HushAir Connect 7500

COMPRESSOR SYSTEM

User Guide

087-0067

Rev A

SCOTT SAFETY

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The international transport of this device is regulated under United States export regulations and may be regulated by the import regulations of other countries.

CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABOUT THIS GUIDE

Guide Overview

This guide describes the steps required to use the Hush Air Connect 7500, the Revolve Air Connect and the Smart Touch Controller. This document is for Operator and Supervisor level personnel to manage their system. This document contains information on configuration, operation, maintenance and troubleshooting.

This user guide assumes a basic knowledge of high pressure procedures.

The user guide is divided into the following topics:

Warning: *Read, understand and follow the entire content of this guide prior to use. Failure to do so may result in serious injury or death.*

Guide Conventions

The following visual elements are used throughout this guide, where applicable:

Warning: *This icon and text indicate a potentially hazardous situation, which, if not avoided, could result in death or injury.*

Caution: *This icon and text indicates a potentially dangerous procedure. Instructions contained in the warning must be followed. Failure to do so may result in damage to the device.*

This icon and text indicate the possibility of electrostatic discharge (ESD) in a procedure that requires the reader to take the proper ESD precautions.

This icon and text designates information of special note.

Related Product Documentation

Table 1 lists the Scott Safety Family documentation set.

Table 1 Scott Safety Documentation Set

DOCUMENT NAME	PURPOSE	DOCUMENT ID
N/A	N/A	N/A

Revision History

Table 2 shows the revision history for this guide, providing a description of the changes.

Table 2 Hush Air Connect 7500 User Guide Revision History

REVISION	CHANGE
A	Initial release

Certifications and Approvals

Table 3 shows the units has been tested and complies with the following directives, standards, or standardized documents.

Table 3 Certifications and Approvals

SYMBOL	SPECIFIC DIRECTIVES, STANDARDS
	CAN/CSA-C22.2 No. 68-09 Motor-Operated Appliances Household and Commercial
	UL 1450 3rd Edition Motor Operated Aire Compressors, Vacuum Pumps and Painting Equipment.

Table 3 Certifications and Approvals (continued)

SYMBOL	SPECIFIC DIRECTIVES, STANDARDS
 Note: This approval only applies to devices with RF capabilities. FCC Compliance Statement (Part 15.19) This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1. This device may not cause harmful interference, and 2. This device must accept any interference received, Including interference that may cause undesired operation. FCC Warning (Part 15.21) Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This portable transmitter with its antenna complies with FCC's RF exposure limits for general population / uncontrolled exposure. The CPU on the charge station has been assigned FCC ID # PD94965AGN. SUBPART C INTENTIONAL RADIATORS FCC Part 15.247 and OET 65	FCC Part 15 Class B International Radio-Frequency Devices

General Safety Information

Ensure you adhere to the following for your safety.

Warning: *Read and follow the entire content of this guide prior to use. Failure to do so may result in serious injury or death.*

Warning: *All individuals who have or will have responsibility for using or testing this product must read and understand the contents of this manual. The product will perform as designed only if used and tested in accordance with the manufacturer's instructions. Failure to follow manufacturer's instructions will render the warranty and approvals null and void. Failure to follow these instructions may also result in serious injury or death.*

Warning: *Do not operate this equipment while under the influence of drugs, alcohol, or any medications or substances which may affect vision, dexterity, or judgment. Users of this equipment must be in good physical and mental health in order to operate safely. Do not use this equipment when fatigue prevents safe operation. Stay alert when operating this equipment. Inattention or carelessness while operating this equipment may result in serious injury or death.*

Caution: *Training is required before use of this equipment. Improper use may result in serious injury or death. Improper use includes, but is not limited to, use without adequate training, disregard of the warnings and instructions contained herein, use of the equipment for purposes not included in these instructions, and failure to inspect and maintain the equipment.*

Caution: *All electrical connections shall be installed by a qualified electrician in accordance with applicable electrical codes and shall include proper grounding of the equipment.*

Caution: *All service must be performed by qualified trained technicians. When servicing, disconnect power from the equipment and follow all necessary Lock-Out/ Tag-Out procedures and safety procedures.*

Warning: *Hot surfaces can cause serious injury. Allow the equipment to cool before servicing.*

Caution: *Establish a schedule for performing routine maintenance as outlined in these instructions.*

Caution: *Refer to the Material Safety Data Sheet (MSDS) for instructions on the safe handling of any chemicals used in the maintenance or servicing of this equipment.*

Warning: *Moving parts can cause serious injury. Be sure all guards and covers are in place and secure before starting the unit.*

Warning: *High pressure air is dangerous. Handle the high pressure air connections and hoses with care to prevent serious injury or death.*

Caution: *The air produced by this equipment must be recertified periodically as meeting CGA Grade D or better breathing quality air. Regular recertification to this standard is the responsibility of the user.*

Caution: *If this equipment does not operate as described in these instructions, do not use the equipment. Follow your procedures to remove the equipment from service including any "Lock-out/Tag-out" procedures to prevent use of the equipment. Contact authorized personnel to inspect and service the equipment.*

Warning: *This equipment must be operated and serviced by qualified personnel only. Read and understand the guide completely before operating or servicing. Qualified personnel as defined according to local, county, state, federal and individual company standards.*

Warning: *If the device does not function as described herein, remove from service and mark for maintenance. Only use Scott Safety replacement parts.*

Scott Safety can take no responsibility for use of its equipment if it is not used in accordance with the instructions. If further operational or maintenance details are required but not provided in this guide, contact Scott Safety or their agent. Scott Safety shall not be liable for any incidental or consequential damages in connection with any modifications, errors or omissions in this guide.

All pertinent national, state, regional, and local safety regulations must be observed when installing and using this product. For reasons of safety and to assure compliance with documented system data, repairs to components should be performed only by the manufacturer.

Additionally, industry standards, codes, and legislation are subject to change. Updated copies should be obtained by users to ensure the most recently issued regulations, standards and guidelines are available.

All pertinent state, regional, and local safety regulations must be observed when handling and disposing of hazardous material, batteries and other similar items that may fall under the classification of hazardous material.

Only use Scott Safety approved replacement parts.

Warnings and Cautions – Working with Compressed Air

Ensure you follow the applicable warnings and cautions indicated here.

Warning: *Before use, this equipment must be properly installed and inspected by a Scott Safety trained and certified technician. Do not operate if the equipment has not been prepared by a Scott authorized service technician. Use of this equipment without proper set up may result in serious personal injury, death, or permanent equipment damage.*

Warning: *Training is required before use of this equipment. Improper use of this equipment may result in serious injury or death. Improper use includes, but is not limited to, use without adequate training, disregard of the warnings and instructions contained herein and failure to inspect and maintain this equipment.*

Warning: *If any air leak is noted, or the equipment does not operate as described in this manual, immediately terminate its use and consult with a certified service technician before proceeding. Use of malfunctioning equipment may create circumstances resulting in serious personal injury or death.*

Warning: *The misuse of compressed air can cause severe injury or death. Take every precaution in the use of compressed air. Always remember to release all residual air pressure from the compressor system before repairing or doing maintenance work.*

Caution: *Perform all pre-operation checks prior to starting the unit. Establish and maintain a pre-operation inspection procedure for the compressor and related accessories. Routine inspection of the equipment is the responsibility of the organization using the equipment, and must be in accordance with technical and service guidelines provided by Scott Safety.*

Warning: *Never tighten, loosen, or adjust any type of fitting that is under pressure.*

Warning: *The compressor contains hot surfaces. To reduce the risk of burns, do not touch.*

Caution: *There is a risk of bursting. Do not adjust regulator to result in output pressure greater than marked maximum pressure of attachment.*

Warning: *There is a risk of injury. Do not direct air stream at body.*

Caution: *To reduce the risk of electric shock or injury, use indoors only.*

Caution: *Use only recommended air-handling parts acceptable for pressure not less than 7,300PSI since there is a risk of bursting.*

Warning: *Never adjust a safety relief valve. Interfering with system settings can result in serious damage or injury.*

Warning: *Never perform any service on this equipment unless the electric power is switched Off at the main terminal, the compressor is completely stopped, and all residual air pressure has been released from the system. Follow the recommendations of the OSHA Lock Out/Tag Out procedures.*

Warning: *Never pass in front of an air outlet when compressed air is being released. High pressure air could cause injury.*

Warning: *Never attempt to straighten or reuse bent tubes or utilize any damaged fittings.*

Warning: *Never charge a breathing apparatus or air storage cylinder beyond the rated working pressure.*

Warning: *Never fill a breathing air cylinder that has not been inspected according to these instructions and verified to be acceptable for filling.*

Caution: *Electric power supply must be installed in accordance with local, state, and federal electrical code requirements.*

Warning: *Compressed air can kill. Treat it with respect.*

Chapter 1

SCOTT SAFETY INTRODUCTION

Chapter Overview

This chapter covers the following topics:

Overview

The air breathing system is a configurable system built based on your specific application needs. In general, the system may be made up of a maximum of four major components that include: a compressor, a charge station, HMI, and storage. Additionally, based on your needs, either single component may be used as a standalone device. The HushAir Connect 7500 is the compressor, the RevolveAir Connect is the charge station and the SmartTouch Controller is the HMI.

- There are basically two (2) types of compressors, either: standard or quiet. The quiet types includes additional sound proofing material. Within these two categories there are a number of different models. In general, they include: a five stage air-cooled compressor, motors with 7.5, 10, 15 or 20HP, output pressure of 6K to 7K PSI, 2, 3 or 4 purification filters, motors that operate on either 50 or 60Hz, motors voltages range from 208, 230, 380, 440 or 460VAC, either 1 or 3 phase motors and an optional motor saver. Table 4 lists the available models. Figure 1 shows major parts of some models. Table 5 lists major parts.
- The charge station comes in thirteen (13) different models that range from fully automatic, semi-automatic to analog. Table 6 lists the available models. Figure 2 shows major parts of some models. Table 7 lists major parts.
  - Depending on the fully automatic model, features may include: LCD with HMI, automatic cascade, multi, dual or single pressure, RFID access, RFID cylinder data collection, E-Stop button, pressure regulator, event horn, Carbon Monoxide (CO) and Dew Point (DP) monitoring.
  - Depending on the semi automatic model, features may include: LCD with HMI, automatic cascade, multi, dual or single pressure, RFID access, RFID cylinder data collection, E-Stop button, pressure regulator, event horn, Carbon Monoxide (CO) and Dew Point (DP) monitoring.
  - Depending on the analog model, features may include: automatic cascade, dual or single pressure, manual air flow control, compressor analog gauge, air pressure analog gauge for banks 1 to 4, storage pressure analog gauge, pressure regulator, manual air flow on/off controls for banks 1 to 4.
- The storage comes in either a two (2) or four (4) cylinder vertical rack configuration that may be attached to the charge station or unattached that supports ASME cylinders. Table 8 lists the available models. Figure 3 shows major parts of the models. Table 9 lists major parts.

Table 4 lists the available system compressor categories.

Table 4 Compressor System Categories

SYSTEM CATEGORY	STAGES	LCD WITH HMI	PSI OUTPUTS	HP	MOTOR	PURIFICA-TION FILTERS	OPTION
Standard	Five	Yes	6K to 7K	7.5, 10, 15, 20	208VAC/1PH/60Hz 208VAC/3PH/60Hz 230VAC/1PH/60Hz 230VAC/3PH/60Hz 380VAC/3PH/50Hz 440VAC/3PH/50Hz 460VAC/3PH/60Hz	2 for 7.5 to 10HP 3 for 15HP 4 for 20HP	Motor Saver
Quiet	Five	Yes	6K to 7K	7.5, 10, 15, 20	208VAC/1PH/60Hz 208VAC/3PH/60Hz 230VAC/1PH/60Hz 230VAC/3PH/60Hz 380VAC/3PH/50Hz 440VAC/3PH/50Hz 460VAC/3PH/60Hz	2 for 7.5 to 10HP 3 for 15HP 4 for 20HP	Motor Saver

A standalone compressor includes the items in Table 4 plus a DP monitor, a CO monitor and a wall mounted LCD.

Figure 1 shows the major parts of a compressor example.

Figure 1 Compressor Major Parts Example

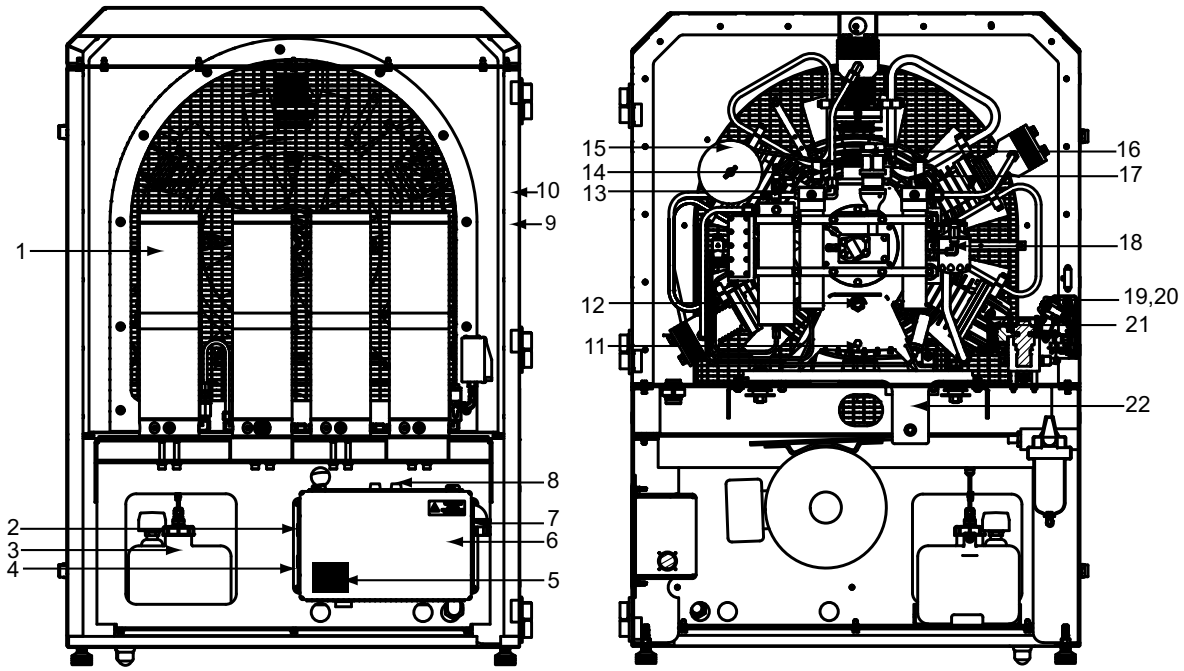


Table 5 lists the major parts of a compressor example.

Table 5 Compressor Major Parts Example

REFERENCE NUMBER	ITEM*
1	Purification Filters - Each filter cleans the air for that specific compressed air stage in the cycle. Removes oil, moisture and debris. The actual number of purification filters depends on the Horse Power of the motor. 7.5HP & 10HP=2 15HP= 3 20HP=4
2	Safety Switch Reset Push Button - If the compressor output pressure reaches to 7300PSI, the mechanical pressure switch will signal the controller to stop the compressor from running. When the pressure returns to normal and the safety switch reset push button is pressed, the compressor will be able to resume running.
3	Condensate Container - Collects the moisture and oil that is produced during the air compression process.
4	Motor O/L Reset Button - If the Over Load (O/L) Relay is tripped because of the excess current draw by the motor or the optional motor saver senses electrical faults, the motor O/L reset push button must be pressed after the electrical condition returns to normal for the motor to resume running.
5	Motor Saver - Optional feature depending on the model. Protect 3-phase motors from: high voltage, low voltage, voltage unbalance, reverse-phase, overcurrent, undercurrent, current unbalance, single-phase, ground fault, Class II.

Table 5 Compressor Major Parts Example

REFERENCE NUMBER	ITEM*
6	Electrical Box - Contains all the electrical circuits needed for the motor/compressor running and PLC power supply.
7	440/220VAC Power Connection - Supplies VAC to the device.
8	Fuses - Two (2) fuses that protect the electrical circuits.
9	E-Stop - Manually shuts down the compressor.
10	Horn - Alarms indicating important events
11	Oil Drain - To drain oil when required.
12	Oil Level Sight Glass - To check the oil level is adequate.
13	Second Stage Safety Relief Value - To release high pressure air to protect the compressor in case of mechanical failure. This specific value pertains to the second stage of the process.
14	Third Stage Safety Relief Value - To release high pressure air to protect the compressor in case of mechanical failure. This specific value pertains to the third stage of the process.
15	Inlet Air Filter - Allows exterior room air to enter the compressor.
16	Oil Fill - To add oil as needed.
17	Fourth Stage Safety Relief Value - To release high pressure air to protect the compressor in case of mechanical failure. This specific value pertains to the fourth stage of the process.
18	Oil Filter - Filters the oil.
19	DP Sensor - Monitors for excessive moisture amounts of Dew Point (DP) in the compressor.
20	CO Sensor - Monitors for high amounts of Carbon Monoxide (CO) in the breathing air.
21	First Stage Safety Relief Value - To release high pressure air to protect the compressor in case of mechanical failure. This specific value pertains to the first stage of the process.
22	Interconnect Cable - Provides communications between devices.
*Note: Not all models are equipped the same.	

Table 6 lists the available charge station models.

Table 6 Charge Station Models

SYSTEM CATEGORY	MODEL	LCD WITH HMI	CASCADE METHODS	# OF PRESSURE AVAILABLE	PSI OUTPUTS*	RFID FOR CYLINDERS	RFID FOR ACCESS	CO MONITOR	DP MONITOR
Fully Automatic	8004440	Yes	Automatic	Mutli (Three)	3 allowed selections	Yes	Yes	Yes	Yes
	8004448		Bulk-None	Single	1 allowed selection				
	8004442		Automatic	Dual	2 allowed selections				
	8004444		Bulk - None	Dual	2 allowed selections				
	8004452		Automatic	Single	1 allowed selection				
Analog	8004445	No	Automatic	Dual	2 allowed selections	No	No	No	No
	8004447		Bulk - None	Dual	2 allowed selections				
	8004450		Bulk - None	Single	1 allowed selection				
	8004451		Automatic	Single	1 allowed selection				
* Note: PSI output options are selected from the following: 2216, 3000, 4500, or 5500									

Figure 2 shows the major parts of a charge station example.

Figure 2 Charge Station Major Parts Example

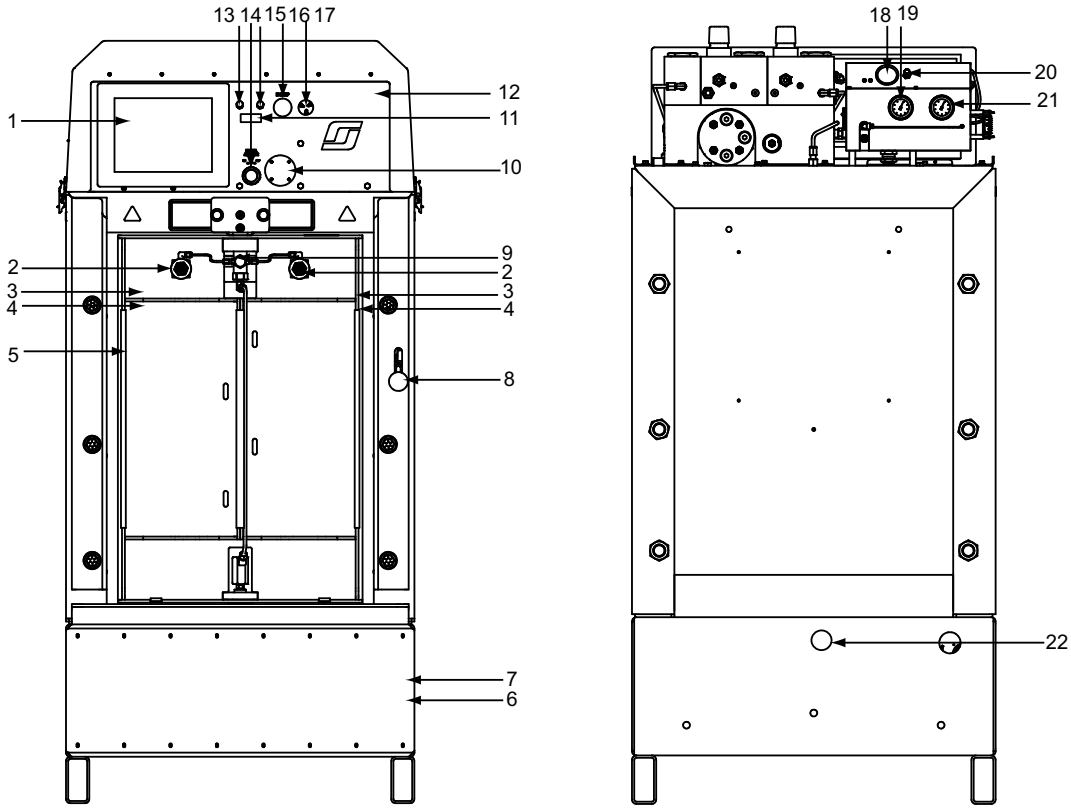


Table 7 lists the major parts of a charge station example.

Table 7 Charge Station Major Parts Example

REFERENCE NUMBER	ITEM*
1	LCD - User interface via the HMI.
2	Charge Adapter (2) - Connection to cylinder.
3	RFID Cylinder - Reads cylinder data and record into log.
4	Proximity Sensor - Detects the cylinders.
5	Camber Door - Allows rotation.
6	120VAC Power Connection - Supplies VAC to the device.
7	Ethernet Connector - RJ45 connection for customer LAN.
8	Camber Door Handle - To lock the door.
9	Bleed Value - To drain excess air.
10	Pressure Regulator - Controls the pressure output to the SCBA. For use only by service technician.
11	USB Port - Allows access to data log and their transferring.
12	RFID Access Level - Allows access selected from four (4) levels (Manufacturer, Service, Supervisor and User).

Table 7 Charge Station Major Parts Example

REFERENCE NUMBER	ITEM*
13	Schrader Valve - To calibrate CO.
14	Manual Air Valve On/Off Knob - Allows air pressure from either the compressor or the storage to the charge station.
15	Schrader Valve - To take sample of air.
16	E-Stop - Manually shuts down the compressor.
17	Horn - Alarms indicating important events.
18	Analog Gauge - Displays the air pressure going to DP sensor that monitors the Dew Point.
19	Analog Gauge - Displays the compressor output pressure which would be reduced to 225PSI.
20	Air Flow On/Off Knob - To control the air flow to the DP sensor.
21	Analog Gauge - Displays the pressure reduction of the 225PSI to 150PSI.
22	Interconnect Cable - Provides communications between devices.
*Note: Not all models are equipped the same.	

Table 8 lists the storage features.

Table 8 Storage Unit Example

NUMBER OF CYLINDERS	CASCADE METHODS	HOUSING	MOUNTED	CYLINDER CERTIFIED STANDARD
2 or 4	Automatic, manual or bulk	Rack	Vertical	ASME

Figure 3 shows the major parts of a storage example.

Figure 3 Storage Unit Major Parts Example

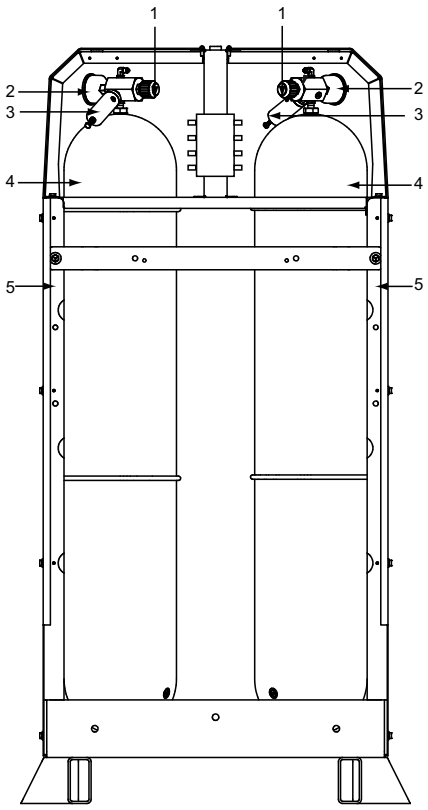


Table 9 lists the major parts of a storage example.

Table 9 Storage Major Parts Example

REFERENCE NUMBER	ITEM*
1	Manual Air Flow On/Off Knob - To control the air flow pressure.
2	Analog Pressure Gauge - Displays actual pressure of the storage cylinder.
3	Automatic Relief Value - To control or limit the pressure.
4	Cylinder - Vertical mounted available in either 2 or 4 configurations.
5	Rack Mount - Intended to bolt on to a charge station.
*Note: Not all models are equipped the same.	

See “Specifications” on page 87.

If you have any questions about the models or their operation contact Scott Safety. See “Technical Service” on page 92.

Theory of Operation

This section covers the theory of operations of the system.

The purpose of the Air Breathing System is to produce breathing air that meets Grade D/E of the CGA breathing air standard G-71 and National Fire Protection Association (NFPA) 1989. The production of high-pressure breathing air can be divided into four (4) categories:

- Compression - Air compression is accomplished using a multi-stage compressor assembly. This is performed by the Compressor unit.
- Purification - Air purification is accomplished by using a mechanical filtration and chemical purification process. This is performed by the Compressor unit.
- Storage - Compressed and purified air is stored in ASME cylinders for use later. This is performed by the Storage unit.
- Charging - Compressed and purified air is filled into breathing air cylinders. This is performed by the Charge Station unit.
  - The Compressor's role: The compressor, takes in ambient air that is filtered and then compressed in five stages. Each stage is equipped with a standard safety value, set slightly above the normal working pressure of that stage. The value releases high pressure air to protect the system in case of mechanical failure. These pressures are displayed, depending on the model, on the analog gauges or virtual gauges on the HMI. Moisture separators continuously remove moisture from the compressor intercooler and after-cooler air circuits. The condensate container collects the moisture from the moisture separators. The container is drained as needed. When the discharge pressure reaches the maximum preset level, the compressor is unloaded. After the pressurized air leaves the compressor, it passes through a multi-stage purification system. The number of stages depends on the horse power, and therefore the air output capacity of the compressor. The higher the air output, the more purification elements are needed. The purification system further dries the air and removes other impurities. From the purification system, the air can go directly to charging breathing air cylinders, or can be sent to high pressure storage cylinders and maintain the pressure in the storage for charging several breathing air cylinders before the compressor restarts to refill the storage.
  - The Storage Unit’s role: Once the breathing air is compressed and purified, it may be sent to high pressure storage cylinders and maintain the pressure in the storage for charging several breathing air cylinders before the compressor restarts to refill the storage. The storage may be up to four (4) ASME vertical cylinders.
  - The Charge Station’s role: Once the breathing air is compressed and purified, it may be filled directly into breathing air cylinders using the charge station. The charge station allows the simultaneous filling of two (2) cylinders while two (2) additional cylinders can be attached and made ready on the outside of the chamber.

Chapter 2

SCOTT INSTALLATION

Chapter Overview

This chapter covers the following topics:

Planning for Installation

This section provides the pre-installation items.

Verifying Items Shipped

This section provides a list of the items that ship with the device. Ensure you have all items, if not See “Technical Service” on page 92.

- Compressor, Charge Station, Storage Unit (varies based on customer specific order)
- User Guide on CD

Following Electrical Codes

This section provides information about adhering to electrical codes when installing the device.

Warning: *Only qualified personnel should perform the installation according to applicable electrical codes, local regulations, and safety standards. Failure to do so could result in injury or death. Qualified personnel as defined according to local, county, state, federal, national and individual company standards.*

Caution: *RFI may be generated if wires are not appropriately shielded or share conduit with other AC power conductors. Protect wires with appropriate shielding practices to prevent negative equipment performance.*

Installation Checklist

This section provides the installation requirements. Table 10 lists the individual items.

Table 10 Installation Checklist

ITEM	ACTIVITY	DETAILS
Charge Station	Locating	See “Locating the Charge Station” on page 14.
	Securing	See “Securing the Charge Station” on page 14.
	Wiring	See “Wiring the Charge Station” on page 17.
	Installation	See “Installing the RFID Read/Write Scanner” on page 17.
	Installation	See “Installing the RFID Read/Write Software” on page 18.
Compressor	Locating	See “Locating the Compressor” on page 14.
	Securing	See “Securing the Compressor” on page 15.
	Wiring	See “Wiring the Compressor” on page 19.
Storage Unit	Secure	See “Securing the Storage Unit” on page 15.

Locating and Securing the Devices

This section covers locating and securing the devices.

Depending on the specific customer order the devices may vary.

Locating the Charge Station

This section covers the selection of a proper location for the Charge Station.

Warning: *Make sure there is nothing close to or on top of the Charge Station that could interfere with normal operations. For proper operation, the minimum clearance of 24" must be established at installation on all sides and above the Charge Station and must be maintained.*

Securing the Charge Station

This section covers securing the Charge Station. Each Charge Station ships with 4 bolts used to secure the device. The bolts are inserted through the devices feet into concrete. The bolts are 58113 HH Wedge Anchor GR5 Z (5/8-11 X 3 Hex Head Wedge Anchor Bolt Grade 5 Zinc).

Warning: *The Charge Station must be anchored to the floor using the supplied bolts. Failure to do so could result in injury or death.*

Locating the Compressor

This section covers the selection of a proper location for the Compressor.

Ensure the following items are adhered to when selecting a proper location:

- A relatively clean, debris free and dry shelter
- Sufficient ambient air for compressor cooling
- A sufficient source of clean, compressor intake air
- An appropriate power supply
- An appropriate means to handle the water/oil mixture discharged from the auto drain reservoir

A debris free environment is important because the Compressor draws cooling air near floor level. Paper, dust, and other light-weight items allowed under the device might be entrained in the cooling air stream and be drawn into the device. Large objects might cause compressor fan damage or impede heat transfer efficiency which could lead to a multitude of mechanical problems.

Since the Compressor is an air-cooled device, the heat of compression is rejected to the surrounding air. It is important to locate the device in a very large room or provide enough ventilation to maintain cooling air temperature below 100°F.

It is desirable to locate the Compressor in an environment free of high CO, CO_2, and other air contaminants. When the environment is less than desirable, provisions should be made to permit the connection of an external source of air.

Warning: *Make sure there is nothing close to or on top of the Compressor that could interfere with the air flow. For proper operation, the minimum clearance of 24" must*

be established at installation on all sides and above the Compressor and must be maintained.

Warning: *Make sure nothing is operating in the vicinity of the Compressor air intake which might contaminate fresh air supply. Such as: vehicle exhaust, chimney smoke, ventilator fumes, or other source of contamination.*

Securing the Compressor

This section covers securing the Compressor. The Compressor is equipped with 4 adjustable feet.

Securing the Storage Unit

This section covers securing the Storage Unit. Depending on the Storage Unit ordered. Some ship with 4 bolts used to secure the device. The bolts are inserted through the devices feet into concrete. The bolts are 58113 HH Wedge Anchor GR5 Z (5/8-11 X 3 Hex Head Wedge Anchor Bolt Grade 5 Zinc).

Warning: *When applicable, the Storage Unit must be anchored to the floor using the supplied bolts. Failure to do so could result in injury or death.*

Wiring the Devices

This section covers wiring the various devices. Specifically, Figure 4 shows an overview of the required power to be supplied by the end user for the system.

Caution: *This product has more than one connection to the source of supply. To reduce the risk of electrical shock, disconnect all such connections before servicing.*

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

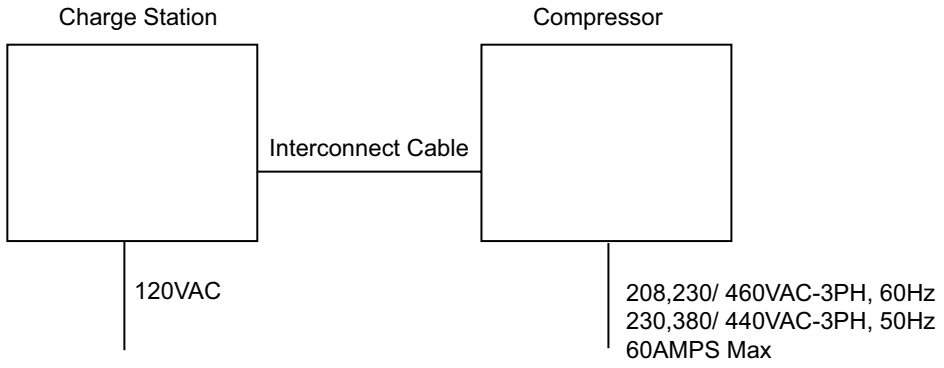
This product must be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. This product is equipped with a cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Warning: *Improper installation of the grounding plug is able to result in a risk of electric shock. When repair or replacement of the cord or plug is required, do not connect the grounding wire to either flat blade terminal. The wire with insulation having an outer surface that is green with or without yellow stripes is the grounding wire.*

This device uses a grounded cord-connection rated less than 15A and is intended for use on a nominal 120V supply circuit. Only connect the device to an outlet having the same configuration as the plug. Do not use an adapter with this device.

Check with a qualified electrician or serviceman when the grounding instructions are not completely understood, or when in doubt as to whether the product is properly grounded. Do not modify the plug provided; if it does not fit the outlet, have the proper outlet installed by a qualified electrician.

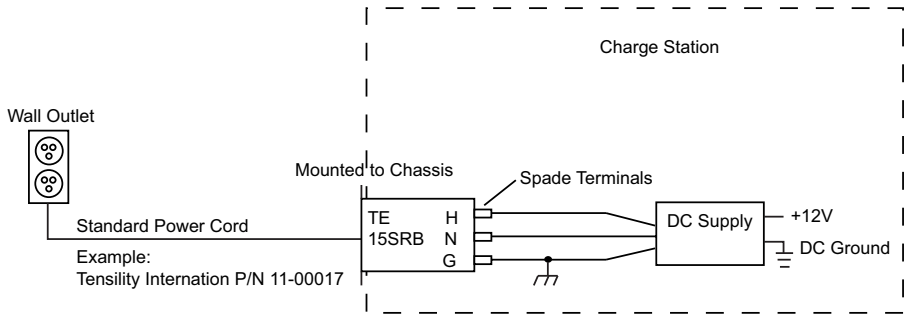
Figure 4 Wiring Overview - System



Wiring the Charge Station

This section covers the wiring the Charge Station. Figure 5 shows the required power to be supplied by the end user for the Charge Station.

Figure 5 Wiring Diagram - Charge Station



Installing the RFID Read/Write Scanner

This section covers the installation of the RFID Read/Write Scanner. Insert the USB connector into a USB port on the PC. The Green LED on the scanner lights when power is supplied and the two Green/Red LEDs on the USB connector light indicating communications. See Figure 6.

Not all models support the RFID functions and thus this section may or may not be applicable.

Figure 6 RFID Read/Write Scanner

Table 11 lists the major parts of the RFID Read/Write Scanner.

Table 11 RFID Read/Write Scanner Parts

REFERENCE NUMBER	ITEM*
1	RFID Read/Write Scanner - Allows scanning of the RFID tags that contain data related to the cylinder.
2	Green LED - Indicates power is supplied.
3	Green/Red LED - Indicates communication between the RFID Read/Write Scanner and the PC.

Table 11 RFID Read/Write Scanner Parts

REFERENCE NUMBER	ITEM*
4	USB Cable - Provides both signal and power between RFID Read/Write Scanner and the PC.

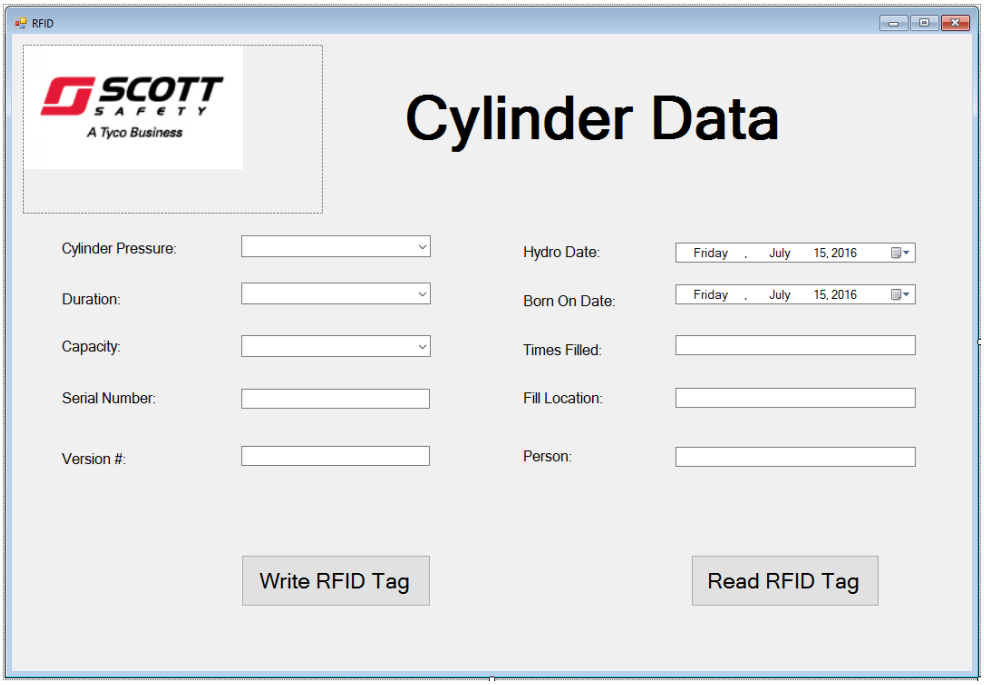
Installing the RFID Read/Write Software

This section covers the installation of the RFID Read/Write Software. After loading the RFIDreader.exe file onto a PCs drive, double click and an icon appears on the desktop. See Figure 7.

Not all models support the RFID functions and thus this section may or may not be applicable.

Ensure the RFID Read/Writer Scanner hardware in installed first for operation.

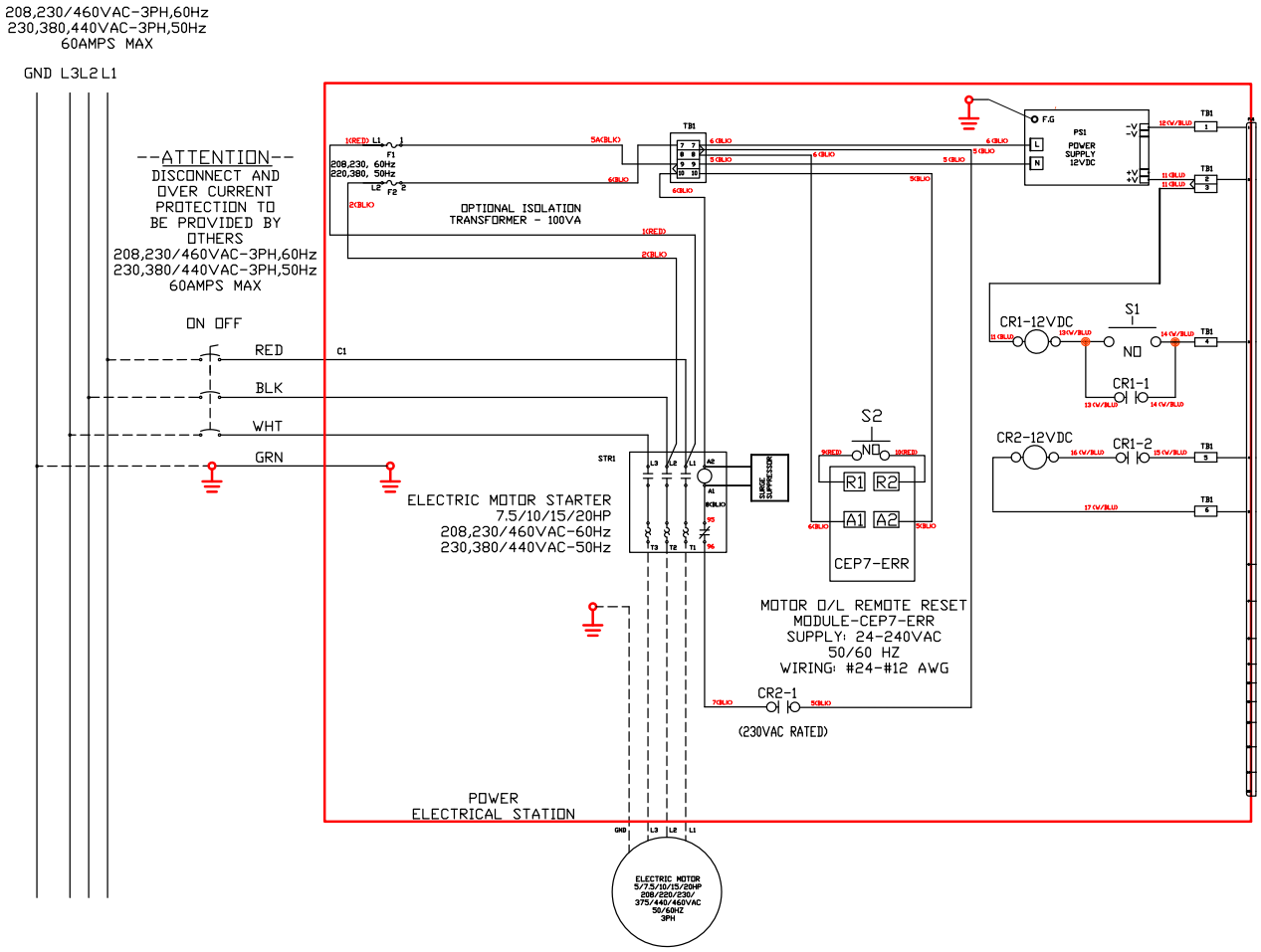
Figure 7 RFID Read/Write Software



Wiring the Compressor

This section covers the wiring the Compressor. Figure 8 shows the required power to be supplied by the end user for the Compressor.

Figure 8 Wiring Diagram - Compressor



Chapter 3

CONFIGURATION AND SETUP

Chapter Overview

This chapter covers the following topics:

Using the HMI

The HMI screen is the interface through which various levels of operators can monitor important parameters and configure, the compressor, and/or charge units of the system. When any parameter values are out of normal operating range, the HMI outputs alerts to the user, suggest possible actions or shutdown the unit depending on the severity of the alert condition.

Warning: *Never leave the Stationary Air Compressor system unattended while the compressor is in use. A Scott trained and certified operator must monitor the system gauges at all times and take immediate action to guard against equipment failure. This equipment is intended for providing breathable air to save lives. Failure to monitor the system may lead to permanent equipment damage, serious personal injury or death.*

Caution: *Hearing protection may be required when using the Stationary Air Compressor system for extended periods of time. Refer to the personal safety guidelines or requirements of your organization. Exposure to high sound levels may cause temporary or permanent hearing loss in some individuals.*

Warning: *Training is required before use of this equipment. Improper use of this equipment may result in serious injury or death. Improper use includes, but is not limited to, use without adequate training, disregard of the warnings and instructions contained herein and failure to inspect and maintain this equipment.*

The menu screens in this chapter are based on the HMI's Firmware. Version 1.10. If your device has a different firmware version, then the menu screens will vary.

Warning: *Configuration should be performed by trained individuals who have read this manual and understand the calibration procedures. Failure to follow these instructions may result in serious injury or death.*

Warning: *When settings are changed, ensure those changes are communicated to all affected personnel.*

User Access Levels

This section covers the access levels.

Access into the HMI is either by RFID card or entering passcode. After successful logon the user's name and the role type is displayed. This allows proper access to specific areas based on the role. The HMI allows access to certain area without a logon that are displayed on the logon screen, that include:

- Alerts - This section displays any condition which affects immediate operation of the equipment, especially when values of the monitored parameters are out of tolerance limit, will feature here.
- Service Notifications - Any condition that needs to be attended to like a service or calibration that needs to be performed in the not so distant future or whose due date is in near future, is shown in the notification section.

Figure 9 HMI Login Screen

These are the levels and their associated privileges.

- Manufacturing: This user is Scott employee. Access includes: to setup the system configuration, calibrate sensors, and run programmed factory acceptance tests.
- Service: This user is a trained technician and may be either a Scott employee or a authorized distributor. Access includes: change adjustable systems settings, view system diagnostic information, remote operate a compressor, log system repairs and when authorized the system configuration.
- Supervisor: This user is a customer selected individual to be in charge of the system. Access includes: to setup the list of designated users, setup and reset

allowable overrides, set system units, location and time, set system language, review alarm data, and view maintenance and history schedules, as well as, enable remote operation of the compressor by a service technician. These items collectively involve configuration. See “Configuring the System” on page 38.

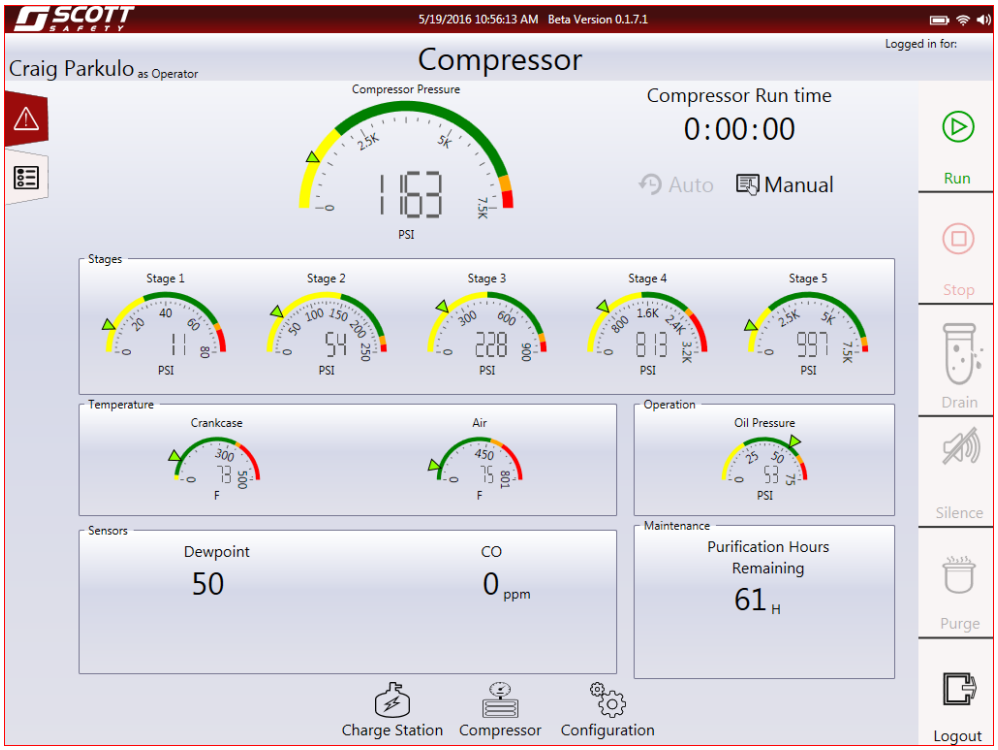
- User: This user is a individual trained and designated by the customer’s supervisor as authorized to operate the system. Access includes: to the HMI screens and other controls required for normal operation of the charge station, compressor and storage, in addition, able to activate authorized overrides. Typically, configuration is not allowed at the user level. See “Using the Compressor HMI” on page 25. See “Using the Charge Station HMI” on page 32.

For the purposes of this guide, the Supervisor elements are discussed. However, since the User level is a subset it will be included by default. Access levels determine the display of some parameters.

Using the Compressor HMI

The HMI has a compressor screen that displays a color-coded quick view of the system and provides access various functions. See Figure 10.

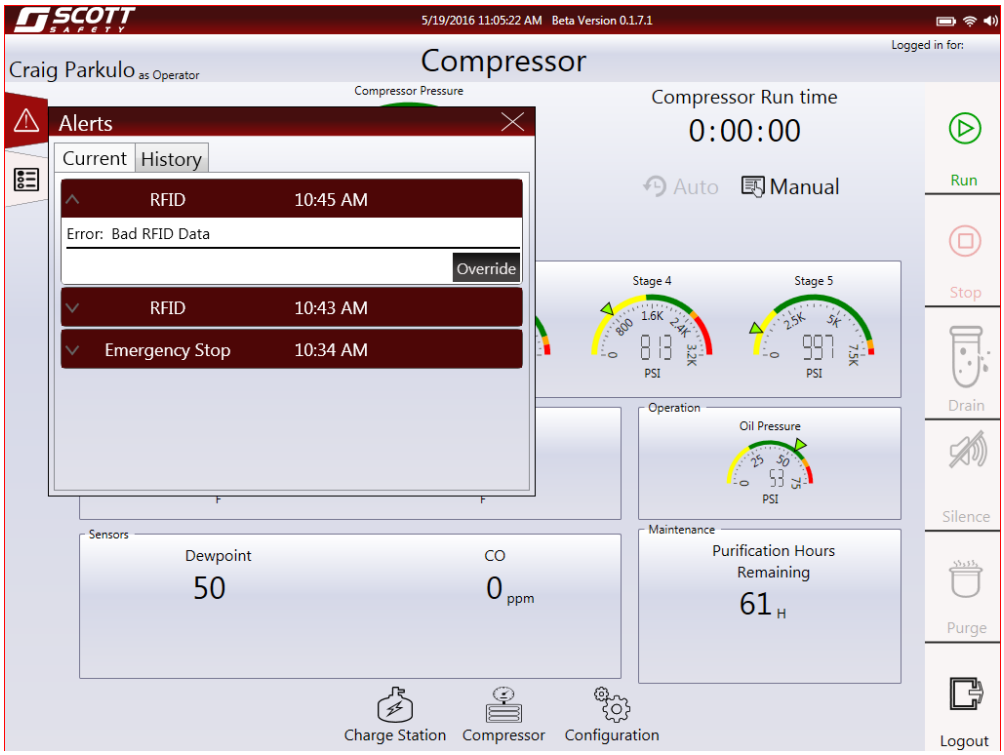
Figure 10 HMI Compressor Screen



- Auto - The compressor may be operated in one of two modes. The modes are Automatic or Manual. In the Auto mode, the compressor starts and runs until the pressure switch is tripped at 7000PSI and the automatically restarts when the pressure drops to 6200PSI. The cycle is repeated.
- Manual - In the Manual mode, the compressor starts and runs until the pressure switch is tripped at 700PSI.
- Stages - Displays the current pressure of the compressor. Specifically the stage 1 to stage 5.
- Temperature - Displays the current readings of the crankcase and air.
- Operation - Displays the current reading of the oil pressure.
- Maintenance - Displays the purification hours remaining.
- Sensors - Displays the current reading of the dewpoint and CO.
- Run - Starts the compressor.
- Stop - Is used to manually shut down the compressor in an orderly manner. When activated, the cool down cycle of the compressor, if needed and then power down the remainder of the system.

- Drain - The HMI automatically determines when to perform a drain and the length of time of the drain based on the factory defaults. Factory default for the drain interval: 15Mins. The default for the length: 15Secs. A drain may be manually performed when the user selects the Drain button.
- Silence - Manually disables the horn(s) on the compressor.
- Purge - A purge is automatically performed when the compressor restarts after an alarm event for a monitored gas. The HMI monitors the gas levels and tracks the run time. If either the gas levels drop to normal, or the two hour max run time is reached, the HMI sends a command to the compressor to stop the purge. A purge may be manually performed when the user selects the purge button.
- Logout - Exists and returns to the pass code/scan card screen.
- Alerts - Displays Override condition alerts and alert history. There are two types of alerts: alerts with overrides and alerts without overrides. See Figure 11.

Figure 11 Alerts - Screen



  – Alerts with Overrides - Overrides allow the system to continue operating while parameters are out of tolerance up to a maximum default override limit or for one hour, whichever occurs first. Each alert produces an associated audible alarm via the horn. These reflect the factory default settings. See Table 12.

Table 12 Alerts with Override Default Settings - Compressor

ITEM	MEASUREMENT RANGE	ALARM TIME DELAY RANGE	TIME DELAY	ALARM WARNING	ALARM SHUTDOWN	ALARM STATES	HORN ALARM	MANUAL OVERRIDE	OVERRIDE MAX. LIMIT	COOL DOWN CYCLE
DP Monitor	-10 to -104F	0 to 30Min	10Min	-64F	-55F		Yes	Up to 3 (1Hr)	-10F	2Min
CO Monitor	0 to 200ppm	0 to 60Sec	30Secs	4ppm	6ppm		Yes	Up to 3 (1Hr)	20ppm	2Min
Oil Pressure	SW	0 to 60Sec	25Sec	Below 30psi	Below 30psi		Yes	No	No	No
Air Temperature	100 to 600F	0 to 60Sec	15Sec	470F	495F		Yes	Up to 3 (1Hr)	550F	Yes
Crankcase High Temperature	100 to 600F	0 to 60Sec	15Sec	325F	338F		Yes	Up to 3 (1Hr)	345F	2min
Crankcase Min. Temperature	10 to 100F	0 to 60Sec	15Sec	32F	20F		Yes	Up to 3 (1Hr)	20F	2Min
Inlet Air Filter	SW	0 to 60Sec	15Sec	SW Closes	No		No	No	No	No
Condensation Reservoir Level	Dual Set Float SW	0 to 60Sec	5Sec	2/3 Full	Full		Yes	No	No	No
Stage #1	38 to 42psig	0 to 120Sec	10Sec	% of output press	No		Yes	Up to 3 (1Hr)	10%	No
Stage #2	190 to 220psig	0 to 120Sec	20Sec	% of output press	No		Yes	Up to 3 (1Hr)	10%	No
Stage #3	590 to 620psig	0 to 120Sec	30Sec	% of output press	No		Yes	Up to 3 (1Hr)	10%	No
Stage #4	1300 to 1550psig	0 to 120Sec	40Sec	% of output press	No		Yes	Up to 3 (1Hr)	10%	No

Table 12 Alerts with Override Default Settings - Compressor (continued)

ITEM	MEASUREMENT RANGE	ALARM TIME DELAY RANGE	TIME DELAY	ALARM WARNING	ALARM SHUTDOWN	ALARM STATES	HORN ALARM	MANUAL OVERRIDE	OVERRIDE MAX. LIMIT	COOL DOWN CYCLE
Operation Pressure Max	7500psig	0 to 120Sec	50Sec	% of output press	No		Yes	Up to 3 (1Hr)	10%	No
CO2	0 to 5%	0 to 60Sec	30Sec	1000ppm	5000ppm		Yes	Up to 3 (1Hr)	5000ppm	2Min
O2	0 to 25%	0 to 60Sec	10Sec	O2< 19.5%	O2< 19.5%		Yes	No	No	No
H2S	0 to 50ppm	0 to 60Sec	2Sec	5ppm	5ppm		Yes	No	No	No
Slip-In door Closed	SW	0 to 60Sec	15Sec	SW Signal	SW Signal		Yes	No	No	No
Compressor Enclosure Open	SW	0 to 60Sec	5Sec	SW Signal	SW Signal					
Incoming Power Irregular	Motor Saver									

– Alerts without Overrides - These conditions display in the alert section of the HMI and each alert produces an associated audible alarm via the horn. However, no override is allowed. See Table 13.

Table 13 Alerts without Override Events - Compressor

ITEM	EVENT
Condensate Reservoir	Full
Oil Pressure	No oil pressure
Drain	Fails at a specific compressor stage level
Solenoid Value	Fails

- Information - Displays applicable information based on either standalone of a compressor or charge station or a combination. Typically this covers the status of specific parameters. See Table 14.

Table 14 Information Types - Compressor

ITEM	UNITS
Total hours of run time:	Hrs/Min
Hour meter	Hrs/Min
Hours remaining on purifier filter	Hrs/Min
CO sensor installation date	MM/DD/YY
DP sensor installation date	MM/DD/YY
CO calibration date	MM/DD/YY

- Checklists - Displays applicable information based on either standalone of a compressor or charge station or a combination. Typically this covers the pre-operation checklist.To ensure the reliability of the compressor, the operator is responsible for observing the unit during operation and performing checks as described. See Table 15 lists the pre-operation items. See Figure 12.

Figure 12 Checklist - Screen

Warning: *All maintenance beyond the scope of this manual must be performed only by a Scott trained and certified service technician. Unauthorized maintenance or service without proper training can void the warranty, lead to permanent equipment damage, and/or serious personal injury.*

Warning: *Be sure that the input electrical power supply is correct for the system to be powered. All electrical supply wiring must be performed by a qualified electrician and*

conform to the National Electric Code, and must comply with all State and local codes and regulations. Use of incorrect electrical power input may permanently damage the equipment and could cause serious injury or death to the user.

Table 15 Pre-Operation Checklist - Compressor

ITEM	ACTIVITY	FREQUENCY	DETAILS
Maintenance schedule	Verify	Before each operation	Verify that the maintenance schedule is up to date for the unit. Proper routine maintenance and documentation are the responsibility of the organization using the equipment. Maintenance must be performed in accordance with service guidelines provided by Scott.
Electrical power source	Check	Before each operation	Check the electrical power source. Ensure that the compressor unit is connected to a suitable electrical power supply, and that there are no maintenance procedures in process that would necessitate a Lock Out/Tag Out of the circuit breaker or master switch.
Air flow	Check	Before each operation	Make sure there is nothing close to or on top of the compressor that could interfere with air flow. For proper operation, the minimum clearance established at installation on all sides and above the compressor must be maintained.
Fresh air supply	Check	Before each operation	Make sure nothing is operating in the vicinity of the compressor air intake which might contaminate the fresh air supply, such as vehicle exhaust, chimney smoke, ventilator fumes, or other source of contamination.
High pressure connections	Check	Before each operation	Check the high pressure connections. Ensure that the high pressure outlet(s) are properly connected to a suitable high pressure air receiver. If any connection is loose or damaged, do not start the compressor until all connections have been properly repaired and thoroughly inspected.
Oil level	Check	Before each operation, or at least once a week	Check the compressor oil level prior to each use. To check the oil, remove the oil fill cap and check the oil level reading. Replenish as necessary, using only Anderol 500 oil or XL-700 oil, available from your local Scott distributor.
Belt	Check	Before each operation, or at least once a week	Check the belt condition and the tension
Loose components	Check	Before each operation, or at least once a week	Check the compressor for any loose components
Remote air intake	Check	Before each operation, or at least once a week	Check the Remote Air Intake for any leaks

Table 15 Pre-Operation Checklist - Compressor

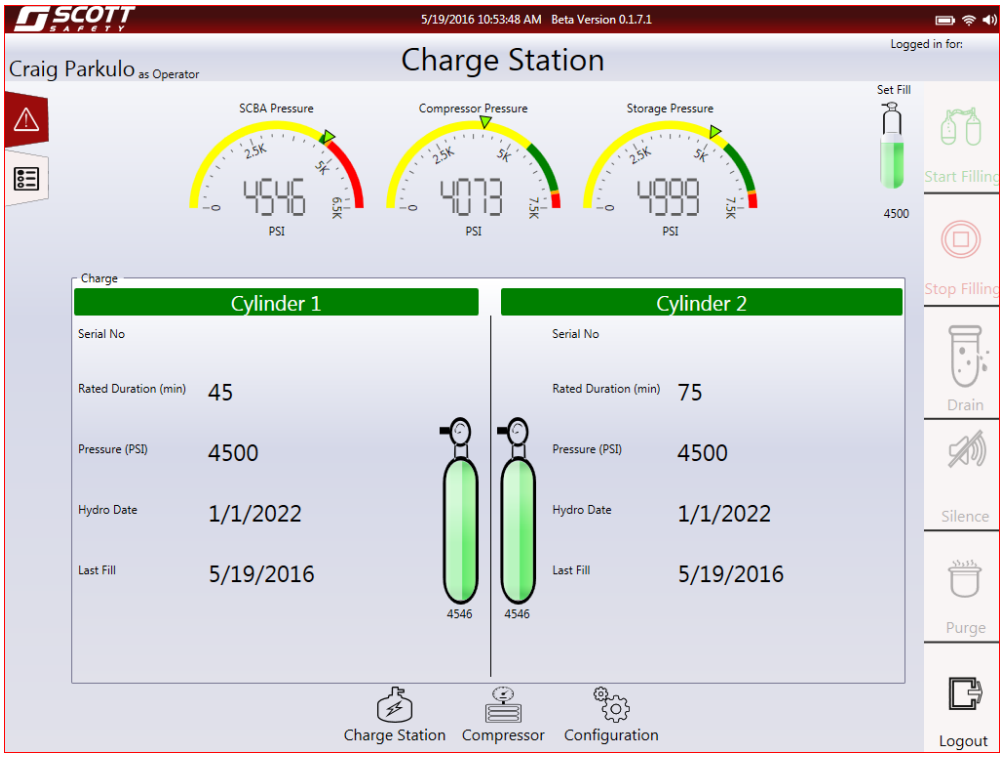
ITEM	ACTIVITY	FREQUENCY	DETAILS
Note: Anderol 500 oil is a registered trademark of Anderol, Inc. and XL-700 oil is a registered trademark of Ingersoll-Rand Company.			

- Stages - Displays the PSI or BAR values for each stage.
- Temperature - Displays the temperature value for the crankcase and the air in F/C.
- Sensors - Displays the actual values for the dew point (DP), CO, oil pressure and the number of hours of filter service.
- Alerts - Displays the gas type, live reading, and the unit of measure.
- Gas Reading - Displays the gas type, live reading, and the unit of measure.

Using the Charge Station HMI

The HMI has a charge screen that displays a color-coded quick view of the system and provides access various functions.

Figure 13 HMI Charge Station Screen



- SCBA Pressure - Displays the current pressure output to the SCBA cylinder.

The cylinder gauge coincides with the graphic representation of cylinder 1 and 2.

- Compressor Pressure - Displays the current pressure of the compressor. When no compressor is attached, the gauge reads zero and an alert is recorded.
- Storage Pressure - Displays the current pressure of the storage.
- Set Fill - Displays the selected pressure output to the SCBA cylinder.

Clicking on either the SCBA, compressor or storage pressure gauges displays all the bank gauges. Click again to toggle between the displays.

- Auto Storage -
- Cylinder 1 - Displays the serial number, rated duration in minutes, pressure in PSI, hydro test date, last fill date and a graphic representation related to the SCBA being filled on the left side.
- Cylinder 2 - Displays the serial number, rated duration in minutes, pressure in PSI, hydro test date, last fill date and a graphic representation related to the SCBA being filled on the left side.
- Non RFID Mode -

Automatic Cascade fill may be performed using the HMI. Auto cascade allows cylinders to be filled from either the compressor or the storage tanks without any manual intervention, either mechanical or software.

- Start Filling - Enables the SCBA fill in manual cascade mode. The following minimum requirements must be meet before fill is started:
  - The charge station door lock switch indicates the door is locked.
  - If applicable based on model, the cylinder's minimum RFID tag information is entered either by RFID or manually.
  - Both cylinders have the same pressure rating.
  - Both cylinders have unexpired hydro test dates.
- Stop Filling - Disables the SCBA fill in manual cascade mode.
- Drain - Disabled. It relates to the compressor.
- Silence - Manually disables the horn(s) on the compressor.
- Purge - Disabled. It relates to the compressor.
- Logout - Exists and returns to the pass code/scan card screen.
- Alerts - Displays both current and history of alerts. See Table 16.
- Checklist - Displays the list of associated checks in relation to the charge station operation.

Table 16 Alerts with Override Default Settings - Charge Station

ITEM	MEASUREMENT RANGE	ALARM TIME DELAY RANGE	TIME DELAY	ALARM WARNING	ALARM SHUTDOWN	ALARM STATES	HORN ALARM	MANUAL OVERRIDE	OVERRIDE MAX. LIMIT	COOL DOWN CYCLE
DP Monitor	-10 to -104F	0 to 30Min	10Min	-64F	-55F		Yes	Up to 3 (1Hr)	-10F	2Min
CO Monitor	0 to 200ppm	0 to 60Sec	30Secs	4ppm	6ppm		Yes	Up to 3 (1Hr)	20ppm	2Min
Oil Pressure	SW	0 to 60Sec	25Sec	Below 30psi	Below 30psi		Yes	No	No	No
Air Temperature	100 to 600F	0 to 60Sec	15Sec	470F	495F		Yes	Up to 3 (1Hr)	550F	Yes
Crankcase High Temperature	100 to 600F	0 to 60Sec	15Sec	325F	338F		Yes	Up to 3 (1Hr)	345F	2min

Table 16 Alerts with Override Default Settings - Charge Station (continued)

ITEM	MEASUREMENT RANGE	ALARM TIME DELAY RANGE	TIME DELAY	ALARM WARNING	ALARM SHUTDOWN	ALARM STATES	HORN ALARM	MANUAL OVERRIDE	OVERRIDE MAX. LIMIT	COOL DOWN CYCLE
Crankcase Min. Temperature	10 to 100F	0 to 60Sec	15Sec	32F	20F		Yes	Up to 3 (1Hr)	20F	2Min
Inlet Air Filter	SW	0 to 60Sec	15Sec	SW Closes	No		No	No	No	No
Condensation Reservoir Level	Dual Set Float SW	0 to 60Sec	5Sec	2/3 Full	Full		Yes	No	No	No
Stage #1	38 to 42psig	0 to 120Sec	10Sec	% of output press	No		Yes	Up to 3 (1Hr)	10%	No
Stage #2	190 to 220psig	0 to 120Sec	20Sec	% of output press	No		Yes	Up to 3 (1Hr)	10%	No
Stage #3	590 to 620psig	0 to 120Sec	30Sec	% of output press	No		Yes	Up to 3 (1Hr)	10%	No
Stage #4	1300 to 1550psig	0 to 120Sec	40Sec	% of output press	No		Yes	Up to 3 (1Hr)	10%	No
Operation Pressure Max	7500psig	0 to 120Sec	50Sec	% of output press	No		Yes	Up to 3 (1Hr)	10%	No
CO2	0 to 5%	0 to 60Sec	30Sec	1000ppm	5000ppm		Yes	Up to 3 (1Hr)	5000ppm	2Min
O2	0 to 25%	0 to 60Sec	10Sec	O2< 19.5%	O2< 19.5%		Yes	No	No	No
H2S	0 to 50ppm	0 to 60Sec	2Sec	5ppm	5ppm		Yes	No	No	No
Slip-In door Closed	SW	0 to 60Sec	15Sec	SW Signal	SW Signal		Yes	No	No	No
Compressor Enclosure Open	SW	0 to 60Sec	5Sec	SW Signal	SW Signal					
Incoming Power Irregular	Motor Saver									

Table 16 Alerts with Override Default Settings - Charge Station (continued)

ITEM	MEASUREMENT RANGE	ALARM TIME DELAY RANGE	TIME DELAY	ALARM WARNING	ALARM SHUTDOWN	ALARM STATES	HORN ALARM	MANUAL OVERRIDE	OVERRIDE MAX. LIMIT	COOL DOWN CYCLE

– Alerts without Overrides - These conditions display in the alert section of the HMI and each alert produces an associated audible alarm via the horn. However, no override is allowed. See Table 17.

Table 17 Alerts without Override Events - Charge Station

ITEM	EVENT
Bad RFID	

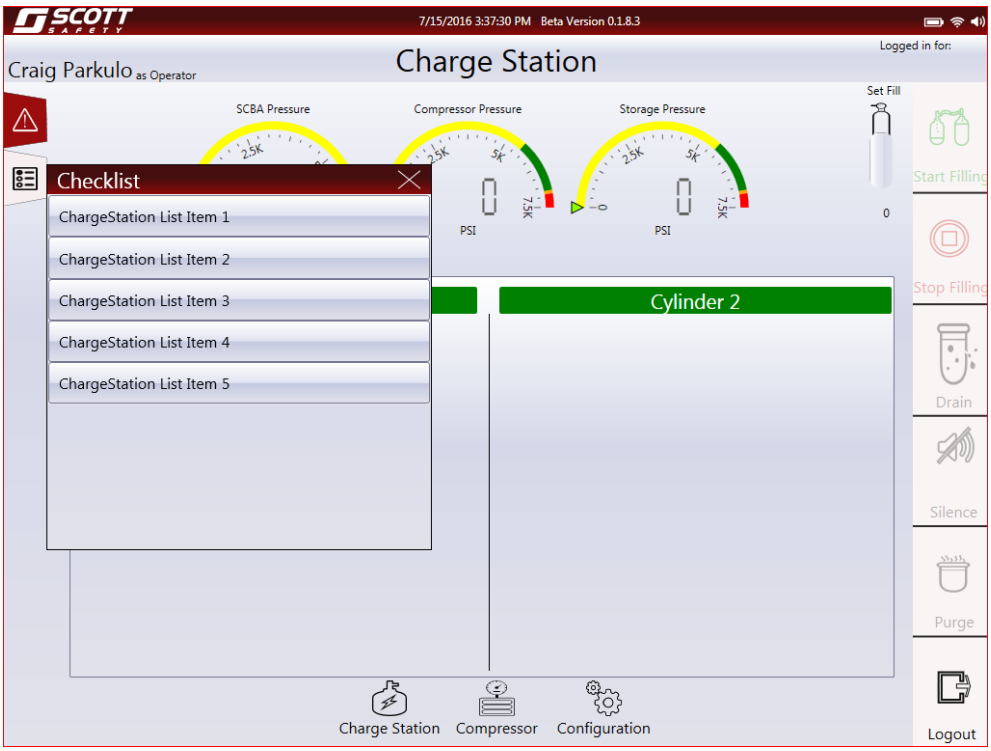
- Information - Displays applicable information based on either standalone of a compressor or charge station or a combination. Typically this covers the status of specific parameters. See Table 18.

Table 18 Information Types - Charge Station

ITEM	UNITS
Total hours of run time:	Hrs/Min
Hour meter	Hrs/Min
Hours remaining on purifier filter	Hrs/Min
CO sensor installation date	MM/DD/YY
DP sensor installation date	MM/DD/YY
CO calibration date	MM/DD/YY

- Checklists - Displays applicable information based on either standalone of a compressor or charge station or a combination. Typically this covers the pre-operation checklist.To ensure the reliability of the compressor, the operator is responsible for observing the unit during operation and performing checks as described. See Table 19 lists the pre-operation items. See Figure 14.

Figure 14 Checklist - Screen



Warning: *All maintenance beyond the scope of this manual must be performed only by a Scott trained and certified service technician. Unauthorized maintenance or service without proper training can void the warranty, lead to permanent equipment damage, and/or serious personal injury.*

Warning: *Be sure that the input electrical power supply is correct for the system to be powered. All electrical supply wiring must be performed by a qualified electrician and conform to the National Electric Code, and must comply with all State and local codes and regulations. Use of incorrect electrical power input may permanently damage the equipment and could cause serious injury or death to the user.*

Table 19 Pre-Operation Checklist - Charger Station

ITEM	ACTIVITY	FREQUENCY	DETAILS
Maintenance schedule	Verify	Before each operation	Verify that the maintenance schedule is up to date for the unit. Proper routine maintenance and documentation are the responsibility of the organization using the equipment. Maintenance must be performed in accordance with service guidelines provided by Scott.
Electrical power source	Check	Before each operation	Check the electrical power source. Ensure that the compressor unit is connected to a suitable electrical power supply, and that there are no maintenance procedures in process that would necessitate a Lock Out/Tag Out of the circuit breaker or master switch.

Table 19 Pre-Operation Checklist - Charger Station

ITEM	ACTIVITY	FREQUENCY	DETAILS
Air flow	Check	Before each operation	Make sure there is nothing close to or on top of the compressor that could interfere with air flow. For proper operation, the minimum clearance established at installation on all sides and above the compressor must be maintained.
Fresh air supply	Check	Before each operation	Make sure nothing is operating in the vicinity of the compressor air intake which might contaminate the fresh air supply, such as vehicle exhaust, chimney smoke, ventilator fumes, or other source of contamination.
High pressure connections	Check	Before each operation	Check the high pressure connections. Ensure that the high pressure outlet(s) are properly connected to a suitable high pressure air receiver. If any connection is loose or damaged, do not start the compressor until all connections have been properly repaired and thoroughly inspected.
Oil level	Check	Before each operation, or at least once a week	Check the compressor oil level prior to each use. To check the oil, remove the oil fill cap and check the oil level reading. Replenish as necessary, using only Anderol 500 oil or XL-700 oil, available from your local Scott distributor.
Belt	Check	Before each operation, or at least once a week	Check the belt condition and the tension
Loose components	Check	Before each operation, or at least once a week	Check the compressor for any loose components
Remote air intake	Check	Before each operation, or at least once a week	Check the Remote Air Intake for any leaks
Note: Anderol 500 oil is a registered trademark of Anderol, Inc. and XL-700 oil is a registered trademark of Ingersoll-Rand Company.			

Configuring the System

This section covers configuring the system.

The Supervisor access level allows additional functions beyond those allowed by the User. Only the Supervisor level access allows Configuration functions. The Supervisor access level allows normal operation of the Compressor and the Charge Station that is similar to that of the Operator access level.

Supervisor level access allows the following:

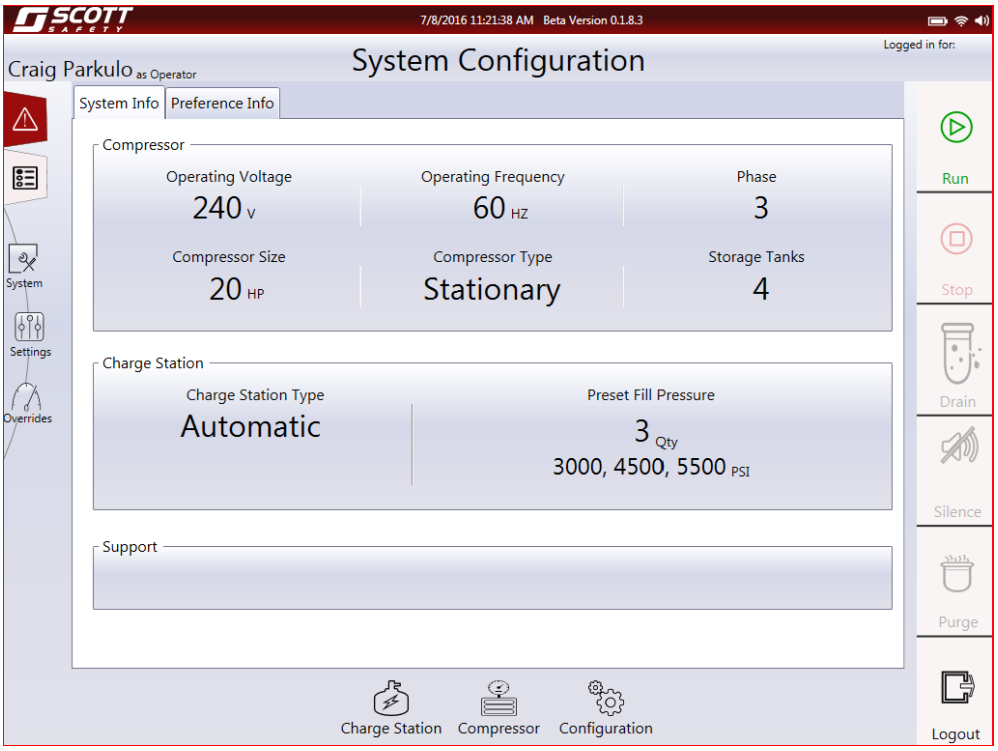
- System - Used to configure the system. It includes: System Info and Preference Information.
- Settings - Used to configure the settings. It includes: CO Calibration, Charge Station, Compressor, Preferences, Customer User Management. Charge Station includes: General Settings and Pressure Calibration. Compressor includes: General Settings and pressure Calibration.
- Override - Used to configure the overrides. It includes: Role Overrides, Override Settings, and Override Status.
- Compressor operation - Allows access to normal operation of the Compressor. See “Using the Compressor HMI” on page 25.
- Charge Station operation - Allows access to normal operation of the Charge Station. See “Using the Charge Station HMI” on page 32.

System

This section cover viewing the configuration. Access to the configuration is obtained using the Configuration & System Data History button. Select Preferences to access. This only allows viewing the parameters. No changes are allowed. See Figure 15.

Screen content varies depending on the system. That is, if the system is a standalone Compressor, or standalone Charge Station or, a combination of both a Compressor and a Charge Station.

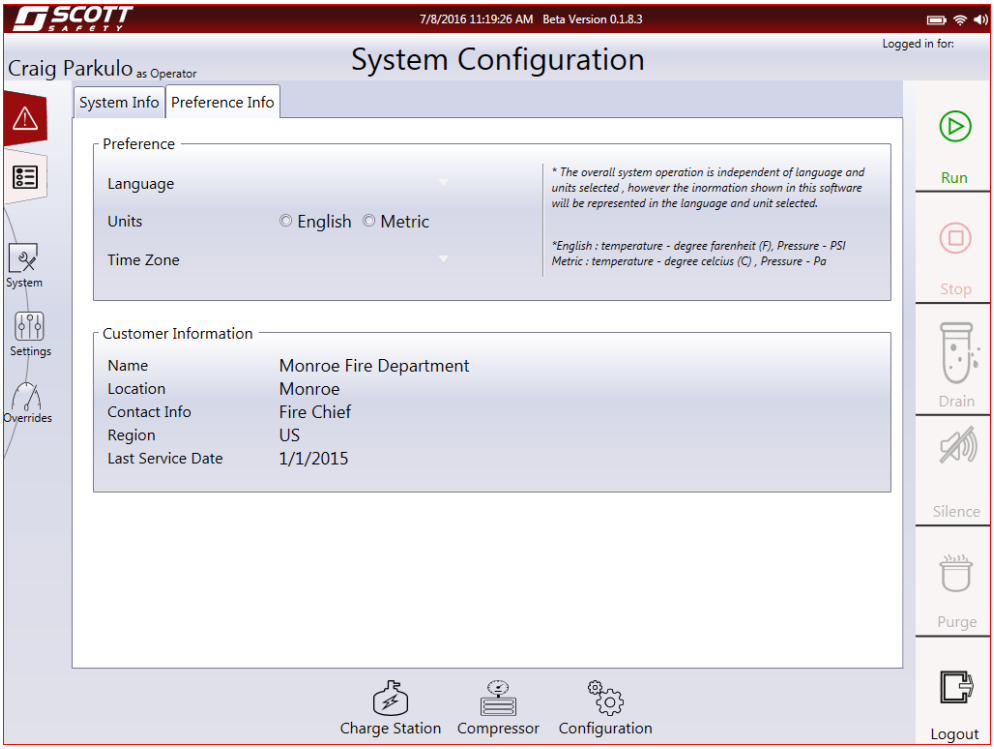
Figure 15 System Info Screen



- Compressor - Displays various configurable parameters including: operating voltage, operating frequency, phase, compressor size, compressor type and storage tanks.
- Charge Station - Displays various configurable parameters including: charge station type, and preset fill pressure.

Both the alerts and pre-operation checklist icons shown on this various configuration screens are duplications of those already covered in other sections.

Figure 16 Configuration - Preference Info Screen



- Preference - Displays various configurable parameters including: language, units and time zone.

All of the parameters on this screen are read only.

- Customer Information - Displays various configurable parameters including: name, location, contact into region and last service date.

Settings

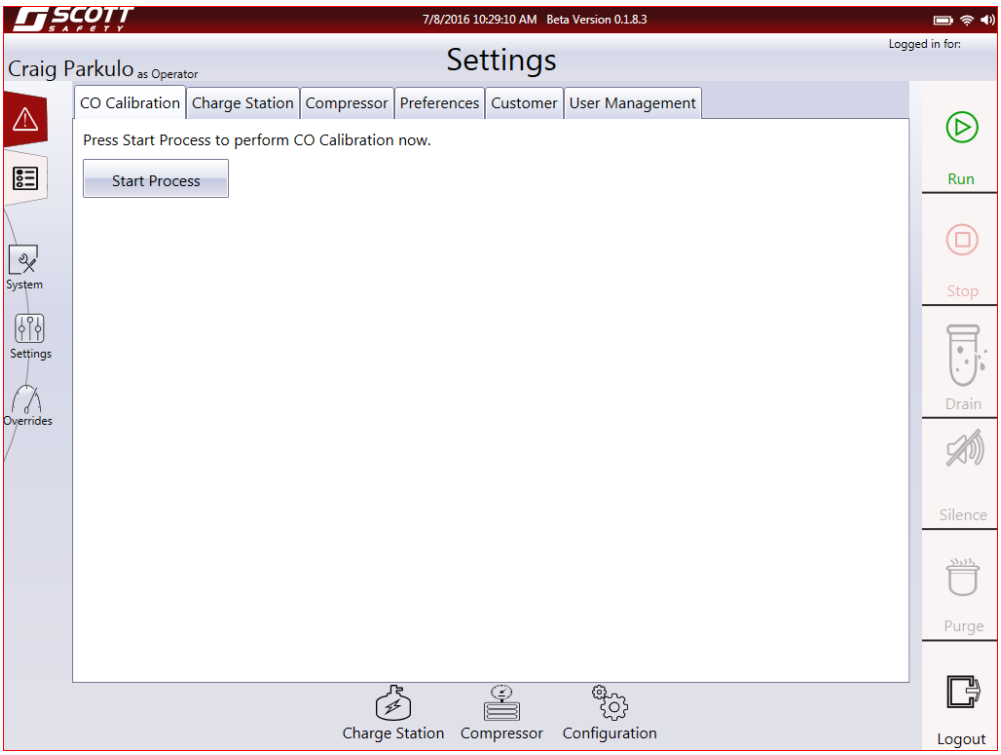
This section covers the various settings of the system.

Used to configure the settings. It includes: CO Calibration, Charge Station, Compressor, Preferences, Customer User Management. Charge Station includes: General Settings and Pressure Calibration. Compressor includes: General Settings and Pressure Calibration.

CO Calibration

See Figure 17.

Figure 17 Configuration - CO Calibration Screen



- CO Calibration - Displays a sequence that performs the CO Calibration. Simply click on the start process button, the start calibration button, wait for the counter, next, wait for the counter and lastly finished. Ensure you adhere to the following warnings and cautions.

Warning: *Do not lubricate threads on the regulator, calibration gas cylinders nor the calibration port. Lubricant may migrate into the sensor and may result in incorrect calibration of the device and may allow toxic gases to enter the breathing air resulting in serious injury or death.*

Caution: *Do not lubricate the threads on the regulator, calibration gas cylinders or the controller calibration port. Lubricant may migrate into, may contaminate, and may require replacement of the CO sensor.*

Caution: *Carefully thread regulator into cylinder port. Cross threading may damage threads in the regulatory body. Over tightening may damage sealing gasket in the regulatory body. Either of these conditions may cause leakage resulting in rapid depletion of the cylinder and may require replacement of the regulator.*

Warning: *Carefully thread regulator onto cylinder port. Cross threading may damage threads and/or overtightening may damage sealing gasket resulting in leaks. This leakage may expose user to carbon monoxide calibration gas resulting in serious injury or death.*

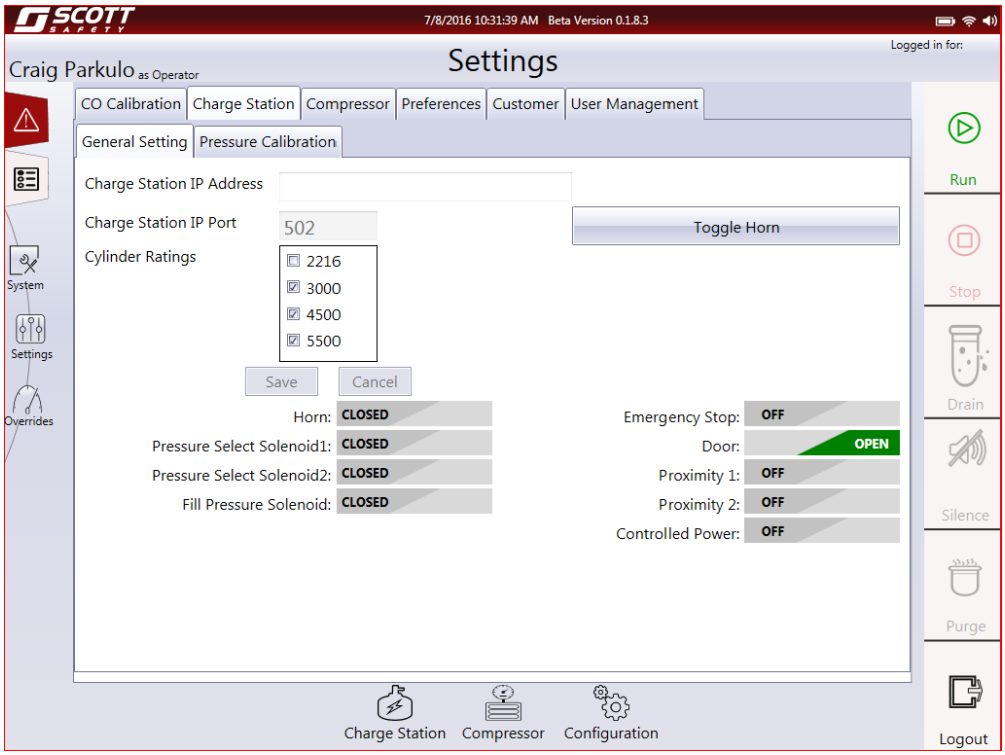
Warning: *Do not tighten. Over tightening may damage threads resulting in leakage. This leakage may expose user to carbon monoxide calibration gas resulting in serious injury or death.*

Warning: *Follow calibration instructions completely. Failure to follow calibration instructions may result in incorrect calibration of device that may allow toxic gases to enter the breathing air resulting in serious injury or death.*

Charge Station

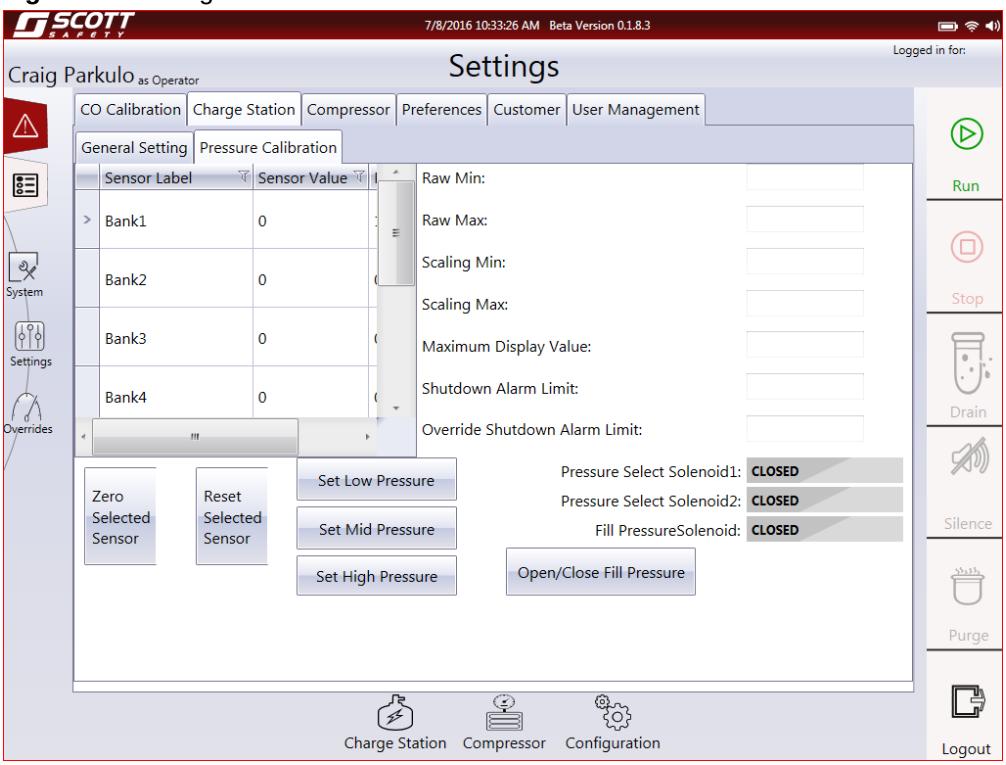
See Figure 18.

Figure 18 Charge Station - General Setting Screen



- Charge Station IP Address - Displays the IP Address of the Charge Station.
- Charge Station IP Port - Displays the IP Port of the Charge Station.
- Cylinder Ratings - Displays the selected Cylinder Ratings from the menu.
- Save Button - Allows storage of the parameters listed above this button.
- Cancel Button - Reverts back to the last know settings for the parameters listed above this button.
- Toggle Horn - Allows changing its state. The individual state status of on or off is displayed below.
- Individual State Status - Various state status are displayed based on user actions or the device's parameter state.

Figure 19 Charge Station - Pressure Calibration Screen

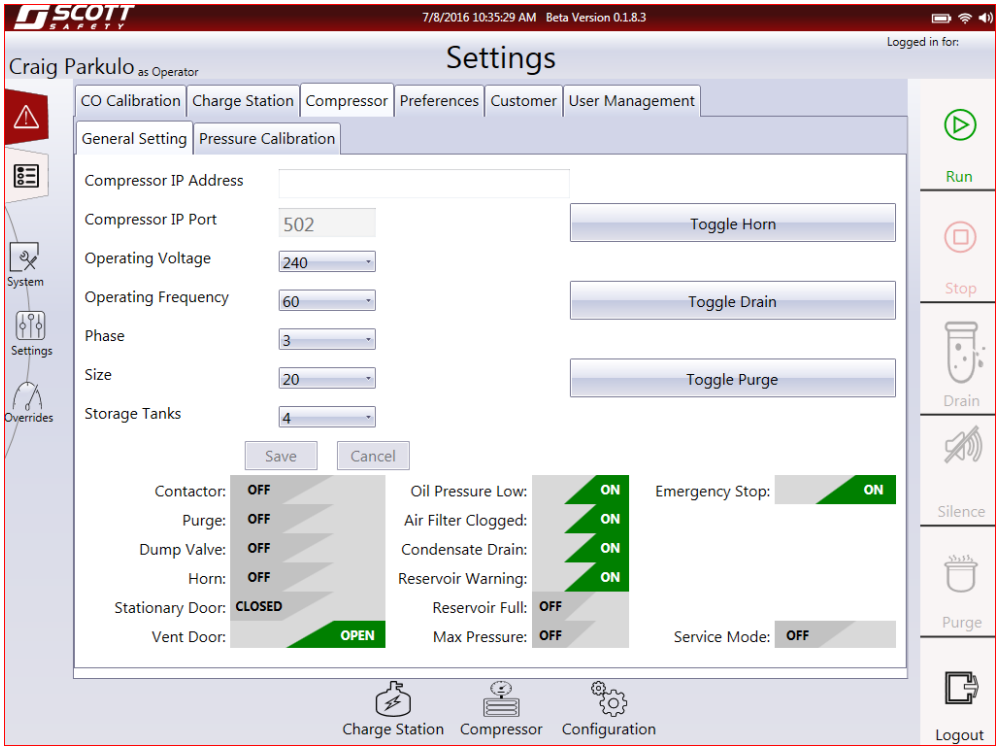


- Raw Min. -
- Raw Max -
- Scaling Max -
- Maximum Display Value -
- Shutdown Alarm Limit -
- Override Shutdown Alarm Limit -
- Zero Selected Sensor -
- Reset Selected Sensor -
- Set Low Pressure -
- Set Mid Pressure -
- Set High Pressure -
- Pressure Select Solenoid1 -
- Pressure Select Solenoid2 -
- Fill Pressure Solenoid -

Compressor

See Figure 20.

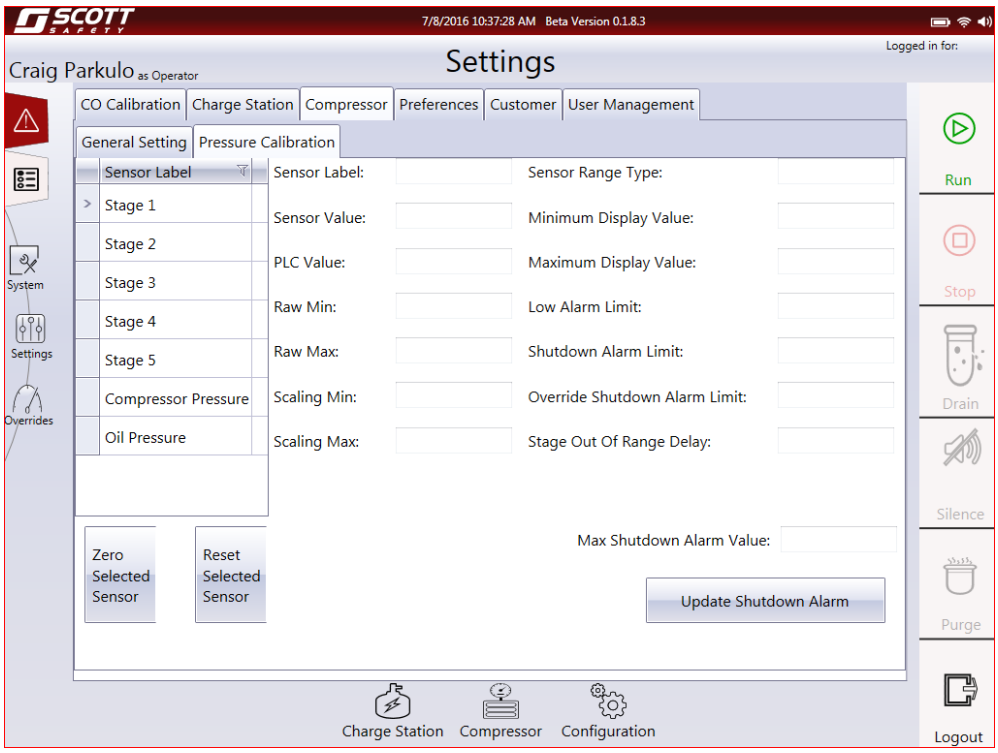
Figure 20 Compressor - General Setting Screen



- Compressor IP Address - Displays the IP Address of the Compressor.
- Compressor IP Port - Displays the IP Port of the Compressor.
- Operating Voltage - Displays the selected Operating Voltage from the pull down menu.
- Operating Frequency - Displays the selected Operating Frequency from the pull down menu.
- Phase - Displays the selected Phase of the motor from the pull down menu.
- Size - Displays the selected Size from the pull down menu.
- Storage Tanks - Displays the selected number of Storage Tanks rom the pull down menu.
- Save Button - Allows storage of the parameters listed above this button.
- Cancel Button - Reverts back to the last know settings for the parameters listed above this button.
- Toggle Horn - Allows changing its state. The individual state status of on or off is displayed below.
- Toggle Drain - Allows changing its state. The individual state status of on or off is displayed below.

- Toggle Purge - Allows changing its state. The individual state status of on or off is displayed below.
- Individual State Status - Various state status are displayed based on user actions or the device's parameter state.

Figure 21 Compressor - Pressure Calibration Screen



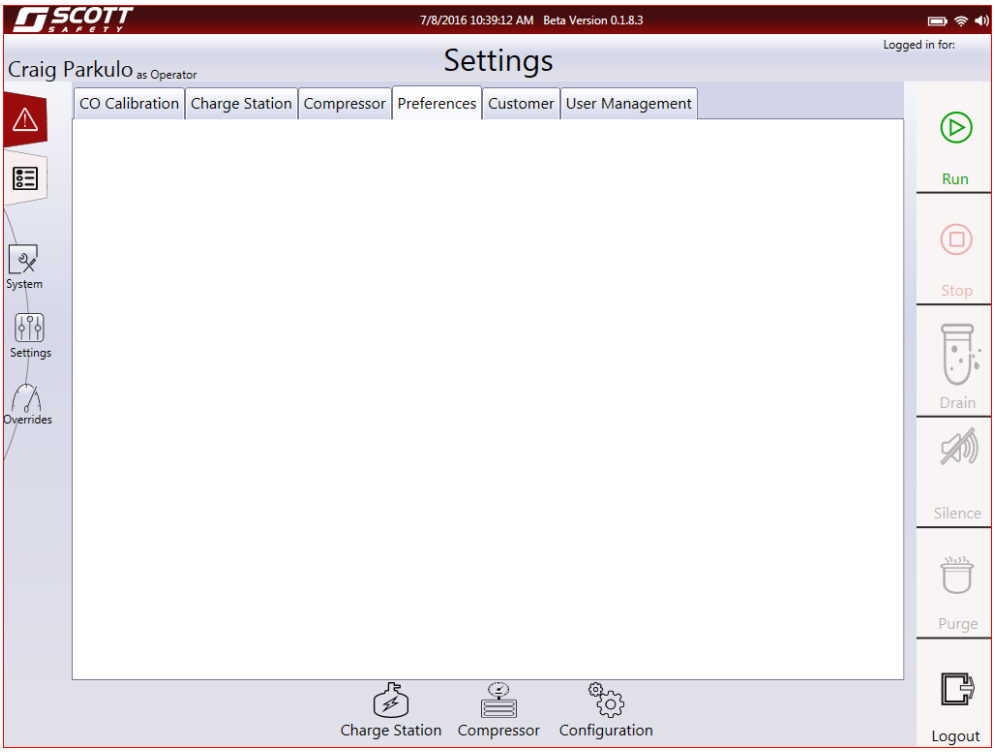
- Sensor Label -
- Sensor Value -
- PLC Value -
- Raw Min -
- Raw Max -
- Scaling Min -
- Scaling Max -
- Sensor Range Type -
- Minimum Display Value -
- Low Alarm Limit -
- Override Shutdown Alarm Limit -
- Stage Out of Range Delay -
- Zero Selected Sensor -

- Reset Selected Sensor -
- Max Shutdown Alarm Value -
- Update Shutdown Alarm

Preferences

See Figure 22.

Figure 22 Preferences Screen



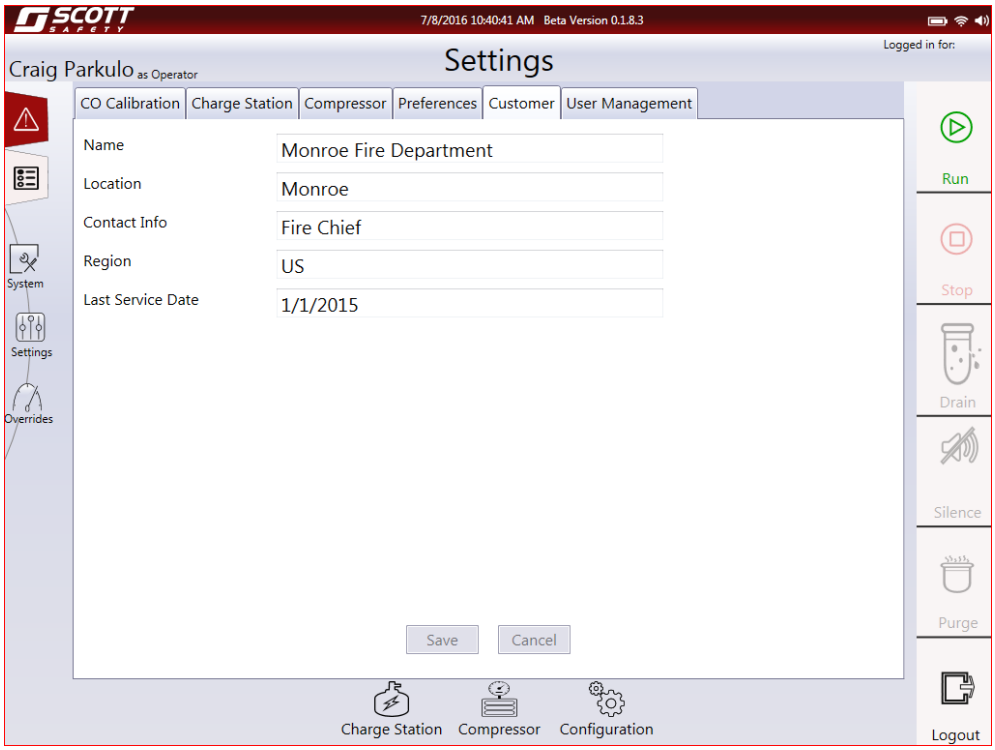
- Preference - Displays various configurable parameters including: language, units and time zone.

All of the parameters on this screen are read only.

Customer

See Figure 23.

Figure 23 Customer Screen



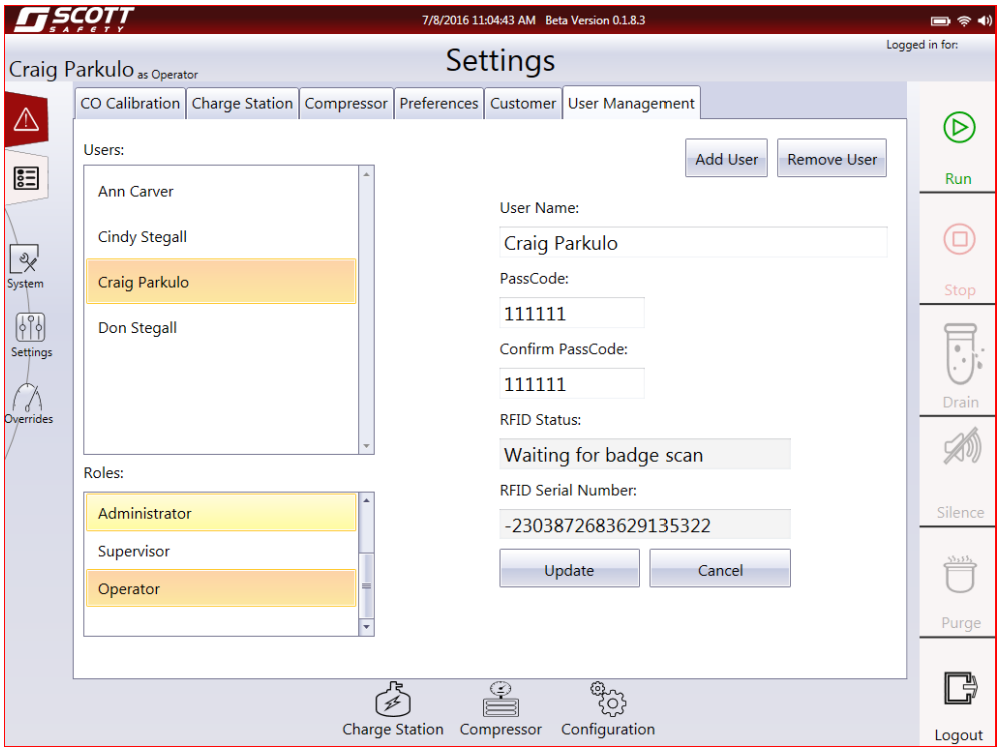
- Customer Information - Displays various configurable parameters including: name, location, contact into region and last service date.

All of the parameters on this screen are read only.

User Management

See Figure 24.

Figure 24 User Management Screen

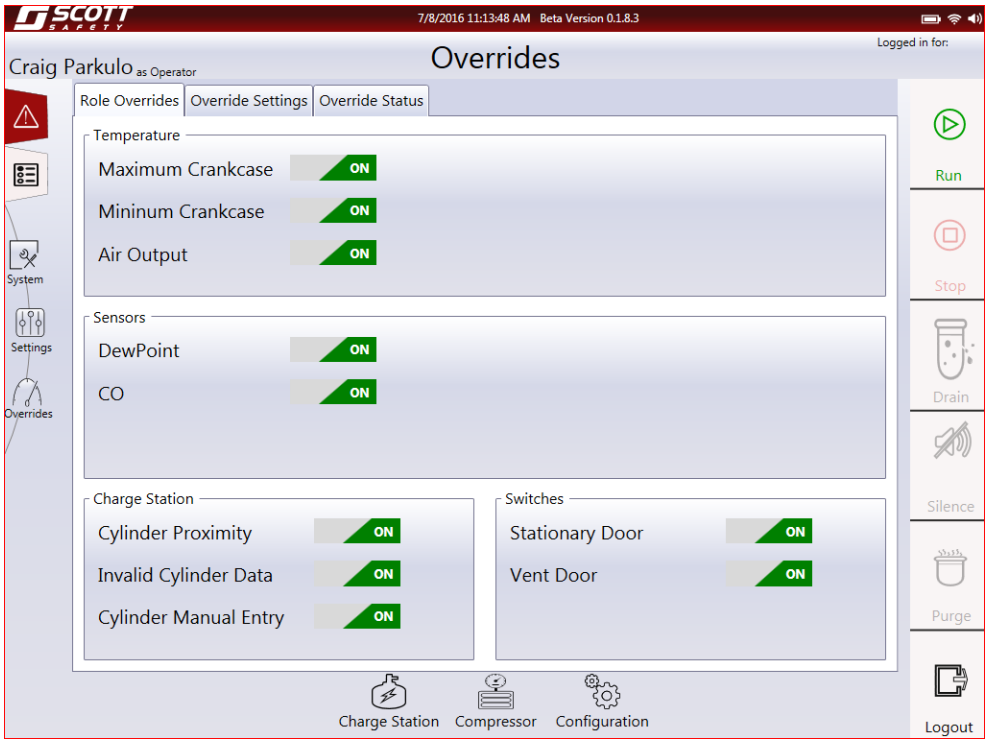


- Users - Displays list of users and associated parameters. Includes: user name, pass code, RFID status, RFID serial number.
- Roles - Displays roles.
- Add User - Allows entering new users.
- Remove User - Allows removal of users.
- Email ID - A unique qualifier for each user.
- User Credential - Shows the user's first and last name.
- Passcode - A unique 6 digit number for each user.
- User Level - Selects from the four (4) access levels.

Overrides

This section covers overrides. Allows you to override specific parameters. As long as you have permission. See Figure 25.

Figure 25 Role Overrides Screen

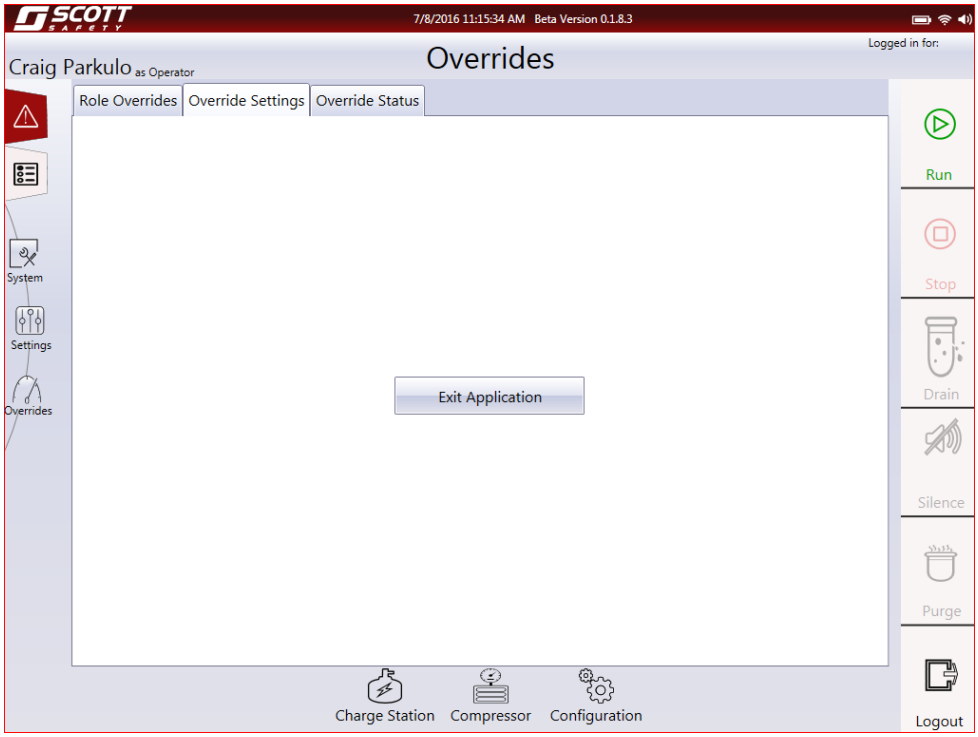


These parameters may be toggled and their associated minimum and maximum are displayed.

- Temperature - Displays various configurable parameters including: maximum crankcase, minimum crankcase and air output. Allows changing its state. The individual state status of on or off.
- Sensors - Displays various configurable parameters including: dew point and CO. Allows changing its state. The individual state status of on or off.
- Charge Station - Displays various configurable parameters including: cylinder proximity, invalid cylinder data, and cylinder manual entry. Allows changing its state. The individual state status of on or off.
- Switches - Displays various configurable parameters including: stationary door and vent door. Allows changing its state. The individual state status of on or off.

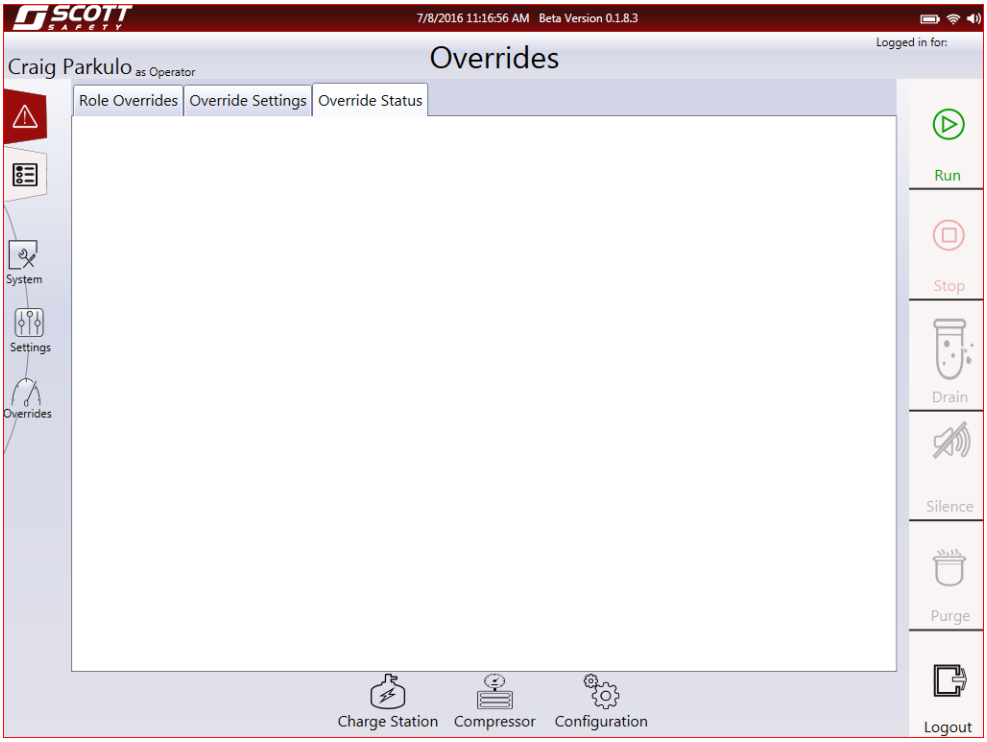
All of the parameters on this screen can be written.

Figure 26 Override Settings Screen



- Exit Application - Allows exiting back to the logon screen.

Figure 27 Override Status Screen

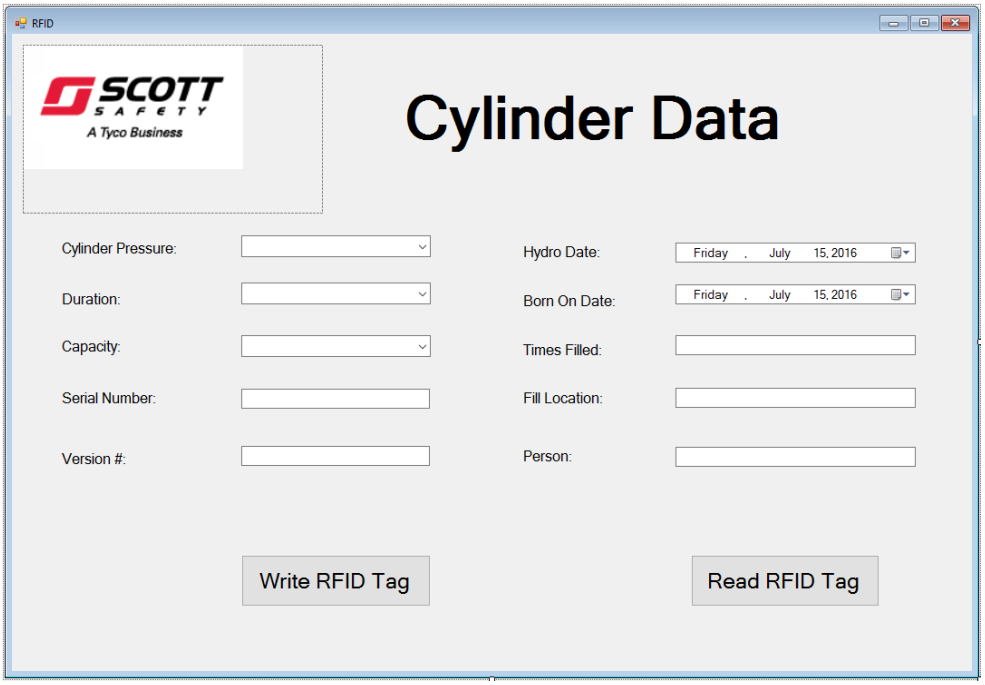


Using the RFID Read/Write Software

This section covers the RFID software.

The RFID Read/Write software is used with the applicable charge stations that provide the RFID functions. The software allows the reading and writing of data pertaining to the cylinders used in relation to the charge station. See Figure 28.

Figure 28 RFID Read/Write Screen



- To Write data to the Tag, enter the data into the fields on the screen, then press the Write RFID Tag to Write the data.
- To Read data from the Tag, press the Read RFID Tag button on the screen.

Chapter 4

SCOTT SAFETY OPERATION

Chapter Overview

This chapter covers the following topics:

Compressor Overview

In general, takes in ambient air and converts it into breathing air by way of various subsystems as outlined here:

- Electrical subsystem - Electrical current (VAC) is used to power a motor inside the compressor that drives the compressor through a vee belt.
- Filter and compression stages - The compressor, takes in ambient air that is filtered and then compressed in five stages. Each stage is equipped with a standard safety value, set slightly above the normal working pressure of that stage. The value releases high pressure air to protect the system in case of mechanical failure. These pressures are displayed, depending on the model, on the analog gauges or the HMI.
- Fan - The air circulating fan mounted on the flywheel is used to blow cooling air through the five stage air coolers and over the compressor head cooling fans. Air passing through the air coolers serves to lower the air temperature in increase compressor efficiency.
- Moisture separators - Moisture separators continuously remove moisture from the compressor intercooler and after-cooler air circuits. During normal operation, the dump solenoid values are activated automatically every 15 minutes. The condensate container collects the moisture from the moisture separators. The container is drained as needed.
- Discharge pressure achieved - When the discharge pressure reaches the maximum preset level, the compressor is unloaded. The moisture traps open, and the compressor continues to run without compressing air. Prior to stopping, the compressor runs unloaded through a cool-down cycle while draining the moisture separators and cooling down the compressor stages. This prevents the development of rust in the compression cylinders and also provides for an unloaded compressor restart.
- Purification process - After the pressurized air leaves the compressor, it passes through a multi-stage purification system. The number of stages depends on the horse power, and therefore the air output capacity of the compressor. The higher the air output, the more purification elements are needed. The purification system further dries the air and removes other impurities. After this, the breathable air may go directly to a charge station, to fill SCBA cylinders, or may be sent to ASME high pressure storage cylinders.

Compressor Interfaces

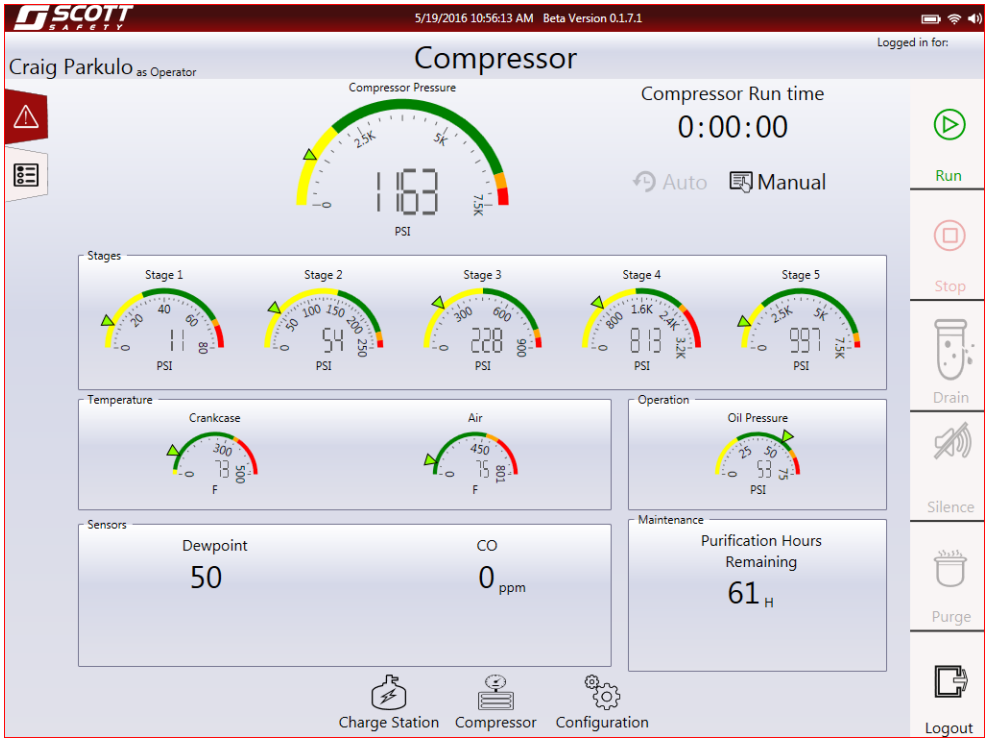
This section covers the compressor interfaces. The operation of the compressor varies based on the model. The Scott models use a HMI to operate the compressor. See “Configuration and Setup” on page 21. Other models do provide analog gauges, but do not provide a touch pad controller.

Warning: *When settings are changed, ensure those changes are communicated to all affected personnel.*

Depending on the configuration, the compressor may be controlled via the HMI. In general, the HMI is used to start and stop the compressor and to provide information about the compressors’ operation, performance and conditions to the operator. Figure 29 shows an example of a compressor screen.

For more details, See “Configuration and Setup” on page 21.

Figure 29 Compressor Screen Example



Compressor Process

This section provides a general overview of the compressor process, as each model varies.

Warning: *Never leave the Stationary Air Compressor system unattended while the compressor is in use. A Scott trained and certified operator must monitor the system gauges at all times and take immediate action to guard against equipment failure. This equipment is intended for providing breathable air to save lives. Failure to monitor the system may lead to permanent equipment damage, serious personal injury or death.*

Warning: *Hearing protection may be required when using the Stationary Air Compressor system for extended periods of time. Refer to the personal safety*

guidelines or requirements of your organization. Exposure to high sound levels may cause temporary or permanent hearing loss in some individuals.

Caution: *Verify the correct compressor rotation before operation. Rotation should be counterclockwise when facing the compressor fan. See the arrows on the compressor belt guard. If the rotation is incorrect, do not use the power source until the phasing has been modified by a certified electrical technician. After modification, recheck the rotation.*

1 Turn on the external power source (wall mounted switch).

2 Logon on the system via the HMI.

3 Select either operational mode: Automatic or Manual.

- Automatic Mode - This is the recommended mode for on site operation when a constant supply of compressed air is needed. In the mode, the unit automatically restarts when system pressure drops about 6200psi below the maximum pressure.
- Manual Mode - This mode is used for a single compression cycle. In this mode, the unit brings the ASME storage cylinders up to maximum system pressure, but does not automatically restart as the pressure is depleted. The unit must be restarted when storage pressure has dropped below a usable level.

4 For normal operations, select Automatic.

The compressor ships from the factory with specific configurable parameters set to defaults for normal operations.

5 During normal operations, the compressor monitors these specific parameters to ensure proper operations. There are numerous items, and include: discharge temperature, CO concentration, DP level, oil level, each stage pressure, and more. Additionally the HMI provides helpful items for the operator that include: Alerts, Information and Checklists. See “Using the Compressor HMI” on page 25.

6 Depending on the compressor model, continue to monitor the unit during operations either using the HMI or the analog gauges, with special attention to compressor pressure and storage pressure.

7 Ensure that the Air Flow that passes over both the DP and CO sensors are adequate. This ensures that the sensors reading are accurate. This should be done, when the system pressure for the 5th Stage reaches about 2500psi. To make an adjustment, simply turn the Air Flow On/Off Knob as needed.

The compressor automatically activates a fifteen (15) second drain cycle at regular intervals to remove moisture. However, a manual fifteen second drain cycle may be activated at any time by pressing the drain button on the HMI. Sometimes, it is useful to activate a Manual drain cycle to verify that the moisture separators are operating properly. Once activated, check the HMI gauges to verify that they all drop pressure and recover pressure simultaneously.

8 When the system reaches maximum pressure, the compressor runs a cool down cycle for two (2) minutes. During this time, the compressor runs unloaded while draining the moisture separators, and cooling down the compressor stages. After

the cool down cycle, the compressor stops. If the system is in the Automatic Mode, the compressor restarts to refill the storage when the system pressure drops about 6200psi below the desired maximum pressure. In contract, if the system is in Manual Mode, you must press Start on the HMI after the storage pressure drops about 6200psi from full to restart the compressor to refill the storage.

9 When the compressor is in Automatic Mode, it restarts when the pressure drops about 6200psi below maximum system pressure. If the storage pressure was already full when the system started, the HMI displays Storage Full and the compressor will still restart automatically when pressure drops.

10 Provided all compressor operating parameters are within tolerances, the system is ready to fill breathing air cylinders.

Warning: *Never attempt to perform service while the compressor system is in use in the Automatic mode. When the compressor system is in the Automatic mode, the compressor will restart when the storage pressure drops approximately 6200psi below maximum pressure. This can happen at any time without warning. Failure to observe this warning could result in serious injury or death.*

Compressor E-Stop Button

This section covers the compressor E-Stop button.

This is not the same as the HMI Stop, that provides an orderly compressor shutdown.

1 In case of an emergency, press E-Stop button. This automatically stops the compressor. The compressor locks and is unavailable for four (4) minutes after the Emergency Shutdown button is activated.

Warning: *Use of the Emergency Shutdown button stops the compressor immediately without the benefits of a two minute cool-down cycle. In the Emergency Shutdown mode, the compressor is locked out and unavailable for four (4) minutes. Repeated use of the Emergency Shutdown results in residual moisture in the system which may result in serious damage to the equipment.*

Charge Station Overview

This section covers an overview of the charge station.

We provide a full line of breathing air system components and related accessories for the safe production and storage of compressed breathing air. Configurations of breathing air systems will vary depending on selected options. Operators of these units must become familiar with their particular system configuration and refer to the proper operating instructions. These fill stations are intended only for charging breathing air cylinders. The air compressor and purification system used with these fill stations to fill breathing air cylinders must produce compressed air which meets the requirements for Grade D or higher compressed air as specified in the Compressed Gas Association publication CGA G-7.1 entitled Commodity Specification for Air, available from the Compressed Gas Association, Inc., 1725 Jefferson Davis Hwy., Suite 1004, Arlington, VA 22202. In addition to meeting the requirements of Grade D or higher, the air must be dry to a dew point of -65° F (-54° C) or less.

The fill station may be installed with storage cylinders or a manual or an automatic cascade system. See “Automatic Cascade” on page 58. See “Breathing Air Cylinder Inspection” on page 75. See “Storage Cylinder Inspection” on page 74. Read and follow all safety labels on the unit.

Caution: *Follow all recommended procedures and safety precautions as provided in this manual. Federal, State and local codes mandate safety precautions and procedures for the handling and production of breathable air. Consult State and local occupational health and industrial safety ordinances for additional requirements.*

Proper installation of the charge stations must be performed in accordance with Scott Safety requirements, for optimum performance and adequate warranty coverage. Maintenance and repair of the system must be performed by a Scott trained and certified technician.

Automatic Cascade

The principle of a cascade air storage system is to make the most efficient use of the air stored in multiple storage cylinders to fill breathing air cylinders. This is achieved by always drawing air first from the storage cylinder with the lowest pressure and then switching to the storage cylinder with the next highest pressure until the breathing air cylinder has reached the target fill pressure. The comparison is made between the storage and cylinder pressure. If the lowest storage pressure is higher than the cylinder pressure then you start filling from that lowest storage until the pressure equalizes with the cylinder pressure and you continue doing so until the last storage tank pressure is equal to the cylinder pressure. If necessary, the fourth storage cylinder is used to finally reach the target pressure in the breathing air cylinder. When the fourth storage cylinder drops below the target pressure, no more breathing air cylinders can be filled to the target pressure until the storage system is refilled by the compressor.

With an Auto Cascade system, pressure sensing valves automatically select the air supply from each of the storage cylinders. The system opens and closes the storage cylinders to efficiently use all the available air to fill the breathing air cylinders. The operation of the Auto Cascade system does not require additional tasks or adjustments by the operator.

For systems with an integral compressor, the operator can choose to turn Off the compressor after filling the storage and then fill the breathing air cylinders. The Auto Cascade system will provide the maximum number of fills before turning the compressor back On.

Charge Station Interfaces

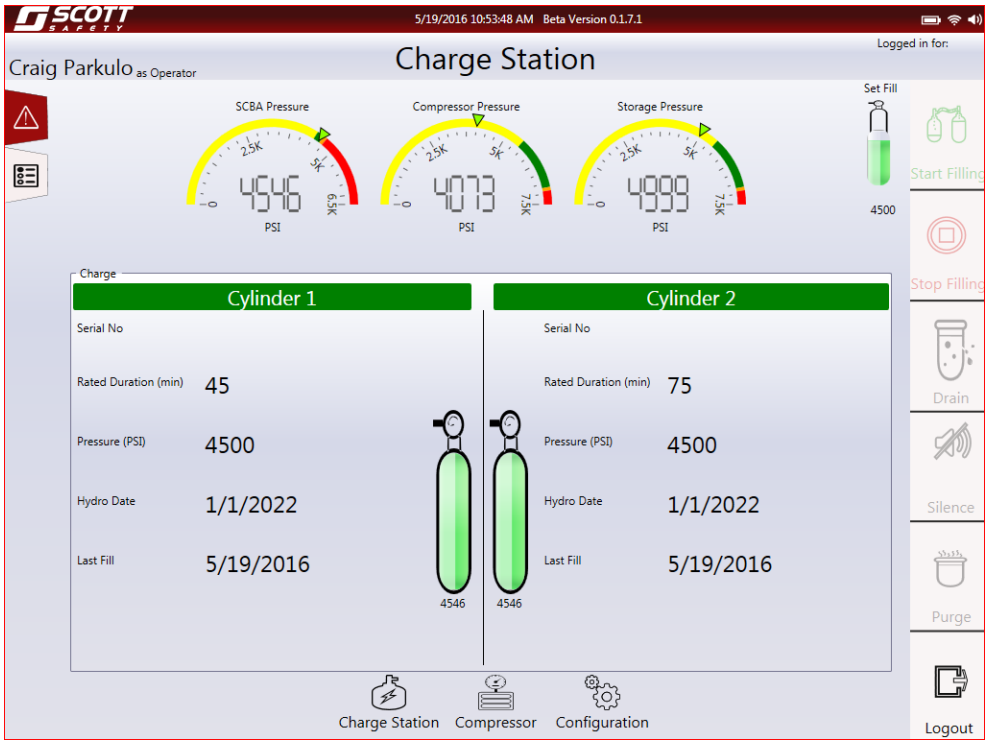
This section describes the different charge station interfaces. The operation of the charge varies based on the model. The Scott models use a HMI to operate the charge station. See “Configuration and Setup” on page 21. Other models do provide analog gauges, but do not provide a touch pad controller.

Warning: *When settings are changed, ensure those changes are communicated to all affected personnel.*

Depending on the configuration, the charge station may be controlled via the HMI. In general, the HMI is used to start and stop the compressor and to provide information about the compressors’ operation, performance and conditions to the operator. Figure 30 shows an example of a charge station screen.

For more details, See “Configuration and Setup” on page 21.

Figure 30 Charge Station Screen Example



Warning: *When settings are changed, ensure those changes are communicated to all affected personnel.*

Table 20 Charge Model Interfaces

MODEL	FUNCTIONS	DETAILS
8004440, 8004448, 8004442, 8004444, 8004452	Fully Automatic System with LCD	See “8004440, 8004448, 8004442, 8004444, 8004452” on page 60.
8004445, 8004447	Analog System without LCD, Automatic Cascade/Bulk and Dual Pressure	See “004445, 8004447” on page 61.
8004450, 8004451	Analog System without LCD, Automatic Cascade/Bulk and Single Pressure	See “8004450, 8004451” on page 62.

8004440, 8004448, 8004442, 8004444, 8004452

This section covers the various interfaces for these models.

See Figure 31 and Table 21.

Figure 31 8004440, 8004448, 8004442, 8004444, 8004452 Interface Locations

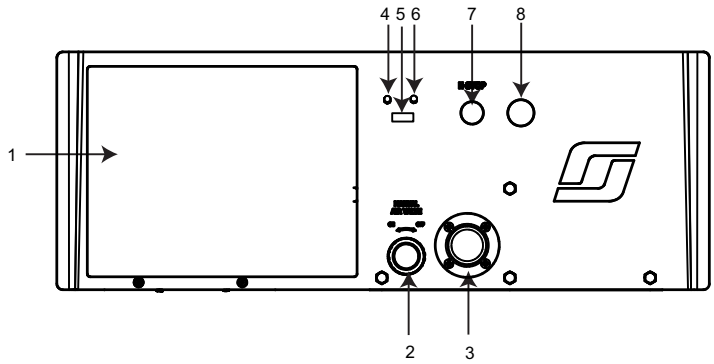


Table 21 8004440, 8004448, 8004442, 8004444, 8004452 Interfaces Details

REFERENCE NUMBER	ITEM
1	LCD
2	Manual Air Flow On/Off Knob - Allows air pressure from either the compressor or the storage to the charge station.
3	Pressure Regulator - Controls the pressure output to the SCBA. For use only by service technician.
4	Schrader Valve - To calibrate CO.
5	USB Port - Allows access to data log and their transferring.
6	Schrader Valve - To take sample of air.
7	E-Stop - Manually shuts down the compressor.
8	Horn - Alarms indicating important events.

For details regarding the HMI, See “Configuration and Setup” on page 21.

004445, 8004447

This section covers the various interfaces for these models.

See Figure 32 and Table 22.

Figure 32 8004445, 804447 Interface Locations

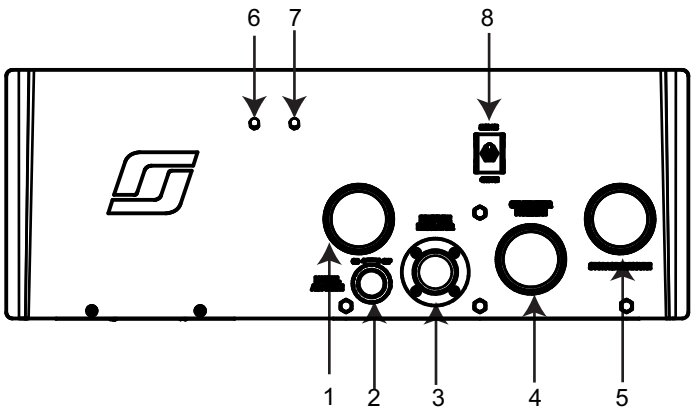


Table 22 8004445, 8004447 Interfaces Details

REFERENCE NUMBER	ITEM
1	SCBA Fill Pressure Analog Gauge - Indicates the SCBA pressure.
2	Manual Air Flow On/Off Knob - Allows air pressure from the storage to the SCBA cylinder.
3	Pressure Regulator - Controls the pressure output to the SCBA. For use only by service technician.
4	Compressor Pressure Analog Gauge - Indicates the compressor pressure.
5	Storage Pressure Analog Gauge - Indicates the storage pressure.
6	Schrader Valve - To calibrate CO.
7	Schrader Valve - To take sample of air.
8	Dual Pressure Toggle Switch - Selects between the two pressures.

8004450, 8004451

This section covers the various interfaces for these models.

See Figure 33 and Table 23.

Figure 33 8004450, 8004451 Interface Locations

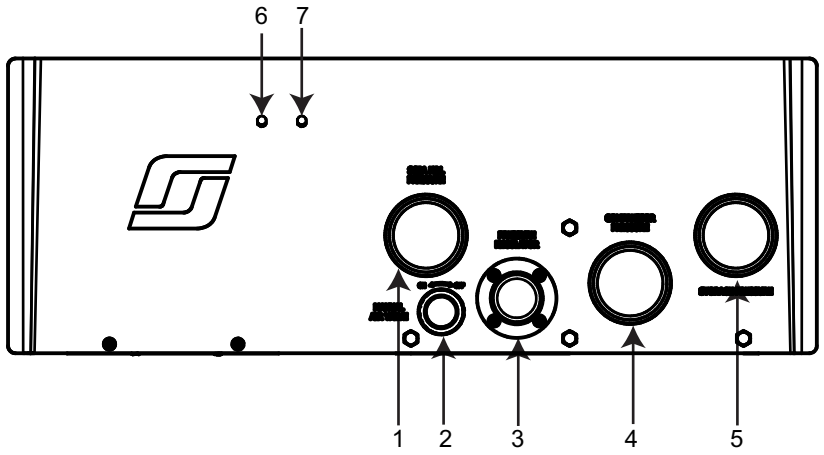


Table 23 8004450, 8004451 Interfaces Details

REFERENCE NUMBER	ITEM
1	SCBA Fill Pressure Analog Gauge - Indicates the SCBA pressure.
2	Manual Air Flow On/Off Knob - Allows air pressure from the storage to the SCBA cylinder.
3	Pressure Regulator - Controls the pressure output to the SCBA. For use only by service technician.
4	Compressor Pressure Analog Gauge - Indicates the compressor pressure.
5	Storage Pressure Analog Gauge - Indicates the storage pressure.
6	Schrader Valve - To calibrate CO.
7	Schrader Valve - To take sample of air.

Charging the SCBA Cylinders

This section cover charging the SCBA cylinders.

Using the charge station turntable chamber, two SCBAs may be charged simultaneous while two more SCBAs are being mounted.

Caution: *Before starting, check the inspect the SCBA cylinders.* See "Breathing Air Cylinder Inspection" on page 75.

Warning: *When charging more than one breathing air cylinder together, charge only cylinders that have the same pressure rating. Failure to follow this instruction can result in cylinder failure and lead to equipment damage, serious personal injury, or death.*

Warning: *If any air leak is noted, or the equipment does not operate as described in this manual, immediately terminate use of the equipment and consult with a certified service technician before proceeding. Use of malfunctioning equipment may create circumstances resulting in serious personal injury or death.*

Warning: *When charging 75 minute 5500 PSI cylinders, there must be no cylinders mounted on the outside of the charge station door. When charging any other size cylinder, there must be no 75 minute 5500 PSI cylinders mounted on the outside of the charge station door. Failure to obey these warnings may result in serious personal injury or death.*

Warning: *Air pressure increases as temperature increases. When charging cylinders in temperatures below freezing (32° F/0° C), frequently check air pressure and release excess pressure as the cylinder warms to normal room temperature. Failure to do so will cause cylinders to be in an overcharge condition, increasing the risk of cylinder failure and leading to personal injury or death.*

Fill Pressure Adjustments

This section covers making fill pressure adjustments.

Caution: *Never use a wrench or other tool to tighten the bleed valves or cylinder adapters. Excessive force will damage the sealing surfaces and result in cylinder leakage.*

1. Check the pressure rating of the selected breathing air cylinder(s). See "Breathing Air Cylinder Inspection" on page 75.
2. When charging more than one cylinder, verify that all cylinders are of the same pressure rating. If they are different, sort them by their rating, and only charge cylinders together that have the same rating. Never mix ratings.

Warning: *Never mix ratings. When charging more than one breathing air cylinder together, charge only those cylinders that have the same pressure rating. Failure to follow this instruction can result in failure of the cylinder or cylinder valve, and can lead to equipment damage, serious personal injury, or death.*

3. Verify that the compressor or storage pressure is greater than the fill pressure of the selected breathing air cylinder. If pressure is too low, allow the compressor system to continue building pressure. See Figure 34 and Table 24.

Model depending, either refer to the LCD or the control panel on the charge station. These instructions are based on a control panel interface.

Figure 34 Cylinder Charging Controls

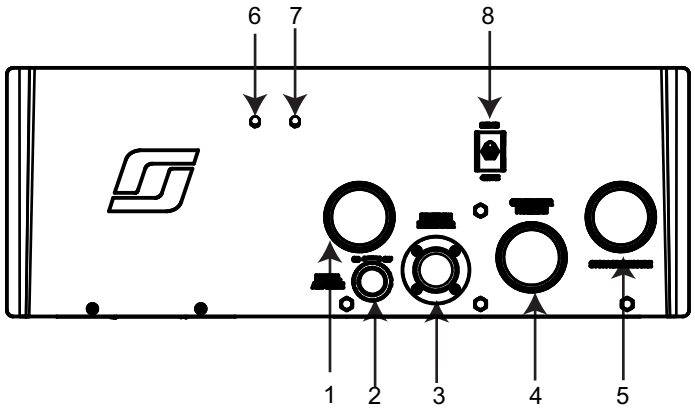
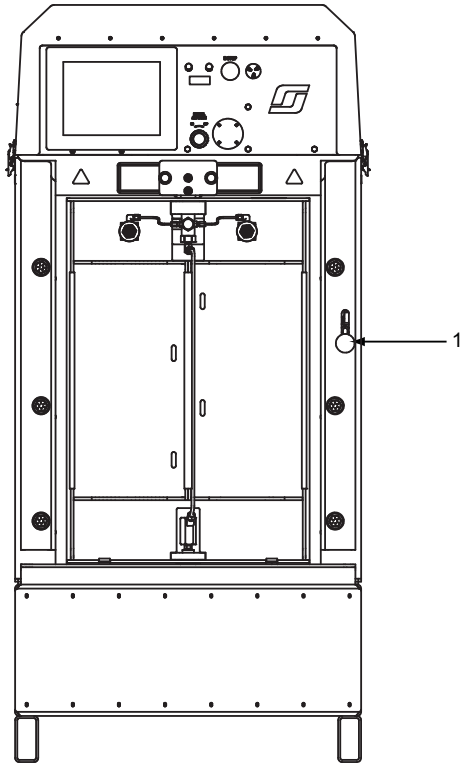


Table 24 Cylinder Charging Controls

REFERENCE NUMBER	ITEM
1	SCBA Fill Pressure Analog Gauge - Indicates the SCBA pressure.
2	Manual Air Flow On/Off Knob - Allows air pressure from the storage to the SCBA cylinder.
3	Pressure Regulator - Controls the pressure output to the SCBA. For use only by service technician.
4	Compressor Pressure Analog Gauge - Indicates the compressor pressure.
5	Storage Pressure Analog Gauge - Indicates the storage pressure.
6	Schrader Valve - To calibrate CO.
7	Schrader Valve - To take sample of air.
8	Dual Pressure Toggle Switch - Selects between the two pressures.

4 When system pressure is adequate to fill the breathing air cylinders, unlock the fill station door by operating the handle (item 1) on the right side of the chamber (Yellow lock bars not showing). See Figure 35.

Figure 35 Charging Chamber Unlocked

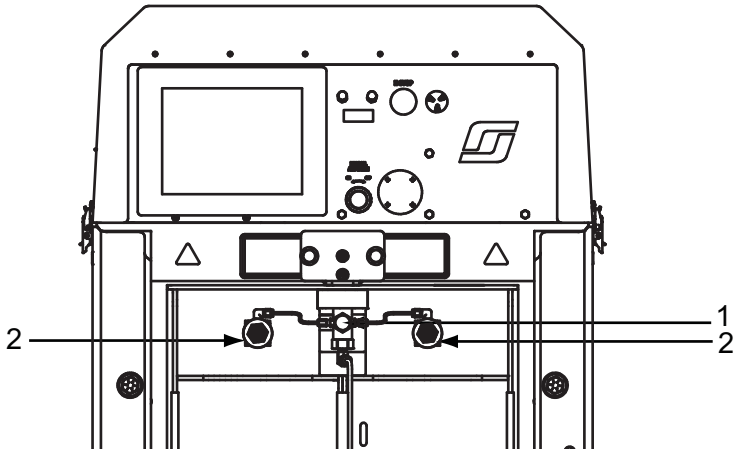


5 Close the Manual Air Flow On/Off Knob on the control panel by turning the valve fully clockwise.

Warning: *Never set the fill pressure higher than the maximum pressure rating for the breathing air cylinders to be filled. Filling breathing air cylinders beyond their maximum pressure rating may result in serious damage to the cylinder or cylinder valve. A damaged cylinder may rupture, and can cause serious personal injury or death.*

6 Close both bleed valves (item 1) on the fill station “finger tight” (one bleed valve on each side of the fragmentation chamber door). Do not use tools to tighten. See Figure 36.

Figure 36 Bleed Value and Charge Adapters Locations



7 Make sure all four of the cylinder charge adapters (item 2) are closed and secure (two on each side of the fill station door). Hand-tighten, turning the adapter counterclockwise. Do not use tools.

8 Close the charging chamber and lock with the operating handle (with the Yellow locking bars visible around the chamber door).

9 Open the Manual Air Flow On/Off Knob 1/8 to 1/2 turn counterclockwise.

10 For units with the Dual Pressure option, set the switch to the selected breathing air cylinder pressure. No other fill regulator control is available to the operator. See Figure 34 and Table 24.

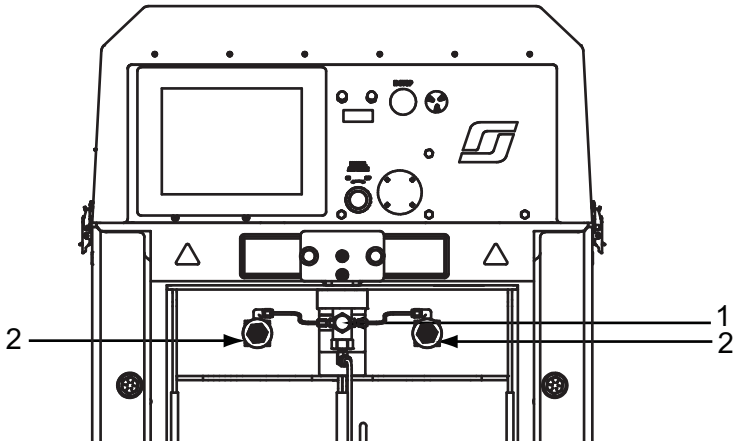
Warning: *Do not attempt to charge the breathing air cylinder if the correct pressure setting is not available on the Dual Pressure. Failure to use the correct pressure setting may result in serious damage to the cylinder or cylinder valve. A damaged cylinder may rupture, and can cause serious personal injury or death.*

Cylinders Mounting and Charging

This section covers mounting and charging the cylinders.

1 Close the Manual Air Flow On/Off Knob. Slowly open the bleed valve just enough to vent any residual pressure. When all air stops escaping, hand-tighten the bleed valve. Do not use tools to tighten. See Figure 37.

Figure 37 Bleed Value and Charge Adapters Locations



Caution: *Never use a wrench or other tool to tighten the bleed valves or cylinder adapters. Excessive force will damage the sealing surfaces and result in cylinder leakage.*

2 Remove one of the adapter caps and attach a cylinder to the charge adapter. Turn counterclockwise to tighten. Hand-tighten the connector. Do not use tools to tighten.

3 To charge two cylinders, remove the plug from the other charge adapter and mount the second cylinder. Hand-tighten the charge adapter.

Never leave an unused charge adapter open. When charging only one cylinder, verify that the cap is secure on the unused adapter.

4 Open the breathing air cylinder valves located on the top of the mounted cylinders.

Warning: *Always open cylinder valves slowly. Careless handling of compressed air can cause pressurized air to release suddenly, which can result in serious injury or death.*

5 Open the charging chamber door lock by operating the handle on the right side of the chamber so that the Yellow lock bars are not showing.

6 Rotate the chamber door 180° until it clicks into position. See Figure 37.

Figure 38 Rotating Camber Door

Warning: *Use extreme caution when rotating the chamber door. Catching fingers, hands, hair, articles of clothing, or other objects in the door may result in personal injury or damage to the fill station.*

7 Close and lock the charging chamber door handle. The door is locked when the Yellow lock bars are visible around the door frame.

8 Open the Manual Air Flow On/Off Knob 1/8 to 1/2 turn counterclockwise to begin filling the cylinders.

9 Consult the cylinder manufacturer and the appropriate government regulatory agency for fill rate recommendations. Do not exceed the fill rate recommendations for the breathing air cylinders being filled.

Warning: *Do not exceed the recommended fill rate for the breathing air cylinders. Failure to follow this warning may result in catastrophic failure of the cylinder, leading to serious personal injury or death.*

10 Adjust the fill rate as follows:

a Slowly turn the Manual Air Flow On/Off Knob counterclockwise to increase the rate at which the cylinders are filled.

b Watch the pressure reading on the breathing air SCBA Cylinder Pressure Gauge.

c If the fill rate is too high, turn the Manual Air Flow On/Off Knob fully clockwise to decrease the flow, then slowly turn the Manual Air Flow On/Off Knob counterclockwise to adjust to the proper rate.

d Once fill pressure and fill rate are set for charging cylinders of the same pressure rating, minor readjustment may be necessary as the storage and compressor pressures will vary during multiple breathing air cylinder fills.

11 Leave the fill pressure and fill rate set when charging several cylinders that require the same fill pressure and fill rate. Minor adjustments may be necessary during filling of successive cylinders depending on the compressor system used.

12 While the breathing air cylinders are being filled inside the charge chamber, mount the second set of cylinders on the rigid adapters on the outside of the charge chamber. Be sure to hand-tighten the bleed valve and to open the breathing air cylinder valve(s).

13 When the breathing air SCBA Cylinder Pressure Gauge reaches the pre-set charge pressure, open the chamber lock by operating the handle so that the Yellow lock bars are not showing. This will automatically stop the cylinder charging process.

Warning: *If any air leak is noted, or the equipment does not operate as described in this manual, immediately terminate use of the equipment and consult with a certified service technician before proceeding. Use of malfunctioning equipment may create circumstances resulting in serious personal injury or death.*

14 To access the breathing air cylinders, verify that the chamber lock handle is in the unlocked position so that the Yellow lock bars are not showing around the chamber door. Rotate the chamber door 180° until it clicks into position.

15 Close the cylinder valves on the mounted breathing air cylinders.

16 Slowly open the bleed valve just enough to vent the air lines to the cylinders. Vent until all air flow stops. If the air does not stop venting, verify that the cylinder valves are closed.

17 Hold the cylinder in place and turn the charge adapter clockwise to remove the cylinder. Handle the charged cylinder carefully.

18 Replace the charge adapter plugs.

High pressure charging causes a rise in cylinder temperature. As the cylinder cools, the pressure gauge will show a decrease in pressure. This is normal. After cooling, cylinders may be placed back in the fill station and "topped off" to full pressure.

Warning: ***A****ir pressure increases as temperature increases. When charging cylinders in temperatures below freezing (32° F/0° C), frequently check air pressure and release excess pressure as the cylinder warms to normal room temperature. Failure to do so will cause cylinders to be in an overcharge condition, increasing the risk of cylinder failure and leading to personal injury or death.*

Storage Overview

The compressor may be configured to direct compressed and purified breathing air to an optional air storage unit. Storage units may meet peak demands for compressed air without requiring of a full time operation of a compressor. Stored air may be used to carry on operations if a compressor fails, loses power or when air is needed when a compressor is not available. All storage units are equipped with service values and safety relief gauges.

- Storage cylinders - ASME cylinders do not require hydrostatic testing, but include a drain valve and gauge. If installed, safety valves on ASME cylinders must be tested on an annual basis. ASME safety valves can be identified by a tag or label showing traceability to the National Bureau of Standards (NB) and a tamper evident seal. Some Scott storage systems with ASME storage cylinders are protected by single use rupture disks that cannot be tested. Each ASME cylinder has the capacity to store 454 standard cubic feet (SCF) at 5K PSI, or 525 SCF at 6K PSI. Refer to specific ASME safety standards for additional testing information.
- Storage configuration - Storage receivers can be configured together as a single bulk storage bank (Bulk Storage), or separately in a cascade system (Automatic Cascade). When configured as a single bank, cylinders are “piped” together into a single volume. Storage pressure is indicated by a single gauge on the main control panel or on the HMI, depending on the model. Cylinders in a cascade system are plumbed separately which allows for more efficient use of compressed air since each cylinder can be isolated when accessing system air.

The fill station may be installed with storage cylinders or a manual or an automatic cascade system. See “Automatic Cascade” on page 58. See “Storage Cylinder Inspection” on page 74. Read and follow all safety labels on the unit.

Storage Interfaces

This section covers the interfaces for storage.

See Figure 39 and Table 25.

Figure 39 Storage Interfaces Location

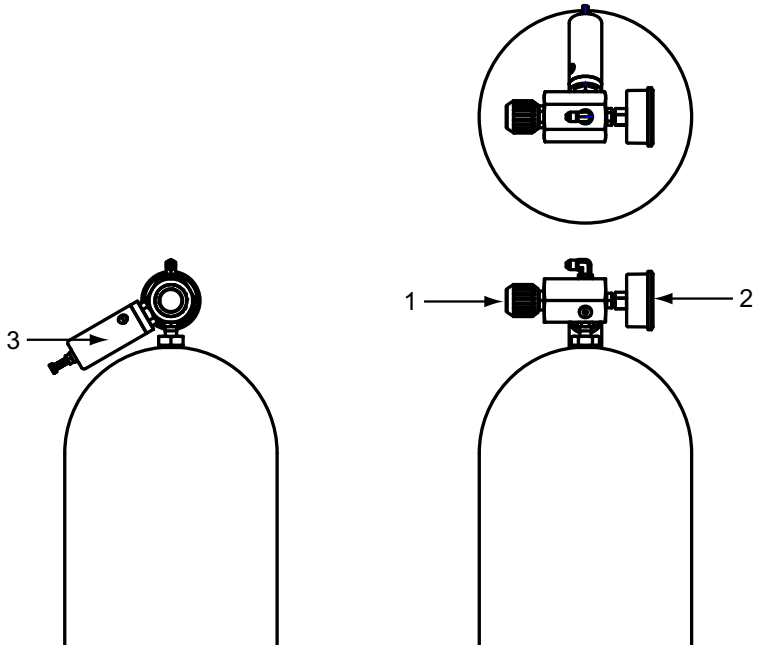


Table 25 Storage Interfaces Details

REFERENCE NUMBER	ITEM*
1	Manual Air Flow On/Off Knob - To control the air flow pressure.
2	Analog Pressure Gauge - Displays pressure in cylinder.
3	Automatic Relief Value - To control or limit the pressure.
*Note: Not all models are equipped the same.	

Charging Storage Cylinders

This section covers charging the storage cylinders.

- If the storage cylinders have been visually inspected, and are found to be in good operating condition, allow the compressor to charge to the maximum system pressure. Compressed air will automatically be directed to the storage cylinders.
- Monitor the storage pressure, indicated by either gauges or HMI, depending on the model. Also, indicators will be based on the configured storage volume method of the receivers: bulk volume, or cascade volume.

The time required for charging the air storage system depends on the number and pressure rating of the storage cylinders. If cylinder pressure does not build properly, contact a Scott certified service technician to troubleshoot the system.

The Cascade configuration, depending on the model, includes individual gauges on the control panel or on the HMI, and control valves for monitoring and controlling the flow of compressed air in each cylinder. Each cylinder may be isolated, or “shut off” to prevent compressed air from entering or exiting the cylinder. To isolate a cascaded cylinder, simply turn the control valve clockwise to shut off the air flow. Turn the valve counterclockwise to allow the compressed air to flow as normal.

Chapter 5

SCOTT MAINTENANCE

Chapter Overview

This chapter covers the following topics:

Storage Cylinder Inspection

This section covers storage cylinder inspection.

Warning: *Do not refill any cylinder that is damaged or not within the prescribed hydrostatic test date as determined by the appropriate US Department of Transportation (DOT) specification or the applicable DOT exemption or in accordance with the appropriate Transport Canada (TC) Permit of Equivalent Level of Safety. Damaged cylinders may suddenly leak or rupture if charged with compressed air. Failure to inspect for damage and to empty the air from damaged cylinders may result in personal injury or death.*

Inspect the storage cylinders and verify the latest inspection date. Storage cylinder inspection should be performed on a routine basis, as determined by specific organization requirements.

ASME cylinders do not require hydrostatic testing, but include a drain valve and gauge. If installed, safety valves on ASME cylinders must be tested on an annual basis. ASME safety valves can by identified by a tag or label showing traceability to the National Bureau of Standards (NB) and a tamper evident seal. Some Scott storage systems with ASME storage cylinders are protected by single use rupture disks that cannot be tested. Refer to specific ASME or DOT safety standards for additional testing information.

Breathing Air Cylinder Inspection

This section covers inspection of the breathing air cylinder.

See “Warnings and Cautions – Working with Compressed Air” on page xix.

Refer to current applicable publications on compressed gas cylinder inspection available from Compressed Gas Association Inc., 1725 Jefferson Davis Hwy., Suite 1004, Arlington, VA 22202, (703-412-0900) for a detailed explanation of cylinder inspection procedures.

1 Check the latest cylinder hydrostatic test date to ensure it is current. All breathing air cylinders must be visually inspected regularly and hydrostatically tested by a licensed cylinder retester in accordance with the appropriate US Department of Transportation (DOT) specification or applicable DOT exemption, or in accordance with the appropriate Transport Canada (TC) Permit of Equivalent Level of Safety. The date of manufacture marked on the cylinder is also the date of the first hydrostatic test. For other breathing air cylinders, consult the cylinder manufacturer’s recommendations and the requirements of the appropriate national regulatory agencies. It is the responsibility of your organized respiratory protection program to arrange for visual inspection and hydrostatic testing of cylinders by a licensed retester. See Figure 40 and Table 26.

Figure 40 Breathing Air Cylinder Markings

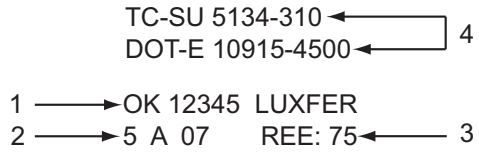


Table 26 Cylinder Manufacture Date & Identification and Pressure Rating

REFERENCE NUMBER	ITEM
1	Serial Number - A serial number followed by the name of the original manufacturer, Luxfer, is located below or immediately following the DOT marking above.
2	Manufacturing Date - The independent inspection agency 9IIA) official mark, which must be placed near the serial number. The marking must contain date (Month and Year) of the manufacturing date and initial hydrostatic test for that cylinder. (Month A Year)
3	REE - The REE is the Rejectable Elastic Expansion for this cylinder. The hydro test result needs to be less than this number for the cylinder to continue to be in use. The REE marking is in cubic centimeters.
4	Permit Number - Each cylinder is marked with a DOT permit number. The DOT Special Permit (SP) number or DOT Exception (E) number followed by service pressure expressed in pounds per square inch gauge (psig) and if applicable, Transport Canada Permit number followed by service pressure expressed in bar.

2 Visually inspect cylinder and valve assembly for physical damage such as dents or gouges in metal or in composite wrapping. Cylinders which show physical damage or exposure to high heat or flame, such as paint turned brown or black, decals

charred or missing, pressure gauge lens melted or elastomeric bumper distorted, and cylinders which show evidence of exposure to chemicals such as discoloration, cracks in the cylinder or the composite wrapping, peeling of the outer layers of the composite wrapping and/or bulging of the cylinder wall, shall be removed from service and emptied of compressed air.

3 Always check the pressure rating of the selected breathing air cylinder(s) to be filled. The rated pressure usually follows the DOT or TC material identification as shown. See Figure 46 and Table 26.

Maintaining the Compressor

This section covers maintenance of the compressor.

The HMI provides a Checklist of Pre-Operation items for the compressor. See “Using the Compressor HMI” on page 25.

Table 27 lists recommended maintenance schedule by days/hours.

Table 28 lists a number of user level maintenance items.

Table 27 Recommended Maintenance Schedule - Users

ITEM	WEEKLY*	90 DAY	50 HOUR	200 HOURS OR ANNUALLY	500 HOURS OR ANNUALLY
Air Sample		X*			
Auto Drain System (Service)					X
Auto Drain System (Function)	X				
Condensate Container (Empty)	As Required				
Carbon Monoxide Monitor (Calibrate)		X****			
Crankcase Oil Level (Check)	X				
Crankcase Oil***** Change (Break-in)			X		
Crankcase Oil Filter (Break-in)			X		
Crankcase Oil Change				X	
Crankcase Oil Filter Change				X	
Drive Belt System (Inspection)		X****		X	
Exercise Relief Valves (All)				X	
Hardware and Fastener Inspection		X****	X	X	X
Inspect for Oil/Air Leaks		X****	X	X	X
Intake Element Inspection		X****	X**		
Intake Element Replacement				X**	

Table 27 Recommended Maintenance Schedule - Users (continued)

ITEM	WEEKLY*	90 DAY	50 HOUR	200 HOURS OR ANNUALLY	500 HOURS OR ANNUALLY
Remove Air Intake Inspection		X**	X**	X**	X**
Storage Inspection/Drain and Recharge				X	
Run Compressor (60Mins), 2 Min Cool Down	X				
Wiring and Cables (Inspection)		X****	X	X	X
Bleeder Value Service (Charge Station)	AR				
Door Detent Lubrication (Change Station)	AR				
Nipple Seal Replacement (Charge Station)	AR				

* Note: See manufacture instruction for your type of sample kit.

** Note: Performed at 50 hours initially, adjust for operating conditions.

*** Note: Basic design hours only, replacement time frame is determined by air sampling & Dew Point Monitor.

**** Note: The first 90 days inspection and service requires the assistance of a Scott Certified Technician.

***** Note: Use only Anderol 500 oil or XL-700 oil, available from your local Scott distributor.

AR= As Required.

Table 28 Recommended Maintenance Matrix - Users

ITEM	ACTIVITY/ SYMPTOM	FREQUENCY	DETAILS
Compressor	Operate	Weekly	Run the compressor for a period of not less than one hour allowing for at least four condensate drain cycles. This prohibits moisture build up in the unit and provides proper lubrication.
Nuts, Screws, Fittings	Inspect	Weekly	Inspect all nuts, screws, and fittings for tightness.
Condensate Container	Drain	Periodic	See "Draining the Condensate Container" on page 79.
Electrical Fuses	Replace Fuses/ Inoperative motor	As needed	See "Replacing the Fuses" on page 80.
Motor Saver	Reset	As needed	See "Resetting the Motor Saver" on page 81.
High Pressure	Reset	As needed	See "Resetting the High Pressure" on page 81.
Inlet Filter	Check	Periodic	See "Checking the Inlet Filter" on page 82.
Purification Filters	Check	Periodic	See "Checking the Purification Filters" on page 82.
Drive Belt	Check	Periodic	See "Checking the Drive Belt" on page 83.
Oil Level	Check	Daily	Check the compressor's oil level.
Moisture in Oil	Check	Daily	Check for no moisture (emulsification) in oil.
Oil or Air Leaks	Check	Daily	Check and if found, these leaks must be rectified immediately.
Oil	Change	See Table 27.	See "Changing the Oil" on page 83.

Draining the Condensate Container

This section covers draining the condensate container.

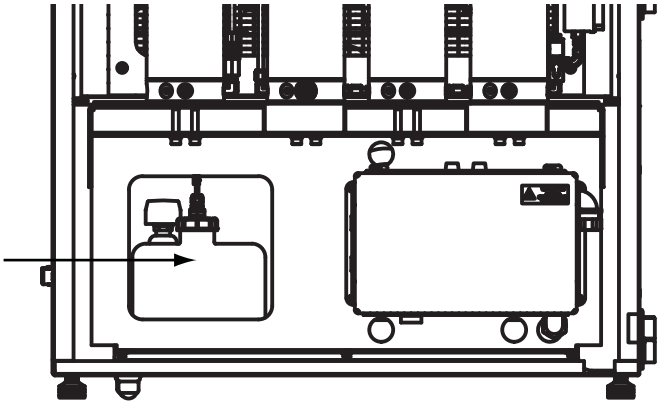
If operating the compressor for an extended period of time, be aware of the level of condensate in the condensate container. The container should be drained when it is approximately three-quarters (3/4) full. See Figure 41.

Compressor condensate contains lubricating oil and/or substances which must be disposed of in accordance with local, State, and Federal laws and regulations.

1. If the compressor is running, press the Stop key on the control panel to stop the compressor.
2. Remove the container from under the compressor frame and pour condensate out from the hose connection spout.
3. Dispose of condensate according to hazardous waste regulations.

For HMI equipped models, an Alert is generated when the container is 3/4 full and the device automatically shuts down when container is full.

Figure 41 Condensate Container Location



Replacing the Fuses

This section covers replacing the fuses.

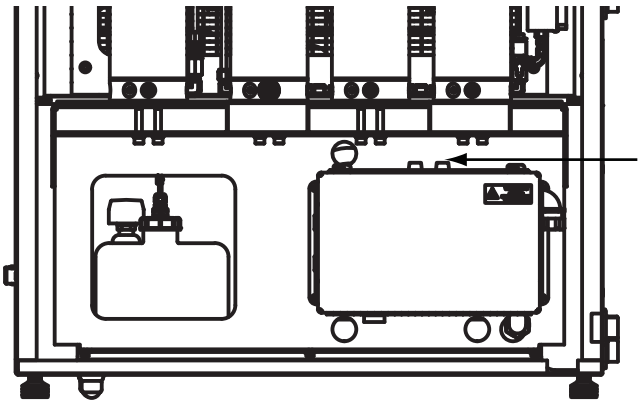
1 If the compressor electrical motor is inoperative, check the coil fuses (2) on the outside of the electrical control box. See Figure 42.

Only use replacement fuses with the same size and rating as the fuse being replaced. After replacing any fuse, be sure to notify a Scott trained and certified service technician to schedule a thorough system check as soon as possible.

If the replaced fuse blows in a short time, secure the compressor system with your lock-out/tag-out procedures and notify a Scott trained and certified service technician to perform a thorough system check before using the system again.

Always use the proper rated fuse.

Figure 42 Fuses Location

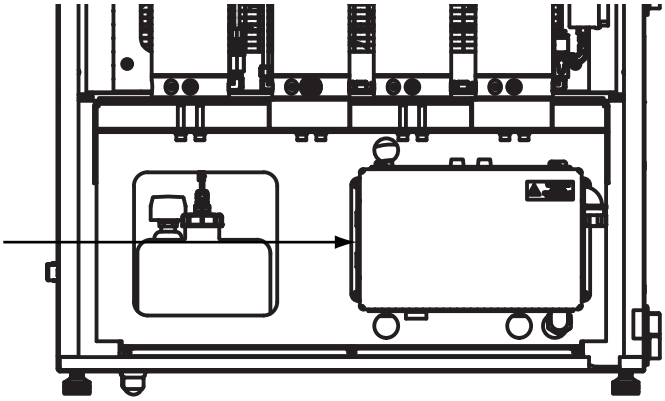


Resetting the Motor Saver

This section covers resetting the motor saver.

The optional motor saver protects the compressor motor by monitoring the power line. When the power on the line exceeds a safe limit, the motor is disabled. To enable the motor, press the Motor Saver Reset button on the outside of the electrical control box. See Figure 43.

Figure 43 Motor Saver Button Location



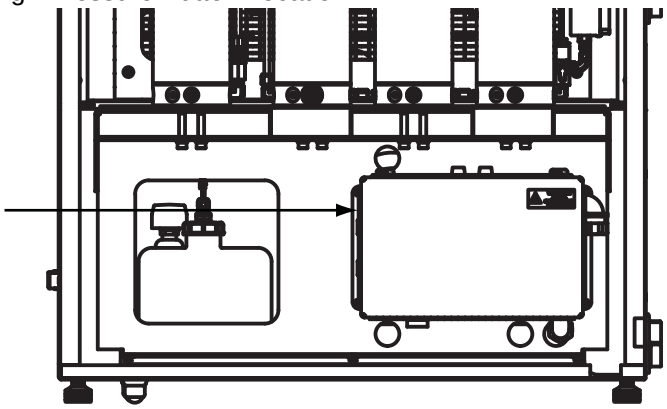
If the motor's current is overloaded, then the automatic reset thermal limiter shuts the entire device off. To reactive the device, press the reset button after the thermal condition has passed.

Resetting the High Pressure

This section covers resetting the high pressure.

The output pressure from Stage 5 is monitored for safety. When the pressure output reaches 7,300PSI the compressor is disabled. To enable the compressor, press the High Pressure Reset button on the outside of the electrical control box. See Figure 44.

Figure 44 High Pressure Button Location



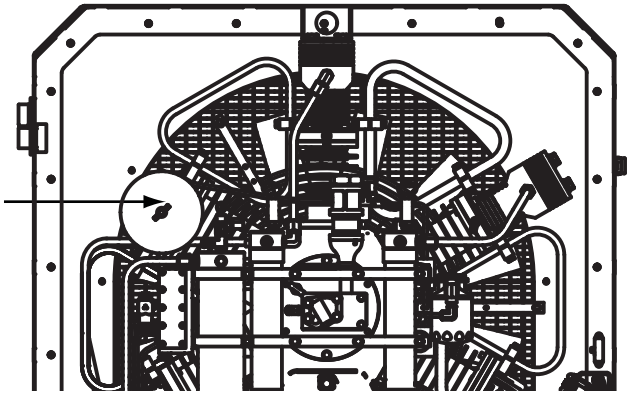
Checking the Inlet Filter

This section covers checking the inlet filter.

The operator should check the inlet filter located on top of the compressor after prolonged use (approximately 100 hours of operation in normal conditions, or 50 hours if operating in dusty or dirty environments). See Figure 45. To change the filter:

1. Loosen the wing nuts to open the filter housing.
2. Remove the cover and inspect the element for excessive build up of dirt and particles.
3. Install a new element as needed and replace the cover.

Figure 45 Inlet Filter Location

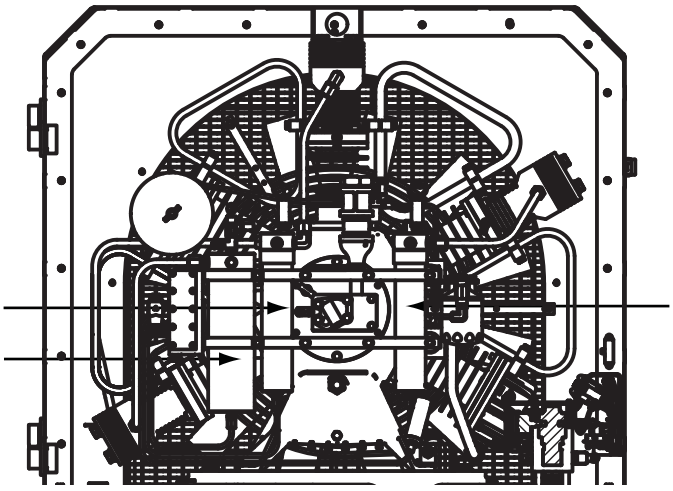


Checking the Purification Filters

This section covers checking the purification filters.

The purification filters should be checked to ensure they are in good operating conditions. They should be replaced as needed by Scott trained and certificated service technician. See Figure 46.

Figure 46 Purification Filter Location

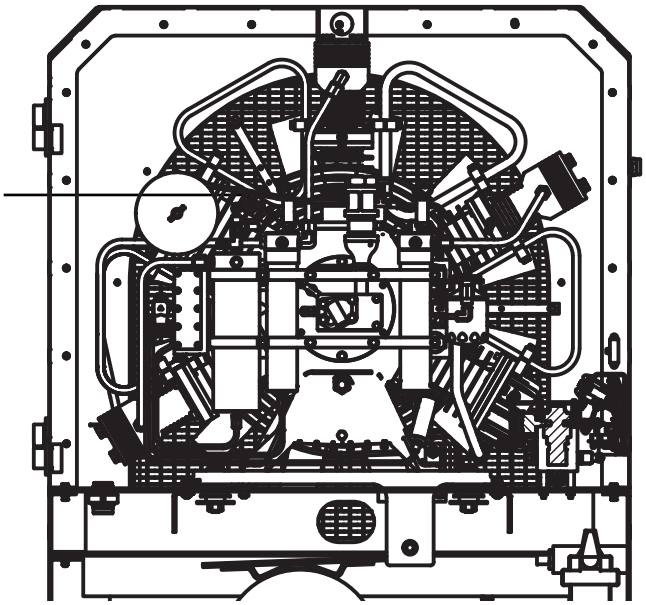


Checking the Drive Belt

This section covers checking the drive belt.

The compressor drive belt has automatic tensioning. When the compressor is not running, check the condition of the compressor belt. If the belt is frayed or damaged, do not use the compressor until the belt is replaced. It should be replaced as needed by Scott trained and certificated service technician. See Figure 47.

Figure 47 Drive Belt Location



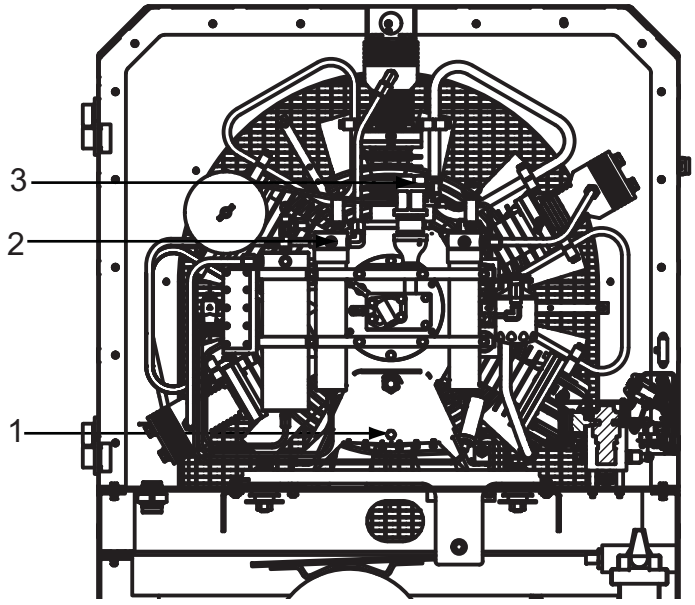
Changing the Oil

This section covers changing the oil.

Caution: *Ensure the oil is changed according to the recommended maintenance schedule and that the proper type of oil is used. See* Table 27.

1. Remove the oil drain plug (1). See Figure 48.
2. Drain out the old oil.
3. Replace and tighten the oil drain plug.
4. Turn the bleed value (2) counter clockwise. This allows the air to bleed off and helps the oil flow better.
5. Remove the crankcase breather/filler top (3).
6. Pure the new oil into the crankcase breather/filler.
7. Replace the top of the crankcase breather/filler.
8. Turn the bleed value clockwise.

Figure 48 Oil Drain Location



Troubleshooting the Compressor

Refer to Table 29 for troubleshooting assistance.

Warning: *If the device does not function properly, remove from service and mark for maintenance. Only use Scott Safety replacement parts.*

Table 29 Troubleshooting Matrix

SYMPTOM	CAUSE	SOLUTION
Excessive stage pressure	**1** Faulty suction or delivery value(s) **2** Pressure gauge not accurate. **3** Restriction in pipeline. **4** Air leakage in pipe system or from machine **5** Wear. **6** Loss of drive. **7** Premature opening of final safety value. **8** Intake or outlet value not closing properly.	**1** Service value(s) as needed. A suction value fault gives excess pressure in the previous stage. **2** Check gauge against a gauge known to be accurate. **3** For existing installations: Check settings and function of all control values. Clean pipeline filters and service elements as needed. For new installations: Ensure protective plugs and blanks have been removed from ports and that all control values are correctly set. Pipe work must be of ample size with a minimum of bends. Joint gaskets should be checked for correct positioning and size. **4** Locate and rectify. For example, drain value open. **5** If general wear is suspected, strip the machine and examine all working parts. **6** Check belt drive. **7** Renew value. **8** Check and clean values. Replace main parts as needed.
3rd, 4th, 5th stage plunger failure.		**1** Remove and examine. Replace, if needed.
Insufficient pressure or volume.	**1** Blocked suction filter. **2** Faulty first stage suction value.	**1** Remove and service. **2** Remove and examine.

Table 29 Troubleshooting Matrix (continued)

SYMPTOM	CAUSE	SOLUTION
Either: Excessive stage pressure and Insufficient pressure or volume.	**1** Intel temperature higher than recommended maximum. **2** Insufficient supply. **3** Inlet or delivery values not closing properly. **4** Cylinder fins clogged or dirty. **5** Intercooler and aftercooler tubes dirty. **6** Belt drive slipping. **7** Air intake filter dirty. **8** Wrong rotation.	**1** Check that pipe works/values do not form a closed loop. For example, feeding hot delivered air back into machine inlet. **2** Check location. Maximum ambient temperature is 113F (45C). **3** Check and clean values. Replace worn parts as needed. **4** Clean out cylinder fins. **5** Clean tubes with a brush and compressed air. **6** Adjust belt drive. **7** Service air intake filter. **8** Reverse motor feed wiring.
Overheating	**1** Duty higher than recommended.	**1** Reduce duty to acceptable level.
Second stage overheating.	**1** Possible third stage plunger failure.	**1** Dismantle and examine third stage plunger. Replace if needed.
Excessive noise.	**1** Oil level low. **2** Pulley loose. **3** Belt drive worn. **4** Vibration in machine. **5** Pulley out of line. **6** Worn bearings.	**1** Check oil level and fill. **2** Tighten pulley. **3** Replace worn belts. **4** Insecure mounting. Tighten mounting bolts. **5** Inspect and adjust the alignment of the pulley. **6** Dismantle examine and replace, if needed.
Excessive wear.	**1** Excessive speed and/or pressure. **2** Dirty air and/or suction pipeline. **3** Excessive side or end thrust. **4** Excessive moisture content in air. **5** Belt wear.	**1** Check belts. Adjust as needed. **2** Clean filter element. **3** Pulley out of alignment. Realign as needed. Or belt too tight or too loose. Adjust belt as needed. **4** Check drainage system and regularly check condition of crankcase oil. **5** Belt too tight or too loose. Adjust as needed. Or oil or grease on belt. Clean or replace vee belts.
Extended running.	**1** Machine not large enough or leaks.	**1** Check for leaks.

Appendix A

SCOTT SAFETY SPECIFICATIONS

Appendix Overview

This appendix covers the following topic:

- Specifications

Specifications

Table 30 lists the specifications.

Table 30 Specification

SPECIFICATIONS		
Compressor	Input Voltage Range	208VAC to 460VAC
	Input Frequency Range	AC: 60Hz or 50Hz
	Fuse	1A, 600VAC
	HMI Screen - Wall Mount (Available on standalone models)	10.5” color
	Communications	Wi-Fi for customer Wireless LAN
		1 Ethernet RJ45 connector on the side for customer LAN
		CAT5E cable, up to 300Feet Max. for LAN
	Horse Power	7.5, 10, 15 or 20
	Motor	208VAC/1PH/60Hz 208VAC/3PH/60Hz 230VAC/1PH/60Hz 230VAC/3PH/60Hz 380VAC/3PH/50Hz 440VAC/3PH/50Hz 460VAC/3PH/60Hz
	Oil	Volume: 5 Quarts Recommended Type: Synthetic
	Operating Pressure (Max)	6K PSI to 7K PSI
	Stages	Five
	Charging Rate	18 scfm to 29 scfm
	Inlet Pressure	Atmospheric
	Oil Pressure	35 to 60 PSI
	Material	Aluminum
	Dimensions	62.43Hx43.0Wx42.59”D (1589.8Hx1092.2Wx1081.8Dmm)
	Weight	20HP: 1,450Lbs. (657.71Kg) 10HP: 1,193Lbs. (541.14Kg)
	Operating Temperature	15.0 to +125°F (-9.4 to +51.6°C)

Table 30 Specification (continued)

SPECIFICATIONS		
Charge Station	Input Voltage Range	100VAC to 240VAC 110VDC to 250VDC
	Input Frequency Range	AC: 60Hz or 50Hz
	Max. Input Current	12.24A
	HMI Screen	10.5” color
	Communications	Wi-Fi for customer Wireless LAN
		1 Ethernet RJ45 connector on the side for customer LAN
		CAT5E cable, up to 300Feet Max. for LAN
	Cylinder Capacity	Up to 2
	Pressure Options	Multi, Dual or Single
	Cascade Methods	Automatic
	Material	Steel body, aluminum manifold and plastic cover
	Dimensions	65.65Hx30.0Wx25.00”D (1667.51Hx762.0Wx635.00Dmm)
	Weight	811Lbs. (367.86Kg)
	Operating Temperature	15.0 to +125°F (-9.4 to +51.6°C)
Storage Unit	Attached Rack - Cylinder Capacity	2 or 4
	Cascade Methods	Automatic or Bulk
	Supported Cylinders	ASME Vertical
	Material	Rack: Steel frame, plastic cover
		Cylinder: Steel
	Dimensions	• For 2 Cylinder: 65.67Hx33.86Wx26.25”D (1668.1Hx860.1Wx666.75Dmm) • For 4 Cylinder: 65.67Hx33.86Wx29.98”D (1668.1Hx860.1Wx761.5Dmm)
	Weight	Rack with 4 tanks: 1,909Lbs. (865.91Kg)
		Cylinder: 400Lbs. (181.43Kg)

Appendix B

SCOTT SUPPORT

Appendix Overview

This appendix covers the following topics:

Technical Service

Congratulations on your purchase of a Scott Safety product. It is designed to provide you with reliable trouble-free service.

Contact us, if you have technical questions, need support, or if you need to return a product.

When returning a product, contact Technical Support to obtain a Return Material Authorization (RMA) number prior to shipping for service repairs.

North America
Scott Safety
4320 Goldman Road
Monroe, NC 28110 USA
Technical Support Telephone: 1-800-247-7257
E-Mail: scotttechsupport@tycoint.com
Web Site: http://www.scottsafety.com/

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Scott Safety
Pimbo Road
Skelmersdale, Lancashire
WN8 9RA, UK
Telephone:+44 (0)1695 727 171
E-Mail:scottint.uk@tycoint.com
Web Site: http://www.scottsafety.com/

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Scott Safety
Customer Service
137 McCredie Road
Guildford, NSW 2161, Australia
Telephone: 131 772
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Fax: 0180 111 135
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Telephone: +971 (02) 445 2793
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E-Mail: scott.sales.emirates@tycoint.com

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China, Beijing, Technical Support Office
Beijing branch, Shanghai Eagle Safety Equipment Co. Ltd.
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Telephone: +86-10-65150005

Asia
Scott Safety – Asia
Service Dept
2 Serangoon North Ave 5, #07-01
Singapore 554911
Telephone: +65 6883 9671
Fax:+65. 6234 2691
E-Mail: hokchan@tycoint.com

Limited Warranty

Scott Safety (SCOTT), warrants the Compressor, Charge Station and Storage (THE PRODUCTS) to be free from defects in workmanship and materials for a period of five (5) years from the date of original manufacture by SCOTT or 1000 hours whichever comes first.

This warranty applies to all components of THE PRODUCTS, EXCEPT expendable components such as oil, air filters, oil filters.

SCOTT's obligation under this warranty is limited to replacing or repairing (at SCOTT's option) THE PRODUCTS or components shown to be defective in either workmanship or materials.

Only personnel of SCOTT or, when directed by SCOTT, authorized SCOTT agents are permitted to perform warranty obligations. This warranty does not apply to defects or damage caused by any repairs of or alterations to THE PRODUCTS made by owner or any third party unless expressly permitted by SCOTT product manuals or by written authorization from SCOTT.

To obtain performance under this warranty, and as a condition precedent to any duty of SCOTT, the purchaser must return such products to SCOTT, a SCOTT authorized distributor or a SCOTT authorized service center. See “Technical Service” on page 92.

This warranty does not apply to any malfunction of or damage to THE PRODUCTS resulting from accident, alteration, misuse, or abuse.

THIS WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIEDINCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN ADDITION, SCOTT EXPRESSLY DISCLAIMS ANY LIABILITY FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES IN ANY WAY CONNECTED WITH THE SALE OR USE OF SCOTT PRODUCTS, AND NO OTHER FIRM OR PERSON IS AUTHORIZED TO ASSUME ANY SUCH LIABILITY.

SCOTT SAFETY INDEX

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