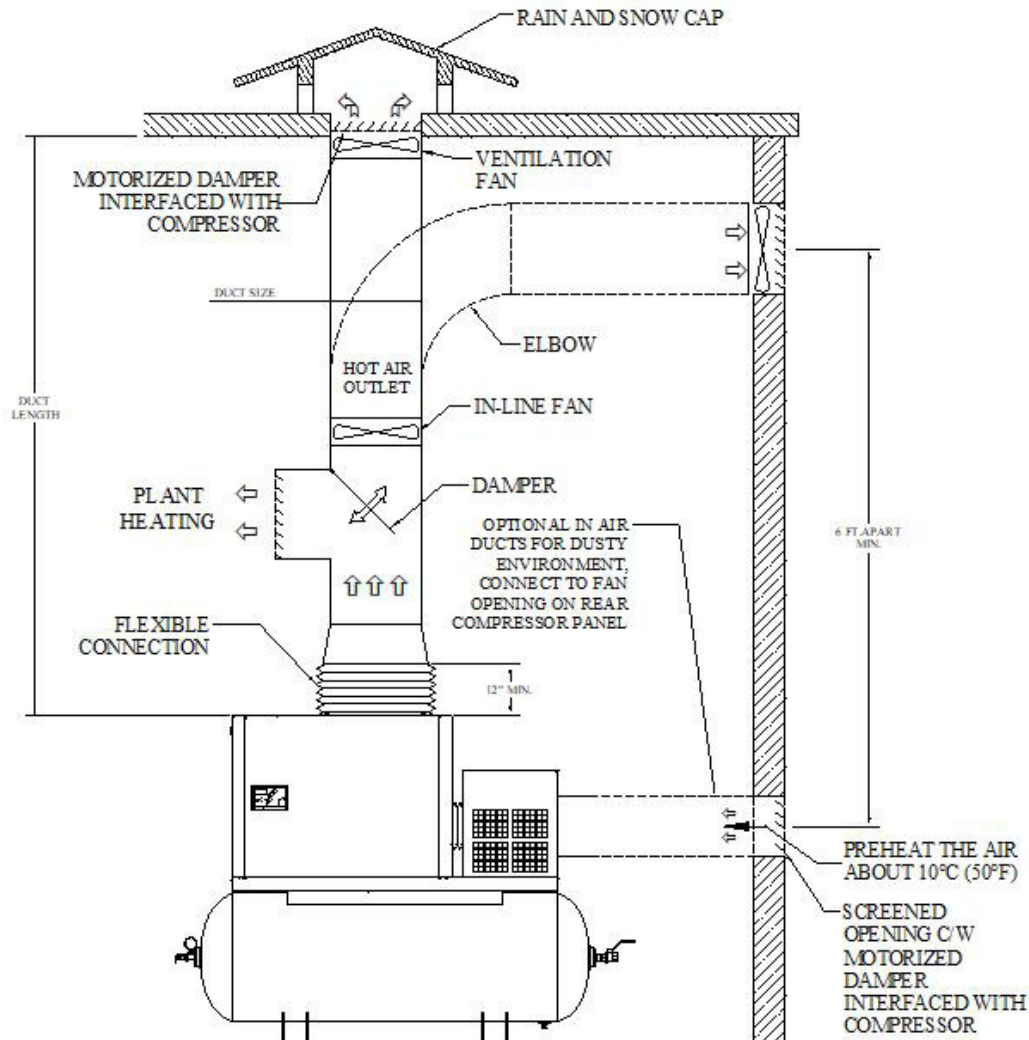


The Compressor must not be operated in a confined area where the heat from the Unit cannot readily escape.

Installation – Mechanical (cont'd)

Shown below are items which assist in making a good installation. These are both intake and exhaust ductwork, helping the Unit to a) draw in clean outside air and b) exhaust the warmer air away from the Unit. The warmer air may be used, with the inclusion of a damper in the exhaust ducting, to warm the interior of the building during the colder months of the year.

Intake and Exhaust Ducting



MODEL	HP	HEATLOAD (BTU/HOUR)	COOLING AIR (CFM)	RECOMMEND MIN. DUCT SIZE	MAX. DUCT LENGTH $L_{in} + L_{out}$	INLET & OUTLET AT COMPRESSOR
D6	5	15,280	610	Ø 12" (CIRL.) 12" x 12" (RECT.)	10 Ft. (0 ELBOW) 8 Ft. (1 ELBOW)	OUTLET SIZE 12 1/2" x 17 3/8"
D7.5	7.5	22,920	625	Ø 12" (CIRL.) 12" x 12" (RECT.)	6 Ft. (2 ELBOW)	INLET SIZE 11 1/2" DIA.

NOTE:

1. DUCTING SIZE BASED ON GALVANIZED STEEL DUCTS.
2. MAXIMUM PRESSURE DROP DUE TO DUCTING SYSTEM SHOULD BE WITHIN 0.1 IN. OF WATER.
3. ADDITIONAL VENTILATION SYSTEM (IN-LINE FANS) NEEDED FOR PRESSURE DROP EXCEED ABOVE LIMIT.
4. AMBIENT TEMPERATURE: MIN. 10°C (50°F) ~ MAX. 40°C (104°F).
5. ANY DEVIATION FROM ABOVE INSTALLATION, CONSULT CHAMPION TECHNICAL SUPPORT.

Lubrication

Initial Start-up

Each Compressor Unit built is extensively tested at the factory before shipment. The Unit is shipped with the original oil in it as used for testing purposes.

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 Champion lubricant. As well, do not mix Champion lubricant with any other lubricant.

Subsequent Oil Changes

Drain the existing oil from the Unit. (Please be advised that the Unit cannot be drained fully of oil, as some oil may remain in various components ie Cooler, Tubing, etc.)

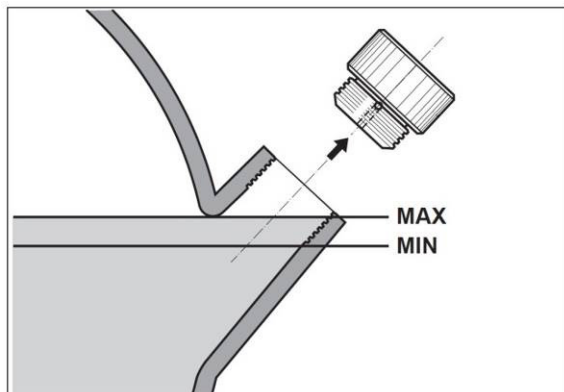
Fill the Oil Reservoir to the top of the Oil Fill Port as shown below. Do not under or overfill. See drawing below.

Use only Champion lubricant, available in both 1 US gallon (3.8 litre) jugs or 5 US gallon (18.9 litre) pails. Any remaining oil may be used for 'top-ups'.

The 'MK-D67-CH' Maintenance Kit includes:

- (2) Oil Filter ('DSC-603-CH')
- (1) Air/Oil Separator Filter ('DSC-002476-CH')
- (2) Air Filters ('DSC-001569')
- (1) Oil Sample Kit ('308KBA6003')

This Kit should be used in the regular servicing of your Unit.



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

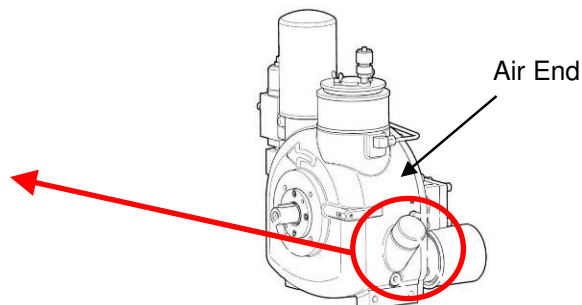


Use of improper oil may negatively affect Compressor performance or shorten Unit life. Resulting problems are not covered by the Champion Air Compressor Warranty.



Condensation (water) may form in the Air End if the compressor work cycle experiences long pauses. If this occurs, the condensate MUST be drained EVERY 50HRS OR WEEKLY:

- Wait for compressor to cool for approx. 2HRS.
- Remove service panel
- Slowly remove/open the oil drain cap/valve on the air end & drain condensate
- When the first traces of oil appear, close the cap/valve
- Top up the Air End with new oil using only Champion lubricant.



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 should 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 Fused Disconnect or Breaker is installed in the electrical supply before the Compressor Unit.

The sales drawing found at the back of this booklet indicates the amp rating for the Unit. This information is required in sizing a Disconnect, Fuses, and/or a suitable Breaker. As well, the enclosed electrical schematic indicates the correct wiring and fuse types and sizes.

Electrical wiring and conduit from the building supply, through the Compressor Cabinet, and to the Switch in the Compressor Control Panel, must be rated for 90°C (194°F) or higher.



- Failure to correctly connect the Compressor to your building's electrical services may result in serious personal injury or damage to the equipment.
- Disconnect all power before servicing the drive.
- Install all covers and panels before applying power to the Unit.
- 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.

Wiring Practices

When making power and control wiring connections, please observe the following precautions:

- Ensure that all wiring, fusing, etc is done in a manner that meets with the appropriate codes and regulations.
- See the sales drawing and electrical schematic contained in this booklet for Unit amp draw, as well as Unit fuse sizes and overload settings.
- A licensed Electrician is to determine the appropriate Disconnect/Breaker and wiring sizes based on the Unit amp draw and the appropriate Electrical Code.

Fixed Speed Units:

Use TIME-DELAY type fuse.

Max. Allowable Fuse = 1.75 x Motor Full Load Amp

Installation – Electrical (cont'd)

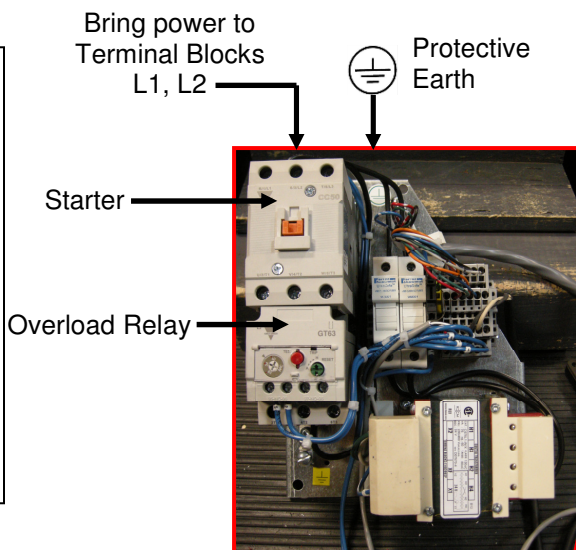


Do not attempt to operate the Unit without first checking whether there is oil in the Air End Reservoir. Add oil as required. Serious damage may result from use, however limited, without oil.

Electrical Connection

The Electrician is to bring power to the Unit at the Electrical Panel accessible by means of removing the Unit LH Panel.

A licensed Electrician is to determine the appropriate Disconnect/Breaker and wire size based on the Unit amp draw as indicated on the sales drawing at the back of this booklet.



Connect ground wire to Protective Earth terminal. Bring power to L1 and L2. See page 12 for start-up procedures.

Motors

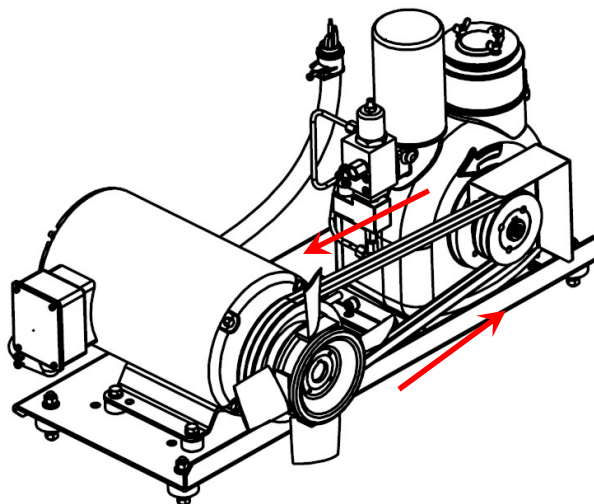
Wiring must be done in a manner that the full Motor nameplate voltage +/- 10% is available at the Motor terminals during start-up. Contact your local Distributor or Service Centre if additional information is needed.

The Warranty that exists on the Electric Motor is that of the original manufacturer. In the event of a Motor failure, locate a certified EISA motor service centre.

Motor/Air End Rotation

The correct rotation is as indicated by the arrow on the Air End, or as shown at right.

The Unit is equipped with an Anti-Rotation Switch. If the Unit will not start and an 'Anti Rotation' error is noted on the Controller, simply change #1 and #3 leads to the Control Panel.



Motor Maintenance Instructions

Cleaning

To ensure that the Motor operates at optimum temperatures and provides years of trouble-free service, periodically clean the outside of the Motor Housing of any build-up of dust, etc. Though it is not anticipated that, if installed correctly and in a suitable environment, there should not be much build-up on the Motor, keeping the Housing clean will allow the Motor to operate more efficiently.

Lubrication

This is a ball bearing motor. The bearings have been lubricated at the factory. Motors that do not have regrease capability are factory lubricated for the normal life of the bearings.

Noted below is a chart outlining the interval at which the Motor should be lubricated, this is based on the Motor horsepower. This must be part of a regular maintenance schedule.

Motor HP	Interval in Hours	Weight of Grease		Volume of Grease	
		Ounces	Grams	Cubic Inch	Teaspoon
5	12,000	0.3	8.4	0.6	2.0
7-1/2	9,500	0.61	17.4	1.2	3.9

The above chart is based on a standard environment in which the Motor is operating of 40°C. For other conditions, please multiply the Hour Interval from the chart above by the factor as indicated below.

Severity of Duty	Factor	Environmental Conditions
Standard	1.0	40°C (104°F), clean, little corrosion
Severe	0.5	50°C(122°F), moderate dirt, corrosion
Extreme	0.1	> 50°C (122°F), severe dirt, abrasive dust
Low Temperature	1.0	< 30°C (86°F)

Lubricant

Baldor motors are pre-greased, normally with Chevron SRI #2. Equivalent and compatible greases are Texaco Polystar, Shell Dolium R and Amoco Rykon Premium #2.

Start-up Procedures



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

Initial Start-up

- 1) Remove the LH Side Access Panel, and ensure that there is sufficient Oil in the Air End. Refer to the 'Lubrication' section (page 8) in this manual for proper type and level of Oil.
- 2) Do a visual inspection of the Unit, and ensure that all fasteners are sufficiently tightened. This must be done, as some fasteners may become loose in transit.
- 3) Place the Fused Disconnect or Breaker in the 'On' Position. Check that there is power to the Controller.
- 4) During normal operation of the Unit, keep the Access Panels closed at all times. As well, do not place any obstructions against or on top of the Unit, thereby limiting the flow of cooling air.
- 5) Ensure the Ball Valve on the Unit is closed, press the 'Start' Button, and run the Unit up to maximum pressure. The Unit will run up to approx. 145 psi (10bar), at which point the Motor will continue to run but not compress air.
- 6) Once the Unit reaches 145 psi (10bar), it will idle for 5 minutes and shut off.
- 7) Open the Ball Valve slightly and allow the air to bleed from the Tank. Once the pressure reaches approx 120 psi (8.3bar), the Unit will start and begin to compress air after a short delay.
- 8) Measure the amp draw when the Unit reaches the maximum pressure of 145 psi (10bar).
- 9) Close the Ball Valve, allow the Unit to reach maximum pressure, idle, and shut off. Once off, check the various fittings etc inside the Cabinet to ensure there are no internal leaks.
- 10) The Unit is ready for normal use.
- 11) To validate Warranty, complete the warranty registration and attach to the on-line Startup claim within Thirty (30) days of initial operation, or email to:
gdservice@gardnerdenver.com



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



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



Adjusting the settings of the Controller could adversely affect the performance of the Unit. Only those individuals with knowledge of the Unit should make any adjustments.

Preventative Maintenance Schedule



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



It is the responsibility of the compressor owner to ensure that a regular Maintenance Schedule is followed.

Noted on the following pages are general Maintenance guidelines based on average working conditions. Should the Unit be worked under extreme conditions, please contact your Champion Distributor for further input. As well, all maintenance/service work must be carried out by a qualified Technician.

If the operating temperature of the Unit is too low (less than 70°C (158°F)):

- condensation will build up in the system and mix with the oil, causing internal component problems in the Unit
- Change the ambient conditions to increase the operating temperature.

If the operating temperature of the Unit is too high (above 85°C (185°F)):

- the oil will oxidize and lose its properties, this causing internal damage to components as well
- to combat this, the oil must be changed more often than noted below.

Note: Participation in Champion's oil analysis sampling program is required to receive the extended warranty. Any recommendations detailed in the oil analysis report must be followed as outlined in the report.

Regular Maintenance Items

'MK-D67-CH' 4000 Hour Maintenance Kit

- | | |
|--------------------------|--------------------------|
| (2) DSC-603-CH | Oil Filter |
| (1) DSC-002476-CH | Air/Oil Separator Filter |
| (2) DSC-001569 | Air Filter |
| (1) 308KBA6003 | Oil Sample Kit |

Lubricant Options

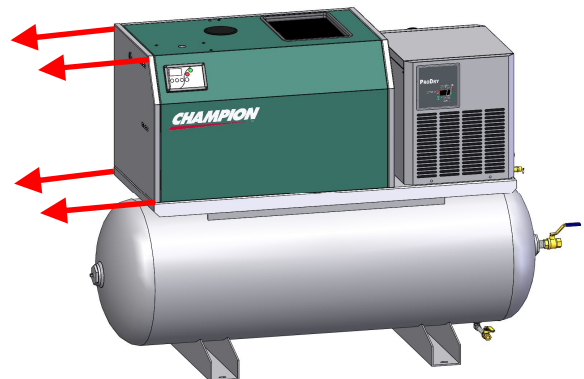
Champion offers various lubricants for your unit, available in quantities of 5 US Gal. (18.9 litre) pails:

- RotorLub 8000
- RotorLub 8000TH
- RotorLub 4000
- RotorLub 4000FG
- RotorLub 4000FG-68

Internal Access for Maintenance

The internal components of the Unit are accessible for servicing by way of removing the LH Side Panel.

The Back Panel is also removable to access the Belts if required.



Preventative Maintenance Schedule (cont'd)

Maintenance Item:	Daily	Maintenance Interval (in 000's of Hours)																			
		2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
Compressor Room		Ambient Temperature should be between 10°C and 40°C (50°F and 104°F)																			
Temperature	Inspect																				
Cleanliness	Inspect																				
Air Compressor Unit																					
Check Oil Level	Inspect																				
Take Oil Sample (See Note a)		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Replace Oil (See Note b)	(1)		X		X		X		X		X		X		X		X		X		X
Replace Oil Filter	(2)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Replace Air / Oil Separator	(3)		X		X		X		X		X		X		X		X		X		X
Replace Air Intake Filter	(4)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Check Belt Tension		X	X	X		X	X	X		X	X	X		X	X	X		X	X	X	
Replace Belts	(5)				X					X				X				X			X
Replace Tank Relief Valve							X						X					X			
Replace Solenoid	(9)				X					X				X				X			X
Rebuild Intake Valve	(6)				X					X				X				X			X
Rebuild Thermo Valve	(7)						X							X					X		
Rebuild Minimum Pressure Valve	(8)				X					X				X				X			X
Motor Bearing Lubrication		Refer to Motor Manufacturer's Recommendations																			

- Notes:**
- a) Participation in Champion's oil analysis sampling program is required to receive the extended warranty. An oil sample must be sent to our lubricant analysis laboratory **every 2000 hours or every 6 months**, whichever occurs first. Any recommendations detailed in the oil analysis report must be followed as outlined in the report. Oil sample bottles are to be obtained from your local authorized Champion distributor.
 - b) The Champion oil used in the maintenance schedule is rated as a 4000 hour oil. A complete Oil change must be done every 4000 hours of Unit operation, or every 12 months, whichever occurs first. If other champion lubricant is used, please refer to the Warranty on Page 31 for further information.
 - c) If a component, during a regular inspection, has proven to be defective or unfit for regular operation, it must be repaired or replaced.

Parts and Repair Kits based on the above chart are as follows:

- | | | | |
|-----|-----------------------------|---------------|--|
| (1) | RotorLub 4000 oil: | 28H166 | |
| (2) | Oil Filter | DSC-603-CH | |
| (3) | Air / Oil Separator: | DSC-002476-CH | |
| (4) | Air Intake Filter | DSC-001569 | |
| (5) | Belts (5 HP Unit) | DSC-002256 | (Qty of 2 Req'd) |
| (5) | Belts (7.5 HP Unit) | DSC-002257 | (Qty of 2 Req'd) |
| (6) | Intake Valve Repair Kit | DSC-001712 | |
| (7) | Thermo Valve Repair Kit: | DSC-002057 | (for Units of s/n '37214' and greater) |
| (7) | Thermo Valve Repair Kit: | DSC-001711 | (for Units of s/n '37213' and lower) |
| (8) | Minimum Pressure Valve Kit: | DSC-001713 | |
| (9) | Solenoid 24 volt: | DSC-001676 | |
| | Shaft Seal Kit | DSC-002055 | |

As noted previously, the 'MK-D67-CH' Maintenance Kit includes the following items:

- | | | | | | |
|-----|----------------------|--------------------------|-----|-------------------|----------------|
| (2) | DSC-603-CH | Oil Filter | (2) | DSC-001569 | Air Filter |
| (1) | DSC-002476-CH | Air/Oil Separator Filter | (1) | 308KBA6003 | Oil Sample Kit |

Use only 'Genuine Champion' parts and kits for your Champion Screw Compressor, this to ensure that

- a) it works at it's optimum performance level and
- b) you maintain your Champion Compressor Warranty.

Maintenance Procedures

Changing the Air Intake Filter

- 1) Slide the Tube off of the Air Intake Housing.
- 2) Remove the Nut holding the Top half of the Housing and then remove the Top.
- 3) Remove the Air Filter Element from the Unit.
- 4) Clean the Intake Valve area of any dust or build-up.
- 5) Install a new Air Filter (Champion Part Number 'DSC-001569'), place the Element Top on the Filter, and fasten down with the Wing Nuts.

Note:

Depending on the quality of the air in the compressor room, it may be necessary to check and/or change the Air Filter more often than indicated on the 'Maintenance Schedule'.

Changing the Air / Oil Separator

- 1) If necessary, use a strap wrench to turn the original Separator counter-clockwise.
- 2) On the new 'DSC-002476-CH' Air / Oil Separator, lubricate the Separator Gasket with Compressor Oil.
- 3) Hand tighten the new Air / Oil Separator snug

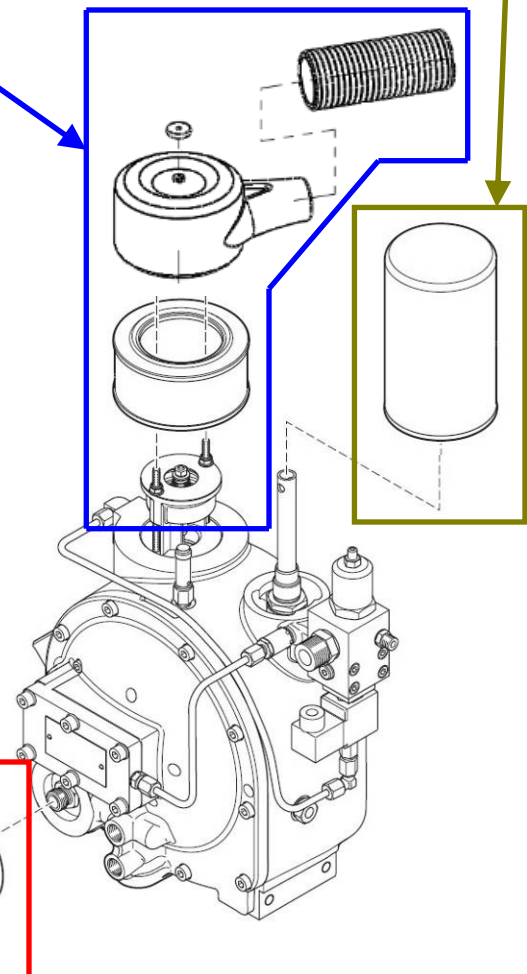
Note:

Do not over-tighten the Separator Filter on the Unit, as it may become very difficult to remove at a later date.

Changing the Oil Filter

The Oil Filter should be changed only after all of the oil has been drained from the Unit.

1. Ensure that you have a bucket and strap wrench available.
2. Holding the bucket under the original Oil Filter to capture any spillage, use the strap wrench to turn the Oil Filter counter-clockwise. The Oil may still contain oil, so care must be taken.
3. On the replacement 'DSC-603-CH' Oil Filter, lubricate the Filter Gasket with Compressor Oil.
4. Hand tighten the Oil Filter snug.



Maintenance Procedures (cont'd)

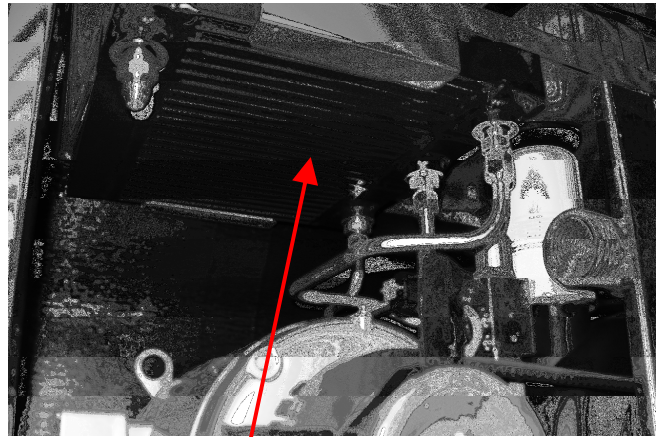
Cleaning the Heat Exchanger

The circulation of air through the Heat Exchanger is critical to the correct operation of the Unit. Clean the Heat Exchanger on a regular basis.

1. Remove the Back Panel.
2. Vacuum the Heat Exchanger as necessary.

Note:

When cleaning the Heat Exchanger, do not use sharp objects or a wire brush. These items could damage the cooling coils.



Heat
Exchanger

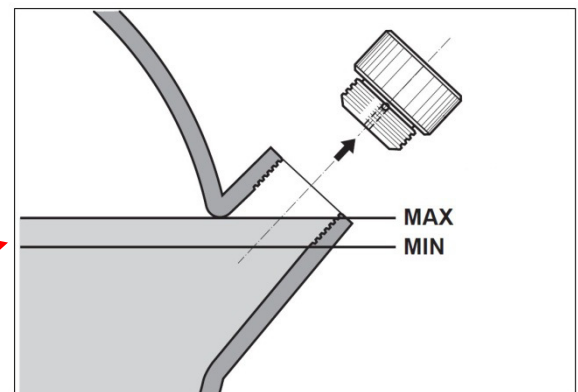
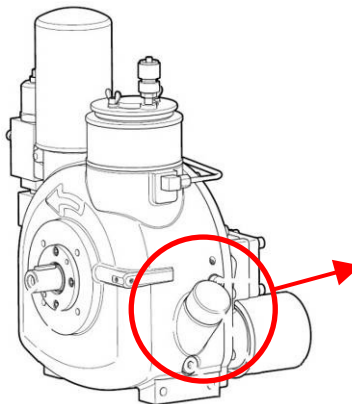
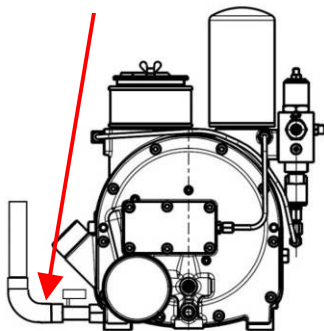
Oil Changes

Drain the existing oil by turning the Drain Port down and opening the Valve. (Please be advised that the Unit cannot be drained fully of oil, as some oil may remain in various components ie Cooler, Tubing, etc.)

Fill the Oil Reservoir to the top of the Oil Fill Port as shown below. Do not under or overfill. See drawing below.

Use only Champion lubricant.

Oil Drain Port



Maintenance Procedures (cont'd)

Adjusting the Drive Belts

The tightening and loosening of the Drive Belts is done by way of moving the Air End horizontally either towards or away from the Motor.

Units of Serial Numbers of '37622' and Less

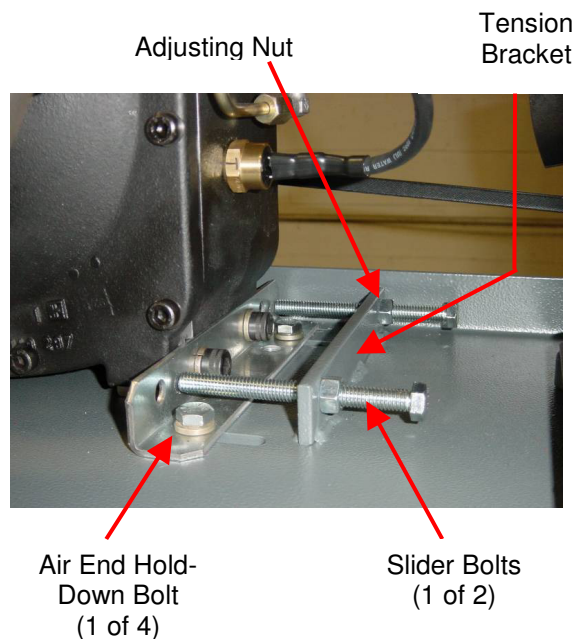
To adjust the Belt tension, simply:

1. loosen the (4) Air End Hold-Down Bolts, (2) on each side of the Air End
2. loosen the (2) Adjusting Nuts (turning counter-clockwise) on the Slider Bolts
3. adjust the Slider Bolts to the desired position.

Note: The Belts (new) should be tensioned as follows:

HP	Lb Force	Deflection	Frequency	
			New	After Run
5	5.6	0.41" (10.48mm)	63 Hz	54 Hz
7-1/2	5.6	0.37" (9.44mm)	65 Hz	57 Hz

4. tighten the Adjusting Nut so it is tight against the Tension Bracket
5. re-torque the (4) Air End Bolts to lock the Air End in position



Units of Serial Numbers of '37623' and Greater

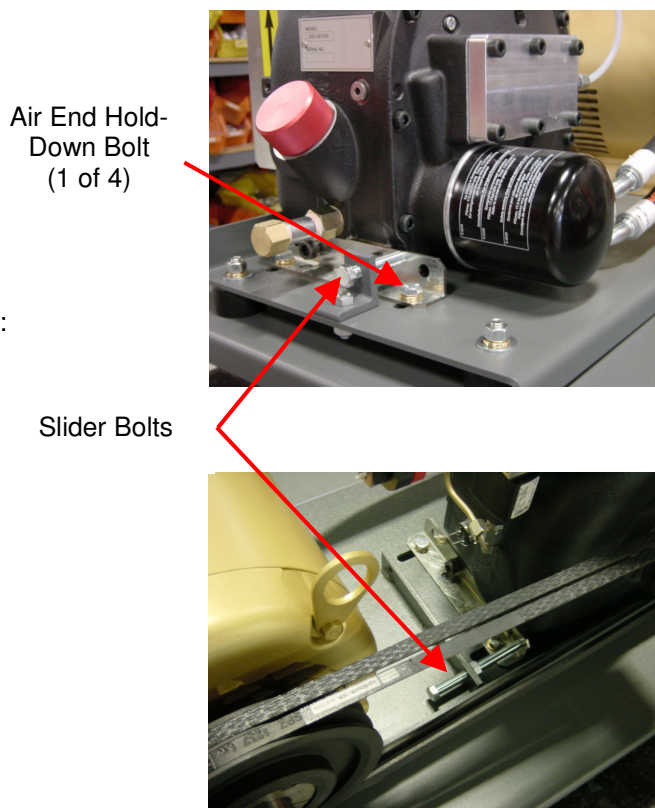
To adjust the Belt tension, simply:

1. loosen the (4) Air End Hold-Down Bolts, (2) on each side of the Air End
2. loosen the Adjusting Nut (turning counter-clockwise) the Slider Bolt closest to the Motor. Please note that there is (1) Slider Bolt on both sides of the Air End.
3. adjust the Slider Bolts to the desired position.

Note: The Belts (new) should be tensioned as follows:

HP	Lb Force	Deflection	Frequency	
			New	After Run
5	5.6	0.35" (8.80mm)	75 Hz	65 Hz
7-1/2	5.6	0.30" (7.67mm)	80 Hz	71 Hz

4. tighten the Adjusting Nut so it is tight against the Tension Bracket. Ensure that the Air End Pulley and Motor Pulley are parallel and in proper alignment.
5. re-torque the (4) Air End Bolts to lock the Air End in position

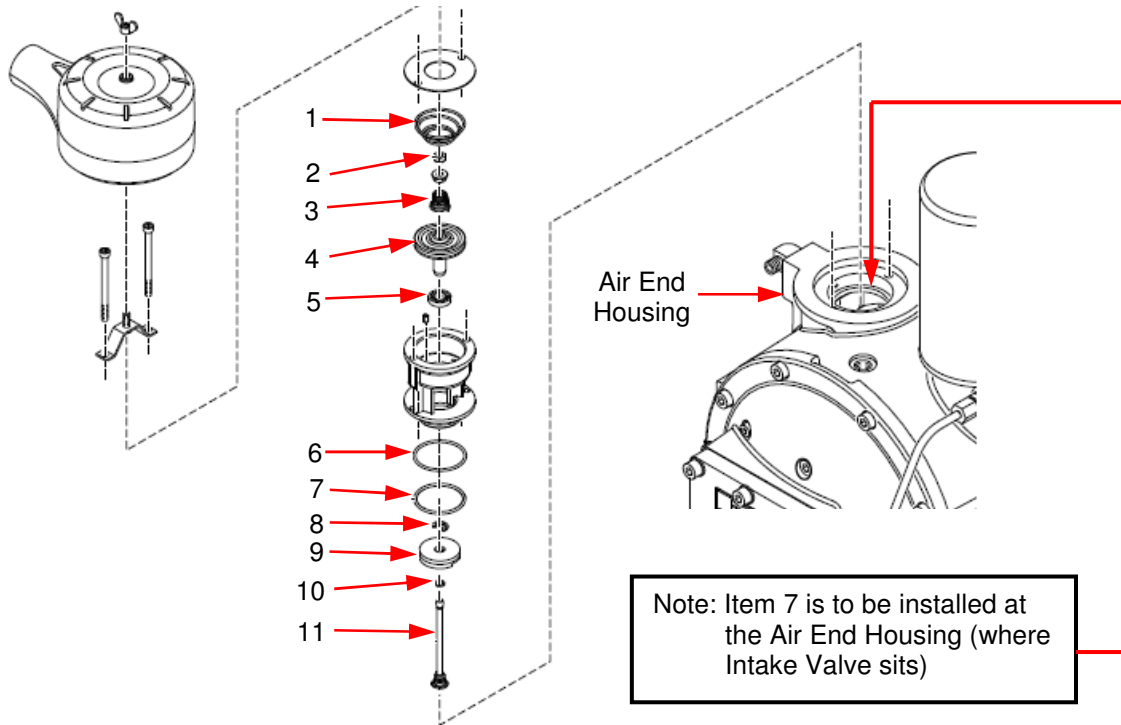


Maintenance Procedures (cont'd)

Intake Valve Repair Kit

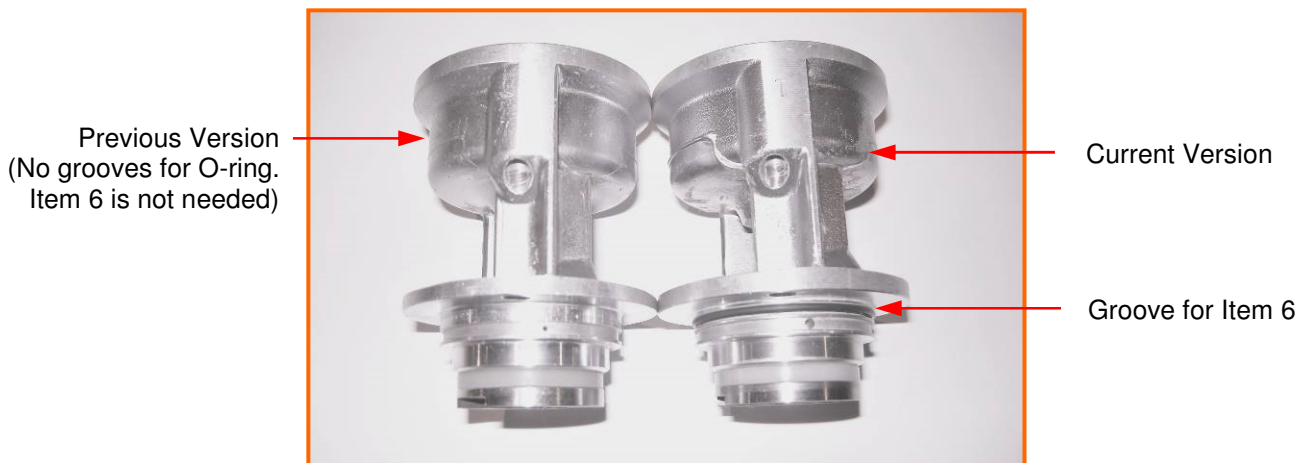
The Intake Valve Assembly is located directly below the Intake Filter, and should be rebuilt after a maximum of 8,000 hours of Unit operation. There are two versions of intake valves used on D5 and D7.5 series air ends.

'DSC-001712 Intake Valve Repair Kit can be used on both versions. Shown below are the various components associated with the Intake Valve Repair Kit.



The 'DSC-001712' intake valve kit includes the following items:

- | | |
|--|---|
| (1) Conical Spring (Large) | (7) O-ring, 2.62 mm Width (Air End Housing) |
| (2) Hex-nut | (8) Lock Washer |
| (3) Conical Spring (Small) | (9) Plate Set |
| (4) Piston | (10) O-ring, 1.5 mm Width |
| (5) V-ring | (11) Rod |
| (6) O-ring, 2 mm Width (Intake Valve Groove) | |



Maintenance Procedures (cont'd)

Thermo Valve Repair Kit

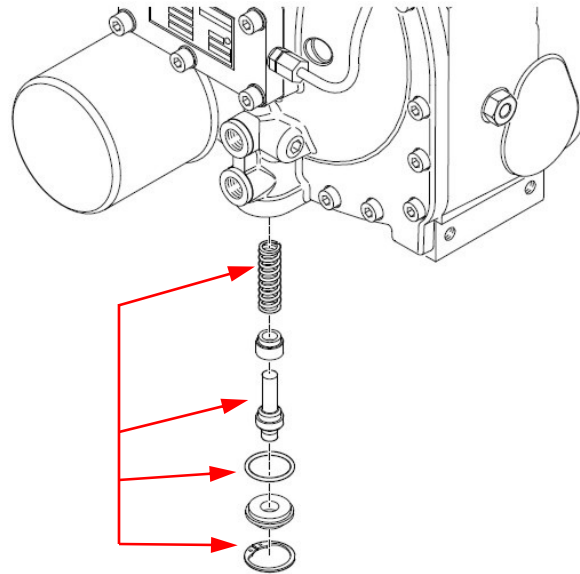
The Thermostatic Valve Assembly is located on the bottom of the Air End, and to the right of the Oil, and should be rebuilt after a maximum of 12,000 hours of Unit operation.

Please order (1) 'DSC-002057' Thermo Valve Repair Kit if your Unit has a serial number '37214' and greater,

or

(1) 'DSC-001711' Thermo Valve Repair Kit if your Unit has a serial number of '37213' and lower.

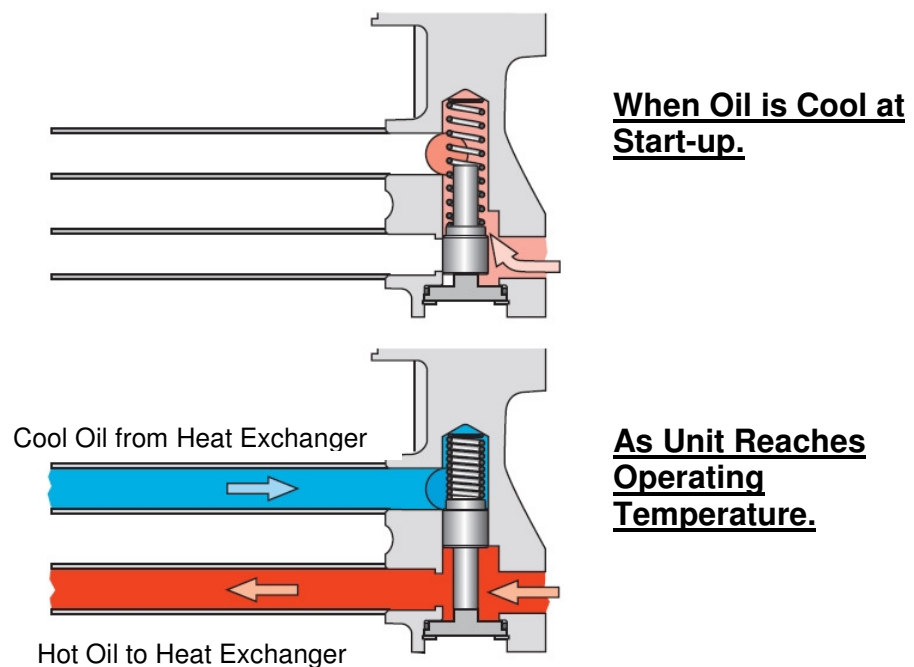
Shown at right are the various components associated with the Thermo Valve Repair Kit.



Thermo Valve Operation

The Thermostatic Valve Assembly helps to maintain an optimum oil temperature in the Unit, allowing the hotter oil (once the Unit reaches operating temperature) to flow through the Heat Exchanger.

This is as indicated below.

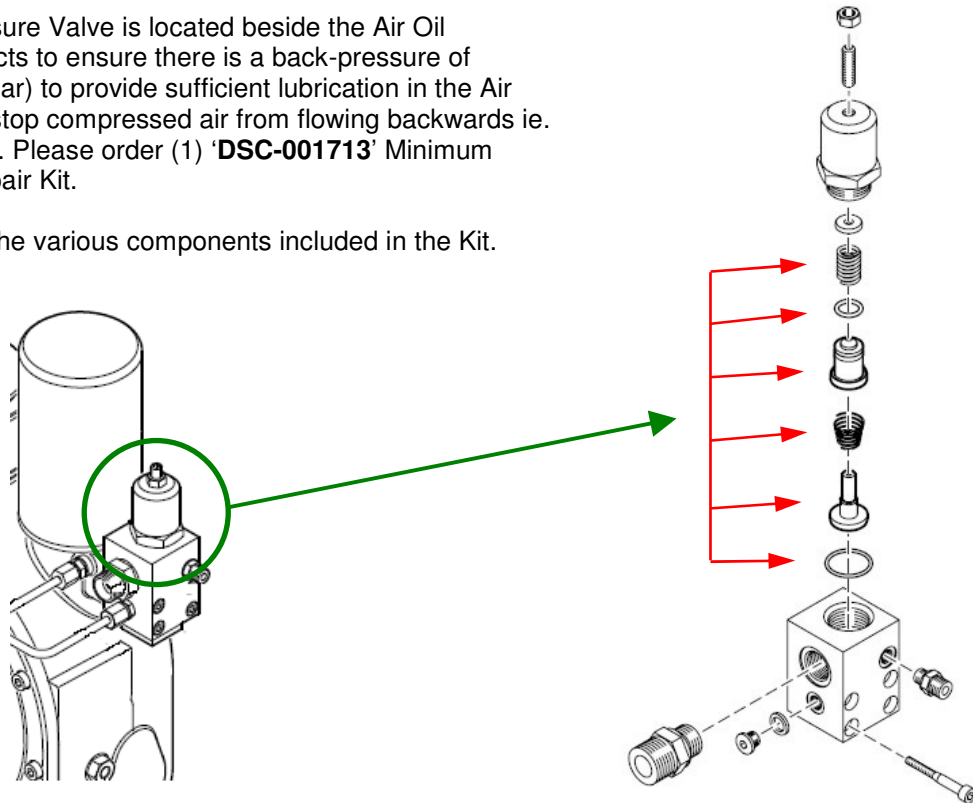


Maintenance Procedures (cont'd)

Minimum Pressure Valve Repair Kit

The Minimum Pressure Valve is located beside the Air Oil Separator, and a) acts to ensure there is a back-pressure of approx. 80 psi (5.5bar) to provide sufficient lubrication in the Air End and b) acts to stop compressed air from flowing backwards ie. as a one-way Valve. Please order (1) 'DSC-001713' Minimum Pressure Valve Repair Kit.

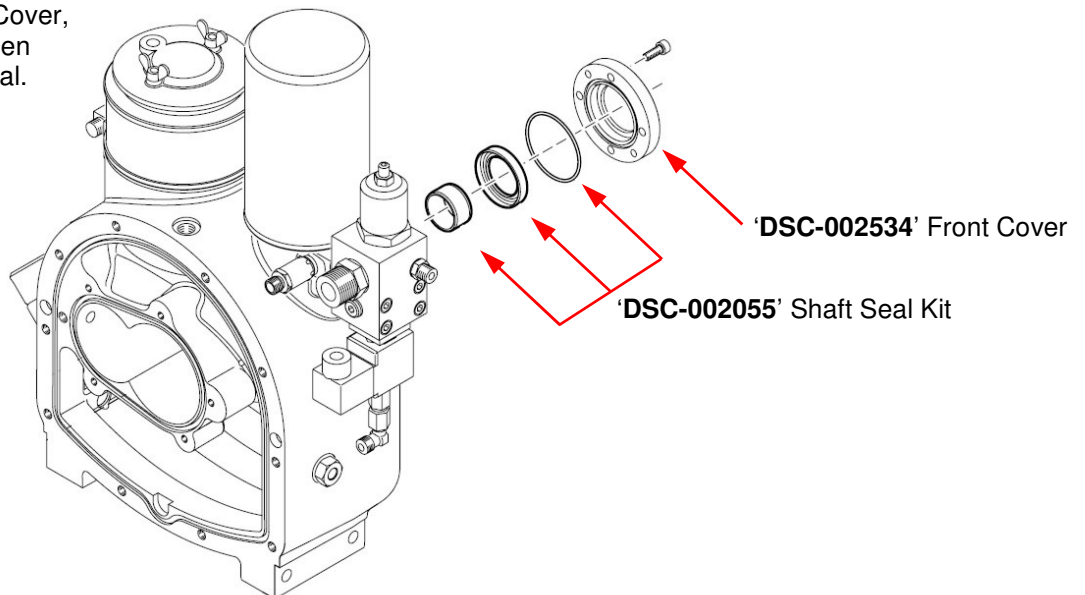
Shown at right are the various components included in the Kit.



Shaft Seal Kit

Please order (1) 'DSC-002055' Shaft Seal Kit. Shown below are the various components included in the Kit.

Also sold separately is the 'DSC-002534' Front Cover, but is not required when replacing the shaft seal.



'CSC50' Controller

Description of Controller

The 'CSC50' Controller is the 'brains' of the D6 and D7.5 series Rotary Screw Compressor Units. It monitors, enables, and indicates the various functions of the Unit.

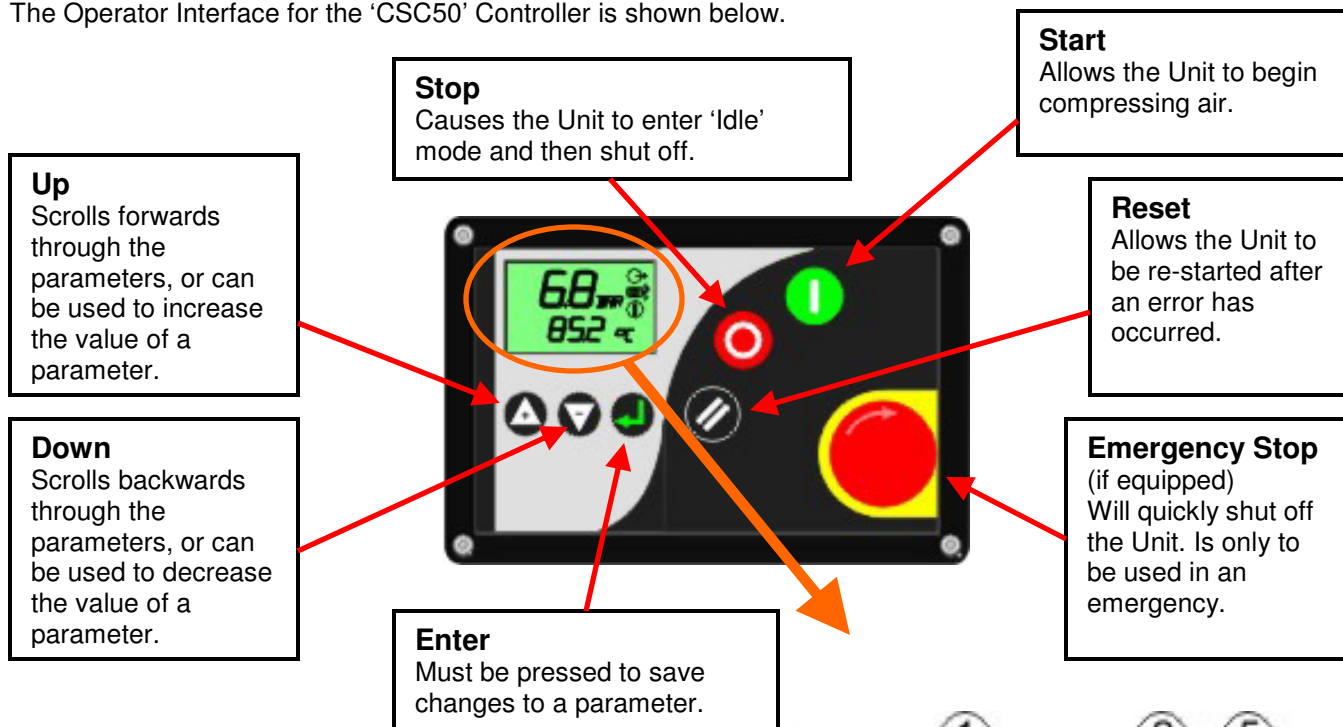
The Controller is comprised of two levels of access, segregated into:

- **Level 1 or 'Operational Menu':**
 - allowing access to the most commonly used parameters
- **Level 2 or 'Configuration Menu':**
 - is more suited to Service Technicians, and allows access to all parameters

Codes are required to access these levels of the Controller, this to ensure that the Unit variables are not altered in error.

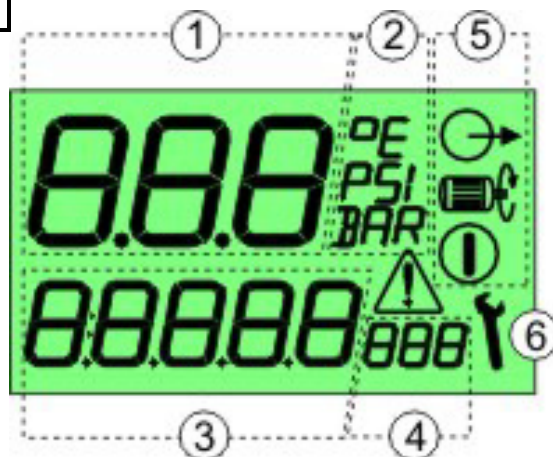
Controller Operator Interface

The Operator Interface for the 'CSC50' Controller is shown below.



Description of Interface

1. Main Display Value (0.1 to 999)
2. Main Display Value Units (°C, °F, Bar, PSI)
3. User Menu Item Display Value (0.1 to 99999)
4. User Menu Item Display Value Units (°C, °F, Bar, PSI)
5. Status Symbols
 - ① = Started = Running = Loaded
6. Service / Fault Symbols
 - = Service Required
 - = Fault: Alarm Warning / Trip



'CSC50' Controller (cont'd)

NOTE

The Controller has been fully programmed at the factory. Serious consequences could result should any of the parameters be adjusted by someone who is not familiar with the correct and safe operation of the Unit.

Controller Display

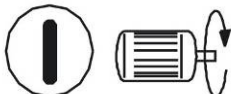
The Controller Display indicates a variety of useful items for both operating and troubleshooting the Unit. To view the various items, simply press the 'Up/+' or 'Down/-' Buttons.

70_{BAR} 102_{PSI} = Unit Pressure
85.6_{°C} 186_{°F} = Unit Temperature
23456_{HR} = Total Run Hours
16420_{LHR} = Total Run Hours Loaded
420_{HR} ⤴ = Total Hours Left Until service is Due

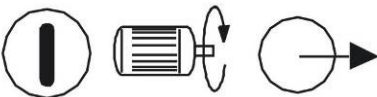
Unit Status



Standby The Compressor is in a 'start' state but not running. The Unit will automatically start and load once the pressure falls to the lower set point of 120 psi.



Running
(or 'Idling') The Compressor is running off-loaded (ie. Not compressing air)



Loading The Compressor is running and loading (ie compressing air)

Fault Conditions



If a fault condition occurs, the 'Fault Triangle' with either:
- switch on steady (Alarm / Warning) or
- flash (Trip / Shutdown)

The User Menu will indicate the appropriate fault condition.

More Common Faults:

Alarm Warning (Unit will continue to operate)

A:2118	High Pressure
A:2128	High Temperature
A:2816	Power Failure detected
A:3123	Run Inhibited – Temp too low
A:3423	Load Inhibited – Temp too low
A:4804	Service Due

Shutdown/Trip (Unit will stop)

E:0010	Emergency Stop
E:0020	Motor Overload
E:0040	Anti-Rotation
E:0115	Pressure Sensor Fault
E:0119	Excessive Pressure
E:0125	Temperature Sensor Fault
E:0129	Excessive Temperature
E:0866	Control Power Supply Low

'CSC50' Controller (cont'd)

Operational Menu

The following values have been programmed into the 'CSC50' Controller. Do not adjust the values without first consulting with your Distributor or Champion. (Access is granted to these parameters by following the procedure as noted below at 'Service Due Countdown Timer').

<u>Symbol:</u>	<u>Description:</u>	<u>Default Value:</u>
1.Sh	Service Interval Hours (The maximum time between service/maintenance of the Unit.	2000 hours
1.Pu	Upper Pressure Set Point (Unit maximum pressure)	145 psig (10 bar)
1.PL	Lower Pressure Set Point (Pressure at which Unit will begin to load	120 psig (8.3 bar)
1.rt	Run-On-Time (Time that the Unit idles (does not compress air) Before shutting down)	300 seconds (5 minutes)
1.bt	Blowdown Time	30 seconds
1.St	Stop Time	10 seconds
1.P-	Pressure Display Units	PSI
1.t-	Temperature Display Units	°C
1.At	Auto Restart Time	10 seconds

Service Due Countdown Timer

As noted above, the Unit has a Service Interval Timer as part of the Controller. When new, the counter is set for 2000 hours. As the Unit operates, the Timer counts down from 2000 until it reaches 0. Once it reaches 0, the 'A:4804 Service Due' fault code will appear on the Controller. (The Timer will continue to count down, going into the negative ('-') values.

Service Interval Timer Access Code: '0009'

The Timer must be reset as follows:

1. Turn the Compressor off, but ensure there is still power to the Unit.
2. Press the 'Up' and 'Down' arrows at the same time.
3. After 1 or 2 seconds, four '0's will appear, with the left one flashing.
4. Press the 'Up' or 'Down' arrows to adjust the first character to match the access code.
5. Press 'Enter' to move to the next character, change the character as noted in '4' above, and press 'Enter'.
6. Once the correct access code has been entered, access will be given to the 'Operational Menu'.
7. If not already listed on the screen, use the 'Up' or 'Down' arrows to hi-light '1.Sh Service Interval Hours'.
8. Using the 'Up' arrow, adjust the value to '2000'.
9. Press 'Enter' to store the value into memory, and press 'Reset' to return to the normal operating display screen.

At this stage, the fault code will disappear from the screen, and the Unit can be run.

Common Compressor Faults

Common Faults

Noted below are the most common Faults experienced.

'CSC50' Alarms

There is an issue with the Unit, but it will still operate.

Code:	Description:	Most Common Items to Check:
A:2118	High Pressure	Solenoid not working, Intake Valve Orifice clogged, Transducer dirty or faulty, pressure changed incorrectly, alternate external pressure source
A:2128	High Temperature	Ambient temp high, Unit dirty, low oil level, no air flow through Unit, Temp Sensor defective
A:2816	Power Failure Occurred	Press 'Reset' Button and restart Unit
A:3123	Run Inhibited – Temp too low	Ambient temp low, Temp Sensor defective
A:3423	Load Inhibited – Temp too low	Ambient temp low, Temp Sensor defective
A:4804	Service Due	Service unit (please refer to Preventative Maintenance Schedule on pg. 13)

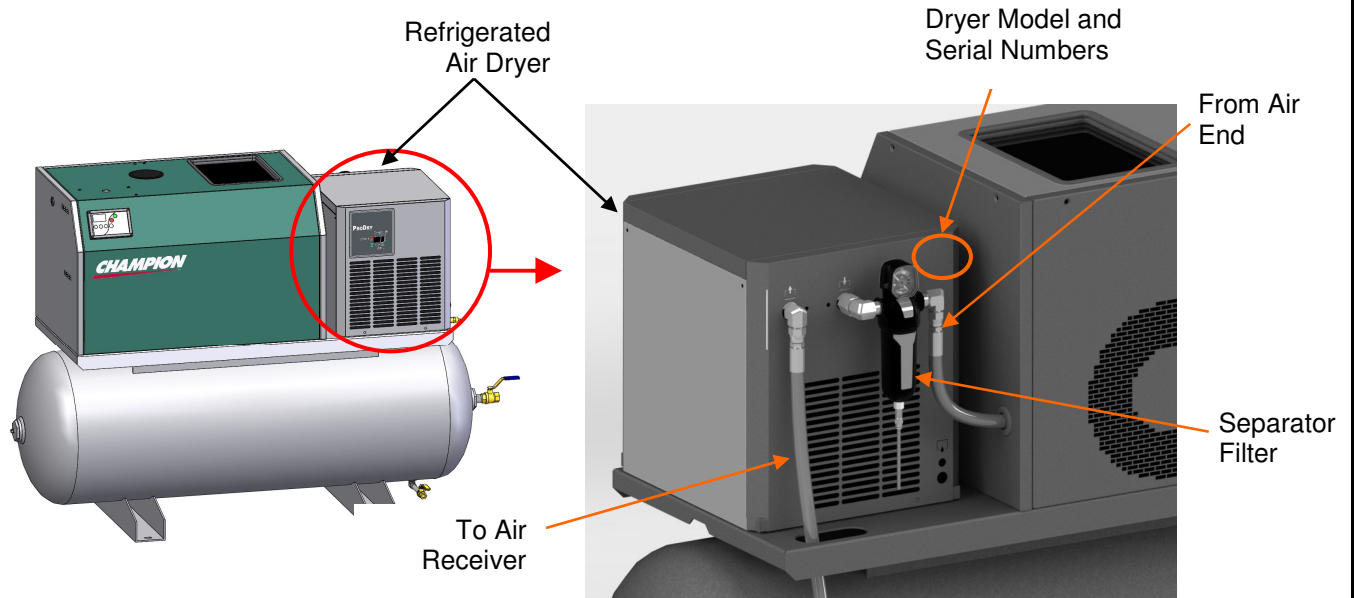
'CSC50' Shutdown Errors

There is an issue with the Unit, and the Unit will not operate until the Fault has been addressed.

Code:	Description:	Most Common Items to Check:
E:0020	Motor Overload	Motor drawing high amps, low voltage, higher pressure settings, low oil level, loose wires
E:0040	Anti-Rotation	Rotation of Motor wrong, Solenoid Valve not relieving pressure, Intake Valve Orifice clogged
E:0115	Pressure Sensor Fault	Transducer cable loose, Pressure Transducer defective
E:0119	Excessive Pressure	Solenoid Not working, Intake Valve Orifice clogged, Transducer dirty or faulty, pressure changed incorrectly, alternate external pressure source
E:0125	Temperature Sensor Fault	Temperature Sensor not making good electrical contact, or defective
E:0129	Excessive Temperature	Ambient temp high, Unit dirty, low oil level, no air flow through Unit, Temp Sensor defective
E:0866	Control Power Low	Low Line Voltage, Fuse(s) Blown

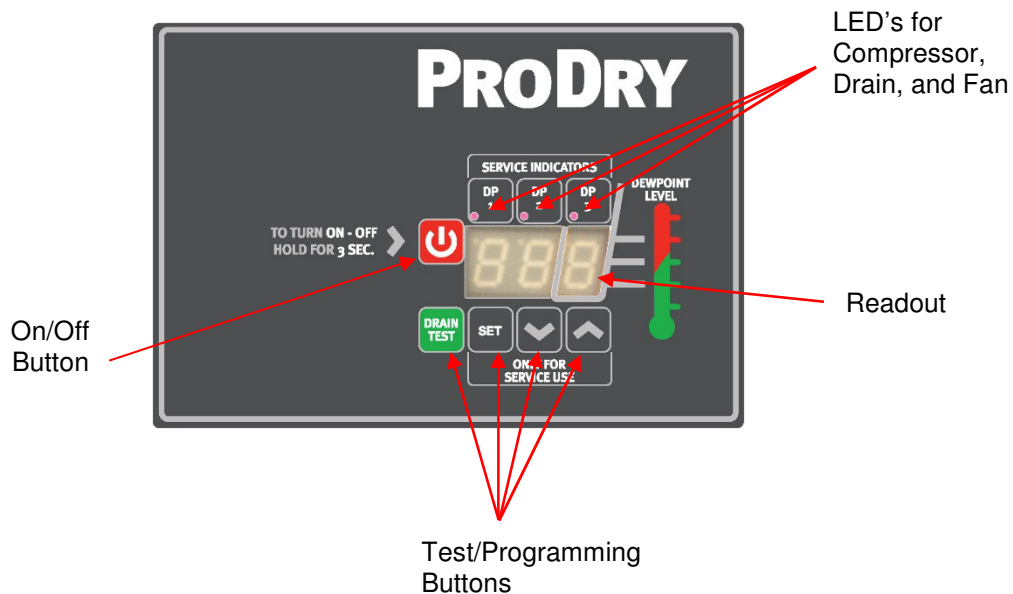
Separator Filter and Refrigerated Air Dryer

Your Unit may be equipped with a Separator Filter and an 'ASD15' (on 'D6TD' Units) or 'ASD30' (on 'D7.5TD Units) Refrigerated Air Dryer Unit as indicated below. These items are located in the compressed air lines after the air is compressed but before it enters the Air Receiver. This allows for what is termed a 'dry' Tank.



More detailed information concerning the Dryer Unit is included in the Dryer manual. The information contained in this manual is a 'quick reference' only.

Dryer Controls

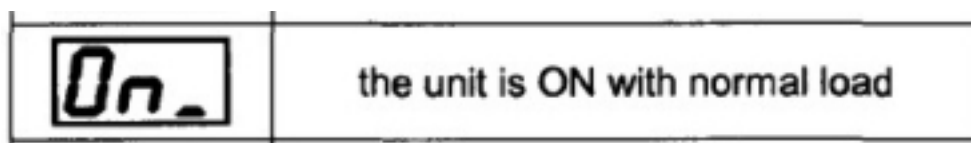


Separator Filter and Refrigerated Air Dryer (cont'd)

Typical Dryer Operation

The Dryer will operate as follows:

- Pressing the 'On/Off' Button for 3 seconds will start the Unit
- There is a time delay of up to 2 minutes before the Refrigerant Compressor starts.
- The Condenser Fan will start approx. 30 seconds there-after.
- The Fan will not normally run at full speed, this indicated by a flashing LED
- The readout will initially show ambient temperature indicated by 3 horizontal bars on the readout
- Once the Fan and Compressor start, the dew point of the Unit will decrease to approx. 1°C, this indicated by 1 horizontal bar.
- Once at approx. 1°C, the Fan will stop, only to be called to run again once the temperature increases to approx. 5°C
- Pressing the 'On/Off' Button (when the Unit is operating) will run the Fan at full speed for several seconds, after which the Unit will stop. (The LED will be on continually while the Fan runs at full speed.)



- As well as showing the dew point, the readout may indicate several fault codes as suggested below.

Typical Fault Codes

The readout will indicate a variety of 'fault codes', the most common being as follows:

Energy Saving Mode.

- The Dew Point has been running at below -1°C for over 6 minutes.
- The Unit will automatically restart operation at 6°C.

Temperature Probe Alarm.

- The Temperature Probe is not working properly. It may not be connected to the Board, or the Probe may be defective.
- Replace the Probe if necessary.

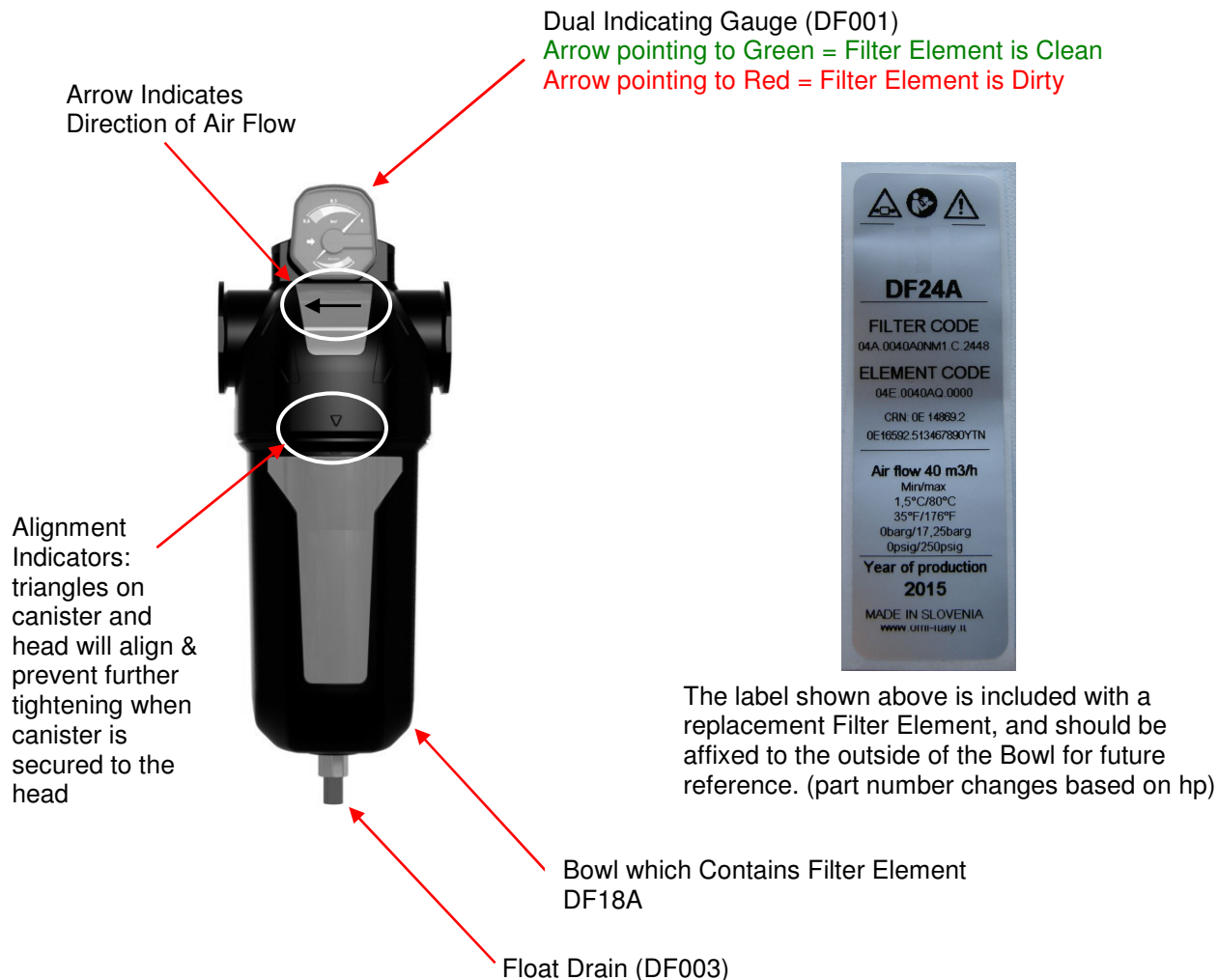
High Temperature Alarm.

- The Dew Point has been running at above 12.5°C for over 6 minutes. The Unit must be manually turned off and on.
- The fault could be caused by a dirty radiator, high ambient temperature, a faulty Fan, or a faulty refrigerant Compressor, to name a few.

Separator Filter and Refrigerated Air Dryer (cont'd)

Typical Separator Filter

As previously noted, the Separator Filter is located between the Air End and the Refrigerated Dryer. It contains a 1 micron Separator Element which protects the Dryer Unit by removing liquids and solid particles 1 micron and larger.



Filter Element Replacement

To replace a dirty Filter Element:

- Shut the Compressor Unit off.
- Bleed any compressed air from the system to ensure there is no pressure at the Filter.
- Unscrew the Bowl from the assembly and remove the filter element.
- Clean any debris from the inside of the Bowl
- Remove the O-ring from the inside of the Canister Head
- Install the new O-ring making sure it is properly seated
- Place the new 1 micron Separator Filter Element into the Bowl (the filter is self-centring).
- Screw the Canister with the Element inside it to the Canister Head until the indicators line up.
- Gauge will return to **green** when Filter is once again under pressure.

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 Champion Distributor/Service Center.

<u>Condition:</u>	<u>Cause:</u>	<u>Suggested Correction:</u>
A. Unit won't start.	No power to the Unit.	Check that power at the disconnect or breaker is on. Also, check any primary and secondary fuses.
	Loose and/or missing wires in the electrical circuit.	Check that all wiring connections are tight. With a wiring schematic, check that all wiring is present and correct.
	Emergency Stop Button pressed in.	Release by twisting and pulling out.
	Motor Overload is tripped.	Reset the overload inside the Control Panel.
	Compressor over-heated and stopped.	Insufficient air flow to cool Unit. Ambient temperature too high. Heat Exchanger is dirty. Faulty Temperature Switch. Oil level is low.
	Compressor stopped by over-pressure.	Solenoid Valve faulty. Seals on Intake Valve leaking. Intake Valve Spring broken. Pressure Transducer stopped Unit. Lower maximum pressure setting.
	Unit shut off because pressure is not below 120 psi.	Drop pressure below 120 psi.
	Automatic Idle Time stopped the Unit.	Drop the pressure below 120 psi.
	Power interruption.	Reset the Unit.

Trouble Shooting Guide (cont'd)

<u>Condition:</u>	<u>Cause:</u>	<u>Suggested Correction:</u>
B. No or Insufficient Air Flow.	Air Filter is dirty. Oil Separator is blocked. Intake Valve is faulty. Air leaks in the system. Pressure limits are incorrectly set. Blowdown Solenoid Valve is open. Belt are broken or slipping	Replace the Air Filter. Replace the Oil Separator. Repair or replace the Intake Valve. Check the Unit and system for air leaks. Adjust the pressure settings. Check the wiring to the Solenoid and replace as necessary. Check Belt tension and that Belts are in good condition.
C. Unit is overheating.	Ambient temperature is too high. Blocked air circulation at the Unit. Heat Exchanger is dirty. Oil level is too low. Using wrong type of compressor oil. Thermo Valve is faulty. Oil Filter is blocked. Temperature Sensor is faulty. Thermostat is faulty. Pressure is too high. Cabinet door/panel is open/off.	Check cooling air circulation. Check the air circulation in and around the Unit. Clean the Heat Exchanger Add oil as required. Change to the factory recommended oil. Check and repair as necessary. Replace the Oil Filter. Check the wiring to the Temperature sensor. Replace the Sensor if necessary. Replace the Thermostat. Lower the pressure setting. Secure the door/panel to the Unit.
D. Compressor Starts Slowly.	Intake Valve Seal is closed. Ambient temperature is too low. Minimum Pressure Valve leaking back to Air End. Minimum Pressure Valve setting is too high. Using wrong type of oil.	Intake Valve is seized. Repair or replace. Stop and restart once ambient increases. Repair or replace the Minimum Pressure Valve. Adjust Minimum Pressure Valve setting to 65 psi. Change to factory recommended oil.

Trouble Shooting Guide (cont'd)

<u>Condition:</u>	<u>Cause:</u>	<u>Suggested Correction:</u>
E. Intake Valve Leaks Oil When Unit Stops.	Intake Valve Seal leaks. Intake Valve stuck in open position. Blowdown Solenoid not functioning.	Repair using an Intake Valve Repair Kit. Repair or replace the Intake Valve. Replace the Solenoid.
F. Oil Consumption is Too High.	Oil level is too high. Oil Return Line (Scavenge Line) is blocked. Oil Separator is saturated with oil. Wrong type of oil used. Unit is operating at too high a temperature. Oil leak. Unit load is light or excessive load/idle cycles.	Reduce the oil level to the proper level. Clean and/or replace the Scavenge Line Sight Glass. Replace the Oil Separator. Change to factory recommended oil. See 'Section C'. Repair oil leak. Ensure Unit is set to operate at correct pressures, and there is a <u>minimum</u> of 10 psi differential. Also the Unit could be oversized for the tank capacity.
G. Compressor Surges.	Restriction in Heat Exchanger or Hoses. Pressure Transducer setting is incorrect or malfunctioning. Blockage at Unit outlet. Dryer is freezing up, not allowing air to pass through.	Flush out or replace. Set pressure as per instructions or replace. Check for obstructions in outlet piping. Check that the Dryer parameters are correct. Increase dew point to 2.0 if required.
H. High Power Consumption.	Improper air pressure settings. Blowdown Solenoid is not functioning. The voltage in the building is too low or there is a phase imbalance. The Motor is failing.	Reset the pressure as per factory defaults. Inspect or replace as necessary. Contact an Electrician to verify. Have Motor inspected.
I Fault Alarms.	Emergency Stop. High Temperature. Low Temperature. High pressure.	Ensure Emergency Stop Button is not pressed in. See 'Section C'. Ambient temperature is too low. Increase to 10°C. Check the pressure settings, the Pressure Transducer and the wiring to the Transducer.

Standard Warranty

Oil-Lubricated Rotary Screw Packages

D Series, DRS Series

STANDARD WARRANTY

Champion (the "Company") warrants to each original retail purchaser ("Purchaser") of its new products from the Company or its authorized distributor that such products are, at the time of delivery to the Purchaser, free of defects in material and workmanship. **This Standard Warranty statement applies to compressors shipped after May 1st, 2015.**

STANDARD WARRANTY PERIOD

The Company's obligation under this warranty is limited to repairing or, at its option, replacing, during normal business hours at an authorized service facility of the Company, any part which in its judgment proved not to be as warranted within the applicable warranty period as follows. **Regular maintenance in accordance with the service manual is required. Use of genuine Champion OEM parts and lubricants are highly recommended. If a component failure is deemed a result of using non-genuine Champion parts and lubricants, warranty will not be allowed.**

COMPONENT	STANDARD WARRANTY COVERAGE	DETAILS
Package	12 months from startup or 15 months from date of shipment to first purchaser, whichever occurs first	All components within the package, excluding normal wear items
Airend	12 months from startup or 15 months from date of shipment to first purchaser, whichever occurs first	Normal wearing items, such as shaft seals and inlet valve components, along with the servicing of these items is not covered under the warranty unless deemed as material or workmanship defects. Any disassembly or partial disassembly of the airend, or failure to return the "unopened" airend per Company instructions, will be cause for denial of warranty.
Electric Motors	12 months from startup or 15 months from date of shipment to first purchaser, whichever occurs first	Includes both drive motor and cooling fan motor. For nonstandard motors, the original manufacturer's warranty will take precedence.
Major Package Components	12 months from startup or 15 months from date of shipment to first purchaser, whichever occurs first	Includes package controller, variable frequency drive if applicable, air/oil reservoir, air/oil cooler, and precision mixing valve (VS Series).
Labor	<p>Package / Electric Motors: 12 months from startup or 15 months from date of shipment to first purchaser, whichever occurs first</p> <p>Airend / Major Package Components: 12 months from startup or 15 months from date of shipment to first purchaser, whichever occurs first</p>	Service will be provided by Company representative or authorized service personnel, for repair or replacement of any product or part which in the Company's sole judgment is proved not to be as warranted. Labor shall be limited to the amount specified in the Company's labor rate schedule. All costs of transportation of product, parts, and repaired or replacement parts claimed not to be as warranted to and from such service facilities shall be borne by the Purchaser. The Company may require the return of any part claimed not to be as warranted to one of its facilities as designated by Company, transportation prepaid by Purchaser, to establish a claim under this warranty. Replacement parts provided under the terms of the warranty are warranted for the remainder of the Warranty Period.

NO WARRANTY IS MADE WITH RESPECT TO:

1. ANY PRODUCT WHICH HAS BEEN REPAIRED OR ALTERED IN SUCH A WAY, IN THE COMPANY'S SOLE JUDGMENT, AS TO AFFECT THE PRODUCT ADVERSELY
2. ANY PRODUCT WHICH HAS, IN THE COMPANY'S SOLE JUDGMENT BEEN SUBJECT TO NEGLIGENCE, ACCIDENT, IMPROPER STORAGE, OR IMPROPER INSTALLATION OR APPLICATION
3. ANY PRODUCT WHICH HAS NOT BEEN OPERATED OR MAINTAINED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE COMPANY
4. ANY RECONDITIONED OR PRIOR OWNED PRODUCT

STANDARD WARRANTY DISCLAIMER

THE FOREGOING WARRANTY IS EXCLUSIVE AND IT IS EXPRESSLY AGREED THAT, EXCEPT AS TO TITLE, THE COMPANY MAKES NO OTHER WARRANTIES AND HEREBY EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES, INCLUDING WITHOUT LIMITATION, EXPRESSED, IMPLIED OR STATUTORY WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE. THE REMEDY PROVIDED UNDER THIS WARRANTY SHALL BE THE SOLE, EXCLUSIVE AND ONLY REMEDY AVAILABLE TO PURCHASER AND IN NO CASE SHALL THE COMPANY BE SUBJECT TO ANY OTHER OBLIGATIONS OR LIABILITIES. UNDER NO CIRCUMSTANCES SHALL THE COMPANY BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, EXPENSES, LOSSES OR DELAYS HOWSOEVER CAUSED. NO STATEMENT, REPRESENTATION, AGREEMENT, OR UNDERSTANDING, ORAL OR WRITTEN, MADE BY ANY AGENT, DISTRIBUTOR, REPRESENTATIVE, OR EMPLOYEE OF THE COMPANY WHICH IS NOT CONTAINED IN THIS WARRANTY WILL BE BINDING UPON THE COMPANY UNLESS MADE IN WRITING AND EXECUTED BY AN OFFICER OF THE COMPANY. THIS WARRANTY SHALL NOT BE EFFECTIVE AS TO ANY CLAIM WHICH IS NOT PRESENTED WITHIN 30 DAYS AFTER THE DATE UPON WHICH THE PRODUCT IS CLAIMED NOT TO HAVE BEEN AS WARRANTED. ANY ACTION FOR BREACH OF THIS WARRANTY MUST BE COMMENCED WITHIN ONE YEAR AFTER THE DATE UPON WHICH THE CAUSE OF ACTION OCCURRED. ANY ADJUSTMENT MADE PURSUANT TO THIS WARRANTY SHALL NOT BE CONSTRUED AS AN ADMISSION BY THE COMPANY THAT ANY PRODUCT WAS NOT AS WARRANTED. WARRANTY IS NOT TRANSFERRABLE

Premium Warranty Plan

Oil-Lubricated Rotary Screw Packages

D Series, DRS Series

The extended warranty is available on all new Champion oil-lubricated rotary screw / rotary vane packages **shipped after May 1st, 2015**. To receive the extended airend and package component warranty, the requirements listed below must be performed and documented during the full warranty period. In the event of a claim under this warranty, documentation shall be provided evidencing full compliance with this requirement.

PREMIUM WARRANTY PLAN PERIOD

Champion (the "Company") shall warrant the components identified below to be free of defects in material and workmanship for the warranty period. Normal wearing components and servicing of these items is not covered under the premium warranty. The Company's obligation under this warranty is limited to repairing or, at its option, replacing, during normal business hours at an authorized service facility of the Company, any part which in its sole judgment proved not to be as warranted within the applicable warranty period as follows. Regular maintenance in accordance with the service manual and use of genuine Champion OEM parts and lubricants is required.

COMPONENT	PLATINUM EXTENDED WARRANTY COVERAGE	DETAILS
Package	12 months (1 year) from startup or 15 months from date of shipment to first purchaser, whichever occurs first	All components within the package, excluding normal wear items
Airend	60 months (5 years) from date of initial startup or 63 months from shipment, whichever occurs first	Normal wearing items, such as shaft seals and inlet valve components, along with the servicing of these items is not covered under the warranty unless deemed as material or workmanship defects. Any disassembly or partial disassembly of the airend, or failure to return the "unopened" airend per Company instructions, will be cause for denial of warranty
Electric Motors	60 months (5 years) from date of initial startup or 63 months from shipment, whichever occurs first (<i>Excludes 1ph motors</i>)	Includes both drive motor and cooling fan motor. For nonstandard motors, the original manufacturer's warranty will take precedence.
Major Package Components	60 months (5 years) from date of initial startup, or 63 months from shipment, whichever occurs first	Includes package controller, variable frequency drive if applicable, air/oil reservoir, air/oil cooler.
Labor	<p>Package: 12 months from startup or 15 months from date of shipment to first purchaser, whichever occurs first</p> <p>Airend / Major Package Components: 60 months from date of initial startup, or 63 months from shipment, whichever occurs first</p>	Service will be provided by Company representative or authorized service personnel, for repair or replacement of any product or part which in the Company's sole judgment is proved not to be as warranted. Labor shall be limited to the amount specified in the Company's labor rate schedule. All costs of transportation of product, parts, and repaired or replacement parts claimed not to be as warranted to and from such service facilities shall be borne by the Purchaser. The Company may require the return of any part claimed not to be as warranted to one of its facilities as designated by Company, transportation prepaid by Purchaser, to establish a claim under this warranty. Replacement parts provided under the terms of the warranty are warranted for the remainder of the Warranty Period.

PREMIUM WARRANTY PLAN REQUIREMENTS

1. The **Premium Warranty Registration Form** (BP-46) must be completed and returned to Champion within 30 days of the compressor package start-up date.
2. Use of **Genuine Champion OEM parts and lubricant (or warranty kits)** as specified in the service manual must be purchased from an authorized Champion distributor. **Maintenance shall be performed in accordance to the table found below along with the recommended maintenance schedule found in the service manual for the appropriate compressor package.** Consult the service manual for proper maintenance intervals for the operating hours of the equipment.

D Series, DRS Series:

Component	Change Interval
Oil Filter	Every 2000hrs or 6 months , whichever occurs first
Oil Sample	Every 2000hrs or 6 months , whichever occurs first
Lubricant	Change per recommendations of the Oil Analysis or hour Life rating of lubricant or as indicated by controller or 12 months , whichever occurs first
Separator	Every 4000hrs or 12months , whichever occurs first
Inlet Air Filter	Every 2000hrs or 6 months , whichever occurs first
Control Box Filter	Every 2000hrs or 6 months , whichever occurs first
Cabinet Air Filter	Every 2000hrs or 6 months , whichever occurs first

- Participation in Champion’s oil analysis sampling program is required. An oil sample must be sent to our lubricant analysis laboratory every **2000 hours or every 6 months**, whichever occurs first. Any recommendations detailed in the oil analysis report must be followed as outlined in the report. Oil sample bottles are to be obtained from your local authorized Gardner Denver distributor.
- The use of approved Champion lubricants is required. The following lubricants are approved for warranty and must be changed in accordance with the above maintenance tables or a **minimum of every 12 months**. Oil filter and separator elements must be replaced at the time of the lubricant change.

D Series, DRS Series:

RotorLub 8000, RotorLub 8000TH, RotorLub 4000, Rotorlub 4000FG, RotorLub 4000FG-68

- A log of all maintenance performed must be maintained with the corresponding operational hours. This includes the following changes: air filter, oil filter, separator, and lubricant. All other maintenance and repairs also require logging and documentation with corresponding hours.

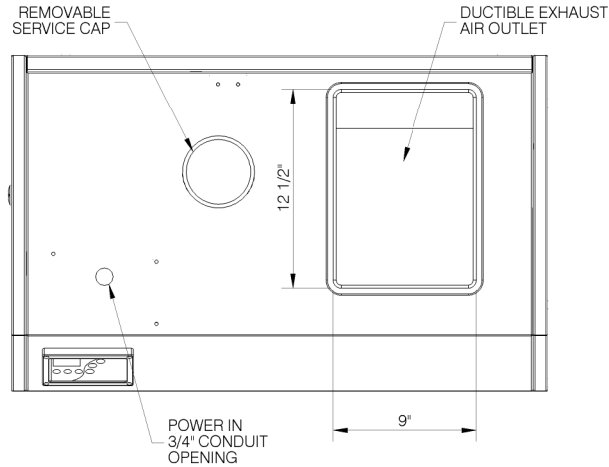
PREMIUM WARRANTY PLAN DISCLAIMER

CHAMPION RESERVES THE RIGHT TO CHANGE THE PREMIUM WARRANTY PLAN AND/OR REQUIREMENTS AS DEEMED APPROPRIATE BY THE COMPANY. CHAMPION RESERVES THE RIGHT TO REFUSE PARTICIPATION IN THE PREMIUM WARRANTY PLAN TO ANY DISTRIBUTOR AND/OR END CUSTOMER OF THE COMPRESSOR. THIS PREMIUM WARRANTY PLAN IS SUPPLEMENTAL TO THE STANDARD WARRANTY. COMPANY MAKES NO OTHER WARRANTY OR REPRESENTATION OF ANY KIND, EITHER EXPRESS OR IMPLIED. THE FOREGOING WARRANTY IS EXCLUSIVE AND IT IS EXPRESSLY AGREED THAT, EXCEPT AS TO THE TITLE, COMPANY MAKES NO OTHER WARRANTIES EXPRESSED, IMPLIED, OR STATUTORY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY. THIS WARRANTY SHALL NOT BE EFFECTIVE AS TO ANY CLAIM WHICH IS NOT PRESENTED WITHIN 30 DAYS AFTER THE DATE UPON WHICH THE PRODUCT IS CLAIMED NOT TO HAVE BEEN AS WARRANTED. ANY ACTION FOR BREACH OF THIS WARRANTY MUST BE COMMENCED WITHIN ONE YEAR AFTER THE DATE UPON WHICH THE CAUSE OF ACTION OCCURRED.

NO WARRANTY IS MADE WITH RESPECT TO:

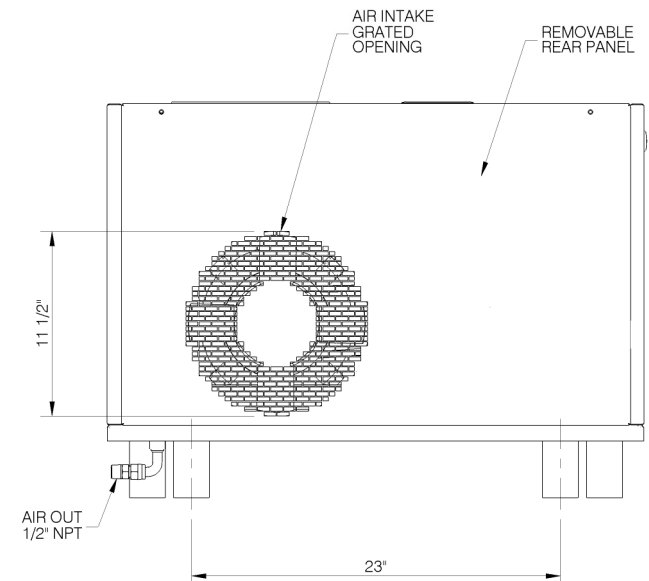
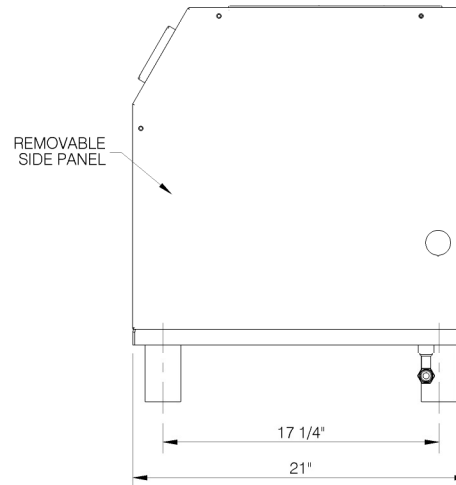
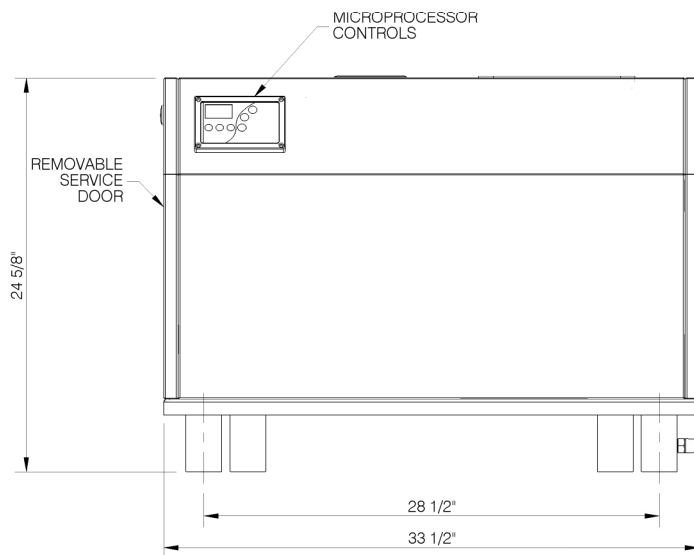
- ANY PRODUCT WHICH HAS BEEN REPAIRED OR ALTERED IN SUCH A WAY, IN THE COMPANY’S SOLE JUDGMENT, AS TO AFFECT THE PRODUCT ADVERSELY
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- ANY PRODUCT WHICH HAS NOT BEEN OPERATED OR MAINTAINED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE COMPANY
- ANY RECONDITIONED OR PRIOR OWNED PRODUCT

MODEL NO.	HP	PRESSURE PSI	ACFM @ LOAD PRESSURE	NOMINAL SOUND @ 1 METRE	FULL LOAD CURRENT (AMPS)				WEIGHT LBS
					230V/1/60	200V/3/60	230V/3/60	460V/3/60	
D6	5	125-145	16	65 dBA	28	17.5	15.2	7.6	378
D7.5	7.5	125-145	29	68 dBA	40	25.3	22	11	404



INSTALLATION REQUIREMENTS

1. MAINTAIN 3 FEET DISTANCE FROM WALLS AND OTHER OBJECTS FOR PURPOSE OF COOLING AND SERVICING.
2. COMPRESSOR MUST BE LEVEL AND ANCHORED DOWN TO SOLID LEVEL FLOOR.
3. AMBIENT CONDITIONS:
10°C (50°F) MIN. 40°C (104°F) MAX.
4. APPROACH TEMP. FROM TANK 5°C (41°F)



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REV.	DATE	REVISION DESCRIPTION	ECN NO.

CHAMPION

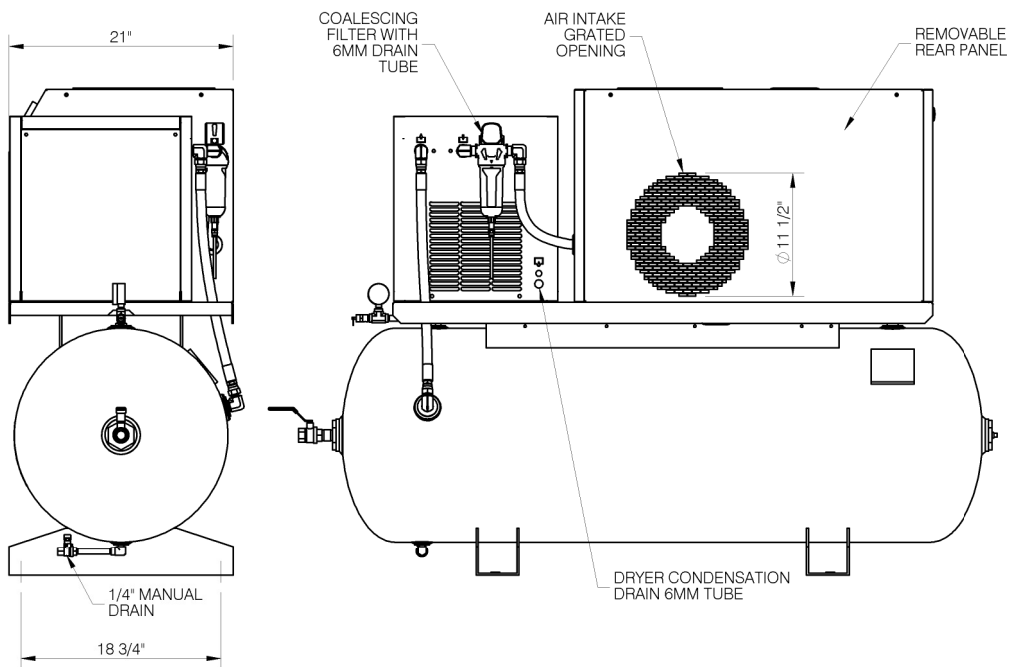
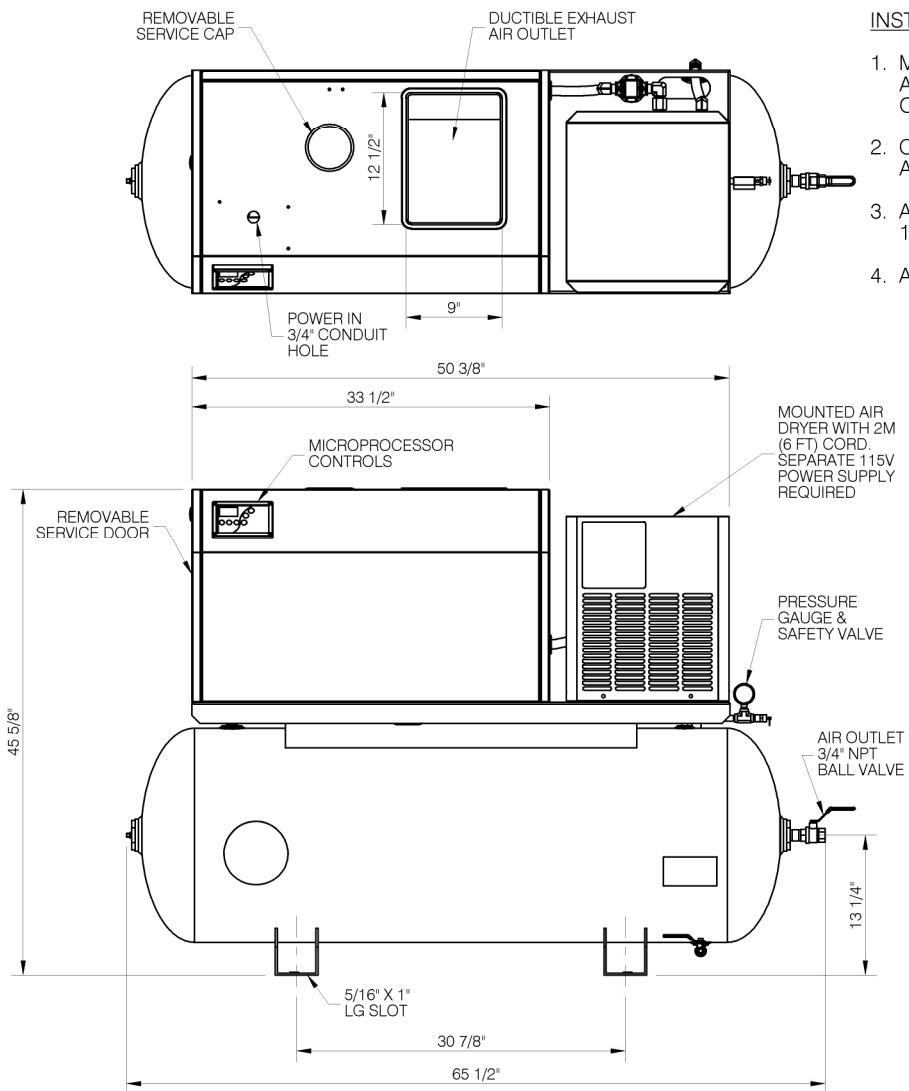
NAME OF PROJECT				DESCRIPTION OF DRAWING		
D6-7.5 SCREW COMPRESSOR				SALES-ENGINEERING DRAWING		
DRAWN BY	CHECKED BY	DATE	SCALE	DRAWING NO.	SHT NO REV.	
DM	LT	03/06/19	N.T.S	D6-7.5-SE	1/1	00

MODEL NO.	HP	PRESSURE PSI	ACFM @ LOAD PRESSURE	NOMINAL SOUND @ 1 METRE	FULL LOAD CURRENT (AMPS)				AIR RECEIVER GAL.	DRYER	FILTER ELEMENT	WEIGHT LBS
					230V/1/60	200V/3/60	230V/3/60	460V/3/60				
D6TD	5	125-145	16	63 dBA	28	17.5	15.2	7.6	80	ASD-15 115V, 60Hz, 2.2A	1 MICRON	665
D7.5TD	7.5	125-145	29	66 dBA	40	25.3	22	11	80	ASD-30 115V, 60Hz, 3.5A	1 MICRON	715



INSTALLATION REQUIREMENTS

1. MAINTAIN 3 FEET DISTANCE FROM WALLS AND OTHER OBJECTS FOR PURPOSE OF COOLING AND SERVICING.
2. COMPRESSOR MUST BE LEVEL AND ANCHORED DOWN TO SOLID LEVEL FLOOR.
3. AMBIENT CONDITIONS:
10°C (50°F) MIN. 40°C (104°F) MAX.
4. APPROACH TEMP. FROM TANK 5°C (41°F)

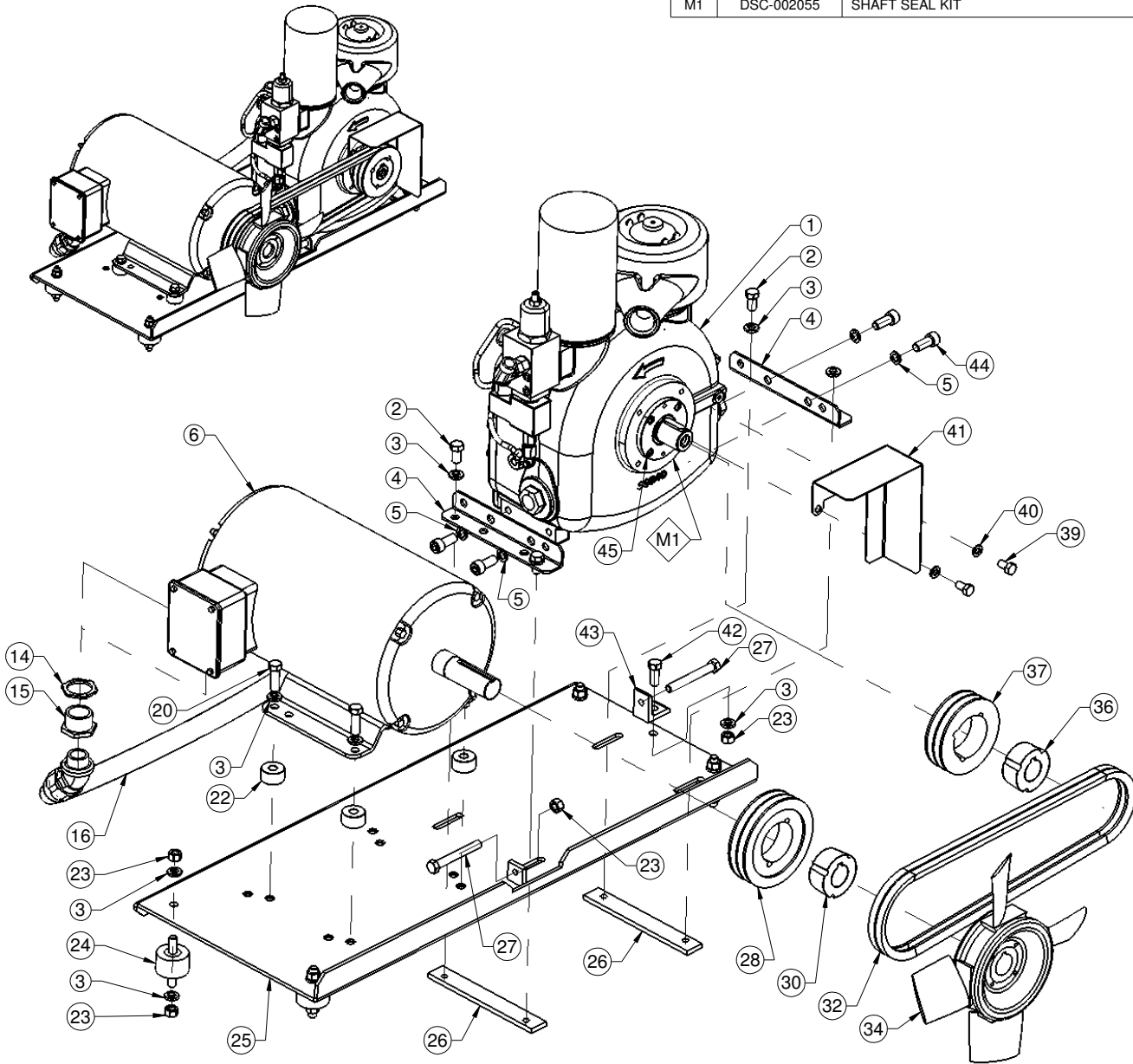


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REV.	DATE	REVISION DESCRIPTION	ECN NO.

CHAMPION				NAME OF PROJECT				DESCRIPTION OF DRAWING	
				D6-7.5 SCREW COMPRESSOR WITH DRYER				SALES-ENGINEERING DRAWING	
DRAWN BY	CHECKED BY	DATE	SCALE	DRAWING NO.	SHT NO	REV.			
DM	LT	03/06/19	N.T.S	D6-7.5TD-SE	1/1	00			

MAINTENANCE KIT			NO.	PART NUMBER	DESCRIPTION	QTY.
M1	DSC-002055	SHAFT SEAL KIT	1	DSC-002053	AIR END 24V	1
			2	SS-23	3/8-16 X 3/4 HHCS B/M	4
			3	SS-1502	3/8" LOCKWASHER	17
			4	DSC-001540	AIR END MOUNTING ANGLE	2
			5	SS-1515	M10 HC LOCKWASHER	4
			6	MO-9025	MOTOR 5HP 230/60/1	1
			6	MO-6407	MOTOR 5HP 200/60/3	1
			6	MO-6435	MOTOR 5HP 230/460/60/3	1
			6	MO-9033	MOTOR 7.5HP 230/60/1	1
			6	MO-6507	MOTOR 7.5HP 200/60/3	1
			6	MO-6535	MOTOR 7.5HP 230/460/60/3	1
			14	SS-9956	LOCK NUT 1" (7.5HP-3PH)	1
			15	SS-9931	ELECTRICAL BUSHING 1" X 3/4" (7.5HP-3PH)	1
			16	MH-9027	MOTOR HARNESS 5/230/1	1
			16	MH-9028	MOTOR HARNESS 5/200/3, 7.5/460/3	1
			16	MH-9029	MOTOR HARNESS 7.5/230/1	1
			16	MH-9030	MOTOR HARNESS 7.5/200-230/3	1
			20	SS-26	3/8"-16 X 1-1/4" HHCS (D6 ONLY)	4
			20	SS-23	3/8-16 X 3/4 HHCS (D7.5 ONLY)	4
			22	SS-10012	SPACER 1-1/8" DIA X 5/8" (D6 ONLY)	4
			23	SS-657	3/8-16 HEX NUT	10
			24	DSC-001330	VIBRATION ISOLATOR	4
			25	DSC-002242	SUB BASE	1
			26	DSC-001516	HOLDING BAR	2
			27	SS-34	3/8-16 X 3" HHCS	2
			28	PU-9259	MOTOR PULLEY D6	1
			28	PU-9238	MOTOR PULLEY D7.5	1
			30	DSC-001558	MOTOR BUSHING D6	1
			30	DSC-613	MOTOR BUSHING D7.5	1
			32	DSC-002256	BELT D6	2
			32	DSC-002257	BELT D7.5	2
			34	DSC-001565	FAN ASSEMBLY D6	1
			34	DSC-001567	FAN ASSEMBLY D7.5	1
			36	DSC-001557	AIR END BUSHING	1
			37	PU-9259	AIR END PULLEY D6	1
			37	PU-9261	AIR END PULLEY D7.5	1
			39	DSC-678	M8 X 16MM HHCS	2
			40	SS-1503	5/16" LOCKWASHER	2
			41	DSC-001555	FINGER GUARD	1
			42	SS-25	3/8"-16 X 1" HHCS GR2	1
			43	DSC-002210	ANGLE HRS 1-1/2" X 1-1/2" X 1/4"	1
			44	SS-10025	M10 X 25MM SHCS	4
			45	DSC-002534	FRONT COVER AIR END	1



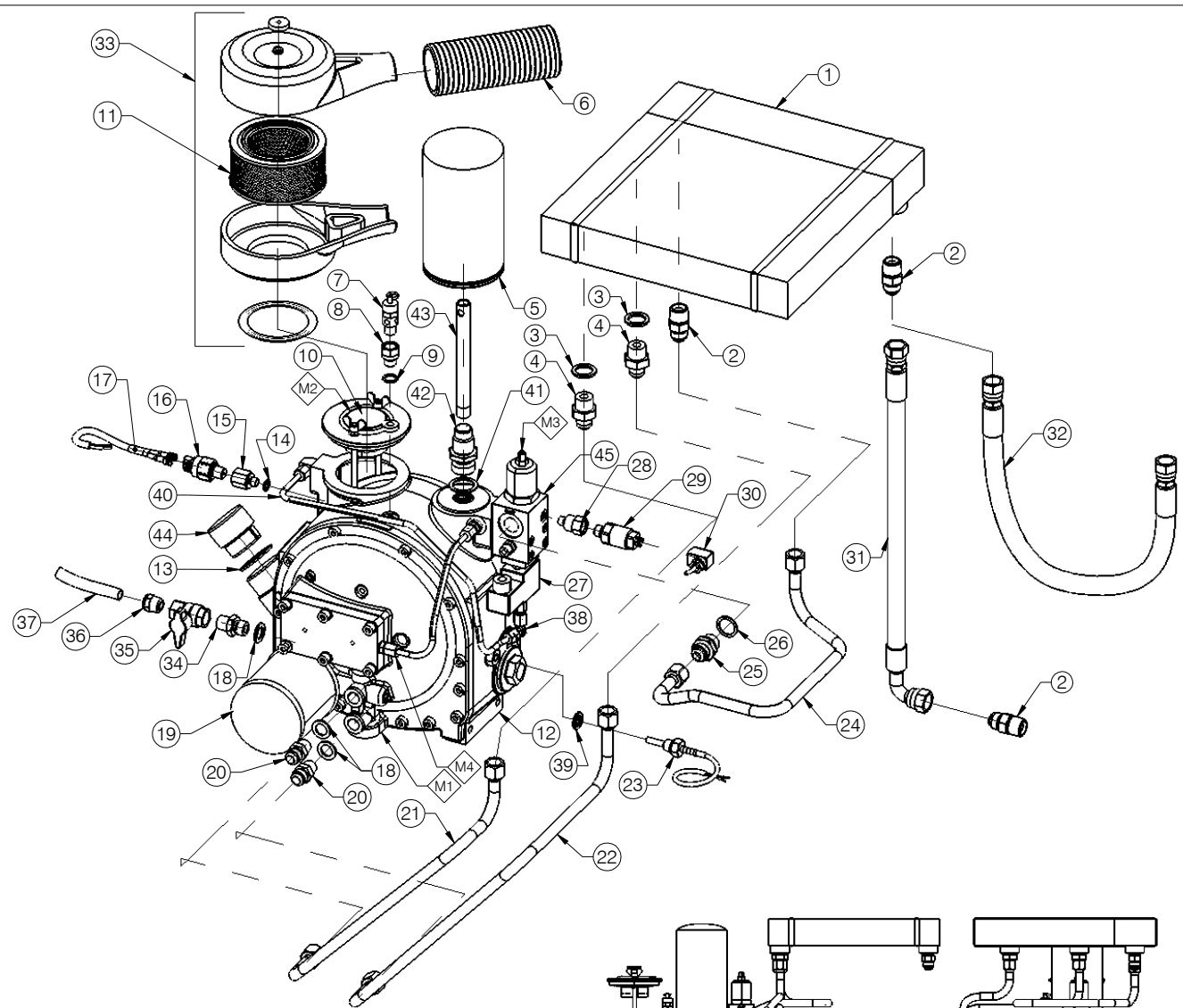
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REV.	DATE	REVISION DESCRIPTION	PCN NO.

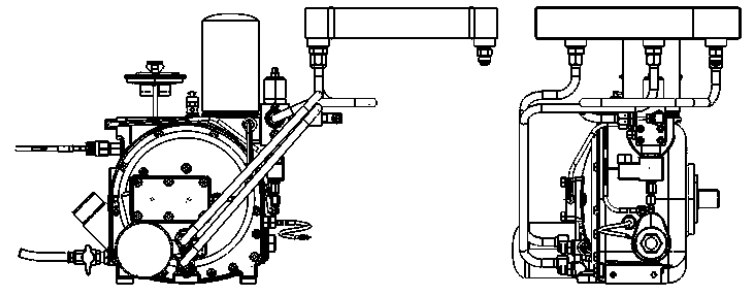
CHAMPION

NAME OF PROJECT				DESCRIPTION OF DRAWING		
D6-7.5 SCREW COMPRESSOR				DRIVE COMPONENTS		
DRAWN BY		CHECKED BY	DATE	SCALE	DRAWING NO.	SHT NO/REV.
DM		LT	02/04/19	N.T.S	D6-7.5-DRV	1/1 00

NO.	PART NUMBER	DESCRIPTION	QTY.
1	DSC-002221	HEAT EXCHANGER	1
2	DSC-001353	ADAPTER 1/2"NPT(M) - JIC 8(M)	3
3	DSC-200	BONDED WASHER 1/2' BSPP	2
4	DSC-001214	ADAPTER 1/2'BSPP - JIC 8	2
5	DSC-002476-CH	AIR/OIL SEPARATOR FILTER	1
6	DSC-002215	AIR INLET TUBE	1
7	TIA-5200	SAFETY VALVE 200PSI	1
8	DSC-001564	ADAPTER 1/4'BSPPM - 1/4'NPTF	1
9	DSC-001968	COPPER SEALING RING 1/4'BSPP	1
10	DSC-001572	INTAKE VALVE	1
11	DSC-001569	AIR FILTER	1
12	DSC-002053	AIR END 24V	1
13	DSC-002258	OIL CAP O-RING AE SN.37213 TO PRESENT	1
14	DSC-001667	COPPER SEALING RING 1/8'BSPP	1
15	DSC-001659	ADAPTER 1/8'BSPPM - 1/4'NPTF	1
16	DSC-102	ANTI-ROTATION PRESSURE SWITCH	1
17	DSC-522	ANTI-ROTATION SWITCH CABLE	1
18	DSC-427	BONDED WASHER 3/8'	3
19	DSC-603-CH	OIL FILTER	1
20	DSC-001563	ADAPTER 3/8'BSPPM - JIC8	2
21	DSC-002239	OIL INLET TUBE	1
22	DSC-002238	OIL OUTLET TUBE	1
23	DSC-001238	TEMPERATURE SENSOR CSC200300	1
24	DSC-002237	AIR HOSE TO COOLER	1
25	DSC-002220	ADAPTER-SH 1/2'BSPP - JIC 8	1
26	DSC-002219	COPPER WASHER 1/2'BSPP	1
27	DSC-001676	SOLENOID 24V	1
28	DSC-001568	ADAPTER 1/8'BSPPM - 1/4'BSPPF	1
29	DSC-001237	PRESSURE TRANSDUCER CSC200300	1
30	DSC-001366	PRESS. TRANSD. CABLE CSC200300	1
31	DSC-442	D6-7.5 AIR OUTLET HOSE(WITH DSC-001353)	1
32	DSC-001729	D6-7.5TD AIR OUTLET HOSE	1
33	DSC-002969	AIR FILTER ASSEMBLY	2
34	DSC-002825	ADAPTER 3/8'BSPP(M) - 3/8'NPT(M)	1
35	DSC-002828	BALL VALVE 3/8" NPTF X 3/8" NPTF	2
36	DD-00091	3/8"NPT X 1/2"DIA PNEU. FITTING	2
37	R9804	PE TUBING 1/2" OD	2
38	DSC-002870	ELBOW FITTING	1
39	DSC-001217	BONDED WASHER 1/4'BSPP	1
40	DSC-002871	CONTROL LINE TUBE	1
41	DSC-001997	COPPER WASHER 3/4'BSPP	1
42	DSC-002854	SEPARATOR FITTING	1
43	DSC-002855	SEPARATOR SPOUT	1
44	DSC-002954 DSC-002955	OIL CAP & SEAL AE SN.37212 & EARLIER OIL CAP AE SN. 37213 TO PRESENT	1
45	DSC-001716	MPV & HOUSING ASSEMBLY	1



MAINTENANCE KITS			
NO	PART NUMBER	DESCRIPTION	
M1	DSC-002057 DSC-001711	THERMO VALVE REPAIR KIT SN. >= 37214 THERMO VALVE REPAIR KIT SN. <= 37213	
M2	DSC-001712	INTAKE VALVE REPAIR KIT	
M3	DSC-001713	MINIMUM PRESSURE VALVE REPAIR KIT	
M4	DSC-002058	ORIFICE & TUBE SN. >= 37214	
---	MK-D67-CH	4000 HR MAINTENANCE KIT	



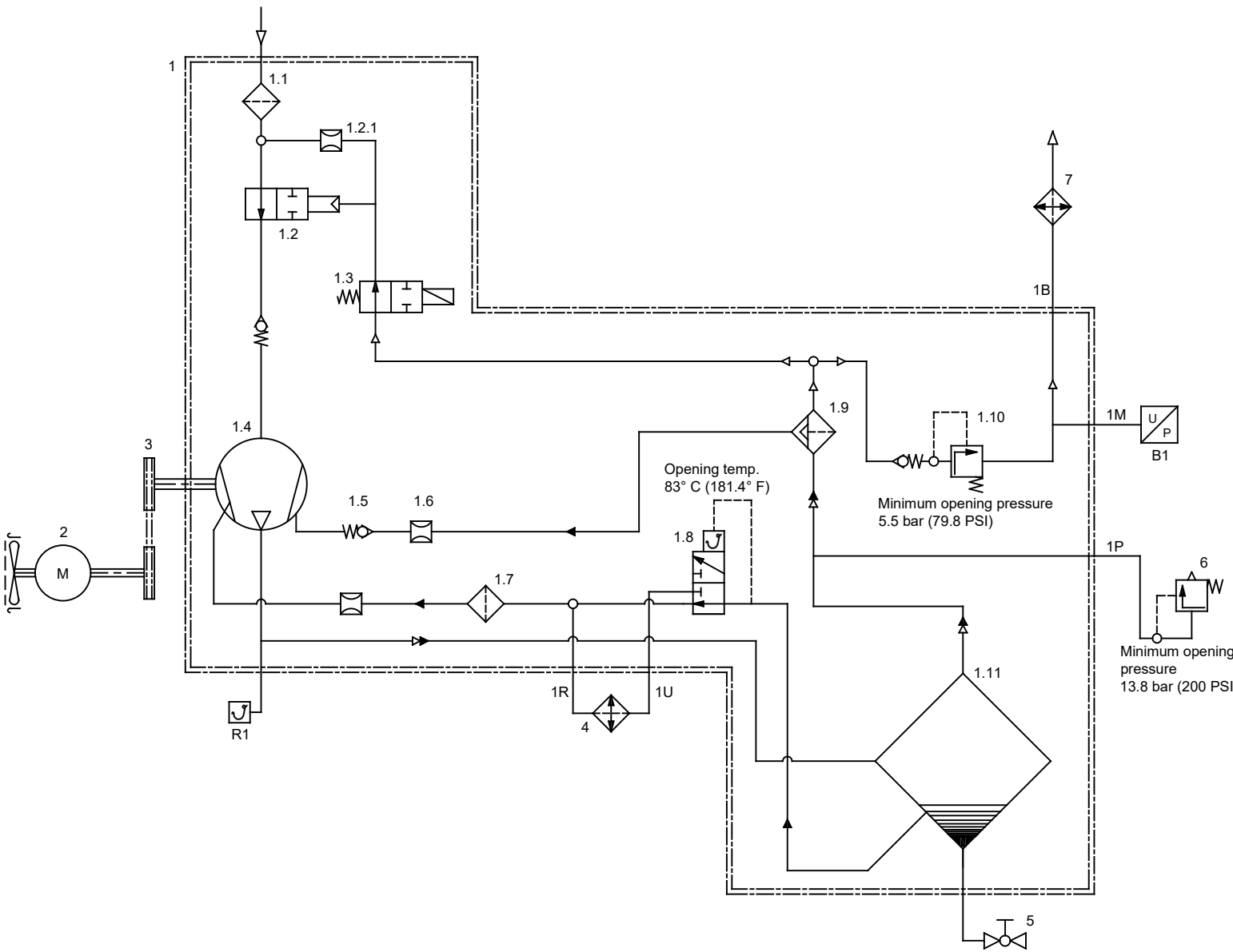
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REV.	DATE	REVISION DESCRIPTION	PCN NO.

CHAMPION

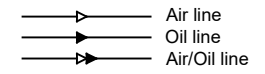
NAME OF PROJECT				DESCRIPTION OF DRAWING	
D6-7.5 SCREW COMPRESSOR				SYSTEM COMPONENTS	
DRAWN BY	CHECKED BY	DATE	SCALE	DRAWING NO.	SHT NO/REV.
DM	LT	02/05/19	N.T.S	D6-7.5-SYS	1/1 00

REV.	DATE	REVISION DESCRIPTION	PCN NO.



- 1. Encapsulated airend
- 1.1 Air inlet filter
- 1.2 Intake valve
- 1.2.1 Venting orifice
- 1.3 Solenoid valve - NO
- 1.4 Air end
- 1.5 Scavenge check valve
- 1.6 Scavenge orifice
- 1.7 Oil Filter
- 1.8 Thermostatic valve
- 1.9 Air/Oil separator
- 1.10 Minimum pressure valve
- 1.11 Air/Oil receiver
- 1B. Outlet minimum pressure valve
- 1M. Air connection (After minimum pressure valve)
- 1P. Safety valve connection
- 1R. Return from the oil cooler
- 1U. Outlet thermostatic valve (Inlet to the oil cooler)
- 2. Main motor
- 3. Belt drive
- 4. Oil cooler
- 5. Oil drain valve
- 6. Pressure relief valve
- 7. Air cooler

- R1 Oil temperature
- B1 Sensor mains pressure



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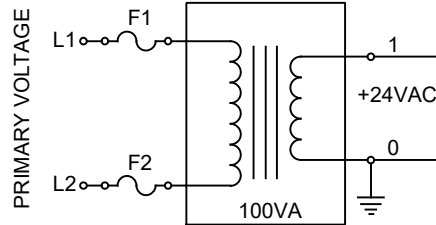
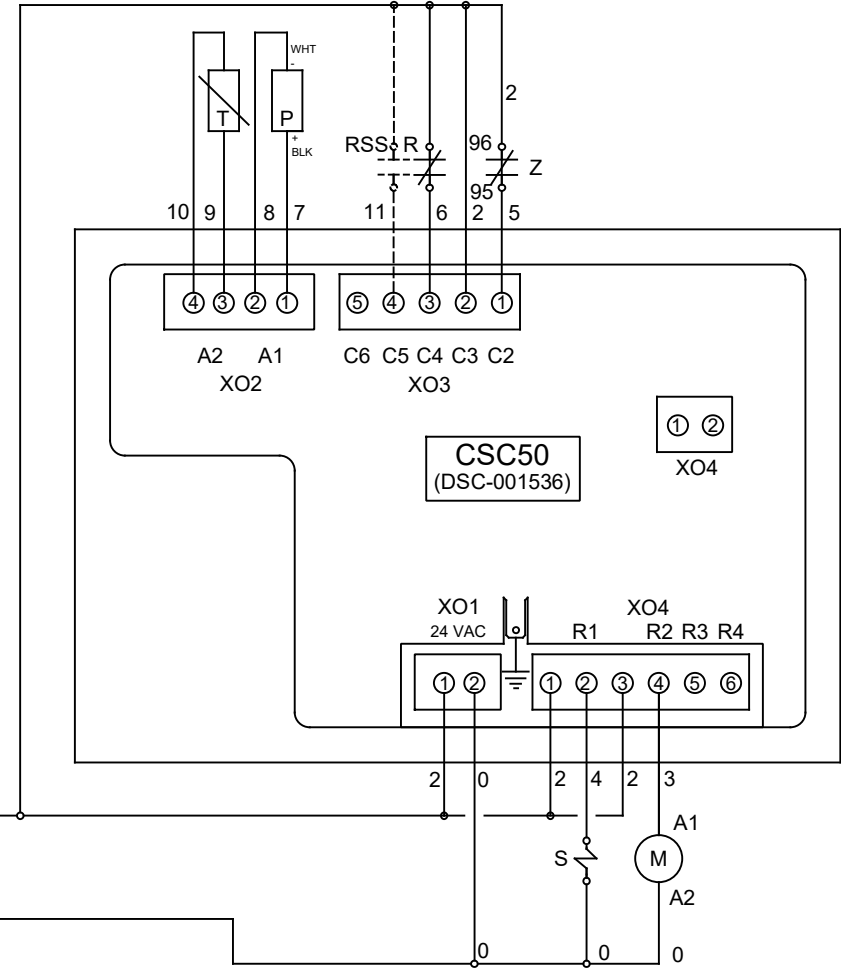
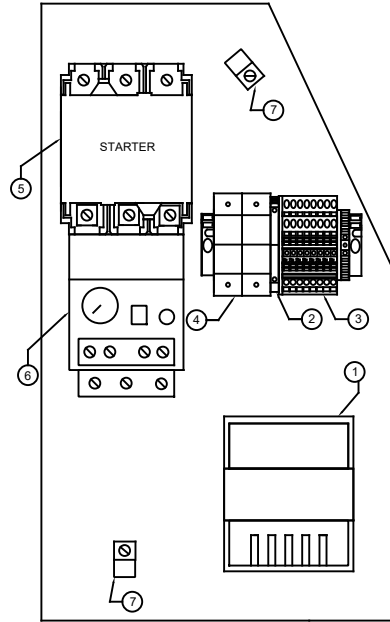
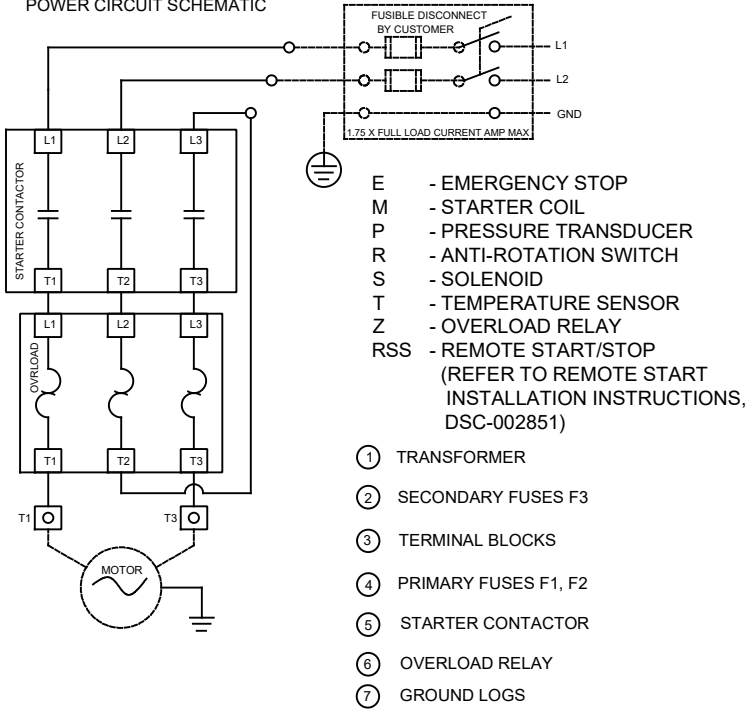
FRACTIONAL DIMENSIONS: $\pm 1/32$
 DECIMAL DIMENSION: ± 0.005
 ANGLES: $\pm 1'$
 *UNLESS OTHERWISE SPECIFIED



NAME OF PROJECT				DESCRIPTION OF DRAWING		
D6-7.5 SCREW COMPRESSOR				P & ID DIAGRAM		
DRAWN BY	CHECKED BY	DATE	SCALE	DRAWING NO.	SHT NO	REV
DM	EH	02/06/19	N.T.S.	D6-7.5-PID	1/1	00

REV.	DATE	REVISION DESCRIPTION	PCN NO.

POWER CIRCUIT SCHEMATIC



VOLTAGE	FUSE CHART						
	FUSE SIZE (AMPS)			OVERLOAD SETTING			
	CC CLASS	TIME-DELAY	5MM	1PH	3PH	5HP	7.5HP
200	F1	F2	F3	5HP	7.5HP	5HP	7.5HP
230	1	1	4	NA	NA	16	23
460	0.5	0.5	4	NA	NA	7	11

WARNING: REPLACE WITH THE SAME FUSE TYPE & RATING

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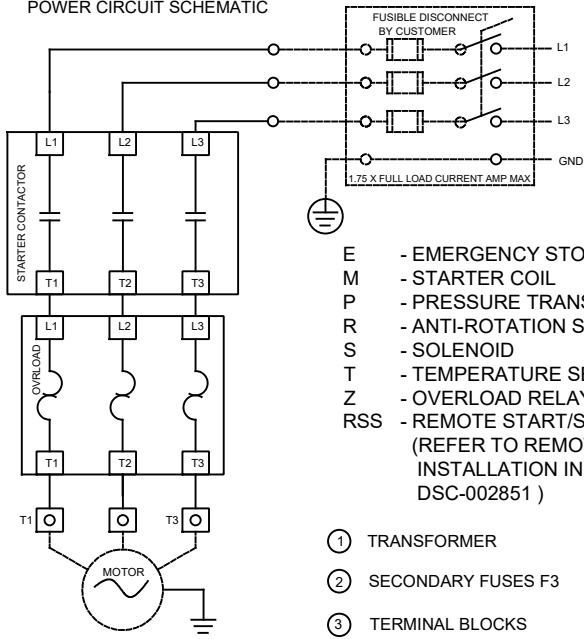
FRACTIONAL DIMENSIONS: ±1/32
 DECIMAL DIMENSION: ±.005
 ANGLES: ±1°
 *UNLESS OTHERWISE SPECIFIED



NAME OF PROJECT				DESCRIPTION OF DRAWING	
SCREW COMPRESSOR D6-7.5 SERIES SINGLE PHASE CONTROLS				ELECTRICAL SCHEMATICS WITH MICROPROCESSOR	
DRAWN BY		CHECKED BY	DATE	SCALE	DRAWING NO.
DM	LT		02/05/19	N.T.S.	CSC50D6-7.5-1PH
				SHT NO	REV
				1/1	00

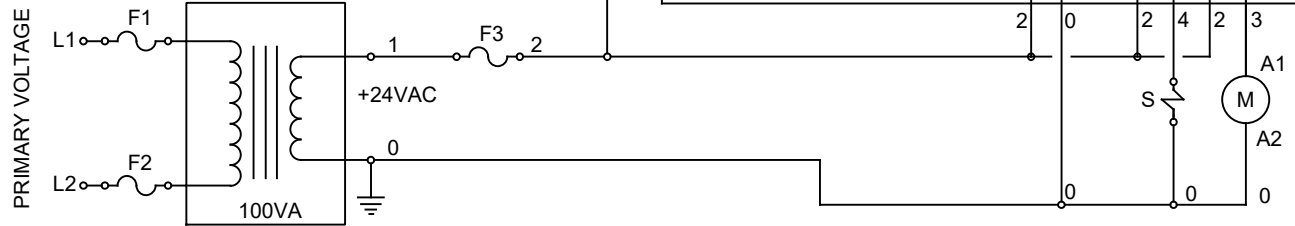
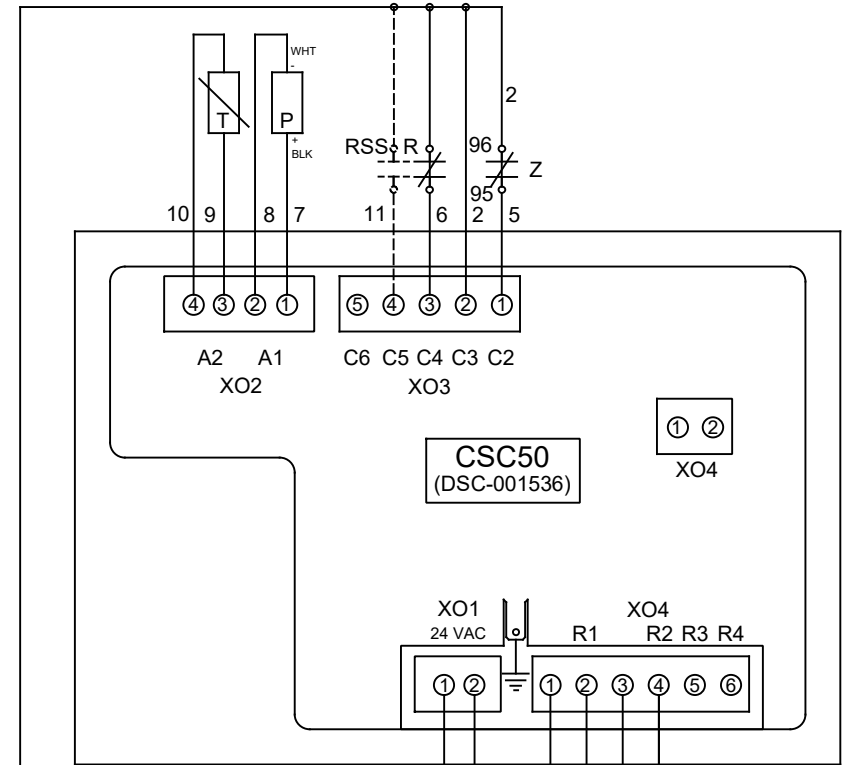
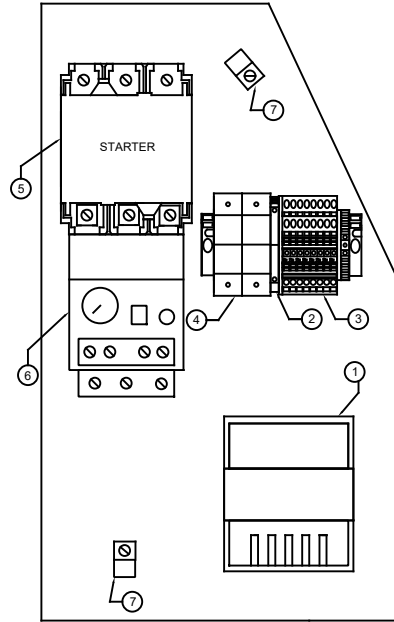
REV.	DATE	REVISION DESCRIPTION	PCN NO.

POWER CIRCUIT SCHEMATIC



- E - EMERGENCY STOP
- M - STARTER COIL
- P - PRESSURE TRANSDUCER
- R - ANTI-ROTATION SWITCH
- S - SOLENOID
- T - TEMPERATURE SENSOR
- Z - OVERLOAD RELAY
- RSS - REMOTE START/STOP
(REFER TO REMOTE START
INSTALLATION INSTRUCTIONS,
DSC-002851)

- ① TRANSFORMER
- ② SECONDARY FUSES F3
- ③ TERMINAL BLOCKS
- ④ PRIMARY FUSES F1, F2
- ⑤ STARTER CONTACTOR
- ⑥ OVERLOAD RELAY
- ⑦ GROUND LOGS



VOLTAGE	FUSE CHART							
	FUSE SIZE (AMPS)				OVERLOAD SETTING			
	F1	F2	F3	5HP	7.5HP	5HP	7.5HP	
200	1	1	4	NA	NA	16	23	
230	1	1	4	23	36	14	22	
460	0.5	0.5	4	NA	NA	7	11	

WARNING: REPLACE WITH THE SAME FUSE TYPE & RATING

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FRACTIONAL DIMENSIONS: ±1/32
 DECIMAL DIMENSION: ±.005
 ANGLES: ±1°
 *UNLESS OTHERWISE SPECIFIED



NAME OF PROJECT				DESCRIPTION OF DRAWING	
SCREW COMPRESSOR D6-7.5 SERIES THREE PHASE CONTROLS				ELECTRICAL SCHEMATICS WITH MICROPROCESSOR	
DRAWN BY		CHECKED BY		DATE	SCALE
DM		LT		02/05/19	N.T.S.
				DRAWING NO.	SHT NO/REV
				CSC50D6-7.5-3PH	1/1 00