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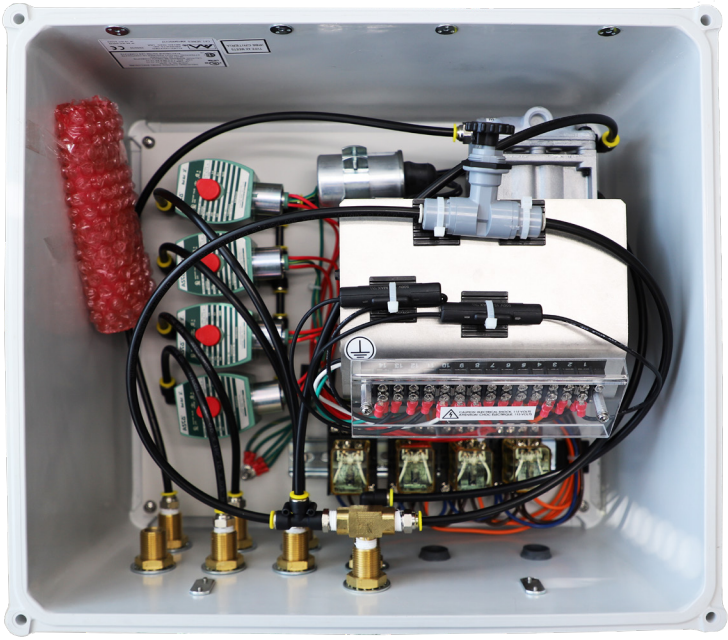

YSI AIR COMPRESSOR

SINGLE AND MULTI-CHANNEL

USER MANUAL
601400-RevE

YSI
a xylem brand

General Information

The information contained in this manual is subject to change without notice.

Effort has been made to make the information in this manual complete, accurate, and current.

The manufacturer shall not be held responsible for errors or omissions in this manual, or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

Consult **YSI.com** *for the most up-to-date version of this manual.*

Warranty

YSI warrants each YSI manufactured product against defects in materials and workmanship under normal use and service for a period of one year. Equipment installed by YSI is warranted from the installation date; all other equipment is warrantied from the ship date. If purchaser schedules or delays installation more than 90 days after delivery, then the warranty period starts on the 91st day from date of shipment. This warranty extends only to the original purchaser. YSI will, at its option, repair or replace equipment that proves to be defective during the warranty period, provided the equipment is returned to YSI at the expense of the purchaser.

Consumables, expendables, and parts are warranted for 30 days and are not covered under extended warranties or service contracts.

This warranty shall not apply to defects originating from, but not limited to, the following:

- Improper maintenance or operation by the purchaser;
- Purchaser-supplied accessories or consumables;
- Modification or misuse by the purchaser;
- Operation outside the product's environmental and electrical specifications;
- Software, interfacing, parts, or supplies not supplied by YSI;
- Improper or inadequate site preparation;
- Purchaser-induced contamination or leaks.

THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY, FITNESS, OR ADEQUACY FOR ANY PARTICULAR PURPOSE OR USE. YSI SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN CONTRACT, TORT, OR OTHERWISE.

Any service requests or questions should be directed to the YSI Customer Support Center at (937) 767-7241.

Introduction

The YSI Air Compressor is an air compressor that can be configured with YSI IQ SensorNet Systems to provide pressurized air cleaning to sensors through relay connections. This manual reviews how to configure the compressor for operation.

There are three models available. The main difference is the number of air lines you can connect per unit and, therefore, the number of sensors you can clean per air compressor.

- CAB-1, Single channel compressor. Item 601401-1 for 115 VAC and item 601401-2 for 230 VAC.
- CAB-2, Dual channel compressor. Item 601402-1 for 115 VAC and item 601402-2 for 230 VAC.
- CAB-4, Four channel compressor. Item 601404-1 for 115 VAC and item 601404-2 for 230 VAC.

The Air Compressor is supplied by YSI, a xylem brand, and is manufactured in the United States of America.

Safety

THIS IS IMPORTANT

Take time to be safe when working on electrical circuits and equipment. It could save your life. Avoid unsafe acts and conditions. Do not operate or install YSI Air Compressor before reading this chapter. Installing the YSI Air Compressor involves wiring high voltage equipment. Follow all provided safety information. **Installation must be performed by someone who understands the dangers of, and is qualified to, wire electrical devices.** If information or instructions are not clear, DO NOT PROCEED until clarification can be obtained.

ALWAYS:

Follow basic safety rules when working with or near high voltage circuits. YSI Air Compressors are high voltage instruments using 115 or 230 VAC, depending on model/item number. Peripheral devices may also be high voltage devices.

Consider the result of each act. Keep away from live circuits. Do not change parts or make adjustments inside the equipment with high voltages on.

Do not service alone.

Do not tamper with interlocks. Safety devices such as interlocks, overload relays, and fuses should never be altered or disconnected except for replacement. Safety protection devices should never be changed or modified without a clear understanding of what effect the modification will have on the system.

Do not ground yourself.

Do not energize equipment if there is any evidence of water leakage.

Warnings and Cautions

Safety information is presented in this manual in one of two ways:

WARNING - RISK OF ELECTRIC SHOCK This identifies installation and operation procedures that can result in personal injury or death if safety information is not followed.

AVERTISSEMENT – RISQUE DE CHOC ÉLECTRIQUE Ce symbole identifie les procédures d'installation et d'opération pouvant entraîner des blessures ou la mort si les consignes de sécurité ne sont pas suivies.

CAUTIONS are used when personal injury or damage to equipment can result if safety information is not followed.

Les notices **ATTENTION** sont utilisées lorsque des blessures ou des dommages à l'équipement pourraient être causés si les consignes de sécurité n'étaient pas suivies.

These symbols () () appear in the left margin of the page to highlight safety information as it applies to a particular installation or operation step.

A complete list of all safety cautions is provided below. All warnings are provided in English and French.

Install and use the YSI Air Compressor only in accordance with information documented in this manual.

Warnings

WARNINGS are used when personal injury or death can result if safety information is not followed.

Les AVERTISSEMENTS sont utilisés lorsque des blessures graves ou mortelles pourraient être causées si les consignes de sécurité n'étaient pas suivies. WARNING: All wiring that involves connections to mains power must be performed by a qualified licensed electrician, and must conform to all locally applicable electrical codes.

WARNING: All wiring that involves connections to mains power must be performed by a qualified licensed electrician, and must conform to all locally applicable electrical codes.

AVERTISSEMENT : tous les câblages comportant une connexion à l'alimentation secteur doivent être réalisés par un électricien qualifié et doivent être conformes aux codes électriques applicables.

WARNING: Do not make connections while power is applied. Turn off power and assure power "Lockout" before installing or servicing to avoid contact with electrically powered circuits. This includes working on devices connected to the relay outputs and auxiliary input systems. **Disconnect external power to the YSI Air Compressor before connecting or disconnecting components and/or peripheral devices.**

AVERTISSEMENT: n'effectuez aucune connexion alors que le circuit est sous tension. Coupez l'alimentation et assurez l'interdiction du courant avant toute installation ou tâche d'entretien afin d'éviter d'entrer en contact avec des circuits sous tension. Cela comprend tout travail sur des appareils connectés à des sorties de relais et des systèmes d'entrée auxiliaires. **Déconnectez l'alimentation externe du modèle YSI Air Compressor avant de connecter ou de déconnecter des composants et/ou des appareils périphériques.**

WARNING: A switch or circuit breaker shall be included in the building where the YSI Air Compressor is installed. The disconnecting device should be in close proximity to the equipment and within easy reach of the operator. The disconnecting device shall be marked for the equipment.

AVERTISSEMENT: un commutateur ou disjoncteur doit être installé dans le bâtiment où le modèle YSI Air Compressor est installé. Le dispositif de déconnexion doit se trouver à proximité de l'équipement et à portée de l'opérateur. Le dispositive de déconnexion doit indiquer l'équipement auquel il se rapporte.

WARNING: The covers of fuse boxes and junction boxes should be kept securely closed except when servicing.

AVERTISSEMENT: le couvercle des boîtes à fusibles et des boîtes de derivation doit être maintenu fermé sauf lors des tâches d'entretien.

WARNING: Do not overload relays. Verify that the surge current at startup does not exceed the relay load ratings. Be familiar with all safety information regarding installing and servicing peripheral devices.

AVERTISSEMENT: ne surchargez pas les relais. Vérifiez que la surtension de démarrage ne dépasse pas la capacité de charge nominale du relais. Prenez connaissance de toutes les consignes de sécurité concernant l'installation et l'entretien des appareils périphériques.

WARNING: The YSI Air Compressor is fused. Fuses used in any peripheral equipment should be removed and replaced only after the circuit has been de-energized. When a fuse blows, it should be replaced only with a fuse of the same current and voltage ratings. Circuits should be carefully checked before fuse replacement. A burned out fuse is often the result of circuit fault.

AVERTISSEMENT: le modèle YSI Air Compressor contient pas de fusible. Les fusibles utilisés par les équipements périphériques doivent être retirés et remplacés uniquement après que le circuit a été mis hors tension. Lorsqu'un fusible est grillé, il doit être remplacé uniquement par un fusible d'une tension et d'un ampérage nominaux identiques. Les circuits doivent être soigneusement verifies avant le remplacement d'un fusible. Un fusible grillé est souvent le résultat d'une défaillance de circuit.

WARNING: Do not apply power to the YSI Air Compressor until all electrical connections are verified and secured.

AVERTISSEMENT: ne mettez pas le modèle YSI Air Compressor sous tension tant que les connexions électriques n'ont pas été vérifiées et sécurisées.

Warnings

WARNING. Disconnect external power before wiring. Do not run high and low voltage wires through the same conduit or bulkhead fitting. Protect internal electronics.

AVERTISSEMENT: Déconnectez l'alimentation externe avant d'effectuer le câblage. Ne pas acheminer les câblages basse tension et haute tension dans le même conduit ou le même raccord de traversée de cloison. Protéger les appareils électroniques internes.

WARNING: Not properly de-pressurized lines could cause injury. Please follow the below recommendations to ensure the lines are de-pressurized before working on the instrument.

1. Remove power from the compressor
2. Open the internal valve fully via turning counterclockwise to relieve internal pressure, while keeping clear of the outlet of the valve.
3. Once pressure is released, the valve handle should be closed by turning clockwise until it stops.

AVERTISSEMENT: Des conduites mal dépressurisées pourraient causer des blessures. Veuillez suivre les recommandations ci-dessous pour vous assurer que les lignes sont dépressurisées avant de travailler sur l'instrument.

1. Couper le courant du compresseur.
2. Ouvrez complètement la vanne interne en tournant dans le sens antihoraire pour relâcher la pression interne, tout en restant à l'écart de la sortie de la vanne.
3. Une fois la pression relâchée, fermez la manette de la vanne en la tournant dans le sens des aiguilles d'une montre jusqu'à ce qu'elle se bloque.

Cautions

CAUTIONS are used when personal injury or damage to equipment can result if safety information is not followed.

Les notices ATTENTION sont utilisées lorsque des blessures ou des dommages à l'équipement pourraient être causés si les consignes de sécurité n'étaient pas suivies.

CAUTION: It is essential that all low voltage wiring, including sensor wiring be run in separate cable or conduit from high voltage wiring.

ATTENTION: Il est essentiel que le câblage basse tension, y compris le câblage du capteur, soit acheminé par un câble ou un conduit séparé du câblage haute tension.

Other Symbols

Indicates protective ground. This symbol is located within the YSI Air Compressor to indicate where the protective ground is located.

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1. Instrument Specifications

Manufacturer	YSI, a Xylem brand
Channels	• CAB1-1 and CAB1-2: One • CAB2-1 and CAB2-2: Two • CAB4-1 and CAB4-2: Four
Electrical Rating	• CAB1-1: 115 VAC +/- 10%, 60 Hz, 350 VA • CAB2-1: 115 VAC +/- 10%, 60 Hz, 375VA • CAB4-1: 115 VAC +/- 10%, 60 Hz, 400 VA • CAB1-2: 230 VAC +/- 10%, 50/60 Hz, 300 VA • CAB2-2: 230 VAC +/- 10%, 50/60 Hz, 325 VA • CAB4-2: 230 VAC +/- 10%, 50/60 Hz, 350 VA
Ingress Protection (Enclosure Rating)	IP65
Enclosure Protection	Vent port fitted
Compressor Type	Air Compressor, light, non-continuous duty
Operating Temperature Range	32° to 122°F (0° to 50°C); 14° to 122°F (-10° to 50°C) with optional heater
Environmental Operating Conditions	• Suitable for dry indoor and outdoor locations within temperature operating range. • Humidity Range: 0 to 95%, non-condensing • Atmospheric pressure: 11.53 to 14.7 psi • Elevation location for deployment: sea level to 2000 meters above sea level. • Environmental Pollution Degree = 2
Pressure Supplied	65 to 85 PSIG
Maximum Pump Duty Cycle	1 minute ON, 15 minutes OFF
Overvoltage	Category II
Compressed Air Outputs	One, Two or Four (depending on instrument)
Enclosure Dimensions	17.5" W x 16" H x 10.5" D (44.5 cm W x 40.65 cm H x 26.6 cm D)
Weight	• CAB-1 (115 VAC): 26 lbs; 11.8 kg • CAB-1 (230 VAC): 28 lbs; 12.7 kg • CAB-2 (115 VAC): 35 lbs; 15.9 kg • CAB-2 (230 VAC): 37 lbs; 16.8 kg • CAB-4 (115 VAC): 35 lbs; 15.9 kg • CAB-4 (230 VAC): 37 lbs; 16.8 kg
Fuse Information	• For 115 VAC: 8 AMP in line fuse (Buss p/n MDL-8) 0.25x 1.25, 8A – 250V glass tube fuse. • For 230 VAC: 5 AMP in line fuse (Buss p/n MDL-5). 0.25 x 1.25, 5A – 250V glass tube fuse.
Electrical Safety	See Declaration of Conformity
Warranty	1 Year

2. Installation

Retain the original packaging in case you need to transport the air compressor again.

The YSI Air Compressor requires an IQ SensorNet MIQ/CR3 relay module to control the compressor.

Correctly install IQ SensorNet system components (controllers, modules, sensors, cables and YSI Air Compressor) devices to ensure accurate data collection and reliable operation. Preparing a schematic can be helpful, see example in **Figure 1**. For complete wiring instructions, see **Section 2.2 - Wiring Instructions.**

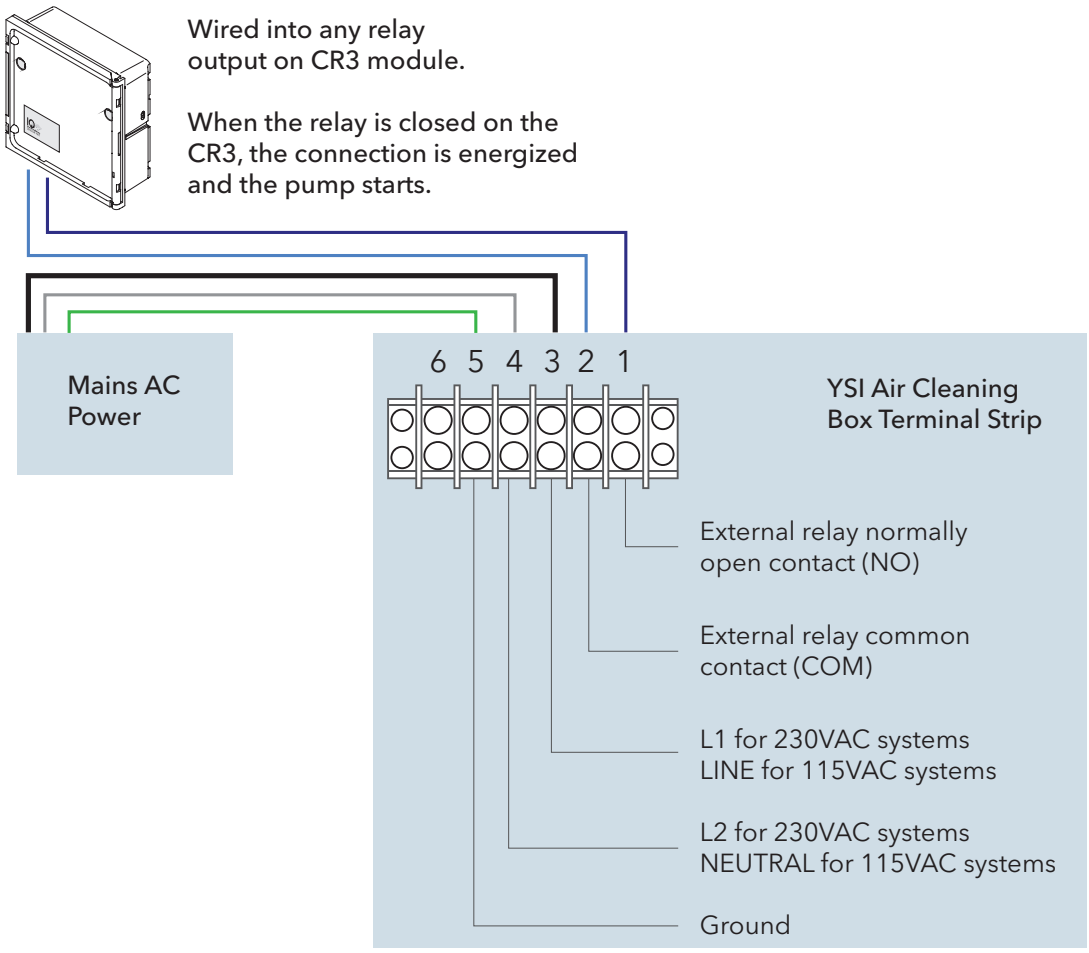

Figure 1

YSI Air Compressor installation steps (not all steps required for all applications):

1. Install and commission the IQ SensorNet network of controllers, modules, sensors and cables per the instruction manuals provided with those components.
2. Install YSI Air Compressor. See Hardware Installation instructions.
3. Ground the YSI Air Compressor.
4. Wire relays from MIQ/CR3 or 284-CR3 module to YSI Air Compressor.
5. Wire power to the YSI Air Compressor.
6. Connect IQ SensorNet Cleaning Head to sensors per Cleaning Head instruction sheet.
7. Connect air tubing from YSI Air Compressor to cleaning head accessory via quick connect fittings – see instruction sheet provided with Cleaning head accessory.
8. Configure IQ SensorNet relays to control Cleaning Air Compressor. See instruction sheet provide with Cleaning Head accessory.

2.1 Hardware Installation

The air cleaning box is mounted using a rail mount bracket, item number 601405. **Figure 2** shows a diagram a YSI Air Compressor mounted properly.

Location Considerations

The YSI Air Compressor must be located:

- Above any level where water damage could occur.
- Away from extremely high or low temperature sources.
- In warmer climate applications, consider mounting in a shaded area and/or adding additional cooling.
- Away from vibrating surfaces.
- In a location where the filter and relief valve are not obstructed.
- At least two feet (.7 m) from any high voltage conduit.
- Away from electromagnetic, radio, AC motor, transformer, or antennas.
- So the front panel can be fully opened and serviced.
- So system component wires are run as specified in this manual and according to all local applicable electrical codes.

Compressor Outline and Mounting

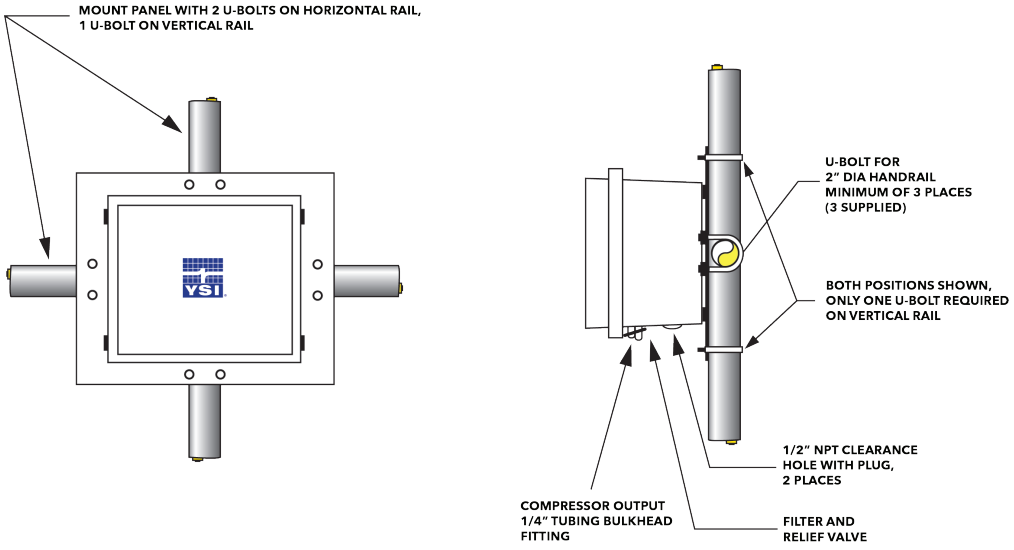

Figure 2

2.2 Wiring Instructions

Components must be wired correctly to ensure reliable performance and accurate functionality. Directions are provided in this section for wiring all YSI Air Compressors to power and IQ SensorNet MIQ/CR3 or 284-CR3 relays. Proper Earth Ground is required to ensure safe operation. Power mains to be fed by a 15/20 Amp Breaker for overcurrent protection.

Before wiring any components into the compressor, make sure power is not connected to the unit and ensure to follow proper safety precautions. Please reference the Safety section of this guide.

Use wiring with the following specifications: 16 AWG wire, 600V, rated up to 105°C, RoHS compliant and UL Style 1015. Use copper conductors only!

WARNING. Follow all safety information and local electrical codes when wiring a YSI Air Compressor system components and peripheral devices. Proper wire gauge should be determined based on voltages and wire/cable length. Incorrect wiring can result in damage to you or to the equipment. Improper wiring can also result in ground loops.

AVERTISSEMENT: Déconnectez l'alimentation externe avant d'effectuer le câblage. Ne pas acheminer les câblages basse tension et haute tension dans le même conduit ou le même raccord de traversée de cloison. Protéger les appareils électroniques internes.

Step 1: Open the front panel

WARNING. Disconnect external power to the unit before doing any wiring.

AVERTISSEMENT: Déconnectez l'alimentation externe de l'unité avant d'ouvrir le panneau avant. Unlatch the front door to expose the internal components of the compressor.

CAUTION: The compressor inside the unit may be hot.

Step 2: Run power and relay wires

WARNING. Run high and low voltage cables through separate conduit. There will be conduit holes in the base of the compressor. Feed power and relay wires through separate conduit holes, see **Figures 3, 4 and 5**.

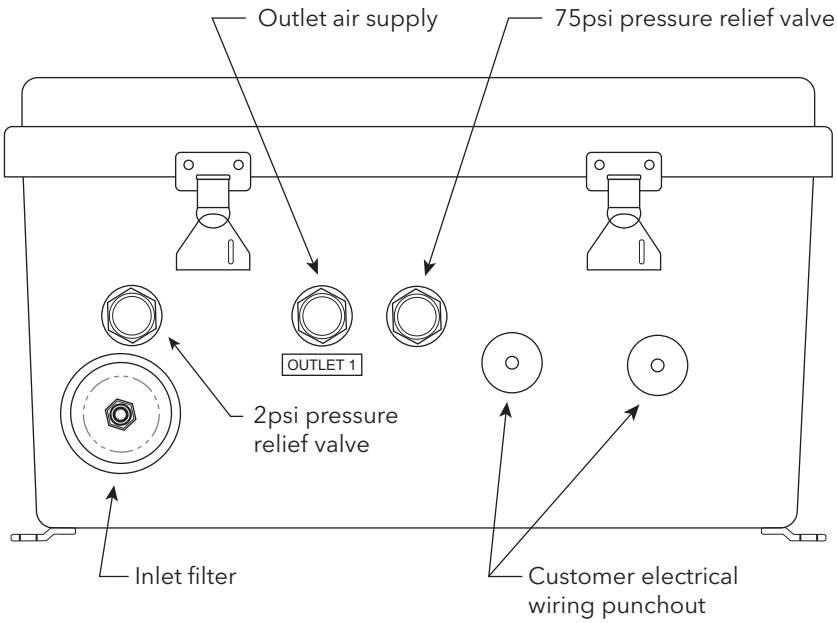

Figure 3 Conduit Configuration for the Single Channel Compressor

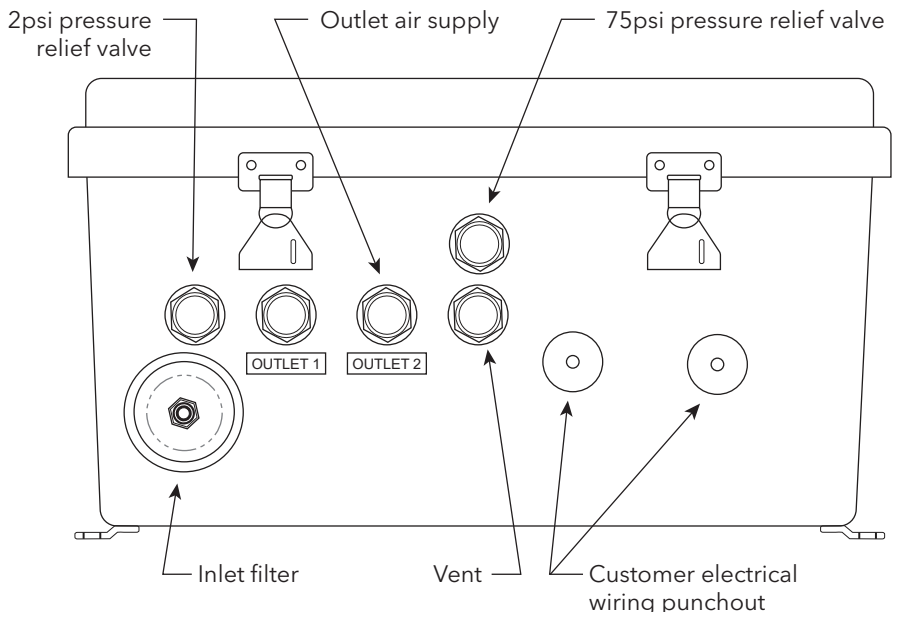

Figure 4 Conduit configuration for the dual channel compressor.

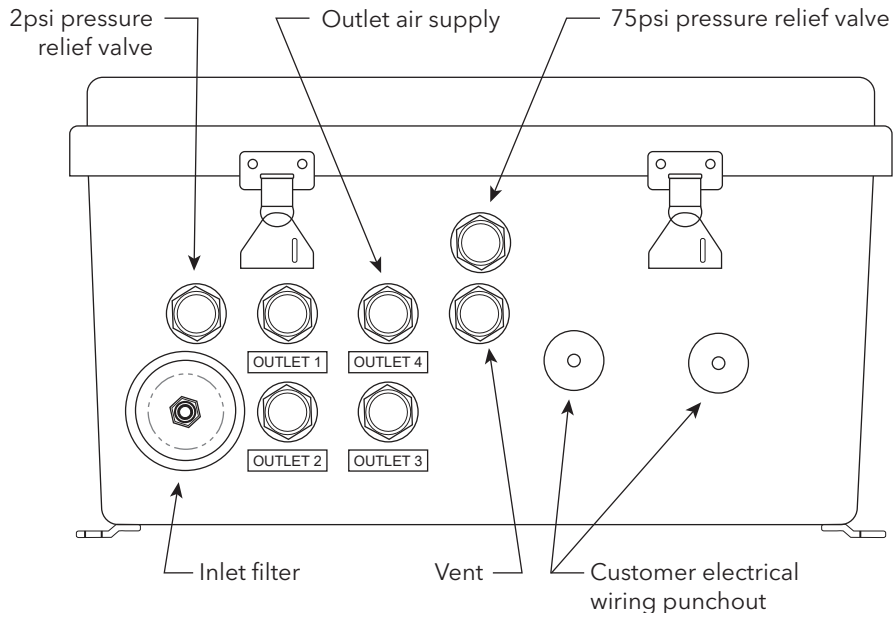

Figure 5 Conduit configuration for the 4-channel compressor.

Step 3: Connect power, ground and external relays

WARNING: Ground the YSI Air Compressor to avoid possible electrical shock or damage to the equipment.

AVERTISSEMENT: Mettez le modèle YSI Air Compressor à la terre afin d'éviter tout risque de choc électrique ou d'endommagement de l'équipement.

CAUTION: Disconnect external power to the unit before wiring.

AVERTISSEMENT : déconnectez l'alimentation externe de l'unité avant d'effectuer un câblage quelconque.

1. Remove the protective cover labeled 115 VOLTS or 230 VOLTS that is covering the terminal wiring block. Remove the protective cover by removing the two screws , see Figures 6, 7 and 8.

2. Connect mains power, ground, and external relays, see Figures 6, 7 and 8.

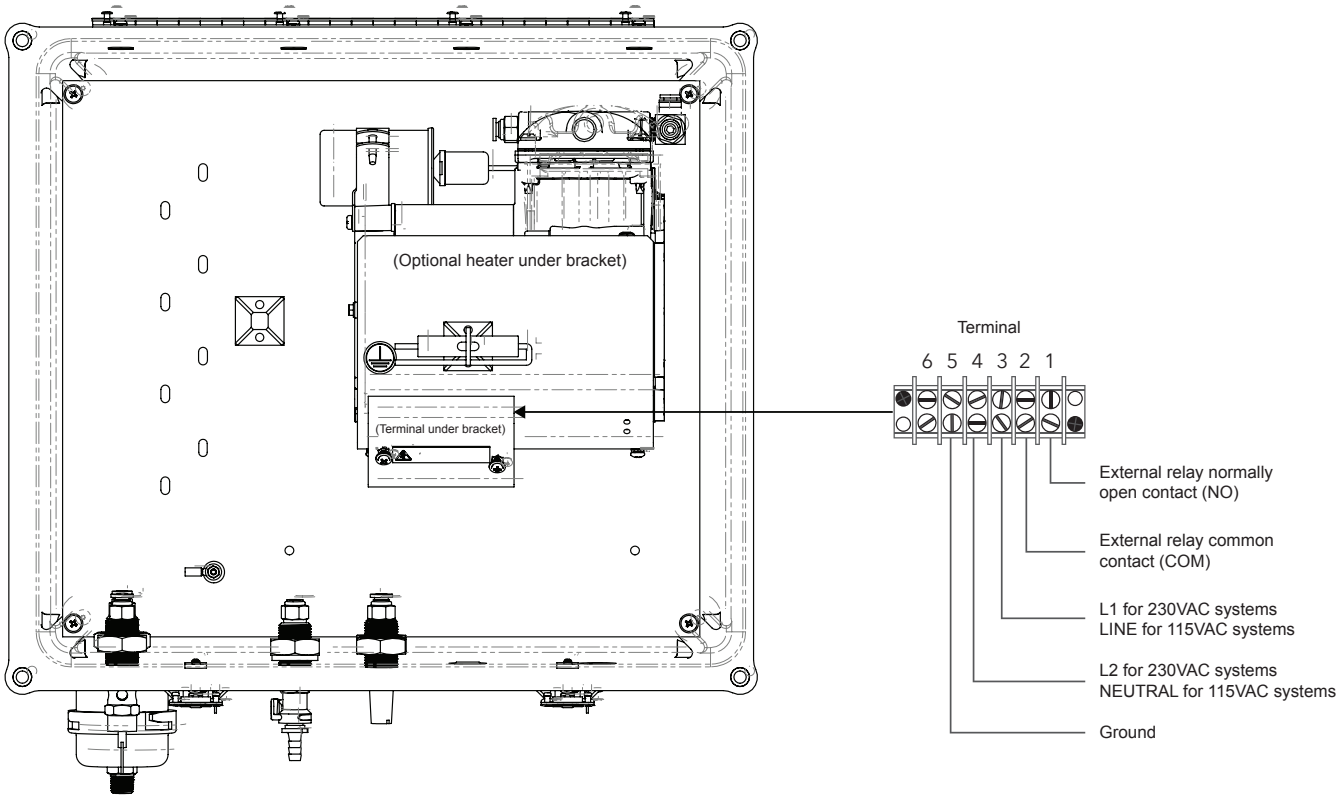

Figure 6 Wiring information for single channel units. Pin 6 is not used.

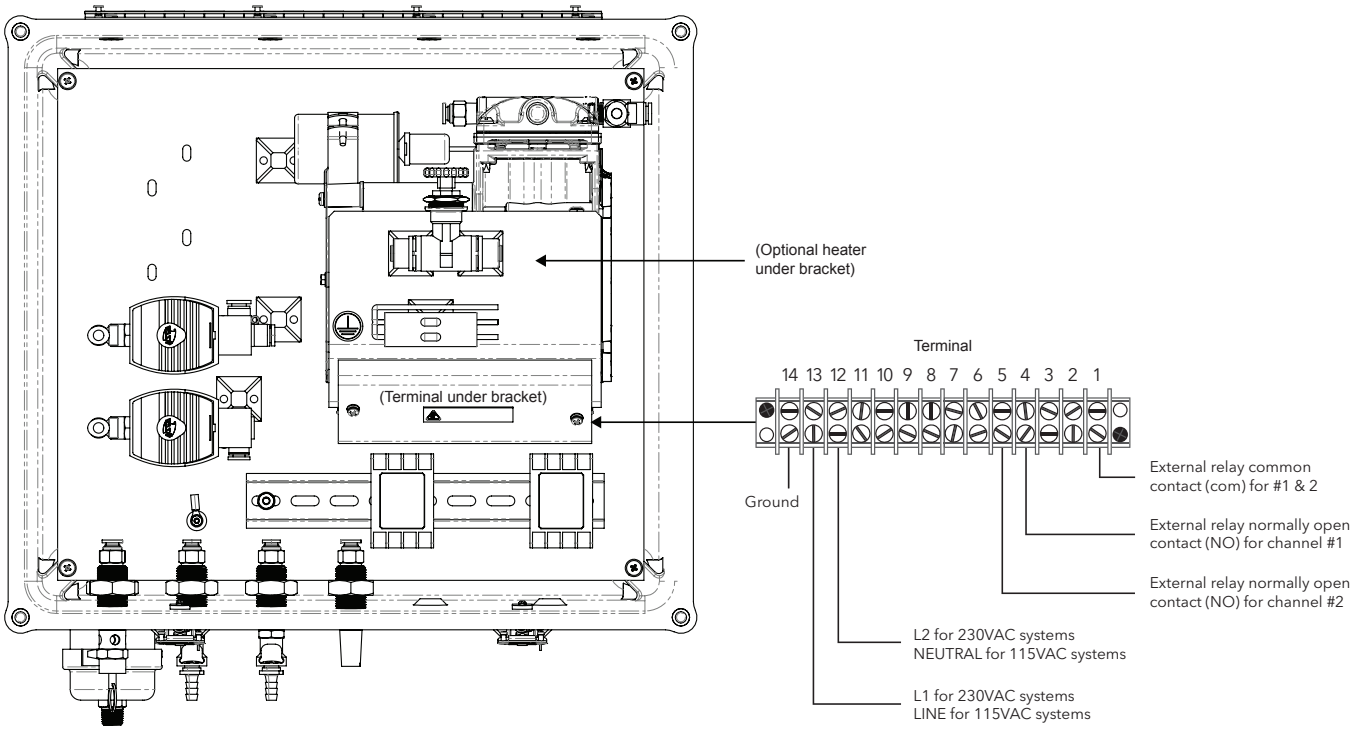

Figure 7 Wiring information for 2-channel units. Pins 2, 3, 6, 7, 8, 9, 10 and 11 are not used.

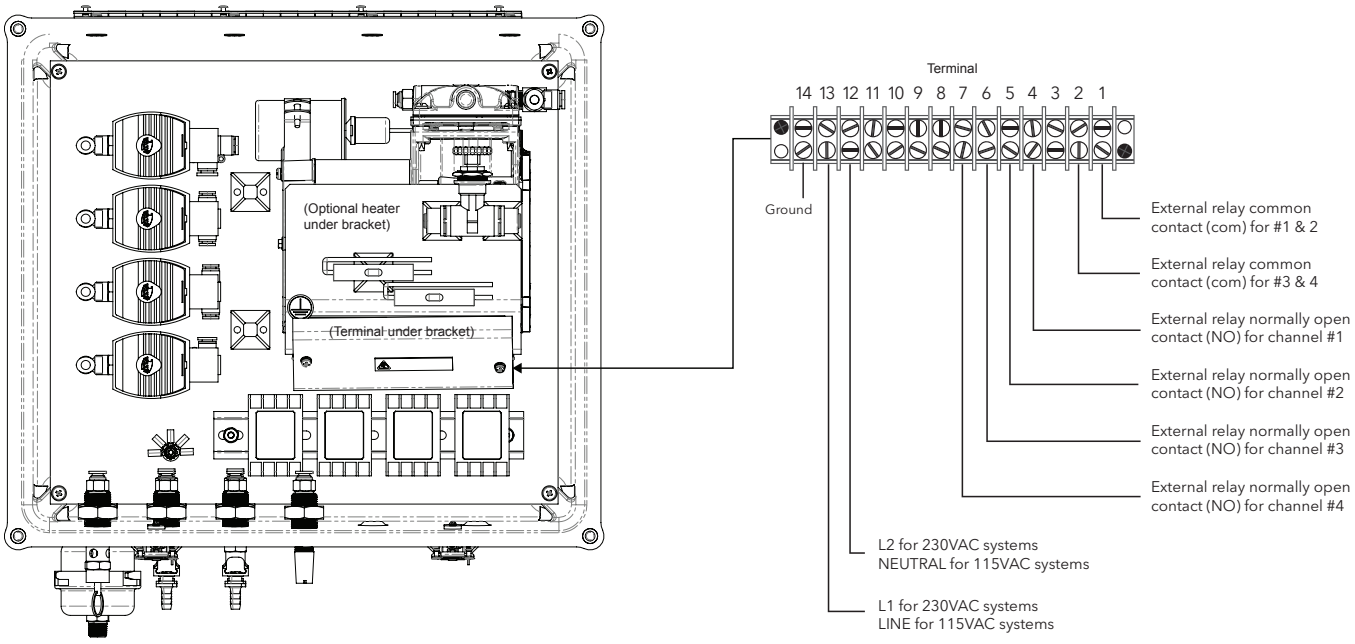

Figure 8 Wiring information for 4-channel units. Pins 3, 8, 9, 10 and 11 are not used.

WARNING: **HIGH VOLTAGE!** Multiple power sources may be present. Disconnect ALL power before servicing or installing this unit. Failure to do so may cause property damage, personal injury or death.

AVERTISSEMENT: **HAUTE TENSION!** Plusieurs sources d'alimentation peuvent être présentes. Débranchez TOUTES les sources d'alimentation avant de réparer ou d'installer cet appareil. Dans le cas contraire, des dommages matériels, des blessures corporelles ou la mort peuvent en résulter.

CAUTION: Run high and low voltage cables through separate conduit.

WARNING: Follow all safety information and local electrical codes when wiring a YSI Air Compressor system components and peripheral devices. Proper wire gauge should be determined based on voltages and wire/cable length. Incorrect wiring can result in damage to you or to the equipment. Improper wiring can also result in ground loops.

AVERTISSEMENT : déconnectez l'alimentation externe de l'unité avant d'effectuer un câblage quelconque.

WARNING: Disconnect external power to the unit before wiring.

ADVERTISSEMENT: Déconnectez l'alimentation externe de l'unité avant d'effectuer un câblage quelconque.

3. An optional heater can be placed inside the YSI Air Compressor in applications where outside temperature is expected to drop below 10°C. The heater is powered by the YSI Air Compressor. The item number for the 115 VAC heater is 601428-1. The item number for the 230 VAC heater is 601428-2.

    d. The heater should be installed under the bracket as shown in the wiring diagrams, **Figures 6, 7 and 8**.

    e. Install the heater by removing the protective film, see **Figure 9**. After removing the film, do not touch the sticky side of the heater or place it sticky-side down.

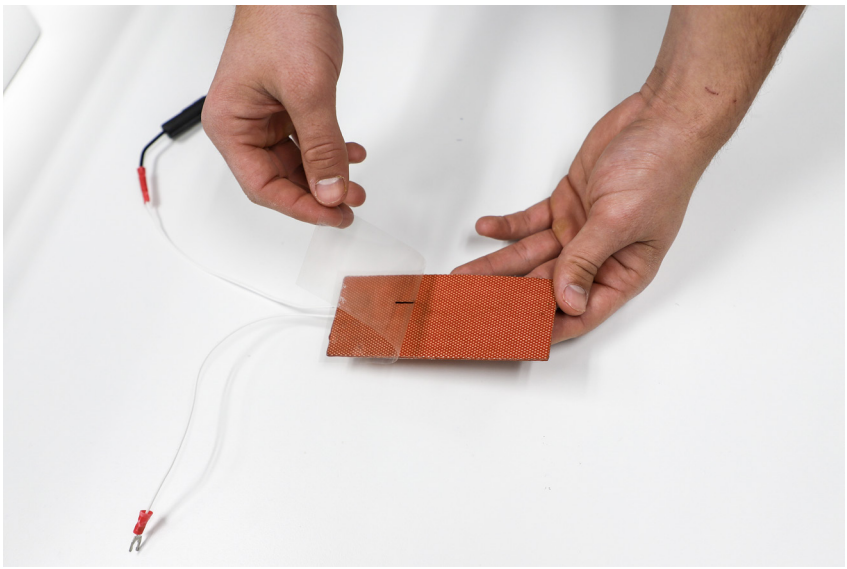

Figure 9

    c. With the sticky side facing up, place the heater under the bracket and secure it in place by pressing it up against the plate, see **Figures 10 and 11**.

    d. To wire the heater to a single channel YSI Air Compressor, connect one wire to location 3 on the terminal block, the other wire to location 4. See **Figure 6**.

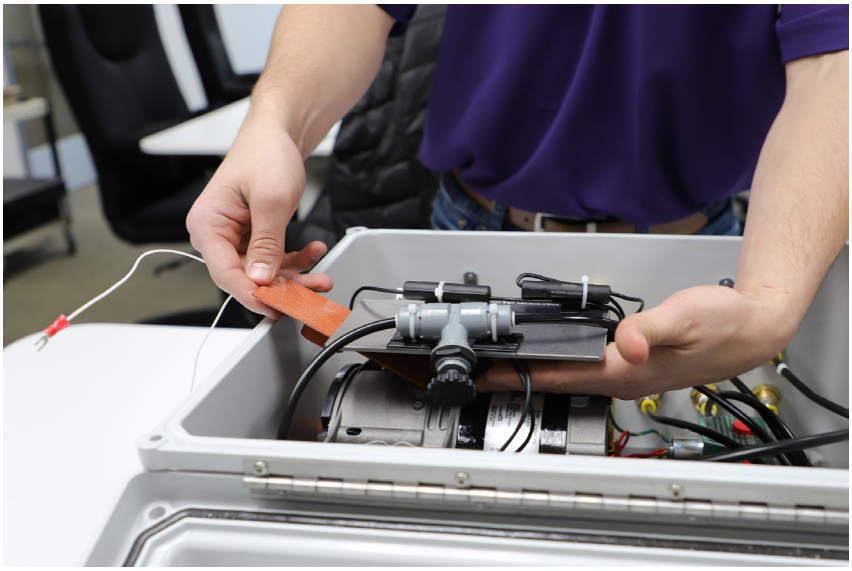

Figure 10

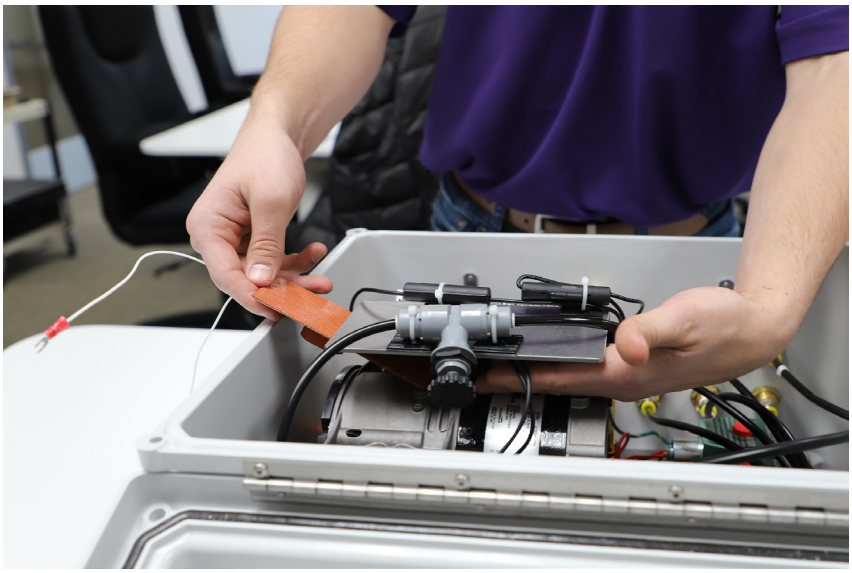

Figure 11

f. To wire the heater to a 2 or 4 channel YSI Air Compressor, connect one wire to location 12 on the terminal block and the other wire to location 13. See **Figures 7 and 8**.

4. Once all wires are securely connected, re-install the protective cover.

Step 4: Close Front Panel

1. Verify all installed components and peripheral equipment have secure connections and that there are no bare wires that could cause a short inside the enclosure.

2. Close the front panel and secure latches.

Step 5: Connect Air Hoses

Connect air-cleaning hose supplied with IQ SensorNet Cleaning head kit to the quick connect fittings on the compressor. **Figures 3, 4 and 5**.

3. Lightning and Surge Protection

AC line voltage surge suppressors protect field equipment on any AC line-to-ground from damage due to electrical transients induced in the interconnecting power lines from lightning discharges and other high voltage surges. Surge protection devices are strongly recommended to protect your equipment from secondary surges and lightning on outdoor installations. Follow the recommendations provided when choosing and incorporating surge protection devices into your operation:

Recommendations:

- Surge suppression devices should be located on the AC line supplying power to the YSI Air Compressor and any signal lines connecting the IQ SensorNet.
- The unit should include noise filtering, common mode and normal mode suppression and nanosecond reaction time.
- Surge suppressors should be internally-fused to remove the load if the unit is overloaded or the internal protection fails.
- Signal line suppressors protect low voltage signals and relay outputs from damage due to electrical transients induced in the signal lines from lightning discharges or nearby electrical devices.
- Signal line suppressors should be installed at each end of an analog loop.
- Relay outputs should be protected at the receiver end.
- Signal line suppressors should consist of a three-element gas tube followed by metal oxide varistors and suppressor diodes.
- The protective elements should be matched such that high-energy surge voltages trigger the gas surge arrester, while low energy or surge voltages affect the MOV's and suppressor diodes.
- Lightning protection devices should be located as close to the YSI Air Compressor as possible and wired in accordance with the National Electric Code in approved watertight enclosures.

CAUTION: This or any other installation procedure cannot protect against a direct lightning strike. YSI Incorporated cannot accept liability for damage due to lightning or secondary surges.

4. Cleaning and Maintenance

4.1 Cleaning

To clean the outside of the YSI Air Compressor, use a damp cloth to wipe down the cabinet. If necessary, you may use a damp cloth with household detergent to wipe down the outside of the cabinet. Do not use any chemicals. Do not spray the cabinet directly with water.

4.2 Tubing, Filter and Fuse Replacement

The YSI Air Compressor requires little maintenance.

Tubing - Air tubing may need to be replaced periodically as needed.

Filter – The filter element (item # 114012) should be replaced about every 6 months. Depending on the location of the YSI Air Compressor, the filter element may need to be replaced more frequently if it becomes dirty and restricts air flow to the inside of the compressor.

To replace the filter:

1. Separate the bottom and top of the filter by hand twisting to unseat the two halves. The filter element is now accessible.
2. Remove the old filter element and discard.
3. Install new filter element as shown in Figure 12.
4. Align the top and bottom of the filter according to the key guides on the two sides.
5. Press the two sides together and twist slightly to secure the filter closed.

WARNING - ELECTRICAL SHOCK: Before attempting to replace a fuse be sure to remove all electrical power from the system.

Fuse – The fuse can be replaced if needed. The fuse for use with 115V powered compressors is item 114007 and the fuse for use with 220V powered compressors is item 114008.

To replace the fuse:

1. To open the fuse holder, separate the two tabs at the center by moving the left tab up and the right tab down simultaneously. Do not use tools to perform this task!
2. Using a small screwdriver or similar tool, gently pull up one side of the fuse away from the fuse holder connector.
3. Gently remove and dispose of the expired fuse appropriately.
4. Install new fuse by gently pushing the new fuse into position.
5. Close the fuse holder.
6. To secure the fuse holder in the closed position, push the two tabs back into place.

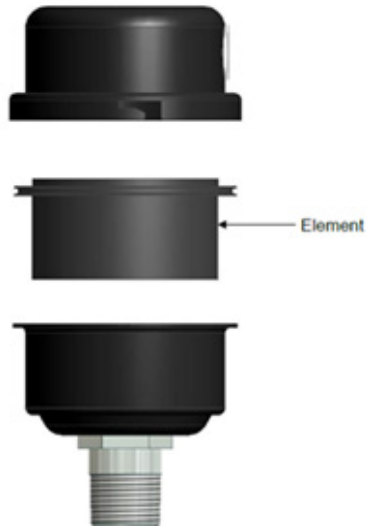

Figure 12

5. Service Information

YSI has authorized service centers throughout the United States and Internationally. For the nearest service center information, please visit ysi.com and click 'Support' or contact YSI Technical Support directly at 800-897-4151 (+1 937-767-7241). When returning a product for service, include the Product Return form with cleaning certification. The form must be completely filled out for a YSI Service Center to accept the instrument for service. The form may be downloaded from YSI.com.

ELECTRICAL SHOCK: Before attempting to perform any service be sure to remove all electrical power from the system.

NOTE: if just switching a breaker to off position, be sure to install a Lockout Tag.

⚠ **CAUTION CONCERNING PRESSURE**: There is the potential for pressure remaining within the system. Remove any remaining pressure by slowly turning the pressure release value until all pressure has left the system. Once the system is free of any remaining pressure, the valve can be closed. See **Figure 13**.

Figure 13

RP, 114013 Relay 120VAC and RP, 114014 Relay 240VAC

The relays are located just below the main terminal block. To remove a relay, is to be pulled straight up. See **Figure 14**.

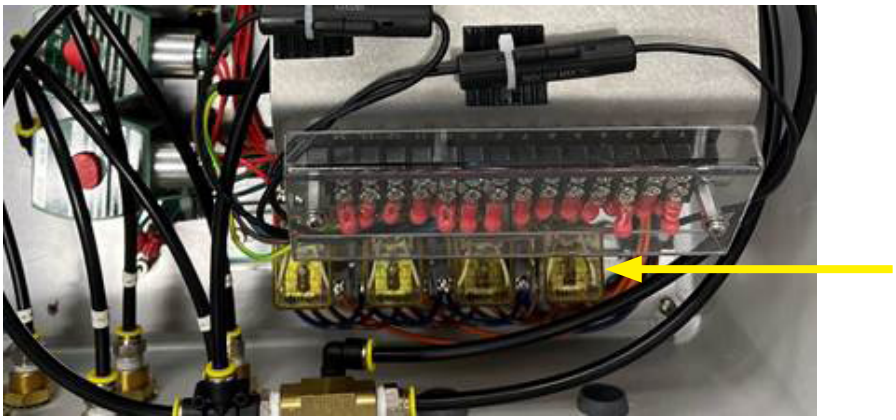

Figure 14

Once the relay is removed the new relay just plugs back in by aligning the guide key located in the center. See **Figure 15**.

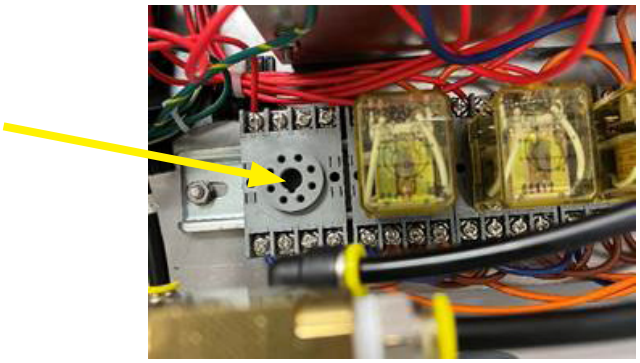

Figure 15

RP, 1140009 Solenoid 120VAC and RP, 114010 Solenoid 240VAC

This will require a complete disassembly of the mounting plate located in the bottom of the enclosure. There are four screws that secure this plate in place, located at each corner of the plate. See **Figure 16**.

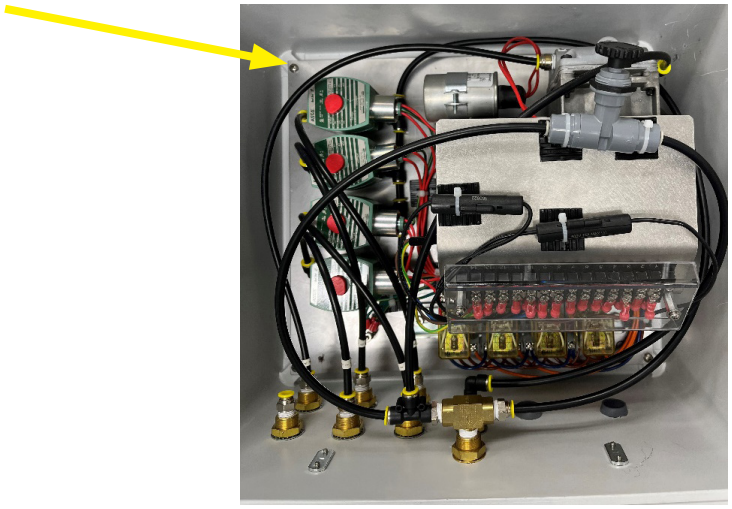

Figure 16

However, before removing the screws, the tubing at the inlet and outlet fittings (located in the front of the enclosure) will need to be disconnected.

Before doing so, it's a good idea to take pictures of the tubing routing and label each tubing piece so it goes back the way it was before disassembly.

This will also require all wiring going into the enclosure to be removed, or maneuvered in a way so it does not interfere with the removal of the mounting plate.

To disconnect the tubing push the yellow piece (part of the fitting) towards the fitting. This will loosen the fitting on the tubing and the black tubing can be pulled straight out. See Figure 17.

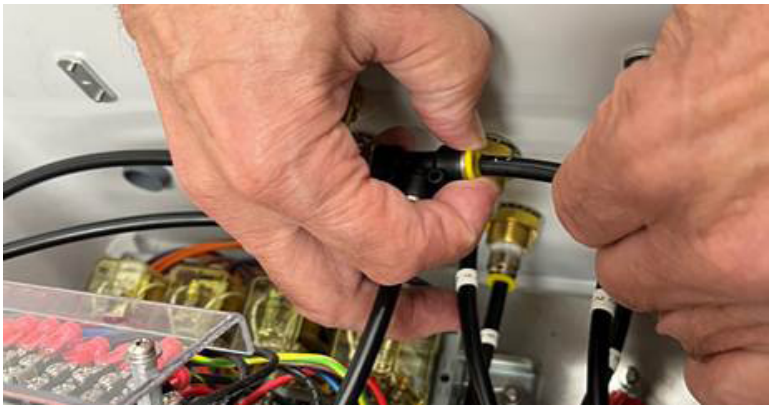

Figure 17

Once all the tubing has been loosened, wiring removed and the 4 screws removed, the enclosure plate can be slowly lifted out.

CAUTION The mounting plate will be very heavy.

Once the plate is out of the enclosure proceed to remove the black tubing from the Solenoid you are wanting to replace.

Additionally, remove the wires for the Solenoid to be replaced.

NOTE: there are 3 wires one going to the grounding lug, one going to a relay wiring terminal block and one going to the main wiring terminal block.

Now, carefully flip over the plate to gain access to the screws that secure the Solenoids in place.

The replacement Solenoid will need to be prepped with the fittings from the old Solenoid. Be sure to prep with new Teflon tape to prevent leaks.

Once the Solenoid has been replaced, do a reverse assembly from the disassembly process.

Be sure to reconnect all tubing as it was and rewire the compressor.

NOTE: the 4 screws securing the mounting plate are to be torqued to **28.5 in-lb. ± 3.2 in-lb.**

6. Replacement Parts

Item	Description
114005	RP,¼" HOSE BARB NON-VALVED IN-LINE COUPLING INSERT rev A
114006	RP,¼" NPT NON-VALVED COUPLING BODY rev A
114007	RP,FUSE,SLOW 3AG 8AMP 250V rev A
114008	RP,FUSE,SLOW 3AG 5AMP 250V rev A
114009	RP,120VAV SS SOLENOID VALVE rev A
114010	RP,240VAV SS SOLENOID VALVE rev A
114012	RP,2.5" INTAKE FILTER rev A
114013	RP,RELAY,120VAC,10A rev A
114014	RP,RELAY,240VAC,10A rev A
114015	FUSE FOR HEATER 115VAC
114016	FUSE FOR HEATER 230VAC
Warranty	1 Year

7. Contact Information

Contact YSI with questions about the YSI Air Compressor or to order replacement parts.

Telephone:

800-897-4151 (USA)
+1 937-767-7241 (Globally) Monday through Friday, 8:00 AM to 5:00 ET
Email: info@ysi.com
website: YSI.com

Mail:

YSI Incorporated 1725 Brannum Lane
Yellow Springs, OH 45387
USA

8. Declaration of Conformity

The undersigned hereby declares that the products listed below conform to all applicable Essential Requirements of the listed Directives and Standards and carry the CE mark accordingly.

Equipment name	Multichannel Compressor (YSI Air Compressor)
Model numbers	CAB 1-x, CAB 2-x, CAB 4-x
Item numbers	601401-x, 601402-x, 601404-x
Accessories	601403, 601405, 601419, 601425-1, 605421-2, 114005, 114006, 114007, 114008, 114009, 114010, 114012, 114013, 114014
Directives	• EMC 2014/30/EU • LVD 2014/35/EU • MD 2006/42/EC • WEEE 2012/19/EU • RoHS 2011/65/ EU
Harmonized standards	EN61010-1:2010, Safety Requirements For Electrical Equipment For Measurement, Control, And Laboratory Use - Part 1: General Requirements

18 February 2020

Gregory Popp

Quality Manager

Xylem |'zīləm|

1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com

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