COMPRESSOR

Aeras

Ramvac

USER MANUAL

MODELS:
C3, C4, C6, C7 & C11



DENTALEZ

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Aeras Ramvac

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PRODUCT OVERVIEW

This manual contains installation, operation, care and user service information for the Ramvac® Aeras® dental compressor. To view the latest manual, go to *DENTALEZ.COM* to download a digital (PDF) copy.

The Aeras compressors are designed to provide trouble-free service when installed, operated and cared for according to the procedures set forth in this manual. They compressors are NFPA 99 Healthcare Facility Code compliant.

To ensure proper installation, carefully read all the instructions contained in this manual prior to installing, operating, and servicing. For safety, pay close attention to all warnings, cautions, notices and notes.

Before starting installation procedures, review the illustration to become familiar with the components of the compressor *(FIGURE 1)*.

After the compressor is installed, review the features, operation procedures and care guidelines with the doctor's staff.

LEAVE THIS MANUAL IN THE DOCTOR'S OFFICE.

NOTICE

- Installation by an authorized Ramvac dealer service technician is recommended.
- For any questions about an order, please contact a Ramvac customer service representative at 866-DTE-INFO.

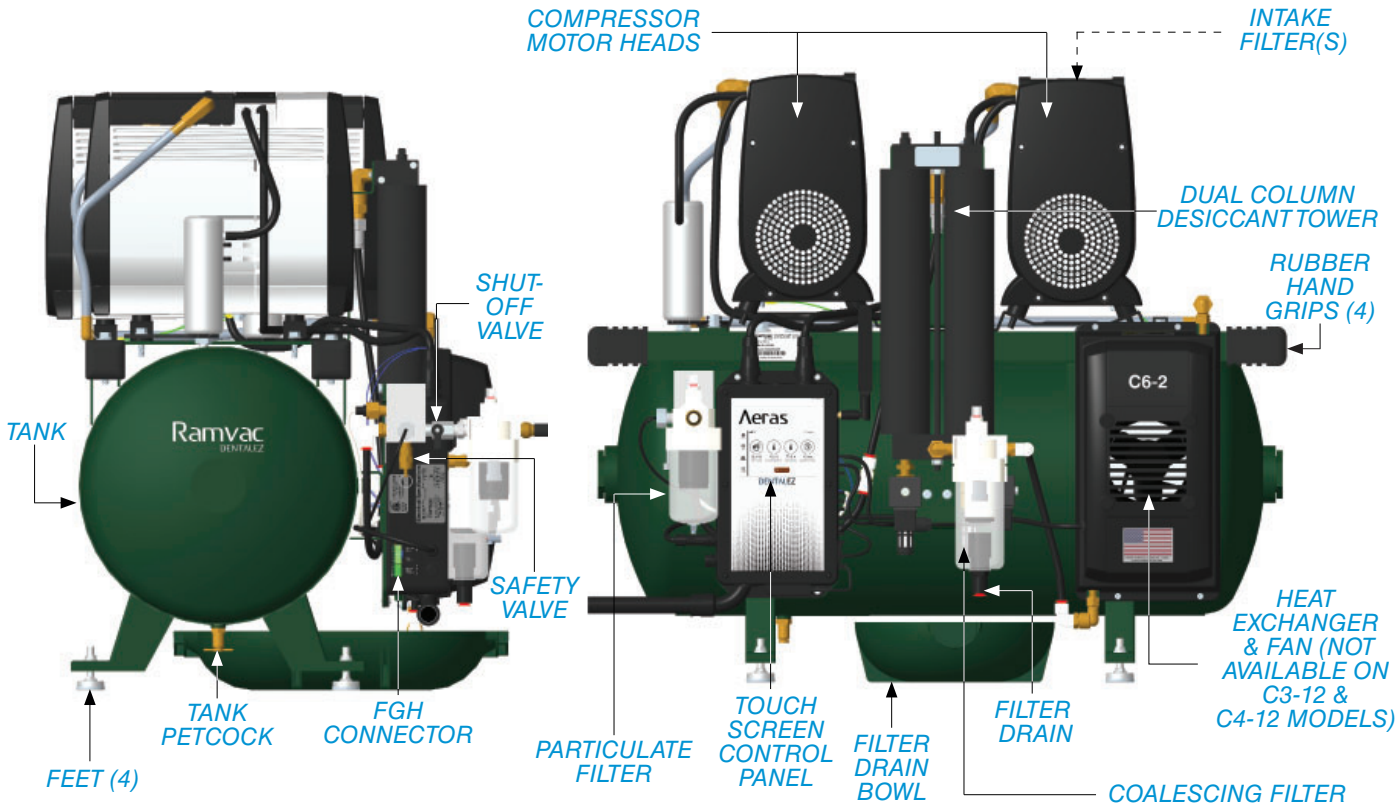


FIGURE 1. MAIN COMPONENTS OF THE AERAS COMPRESSOR (SIDE AND FRONT VIEWS)

PRODUCT FEATURES

The Aeras® Compressor by Ramvac® offers increased productivity while decreasing downtime. The compressor is dependable, quiet and simple to operate. In order to achieve the most efficient use in the operatory and understand what the compressor offers, here is a compilation of some of those features and benefits.

STANDARD FEATURES

- Aeras features the latest cloud-based technology that offers active monitoring with data streaming from embedded sensors. The smart monitoring service automatically detects potential issues and diagnostic information is relayed to the appropriate person, helping to prevent downtime. Information can be accessed via a web browser on any device. Users also can remotely schedule the equipment to power ON and OFF.
- Dual column desiccant tower provides 100% continuous supply of dry, clean air. While one column is drying, the other is in operation. Solenoid valve activates as needed and the chambers switch processes immediately to ensure an uninterrupted supply of air for your practice.
- Design allows for easy desiccant cartridge replacement.
- Stores air at -40°C, preventing growth of harmful bacteria.
- Industry leading 6-year warranty (see *LIMITED WARRANTY* section of this manual).
- Models available suited for 3 to 11 users.

OPTIONAL FEATURES

- Optional fresh air intake kit is used when room temperatures are beyond operating temperature range and/or when air has contaminants.

  NOTE: *Fresh air intake cannot be installed on the Aeras Compressor with Sound Shield™ (C3-12SS and C4-12SS).*

- Optional sound cover lowers decibel ratings for the Aeras Compressor models C6-2, C7-2 and C11-2.
- Optional Sound Shield technology lowers decibel ratings and improves sound quality for the Aeras Compressor models C3-12SS and C4-12SS.

COMPRESSOR
Aeras
Ramvac



Aeras Ramvac

SPECIFICATIONS (COMPRESSOR)

	AERAS 3 (C3-2)	AERAS 3 (C3-12)	AERAS 4 (C4-1)	AERAS 4 (C4-2)	AERAS 4 (C4-12)	AERAS 6 (C6-2)	AERAS 7 (C7-2)	AERAS 11 (C11-2)
Max Users	3	3	4	4	4	6	7	11
Voltage *(AC)*	230 (208-253)	115/230 (103-126/ 208-253)	115 (103-126)	230 (208-253)	115/230 (103-126/ 208-253)	230 (208-253)	230 (208-253)	230 (208-253)
Power Consumption *(Amps)*	10.5	12/6.1	23	11.5	17.6/9	16.3	21	32
Breaker Size *(Amps)*	20	15	30	20	20	20	30	40
Fusetron Size	FRN 15	FRN 10	FRN 25	FRN 15	FRN 15	FRN 20	FRN 25	FRN 40
Number of Motor Heads	1	2	2	2	3	2	2	3
HP Per Motor Head	2	.50	1.25	1.25	.50	1.25 (Left) 2 (Right)	2	2
Pressure	85 PSI/586 kPa to 115 PSI/793 kPa with ± 2% Total Error Band							
High-Pressure Mode*	105 PSI/724 kPa to 125 PSI/862 kPa							
Weight *(lbs)*	160	136	190	190	149	250	260	385
Dimensions W × D × H *(in)*	29×21×29	30×21×26	29×21×29	29×21×29	30×21×26	35×25×30	35×25×30	41×29×32
Dimensions *(with Sound Cover)*	33.3×29×34	N/A	33.3×29×34	33.3×29×34	N/A	35×29×34	35×29×34	41.1× 33×36
Dimensions *(with Sound Shield)*	N/A	30×20×26	N/A	N/A	30×20×26	N/A	N/A	N/A
Pump Up Cycle Time, 85 to 115 PSI *(Sec)*	45	60	45	45	45	45	40	40
Tank Size *(Gal)*	12	12	12	12	12	20	20	30
Filtration *(microns)*	0.3 Coalescing; 0.01 Final Particulate							
Dryer Duty Cycle	100%							
Dryer Dew Point *(PDP)*	-40°F/-40°C							
dBA Levels *(with/without Sound Cover)*	65/73	N/A	70/78	70/78	N/A	72/80	76/82	78/84
dBA Levels *(with/without Sound Shield)*	N/A	63/67	N/A	N/A	66/70	N/A	N/A	N/A

NOTES: *High-pressure mode should only be used with a compatible milling machine; not for use in general dentistry.

SPECIFICATIONS (LTE RADIO)

The LTE radio of the DENTALEZ products use the U-blox SARA R410-02B LTE Cat M1* modem for use in North America.

*SARA-R4 series modules comply with the Directive 2011/65/EU of the European Parliament and the Council on the Restriction of Use of certain Hazardous Substances in Electrical and Electronic Equipment (EU RoHS 2) and its amendment Directive (EU) 2015/863 (EU RoHS 3). SARA-R4 series modules are RoHS 3 compliant. No natural rubbers, hygroscopic materials, or materials containing asbestos are employed.

ITEM	DESCRIPTION
Modulation	QPSK 16-QAM
Frequencies	Band 2 (1900 MHz) Band 4 (1700 MHz) Band 5 (850 MHz) Band 12 (700 MHz)
Power Class	Class 3 (23 dBm)
Radiation Pattern	Omnidirectional antenna
Certifications	FCC ID: 2AEMI-BRN404 https://www.fcc.gov/oet/ea/fccid FCC Compliance Statement (e.g., products subject to Part 15): 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.
Operating Temperature	Normal operating temperature -20 to +65 C Extended operating temperature -40 to +85 C
Mounting	SMT
Power	Nominal 3.8V at: Minimum = 110 mA Average = 190 mA Peak during Tx = 500 mA

RECOMMENDED ENVIRONMENTAL CONDITIONS

TRANSPORTATION AND STORAGE

- Temperature range: -20°F to 165°F (-29°C to 74°C)
- Relative humidity range: 0% to 95%

INDOOR USE

- Altitude up to 9,000 ft (2,743 m)

OPERATION

- Temperature range: 35°F to 100°F (2°C to 38°C)
- Relative humidity range: 0% to 95%

CLASSIFICATIONS

ETL CLASSIFIED
C ETL US
Intertek
4010684

Conforms to:
ANSI/AAMI STD ES60601-1:2005 (R2012)

Certified to:
CAN/CSA C22.2 NO. 60601-1-08

Complies with NFPA 99 Healthcare Facility Code.

Manufactured in a FDA registered
ISO 13485:2016 certified facility.

Ramvac compressors meet the most current and highest safety standards.

- Type of Protection Against Electric Shock: Class 1 Equipment.
- Degree of Protection Against Ingress of Water: IPXO.
- Flammable Gases: Equipment not suitable for use in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.
- Not intended for use in an oxygen rich environment.
- Mode of Operation: Continuous

EXPLANATION OF SYMBOLS & SIGNS

= Caution

= Warning

= Biohazard

= Warning - Dangerous Voltage

= Hot Surface

= General Mandatory Action

= Refer to Manual (Follow Instructions)

= Refer to Accompanying Documents

= Alternating Current

= Direct Current

= Protective Earth (Ground)

= Type B Applied Part

SN = Serial Number

= Manufacture Date

= Manufacturer

= Electromagnetic Radiation

= Box Must Remain Upright

= Do Not Place Box on Unlevel Surface

= Do Not Stack Box

= Box Contents Safe Temperature Range

= Box Contents Safe Humidity Range

SAFETY PRECAUTIONS

To ensure that the safety potential of this equipment is achieved, make sure equipment is installed according to written instructions.

⚠WARNING

Do not modify this equipment without permission from Ramvac. Unauthorized modification will void the warranty and could result in serious injury. If this equipment is modified, appropriate inspection and testing must be conducted to ensure continued safe use of equipment.

Electrical shock could occur as a result of improper grounding. This product must be grounded according to NEC regulations and local codes.

- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12") to any part of the compressor, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.
- Property damage and/or personal injury may result if directions are not followed or OEM parts are not used.
- Always turn off compressor and remove power from compressor when servicing. (Turn off power at disconnect or service breaker.)
- Danger of fire or explosion when using flammable substances.
- Never leave children unattended when compressor is in use.

⚠CAUTION

- The compressor has several guards designed to protect against accidental contact with dangerous components. Do not remove these guards until power has been disconnected/turned off from the equipment. If service is required with the guard removed and the power on, it should only be performed by a qualified service technician. Always replace any guards that have been removed for service or that may have been damaged.
- During installation, always ensure all electrical, plumbing or other utilities are properly located to avoid possible tripping or falling hazards. Always follow all local, state and national building codes, as well as any applicable workplace safety regulations.
- Use of a plug for electrical service is not recommended. Incorrect connections will cause a drop in line voltage and/or loss of power. Overheating could result.
- Connect only equipment suitable for listed maximum pressure of the compressor.
- The EMISSIONS characteristics of this equipment make it suitable for use in industrial areas and hospitals (CISPR 11 class A). If it is used in a residential environment (for which CISPR 11 class B is normally required) this equipment might not offer adequate protection to radio-frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the equipment.

SAFETY PRECAUTIONS (CONTINUED)

NOTICE

Medical electrical equipment needs special precautions regarding electromagnetic (EMC) compatibility and needs to be installed according to EMC information. (See *EMC INFORMATION* provided in this manual.)

- The use of accessories, transducers, and cables other than those specified, with the exception of transducers and cables sold by the manufacturer of this device as replacement parts for internal components, may result in increased emissions or decreased immunity of the compressor.
- Portable and mobile radio frequency (RF) communications equipment can affect medical electrical equipment.
- There may be an instance, in low humidity environments, that the user of the dental compressed air system may cause the compressor to stop as a result of electrostatic discharge (ESD) energy. To remedy this issue, cycle the ON/OFF switch on the side of the control.
- An air leakage test should be conducted on the facility air system to ensure no air leaks are present. Excessive air leakage will impact the performance and life expectancy of your compressor. See *SECTION V - CARE & MAINTENANCE > TEST FOR AIR LEAKS* instructions provided in this manual.

PACKAGING

WARNING To prevent tipping during transport, securely fasten unit to shipping pallet until final destination has been reached.

TOOLS REQUIRED

- 7/16" Wrench

UNPACKING COMPRESSOR CARTON

1. Carefully remove the shipping carton from the pallet containing the compressor.
2. Visually inspect the entire compressor for any shipping damage.
   - Visually inspect the motor isolator mounts for tearing.
   - If shipping damage is found, immediately contact the freight carrier and supplier.
3. Using a 7/16" wrench, remove the nuts that secure the compressor to the shipping pallet.
4. For easier handling, four rubber grips have been installed on the frame of the compressor for lifting *(FIGURE 2)*.

NOTE: *Lifting the compressor assembly by any other part or location could result in damage to the compressor.*

5. Verify additional parts shipped with the compressor for use at installation:
   - Outlet Plumbing Kit
   - Filter Drain Kit/Purge Bowl
   - Feet Kit
   - Doctor's Packet
   - Maintenance Chart and Head Service Kit
   - Low-voltage Wiring Connectors (Installed on Aeras Control)



FIGURE 2. RUBBER GRIPS (4) FOR LIFTING COMPRESSOR

NOTE: *The compressor is shipped with the shut-off valve in the CLOSED position to limit exposure of the system to humidity. OPEN the valve after installation.*

PLACEMENT

⚠WARNING DO NOT install on surfaces with more than a 5° incline.

⚠CAUTION The compressor is front heavy. When moving with handles, be sure to hold it securely to prevent it from tipping and possible dropping of the device, which could result in damage to the compressor.

- This device must not be stacked during transport and storage and must be oriented right side up during transport and storage.
- The compressor unit should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the compressor should be observed to verify normal operation in the configuration in which it will be used.
- Locate the compressor on a level hard surface capable of supporting the compressor weight. If a level surface is not available, the compressor is equipped with height adjustable feet to level the device. Install four adjustable rubber feet supplied to ensure unit stands firmly on the floor (see *SECTION III - INSTALLATION > FEET KIT*).



- Floors should be wood, concrete or ceramic tile. It is highly recommended that a higher than 30% relative humidity be established and the operator wear a ground strap before physical contact is attempted.
- Compressor is for indoor use only, in a dust free, climate controlled room.
- DO NOT install in a enclosed area where ambient temperature could exceed temperature specifications of below 35°F/02°C or above 100°F/38°C while the compressor is running.
- Maintain minimum 12" clearance on all sides and on top of all compressors.
- A source of conditioned fresh air is required for safe operation of this compressor. The air source must be located outside of the utility room and away from potential air contaminants.
- Do not locate this device or it's air intake opening in an area that is prone to flooding or has previously flooded. Water can damage components, reduce life expectancy of the compressor or cause serious personal injury.

SITE REQUIREMENTS

Before the compressor can be properly installed, the following utilities must be supplied.

ELECTRICAL

- A licensed electrician should always complete the electrical portion of the installation process. This device requires proper electrical grounding for safe operation.
- Follow NEC, NFPA 99C, and all local codes.
- Compressors are shipped with a 6-foot electrical whip of the appropriate size for the compressor.
- Qualified personnel must install a dedicated electrical circuit of sufficient capacity. See *SECTION I - INTRODUCTION > SPECIFICATIONS (COMPRESSOR)* in this manual for additional electrical information.
- Any means provided to isolate this device from the supply mains shall isolate all poles simultaneously.
- The disconnection means and over-current protection are to be provided by the installer (qualified electrician) in accordance with applicable local and national electric codes. This device should always be attached to a dedicated circuit with appropriate wiring and circuit protection. If this device is being installed as a replacement, always have a licensed electrician inspect the existing facility electrical and complete the electrical portion of the device installation.

⚠WARNING To avoid risk of electric shock, this equipment must only be connected to a supply mains with protective earth.

⚠CAUTION During the performance of any service procedures that may involve the disconnection of a ground wire, take extra precautions to verify the ground wire has been properly re-connected. Never leave a ground wire disconnected, since this can create a significant safety issue.

NOTICE This air compressor has been designed to operate within the following voltage ranges; 115V systems, 103 to 126V AC; 230V systems, 208 to 253V AC. Failure to provide sufficient voltage to this device could result in damage to electrical components and reduced service life.

PLUMBING

- Attach drain tubing to fitting on bottom of coalescing filter and direct it into floor drain for proper disposal of water. If floor drain plumbing is an issue, water can be disposed into the supplied purge bowl.
- Connect compressor air outlet to facility plumbing with provided supply hose (3/8" MPT × 3/8" MPT, 6 feet in length).
- Install particulate filter to the facility shut-off valve using plumbing kit connectors provided.
- Install fresh air manifold and connect fresh air intake kit supplied to external air source per NFPA 99C recommendations.
- This device should always be installed with the appropriate plumbing and fresh air intake systems. If this device is being installed as a replacement, always have a licensed plumber inspect the existing facility plumbing and complete the plumbing portion of the device installation.

FEET KIT

TOOLS REQUIRED

- 7/16" Wrench
- 1/2" Wrench

PARTS INCLUDED

- Foot (4 Pieces)
- Flanged Nut (4 Pieces)



FOOT (4)



FLANGED NUT (4)

⚠WARNING

- Prior to starting this assembly, read, understand and follow the safety information and the assembly instructions in this user manual.
- Handles for lifting the compressor assembly are provided on each end of the device. Lifting the compressor assembly by any other part or location could result in damage to the compressor.
- The weight distribution of this compressor is unbalanced to the front of the device. Exercise care when lifting to avoid accidental tipping and possible dropping of the device, which could result in damage to the compressor or severe injuries to the installer.
- Compressor assemblies are very heavy and may require multiple people to safely lift. Prior to lifting, check the user manual for the weight of this model. Over-exertion could result in serious injuries to the installer.
- This procedure may not comply with all safety requirements of federal, state or local agencies or safety requirements of the installer's employer. If a conflict does exist, follow the requirements set forth by the other organizations.

ASSEMBLY

1. Remove the four nuts (7/16" wrench) from the bolts that secure the Aeras compressor legs to the wooden shipping pallet. At this point, the bolts can be removed from the legs and the compressor can be removed from the pallet. Do not attempt to install the feet while the compressor is on the pallet; tipping of the pallet and subsequent loss of control may occur.
2. Lift one end of the compressor using the integrated handles and place blocking under the end of the tank to support the compressor. Be careful not to damage the drain valve under the center of the tank. Never work under a compressor that is not supported with adequate blocking *(FIGURE 3)*.

(Continued on the next page.)



FIGURE 3. BLOCK THE COMPRESSOR TANK TO INSTALL FEET

FEET KIT (CONTINUED)

(Continued from the previous page.)

3. Thread feet into the two elevated legs from the bottom side of the leg.
4. Adjust each foot to approximately the same height, then thread a flanged nut (flange side toward the leg) onto each foot *(FIGURE 4)*.

***NOTE:** It is not necessary to tighten the flanged nuts at this time. The feet will require further adjustment once the compressor has been placed in its permanent location in the utility room.*

5. Lift the compressor and remove the blocking from under the tank end. Repeat steps 2 through 4 for the opposite end of the compressor.



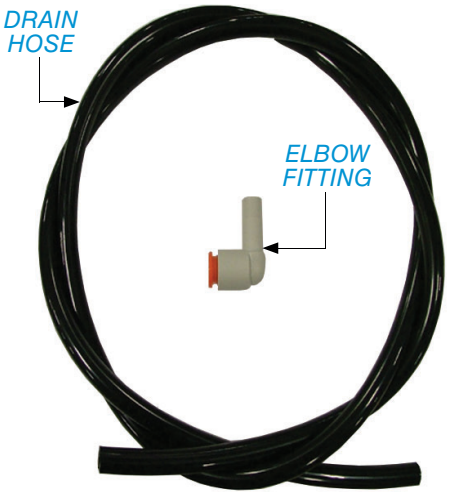
FIGURE 4. INSTALL FLANGED NUT

6. After the compressor is in its permanent location in the utility room, adjust each foot using a 7/16" wrench until the compressor is setting level. After adjusting the feet, tighten the flanged nut with a 1/2" wrench to lock the foot into position.

FILTER DRAIN KIT

PARTS INCLUDED

- Drain Hose
- Elbow Fitting



⚠WARNING

- Prior to starting this assembly, read, understand and follow the safety information and the assembly instructions in this user manual.
- The bowl on the coalescing filter assembly is under high pressure while the system is running. Allow the compressor to stop running and release the pressure prior to removing the bowl. Failure to allow the system to properly de-pressurize could result in severe injuries.
- Always disconnect the compressor from the electrical power source prior to conducting any maintenance or service of the equipment. The compressor could start unexpectedly, resulting in possible injury to the service technician.
- This procedure may not comply with all safety requirements of federal, state or local agencies or safety requirements of the installer's employer. If a conflict does exist, follow the requirements set forth by the other organizations.

FILTER DRAIN KIT (CONTINUED)

ASSEMBLY

1. To help in determining the routing of the drain hose, read the following tips on proper installation.
   - The connection at the bottom of the coalescing filter is designed to work with either the elbow fitting or the 3/8" hose provided in the kit, depending on space constraints in the utility room.
   - The drain hose will require a steady downward slope to the drain.
   - Never route the drain hose assembly across traffic areas in the utility room. This could create tripping or falling hazards that could result in injury to personnel.
2. The connections for installing the filter drain are a “push-to-connect” style of fitting and do not require any tools to install. After determining proper routing, simply insert either the hose end or the elbow fitting into the fitting on the bottom of the coalescing filter bowl. Apply light force until the item stops. Gently pull the opposite direction on the hose or fitting to determine if they have properly seated into the connection. If the fitting or hose comes out with light force, then the hose was not fully seated into the connection and can be re-inserted again.
3. If, for some reason, the fitting or hose needs to be released from the connection, depressing the colored plastic ring (while gently pulling on the hose or fitting) releases the hose or fitting from the connection *(FIGURE 5)*.

NOTE: *If drain plumbing is not accessible, the supplied purge bowl can be used instead to catch disposal water. The water should be manually emptied daily.*

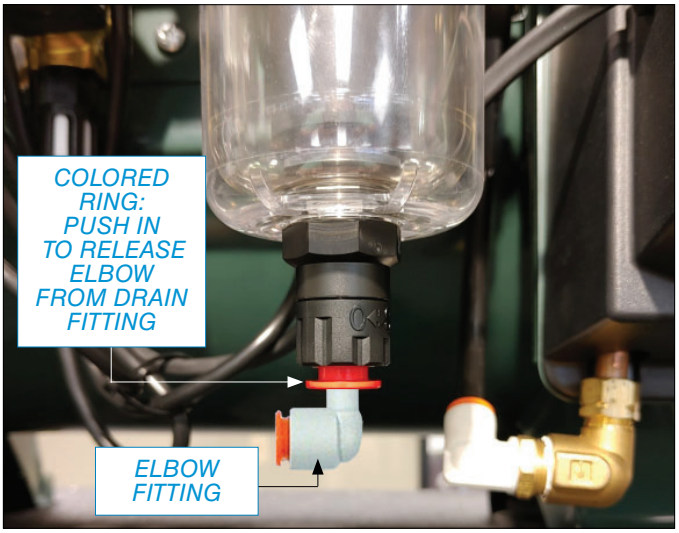


FIGURE 5. ELBOW FITTING INSTALLED IN COALESCING FILTER DRAIN

MAINS VOLTAGE

All Aeras Compressor models are factoy set to run on 230 (208-253) volts mains power. Aeras Compressor models C3-12 and C4-12 are dual voltage capable and can run on 115 (103-126) volts or 230 (208-253) volts mains power.

⚠WARNING

- Prior to starting this assembly, read, understand and follow the safety information and the assembly instructions in this user manual.
- Always disconnect the compressor from the electrical power source prior to conducting any electrical service of the equipment. The compressor could start unexpectedly resulting in possible injury to the service technician.
- This procedure may not comply with all safety requirements of federal, state or local agencies or safety requirements of the installer's employer. If a conflict does exist, follow the requirements set forth by the other organizations.

MAINS VOLTAGE SWITCH (MODELS C3-12 AND C4-12 ONLY)

Aeras Compressor models C3-12 and C4-12 are shipped from the factory pre-set to 230 volts. Before turning on power to the compressor, be sure the mains voltage switch is set to the proper voltage. If the facility mains power is 115 (103-126) volts, slide the mains voltage switch to 115 volts on each compressor head. If the facility mains power is 230 volts, verify the mains voltage switch is set to 230 (208-253) volts on each compressor head *(FIGURE 6)*.

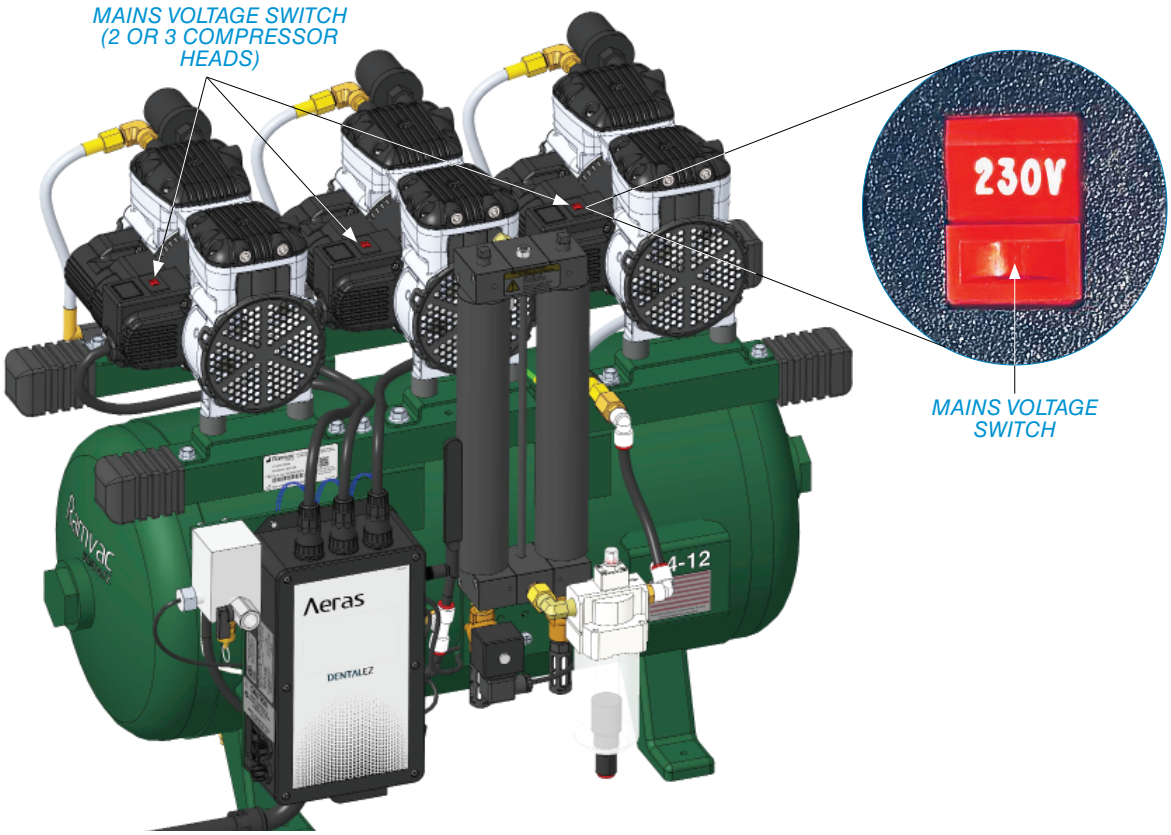


FIGURE 6. MAINS VOLTAGE SWITCH

LOW-VOLTAGE WIRING CONNECTIONS

⚠WARNING

- Prior to starting this assembly, read, understand and follow the safety information and the assembly instructions in this user manual.
- Always disconnect the compressor from the electrical power source prior to conducting any electrical service of the equipment. The compressor could start unexpectedly resulting in possible injury to the service technician.
- This procedure may not comply with all safety requirements of federal, state or local agencies or safety requirements of the installer's employer. If a conflict does exist, follow the requirements set forth by the other organizations.

PARTS INCLUDED

- Remote Switch FGH Connector - Used to control power state of this compressor from a remote location (see *SECTION III - INSTALLATION > LOW-VOLTAGE WIRING CONNECTIONS > LOW-VOLTAGE REMOTE SWITCHING*).
- Auxiliary Connector - Used to control power state of a non-Aeras vacuum, water control valve, or another non-Aeras compressor (see *SECTION III - INSTALLATION > LOW-VOLTAGE WIRING CONNECTIONS > LOW-VOLTAGE AUXILIARY DEVICE CONNECTION*).
- Building Maintenance Connector - Used to connect to building maintenance system.



CONTROL PANEL CONNECTOR LOCATIONS

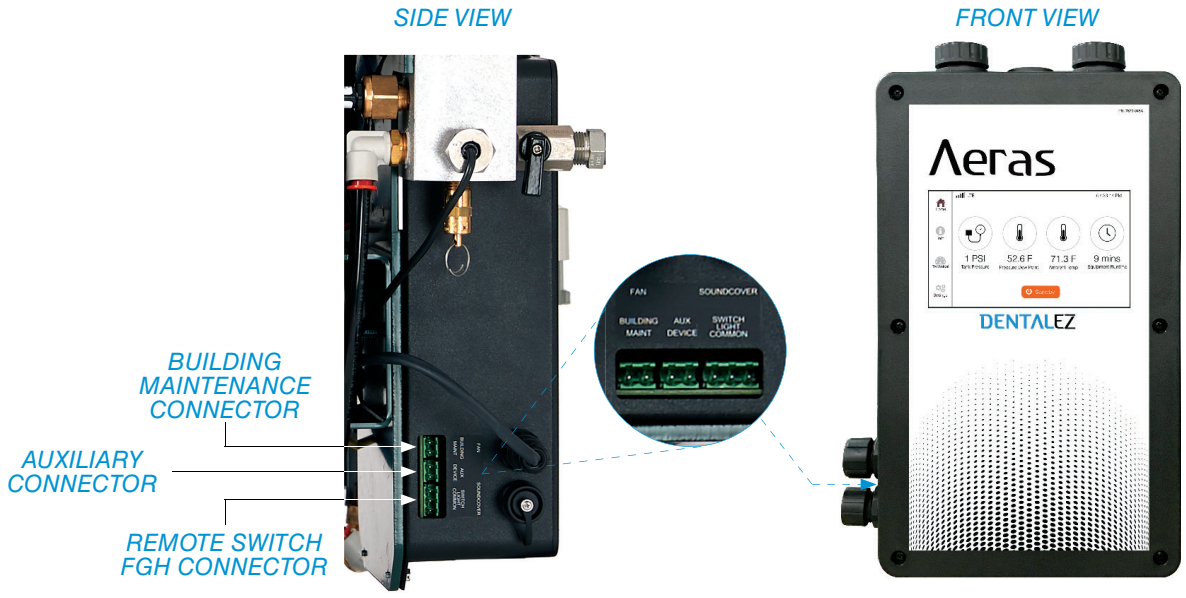


FIGURE 7. AERAS CONTROL PANEL LOW-VOLTAGE WIRING CONNECTIONS

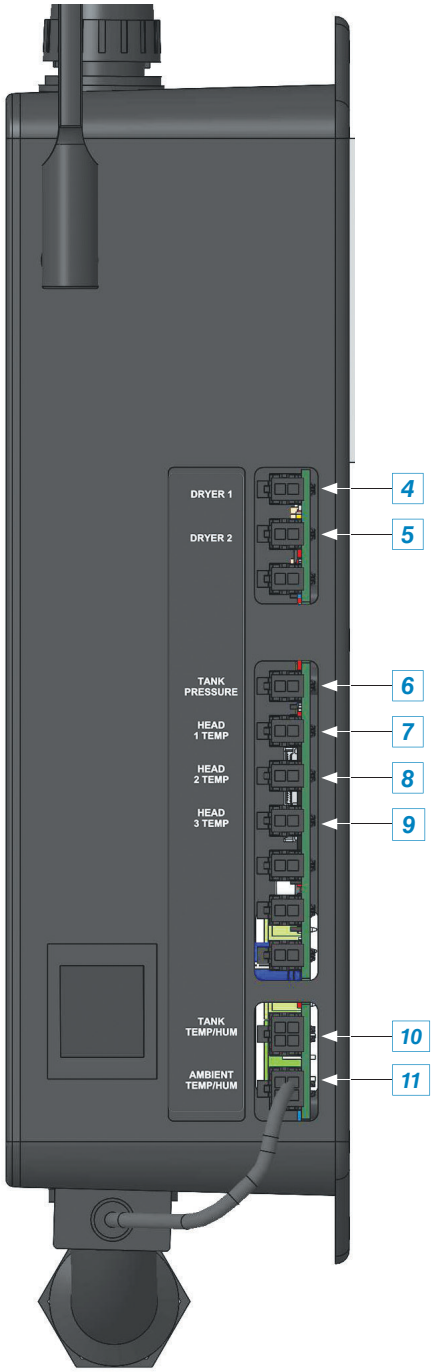
LOW-VOLTAGE WIRING CONNECTIONS (CONTINUED)

CONTROL PANEL CONNECTOR LOCATIONS

AERAS CONTROL BOX (LEFT SIDE VIEW)



AERAS CONTROL BOX (RIGHT SIDE VIEW)



AERAS CONTROL BOX (FRONT VIEW)



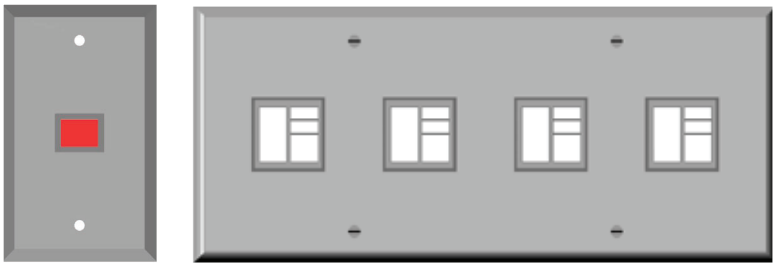
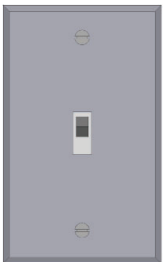
1. Building maintenance connector
2. Auxiliary device connector
3. Remote switch FGH connector
4. Dryer 1
5. Dryer 2
6. Tank Pressure (PSI/kPa)
7. Head 1 temperature
8. Head 2 temperature
9. Head 3 temperature
10. Tank temperature/humidity
11. Ambient temperature/humidity

LOW-VOLTAGE WIRING CONNECTIONS (CONTINUED)

LOW-VOLTAGE REMOTE SWITCHING

NOTICE Maximum wire length for 18-gauge wire is 500 feet.

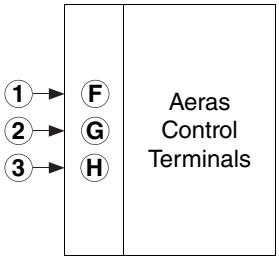
Low-voltage remote switching is used to turn the system on and off from a remote location. Your Aeras compressor is manufactured to continuously cycle as required throughout the workday. Power the compressor off at end of day.

ILLUMINATED REMOTE PANELS	NON-ILLUMINATED REMOTE SWITCHES
	
▪ Switch light is steady on when system is running normally. ▪ Switch light flashes for maintenance or one of the heads has been disabled by the disable button on the control panel.	▪ Non-illuminated switches provide no indication for system status.

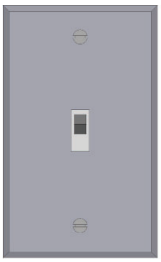
Recommended Switching



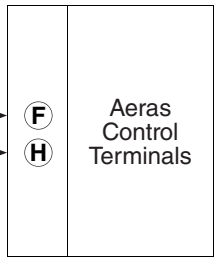
Ramvac Remote Panel (or Equivalent) with Illuminated 24V DC Switch

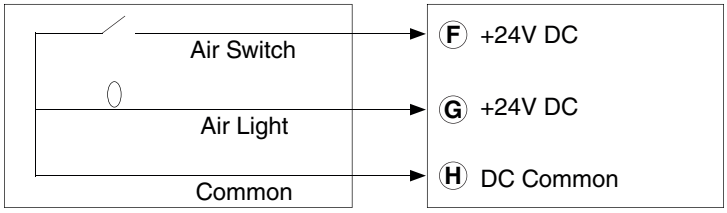


Alternative Switching



Toggle Switch or Other Non-Illuminated Switch (Option)





AERAS CONTROL PANEL

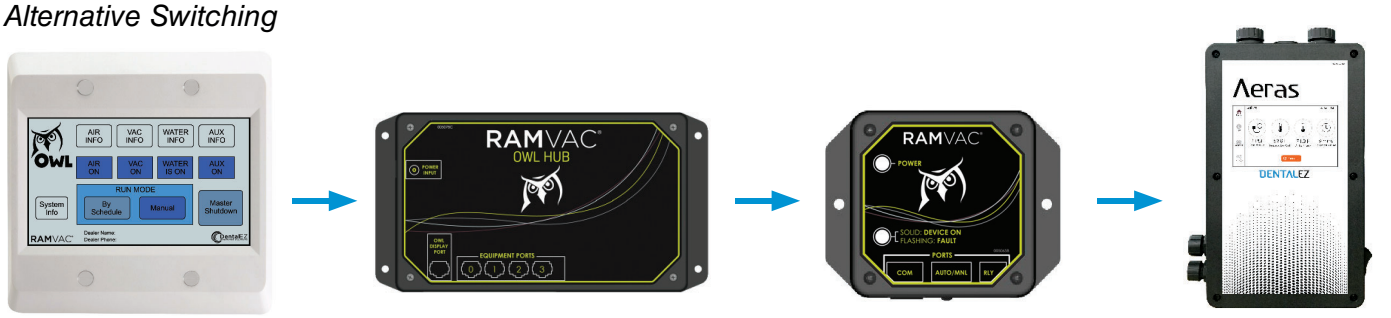


(Continued on the next page.)

LOW-VOLTAGE WIRING CONNECTIONS (CONTINUED)

(Continued from the previous page.)

Alternative Switching



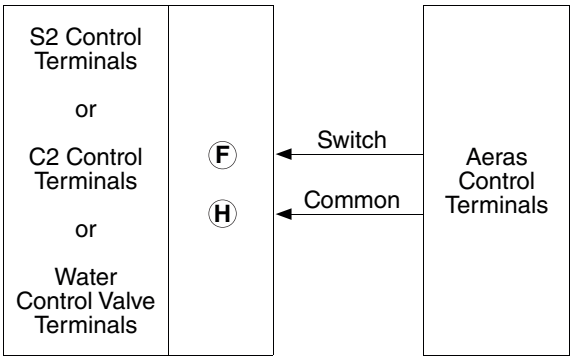
OWL Touch | OWL Hub | OWL Interface | Aeras Control Panel

LOW-VOLTAGE AUXILIARY DEVICE CONNECTION

NOTICE Maximum wire length for 18-gauge wire is 500 feet.

Low-voltage auxiliary connection is used to connect a non-Aeras vacuum, master water control valve, or another non-Aeras compressor to this Aeras compressor. The auxiliary power state will match the power state of this Aeras compressor (ON/STANDBY).

Auxiliary Wiring





OUTLET PLUMBING KIT

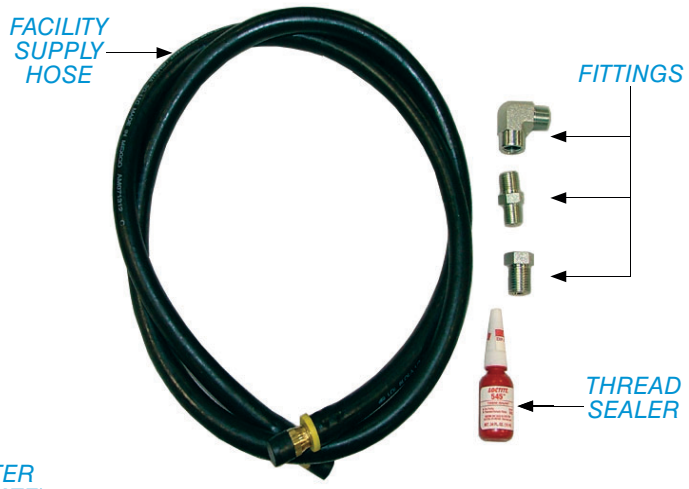
⚠WARNING

- Prior to starting this assembly, read, understand and follow the safety information and the assembly instructions in this user manual.
- Never route the facility supply hose across traffic areas in the utility room. This could create tripping or falling hazards that could result in injury to personnel.
- The compressor system may be pressurized; follow the discharge procedures in the user manual prior to conducting any repairs or maintenance. Working on pressurized components could result in severe injuries or even death. It is recommended any repairs or service be performed by a qualified service technician.
- When installing air lines in a new facility, always follow NFPA 99 standards (or local codes) and maintain cleanliness throughout.
- Prior to or during the replacement of compressors, always verify the cleanliness of the existing air lines in the facility. Old or malfunctioning compressors can cause unhealthy deposits of mold, dust or dirt.
- This compressor is designed for dental procedures and powering dental equipment and can be safely used in the oral cavity for such purposes. Under no circumstances should it be supplied or considered as medical/breathing air for a patient.
- Installation of this device should be conducted by licensed electrical and plumbing contractors and should always follow the instructions found in the various manuals, unless local state or national building codes specify otherwise. Failure to comply with all applicable codes and installation procedures may result in personal injury, damaged components or reduced life expectancy of this product.
- Never direct the air stream toward any portion of the body or others in the vicinity. Pressurized air streams can be extremely hazardous to your health and can result in death in certain circumstances.
- This procedure may not comply with all safety requirements of federal, state or local agencies or safety requirements of the installer's employer. If a conflict does exist, follow the requirements set forth by the other organizations.

PARTS INCLUDED

- Final Filter (Particulate)
- Facility Supply Hose
- Fittings
- Thread Sealer





OUTLET PLUMBING KIT (CONTINUED)

ASSEMBLY

1. Determine the best routing for the facility supply hose and the filter assembly. The filter can be mounted in two different directions, depending on the safest and easiest route for the hose *(FIGURE 8)*.

   Always use the hose assembly provided to connect the compressor to the facility airlines. If a longer hose is required, be certain the product used is rated to an adequate pressure level and is intended for compressed air systems.

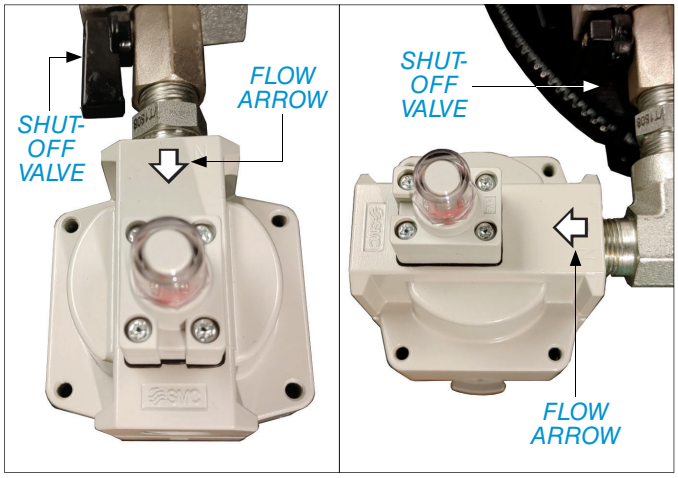


FIGURE 8. FILTER MOUNTING OPTIONS

2. Utilize the fittings provided to mount the filter assembly in the orientation determined in step 1. A small tube of thread sealer has been provided in the kit. Do not over-apply the thread sealer; just a couple of drops on the male threads of all the fittings will provide an adequate seal. Tighten fittings as needed.

3. Thread the final filter onto the fittings and tighten it into the desired position *(FIGURE 8)*.

   NOTE: *The final filter has to be installed in the correct flow orientation.*

4. Thread the facility supply hose into the final filter and tighten. Both ends of the hose have swivel fittings to make installation easier.

5. Attach the other end of the hose to the facility piping. The kit contains an adapter bushing to adapt the 3/8 pipe thread on the end of the hose to a 1/2 pipe thread on the facility piping if it is required.

6. Upon completion of the air compressor installation, always check to ensure the shut-off valve on the pressure manifold is in the open position.

7. After the system has been pressurized, perform the following checks: *(SECTION V - CARE & MAINTENANCE > TEST FOR AIR LEAKS)*

   - Check each joint for leaks using a soap and water mixture. Tighten any joints that may be leaking.
   - Check the facility plumbing for leaks, either by inspection or by completing a pressure decay test. Repair any leaks in the facility plumbing.

HOW THE SYSTEM WORKS

When power is applied, fresh air is taken in through air filters and compressed by the pump pistons. The compressed air is very warm and is cooled for use by the heat exchanger and fan. Air is then delivered to the coalescing filter to remove most of the moisture.

The coalescing filter is equipped with an automatic draining feature that allows the draining of the excess moisture. The cool air enters the desiccant-style dryer assembly to complete the moisture removal by removing 99.7% of the water vapor from the air.

Air is directed into the dryer (desiccant) cartridges, from one to the other, by electronically controlled solenoid valves. The timing for the solenoid valves is provided by the Aeras control.

While the air is moving through one cartridge, the desiccant in the other cartridge is being dried by air directed through an orifice in the outlet shuttle valve. This valve cycle will be noticeable by a short burst of air from the purge valves. The air is then collected in the tank where it is stored for future use.

The Aeras control panel LCD display shows the tank air pressure. When air is called for to run equipment in the facility, it goes through a particulate filter to remove any remaining particulates from the air.

The tank pressure is monitored by the Aeras control, using a pressure transducer sensor on the manifold block, which runs the motors on demand. Pressure is factory set from 85 PSI/586 kPa to 115 PSI/793 kPa.

GETTING STARTED

⚠WARNING Never direct the air stream toward any portion of the body or others in the vicinity. Pressurized air streams can be extremely hazardous to your health and can result in death in certain circumstances.

⚠CAUTION DO NOT attempt to operate the compressor at ambient temperature below 35°F/2°C or above 100°F/38°C.

The Aeras compressor is easy to operate and maintain.

1. Verify the compressor is connected to a dedicated circuit. For models C3-12 and C4-12, verify mains power switch voltage on each compressor head matches facility mains voltage *(SECTION III - INSTALLATION > MAINS VOLTAGE)*
2. Verify the compressor is properly connected to the facility plumbing and a fresh air source.
3. Verify the shut-off valve is closed.
4. For optimal signal strength, put the antenna (located on the right side of the control panel) in the upright (verticle) position.
5. Push the Aeras control panel power switch to the ON position.
6. To switch the compressor from STANDBY to ON, press the orange *STANDBY* switch on the *HOME* screen. The switch will turn green and display ON.
7. Test for leaks *(SECTION V - CARE & MAINTENANCE > TEST FOR AIR LEAKS)*.
8. Turn the shut-off valve to OPEN.
9. The compressor installation is complete.

NOTE: *Periodically during startup from 0 PSI, the dryer shuttle valve may be out of sync from the previous cycle. This is noted by the sound of air being released out of the dryer purge valves. This minor interruption causes no harm to the dryer or air system. The dryer shuttle valve will relocate itself to the correct position after 35 seconds, and after which the dryer will cycle normally.*

AERAS CONTROL PANEL

The Aeras compressor control platform utilizes state-of-the-art technology solid state relays to control cycling of the compressor. When the Aeras control panel is first turned on, a Privacy Policy screen will be shown. Press *ACCEPT* to consent and agree to the privacy policy and continue *(FIGURE 9)*. Aeras compressor models C3-12 and C4-12 (dual voltage) will have an additional Voltage screen. Press *VERIFIED* after checking that the mains voltage switch on each compressor head matches the voltage on the screen *(FIGURE 9)*. If mains voltage does not match, see *SECTION III - INSTALLATION > MAINS VOLTAGE* to set proper voltage .

MAIN NAVIGATION MENU

HOME

Tank Pressure
Pressure Dew Point
Ambient Temperature
Equipment Runtime
Update (only appears when a new firmware/software update is available)
System Switch (ON/STANDBY)
Alerts (when alerts are present)

INFORMATION

Firmware Version
Hardware Version
Brand
Model
Serial Number
DentalEZ Support Contact Number
Service Provider Contact Number

TECHNICAL

Maintenance Mode Switch
Alerts
Motors
Sensors
Tandem (Web App Enabled)
Runtimes
Network
Advanced
Service (Maintenance Mode ON)

SETTINGS

Smart Schedule Switch
Metric Display Switch
Schedule
Date & Time
Restore System Defaults (Reset)

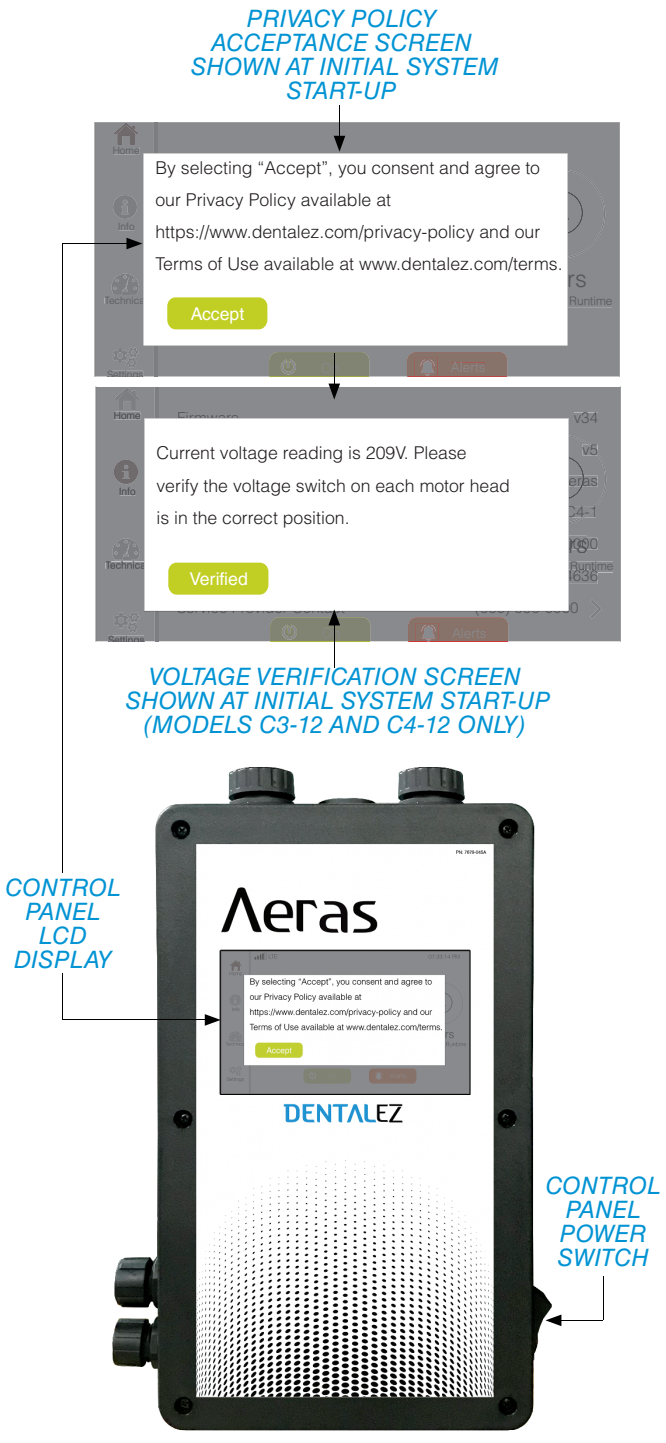


FIGURE 9. AERAS COMPRESSOR CONTROL PANEL

HOME SCREEN

The Aeras control panel LCD display uses simple touch controls and is easy to navigate. The Home screen of the control panel displays the following information *(FIGURE 10)*:

- Main navigational menu links: *HOME, INFO, TECHNICAL, and SETTINGS*
- Wireless signal strength indicator (for detailed wireless status, go to *TECHNICAL > MAINTENANCE MODE > NETWORK*)
- Time of day (to set/reset time, go to *SETTINGS > DATE & TIME >*)
- Tank pressure reading (normal reading is 85 PSI/586 kPa to 115 PSI/793 kPa)*
- Pressure dew point reading*
- Ambient temperature reading*
- Equipment runtime reading
- *UPDATE* (only appears when a new firmware/software update is available)
- *SYSTEM* switch (ON/STANDBY)

NOTES: ** Temperature (°F) and pressure (PSI) can be set to view in metric mode (°C and kPa) by going to SETTINGS > METRIC DISPLAY SWITCH).*

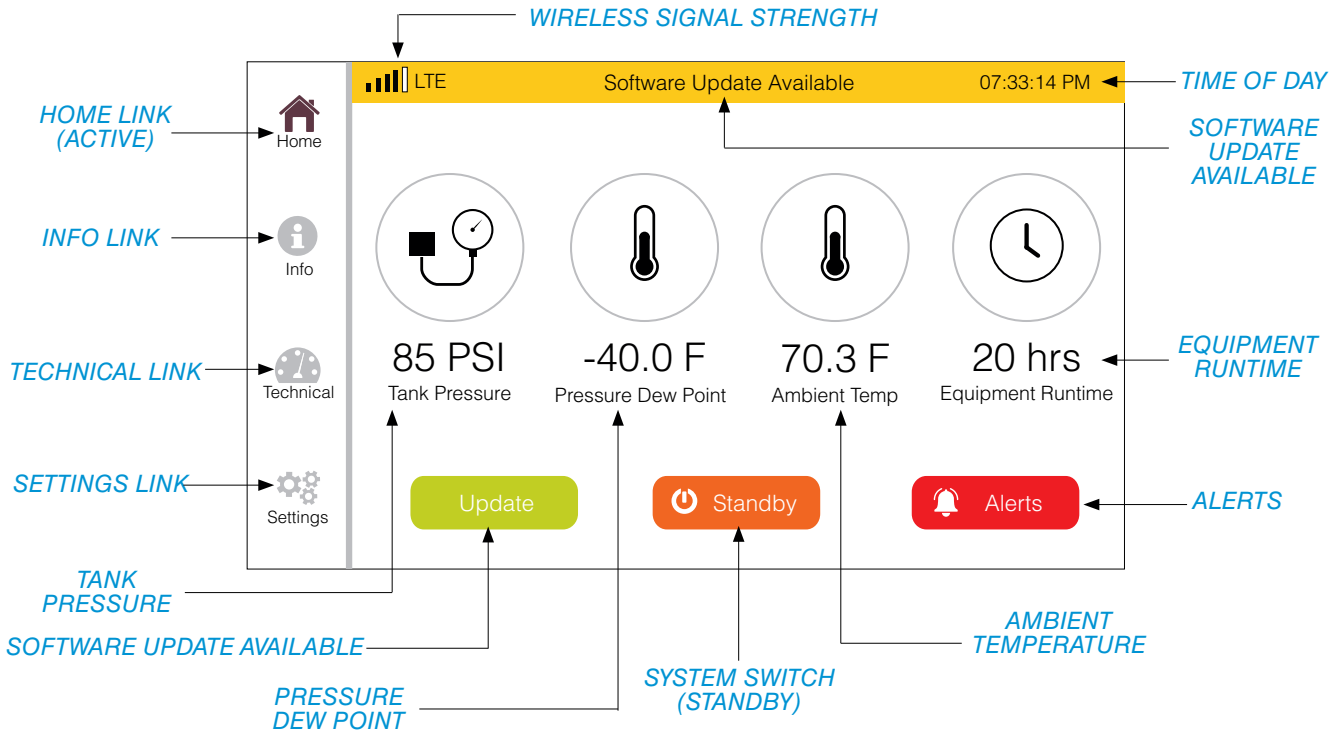


FIGURE 10. HOME SCREEN

HOME SCREEN (CONTINUED)

SYSTEM SWITCH (ON/STANDBY)

While performing maintenance operations on the compressor, the system should be in STANDBY mode. Motor heads of the compressor will not run while in this mode. The compressor may also be in kept in STANDBY mode during extended periods of non-use in order to conserve energy.

To switch the compressor system from STANDBY mode to ON, from the Home screen, press the orange *STANDBY* switch. The switch will turn green and display ON. Pressing the green *ON* switch will return the compressor to STANDBY mode *(FIGURE 11)*.

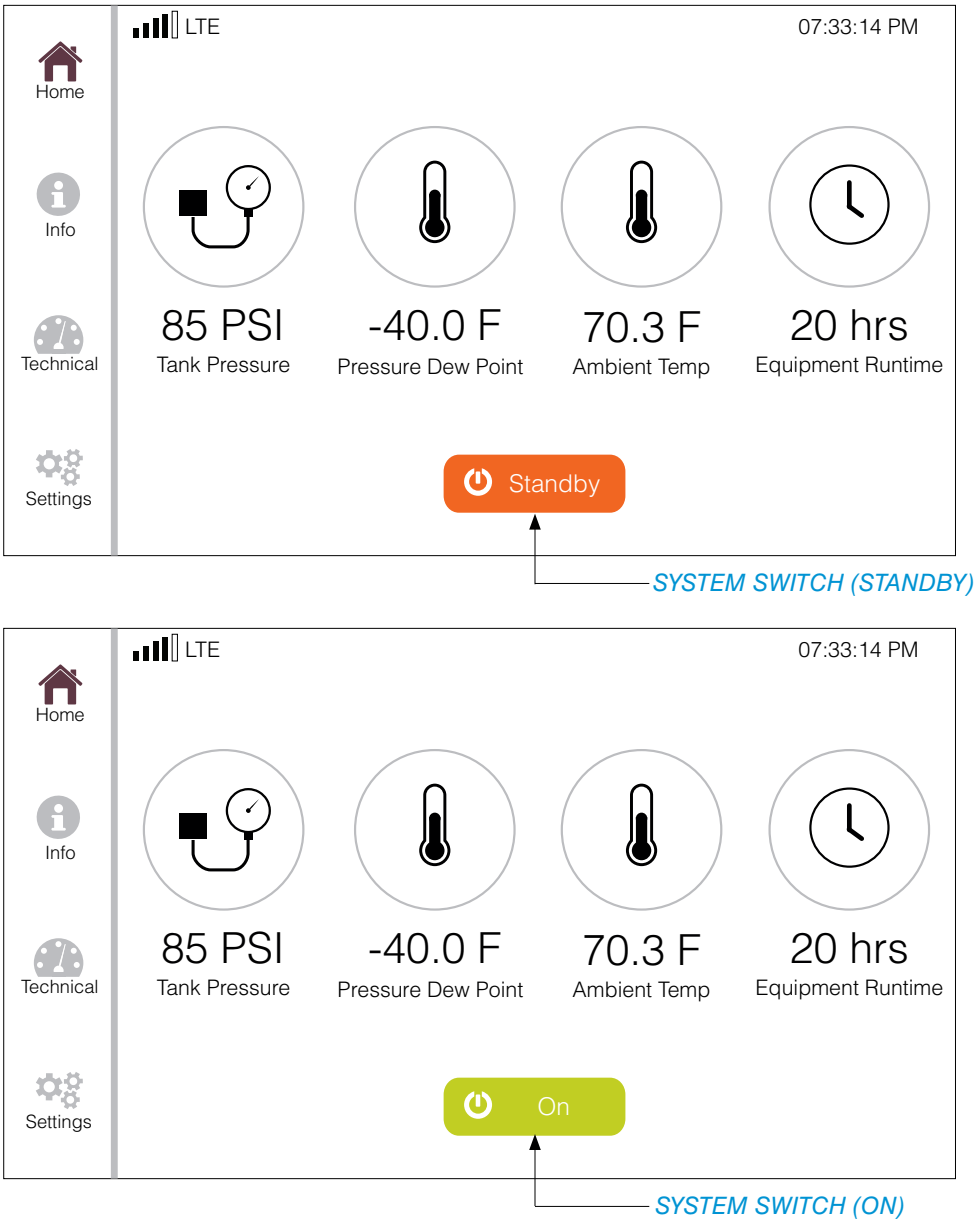


FIGURE 11. HOME SCREENS SHOWING SYSTEM IN "STANDBY" AND "ON"

HOME SCREEN (CONTINUED)

UPDATE (SOFTWARE)

When a new firmware/software version has been released and is ready to download and install, a green *UPDATE* button will be shown on the Home screen. To update the software, press the green *UPDATE* button. This will open a new screen asking to install the pending update. Pressing *OK* will start download and installation of software. Pressing *CANCEL* will cancel the software update and return to the Home screen *(FIGURE 12)*.

If the *UPDATE* button is not pressed, the update will occur automatically overnight.

NOTE: *The device may be inoperable during the update to the software.*

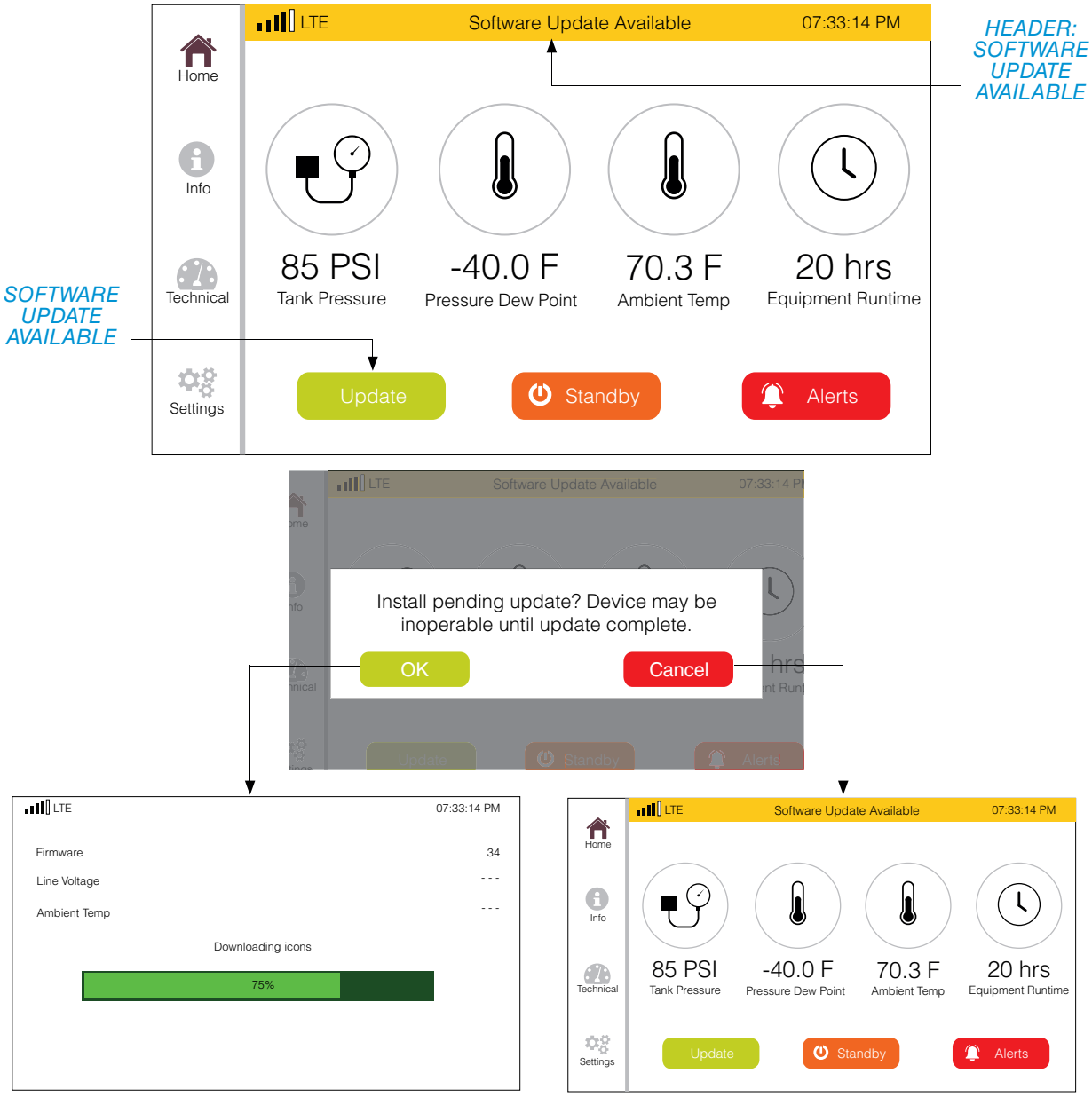


FIGURE 12. HOME SCREEN SHOWING SOFTWARE UPDATE AVAILABLE

INFORMATION SCREEN

The Information screen of the control panel displays the following information *(FIGURE 13)*:

- Main navigational menu links: *HOME*, *INFO*, *TECHNICAL*, *and SETTINGS*
- Wireless signal strength indicator
- Time of day
- Firmware (current version of software installed)
- Hardware (current version of hardware installed)
- Brand (Aeras)
- Model of compressor (C3-12, C4-12, C11-2, etc.)
- Serial Number of the compressor (set at factory)
- DENTALEZ Support Contact phone number (set at factory)
- Service Provider Contact phone number (set manually by user)
- *SERVICE PROVIDER CONTACT* phone number screen link

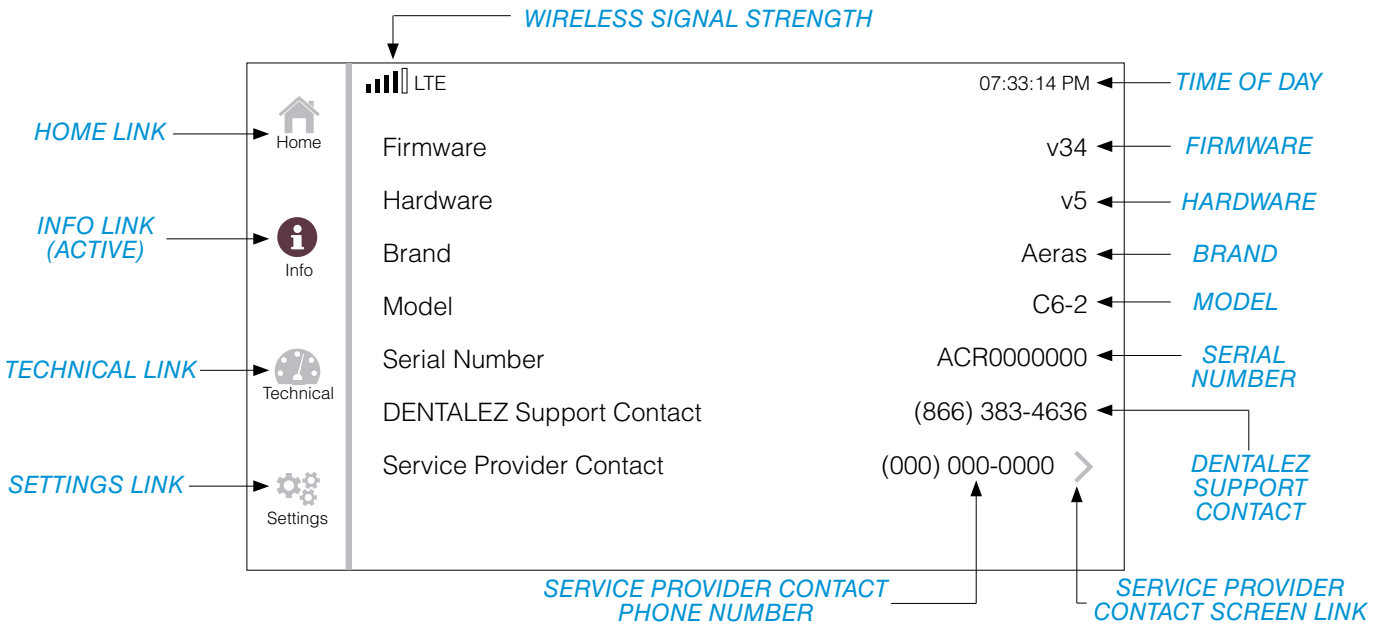


FIGURE 13. INFORMATION SCREEN

INFORMATION SCREEN (CONTINUED)

SERVICE PROVIDER CONTACT

To manually enter the service provider contact phone number, on the Info screen, press *SERVICE PROVIDER CONTACT > (FIGURE 14)*.

This will open a new screen for entering the service provider's phone number. Using the numeric key pad, enter the phone number (area code included) and press *SAVE* key *(FIGURE 15)*.

Press *< INFO* to return to the previous screen.

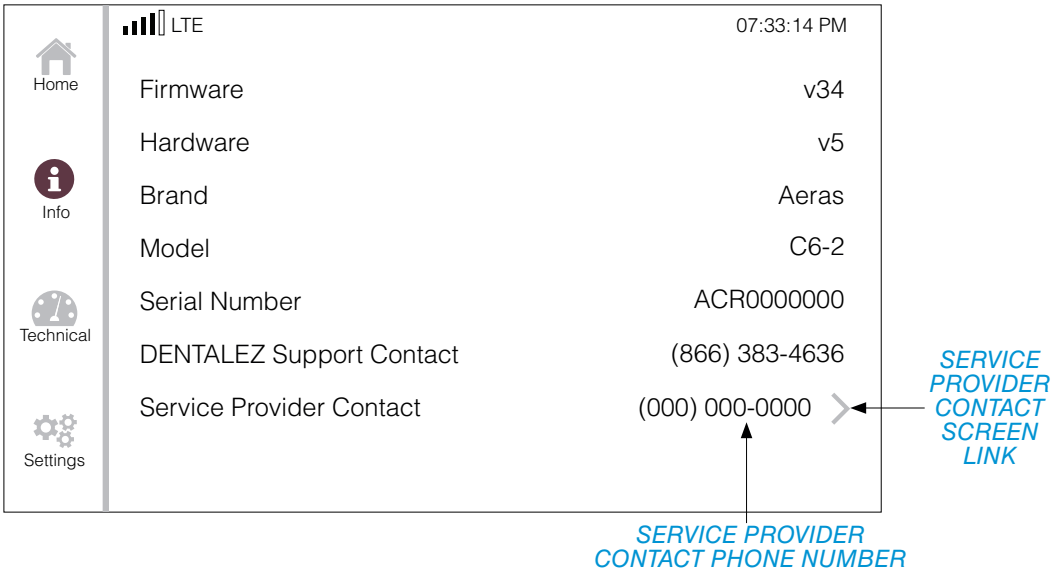


FIGURE 14. ON THE INFO SCREEN, PRESS SERVICE PROVIDER CONTACT >

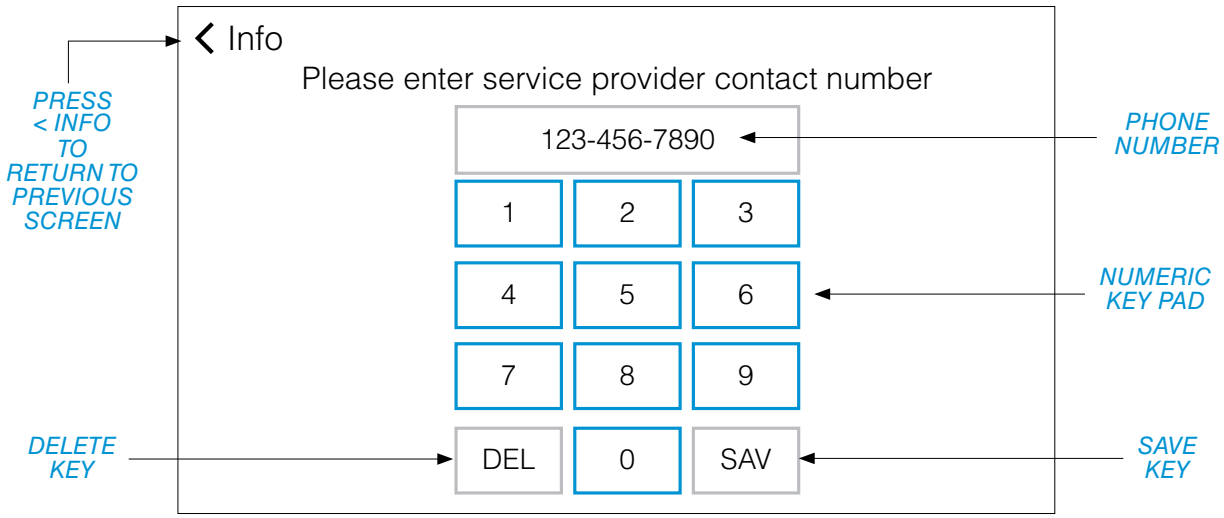


FIGURE 15. ENTER PHONE NUMBER AND PRESS SAVE KEY

TECHNICAL SCREEN

The Technical screen of the control panel displays the following information *(FIGURE 16)*:

- Main navigational menu links: *HOME*, *INFO*, *TECHNICAL*, *and SETTINGS*
- Wireless signal strength indicator
- Time of day
- *MAINTENANCE MODE* switch
- *ALERTS* screen link
- *MOTORS* screen link
- *SENSORS* screen link
- *TANDEM* screen link (Web app enabled)
- *RUNTIMES* screen link
- *NETWORK* screen link
- *ADVANCED* screen link
- *SERVICE* screen link (Maintenance Mode ON)

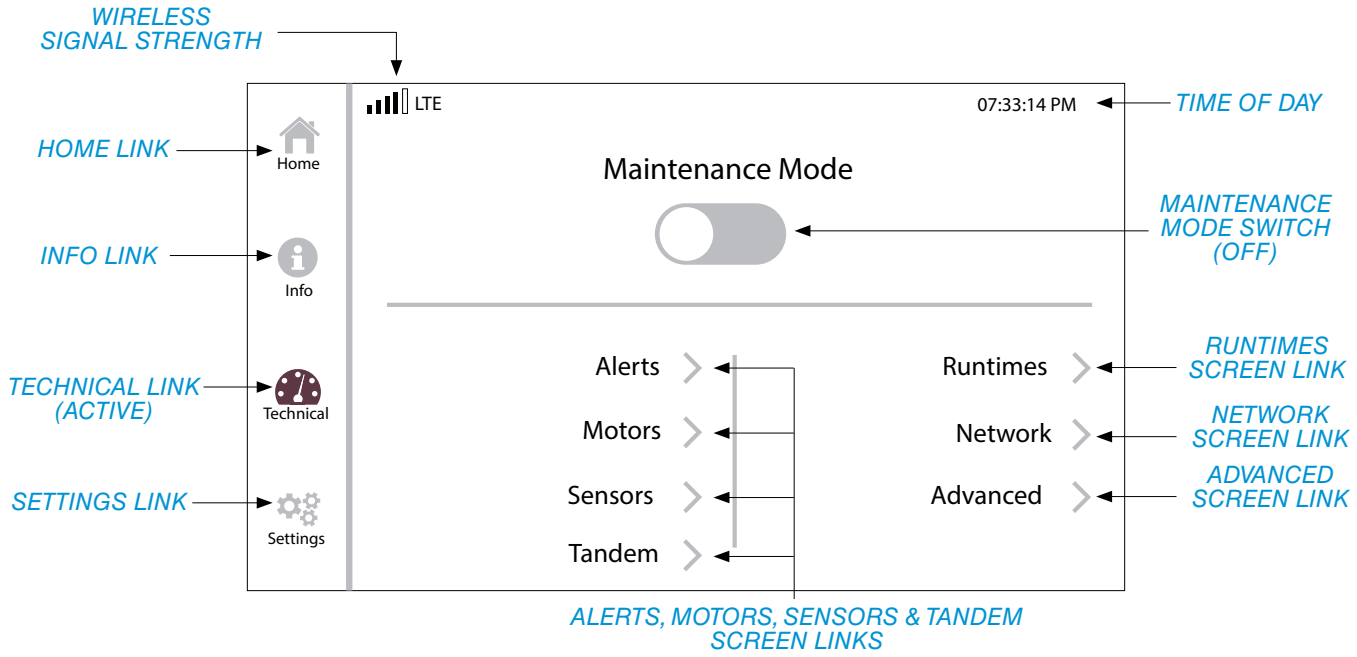


FIGURE 16. TECHNICAL SCREEN

TECHNICAL SCREEN (CONTINUED)

ALERTS

To view the Alerts screen, on the Technical screen, press *ALERTS >*. This will open a new screen for viewing system alerts. After viewing alert message, press message to dismiss it *(FIGURE 17)*.

Press *< TECHNICAL* to return to the previous screen.

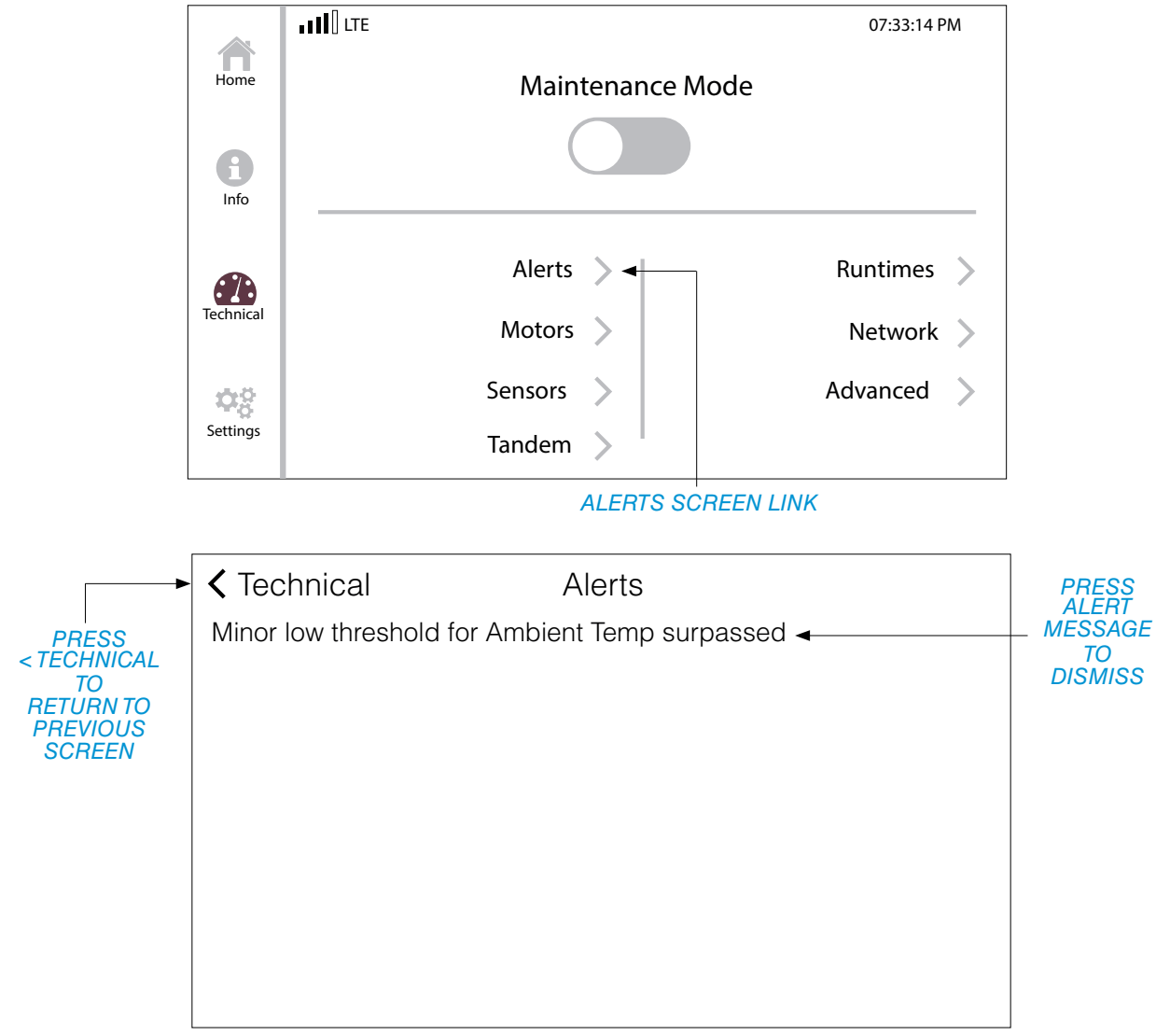


FIGURE 17. ALERTS SCREEN

TECHNICAL SCREEN (CONTINUED)

MOTORS

To view the Motors screen, on the Technical screen, press *MOTORS >*. This will open a new screen for viewing the status of each motor *(FIGURE 18)*.

Press *< TECHNICAL* to return to the previous screen.

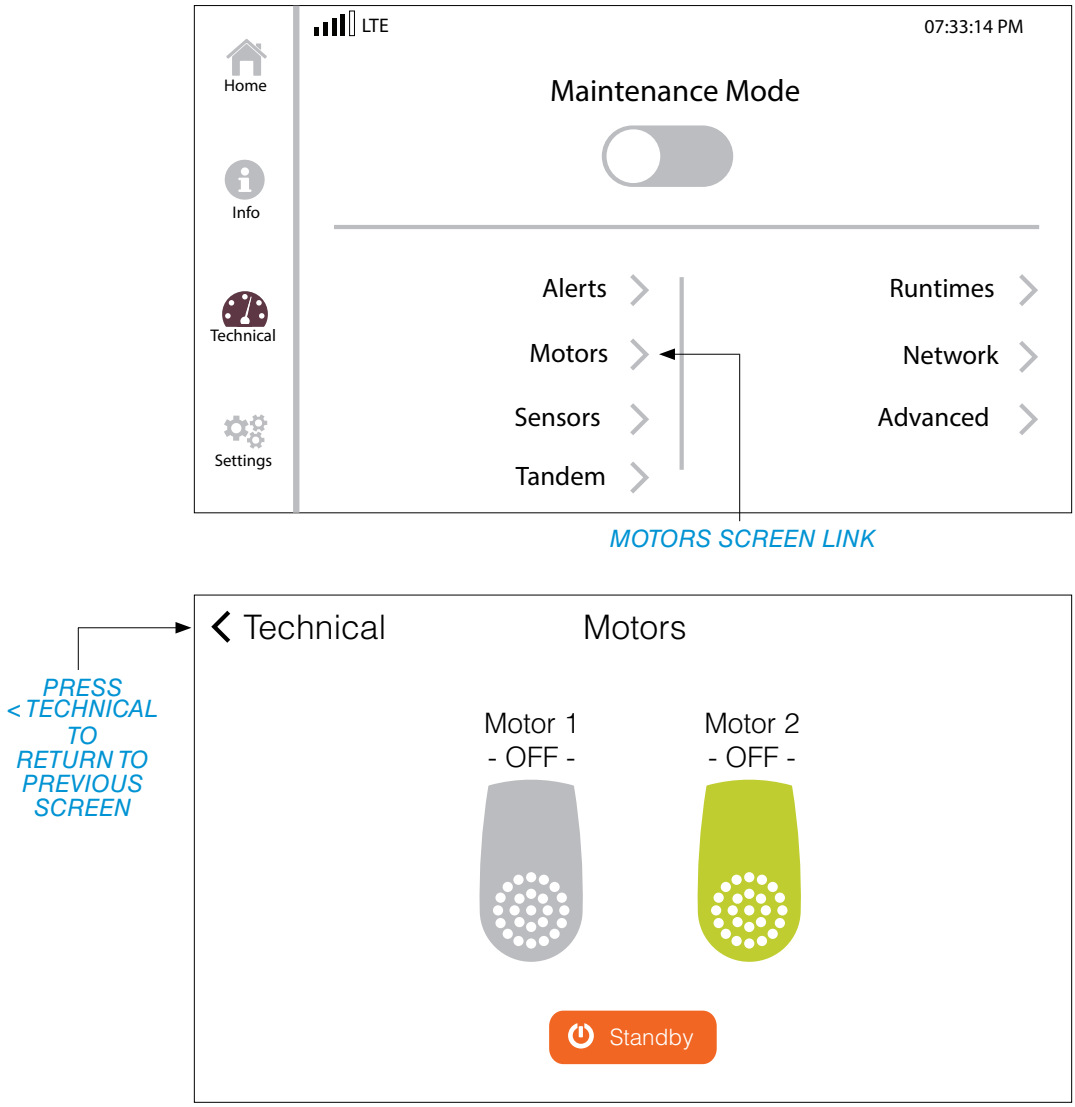


FIGURE 18. MOTORS SCREEN

TECHNICAL SCREEN (CONTINUED)

MOTORS (ON/STANDBY)

To switch the compressor system from STANDBY mode to ON, on the Motors screen, press the orange *STANDBY* switch. The switch will turn green and display ON. Pressing the green *ON* switch will return the compressor to STANDBY mode *(FIGURE 19)*.

The motors can be individually enabled or disabled by pressing the motor icon on the screen. The GRAY motor icon indicates that the motor is DISABLED and the GREEN motor icon indicates that the motor is ENABLED.

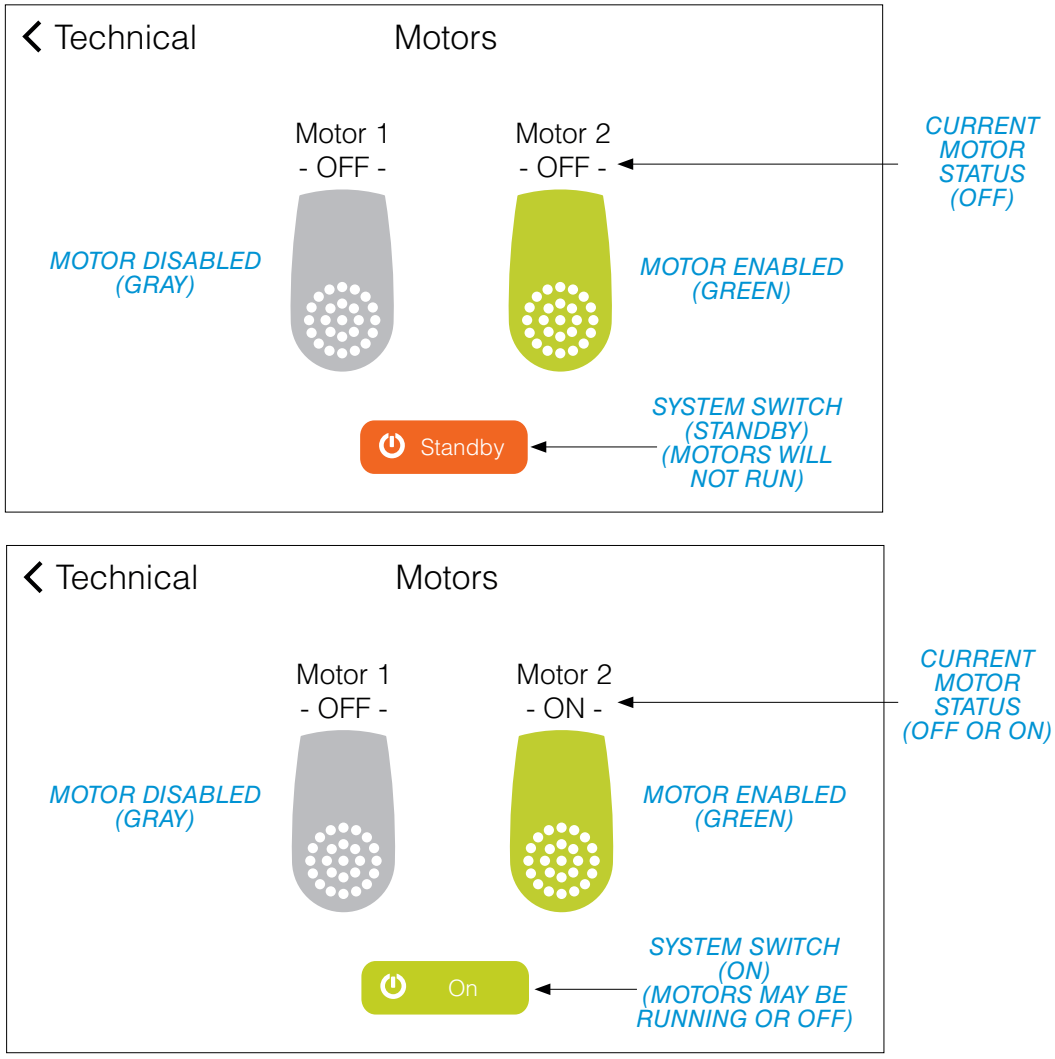


FIGURE 19. MOTORS SCREEN (STANDBY AND ON)

TECHNICAL SCREEN (CONTINUED)

SENSORS

To view the Sensors screen, on the Technical screen, press *SENSORS >*. This will open a new screen for viewing the sensors readings. Press the scroll bar located on the right to move the screen up and down *(FIGURE 20)*.

Press *< TECHNICAL* to return to the previous screen.

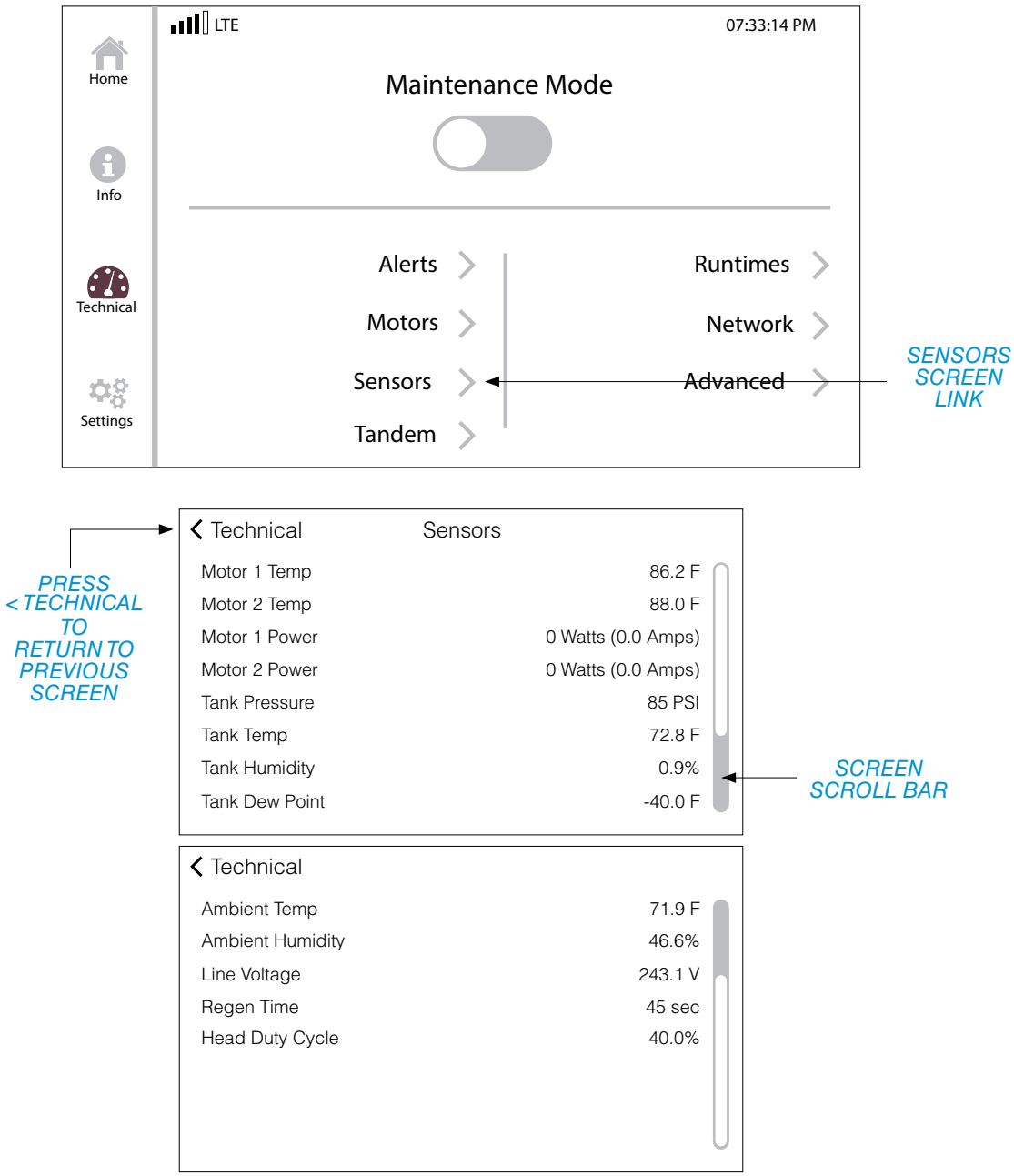


FIGURE 20. SENSORS SCREEN

TECHNICAL SCREEN (CONTINUED)

TANDEM

When compessors are put into tandem, they communicate locally with each other and work in a lead (central)–lag (peer) system to maintain facility suction while minimizing energy usage and device runtime.

NOTE: *The TANDEM > link will only display when a compressor has been added to a tandem group via the Aeras DENTALEZ Smart Utility website located at AERAS.DENTALEZ.COM.*

To view the Tandem screen, on the Technical screen, press *TANDEM >*. This will open the Tandem (central) or Tandem (peer) screen *(FIGURE 21)*.

Press *< TECHNICAL* to return to the previous screen.

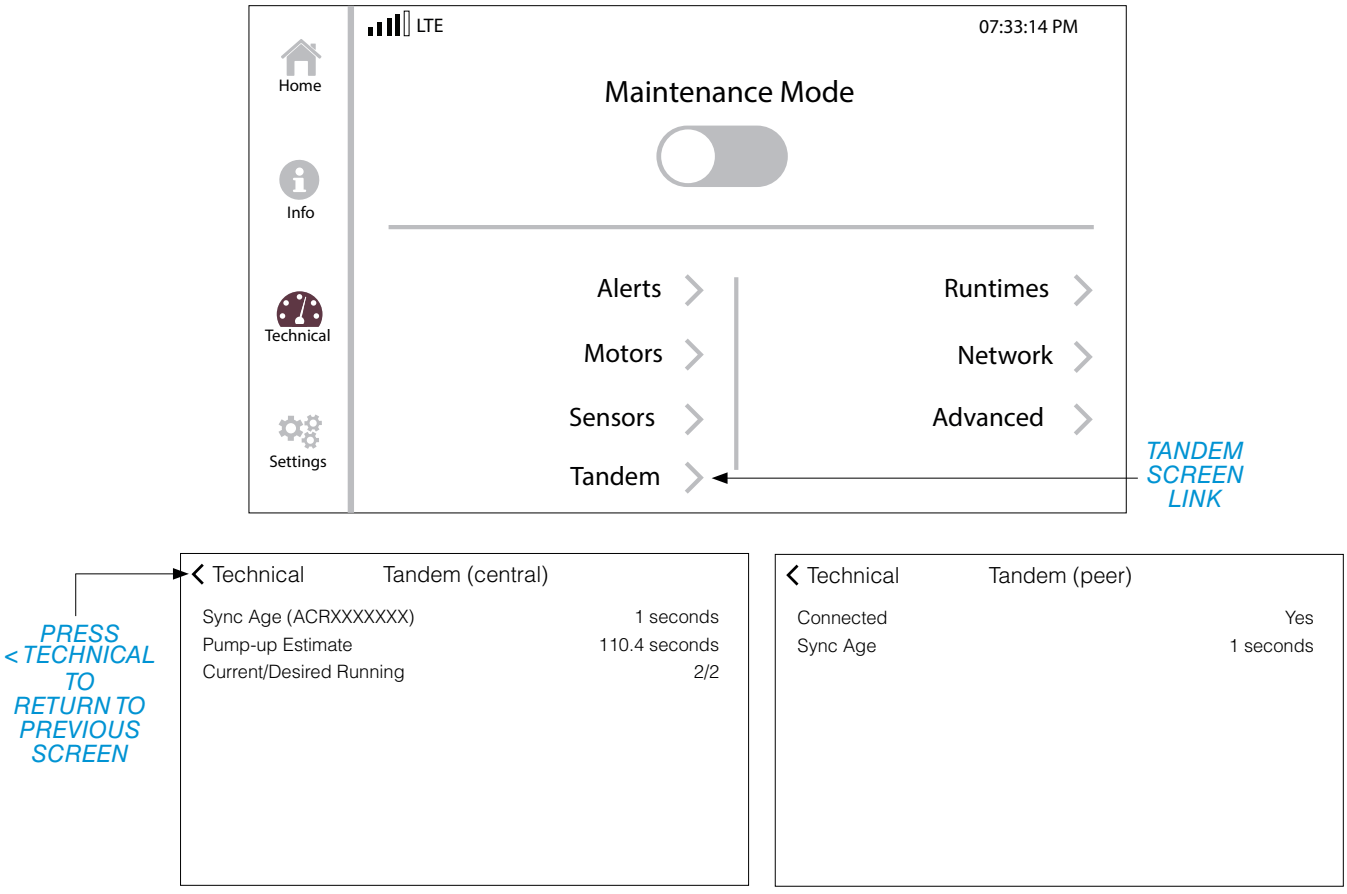


FIGURE 21. TANDEM (CENTRAL) AND TANDEM (PEER) SCREENS

TECHNICAL SCREEN (CONTINUED)

RUNTIMES

To view the Runtimes screen, on the Technical screen, press *RUNTIMES >*. This will open a new screen for viewing runtimes. Use the scroll bar located on the right to move the screen up and down *(FIGURE 22)*.

Press *< TECHNICAL* to return to the previous screen.

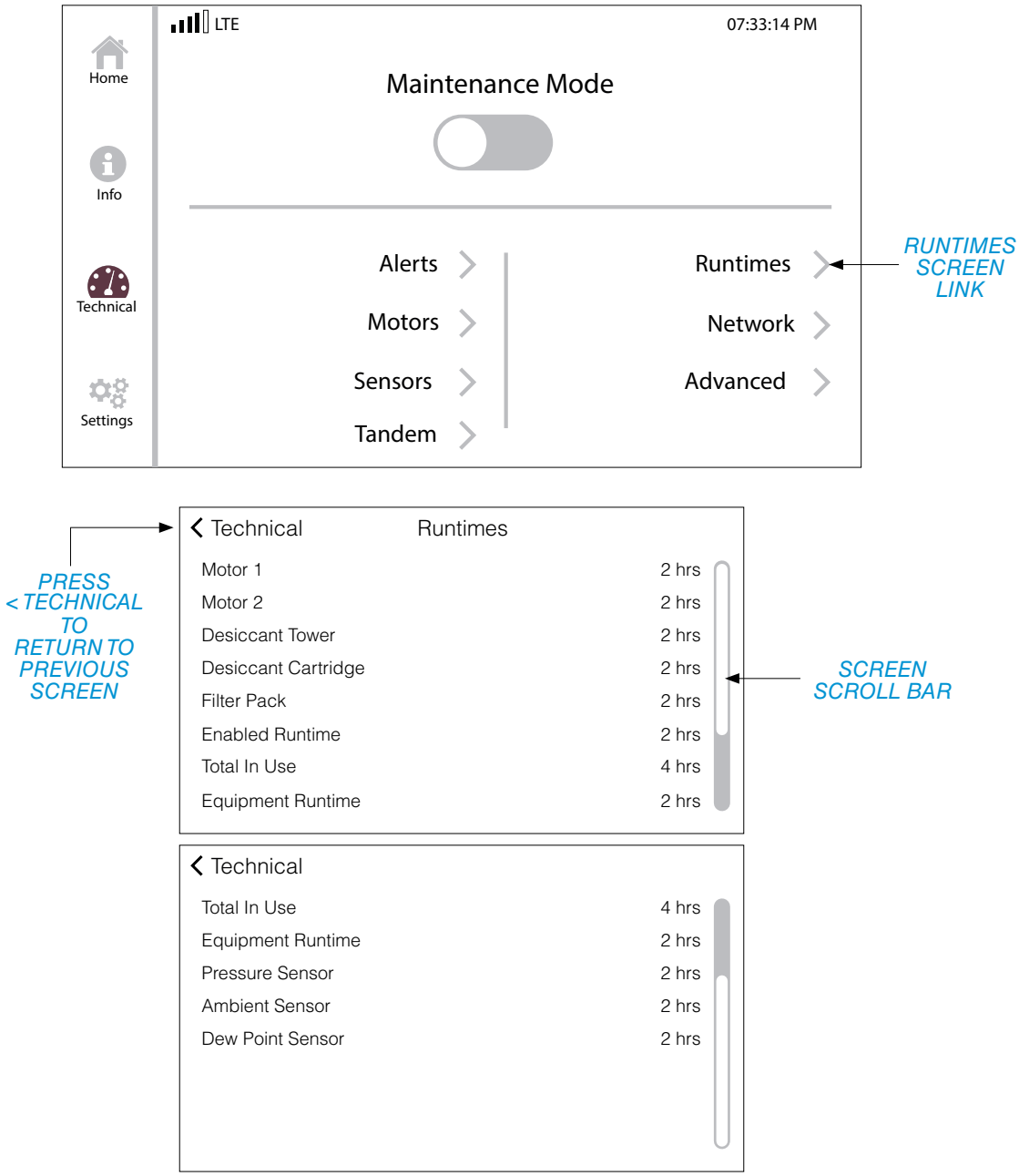


FIGURE 22. RUNTIMES SCREEN

TECHNICAL SCREEN (CONTINUED)

NETWORK

To view network status information, on the Technical screen, press *NETWORK >*. This will open the Network Info screen *(FIGURE 23)*.

The Network Information screen of the control panel displays the following information:

- Access type (LTE-M)
- Signal Strength
- Quality
- Latency (Amount of delay (or time) it takes to send information from one point to the next (milliseconds)

Press *< TECHNICAL* to return to the previous screen.

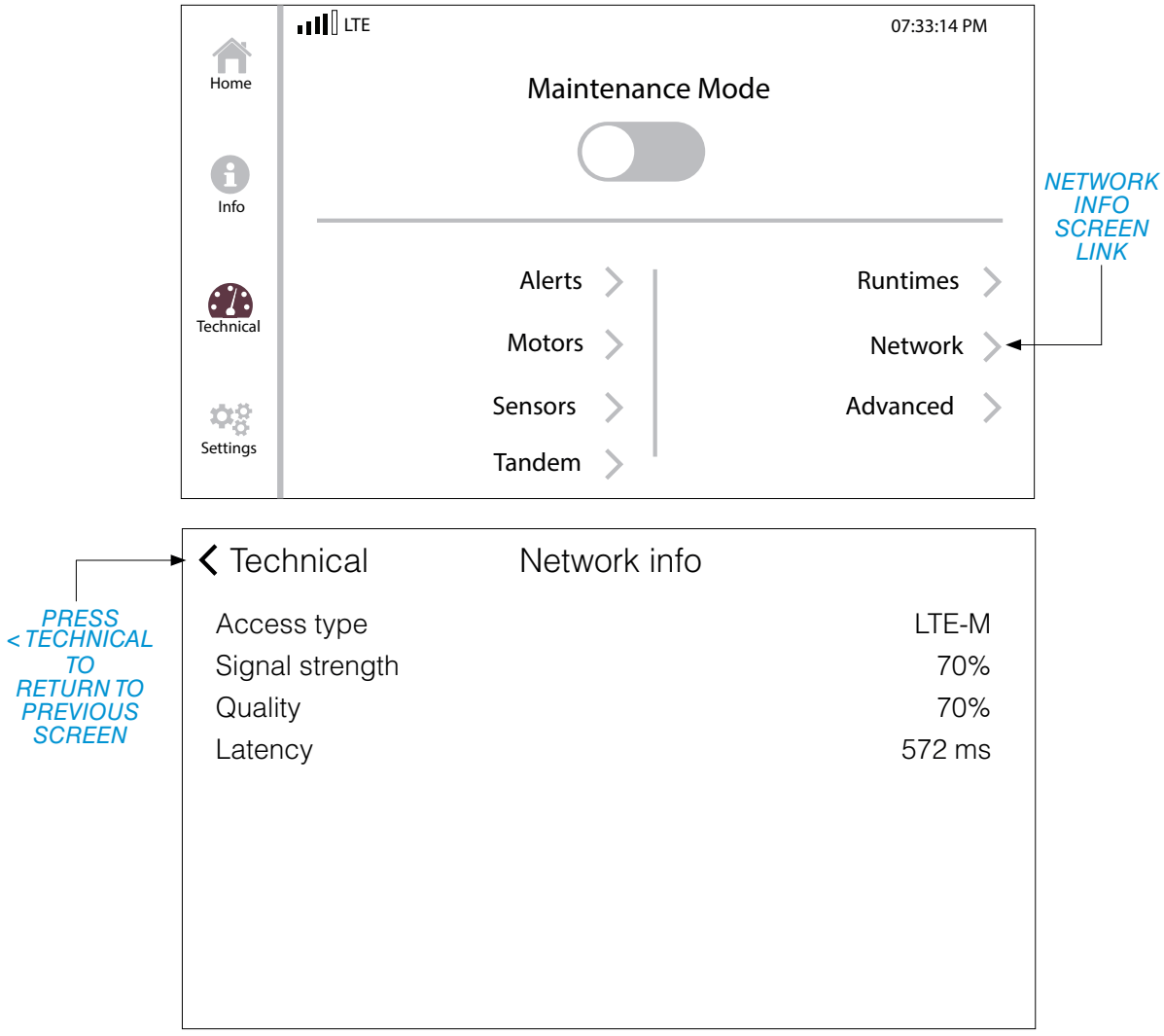


FIGURE 23. NETWORK INFORMATION SCREEN

TECHNICAL SCREEN (CONTINUED)

ADVANCED

To view the Advanced options screen, on the Technical screen, press *ADVANCED >*. This will open a new screen showing the *HIGH-PRESSURE MODE* switch and the *POWER UP OVERRIDE* switch *(FIGURE 24)*.

⚠CAUTION High-pressure mode should only be activated when supplying to a dedicated milling maching that requires higher pressure.

To enable high-pressure mode, on the Technical screen, press the gray *HIGH-PRESSURE MODE* switch. The switch will turn green, indicating that the compressor's high-pressure mode is ON. Pressing the green switch will turn the high-pressure mode OFF.

Press *< TECHNICAL* to return to the previous screen.

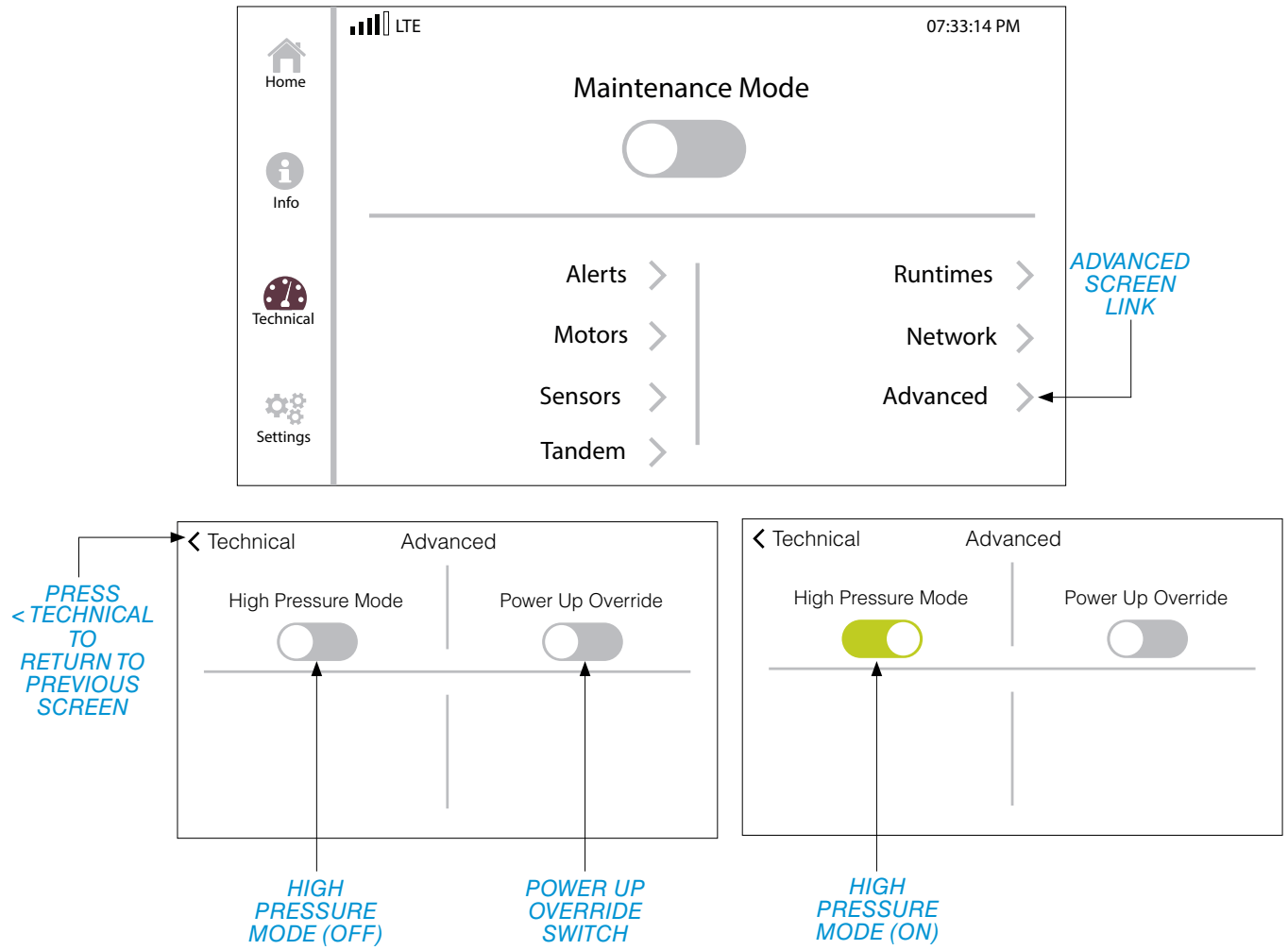


FIGURE 24. ADVANCED OPTIONS SCREEN

TECHNICAL SCREEN (CONTINUED)

MAINTENANCE MODE (ENABLE)

In order to perform maintenance tasks on the compressor, maintenance mode must be enabled. **This will disable remote switching and put the system in STANDBY mode.** To enable maintenance mode, on the Technical screen, press the gray *MAINTENANCE MODE* switch. The switch will turn green, indicating that the compressor is now in maintenance mode. The *SERVICE* screen link will also become available *(FIGURE 25)*.

While in maintenance mode, the system can be switched from STANDBY mode to ON mode, and back again as needed.

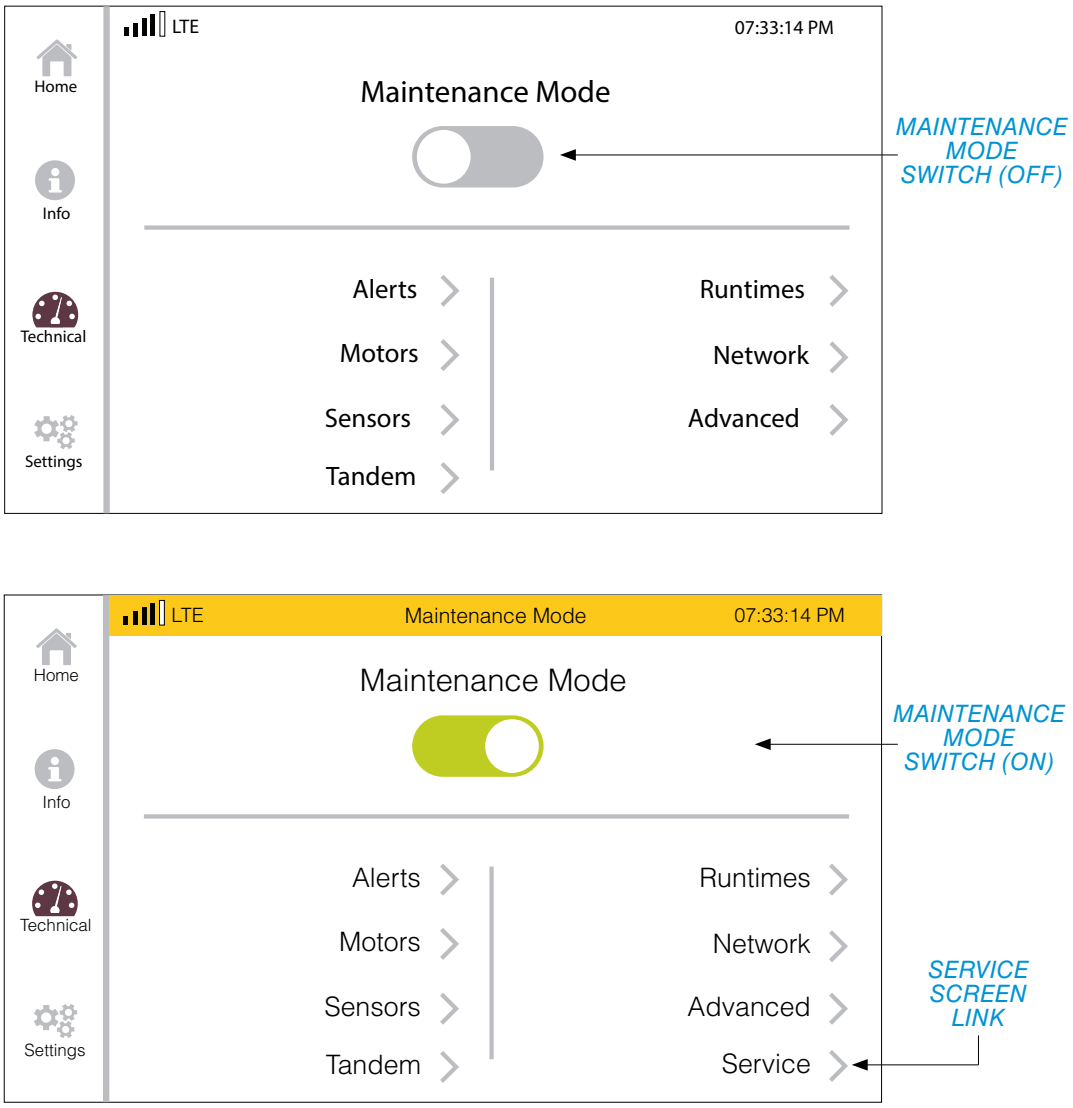


FIGURE 25. MAINTENANCE MODE ENABLE SCREENS

TECHNICAL SCREEN (CONTINUED)

MAINTENANCE MODE (DISABLE)

To exit maintenance mode, press the green *MAINTENANCE MODE* switch. This will open a new screen asking if there are any service items to record. Pressing *YES* will open the Service screen. Pressing *NO* will return to the Technical screen where maintenance mode will be turned OFF. Turning OFF maintenance mode enables remote switching, but does not return the system to ON mode. *(FIGURE 26)*.

When maintenance is complete, on the Home screen, switch compressor system from STANDBY to ON.

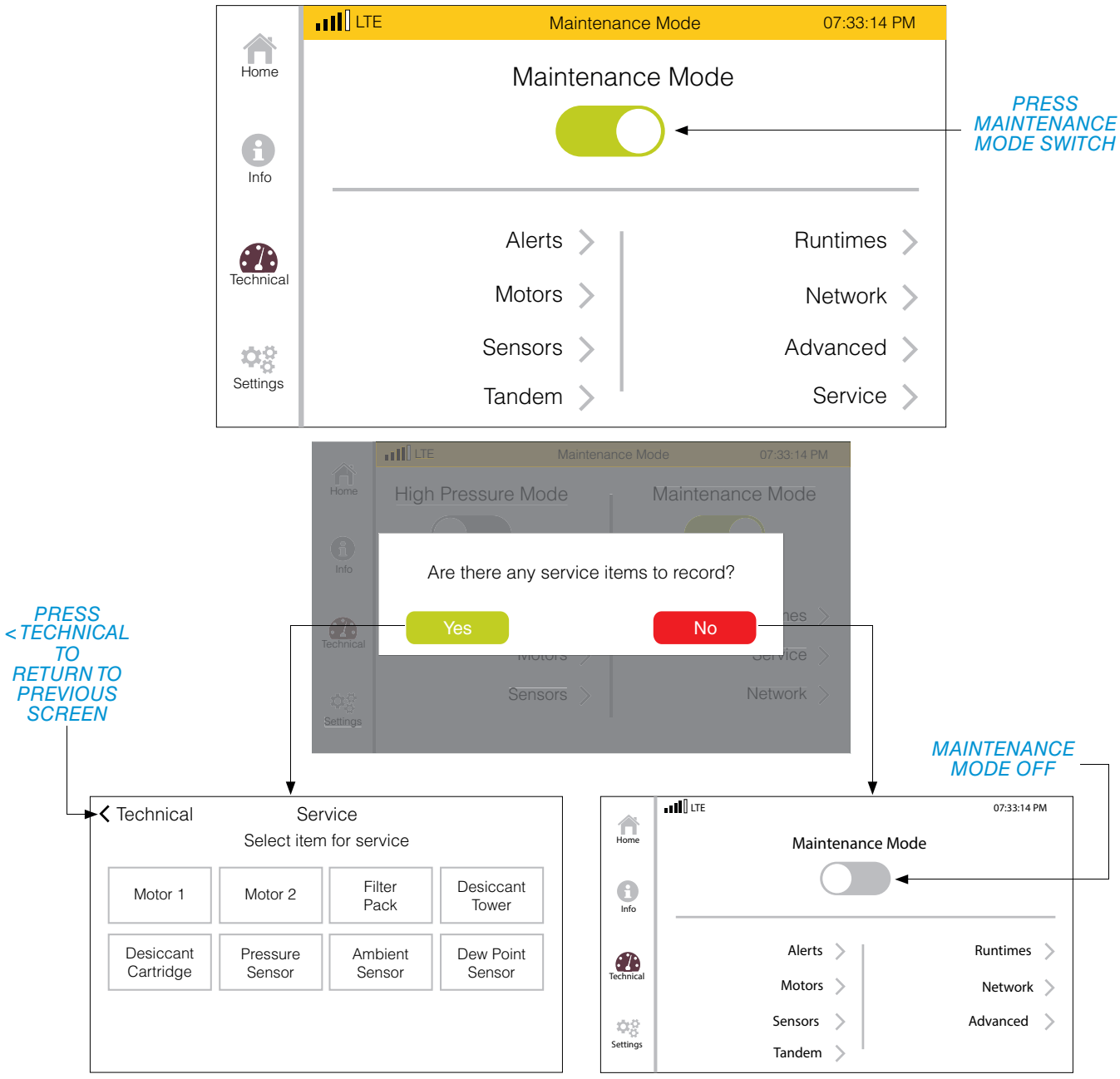


FIGURE 26. MAINTENANCE MODE DISABLE SCREENS

TECHNICAL SCREEN (CONTINUED)

MAINTENANCE MODE > SERVICE

To view the Service screen, on the Technical screen, press *SERVICE >*. This will open a new screen showing the service options that are available *(FIGURE 27)*.

Press *< TECHNICAL* to return to the previous screen.

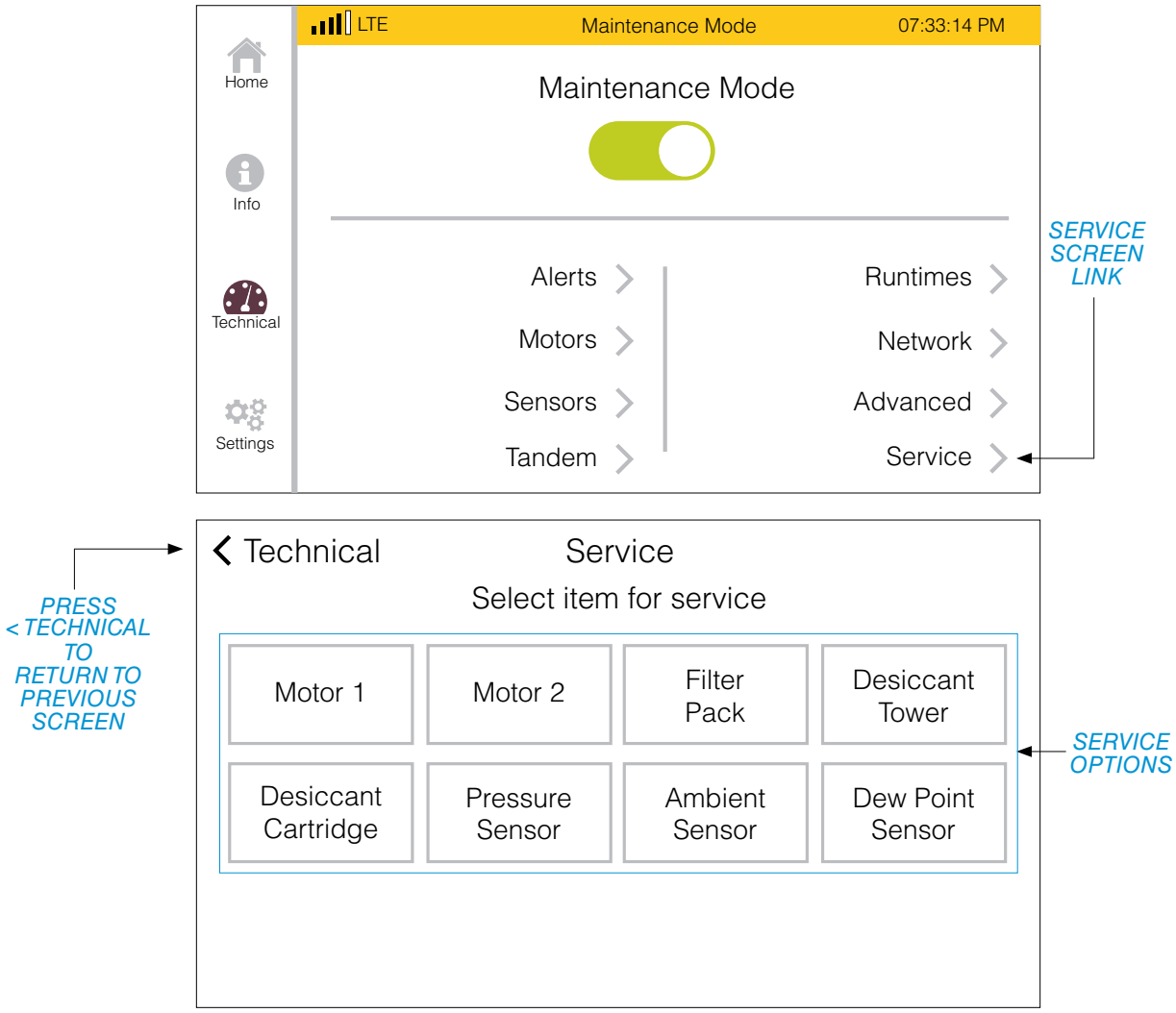


FIGURE 27. SERVICE OPTIONS SCREEN

TECHNICAL SCREEN (CONTINUED)

MAINTENANCE MODE > SERVICE > MOTORS

When replacing a motor on the compressor, a replacement serial number will need to be manually entered, which will reset current runtime. On the Service screen, press the motor being replaced (for this example, *MOTOR 1*). This will open the Motor 1 screen showing current runtime and current or replacement serial numbers Press *ENTER SERIAL NUMBER >*. This will open the Serial Number data entry screen. Using the numeric key pad, enter the replacement serial number (for this example, *1234567890*). Press *< MOTOR 1* to return to the previous screen *(FIGURE 28)*.

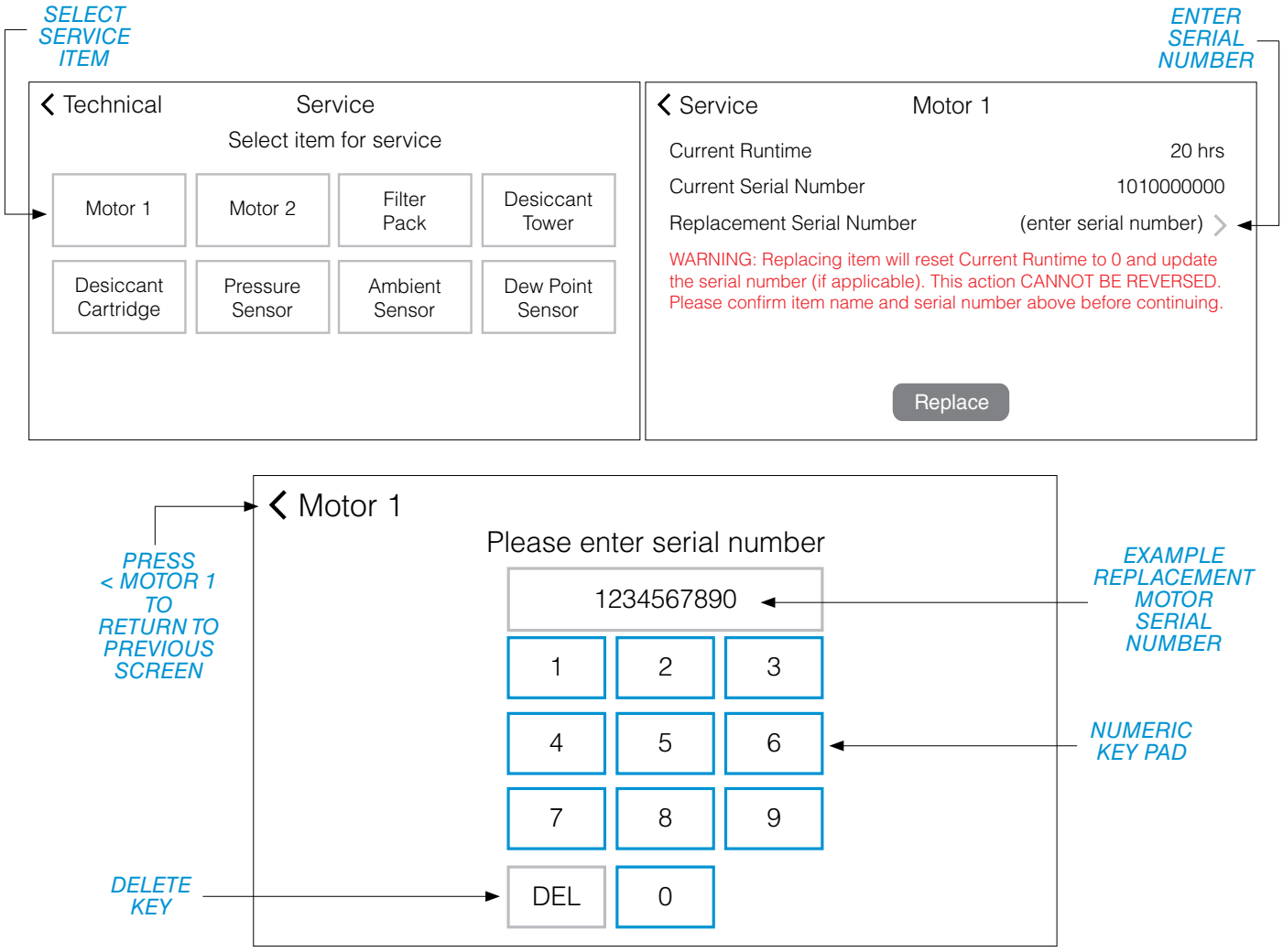


FIGURE 28. MOTOR 1 REPLACEMENT SCREENS

(Continued on the next page.)

TECHNICAL SCREEN (CONTINUED)

MAINTENANCE MODE > SERVICE > MOTORS

(Continued from the previous page.)

Confirm the item name (Motor 1), the replacement serial number (1234567890) and press *REPLACE.*

Press *OK* to replace Motor 1 and return to the Service screen, or press *CANCEL* to cancel the serial number replacement/runtime reset and return to the Motor 1 screen *(FIGURE 29)*.

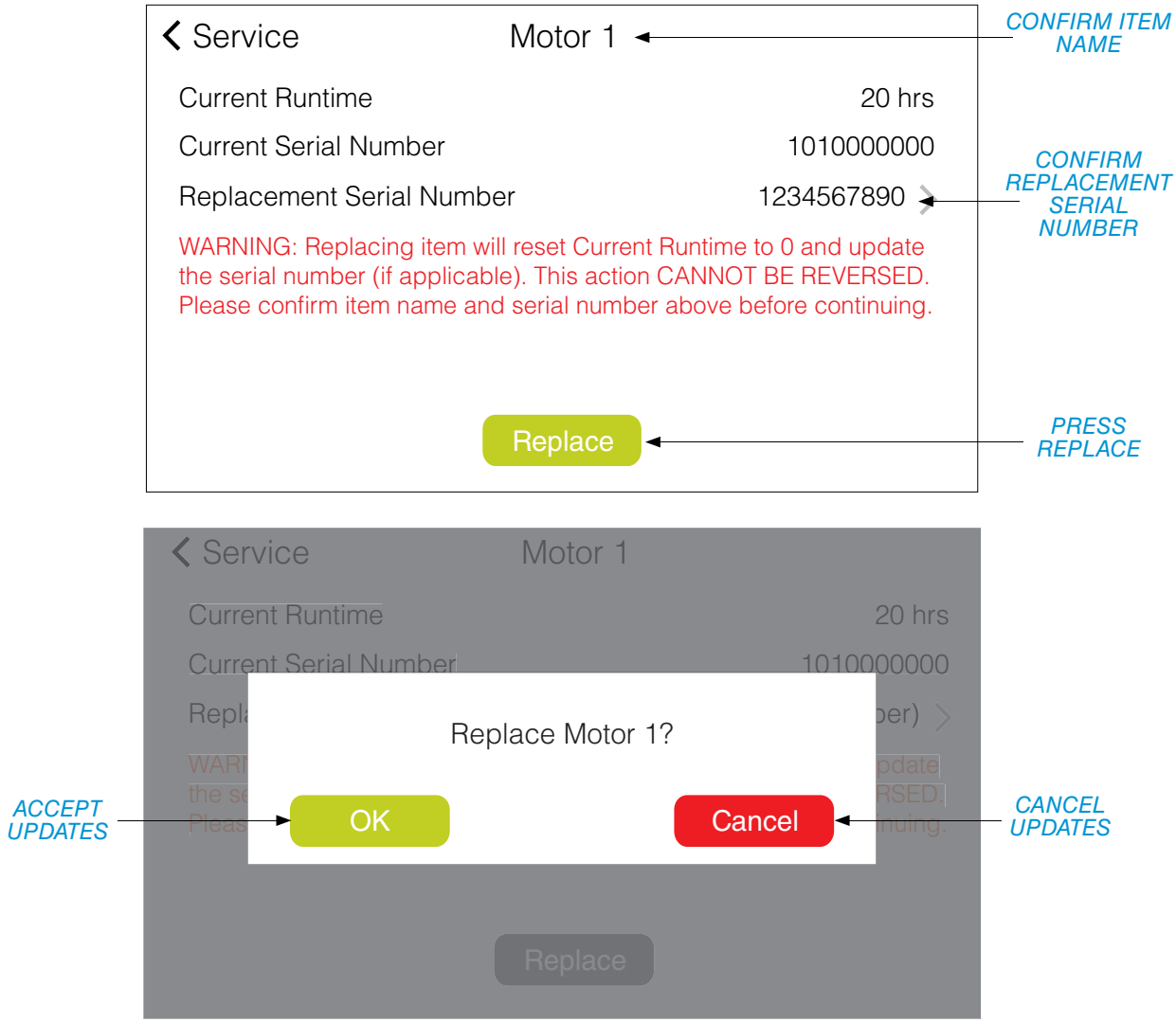


FIGURE 29. MOTOR 1 REPLACEMENT SCREENS

TECHNICAL SCREEN (CONTINUED)

MAINTENANCE MODE > SERVICE > FILTER PACK

After replacing filter pack, the current and remaining runtimes will need to be reset. On the Service screen, press *FILTER PACK*. This will open the Filter Pack screen showing current, max and remaining runtimes. Press *REPLACE*. Press *OK* to replace filter pack and return to the Service screen, or press *CANCEL* to cancel the runtimes reset and return to the Filter Pack screen *(FIGURE 30)*.



FIGURE 30. FILTER PACK REPLACEMENT SCREENS

TECHNICAL SCREEN (CONTINUED)

MAINTENANCE MODE > SERVICE > DESICCANT TOWER

When replacing a desiccant tower on the compressor, a replacement serial number will need to be manually entered, which will reset current and remaining runtimes. On the Service screen, press *DESICCANT TOWER*. This will open the Desiccant Tower screen, showing current, max and remaining runtimes, as well as the current and replacement serial number. Press *ENTER SERIAL NUMBER >*. This will open the Serial Number data entry screen. Using the numeric key pad, enter the replacement serial number (for this example, *1234567890*). Press *< DESICCANT TOWER* to return to the previous screen *(FIGURE 31)*.

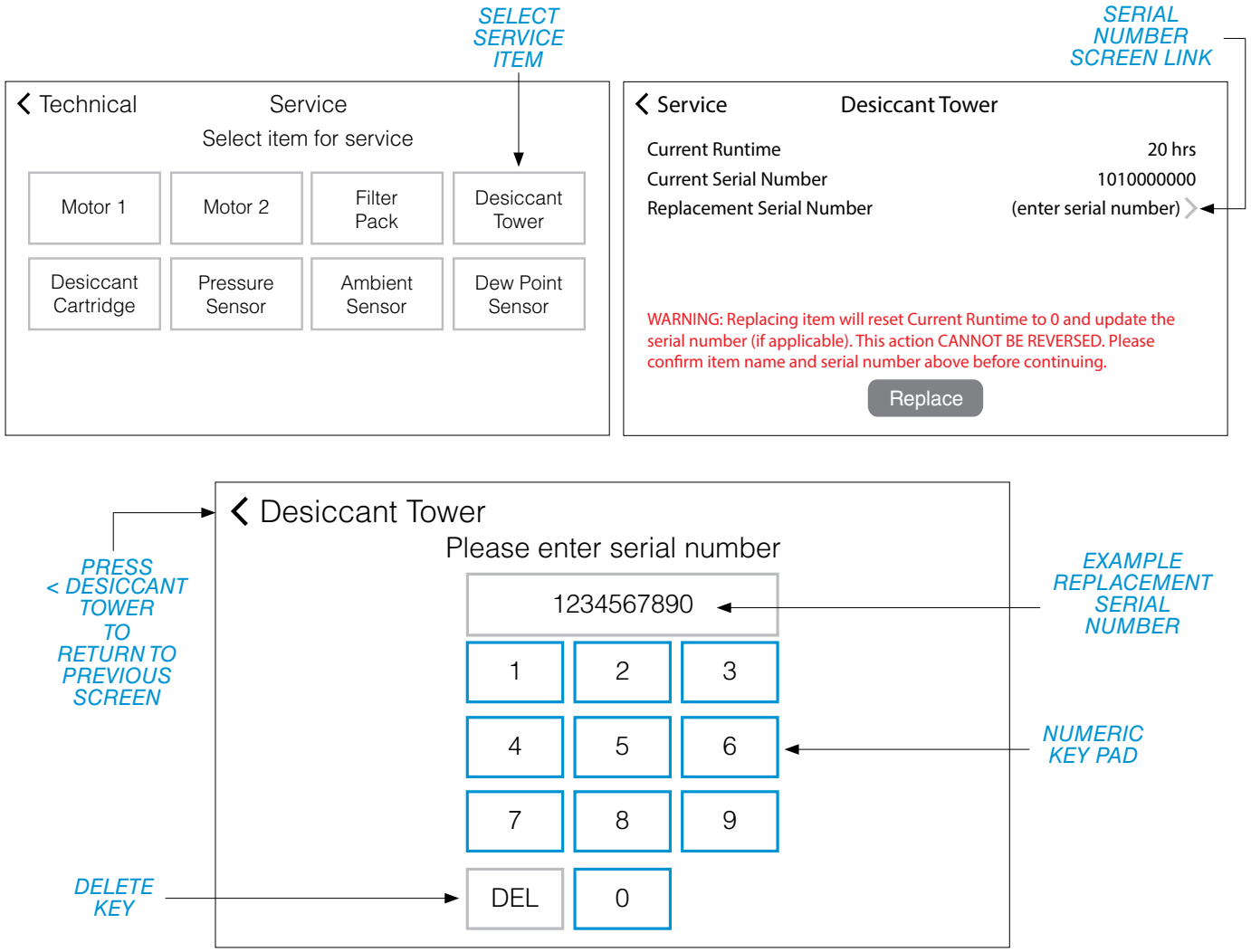


FIGURE 31. DESICCANT TOWER REPLACEMENT SCREENS

(Continued on the next page.)

TECHNICAL SCREEN (CONTINUED)

MAINTENANCE MODE > SERVICE > DESICCANT TOWER

(Continued from the previous page.)

Confirm the item name (Desiccant Tower) and the replacement serial number (1234567890) and press *REPLACE.*

Press *OK* to replace Desiccant Tower and return to the Service screen, or press *CANCEL* to cancel the serial number replacement/runtimes reset and return to the Desiccant Tower screen *(FIGURE 32)*.

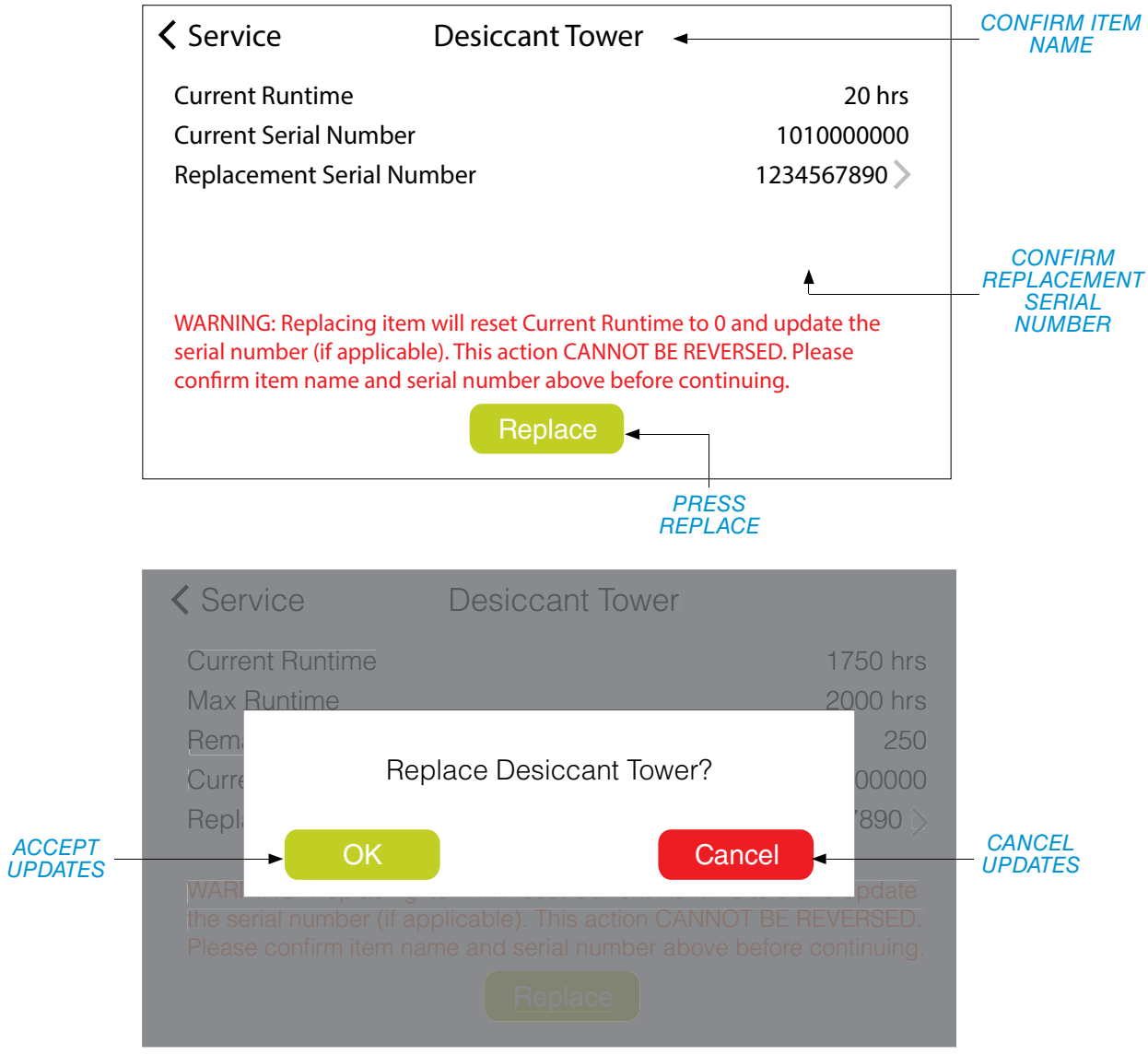


FIGURE 32. DESICCANT TOWER REPLACEMENT SCREENS

TECHNICAL SCREEN (CONTINUED)

MAINTENANCE MODE > SERVICE > DESICCANT CARTRIDGE

After replacing the desiccant cartridge, the current and remaining runtimes will need to be reset. On the Service screen, press *DESICCANT CARTRIDGE*. This will open the Desiccant Cartridge screen showing current, max and remaining runtimes. Press *REPLACE*. Press *OK* to replace desiccant cartridge and return to Service screen, or press *CANCEL* to cancel the runtimes reset and return to the Desiccant Cartridge screen *(FIGURE 33)*.

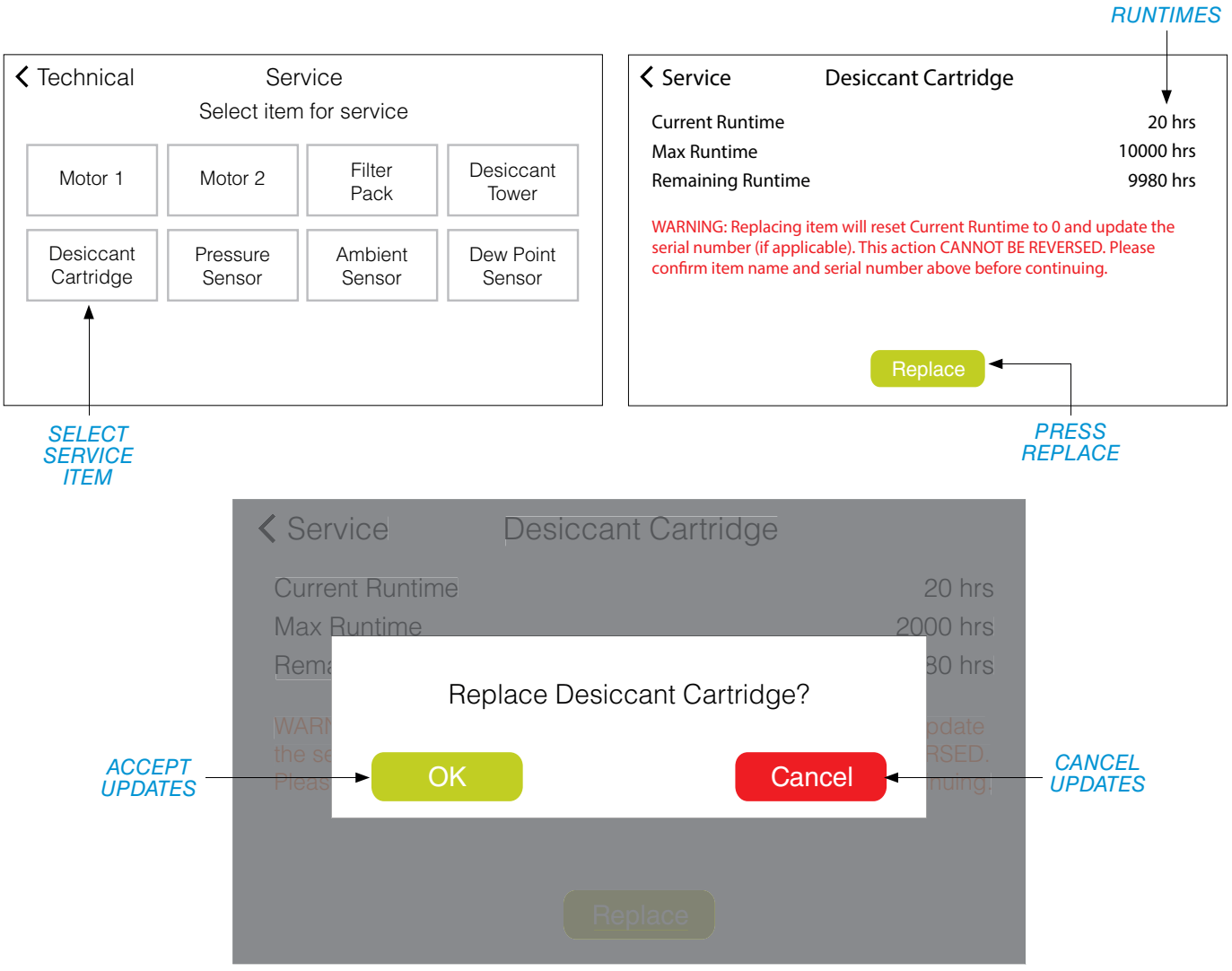


FIGURE 33. DESICCANT CARTRIDGE REPLACEMENT SCREENS

TECHNICAL SCREEN (CONTINUED)

MAINTENANCE MODE > SERVICE > PRESSURE SENSOR

After replacing pressure sensor, the current runtime will need to be reset. On the Service screen, press *PRESSURE SENSOR*. This will open the Pressure Sensor screen showing current runtime. Press *REPLACE*. Press *OK* to replace pressure sensor and return to Service screen, or press *CANCEL* to cancel runtime reset and return to Pressure Sensor screen *(FIGURE 34)*.

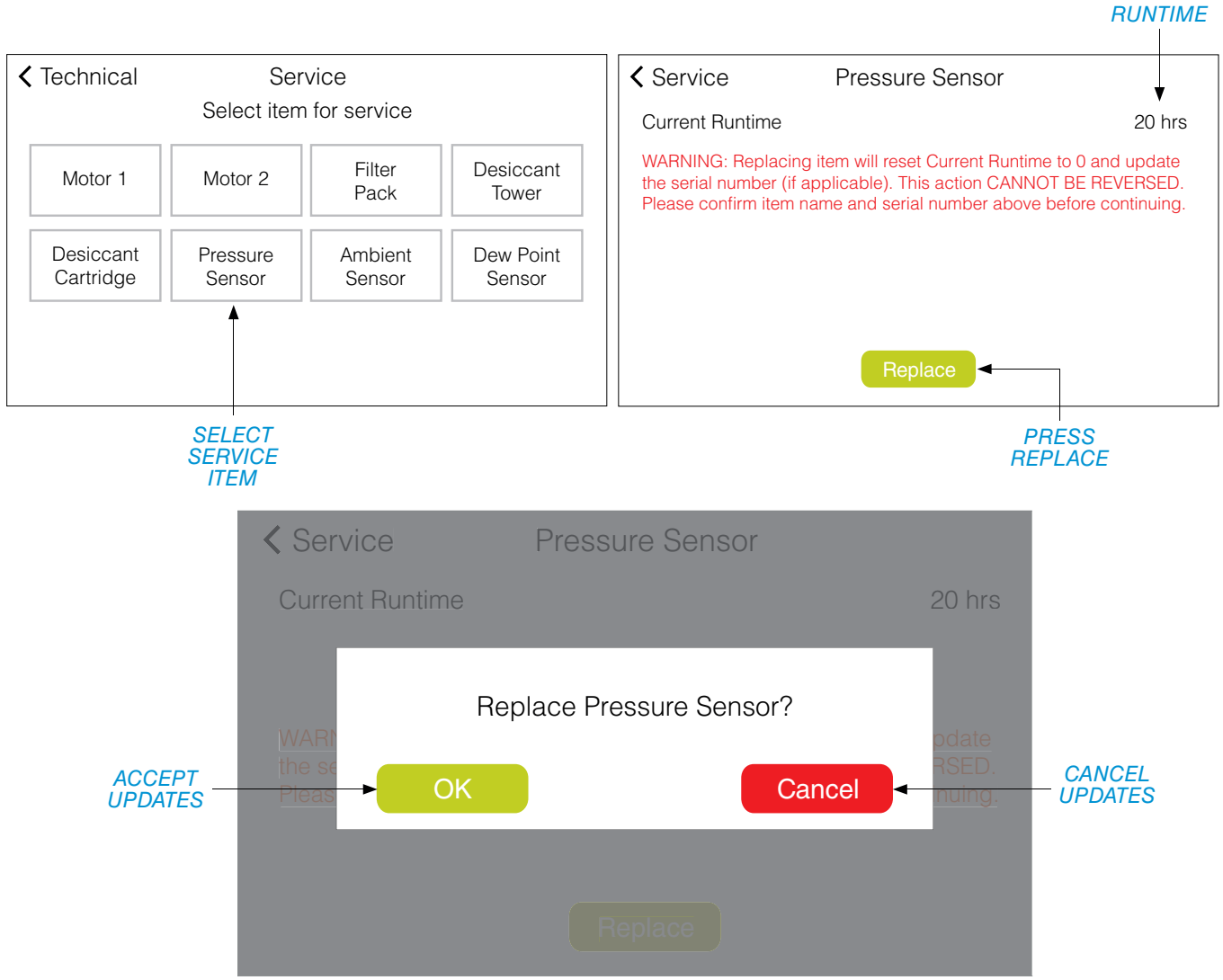


FIGURE 34. PRESSURE SENSOR REPLACEMENT SCREENS

TECHNICAL SCREEN (CONTINUED)

MAINTENANCE MODE > SERVICE > AMBIENT SENSOR

After replacing ambient sensor, the current runtime will need to be reset. On the Service screen, press *AMBIENT SENSOR*. This will open the Ambient Sensor screen showing current runtime. Press *REPLACE*. Press *OK* to replace ambient sensor and return to Service screen, or press *CANCEL* to cancel runtime reset and return to Ambient Sensor screen *(FIGURE 35)*.

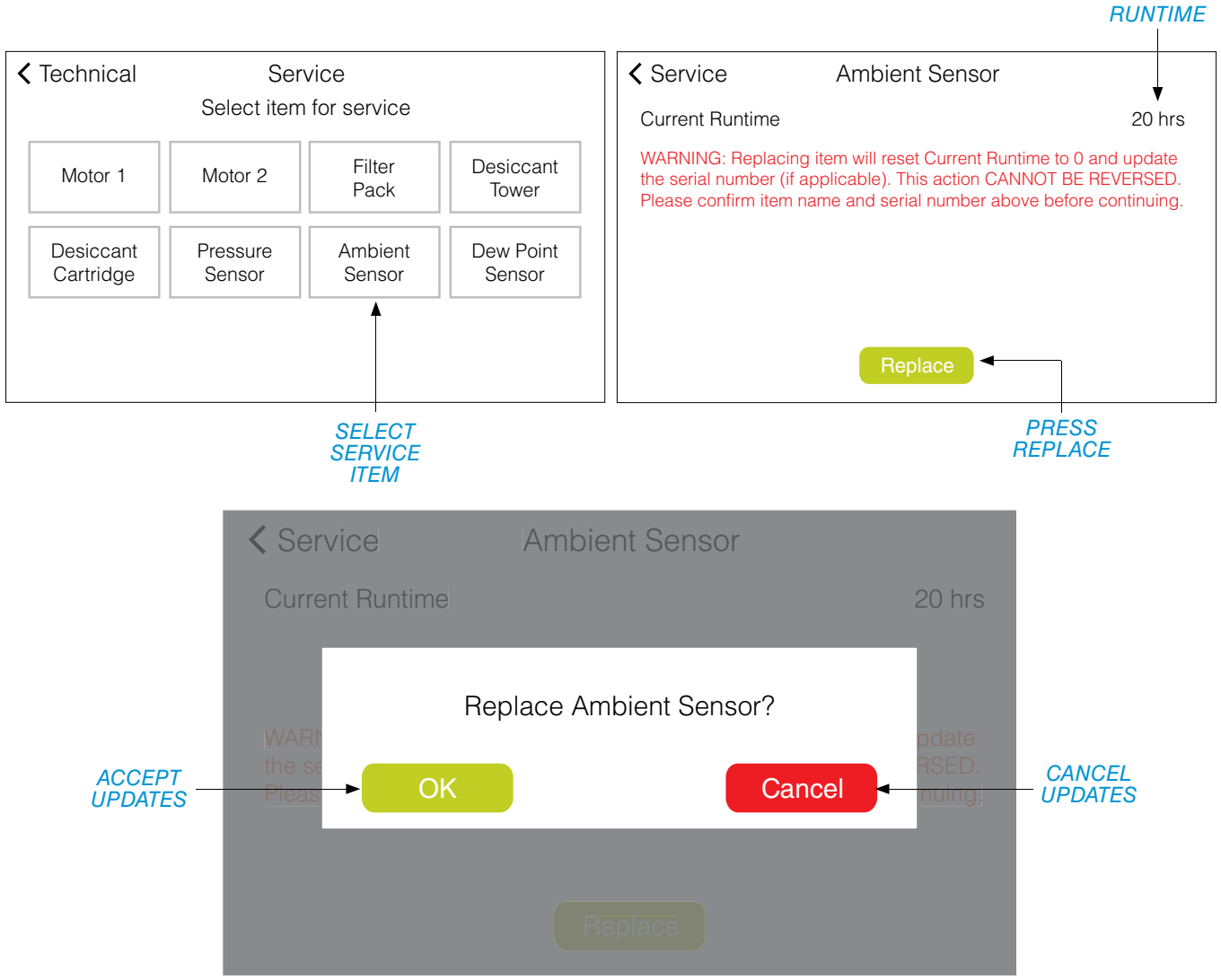


FIGURE 35. AMBIENT SENSOR REPLACEMENT SCREENS

TECHNICAL SCREEN (CONTINUED)

MAINTENANCE MODE > SERVICE > DEW POINT SENSOR

After replacing the dew point sensor, the current runtime will need to be reset. On the Service screen, press *DEW POINT SENSOR*. This will open the Dew Point Sensor screen showing current runtime. Press *REPLACE*. Press *OK* to replace dew point sensor and return to Service screen, or press *CANCEL* to cancel runtime reset and return to Dew Point Sensor screen *(FIGURE 36)*.

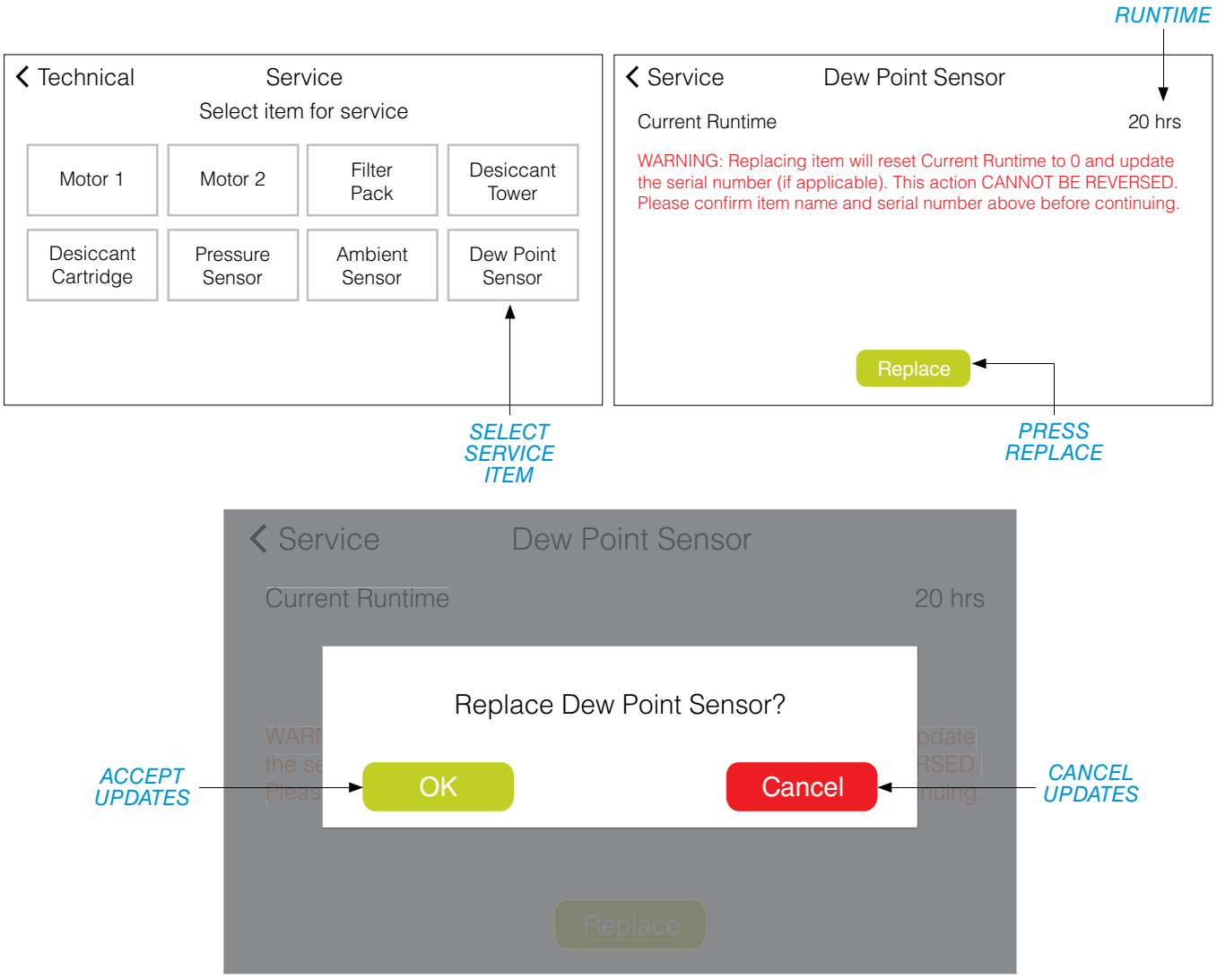


FIGURE 36. DEW POINT SENSOR REPLACEMENT SCREENS

SETTINGS SCREEN

The Setting screen of the control panel displays the following information *(FIGURE 37)*:

- Main navigational menu links: *HOME*, *INFO*, *TECHNICAL*, *and SETTINGS*
- Wireless signal strength indicator
- Time of day
- *SMART SCHEDULE* switch
- *METRIC* switch
- *SCHEDULE* screen link (Web app enabled)
- *DATE & TIME* screen link
- *RESET* link to restore system defaults (this cannot be undone)

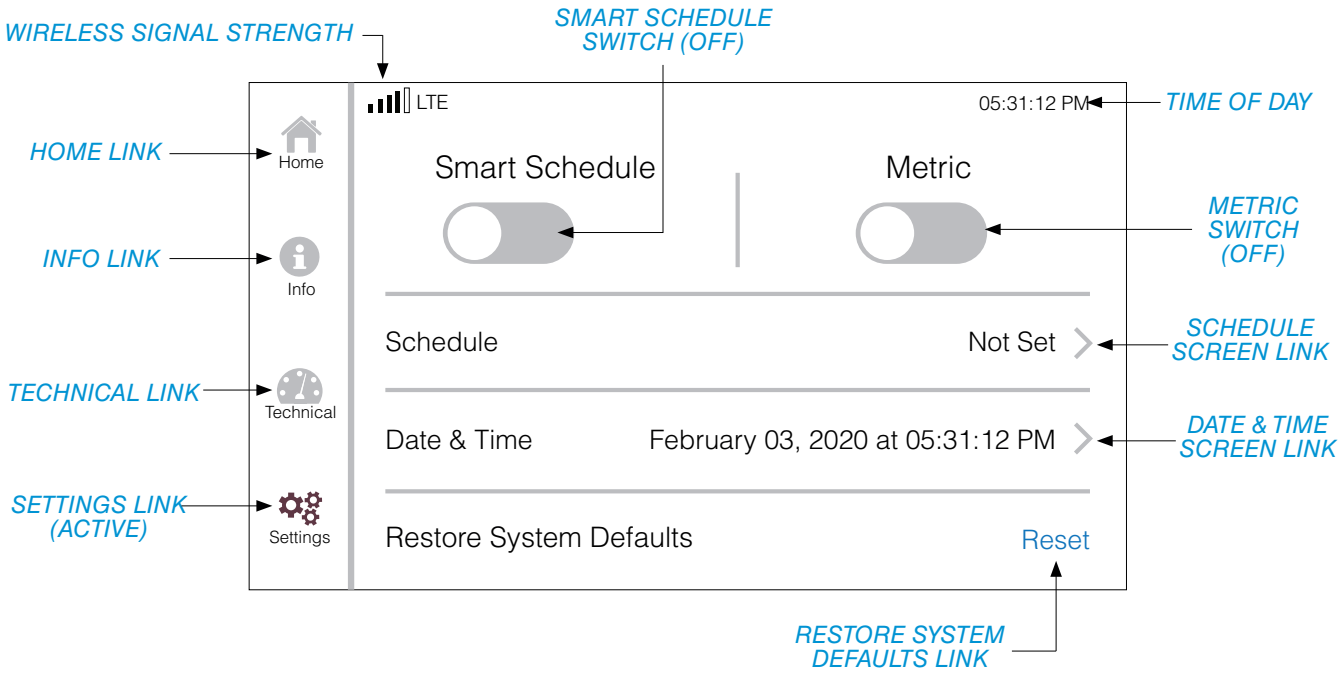


FIGURE 37. SETTINGS SCREEN

SETTINGS SCREEN (CONTINUED)

SMART SCHEDULE SWITCH

To enable the compressor schedule, on the Settings screen, press the *SMART SCHEDULE* switch. The switch will turn green, indicating that the compressor schedule is ON. Pressing the green switch will turn the schedule OFF *(FIGURE 38)*.

NOTE: *Setting the compressor schedule must be done via the Aeras DENTALEZ Smart Utility website located at AERAS.DENTALEZ.COM. The Smart Schedule detects usage and will keep the system running beyond the scheduled standby time, for up to one hour.*

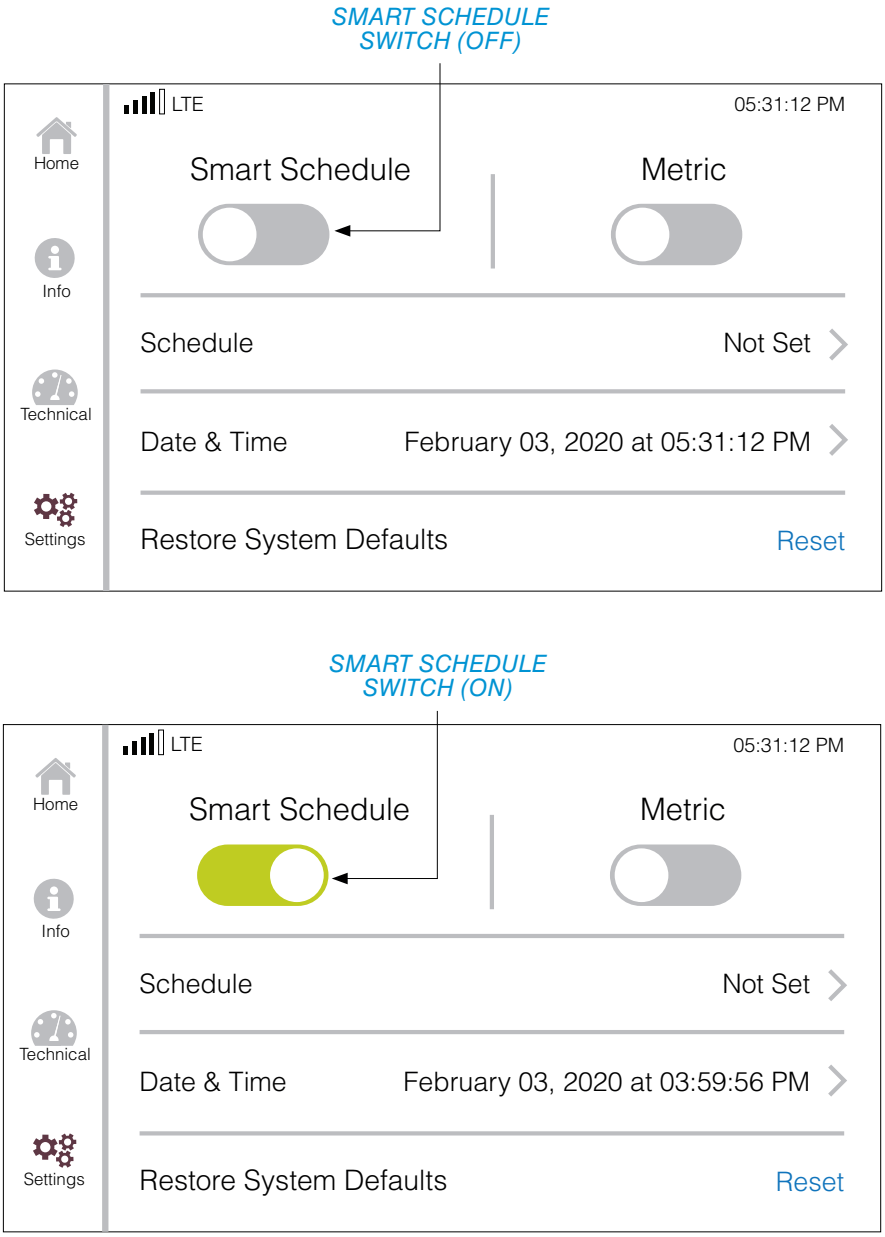


FIGURE 38. SMART SCHEDULE SWITCH

SETTINGS SCREEN (CONTINUED)

SCHEDULE

To view the Schedule screen, on the Settings screen, press *SCHEDULE > (FIGURE 39)*.

Press *< SETTINGS* to return to the previous screen.

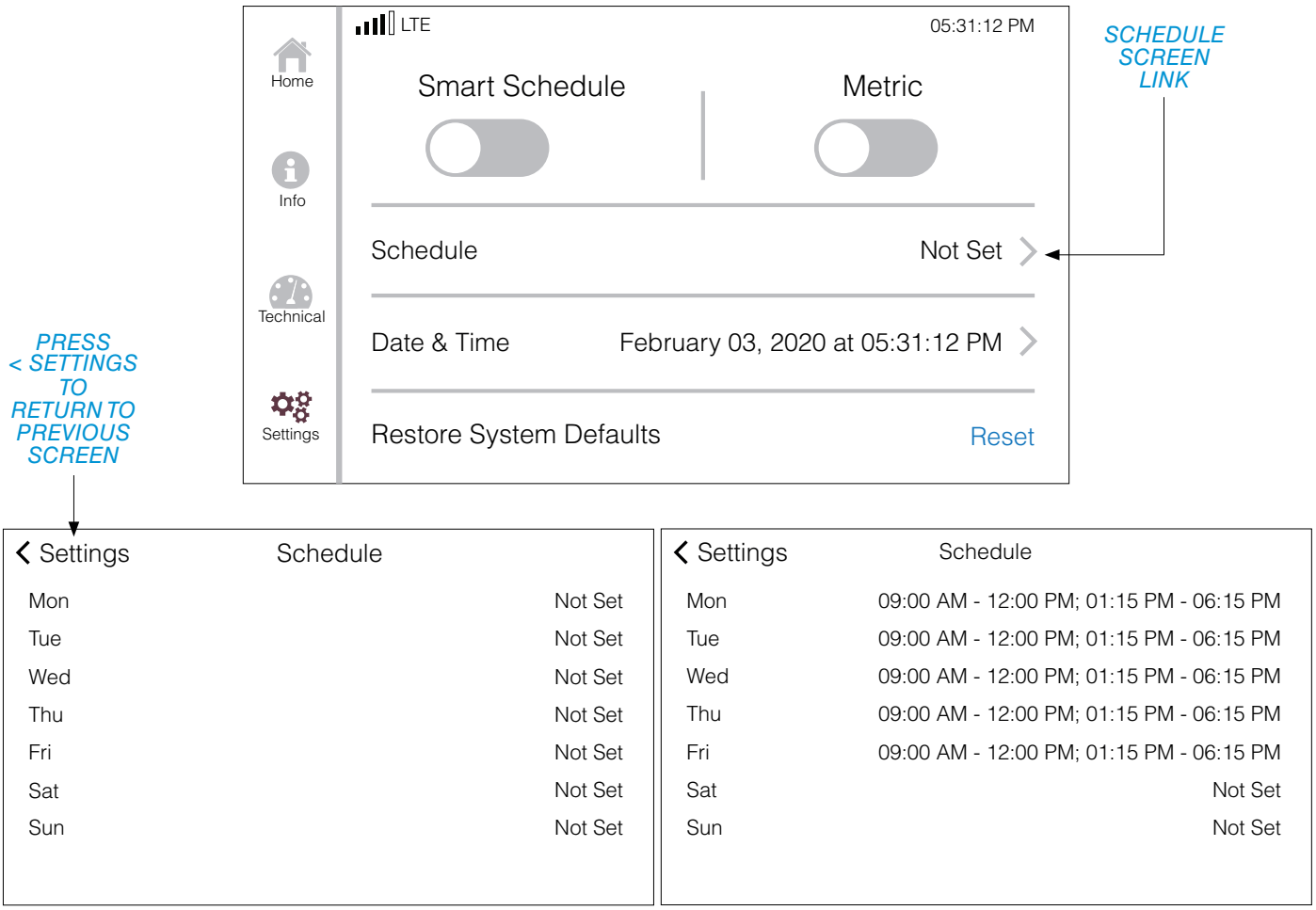


FIGURE 39. SCHEDULE SCREENS WITH NO SCHEDULE SET (LEFT) AND SCHEDULE SET (RIGHT)

SETTINGS SCREEN (CONTINUED)

DATE & TIME (AUTO SET)

When the Aeras control is connected to a network (noted by wireless signal strength indicator bars), the date and time are automatically set in the system. The only adjustable options available on the date and time screen, while connected to a network, are *ZONE*, *AUTOMATIC DST*, and *TZ+0:30* (UTC time offset 30 minutes ahead).

To manually set these options, on the Settings screen, press *DATE & TIME > (FIGURE 40)*.

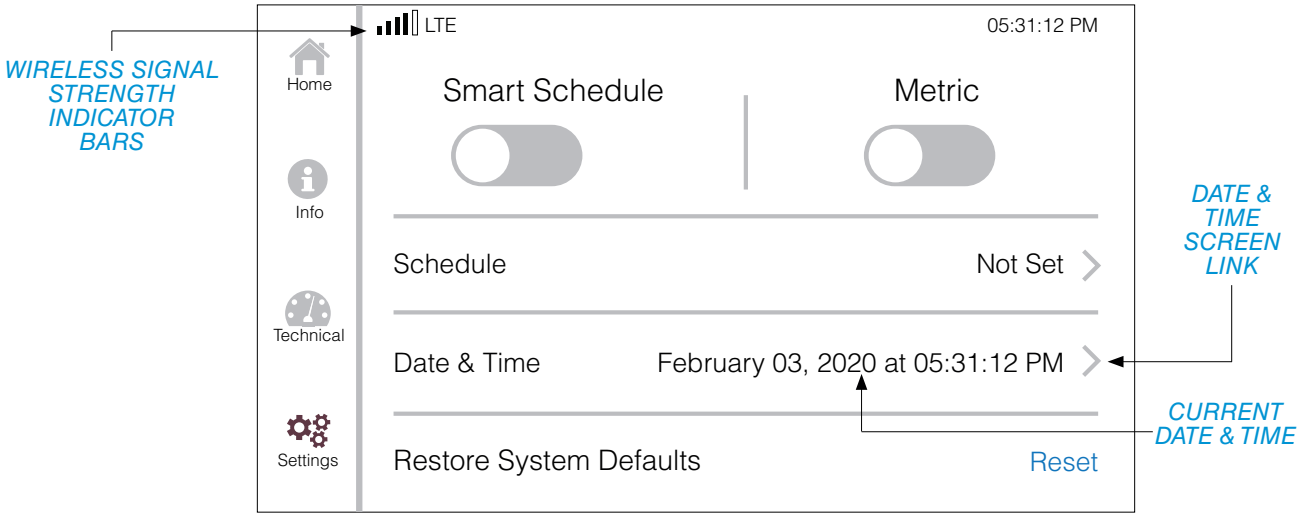


FIGURE 40. SETTINGS SCREEN

The Date & Time screen will open *(FIGURE 41)*.

To change the time zone, press *ZONE* ▲ to move the time zone backward or *ZONE* ▼ to move the time zone forward. To turn ON automatic daylight savings time, press *AUTOMATIC DST* switch. Switch will display green when ON. To add 30 minutes to the time zone (if necessary) press *TZ+0:30*. Switch will display green when ON.

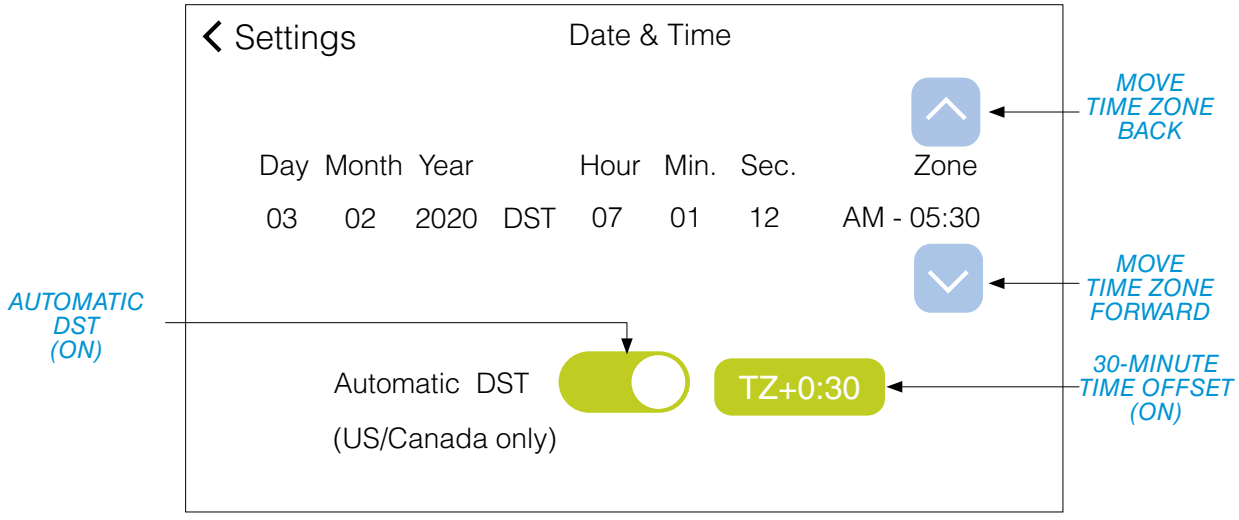


FIGURE 41. DATE & TIME MENU OPTIONS SCREEN

SETTINGS SCREEN (CONTINUED)

DATE & TIME (MANUALLY SET)

When the Aeras control is NOT connected to a network, the date and time may be manually set by the user. (**No Service** will appear in place of the wireless signal strength indicator bars.)

To manually set these options, on the Settings screen, press *DATE & TIME > (FIGURE 42)*.

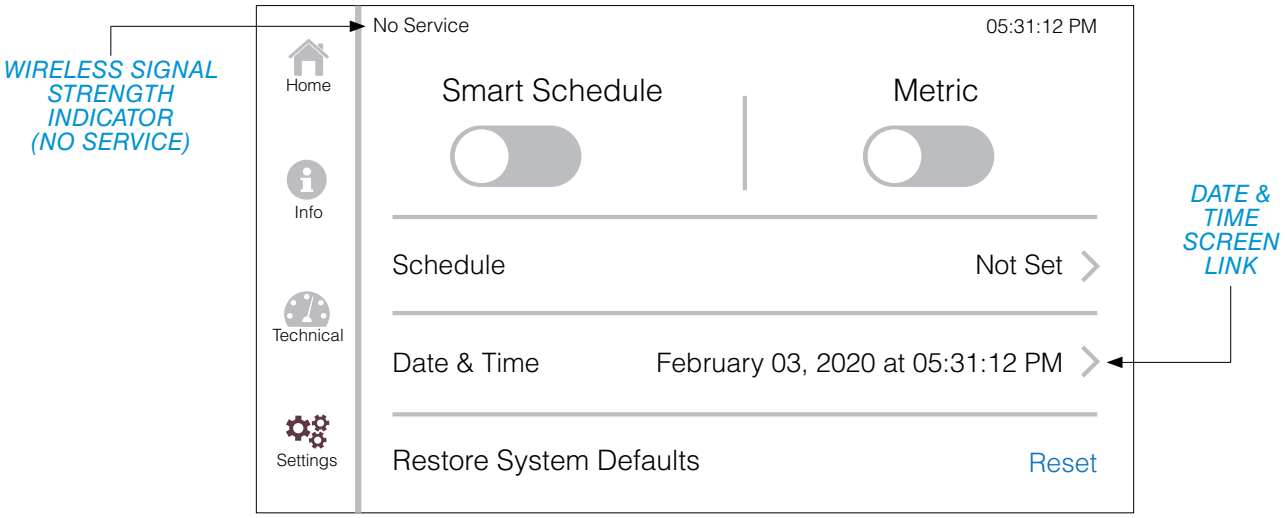


FIGURE 42. SETTINGS SCREEN

The Date & Time screen will open *(FIGURE 42)*.

Pressing the *LEFT* or *RIGHT* arrow button on either side of the screen will move the menu option arrows (▲▼) to each available option: *DAY*, *MONTH*, *YEAR*, *HOUR*, *MINUTE*, *SECOND*, *AM/PM* or *ZONE*.

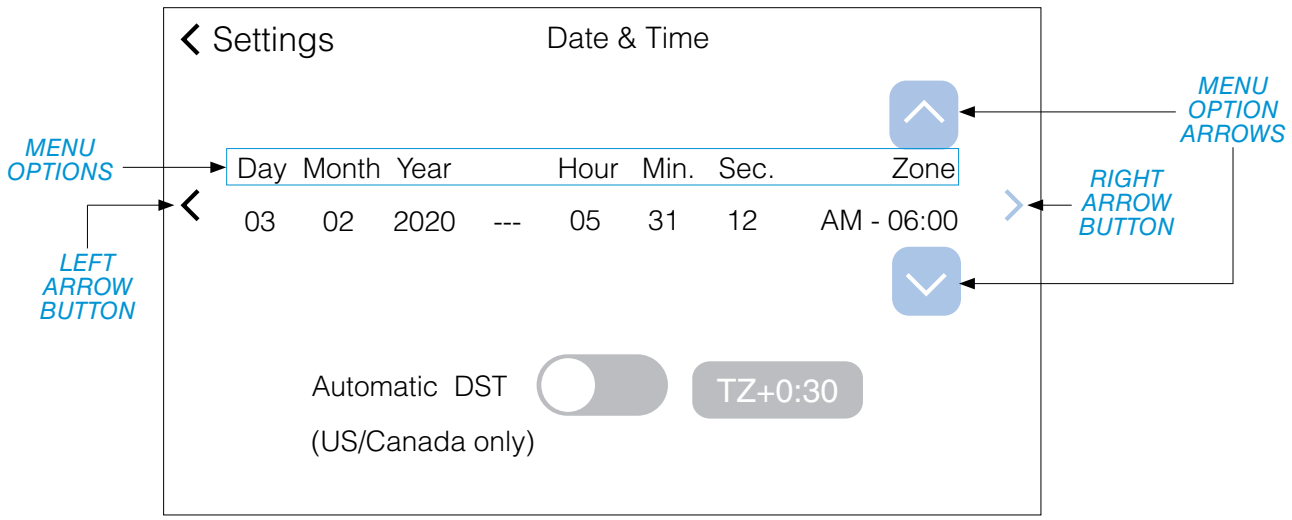


FIGURE 43. DATE & TIME MENU OPTIONS SCREEN

(Continued on the next page.)

SETTINGS SCREEN (CONTINUED)

DATE & TIME (MANUALLY SET)

(Continued from the previous page.)

After reaching the desired menu option, use the menu option arrows (▲▼) to make changes.

To adjust the time zone, press *ZONE* ▲ to move the time zone backward. Press *ZONE* ▼ to move the time zone forward *(FIGURE 44)*.

Repeat this action to adjust each menu option (*DAY*, *MONTH*, *YEAR*, *HOUR*, *MINUTE*, *SECOND* and *AM/PM*).

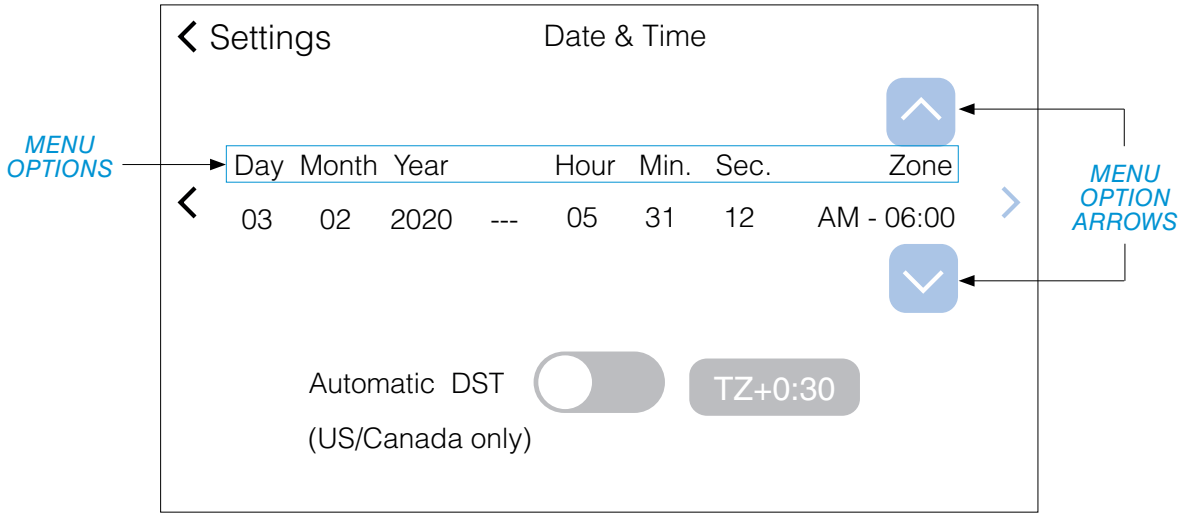


FIGURE 44. DATE & TIME MENU OPTIONS SCREEN

To turn ON automatic daylight savings time, press *AUTOMATIC DST* switch. Switch will display green when ON. To add 30 minutes to the time zone (if necessary) press *TZ+0:30*. Switch will display green when ON *(FIGURE 45)*.

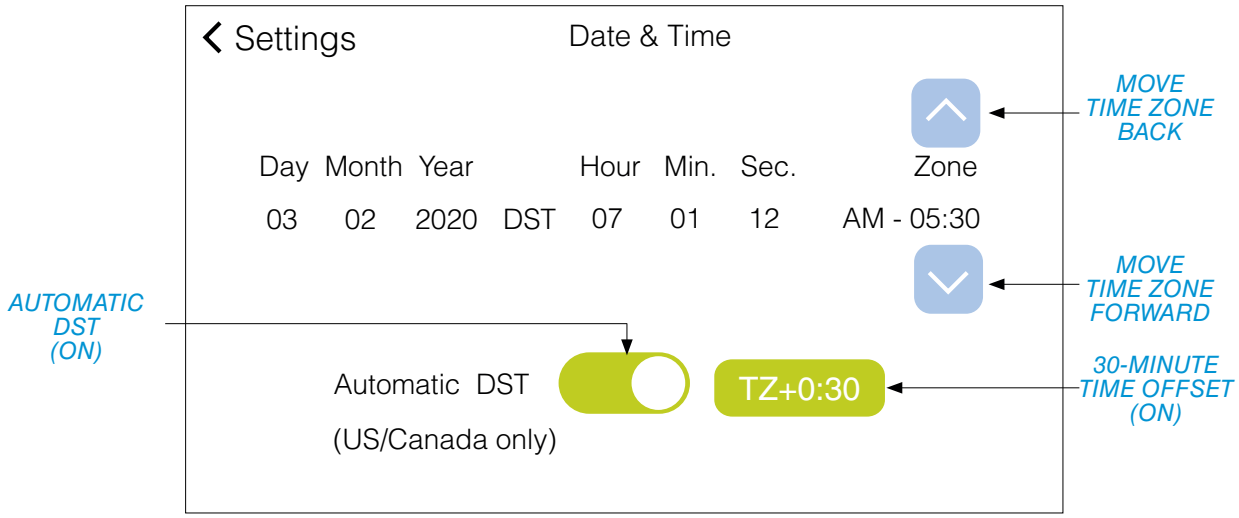


FIGURE 45. DATE & TIME MENU OPTIONS SCREEN VIEW

SETTINGS SCREEN (CONTINUED)

METRIC DISPLAY SWITCH

By default, temperature/pressure measurements on the control panel are displayed in imperial units (Fahrenheit/ PSI). This can be switched to view temperature/pressure measurements in metric units (Celsius/kPa). On the Settings screen, press the *METRIC* switch. The switch will turn green, indicating that the compressor is now in metric mode (*FIGURE 46*).

Pressing the *METRIC* switch again will turn OFF metric mode, returning measurements to imperial units..

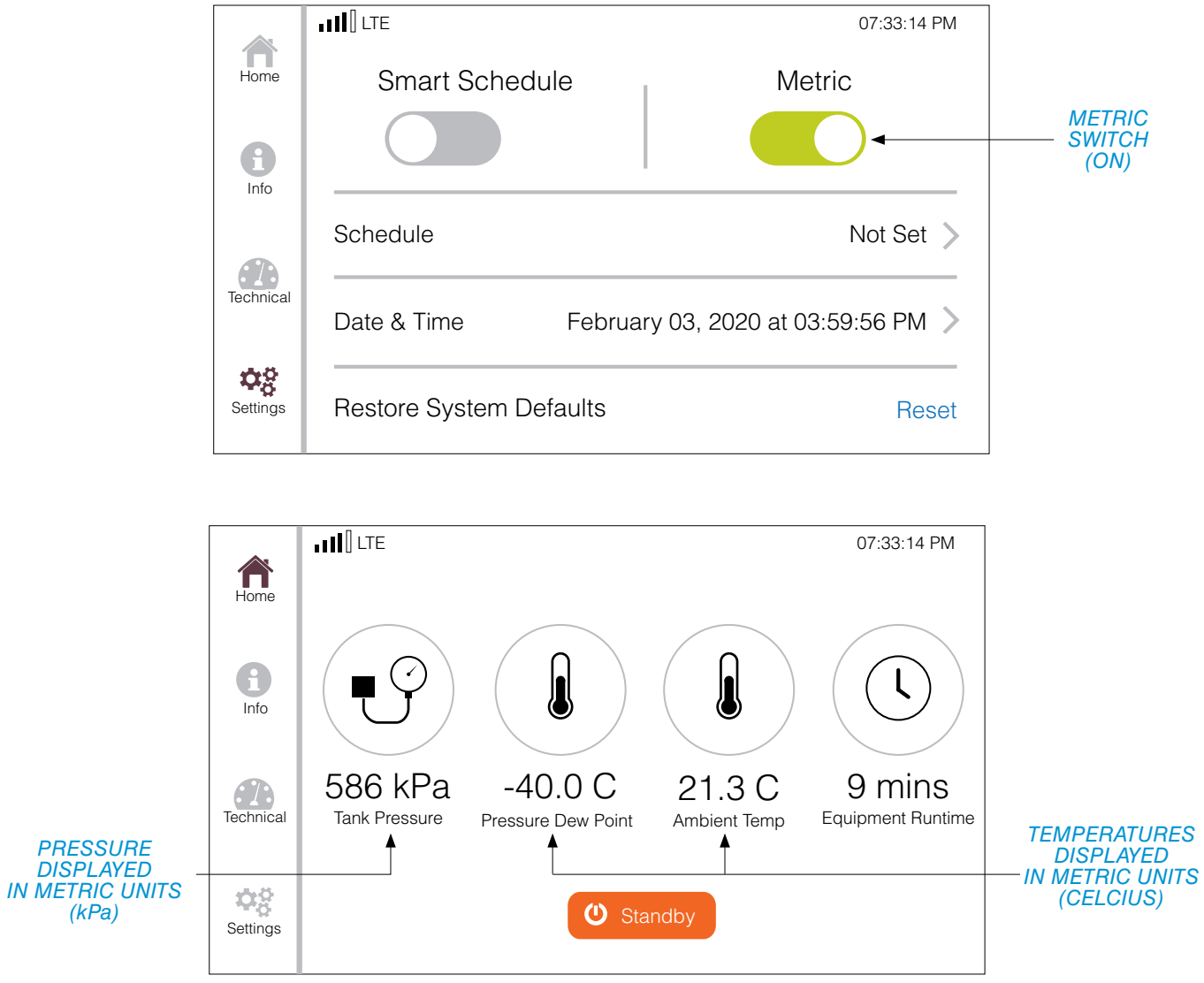


FIGURE 46. METRIC MODE ENABLED

OVERVIEW

Aeras compressor preventive maintenance is simple, clean and inexpensive. It can help ensure your system provides years of predictable performance. While most maintenance tasks can be performed by the user, Ramvac recommends having all service and maintenance conducted by a dealer service technician.

This compressor system, when correctly specified for a dental office, should accumulate around 700 hours per year, or run at approximately a 50% duty cycle (3 minutes on, 3 minutes off). Service and maintenance intervals are calculated accordingly, but could vary greatly depending on the installation. It is important to occasionally inspect the compressor for emerging issues or maintenance requirements that may not conform to the average.

NOTE: *When servicing this compressor, only use Ramvac approved service parts. Utilizing non-approved components could lead to system damage and possible termination of product warranty. Circuit diagrams, parts lists and other required information is available to service personnel by contacting Ramvac.*

KEY POINTS FOR TROUBLE-FREE OPERATION

- Follow the recommended *PREVENTIVE MAINTENANCE SCHEDULE*.
- Check the coalescing and particulate filters indicator every month (see *CHECK FILTER ELEMENT SERVICE INDICATOR* in this section).
- Keep compressor clean and free of dirt.
- Keep area surrounding compressor free of debris.
- Maintain a controlled ambient temperature between recommended levels of 35°F to 100°F (2°C to 38°C). High temperatures will shorten the life of the air compressor (see *SECTION I - INTRODUCTION > SPECIFICATIONS (COMPRESSOR)*).

CLEANING INSTRUCTIONS

1. Always disconnect the power from the equipment prior to cleaning.
2. Some parts/components on the compressor get hot during operation; provide the equipment ample time to cool prior to cleaning.
3. All components can be safely wiped down with a damp cloth, wet with water. Using any cleaners or harsh chemicals to clean this equipment is NOT recommended; potentially harmful effects have not been evaluated.
4. Do not heavily wet electrical components.
5. Allow equipment to air dry or dry with clean, soft cloth.

PREVENTIVE MAINTENANCE SCHEDULE

This is a recommended schedule for a compressor in a clean, dry environment. Any site other than specified will decrease maintenance time exponentially.

Test for Air Leaks	First Week and Annually thereafter
Replace Intake Filter	Annually
Replace Coalescing Filter	Annually or when filter element service indicator moves to completely red while running
Replace Particulate Filter	Annually or when filter element service indicator moves to completely red while running
Inspect Dryer	Annually
Test Safety Valve	Annually
Replace Desiccant Cartridges	Every 5 Years

CHECK FILTER ELEMENT SERVICE INDICATOR

The compressor is equipped with a filter element service indicator. When the indicator turns fully red, the filter element should be replaced *(FIGURE 47)*.

NOTE: *Replace element annually, even if the red indicator does not reach the top.*

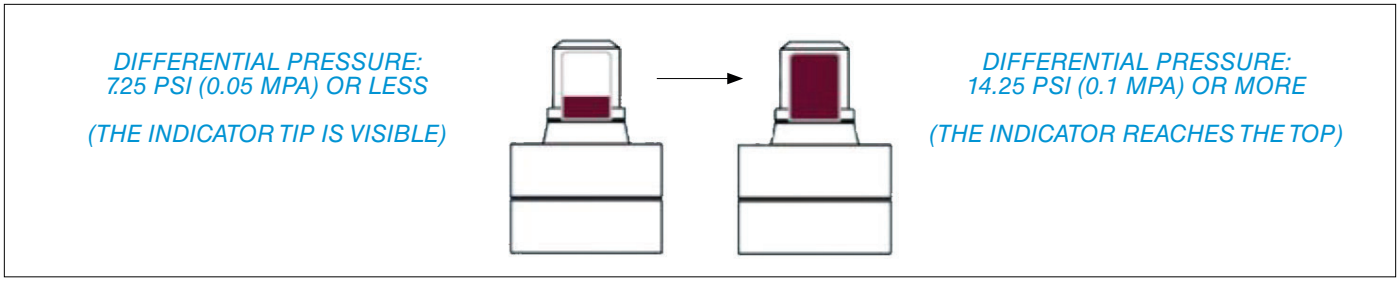


FIGURE 47. FILTER WITH ELEMENT SERVICE INDICATOR

TEST FOR AIR LEAKS

1. Close shut-off valve *(FIGURE 48)*.
2. Run compressor until it shuts off with a tank pressure of 115 PSI/793 kPa showing on the Home screen of the control panel LDC display *(FIGURE 49)*.
3. On the Technical screen, press and enable *MAINTENANCE MODE (FIGURE 50)*.

   NOTE: *Turning on maintenance mode disables remote switching and puts the system in standby mode.*
4. Let compressor sit for 5 minutes.
5. On the Home screen, check tank pressure. If the pressure drop is more than 5 PSI/34kPa in a 5-minute time period, leaks must be repaired. Repair if needed.
6. Open shut-off valve.

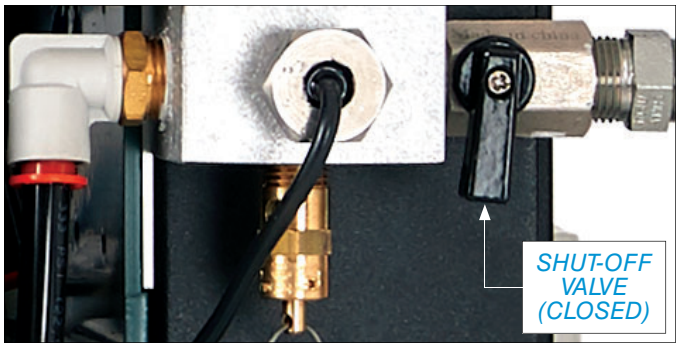


FIGURE 48. CLOSE SHUT-OFF VALVE

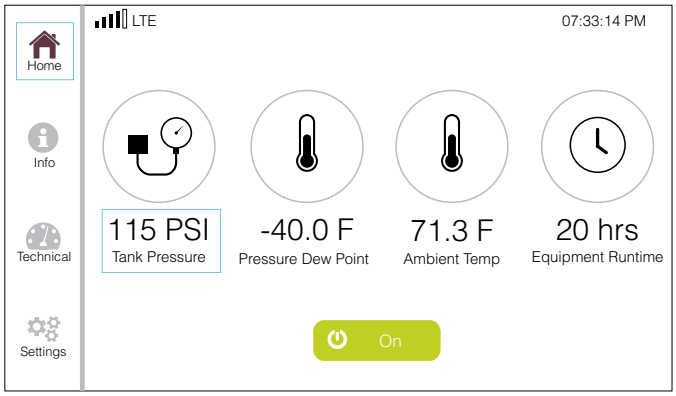


FIGURE 49. RUN COMPRESSOR TO 115 PSI SHUTOFF

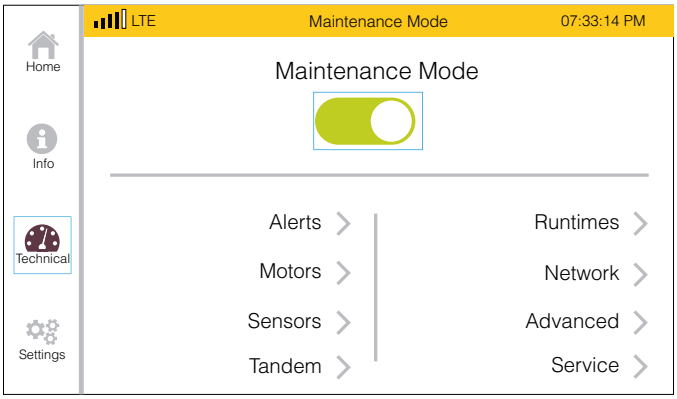


FIGURE 50. ENABLE MAINTENANCE MODE

TEST FOR AIR LEAKS (CONTINUED)

7. On the Technical screen, press and disable *MAINTENANCE MODE*. Press *NO* on the pop-up dialogue box *(FIGURE 51)*.

   NOTE: *Turning OFF maintenance mode enables remote switching, but does not return the system to ON mode.*

8. On the Home screen, press *STANDBY* to turn the system ON *(FIGURE 52)*.

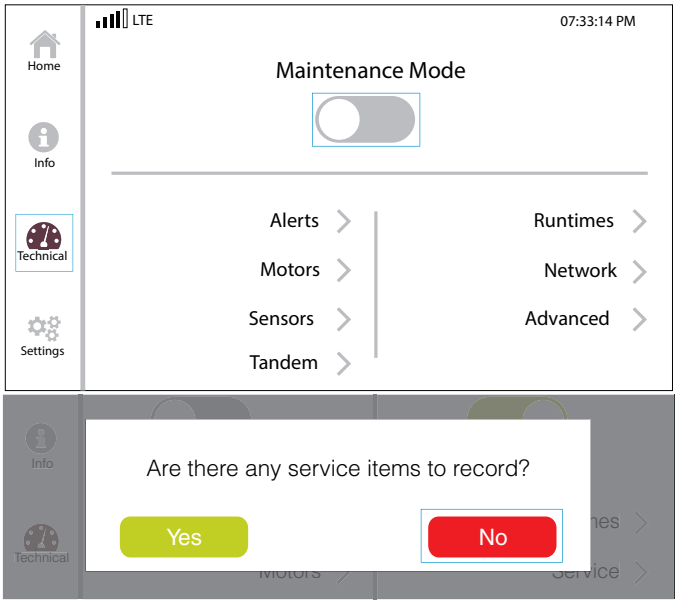


FIGURE 51. DISABLE MAINTENANCE MODE

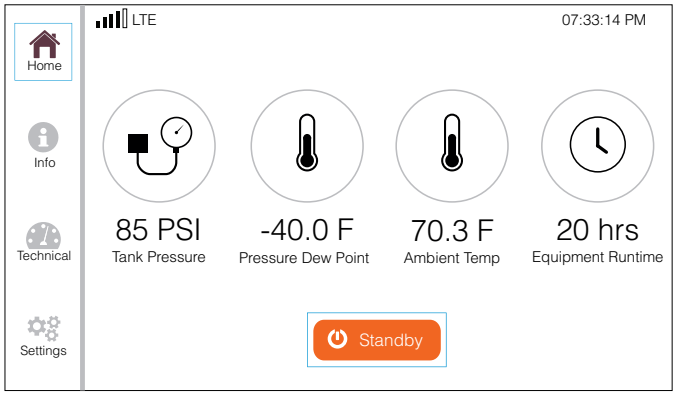


FIGURE 52. PRESS STANDBY

DEPRESSURIZE AIR SYSTEM

1. Push the Aeras control panel power switch to the OFF position *(FIGURE 53)*.
2. Close the shut-off valve *(FIGURE 54)*.
3. Open the petcock to drain any air in the tank *(FIGURE 55)*. DO NOT pull the pressure relief valve to depressurize the air system.



FIGURE 53. TURN SYSTEM POWER OFF

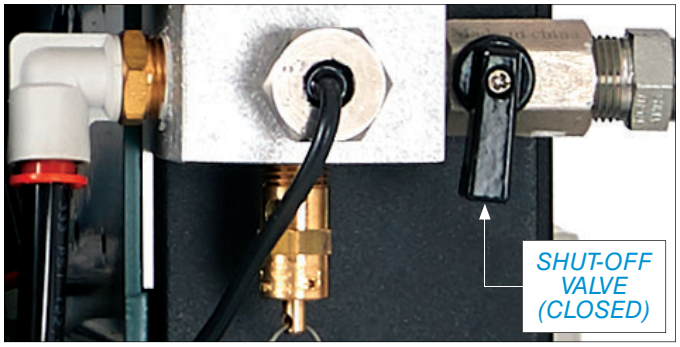


FIGURE 54. CLOSE SHUT-OFF VALVE

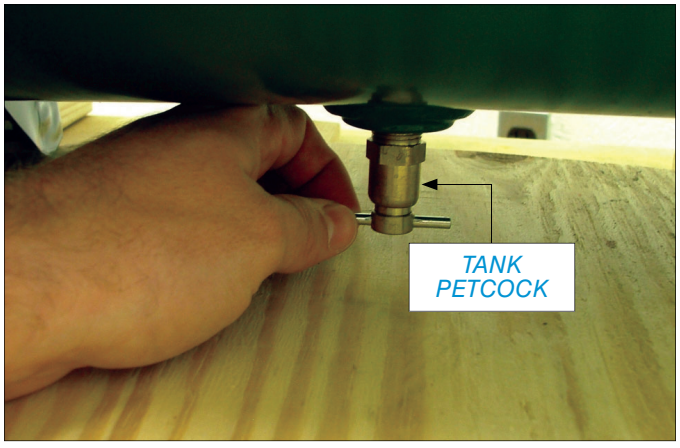


FIGURE 55. OPEN TANK PETCOCK TO DRAIN AIR

REPLACE INTAKE FILTER

TOOLS REQUIRED

- Torx 25 Screwdriver
- Flathead Screwdriver
- Torx 20 Screwdriver

On the control panel LCD display, go to the Technical screen. Press *MAINTENANCE MODE (FIGURE 56)*.

NOTE: *Turning on maintenance mode disables remote switching and puts the system in standby mode.*

NON-87R COMPRESSOR HEADS

1. Remove intake filter cap by removing two screws using Torx 25 screwdriver. Retain screws for reinstallation *(FIGURE 57A)*.
2. Remove intake filter and discard *(FIGURE 57B)*.
3. Install replacement intake filter and replace intake filter cap.

87R COMPRESSOR HEADS (NON-SOUND SHIELD)

1. Remove intake filter cap by twisting cap slightly counter-clockwise and pulling *(FIGURE 58)*.
2. Remove intake filter and discard *(FIGURE 59)*.
3. Install replacement intake filter and replace intake filter cap.

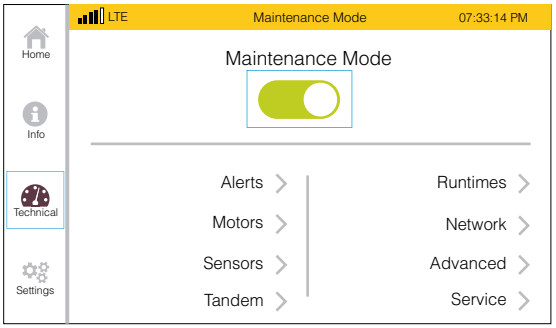


FIGURE 56. ENABLE MAINTENANCE MODE

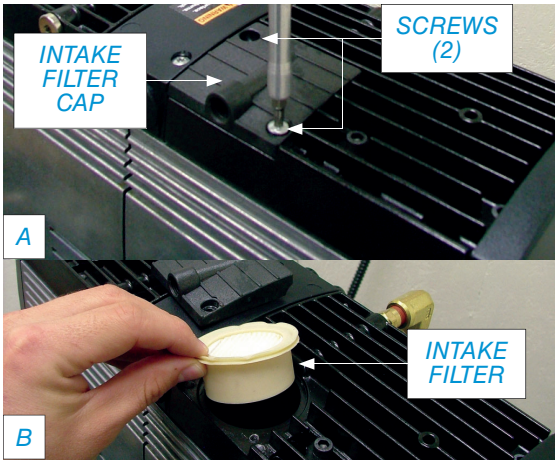


FIGURE 57. REMOVE INTAKE FILTER CAP (NON-87R)

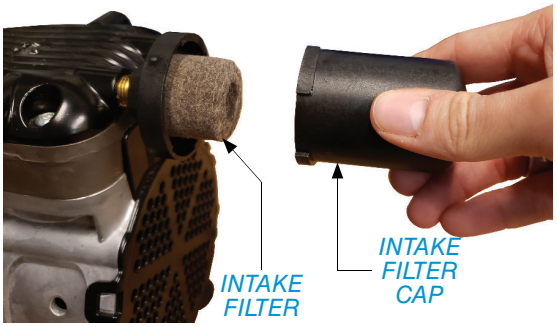


FIGURE 58. REMOVE INTAKE FILTER CAP (87R)

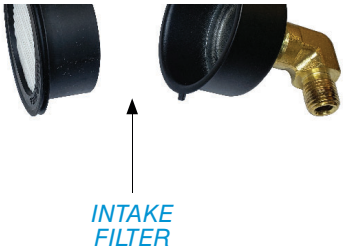


FIGURE 59. REMOVE INTAKE FILTER

REPLACE INTAKE FILTER (CONTINUED)

87R COMPRESSOR HEADS (NON-SOUND SHIELD WITH FRESH AIR OPTION)

1. Locate inline intake filter assembly attached to compressor head *(FIG 60)*.
2. Remove inline intake filter cap by twisting cap slightly clockwise and pulling *(FIG 61)*.
3. Remove intake filter. Note filter orientation. Discard *(FIG 62)*.
4. Install replacement intake filter, insuring proper orientation, and replace inline intake filter cap.

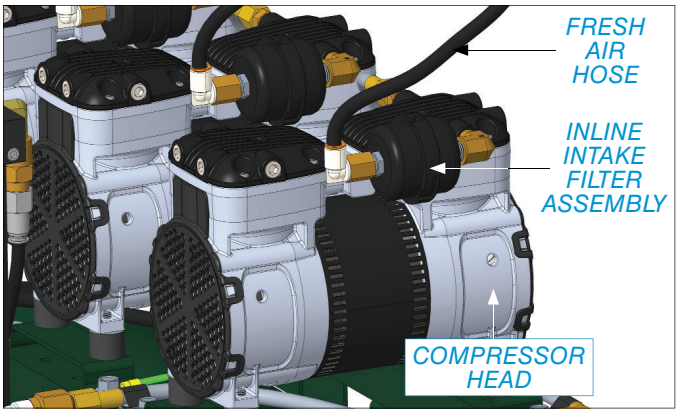


FIGURE 60. LOCATE INLINE INTAKE FILTER ASSEMBLY



FIGURE 61. REMOVE INLINE INTAKE FILTER CAP



FIGURE 62. REMOVE INTAKE FILTER

REPLACE INTAKE FILTER (CONTINUED)

87R COMPRESSOR HEADS (SOUND SHIELD)

1. Remove four (4) head cover screws using torx 20 screwdriver. Retain for reinstallation. Lift cover off head *(FIG 63)*.
2. Locate intake filter on underside of head cover. Wedge flathead screwdriver into the filter from the outside of the head cover to unscrew the intake filter, then discard *(FIG 64)*.
3. Install new intake filter. Start tightening by hand, then use screwdriver to finish tightening.
4. Ensure head cover gasket is properly seated in its groove. Place head cover on head, then secure with four (4) retained screws *(FIG 65)*.

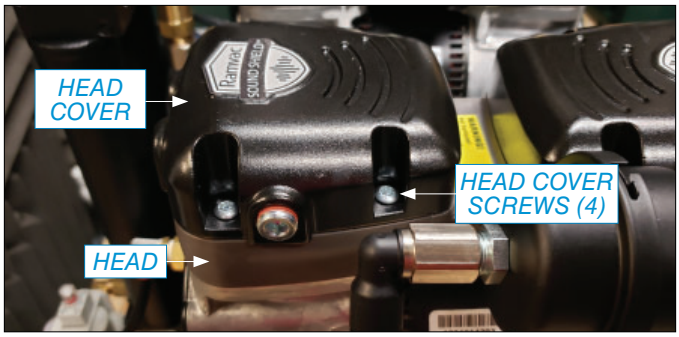


FIGURE 63. REMOVE HEAD COVER

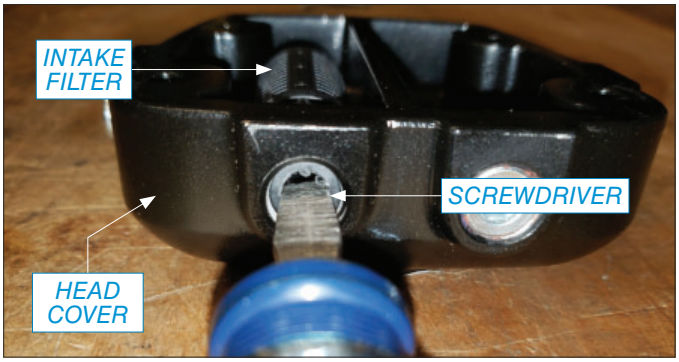


FIGURE 64. UNSCREW INTAKE FILTER

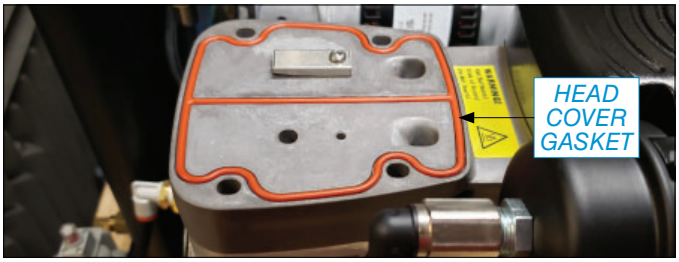


FIGURE 65. REINSTALL HEAD COVER ONTO HEAD

REPLACE INTAKE FILTER (CONTINUED)

RETURN COMPRESSOR TO SERVICE

1. On the Technical screen, press *SERVICE > (FIGURE 66)*.
2. On the Service screen, press *FILTER PACK (FIGURE 67)*.
3. On the Filter Pack screen, press *REPLACE*. Press *OK* on the pop-up dialogue box *(FIGURE 68)*.

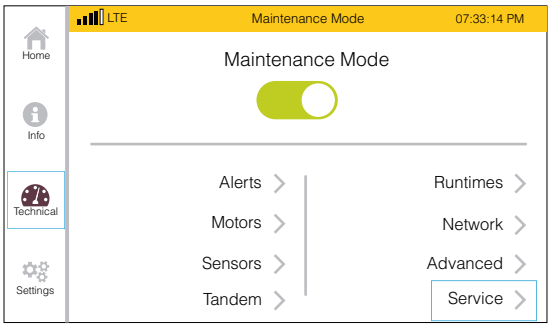


FIGURE 66. PRESS SERVICE >

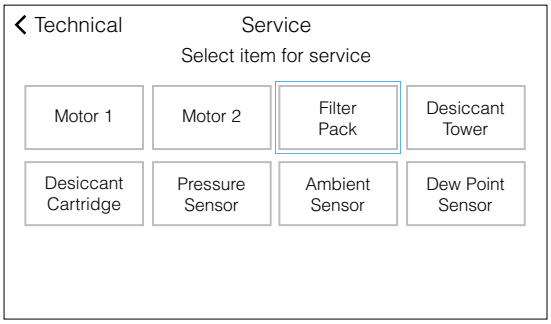


FIGURE 67. PRESS FILTER PACK

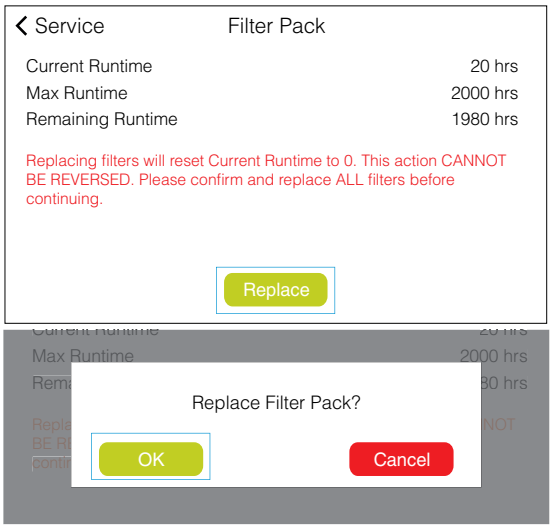


FIGURE 68. PRESS REPLACE; OK

REPLACE INTAKE FILTER (CONTINUED)

4. On the Technical screen, press and disable *MAINTENANCE MODE (FIGURE 69)*. Press *NO* on the pop-up dialogue box.

   NOTE: *Turning OFF maintenance mode enables remote switching, but does not return the system to ON mode.*

5. On the Home screen, press *STANDBY* to turn the system ON *(FIGURE 70)*.

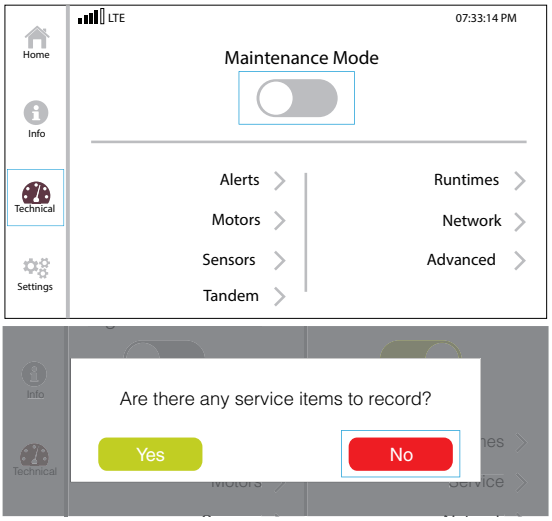


FIGURE 69. DISABLE MAINTENANCE MODE

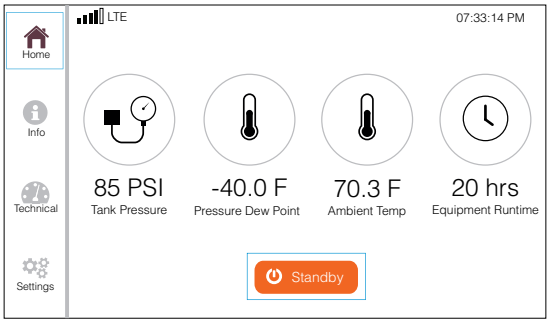


FIGURE 70. PRESS STANDBY

REPLACE COALESCING FILTER

NOTE: *All compressor models use the same coalescing filter.*

1. On the control panel LCD display, go to the Technical screen. Press and enable *MAINTENANCE MODE (FIGURE 71)*.

   NOTE: *Turning on maintenance mode disables remote switching and puts the system in standby mode.*

2. Push tab down and turn coalescing filter bowl slightly right or left to remove *(FIGURE 72A)*.
3. Remove filter by turning completely out.
4. Install new .3 micron filter *(FIGURE 72B)*.
5. Position filter bowl, push up slightly and turn left or right into place. Tab will snap into place.
6. On the Technical screen, press *SERVICE > (FIGURE 73)*.
7. On the Service screen, press *FILTER PACK (FIGURE 74)*.

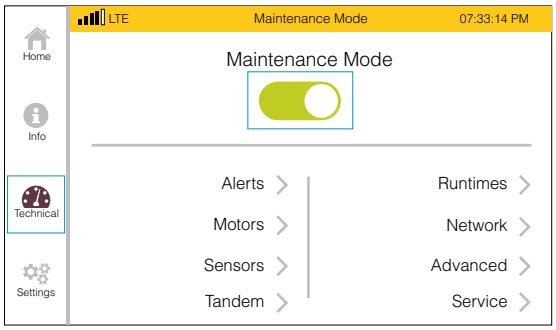


FIGURE 71. ENABLE MAINTENANCE MODE

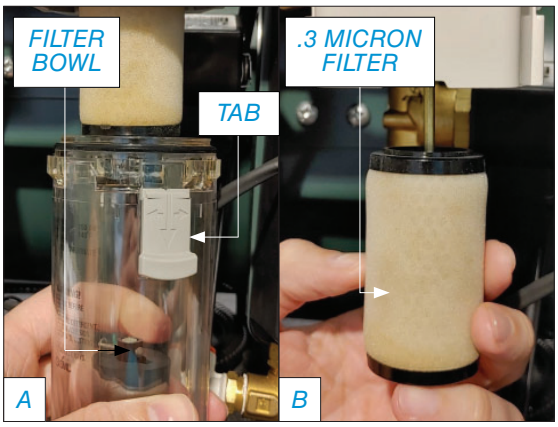


FIGURE 72. REMOVE FILTER BOWL, REPLACE FILTER

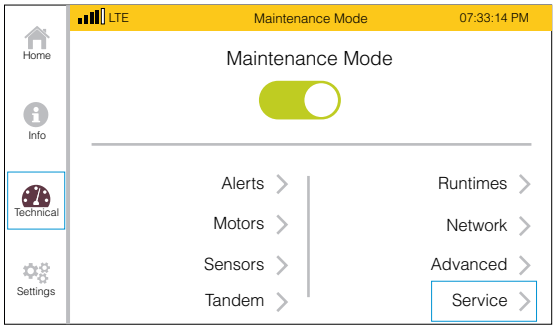


FIGURE 73. PRESS SERVICE >

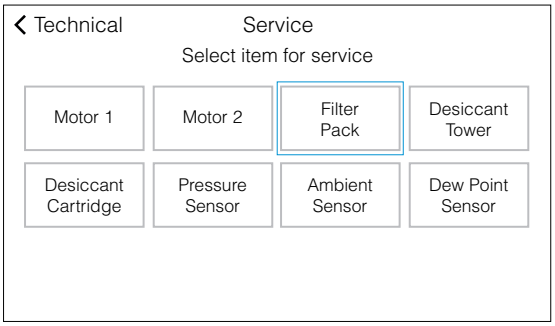


FIGURE 74. PRESS FILTER PACK

REPLACE COALESCING FILTER (CONTINUED)

8. On the Filter Pack screen, press *REPLACE*. Press *OK* on the pop-up dialogue box *(FIGURE 75)*.

9. On the Technical screen, press and disable *MAINTENANCE MODE*. Press *NO* on the pop-up dialogue box *(FIGURE 76)*.

   NOTE: *Turning OFF maintenance mode enables remote switching, but does not return the system to ON mode.*

10. On the Home screen, press *STANDBY* to turn the system ON *(FIGURE 77)*.

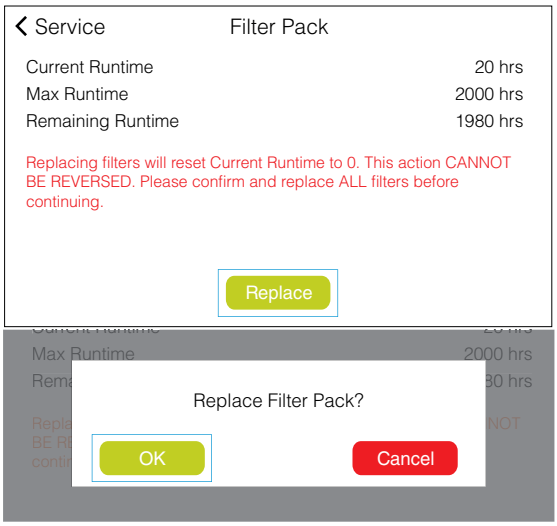


FIGURE 75. PRESS REPLACE; OK

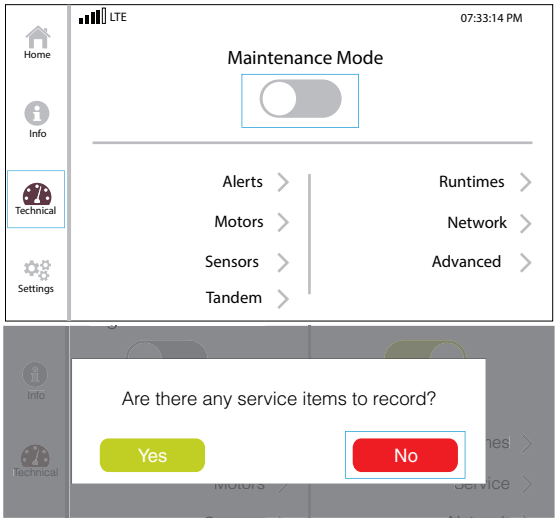


FIGURE 76. DISABLE MAINTENANCE MODE

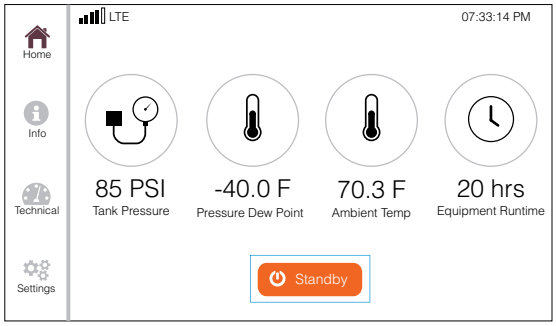


FIGURE 77. PRESS STANDBY

REPLACE PARTICULATE FILTER

NOTE: *All compressor models use the same particulate filter.*

1. On the control panel LCD display, go to the Technical screen. Press and enable *MAINTENANCE MODE (FIGURE 78)*.

   NOTE: *Turning on maintenance mode disables remote switching and puts the system in standby mode.*

2. Bleed air from the system.
3. Push tab down and turn particulate filter bowl slightly right or left to remove *(FIGURE 79A)*.
4. Remove filter by turning completely out.
5. Install new .01 micron filter *(FIGURE 79B)*.
6. Position filter bowl, push up slightly and turn left or right into place. Tab will snap into place.
7. On the Technical screen, press *SERVICE > (FIGURE 80)*.
8. On the Service screen, press *FILTER PACK (FIGURE 81)*.

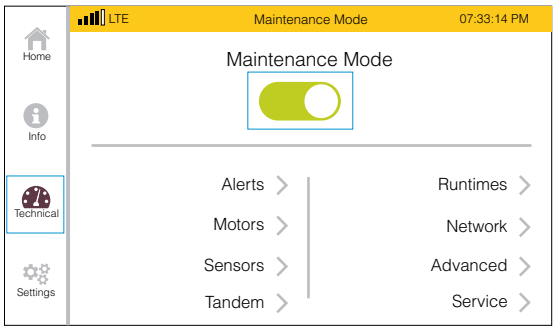


FIGURE 78. ENABLE MAINTENANCE MODE

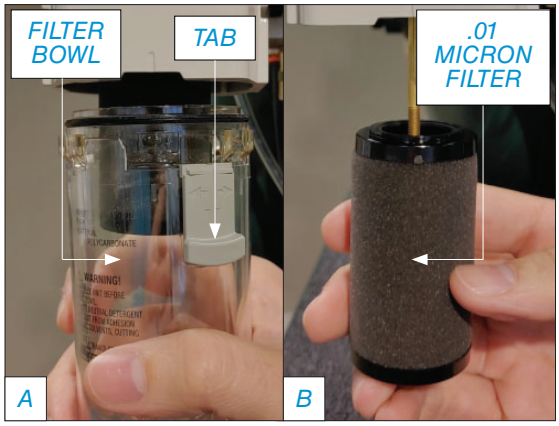


FIGURE 79. REMOVE FILTER BOWL, REPLACE FILTER

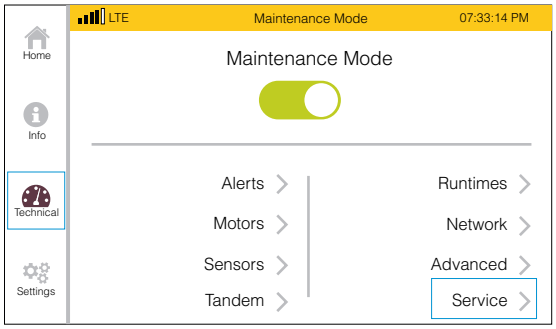


FIGURE 80. PRESS SERVICE >

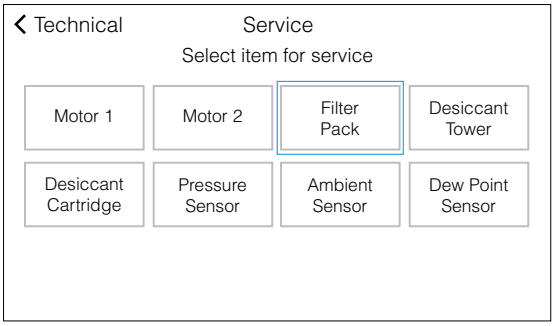


FIGURE 81. PRESS FILTER PACK

REPLACE PARTICULATE FILTER (CONTINUED)

9. On the Filter Pack screen, press *REPLACE*. Press *OK* on the pop-up dialogue box *(FIGURE 82)*.

10. On the Technical screen, press and disable *MAINTENANCE MODE*. Press *NO* on the pop-up dialogue box *(FIGURE 83)*.

    NOTE: *Turning OFF maintenance mode enables remote switching, but does not return the system to ON mode.*

11. On the Home screen, press *STANDBY* to turn the system ON *(FIGURE 84)*.

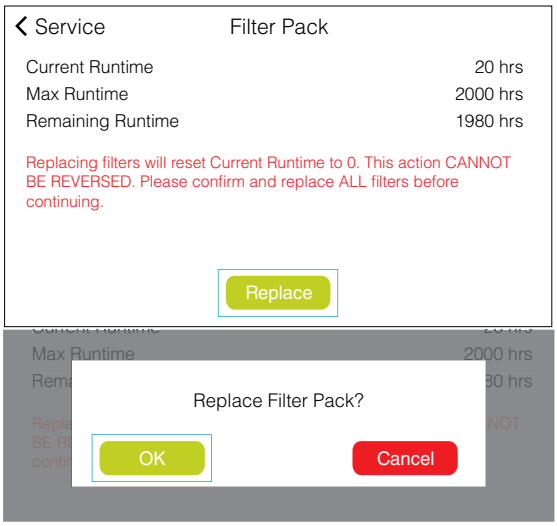


FIGURE 82. PRESS REPLACE; OK

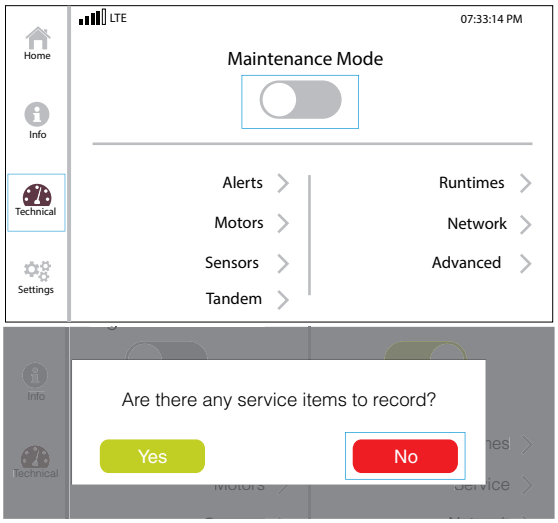


FIGURE 83. DISABLE MAINTENANCE MODE

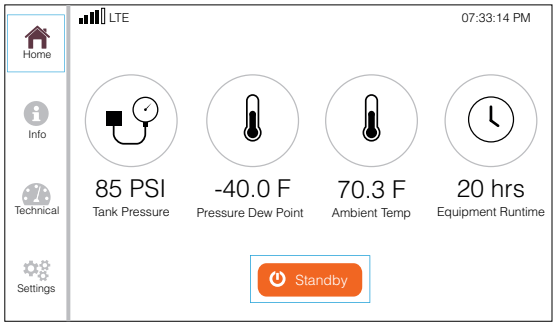


FIGURE 84. PRESS STANDBY

SERVICE INSTRUCTION

If the area of concern is not addressed in this manual, contact DENTALEZ customer service at 866-DTE-INFO. (See *LIMITED WARRANTY*.)

Please have the following product information available. Information may be found on the product model/serial number label on the compressor *(FIGURE 85)*:

Product Name:
Model Number:
Serial Number:
Date of Installation:
Dealer:



FIGURE 85. MODEL/SERIAL NUMBER LABEL ON THE COMPRESSOR

DISPOSAL OF EQUIPMENT

DISPOSAL AND DECOMMISSIONING OF DENTALEZ PRODUCTS

NOTE: *All local regulatory requirements for disposal and decommissioning of equipment apply.*

- *ELECTRICAL SALVAGE:* Remove all circuit board and electrical cabling for recycle as electrical salvage.
- *METAL SALVAGE:* Remove all aluminum and steel components for recycle as metal salvage.
- *PLASTIC SALVAGE:* Remove all plastic components for recycle as plastic salvage.
- *BIOLOGICALLY CONTAMINATED SALVAGE:* Cuspidor, waste lines from the cuspidor, and the oral extraction lines should be handled with precaution and disposed of appropriately.
- *NON-SALVAGE COMPONENTS:* All other material unsuitable for recycling should be disposed of properly.

For specific questions regarding material type, contact DENTALEZ customer service. For decommissioning information on associated equipment from other manufacturers, refer to the documentation from the manufacturer.

DENTALEZ PARTS ONLINE

To view parts online, visit dentalezparts.com or scan QR code with a smart phone.

GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC EMISSIONS		
The compressor is intended for use in the electromagnetic environment specified below. The customer or the user of the compressor should assure that it is used in such an environment.		
Emissions Test	Compliance	Electromagnetic Environment Guidance
RF Emissions CISPR 11	Group 1	The compressor uses RF energy only for its internal function; therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF Emissions CISPR 11	Class A	The compressor is suitable for use in all establishments, other than domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic Emissions IEC 61000-3-2	Not Applicable	
Voltage Fluctuations/ Flicker Emissions IEC 61000-3-3	Not Applicable	

GUIDANCE AND MANUFACTURER'S DECLARATION – IMMUNITY ALL ME EQUIPMENT AND ME SYSTEMS			
The compressor is intended for use in the electromagnetic environment specified below. The customer or the end user of the compressor should assure that it is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Electrostatic Discharge (ESD) IEC 61000-4-2	±8 kV Contact ±2 kV, ±4 kV, ±8 kV, ±15 kV Air	±8 kV Contact ±2 kV, ±4 kV, ±8 kV, ±15 kV Air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical Fast Transient/Burst IEC 61000-4-4	±2 kV 100 kHz repetition frequency	±2 kV 100 kHz repetition frequency	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±0.5 kV, ±1 kV Line-to-line ±0.5 kV, ±1 kV, ±2 kV Line-to-ground	±0.5 kV, ±1 kV Line-to-line ±0.5 kV, ±1 kV, ±2 kV Line-to-ground	Mains power quality should be that of a typical commercial or hospital environment.
Voltage Dips, Short Interruptions and Voltage Variations on Power Supply Input Lines IEC 61000-4-11	0% Ut; 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315° 0% Ut; 1 cycle 70% Ut; 25/30 cycles Single phase: at 0° 0% Ut; 250/300 cycle	N/A - compressor is rated for more than 16 amps.	Mains power quality should be that of a typical commercial or hospital environment. If the user of the compressor requires continued operation during power mains interruptions, it is recommended that the compressor be powered from an uninterruptible power supply or a battery.
Power Frequency (50/60 Hz) Magnetic Field IEC 61000-4-8	3 A/m 50/60 Hz	3 A/m 50/60 Hz	Power frequency magnetic fields should that of a typical commercial or hospital environment.

GUIDANCE AND MANUFACTURER'S DECLARATION – IMMUNITY *ME EQUIPMENT AND ME SYSTEMS*			
The compressor is intended for use in the electromagnetic environment specified below. The customer or the user of the compressor should assure that it is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Conducted RF IEC 61000-4-6 Radiated RF IEC 61000-4-3	3 Vrms 6 Vrms (In ISM Bands) 150kHz to 80 MHz 80 MHz to 2.7 GHz	3 Vrms 6 Vrms (In ISM Bands) 150kHz to 80 MHz 3 V/m 80 MHz to 2.7 GHz 80% AM at kHz	Portable and mobile RF communications equipment should be used no closer to any part of the compressor, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance: $d = 1.2 \sqrt{P}$ $d = 1.2 \sqrt{P}$ $d = 2.3 \sqrt{P}$ where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and *d* is the recommended separation distance in meters (m). Field strengths from fixed RF transmitter, as determined by an electromagnetic site survey[a], should be less than the compliance level in each frequency range[b]. Interference may occur in the vicinity of equipment marked with the following symbol: 
NOTE 1: At 80 MHz and 800 MHz, higher frequency range applies. NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			
a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the equipment or system is used exceeds the applicable RF compliance level above, the equipment or system should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the equipment or system. b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.			

RECOMMENDED SEPARATION DISTANCE BETWEEN PORTABLE AND MOBILE RF COMMUNICATIONS EQUIPMENT AND THE MODEL @ 3VRMS

The compressor is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the compressor can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the compressor as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d = 1.2 \sqrt{P}$	$d = 1.2 \sqrt{P}$	$d = 2.3 \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.34	0.34	0.74
1	1.7	1.7	2.3
10	3.7	3.7	7.4
100	11.7	11.7	23.3

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output rating of the transmitter in watts (W) according to the transmitter manufacturer.
NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.
NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Test Frequency (MHz)	Band [a] (MHz)	Service [a]	Modulation [b]	Maximum Power (W)	Distance (m)	Immunity Test Level (V/m)
385	380 - 390	TETRA 400	Pulse Modulation [b] 18 Hz	1.8	0.3	27
450	430 - 470	GMRS 460, FRS 460	FM [c] ± 5 kHz Deviation 1 kHz sine	2	0.3	28
710	704 - 787	LTE Band 13, 17	Pulse Modulation [b] 217 Hz	0.2	0.3	9
745						
780						
810	800 - 960	GSM 800/900, TETRA 800, IDEN 820, CDMA 850, LTE Band 5	Pulse Modulation [b] 18 Hz	2	0.3	28
870						
930						
1,720	1,700 - 1,990	GSM 1,800, CDMA 1,900, GSM 1,900, DECT, LTE Band 1, 3, 4, 25, UMTS	Pulse Modulation [b] 217 Hz	2	0.3	28
1,845						
1,970						
2,450	2,400 - 2,570	Blue-tooth, WLAN, 802.11 b/g/n, RFID 2,450 LTE Band 7	Pulse Modulation [b] 217 Hz	2	0.3	28
5,240	5,100 - 5,800	WLAN 802.11 a/n	Pulse Modulation [b] 217 Hz	0.2	0.3	9
5,500						
5,785						

AERAS® COMPRESSOR FROM RAMVAC®

DENTALEZ® and its employees are proud of the products we provide to the dental community. We stand behind these products with a warranty against defects in material and workmanship as provided below and have our own in-house repair facility to service our products. In the event that you experience difficulty with the application or operation of any of our products, please contact our technical service department at our expense at (866) DTE-INFO.

If we cannot resolve the issue by telephone, we will arrange for a representative to contact you or suggest that the product be returned to our factory for inspection.

If product return or repair is required, we will provide you with a **Return Authorization** number and shipping instructions to return the product to the proper facility. If the product is under warranty, we will ask you to provide proof of purchase such as a copy of your invoice. Please be sure to include the **Return Authorization** number on the package you are returning. **Products returned without a return authorization number cannot be repaired.**

Freight costs for product returns are the responsibility of the customer. Products under warranty will be repaired or replaced, at our sole discretion, and returned at our expense. Products outside the warranty limits will be repaired and returned with costs invoiced to the customer. We are not responsible for shipping damages. We will, however, help you file a claim with the freight carrier. Written repair estimates are available.

DENTALEZ warrants all equipment and parts to be free of defects in material and workmanship, under normal usage under the following terms:

Ramvac	Limited Warranty Period*
Aeras Compressors	6 Years from date of installation

Please note the following additional terms of our warranty and return policy:

- This warranty covers manufacturing defects only and does not cover defects resulting from abuse, accidents, misuse, improper handling, cleaning, care or maintenance. Damage resulting from the use of chemicals, cleaners, disinfectants or sterilization is not covered under this warranty nor is normal wear and tear. Failure to follow or observe our operating/use, maintenance and/or installation instructions voids this warranty as does the use of non-authorized parts and repairs made by an unauthorized repair facility.
- Liability is limited to repair or replacement of the defective part(s) or products at our sole discretion. All other liabilities, in particular liability for damages, including, without limitation, special, exemplary, consequential or incidental damages are excluded.
- THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO EMPLOYEE, REPRESENTATIVE OR DEALER IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR TO GRANT ANY OTHER WARRANTY.

WARRANTY REPAIRS

Parts repaired or replaced on a product that is in warranty will be warranted for the duration of that product's original warranty.

PRODUCT RETURNS

Opened products or product returns more than a year old cannot be returned for credit. There will be a 15% ($25.00 minimum) restocking charge on all items authorized for return.

NOTES:

*See individual Product Manuals for complete warranty details. Provided conditions defined in instruction manual are met.

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