

Atlas Copco Instruction Manual



Instruction Manual
for Portable Compressors
English

PTS 800 Cud T3 APP | QSB 6.7

Atlas Copco

PTS 800 Cud T3 APP

Instruction Manual for Portable Compressors

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Congratulations on the purchase of your Atlas Copco compressor. It is a solid, safe and reliable machine, built according to the latest technology. Follow the instructions in this booklet and we guarantee you years of trouble-free operation. Please read the following instructions carefully before starting to use your machine. Always keep the manual available near the machine. In all correspondence always mention the compressor type and serial number, shown on the data plate. The company reserves the right to make changes without prior notice.

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1 Safety precautions for portable compressors

To be read attentively and acted accordingly before towing, lifting, operating, performing maintenance or repairing the compressor.

1.1 Introduction

The policy of Atlas Copco is to provide the users of their equipment with safe, reliable and efficient products. Factors taken into account are among others:

- the intended and predictable future use of the products, and the environments in which they are expected to operate,
- applicable rules, codes and regulations,
- the expected useful product life, assuming proper service and maintenance,
- providing the manual with up-to-date information.

Before handling any product, take time to read the relevant instruction manual. Besides giving detailed operating instructions, it also gives specific information about safety, preventive maintenance, etc.

Keep the manual always at the unit location, easily accessible to the operating personnel.

See also the safety precautions of the engine and possible other equipment, which are separately sent along or are mentioned on the equipment or parts of the unit.

These safety precautions are general and some statements will therefore not always apply to a particular unit.

Only people that have the right skills should be allowed to operate, adjust, perform maintenance or repair on Atlas Copco equipment. It is the responsibility of management to appoint operators with the appropriate training and skill for each category of job.

Skill level 1: Operator

An operator is trained in all aspects of operating the unit with the push-buttons, and is trained to know the safety aspects.

Skill level 2: Mechanical technician

A mechanical technician is trained to operate the unit the same as the operator. In addition, the mechanical technician is also trained to perform maintenance and repair, as described in the instruction manual, and is allowed to change settings of the control and safety system. A mechanical technician does not work on live electrical components.

Skill level 3: Electrical technician

An electrical technician is trained and has the same qualifications as both the operator and the mechanical technician. In addition, the electrical technician may carry out electrical repairs within the various enclosures of the unit. This includes work on live electrical components.

Skill level 4: Specialist from the manufacturer

This is a skilled specialist sent by the manufacturer or its agent to perform complex repairs or modifications to the equipment.

In general it is recommended that not more than two people operate the unit, more operators could lead to unsafe operating conditions. Take necessary steps to keep unauthorized persons away from the unit and eliminate all possible sources of danger at the unit.

When handling, operating, overhauling and/or performing maintenance or repair on Atlas Copco equipment, the mechanics are expected to use safe engineering practices and to observe all relevant local safety requirements and ordinances. The following list is a reminder of special safety directives and precautions mainly applicable to Atlas Copco equipment.

These safety precautions apply to machinery processing or consuming air. Processing of any other gas requires additional safety precautions typical to the application and are not included herein.

Neglecting the safety precautions may endanger people as well as environment and machinery:

- endanger people due to electrical, mechanical or chemical influences,
- endanger the environment due to leakage of oil, solvents or other substances,
- endanger the machinery due to function failures.

All responsibility for any damage or injury resulting from neglecting these precautions or by non-observance of ordinary caution and due care required in handling, operating, maintenance or repair, also if not expressly mentioned in this instruction manual, is disclaimed by Atlas Copco.

The manufacturer does not accept any liability for any damage arising from the use of non-original parts and for modifications, additions or conversions made without the manufacturer's approval in writing.

If any statement in this manual does not comply with local legislation, the stricter of the two shall be applied.

Statements in these safety precautions should not be interpreted as suggestions, recommendations or inducements that it should be used in violation of any applicable laws or regulations.

1.2 General safety precautions

- 1 The owner is responsible for maintaining the unit in a safe operating condition. Unit parts and accessories must be replaced if missing or unsuitable for safe operation.
- 2 The supervisor, or the responsible person, shall at all times make sure that all instructions regarding machinery and equipment operation and maintenance are strictly followed and that the machines with all accessories and safety devices, as well as the consuming devices, are in good repair, free of abnormal wear or abuse, and are not tampered with.
- 3 Whenever there is an indication or any suspicion that an internal part of a machine is overheated, the machine shall be stopped but no inspection covers shall be opened before sufficient cooling time has elapsed; this to avoid the risk of spontaneous ignition of oil vapour when air is admitted.
- 4 Normal ratings (pressures, temperatures, speeds, etc.) shall be durably marked.
- 5 Operate the unit only for the intended purpose and within its rated limits (pressure, temperature, speeds, etc.).
- 6 The machinery and equipment shall be kept clean, i.e. as free as possible from oil, dust or other deposits.
- 7 To prevent an increase in working temperature, inspect and clean heat transfer surfaces (cooler fins, intercoolers, water jackets, etc.) regularly. See the maintenance schedule.
- 8 All regulating and safety devices shall be maintained with due care to ensure that they function properly. They may not be put out of action.
- 9 Care shall be taken to avoid damage to safety valves and other pressure-relief devices, especially to avoid plugging by paint, oil coke or dirt accumulation, which could interfere with the functioning of the device.
- 10 Pressure and temperature gauges shall be checked regularly with regard to their accuracy. They shall be replaced whenever outside acceptable tolerances.
- 11 Safety devices shall be tested as described in the maintenance schedule of the instruction manual to determine that they are in good operating condition.
- 12 Mind the markings and information labels on the unit.
- 13 In the event the safety labels are damaged or destroyed, they must be replaced to ensure operator safety.
- 14 Keep the work area neat. Lack of order will increase the risk of accidents.
- 15 When working on the unit, wear safety clothing. Depending on the kind of activities these are: safety glasses, ear protection, safety helmet (including visor), safety gloves, protective clothing, safety shoes. Do not wear the hair long and loose (protect long hair with a hairnet), or wear loose clothing or jewellery.
- 16 Take precautions against fire. Handle fuel, oil and anti-freeze with care because they are inflammable substances. Do not smoke or approach with naked flame when handling such substances. Keep a fire-extinguisher in the vicinity.

1.3 Safety during transport and installation

To lift a unit, all loose or pivoting parts, e.g. doors and towbar, shall first be securely fastened.

Do not attach cables, chains or ropes directly to the lifting eye; apply a crane hook or lifting shackle meeting local safety regulations. Never allow sharp bends in lifting cables, chains or ropes.

Helicopter lifting is not allowed.

It is strictly forbidden to dwell or stay in the risk zone under a lifted load. Never lift the unit over people or residential areas. Lifting acceleration and deceleration shall be kept within safe limits.

1 Before towing the unit:

- ascertain that the pressure vessel(s) is (are) depressurized,
- check the towbar, the brake system and the towing eye. Also check the coupling of the towing vehicle,
- check the towing and brake capability of the towing vehicle,
- check that the towbar, jockey wheel or stand leg is safely locked in the raised position,
- ascertain that the towing eye can swivel freely on the hook,
- check that the wheels are secure and that the tyres are in good condition and inflated correctly,
- connect the signalisation cable, check all lights and connect the pneumatic brake couplers,
- attach the safety break-away cable or safety chain to the towing vehicle,
- remove wheel chocks, if applied, and disengage the parking brake.

- 2 To tow a unit use a towing vehicle of ample capacity. Refer to the documentation of the towing vehicle.
- 3 If the unit is to be backed up by the towing vehicle, disengage the overrun brake mechanism (if it is not an automatic mechanism).
- 4 In case of transporting a non-trailer unit on a truck, fasten it to the truck by attaching straps via fork lift holes, via the holes in the frame at the front and back or via the lifting beam. To prevent damage, never put straps on the roof surface of the unit.
- 5 Never exceed the maximum towing speed of the unit (mind the local regulations).
- 6 Place the unit on level ground and apply the parking brake before disconnecting the unit from the towing vehicle. Unclip the safety break-away cable or safety chain. If the unit has no parking brake or jockey wheel, immobilize the unit by placing chocks in front of and/or behind the wheels. When the towbar can be positioned vertically, the locking device must be applied and kept in good order.
- 7 To lift heavy parts, a hoist of ample capacity, tested and approved according to local safety regulations, shall be used.
- 8 Lifting hooks, eyes, shackles, etc., shall never be bent and shall only have stress in line with their design load axis. The capacity of a lifting device diminishes when the lifting force is applied at an angle to its load axis.
- 9 For maximum safety and efficiency of the lifting apparatus all lifting members shall be applied as near to perpendicular as possible. If required, a lifting beam shall be applied between hoist and load.

- 10 Never leave a load hanging on a hoist.
- 11 A hoist has to be installed in such a way that the object will be lifted perpendicular. If that is not possible, the necessary precautions must be taken to prevent load-swinging, e.g. by using two hoists, each at approximately the same angle not exceeding 30° from the vertical.
- 12 Locate the unit away from walls. Take all precautions to ensure that hot air exhausted from the engine and driven machine cooling systems cannot be recirculated. If such hot air is taken in by the engine or driven machine cooling fan, this may cause overheating of the unit; if taken in for combustion, the engine power will be reduced.

1.4 Safety during use and operation

- 1 When the unit has to operate in a fire-hazardous environment, each engine exhaust has to be provided with a spark arrestor to trap incendiary sparks.
- 2 The exhaust contains carbon monoxide which is a lethal gas. When the unit is used in a confined space, conduct the engine exhaust to the outside atmosphere by a pipe of sufficient diameter; do this in such a way that no extra back pressure is created for the engine. If necessary, install an extractor. Observe any existing local regulations. Make sure that the unit has sufficient air intake for operation. If necessary, install extra air intake ducts.
- 3 When operating in a dust-laden atmosphere, place the unit so that dust is not carried towards it by the wind. Operation in clean surroundings considerably extends the intervals for cleaning the air intake filters and the cores of the coolers.
- 4 Close the compressor air outlet valve before connecting or disconnecting a hose. Ascertain that a hose is fully depressurized before disconnecting it. Before blowing compressed air through a hose or air line, ensure that the open end is held securely, so that it cannot whip and cause injury.
- 5 The air line end connected to the outlet valve must be safeguarded with a safety cable, attached next to the valve.
- 6 No external force may be exerted on the air outlet valves, e.g. by pulling on hoses or by installing auxiliary equipment directly to a valve, e.g. a water separator, a lubricator, etc. Do not step on the air outlet valves.
- 7 Never move a unit when external lines or hoses are connected to the outlet valves, to avoid damage to valves, manifold and hoses.
- 8 Do not use compressed air from any type of compressor, without taking extra measures, for breathing purposes as this may result in injury or death. For breathing air quality, the compressed air must be adequately purified according to local legislation and standards. Breathing air must always be supplied at stable, suitable pressure.
- 9 Distribution pipe work and air hoses must be of correct diameter and suitable for the working pressure. Never use frayed, damaged or deteriorated hoses. Replace hoses and flexibles before the lifetime expires. Use only the correct type and size of hose end fittings and connections.
- 10 If the compressor is to be used for sand-blasting or will be connected to a common compressed-air system, fit an appropriate non-return valve (check valve) between compressor outlet and the connected sand-blasting or compressed-air system. Observe the right mounting position/direction.
- 11 Before removing the oil filler plug, ensure that the pressure is released by opening an air outlet valve.
- 12 Never remove a filler cap of the coolant system of a hot engine. Wait until the engine has sufficiently cooled down.
- 13 Never refill fuel while the unit is running, unless otherwise stated in the Atlas Copco Instruction Book (AIB). Keep fuel away from hot parts such as air outlet pipes or the engine exhaust. Do not smoke when fuelling. When fuelling from an automatic pump, an earthing cable should be connected to the unit to discharge static electricity. Never spill nor leave oil, fuel, coolant or cleansing agent in or around the unit.
- 14 All doors shall be shut during operation so as not to disturb the cooling air flow inside the bodywork and/or render the silencing less effective. A door should be kept open for a short period only e.g. for inspection or adjustment.
- 15 Periodically carry out maintenance works according to the maintenance schedule.
- 16 Stationary housing guards are provided on all rotating or reciprocating parts not otherwise protected and which may be hazardous to personnel. Machinery shall never be put into operation, when such guards have been removed, before the guards are securely reinstalled.
- 17 Noise, even at reasonable levels, can cause irritation and disturbance which, over a long period of time, may cause severe injuries to the nervous system of human beings.
When the sound pressure level, at any point where personnel normally has to attend, is:
 - below 70 dB(A): no action needs to be taken,
 - above 70 dB(A): noise-protective devices should be provided for people continuously being present in the room,
 - below 85 dB(A): no action needs to be taken for occasional visitors staying a limited time only,
 - above 85 dB(A): room to be classified as a noise-hazardous area and an obvious warning shall be placed permanently at each entrance to alert people entering the room, for even relatively short times, about the need to wear ear protectors,
 - above 95 dB(A): the warning(s) at the entrance(s) shall be completed with the recommendation that also occasional visitors shall wear ear protectors,

- above 105 dB(A): special ear protectors that are adequate for this noise level and the spectral composition of the noise shall be provided and a special warning to that effect shall be placed at each entrance.
- 18 The unit has parts of which the temperature can be in excess of 80 °C (176 °F), and which may be accidentally touched by personnel when opening the machine during or just after operation. Insulation or safety guards protecting these parts shall not be removed before the parts have cooled down sufficiently, and must be re-installed before operating the machine. As it is not possible to insulate or protect all hot parts by guards (e.g. exhaust manifold, exhaust turbine), the operator / service engineer must always be aware not to touch hot parts when opening a machine door.
 - 19 Never operate the unit in surroundings where there is a possibility of taking in flammable or toxic fumes.
 - 20 If the working process produces fumes, dust or vibration hazards, etc., take the necessary steps to eliminate the risk of personnel injury.
 - 21 When using compressed air or inert gas to clean down equipment, do so with caution and use the appropriate protection, at least safety glasses, for the operator as well as for any bystander. Do not apply compressed air or inert gas to your skin or direct an air or gas stream at people. Never use it to clean dirt from your clothes.
 - 22 When washing parts in or with a cleaning solvent, provide the required ventilation and use appropriate protection such as a breathing filter, safety glasses, rubber apron and gloves, etc.
 - 23 Safety shoes should be compulsory in any workshop and if there is a risk, however small, of falling objects, wearing of a safety helmet should be included.
 - 24 If there is a risk of inhaling hazardous gases, fumes or dust, the respiratory organs must be protected and depending on the nature of the hazard, so must the eyes and skin.
 - 25 Remember that where there is visible dust, the finer, invisible particles will almost certainly be present too; but the fact that no dust can be seen is not a reliable indication that dangerous, invisible dust is not present in the air.
 - 26 Never operate the unit at pressures or speeds below or in excess of its limits as indicated in the technical specifications.
 - 27 When operating the compressor in Remote or Auto mode, observe all relevant local legislation.

1.5 Safety during maintenance and repair

Maintenance, overhaul and repair work shall only be carried out by adequately trained personnel; if required, under supervision of someone qualified for the job.

- 1 Use only the correct tools for maintenance and repair work, and only tools which are in good condition.
- 2 Parts shall only be replaced by genuine Atlas Copco replacement parts.
- 3 All maintenance work, other than routine attention, shall only be undertaken when the unit is stopped. Steps shall be taken to prevent inadvertent starting. In addition, a warning sign bearing a legend such as “work in progress; do not start” shall be attached to the starting equipment.
On engine-driven units the battery shall be disconnected and removed or the terminals covered by insulating caps.
On electrically driven units the main switch shall be locked in open position and the fuses shall be taken out. A warning sign bearing a legend such as “work in progress; do not supply voltage” shall be attached to the fuse box or main switch.
- 4 Before dismantling any pressurized component, the compressor or equipment shall be effectively isolated from all sources of pressure and the entire system shall be relieved of pressure. Do not rely on non-return valves (check valves) to isolate pressure systems. In addition, a warning sign bearing a legend such as ‘work in progress; do not open’ shall be attached to each of the outlet valves.

- 5 Prior to stripping an engine or other machine or undertaking major overhaul on it, prevent all movable parts from rolling over or moving.
- 6 Make sure that no tools, loose parts or rags are left in or on the machine. Never leave rags or loose clothing near the engine air intake.
- 7 Never use flammable solvents for cleaning (fire-risk).
- 8 Take safety precautions against toxic vapours of cleaning liquids.
- 9 Never use machine parts as a climbing aid.
- 10 Observe scrupulous cleanliness during maintenance and repair. Keep away dirt, cover the parts and exposed openings with a clean cloth, paper or tape.
- 11 Never weld on or perform any operation involving heat near the fuel or oil systems. Fuel and oil tanks must be completely purged, e.g. by steam-cleaning, before carrying out such operations. Never weld on, or in any way modify, pressure vessels. Disconnect the alternator cables during arc welding on the unit.
- 12 Support the towbar and the axle(s) securely if working underneath the unit or when removing a wheel. Do not rely on jacks.
- 13 Do not remove any of, or tamper with, the sound-damping material. Keep the material free of dirt and liquids such as fuel, oil and cleansing agents. If any sound-damping material is damaged, replace it to prevent the sound pressure level from increasing.
- 14 Use only lubricating oils and greases recommended or approved by Atlas Copco or the machine manufacturer. Ascertain that the selected lubricants comply with all applicable safety regulations, especially with regard to explosion or fire-risk and the possibility of decomposition or generation of hazardous gases. Never mix synthetic with mineral oil.
- 15 Protect the engine, alternator, air intake filter, electrical and regulating components, etc., to prevent moisture ingress, e.g. when steam-cleaning.
- 16 When performing any operation involving heat, flames or sparks on a machine, the surrounding components shall first be screened with non-flammable material.
- 17 Never use a light source with open flame for inspecting the interior of a machine.
- 18 When repair has been completed, the machine shall be barred over at least one revolution for reciprocating machines, several revolutions for rotary ones to ensure that there is no mechanical interference within the machine or driver. Check the direction of rotation of electric motors when starting up the machine initially and after any alteration to the electrical connection(s) or switch gear, to check that the oil pump and the fan function properly.
- 19 Maintenance and repair work should be recorded in an operator's logbook for all machinery. Frequency and nature of repairs can reveal unsafe conditions.
- 20 When hot parts have to be handled, e.g. shrink fitting, special heat-resistant gloves shall be used and, if required, other body protection shall be applied.
- 21 When using cartridge type breathing filter equipment, ascertain that the correct type of cartridge is used and that its useful service life is not surpassed.
- 22 Make sure that oil, solvents and other substances likely to pollute the environment are properly disposed of.
- 23 Before clearing the unit for use after maintenance or overhaul, check that operating pressures, temperatures and speeds are correct and that the control and shutdown devices function correctly.

1.6 Tool applications safety

Use the proper tool for each job. With the knowledge of correct tool use and knowing the limitations of tools, along with some common sense, many accidents can be prevented.

Special service tools are available for specific jobs and should be used when recommended. The use of these tools will save time and prevent damage to parts.

1.7 Specific safety precautions

Batteries

When servicing batteries, always wear protecting clothing and glasses.

- 1 The electrolyte in batteries is a sulphuric acid solution which is fatal if it hits your eyes, and which can cause burns if it contacts your skin. Therefore, be careful when handling batteries, e.g. when checking the charge condition.
- 2 Install a sign prohibiting fire, open flame and smoking at the post where batteries are being charged.
- 3 When batteries are being charged, an explosive gas mixture forms in the cells and might escape through the vent holes in the plugs.
Thus an explosive atmosphere may form around the battery if ventilation is poor, and can remain in and around the battery for several hours after it has been charged. Therefore:
 - never smoke near batteries being, or having recently been, charged,
 - never break live circuits at battery terminals, because a spark usually occurs.

- 4 When connecting an auxiliary battery (AB) in parallel to the unit battery (CB) with booster cables: connect the + pole of AB to the + pole of CB, then connect the - pole of CB to the mass of the unit. Disconnect in the reverse order.

Piping and coolers (according to directive 2014/68/EU)

Safety valves

All adjustments or repairs are to be done by an authorized representative of the valve supplier (see section "Maintenance schedule").

2 About this manual

2.1 Description of safety pictograms



This symbol draws your attention to dangerous situations. The operation concerned may endanger persons and cause injuries.



This symbol is followed by supplementary information.

2.2 Abbreviations

AC	Atlas Copco
AIB	Atlas Copco Instruction Book
ASB	Service Bulletin
ASL	Atlas Copco List
CAC	Charge Air Cooler
CAN	Controller Area Network Interface
ECM	Engine Control Module
EOM	Engine Operation Manual
HP	High-pressure
LP	Low-pressure
MAX	Maximum
MIN	Minimum
PAR	Portable Energy Division
PC	Personal Computer
RPM	Revolutions Per Minute

2.3 Definitions

Control unit	This is the panel on the unit where the User Interface, power switch, PC connector, remote control connector, heater switch and pressure setpoint buttons are situated.
Technician	Atlas Copco personnel allowed to change settings of the control and safety system.
Operator	Atlas Copco personnel or user allowed to operate the compressor unit with the push-buttons.
Load	Operating condition with inlet compressor open and engine speed regulated between minimum and maximum.
Not loaded	Operating condition with inlet compressor forced to closed position by operator command. The engine speed is held at minimum.
Unload	Operating condition with inlet compressor forced to closed position by working pressure command. The engine speed is held at minimum.
ECM	Engine Control Module. This is the basic engine control module used for the engine controls (emissions, safeties, fuel injection, ...).

Pc4003™

Compressor Control Module. This module is linked with the ECM and is used for speed regulation and for the compressor controls (unloading system, safeties, ...). It can be operated via PC or User Interface.

User Interface setpoint

Max. working pressure setpoint calibrated in the Pc4003™. At this max. setpoint the engine speed will be regulated between max. and min. speed when running in manual or automatic operation.

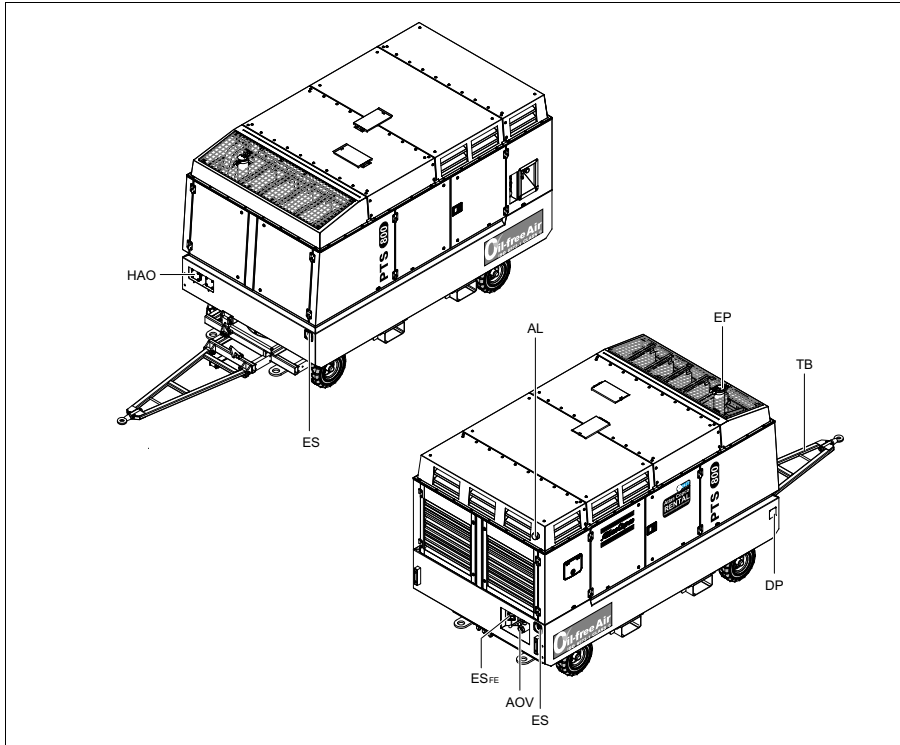
2.4 Directions

The driving direction has always been originated with, when the sides of the unit are denoted. E.g. the towbar is at the front and the User Interface is at the rear right-hand side of the unit.

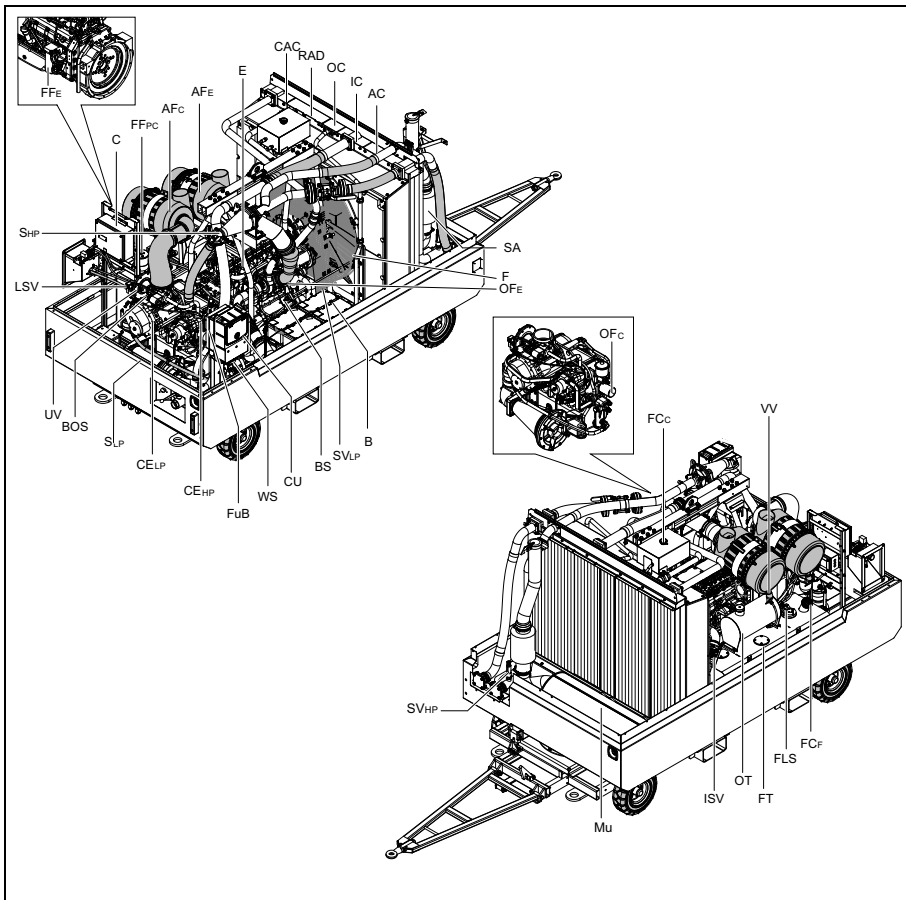
3 Main parts

3.1 General description

The PTS 800 T3 Cud is a portable, two-stage screw compressor unit, which delivers oil-free air. The PTS 800 T3 Cud is built for a nominal effective working pressure of 6.9-10.3 bar (100-150 psi). An overview of the main parts is given in the diagram below.



AL	Alarm lamp
AOV	Air outlet valve
DP	Data plate
EP	Exhaust pipe
ES	Emergency stop
ES _{FE}	Emergency stop fire extinguisher
HAO	Hot air outlet
TB	Towbar
















AC	Aftercooler
AF _C	Air intake filter (compressor)
AF _E	Air intake filter (engine)
B	Battery
BOS	Blow-off silencer
BS	Battery switch
C	Cubicle (battery charger, heaters, spare I/O's)
CAC	Charge air cooler
CE _{LP}	LP compressor element
CE _{HP}	HP compressor element
CU	Control unit
E	Engine
F	Cooling fan
FC _C	Filler cap coolant
FC _F	Filler cap fuel
FF _E	Fuel filter engine
FF _{PC}	Primary coarse fuel filter / Water separator
FLS	Fuel level sensor
FT	Fuel tank
FuB	Fuse box
IC	Intercooler
ISV	Inlet shutdown valve
LSV	Loading solenoid valve
Mu	Muffler
OC	Oil cooler
OF _C	Oil filter (compressor)
OF _E	Oil filter (engine)
OT	Oil tank
RAD	Radiator
SA	Spark arrestor
S _{HP}	High pressure silencer
S _{LP}	Low pressure silencer
SV _{HP}	Safety valve high pressure circuit
SV _{LP}	Safety valve low pressure circuit
UV	Unloading valve
VV	Vacuator valve
WS	Water separator









3.2 Markings

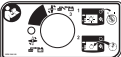

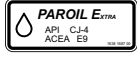

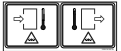
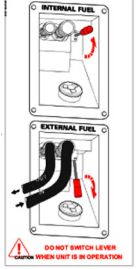
Atlas Copco labels its products with ISO defined and other safety markings providing instructions and information. The markings also warn of hazards. For convenience and safety, keep all markings in legible condition, replacing them when damaged or missing. Replacement markings are available from the factory.

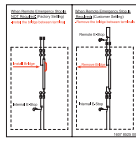

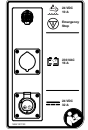
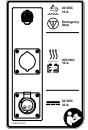
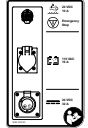
A brief description of all markings provided on the compressor is given hereafter. The precise location of all markings can be found in the parts manual of this compressor.

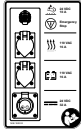
	Warning, burn hazard/hot surface
	Flame Label needed for transport. Unit contains flammable liquid (diesel fuel).
	Lift point Always use the indicated lifting points for lifting.
	No Lift Point The fixation points may not be used for lifting. They can be used for fixing during transport.
	Prohibition to open air valves without connected hoses

	Rotation direction
	Forklift slots
	No strapping allowed
	Compressor oil drain
	Engine oil drain
	Engine coolant drain
	Fuel drain
	Warning! Part under pressure

	Do not stand on outlet valves
	Do not clean with high pressurised water.
	Sound power level in accordance with Directive 84/533/EC (expressed in dB (A))
	Automatic water separator drain
	Do not tow on road
	Air suction
	Do not open doors while the motor is running.
	Air discharged from this unit is not suitable for human consumption without the installation of special equipment. Inhalation may cause serious injury or death.

	Battery switch.
	Atlas Copco engine oil PAROIL E Mission Green
	Atlas Copco engine oil PAROIL E Xtra
	Label heating
	Warm/cold discharge air
	Do not switch the fuel lever while the unit is in operation

	Instruction label for remote emergency stop
	Label fuses
	Label sockets EC
	Label sockets EC + heaters
	Label sockets US

	Label sockets US+ heaters
--	---------------------------

3.3 Mechanical features

3.3.1 Engine

The compressor is driven by a liquid-cooled diesel engine, manufactured by Cummins. This engine has the following characteristics: direct fuel injection, electronic unit injection that is mechanically actuated, turbocharged, and air-to-air aftercooled.

For general description, see Engine Operation Manual (EOM).

3.3.2 Compressor

The compressor has one low-pressure and one high-pressure compressor element, individually bolted to the housing of a common step up gear. The step up gear is bolted directly to the engine flywheel housing. The power from the engine is transmitted to the step up gear shaft through a flexible coupling.

3.3.3 Compressor elements

Each compressor element houses two screw-type rotors, mounted on ball and roller bearings. The male rotor, driven by the step up gear, and the female rotor are synchronized through timing gears, which maintain the slight clearance between the rotors.

The male rotors have four lobes and the female rotors six flutes. Thus, the male rotors revolve at 1 1/2 times the speed of the female rotors. The absence of contact between the rotors and between the rotor crests and the compressor casings eliminates wear and power loss. The elements deliver pulsation-free air.

Air and oil sealing rings are fitted on the rotor shafts. The air seals are located next to the compression space, the oil seals next to the rotor bearings. The leak air from the air seals is evacuated to the atmosphere through vent-holes. Any oil that might gather between the oil and air seals is prevented from entering the compression space, as it is drained through the same vent holes.

3.3.4 Cooling and lubrication

The radiator, intercooler, aftercooler, charge air cooler and oil cooler are installed side by side in the front of the unit. These coolers are air-cooled by an axial fan, which is belt-driven from the engine crankshaft.

Oil is used for jacket-cooling of the compressor elements, as well as for lubricating the rotor bearings, timing and drive gears. The system includes an oil pump and an oil filter.

3.3.5 Speed regulation and unloading system

The regulation of the unit is governed by the Engine Control Module (ECM) and the Compressor Control Module (Pc4003™), which will vary engine speed and operate the compressor throttle valve and unloading valve through a 3/2-loading valve.

3.3.6 Safety devices

A LP safety valve and a HP safety valve protect the LP and HP sides of the compressor respectively.

A check valve prevents blow-back of compressed air when the compressor is unloaded or stopped.

To protect the compressor against abnormal operating conditions, pressure and temperature sensors transmit pressure and temperature data to the Pc4003™ control module.

3.3.7 Frame and axles

The compressor/engine unit is supported on a frame which also carries the compressor cooling block.

The front axle is provided with a steering gear and a hinged towbar with towing eye. The towbar can be locked in the raised position.

The compressor is equipped with wheel chocks and/or a parking brake to allow parking on sloping ground.

3.3.8 Bodywork

The bodywork has openings for the intake, cooling and exhaust air and specially hinged doors for maintenance and service operations. The bodywork is internally lined with sound-absorbing material. The air outlet valve is in the frame, at the back.

3.3.9 Data plate

The compressor is furnished with a data plate showing among others type, serial number and nominal working pressure

3.3.10 Fuel tank

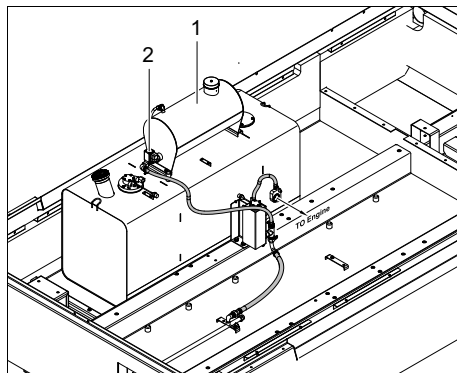
The unit has one internal fuel tank, but can also be connected to an external fuel tank.

3.3.11 Inlet shutdown valve

The inlet shutdown valve is mounted on the piping between the engine inlet and the motor charge air cooler outlet. The valve prevents combustion air to enter the engine. When an overspeed is detected, the engine will shutdown (emergency stop) and the inlet shutdown valve will close.

To reset the inlet shutdown valve, pull the handle of the valve up until a click is heard.

3.3.12 Automatic oil filler



The PTS 800 T3 Cud provides an oil tank (20 l) for automatic oil filling (1). When the oil level of the engine and oil level tank drops below a set min. level, the Pc4003™ sends a signal to open the automatic oil filler valve (2) so the engine oil can be topped up.

3.3.13 Automatic fire suppression system

The PTS 800 T3 Cud is fitted with an automatic fire suppression system. This installation will respond automatically to a fire in the engine compartment by switching of the engine and spreading extinguishing liquid throughout the engine compartment.

In case of an extinguishing liquid release by the fire suppression system, please be careful when opening the doors of the compressor. Although this fire suppression system is designed and tested to extinguish most common compressor fires, there is always a chance that not all flames are extinguished.

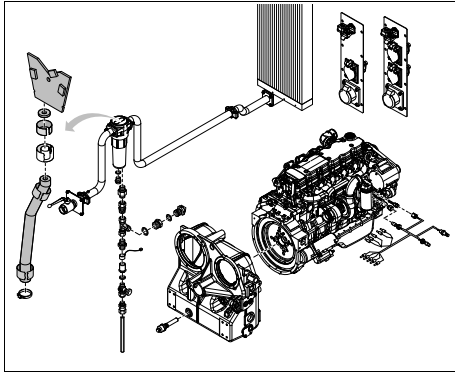
After activation of the system always contact Atlas Copco immediately to investigate and repair the machine.

For more detailed information on the Automatic fire suppression system, refer to section “Operating the automatic fire suppression system” on page 56.



Repairs and maintenance must be done by authorized personnel only. Please contact Atlas Copco if the fire suppression system shows any irregularities.

3.3.14 Cold start (option)



The cold start option consists of a heating kit, making sure that the engine starts at temperatures as low as -25°C (-13°F).

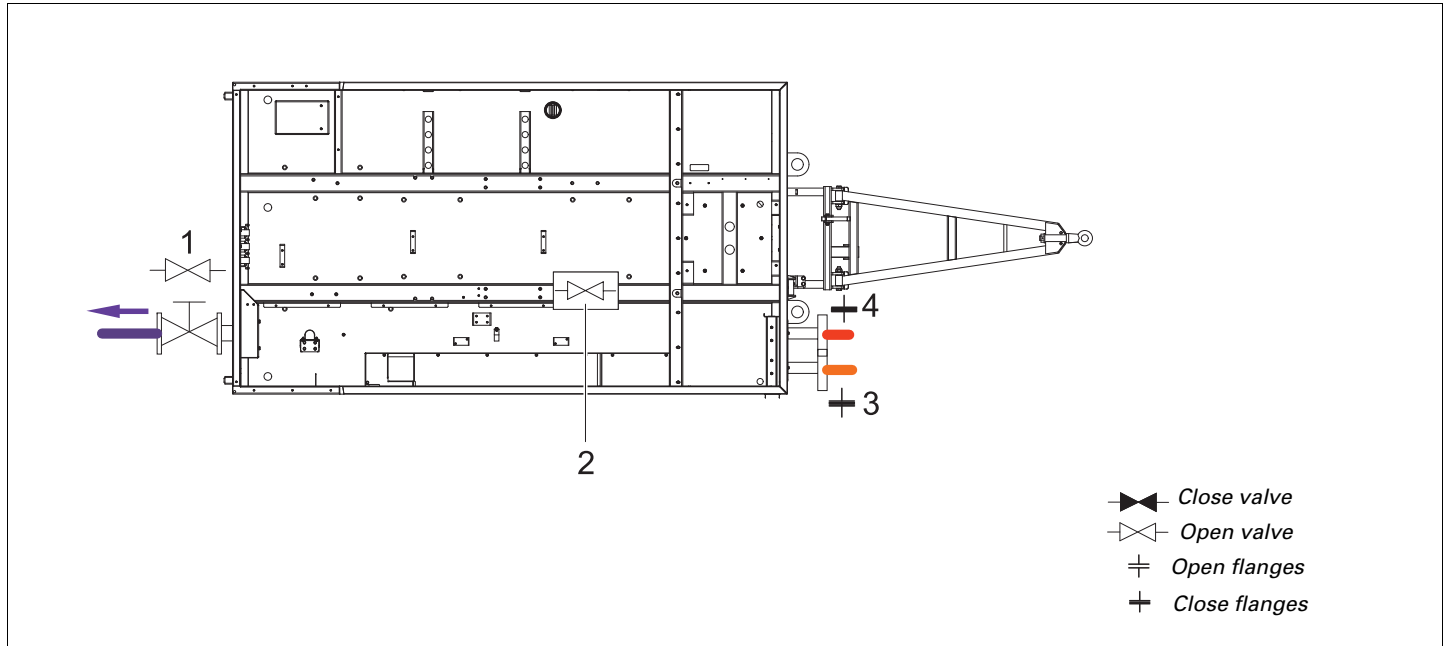
The heating kit consists of heater sockets (see also chapter “Sockets EU” and “Sockets USA”), an oil temperature sensor and heater plugs that are mounted on the water separator, the gearbox and the engine block.

3.3.15 Hot air outlet

This option gives the opportunity to obtain hot compressed air. Three different air outlet settings are possible:

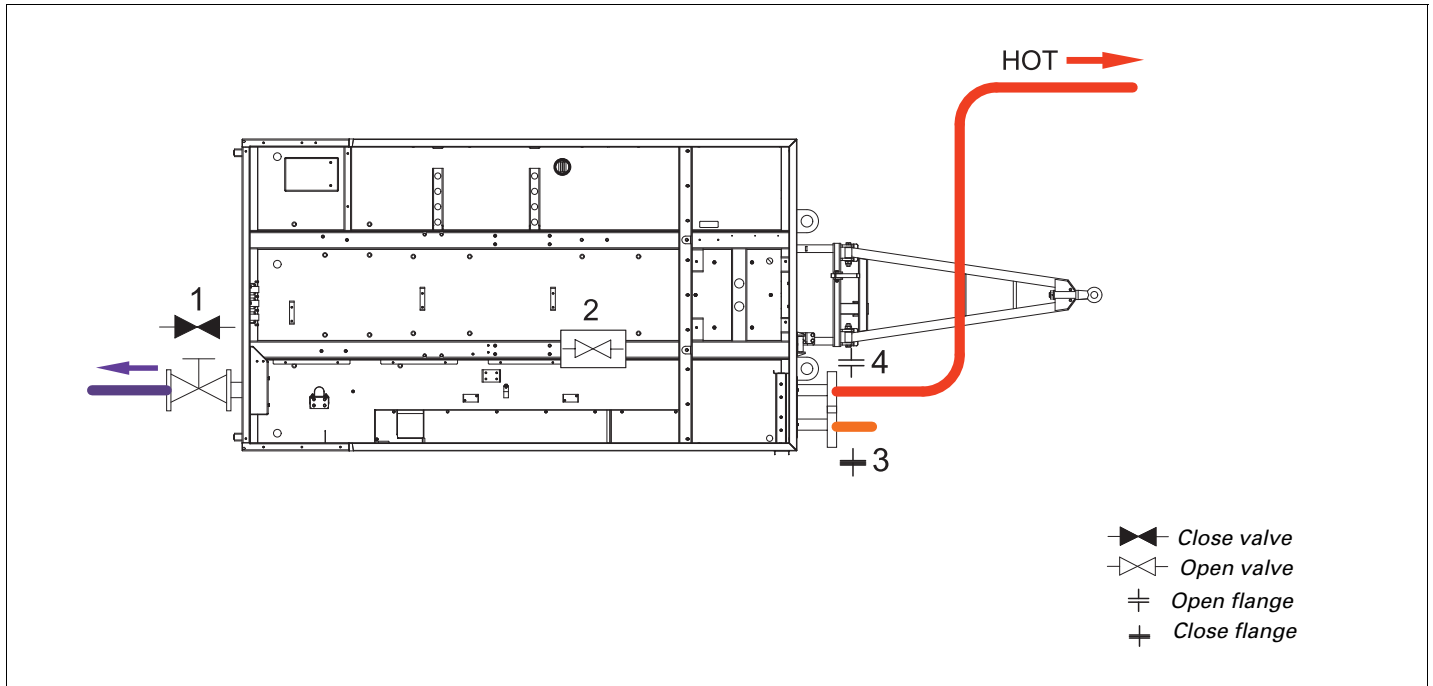
To obtain cold air:

- open air outlet valve (1),
- close flanges hot air outlet and hot air inlet (4, 3),
- open hot air outlet valve (2).



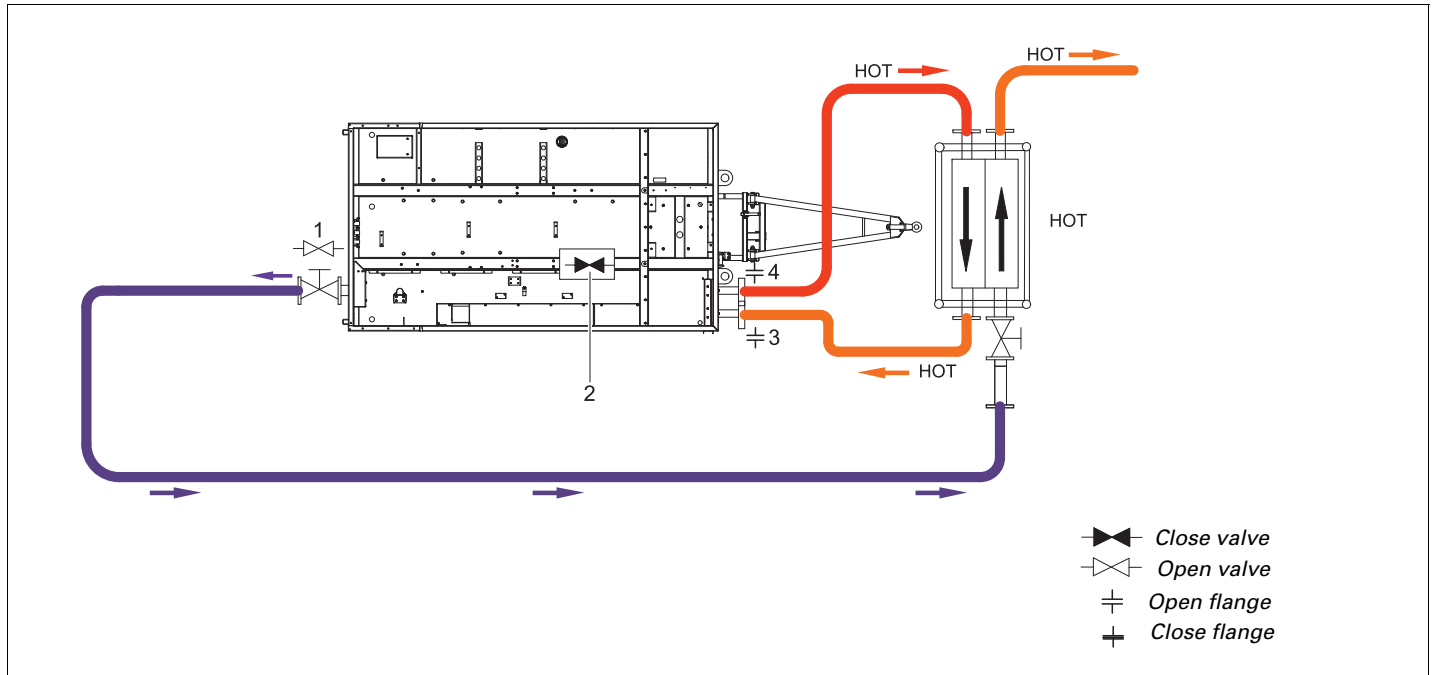
To obtain hot air, without cold air:

- close air outlet valve (1),
- open hot air outlet flange (4),
- keep hot air inlet flange closed (3),
- open hot air outlet valve (2).

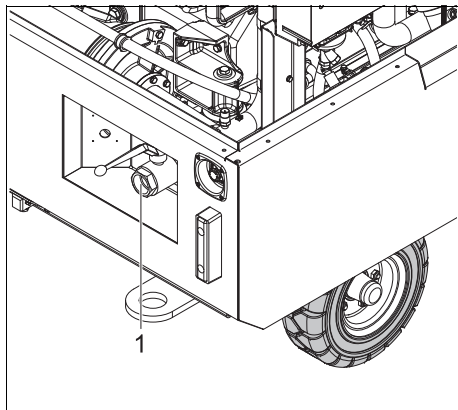


To obtain cold and hot air:

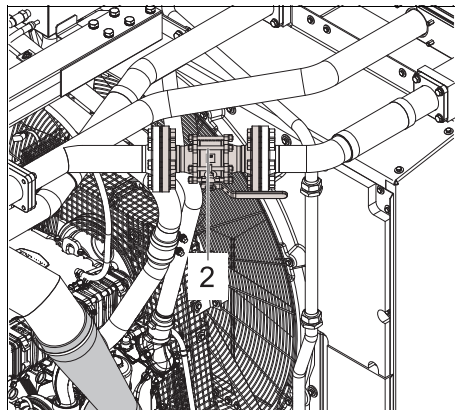
- open air outlet valve (1),
- close hot air outlet valve (2),
- open hot air outlet flange (4),
- open hot air inlet flange (3).



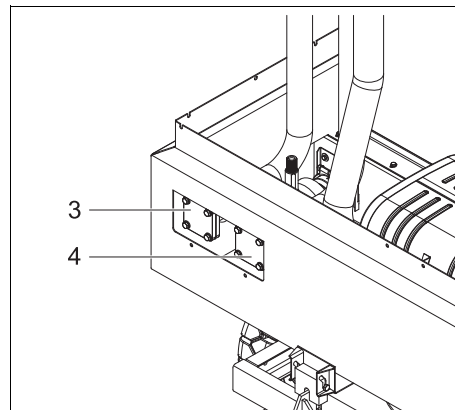
Components



1 | Air outlet valve (AOV)



2 | Hot air outlet valve



3 | Hot air inlet flange
4 | Hot air outlet flange

3.4 Electrical features

The electrical features described in this chapter are standard provided on this compressor.

3.4.1 Pc4003™ controller

The Pc4003™ module is built into the side of the rear right corner panel, with an emergency stop button nearby at the rear side of the unit, for maximum safety during the cranking procedure. It communicates with a display unit, located in front of the control panel. The control module will carry out all necessary tasks to control and protect the compressor, regardless of the use of the compressor

This means that the Pc4003™ module can be used for several applications.



3.4.2 Battery switch

The compressor is equipped with a battery switch.

When the compressor is not in use this switch must always be in the “OFF” position.

It is not allowed to use this switch as an emergency switch or for stopping the compressor.



Do not switch off the battery switch immediately after stopping and cooldown! See battery switch label.

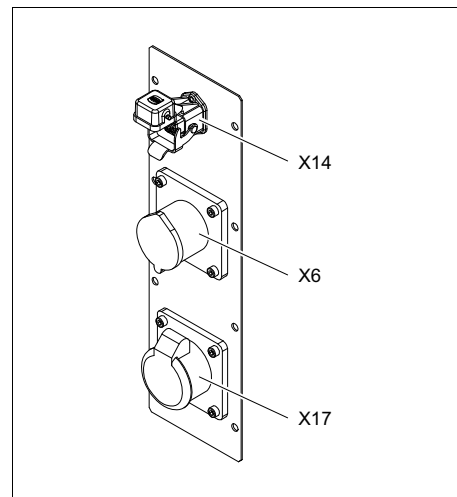
3.4.3 Battery charger

To maintain the battery voltage the compressor is equipped with an automatic battery charger:

- Battery charger EEC/AUS: 240 VAC / 24 VDC - 100 VA
- Battery charger USA: 120 VAC / 24 VDC - 100 VA

For more detailed info on the battery charger, see also section “Maintaining the battery voltage”.

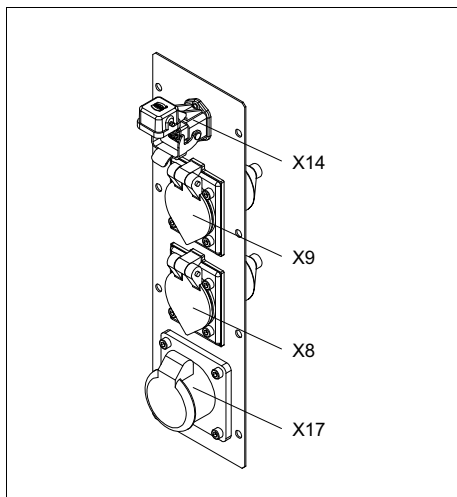
3.4.4 Sockets EU



The PTS 800 T3 Cud EU variant is equipped with the following sockets:

X6	Socket battery charger 230 V and Socket heater (optional)
X14	Socket remote emergency stop
X17	Power outlet socket 24V

3.4.5 Sockets USA



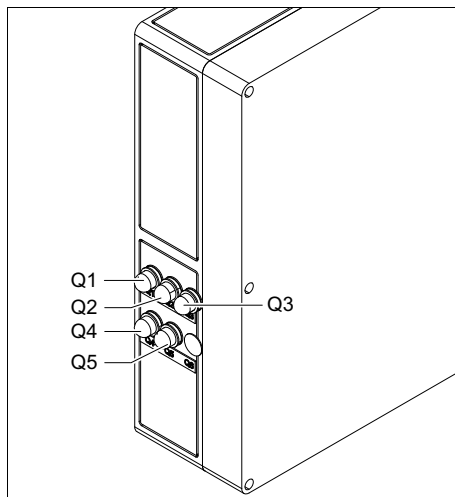
The PTS 800 T3 Cud USA variant is equipped with the following sockets:

X8	Socket battery charger 110 V
X9	Socket heater (optional)
X14	Socket remote emergency stop
X17	Power outlet socket 24V



Optional socket heater X9 can only be used after plugging in and supplying socket X8.

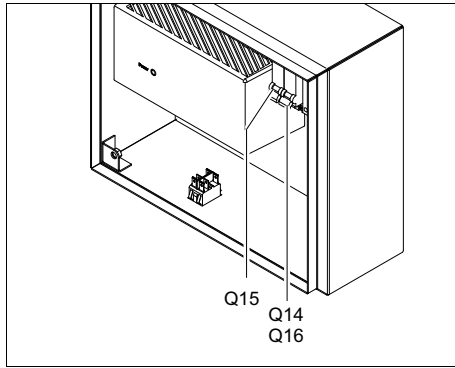
3.4.6 Fuse box



The PTS 800 T3 Cud is equipped with the following circuit breakers:

Q1	General circuit breaker (15A)
Q2	Circuit breaker 24V outlet (30A)
Q3	Circuit breaker fire extinguisher (10A)
Q4	Circuit breaker ECM (30A)
Q5	Circuit breaker inlet shutdown valve (4A, 24V)

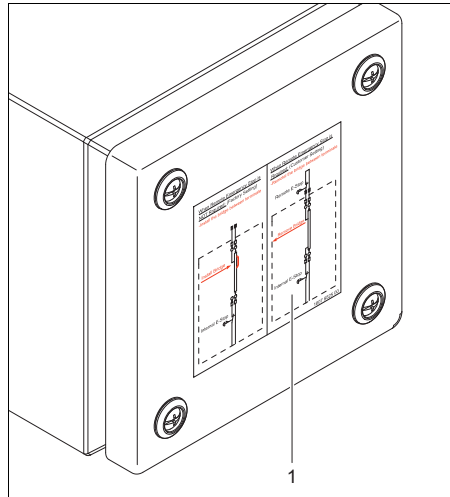
3.4.7 Heater box



The PTS 800 T3 Cud is equipped with the following circuit breakers for the heaters:

Q14	Circuit breaker heater EU/battery charger
Q15	Circuit breaker heater USA/battery charger
Q16	Circuit breaker heater USA

3.4.8 External emergency stop

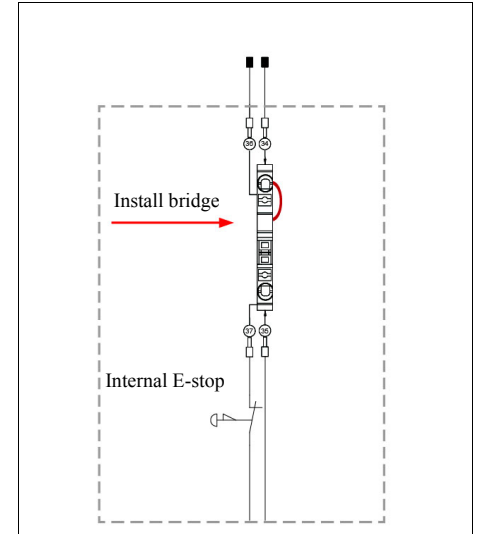


The PTS 800 T3 Cud offers the possibility to install an external emergency stop.

To enable the remote emergency stop feature, open the emergency switch box and clear the bridge between the 2 terminals as indicated on the instruction label (1).

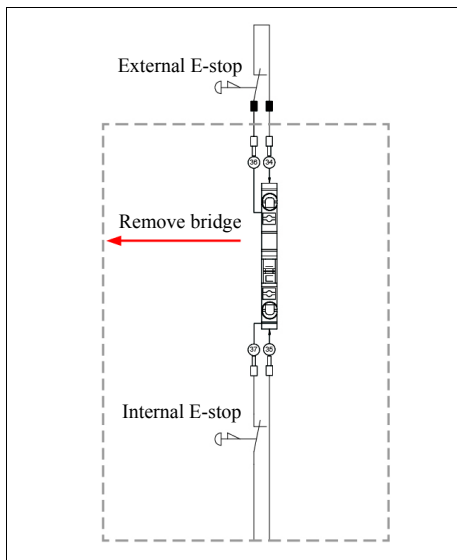
When Remote Emergency Stop is NOT required (factory setting)

- Install the bridge between the terminals



When Remote Emergency Stop is required (customer setting)

- Remove the bridge between the terminals



The emergency stop is to be used for stopping the machine immediately in case of an emergency or risk of human injuries. It is NOT intended as the normal stop procedure. Stopping the unit frequently with the emergency stop can cause mechanical and/or electronic damage to the unit. For warranty purposes a counter for the number of emergency stops is kept in the control unit.

Do not use the emergency stop unnecessarily!

3.5 *Operation flows*

3.5.1 Air flow system

Description

Air drawn through the air intake filters (AF_C), and unloader (UA) into LP compressor element (CE_{LP}) is compressed and discharged to the intercooler (IC) where the heat of first-stage compression is removed by the cooling air flow.

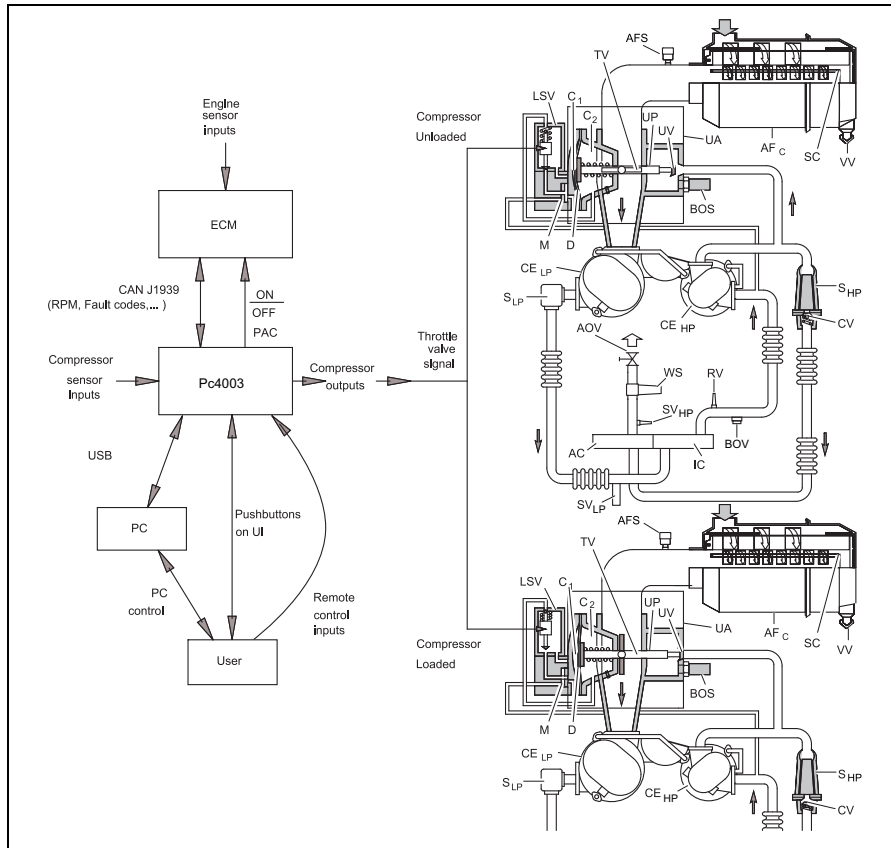
The cooled air then enters HP compressor element (CE_{HP}) where it is further compressed and discharged through check valve (CV), aftercooler (AC) and water separator (WS) to an air outlet valve (AOV).

During loaded operation air inlet throttle valve (TV) is open and unloading valve (UV) closed. These valves are simultaneously closed and opened respectively by loading solenoid valve (LSV) through unloader piston (UP) when the working pressure reaches its preset maximum. The pressure of the HP compressor element is then released to the atmosphere through the unloading valve and the blow-off silencers (BOS), resulting in closing of the check valve. The throttle valve leaves an air passage in the closed position. Thus air remains drawn into the compressor to maintain a reasonable pressure ratio over the elements.

An air-operated balancing piston is fitted behind the male rotor rear thrust bearing of HP compressor element. The piston decreases the load on the male rotor front thrust bearing during loaded operation. During loading the HP compressor element balancing piston is actuated by working pressure, while during unloading the pressure on the piston equals the atmospheric pressure.

An intercooler relief valve (RV) and a HP safety valve (SV_{HP}) are comprised in the system.

Overview



AC	Aftercooler
AF _C	Air intake filter (compressor)
AFS	Air filter switch
AOV	Air outlet valve
BOS	Blow-off silencer
BOV	Blow-off valve
BV	By-pass valve
C ₁	Chamber (unloader assembly)
C ₂	Chamber (unloader assembly)
CE _{LP}	LP compressor element
CE _{HP}	HP compressor element
CV	Check valve
D	Diaphragm (unloader assembly)
IC	Intercooler
LSV	Loading solenoid valve
M	Membrane (unloader assembly)
RV	Intercooler relief valve
S _{HP}	Air outlet silencer (HP compressor element)
S _{LP}	Air outlet silencer (LP compressor element)
SC	Safety cartridge
SV _{HP}	Safety valve HP circuit
SV _{LP}	Safety valve LP circuit
TV	Throttle valve (unloader assembly)
UA	Unloader assembly
UP	Unloader piston (unloader assembly)
UV	Unloading valve (unloader assembly)
VV	Vacuator valve (dust ejector)
WS	Water separator

3.5.2 Cooling and lubricating oil system

Description

Oil from the oil sump (OS) of gear casing (GC) is circulated by an oil pump (OP), mounted on the front of the gear casing. The pump is driven from the main drive shaft. The oil is pumped through the air-cooled oil cooler (OC) and from there to the cooling jacket of the HP compressor element (CE_{HP}) and to the cooling jacket of the LP compressor element (CE_{LP}). From the LP element cooling jacket the oil passes through oil filter (OF_C) on gear casing before entering the LP and HP element oil pipes and ducts to lubricate the rotor bearings, driving and timing gears. The oil then flows back to the oil sump.

The gear casing is vented to the atmosphere through a breather pot assembly.

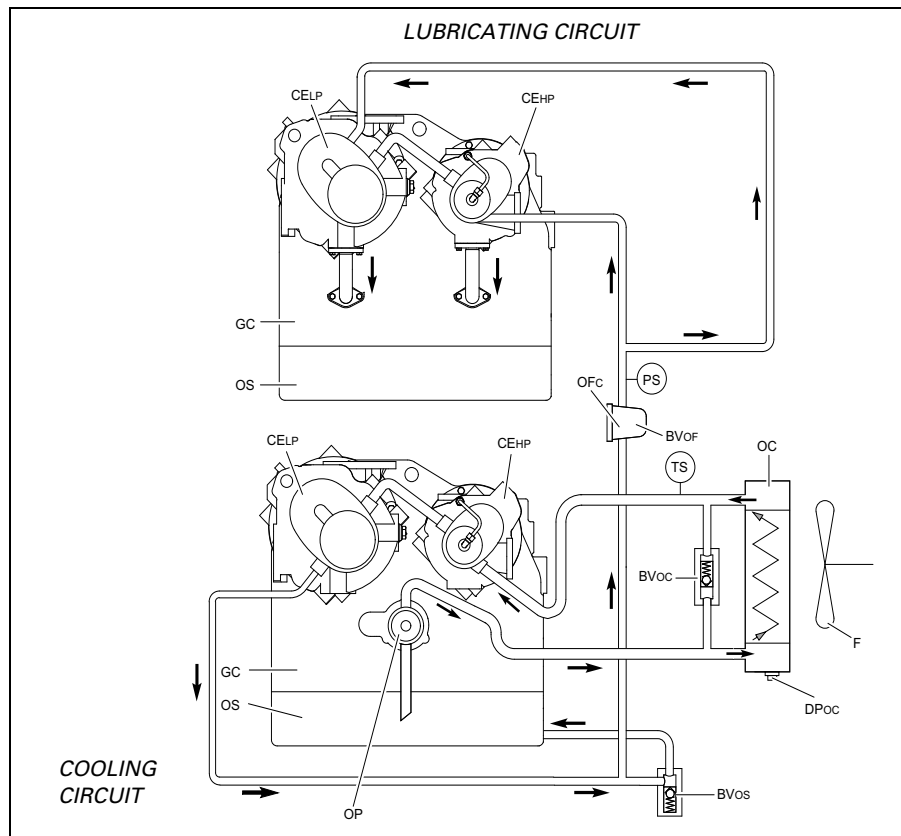
The bypass valve (BV_{OF}) of the oil filter opens when the pressure drop over the filter is above normal due to clogging of the element. The oil is then circulated without being filtered. For this reason, it is imperative to replace the oil filter at regular intervals.

Bypass valve (BV_{OS}) opens when the pressure drop over the filter and lubricating circuit is above normal. The oil is then returned to the oil sump.

Bypass valve (BV_{OC}) opens when the pressure rise over the oil cooler is above normal. This will happen mainly when starting the compressor from cold in low ambient temperatures. The bypassing of the oil cooler will ensure rapid warming of the oil to the normal working temperature.

A pressure sensor (PS) and a temperature sensor (TS) are comprised in the system.

Overview



BV _{OC}	Bypass valve (oil cooler)
BV _{OF}	Bypass valve (oil filter)
BV _{OS}	Bypass valve (oil sump)
CE _{LP}	LP compressor element
CE _{HP}	HP compressor element
F	Cooling fan (RAD, IC, AC, OC, CAC)
GC	Gear casing
OC	Oil cooler
OF _C	Compressor oil filter (with bypass valve)
OP	Oil pump
OS	Oil sump
PS	Pressure sensor
TS	Temperature sensor

3.5.3 Fuel system

Description

In case of internal fuel supply, fuel from the fuel tank (FT) is circulated by the engine fuel pump (FP_E). The fuel is pumped through a 3-way valve (TWV) to the primary coarse fuel filter (FF_{PC}).

The fuel then passes through the engine fuel filter (FF_E) and enters the engine (E).

The fuel, which is not used by the engine for combustion, returns via the 3-way valve to the fuel tank.

Instead of internal fuel supply via the fuel tank, external fuel supply is possible.



The unit must be stopped before switching from the internal to an external fuel source.

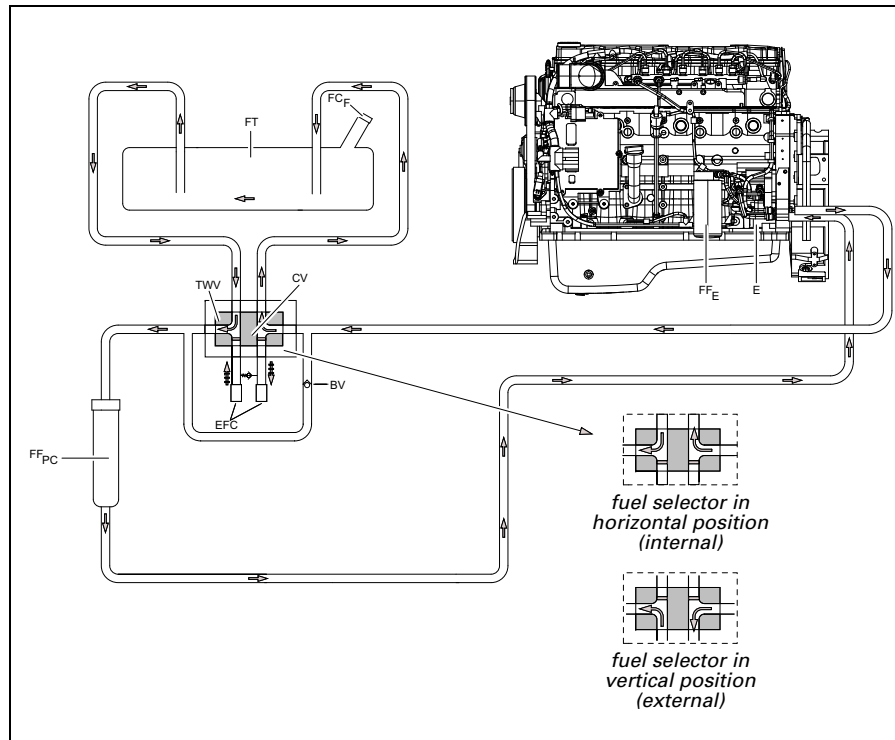
When using external fuel, both the supply and the return hose must be connected to the external fuel supply couplings (EFC).

No restrictions are allowed in those hoses.

Take the necessary precautions to keep the fuel return hose opened and connected, while the unit is running. Check that the primary fuel filter is not shut off.

Restart the unit.

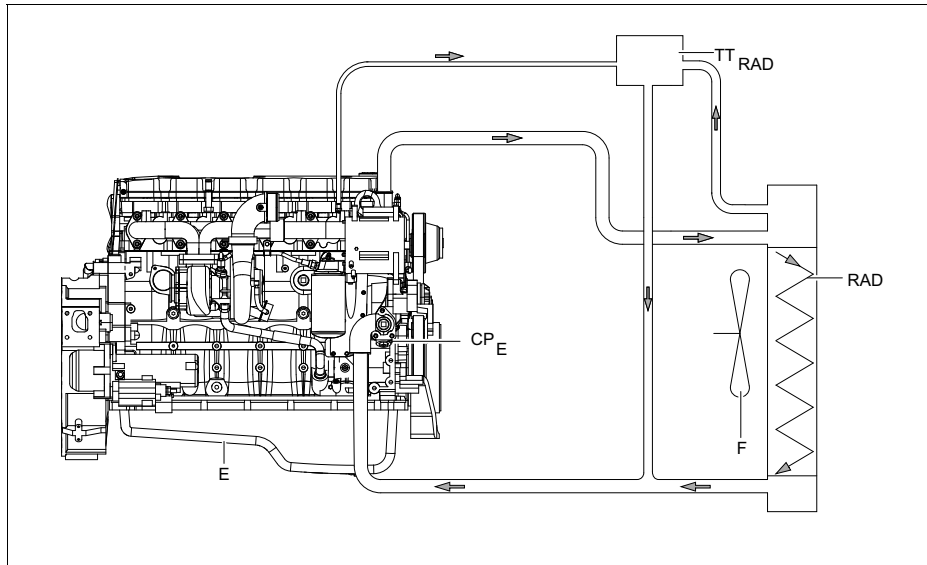
Overview



- BV Bypass valve
- FC_F Filler cap (fuel tank)
- CV Check valve
- E Engine
- EFC External fuel supply coupling
- FF_E Fuel filter engine
- FF_{PC} Primary coarse fuel filter / water separator
- FT Fuel tank
- TWV 3-way valve

3.5.4 Coolant system

Overview



E	Engine
F	Cooling fan (RAD, IC, AC, OC, CAC)
RAD	Radiator
TT _{RAD}	Top tank (radiator)
CP _E	Engine coolant pump (radiator)

Description

The coolant system contains a coolant flow to cool the engine's cylinders.

The coolant is circulated by the engine coolant pump (CP_E), seated on the front of the engine (E). When the coolant returns from the engine, it passes through the radiator (RAD), which is air-cooled by the cooler fan (F).

The radiator top tank (TT_{RAD}) supplies the coolant to the system and gives the coolant in the system room to expand.

4 Installation



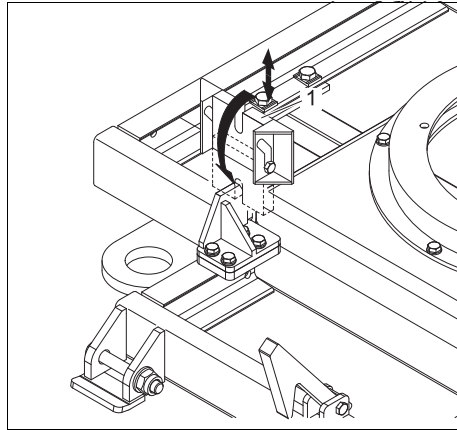
The operator is expected to apply all relevant safety precautions, including those mentioned on pages 7-10 of this book.

4.1 Transporting and lifting

4.1.1 Transporting

Road transport is only allowed on a trailer, with sufficient capacity (wet weight of unit is 4960 kg (17,552 lbs)).

Before towing the unit on the trailer, block the towbar by locking the blocking device (1) in downward position. The blocking device has to be pulled up first, before it can be turned over.



- Leave the towbar in blocked position on the trailer and secure the unit (see section 4.2).
- Lock blockage device in upward position when unit is manoeuvred to its working location.
- Lock all service doors.

4.1.2 Lifting

To lift the unit, use a lift truck or crane with sufficient capacity (wet weight of unit is 4960 kg (17,552 lbs)).

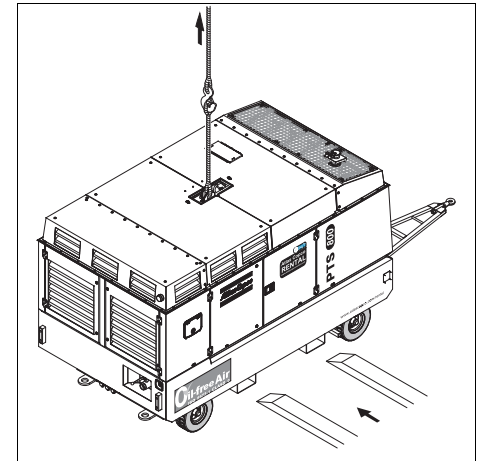
Use the lifting positions of the unit as shown in the figure below.

See to it that the unit will be lifted vertically and remains level.



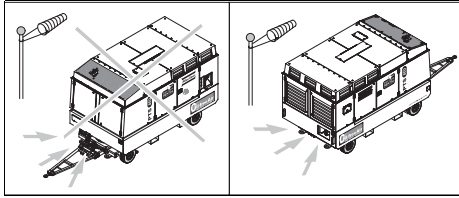
Lifting acceleration and deceleration must be kept within safe limits (max. 4g).

Helicopter lifting is not allowed.

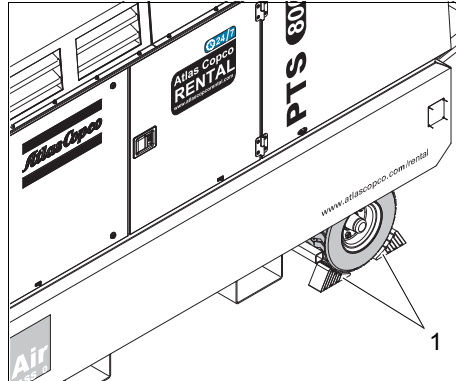


4.2 Parking

- Locate the wind direction and place the rear end of the unit upwind, away from contaminated wind streams and walls. Avoid recirculation of exhaust air from the engine. This causes overheating and engine power decrease.

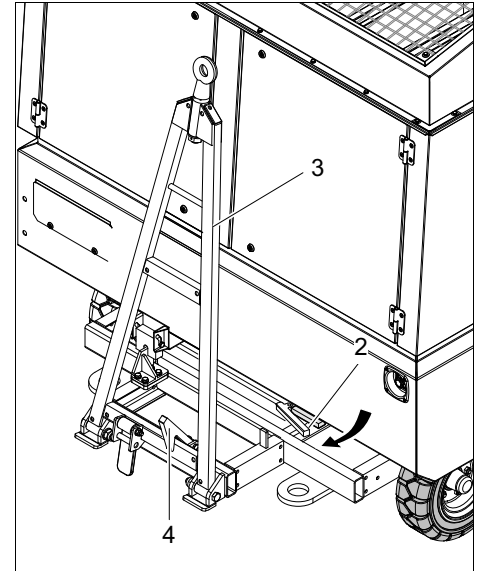


- Park the unit on solid level ground. The compressor can operate in a slant position not exceeding 5° (in both senses: front/rear and left/right).



- Place wheel chocks (1) in front of and behind the wheels or apply the parking brake (2) before the unit is disconnected from the towing or lifting vehicle.

- Lock the towbar (3) in the raised position with the catcher (4).



5 Operating instructions

5.1 Checks before starting

- With the unit standing level, check the engine oil tank and compressor oil levels.
Add oil if necessary. See section 6.5 for the types of oil to be used.
Normally, there is no need to add oil between two oil changes; if there is, check the source of oil consumption.
- Attach the air line to the closed air outlet valve (AOV).



The air line end connected to the outlet valve must be safeguarded with a safety cable, attached next to the valve.

No external force may be applied to the air outlet valves, e.g. by pulling hoses or by connecting equipment directly to the valves (e.g. a water separator, a lubricator, pipe extensions, etc.).

- Select fuel source (internal/external) and lock the selector valve.
- Turn ON the battery switch (BS).

- Move the power switch on the control unit (CU) to the ON position and read the fuel level on the display. Top up the fuel tank (FT), if necessary. Consult the Engine Operation Manual for the type of fuel. Move the control panel power switch to OFF again after filling.
- Check the level of the coolant in the engine radiator (RAD). See section 6.4.1.1. Add coolant if necessary. Consult the Engine Operation Manual for the coolant solutions to be used.
- Empty the dust trap of each air filter (AF). See section 6.4.2.2.
- Check the air underpressure indicator on the engine air inlet pipe. If indicated, replace the filter elements.
- Check the electrolyte level in the batteries (B). Top up if necessary, with distilled water (see section 6.4.7.1).
- Drain any water and sediment from the primary coarse fuel filter (FF_{PC}).



Make sure that nobody is in the unit and all doors are closed prior to starting the unit.

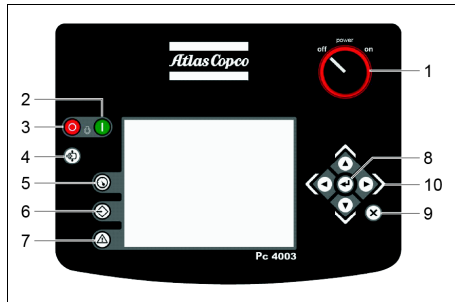





In cold ambient conditions (temperature below -10°C (14°F)), the compressor must be preheated before starting.







In auto mode, connect the compressor block heater and the battery charger to the 220 Volt / 110 Volt receptacle.


5.2 Operating and setting the Pc4003™ controller

5.2.1 Pc4003™ button overview



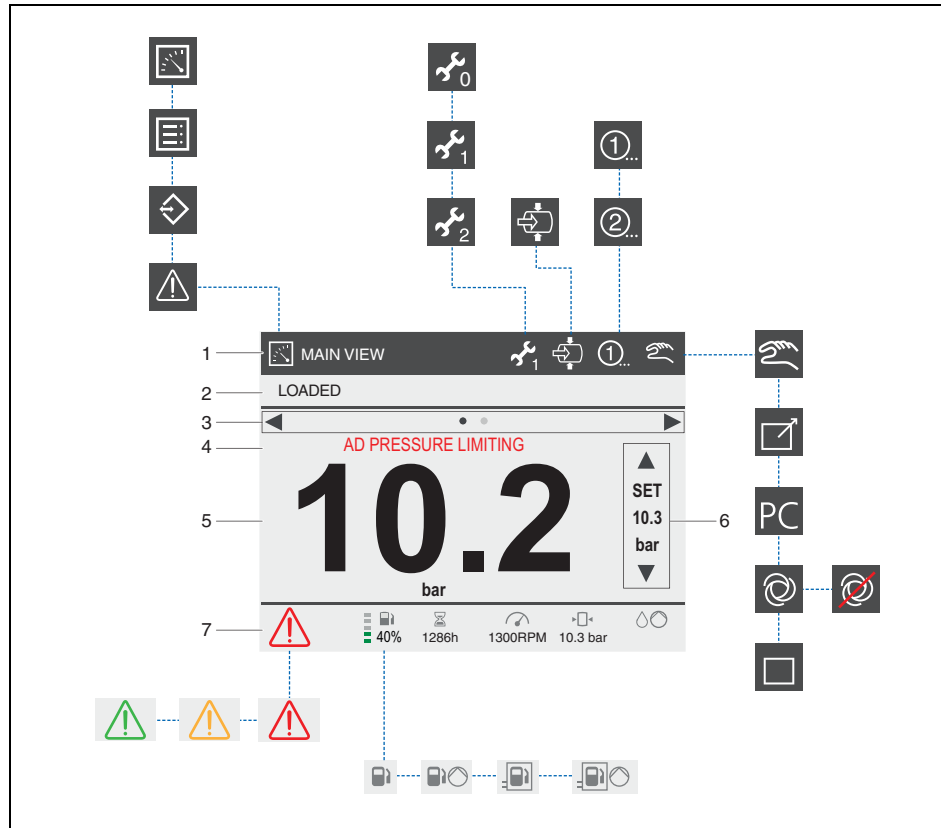
- 1  **POWER OFF / ON switch**
To switch the control panel on and off.
- 2  **START button**
To start the compressor.
- 3  **STOP button**
To stop the compressor in a controlled way.

- 4  **LOAD button.**
Pressing this button will:
 - initiate the Auto Load function, or commands the compressor to load (depending on actual status).
 - command the compressor to switch to Not Loaded (when in Load).
- 5  **MEASUREMENTS VIEW button**
To toggle between Measurements View and Main View.
- 6  **SETTINGS VIEW button**
To toggle between Settings View and Main View.
- 7  **ALARMS VIEW button**
To toggle between Alarms View and Main View.
- 8  **NAVIGATION buttons**
To navigate through the display menu's.
- 9  **ENTER button**
Confirms/stores the selection/change.

- 10  **BACK button**
Moves back one level or ignores the change.

5.2.2 Pc4003™ display icons

Primary Main view



- 1 View, Overhaul, Auto load, Preset, Active operation mode indication
- 2 Active compressor status
- 3 Navigation: toggle between main view and engine view
- 4 Regulator overrule indication
- 5 Regulator pressure value or info text
- 6 Set active pressure setpoint
- 7 Alarm indication and compressor info



Main view indication



Measuring view indication



Settings view indication



Alarm view indication



OVERHAUL
Initial Overhaul required.



OVERHAUL
Minor Overhaul required.



OVERHAUL

Major Overhaul required.



AUTO LOAD

This icon will be shown if the Auto Load functionality is enabled, or by means of a parameter setting, or by means of pressing the Load button before the machine is ready to be loaded.



PRESET

Depending on which Pressure (and/or Flow) setting is active, the controller will show its dedicated icon.



OPERATION MODE

Local



OPERATION MODE

Remote



OPERATION MODE

PC Control



OPERATION MODE

Automatic



OPERATION MODE

Automatic Mode is active, but the Auto Start and Auto Stop function are both inactive.



OPERATION MODE

Block Mode



ALARM

Active and not-acknowledged Shutdown Alarm.



ALARM

Active and not-acknowledged Non-Shutdown Alarm.



ALARM

Active and acknowledged Alarm.



FUEL TANK

Running at internal fuel tank.



FUEL TANK

Running at internal fuel tank and fuel pump is energized.



FUEL TANK

Running at external fuel tank, but internal fuel tank level is shown.



FUEL TANK

Running at external fuel tank, but internal fuel tank level is shown and fuel pump is energized.



RUNNING HOURS



ENGINE RPM



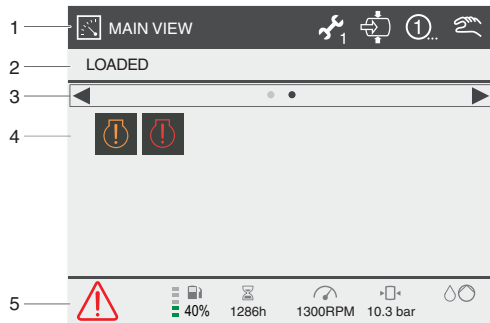
AD PRESSURE





OIL FILL

The engine oil level as dropped under a set level. The oil fill pump will be activated.

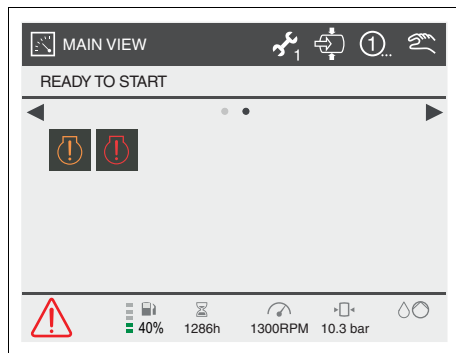
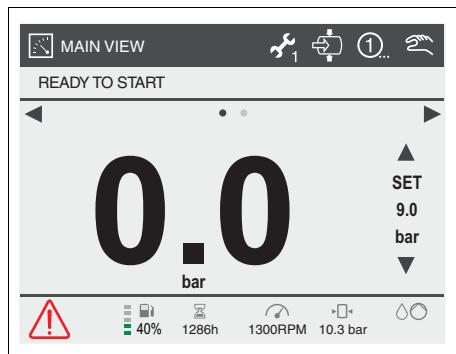
Secondary Main view - Engine view



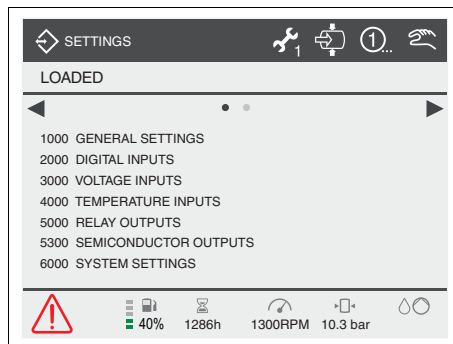
- 1 View, Overhaul, Auto load, Preset, Active operation mode indication
 - 2 Active compressor status
 - 3 Navigation: toggle between main view and engine view
 - 4 Engine info
 - 5 Alarm indication and compressor info
-  ENGINE WARNING LAMP - AMBER
LED steady on: low alarm
LED flashing slow: medium alarm
LED flashing fast: high alarm
-  ENGINE SHUTDOWN LAMP - RED
LED steady on: low alarm
LED flashing slow: medium alarm
LED flashing fast: high alarm

5.2.3 Possible views

Main view

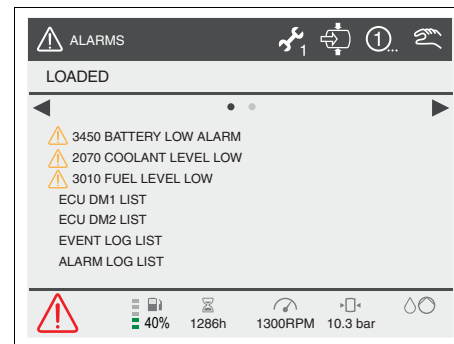


Setup view



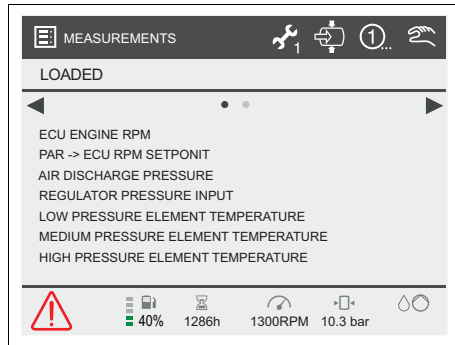
1. Use the Up and Down navigation buttons to scroll through the full list of settings.
2. Use the Enter button to enter the selected submenu.
3. Use the Back button to leave the entered (sub)menu.

Alarm view



1. Use the Up and Down navigation buttons to scroll through the full list of alarms.
2. The DM Lists and the Log Lists can be selected and entered to access the sublist.

Measuring view



Use the Up and Down navigation buttons to scroll through the full list of measurements.

5.2.4 Operations overview

It is possible to control the compressor:

- locally, directly operating the Pc4003™ control module (Local Operation Mode),
- automatically, by setting triggers based on pressure sensor data in the customer's installation (Automatic Operation Mode), or
- by using software running on a PC (PC Operation Mode).

5.2.5 Starting

1. Switch on the battery switch.
2. Switch on the machine by switching the Pc4003™ Power Switch to the ON position.

While the machine gets powered up, the controller will perform a self-test and enter the INITIALIZING SEQUENCE.

During the entire INITIALIZING SEQUENCE, which takes about 2 seconds) the following view is shown on the PC display:



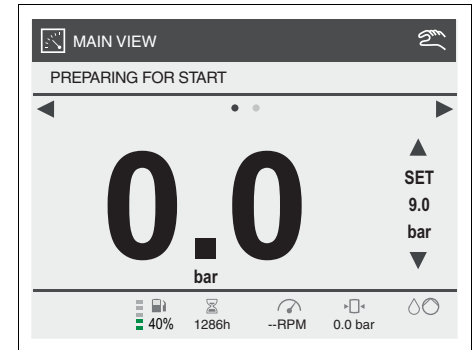
This view shows the controller version (e.g. 'Pc4003') and the application software version (e.g. 'v1.00.0').



Except for a controller power down, nothing can interrupt the INITIALIZING SEQUENCE. During the INITIALIZING SEQUENCE, all buttons / inputs / outputs / alarms are inactive.

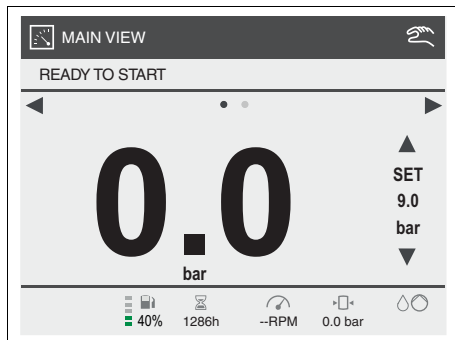
When initialization of the controller is finished, the INITIALIZING SEQUENCE is ended.

The display shows the Main View.



The machine is now ready to be started and is waiting for a start command.

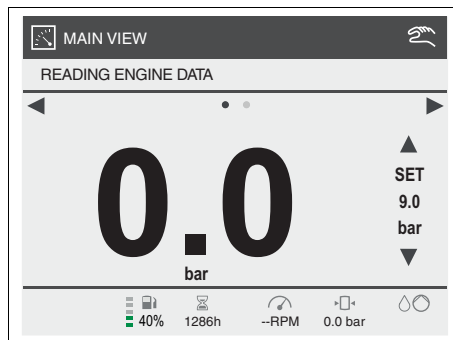
The following view is shown.



Active Buttons:	
	Start Button (to initiate Start command)
	Load Button (to activate Automatic Load)
	Measurement View Button
	Settings View Button
	Alarms View Button

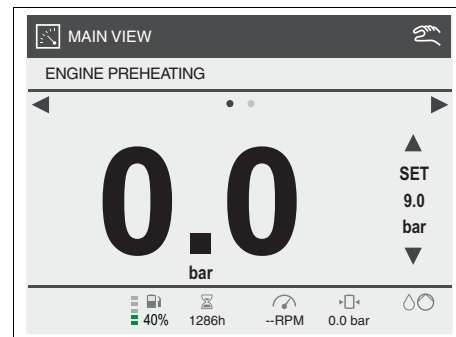
3. Press the START button.

The machine activates its horn and flasher light for 5 seconds, to notify that it is starting.



The engine electronics (ECU) is powered up.

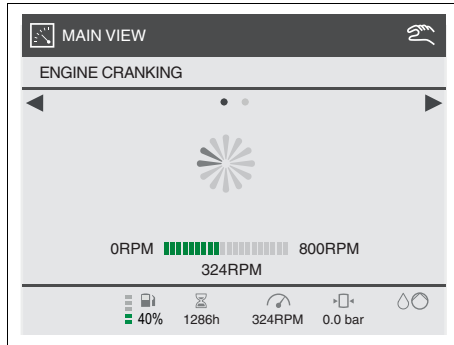
As soon as the communication between compressor controller and engine controller is established, the machine starts pre-heating according to the parameters of the engine controller.



Active Buttons:

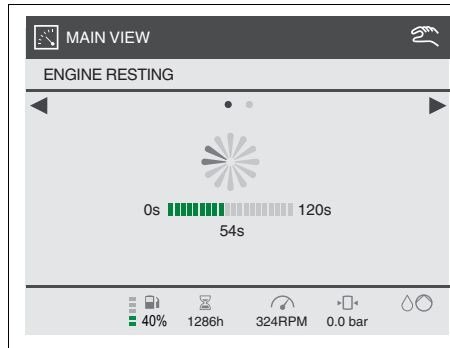
	Stop Button (to initiate Stop command)
	Load Button (to activate Automatic Load)
	Measurement View Button
	Settings View Button
	Alarms View Button

The engine starts cranking.








The engine cranks until 800 RPM is reached.

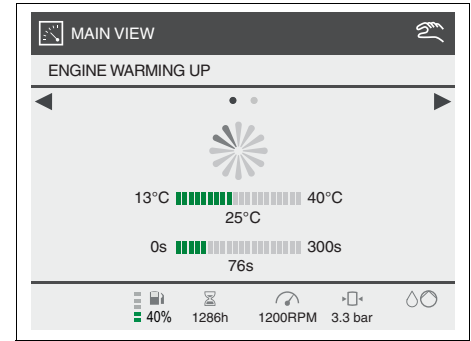
If 800 RPM is not reached within 30 seconds, the starting procedure is cancelled and the engine will rest for some time. (Resting time depends on cranking time.)



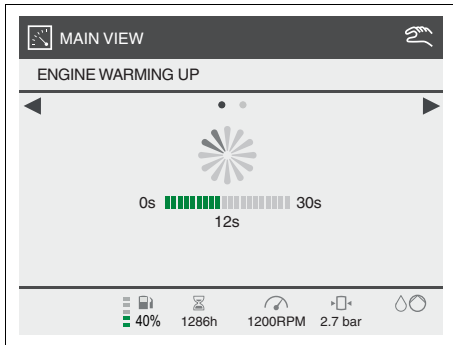
Active Buttons:

	Stop Button (to initiate Stop command)
	Load Button (to activate Automatic Load)
	Measurement View Button
	Settings View Button
	Alarms View Button

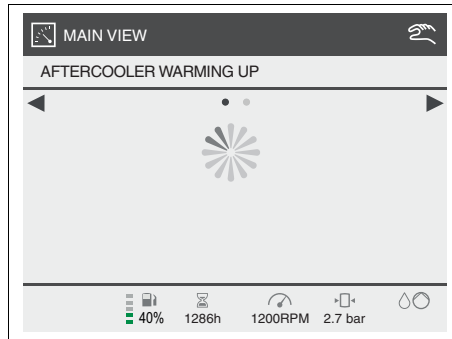
The engine starts running at idle speed.








The engine runs at minimum RPM until the engine's coolant temperature reaches 40°C, with a minimum time of 30 seconds and a maximum time of 300 seconds.

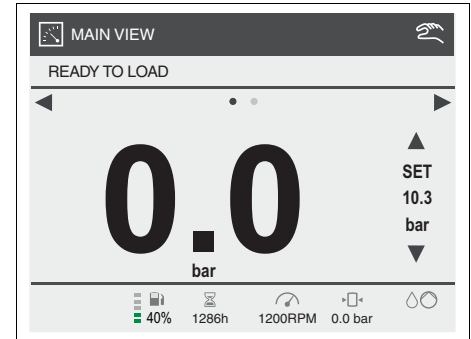







If during the WARMING UP SEQUENCE, all conditions are met to end the WARMING UP SEQUENCE, but the WARMING UP SEQUENCE is blocked by the AD TEMPERATURE CONTROL function, the following view is shown.



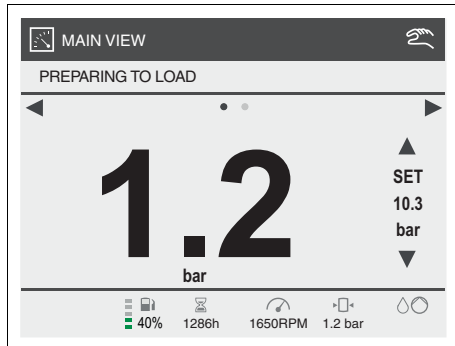
Active Buttons:	
	Stop Button (to initiate Stop command)
	Load Button (to activate Automatic Load)
	Measurement View Button
	Settings View Button
	Alarms View Button

After warming up, the machine is ready to be loaded and is waiting for a load command.



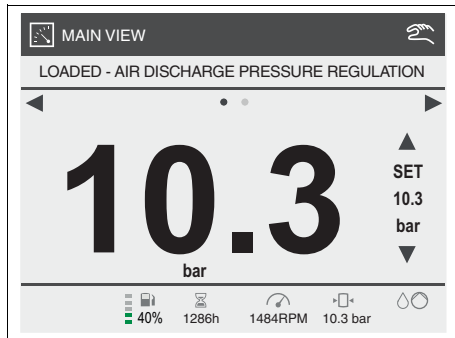
Active Buttons:	
	Stop Button (to initiate Stop command)
	Load Button (to activate Automatic Load)
	Measurement View Button
	Settings View Button
	Alarms View Button






4. Press the LOAD button.



The loading valve is energized and pressure starts building up.

While loading the following display is shown (default display).



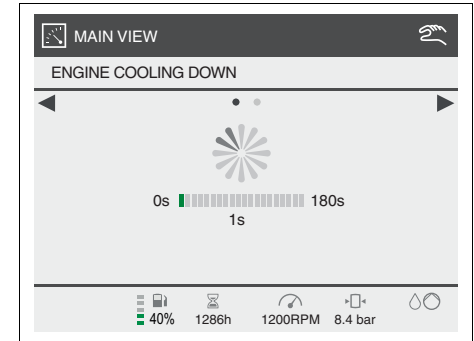
Active Buttons:	
	Stop Button (to initiate Stop command)
	Load Button (to activate Automatic Load)
	Measurement View Button
	Settings View Button
	Alarms View Button





During the LOADED SEQUENCE, the RPM SETPOINT continuously follows the CALCULATED RPM value (if applicable).

5.2.6 Stopping

Press the STOP button.

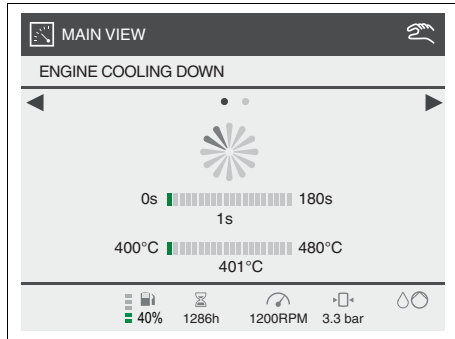
The engine will go into COOLDOWN SEQUENCE. The following view is shown.



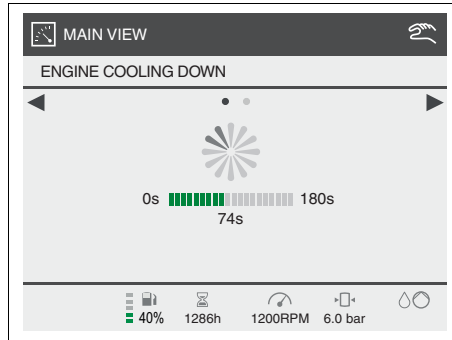
Active Buttons:	
	Start Button (to initiate Start command)
	Measurement View Button
	Settings View Button
	Alarms View Button

Following condition is taken into account, before the COOLDOWN SEQUENCE can be ended: $COOLDOWN\ TIMER \geq COOLDOWN\ TIME^{\circ}$

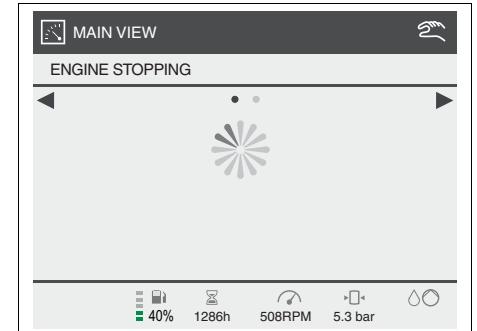
During the COOLDOWN SEQUENCE, if the COOLDOWN 'MODE' is set to 'timer and temperature based' the following view is shown:



During the COOLDOWN SEQUENCE, if the COOLDOWN 'MODE' is set to 'timer based', or if the temperature condition has been met, the following view is shown:



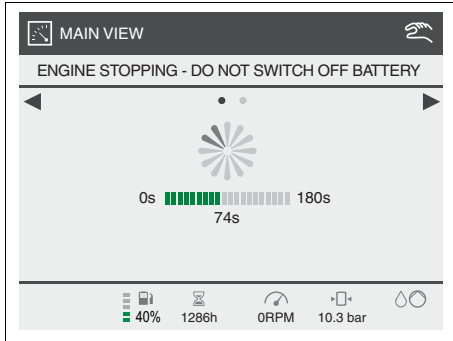
After cooling down, the engine enters the STOP SEQUENCE. During the STOP SEQUENCE, before the ENGINE RPM is being re-read, the following view is shown:



Active Buttons:

	Start Button (to initiate Start command)
	Measurement View Button
	Settings View Button
	Alarms View Button

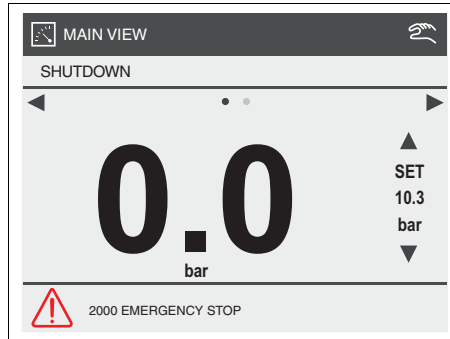
When the controller is waiting for the STOP DETECTION 'MINIMUM START DELAY' to elapse, an additional timer is shown on the display:



When the STOP SEQUENCE has been completely terminated, the engine will stop. The controller will always double check to make sure that the engine has really stopped.

5.2.7 Shutdown

When the machine is shut down due to a critical alarm or an emergency stop, the following view is shown.



Active Buttons:

	Measurement View Button
	Settings View Button
	Alarms View Button
	Enter Button (to acknowledge the shown alarm))

5.2.8 Power off

The compressor is equipped with a battery switch.

When the compressor is not in use, this switch must always be in the "OFF" position.



Never use the battery switch for stopping, as this can cause damage in the Pc4003™ or the engine's Electronic Control Unit.

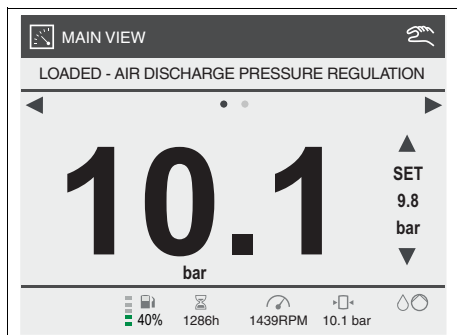
Always first shut off the Pc4003™ and wait until the display is dark before switching the battery switch to the OFF position.

5.2.9 Settings

For buttons to be used see section “Pc4003™ button overview”.

5.2.9.1 Set Pressure Setpoint

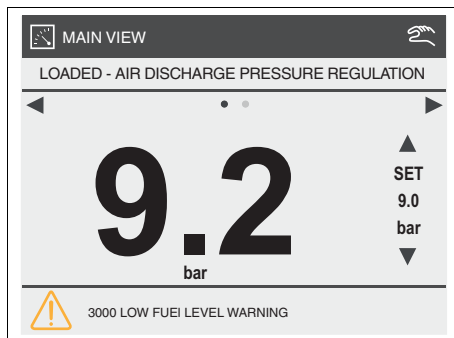
When in Main View, the following display is shown.



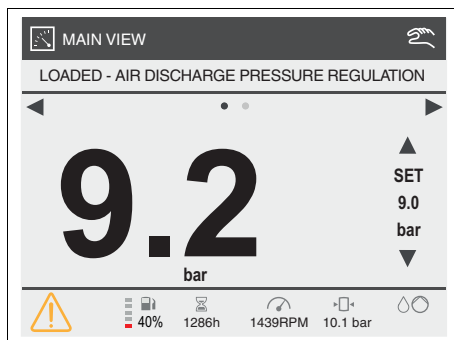
Press the Up/Down arrows to set the requested pressure.

5.2.9.2 Acknowledge an Alarm

If an alarm becomes active, for example a Low Fuel Level Warning, press the Enter button to acknowledge this alarm.



Then, if the fuel level is still low, the view changes to:



As soon as the fuel level is higher than the warning level again, the alarm icon will automatically disappear.

As long as there is an alarm icon in the middle of the bottom part of the view, all active acknowledged / unacknowledged alarms can be consulted by pressing the Alarm View button.

Pressing the Alarm View button again, will bring you back to the Main View.

5.2.9.3 Set Clock

1. Press the Settings View button.
2. Scroll to the '1000 GENERAL SETTINGS' menu.
3. Press Enter.
4. Scroll to the '1290 DATE/TIME' menu.
5. Enter the Date/Time menu.
6. Scroll to the parameter you want to change.
7. Enter this parameter.

To change the 'RTC Month', scroll to the preferred month and press Enter.

To change any other RTC setting, the red figure is editable. Scroll up/down and press enter to change. Use left/right to shift between editable figures.

8. Now press BACK until you are back in the Main View (or in the menu you require).

5.2.9.4 Set Language

1. Press the SETTINGS VIEW button.
2. Scroll to '1000 GENERAL SETTINGS'.
3. Press ENTER.
4. Scroll to '1300 LANGUAGES'.
5. ENTER the LANGUAGES menu.
6. ENTER the 'SETTINGS' parameter.
7. Scroll to the preferred language.
8. Press ENTER.
9. Now press BACK until you are back in the Main View (or in the menu you require).

5.2.9.5 Set Units

1. Press the SETTINGS VIEW button.
2. Scroll to '1000 GENERAL SETTINGS'.
3. Press ENTER.
4. Scroll to the unit you would like to change:
'1340 TEMPERATURE UNITS'
'1350 PRESSURE UNITS'
'1360 FUEL FLOW UNITS'
'1370 AIR FLOW UNITS'
5. ENTER the preferred menu.
6. ENTER the 'SETTINGS' parameter.
7. Scroll to the preferred setting.
8. Press ENTER.
9. Now press BACK until you are back in the Main View (or in the menu you require).

5.2.9.6 Change Display Settings

1. Press the SETTINGS VIEW button.
2. Scroll to '1000 GENERAL SETTINGS'.
3. Press ENTER.
4. Scroll to '1310 DISPLAY BACKLIGHT'.
5. ENTER the DISPLAY BACKLIGHT menu.
6. Scroll to the setting you would like to change.
7. Press ENTER.

To change a setting, the red figure is editable. Scroll up/down and press ENTER to change. Use left/right to shift between editable figure.
8. Now press BACK until you are back in the Main View (or in the menu you require).

5.2.9.7 Go To Diagnostics

1. Press the SETTINGS VIEW button.
2. Scroll to '1000 GENERAL SETTINGS'.
3. Press ENTER.
4. Scroll to '1150 DIAGNOSTICS'.
5. ENTER the Diagnostics menu.
6. ENTER the 'ENABLE' parameter.
7. Scroll to 'ON' and press ENTER.

Now the ECU gets PAC (ignition) and you can perform ECU diagnostics (read DM1 List, DM2 List, ECU values, perform engine diagnostics, ...).

8. Now press BACK until you are back in the Main View (or in the menu you require).
9. To leave Diagnostics, press the STOP button.

5.2.9.8 Set the AutoLoad Function

1. Press the SETTINGS VIEW button.
2. Scroll to '1000 GENERAL SETTINGS'.
3. Press ENTER.
4. Scroll to '1160 AUTO LOAD'.
5. ENTER the 'FUNCTION' menu.
6. Scroll to AUTO LOAD setting.
7. Press ENTER.

Now the AutoLoad function is active, and as soon as the unit is Ready To Start, the display will show the Auto Load icon.
8. Now press BACK until you are back in the Main View (or in the menu you require).

5.2.9.9 Override ECU Alarms

If the Override ECU Alarms function is enabled, the Pc4003™ controller will temporarily ignore all received ECU alarms. This makes it possible to start and run the unit, even if there are ECU alarms present. To protect the unit, the engine protection will still be up.

To enable OVERRULE ECU:

1. Press the SETTINGS VIEW button.
2. Scroll to '1000 GENERAL SETTINGS'.
3. Press ENTER.
4. Scroll to '1120 OVERRULE ECU'.
5. ENTER the Override ECU menu.
6. ENTER the 'ENABLE' parameter.
7. Scroll to 'ON' and press ENTER.

As soon as the OVERRULE ECU function 'Enable Setting' is set to 'On', the OVERRULE ECU timer will start counting. When the OVERRULE ECU timer has elapsed, the OVERRULE ECU 'Enable Setting' is automatically set to 'Off'.

To set the OVERRULE ECU timer:

1. Press the SETTINGS VIEW button.
2. Scroll to '1000 GENERAL SETTINGS'.
3. Press ENTER.
4. Scroll to '1120 OVERRULE ECU'.
5. ENTER the Override ECU menu.
6. ENTER the 'Timer' parameter.

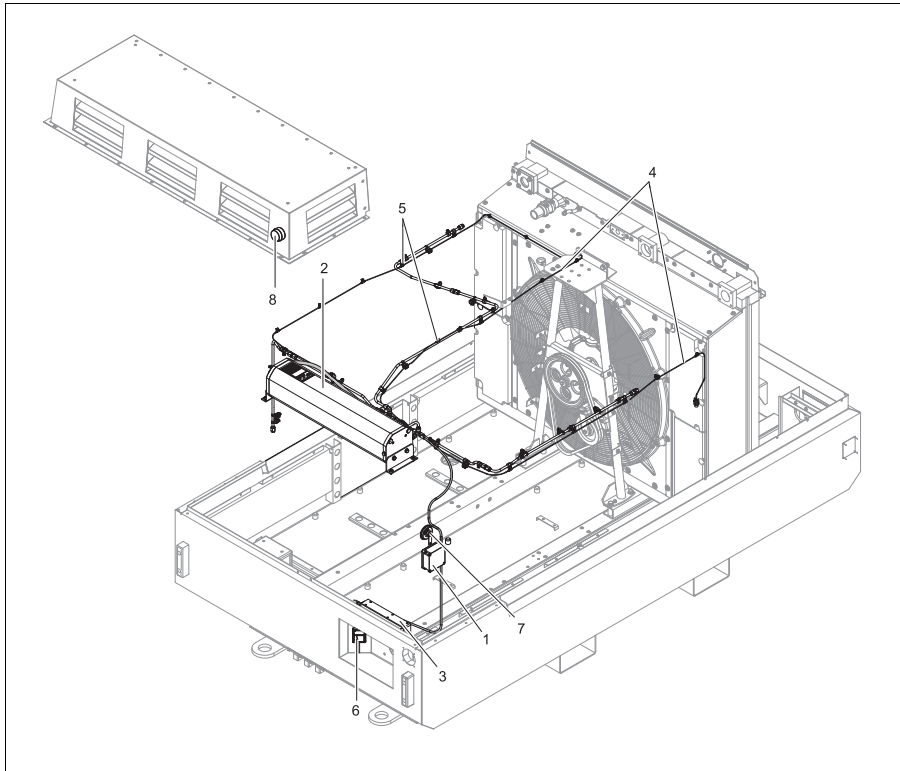
7. Set the desired time schedule (default = 5 minutes) and press ENTER.
8. Now press BACK until you are back in the Main View (or in the menu you require).

If the OVERRULE ECU 'timer' is set to '0s.', the Override ECU Alarm function is not limited in time.

When the controller gets powered down, the OVERRULE ECU 'Enable Setting' will be set to 'Off' at the next power-up.

5.3 Operating the automatic fire suppression system

5.3.1 Main components



- 1 Control box
- 2 Cylinder with extinguishing fluid
- 3 Nitrogen cylinder
- 4 Heat sensitive wire
- 5 Nozzles
- 6 Automatic actuator
- 7 Alarm horn
- 8 Flash light

5.3.2 Operation

The fire suppression system is equipped with an automatic activation.

The automatic activation detects a fire via a heat sensitive wire (4). It activates at a temperature of approx. 180°C. As soon as a fire is detected, the control module (1) shuts down the compressor. After a delay of 30 seconds the automatic actuator (6) releases a small nitrogen cylinder (3). The compressed gas will blow the extinguishing fluid from the cylinder (2) through the nozzles (5) into the engine compartment.

The automatic fire suppression system is directly powered by the compressor batteries.



Staff that are not familiar with this system are not allowed to run checks on the system. Wrong handling may lead to an inactive system or release of extinguishing fluid.

All maintenance, recharging and repair work must be carried out by authorized personnel only.

5.3.3 Daily check

The LED's status on the control box should be checked daily prior to starting up the compressor. The green Power LED (1) should flash every three seconds! It is not allowed to start up the compressor when there are any deviations.

6 Maintenance

6.1 Maintenance schedule

Maintenance schedule	Daily	every 50 hrs	every 500 hrs or 6 months	every 1000 hrs or yearly	every 3000hrs	every 5000hrs or 4 years	every 6000 hrs	every 10000 hrs
Service pack	-	-	2912 4584 05	2912 4585 06	-	-	-	-
Engine								
Check engine oil level / Add engine oil	x							
Change engine oil (2)			x	x	x		x	x
Replace engine oil filter			x	x	x		x	x
Replace fuel prefilter (water separators) 30µm			x	x	x		x	x
Drain fuel prefilter (water separators) 30µm	x							
Replace engine fuel filter			x	x	x		x	x
Check engine drive belt			x	x	x		x	x
Check routing and condition of flexible hoses	x							
Grease fan drive			x	x	x		x	x
Check coolant levels (radiator)	x							
Change engine air filters (1)				x	x		x	x
Change air filter safety cartridge				x	x		x	x
Check coolant level	x			x	x		x	
Replace coolant					x		x	x
Adjust overhead set						x		

Maintenance schedule	Daily	every 50 hrs	every 500 hrs or 6 months	every 1000 hrs or yearly	every 3000hrs	every 5000hrs or 4 years	every 6000 hrs	every 10000 hrs
Service pack	-	-	2912 4584 05	2912 4585 06	-	-	-	-
Check crankcase breather tube	x							
Compressor								
Check compressor oil level	x							
Change compressor oil				x	x		x	
Clean air filters element (1)	x							
Replace air filter element (1)				x	x		x	
Replace air filter safety cartridge				x	x		x	
Replace compressor oil filter				x	x		x	
Check compressor fan drive belt				x	x	x	x	
Replace diaphragm of the balancing pistons							x	
Other								
Grease turntable			x	x	x		x	
Check electrolyte and terminals on batteries			x	x	x		x	
Drain water and sediment in fuel tanks			x	x	x		x	
Test safety / relief valve				x	x		x	
Replace silencers glass wool							x	
Replace roller diaphragm of unloader cylinder							x	
Replace parts of unloader cylinder							x	
Replace check valve in compressed-air system							x	

Maintenance schedule	Daily	every 50 hrs	every 500 hrs or 6 months	every 1000 hrs or yearly	every 3000hrs	every 5000hrs or 4 years	every 6000 hrs	every 10000 hrs
Service pack	-	-	2912 4584 05	2912 4585 06	-	-	-	-
Check fire extinguisher system (see Dafo manual)				X	X		X	X
Test engine air inlet shutdown valve				X				
Clean spark arrestor			X	X	X	X	X	X

Notes:

For grey-marked service activity intervals, new parts are included in the service pack mentioned on top of the column.

- (1) More frequently when operating in a dusty environment.
- (2) The lubricating oil and lubricating oil filter interval are determined by the sulphur content of the fuel used, the lubricating oil type used and the engine rating. 500 hrs is in best case circumstances.



Keep the bolts of the housing, the lifting eye, the towbar and the axle securely tightened.

Refer to section “Technical specifications” on page 86 and to section “Torque values” on page 86.

6.1.1 Use of preventive maintenance schedule

The maintenance schedule contains a summary of the maintenance instructions. Read the respective section before taking maintenance measures.

When servicing, replace all disengaged packing, e.g. gaskets, O-rings, washers.

The maintenance schedule has to be seen as a guideline for units operating in a dusty environment typical to compressor applications. The maintenance schedule can be adapted depending on application, environment and quality of maintenance.

6.1.2 Service packs and kits

6.1.2.1 Service packs

Service packs include all genuine parts needed for normal maintenance of both compressor and engine.

Service packs minimise downtime and keep your maintenance budget low.

Order service packs at your local Atlas Copco dealer.

6.1.2.2 Service kits

A service kit is a collection of parts to fit a specific repair or rebuilding task.

It guarantees that all necessary parts are replaced at the same time which improves the uptime of the unit.

Atlas Copco service kits offer you all the benefits of genuine Atlas Copco parts, save on administration costs and are offered at a reduced price compared to the loose components.

The order numbers of the service packs and kits are listed in the Atlas Copco Parts List (ASL).



Contact Atlas Copco.

6.2 Engine maintenance procedures

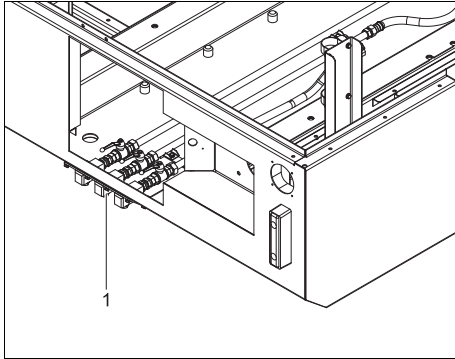
Refer to the engine's operator manual for full maintenance schedule.

6.2.1 Engine oil level check

The engine oil level is continuously measured by a level sensor which will trigger the automatic oil filler to top up the engine oil level, if necessary. Check the oil level of the automatic oil filler tank daily or before every use of the unit.

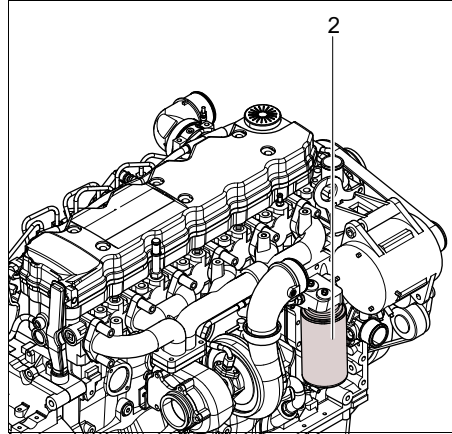
Add correct oil (see section 6.5), if necessary.

6.2.2 Engine oil and oil filter change



- Consult, besides the maintenance schedule, the Engine Operation Manual as well for oil and oil filter change intervals.

- To drain oil from system, open the oil filler cap, remove the drain plug, located at the right-hand side under the unit and open the drain cock (1).
- Use a proper drain pan.

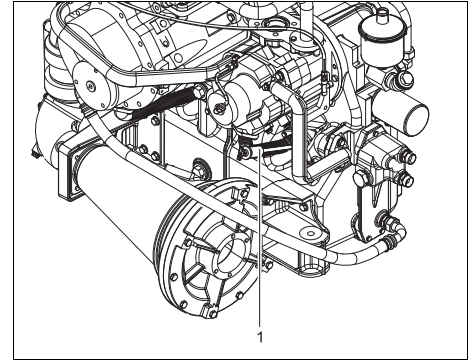


The engine oil filter (2) is located at the unit's left-hand side.

- Put a proper drain pan under the engine oil filter and replace the oil filter.
- Close the drain cock and tighten all drain plugs before filling the system with fresh oil.
- Reinstall the oil filler cap.
- Check on leakages.

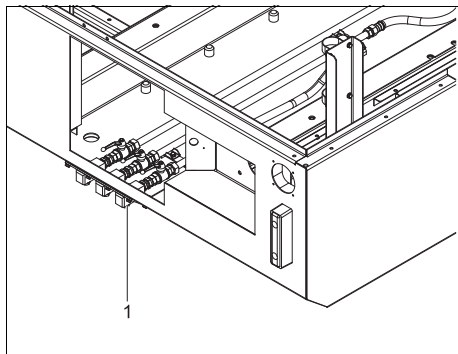
6.3 Compressor maintenance procedures

6.3.1 Compressor oil level check

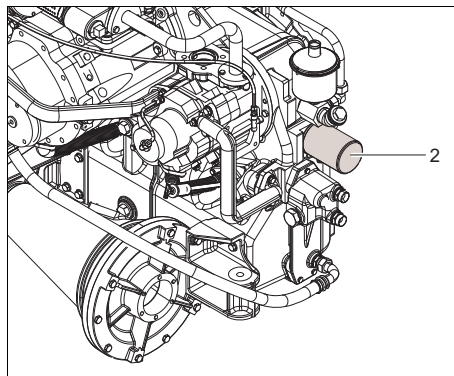


- Close the outlet valve(s) and stop the unit. Before checking the compressor oil level, wait approx. 10 minutes to allow oil to return to the oil sump.
- Check the oil level with the dipstick (1).
- Add correct oil (see section 6.5), if necessary.

6.3.2 Compressor oil and oil filter change



- Run the compressor until warm. Close the outlet valve(s) and stop the compressor.
- Drain the oil by removing the drain plug and opening the drain cock (1). The drain plug is located at the left-hand side under the unit. Catch the oil in a drain pan. Screw out the filler plug to speed up draining. Close the drain cock and tighten the plugs after draining.



- Remove the oil filter (2), e.g. by means of the handle of a spanner in the slot at the top.
- Clean the filter seat on the manifold, see to it that no dirt drops into the system. Oil the gasket of the new filter element. Screw the element into place until the gasket contacts its seat, then tighten one half turn only.
- Run the unit at Not Loaded for a few minutes to circulate the oil. Stop and depressurize the unit. Screw out the filler plug, add oil, if necessary, until the oil level registers between markings A and B (see section 6.5). Reinstall and tighten the filler plug.
Never add more oil. Overfilling results in oil consumption.

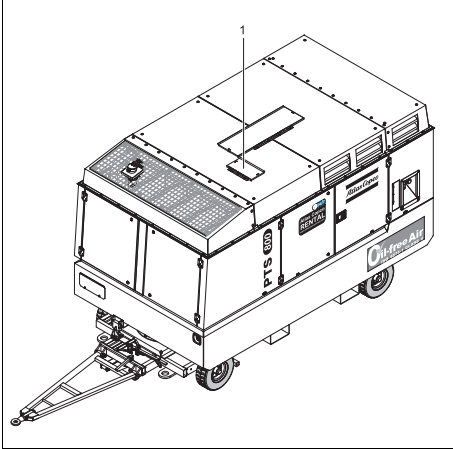
6.3.3 Compressor element overhaul

When a compressor element is due for overhaul, it is recommended to have it done by Atlas Copco. This guarantees the use of genuine parts and correct tools with care and precision.

6.4 Adjustment and servicing procedures

6.4.1 Coolant

6.4.1.1 Coolant level check

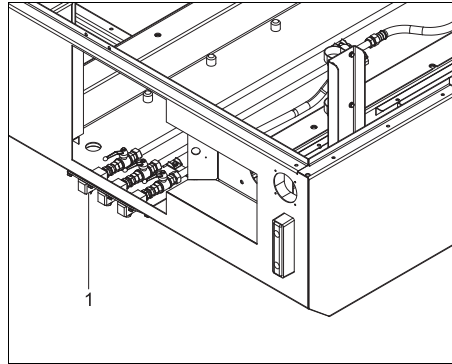


- Check the levels of the coolant in the radiator cooler. The levels show in transparent tubes fitted at the radiator top tank. The levels should normally be at the bottom of the filler pipes as they go into the tanks.
- Add coolant, if necessary. The location of the radiator filler cap (1) is shown in figure above.
- Use PARCOOL EG as coolant.

6.4.1.2 Replacing the coolant

Consult the Engine Operation Manual and section 6.5.3 for coolant specifications.

Drain



- To drain coolant from system, remove drain plugs. Drain plugs are located at the right- and left-hand side under the unit and open the drain cocks (1).
- Completely drain the entire cooling system.
- Use a proper drain pan.

Flush

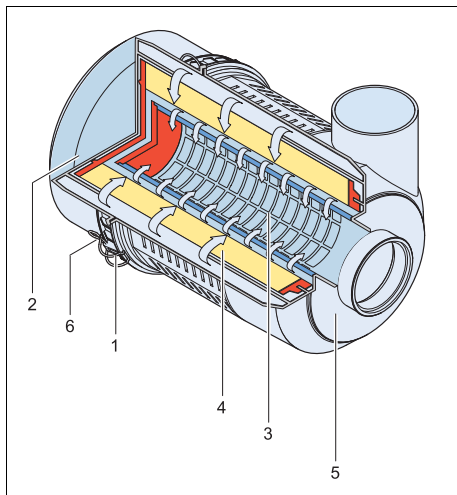
- Flush twice with clean water. Used coolant must be disposed of or recycled in accordance with legislation and local regulations.
- Using the Atlas Copco Instruction book, determine the amount of PARCOOL EG required and pour into the radiator top tank.
- It should be clearly understood that proper cleaning reduces contamination risks.
- In case of 'other' coolant residues inside the system, the coolant with the lowest properties influences the quality of the 'mixed' coolant.

Fill

- Before filling the system, close the drain cocks and tighten all plugs.
- To assure proper operation and the release of trapped air, run the engine until normal engine operation temperature is reached. Turn off the engine and allow to cool.
- Recheck coolant level and add coolant if necessary.

6.4.2 Air filter

6.4.2.1 Main parts



- | | |
|---|-------------------------------|
| 1 | Snap clips (4x) |
| 2 | Dust trap cover |
| 3 | Safety cartridge |
| 4 | Filter element |
| 5 | Filter housing |
| 6 | Vacuator valve (dust ejector) |



The Atlas Copco air filters are specially designed for the application. The use of non-genuine air filters may lead to severe damage of engine and/or compressor elements.

6.4.2.2 Cleaning the dust trap

To remove dust from the dust trap pinch the vacuator valve (6) several times.

6.4.2.3 Replacing the air filter element and the safety cartridge

The instructions apply to both air filter engine and air filter compressor.

- Release the snap clips (1) and remove the dust trap cover (2). Clean the inside of the cover.
- Withdraw the filter element (4) and safety cartridge (3) from the housing (5).

Discard the filter element when damaged.

A dirty safety cartridge is an indication of a malfunctioning filter element.



Replace the filter element and the safety cartridge at the same time. New elements should be inspected for tears and punctures before installation.



The safety cartridge cannot be cleaned.

- Reassemble in reverse order of dismantling.
- Inspect and tighten all air intake connections.

6.4.2.4 Cleaning the filter element

- Withdraw the filter element (see section 6.4.2.3). Reinstall the dust trap cover to protect the air intake system while cleaning the element.

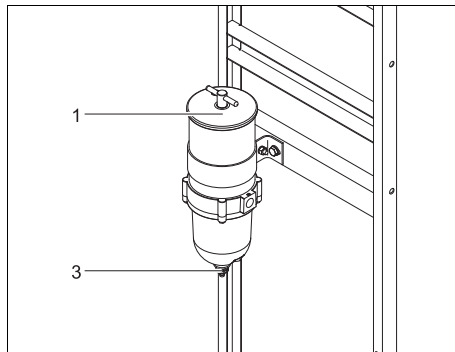


Never run the compressor without air filter element.

- Carefully knock the end faces of the filter element on a flat surface to remove the dry contaminant. Never strike on a hard surface. Then blow dry air up and down the pleats in the reverse direction of normal flow; subsequently blow up and down the pleats on both sides of the element. The air pressure may not exceed 5 bar (73 psi) and a reasonable distance must be maintained between the hose nozzle and the pleats.
- Inspect the element by placing a light inside it. Spots or ruptures of the paper render the element unfit for further use.
- Reassemble in reverse order of dismantling.

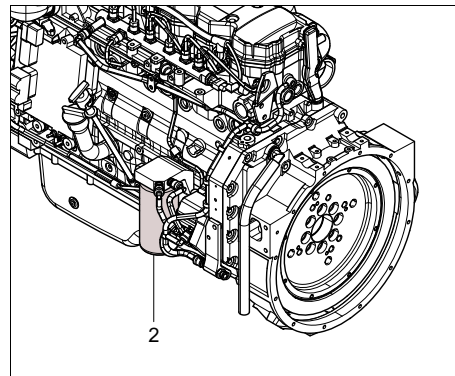
6.4.3 Fuel system

6.4.3.1 Draining fuel filters



The fuel system comprises:

- | | |
|---|--|
| 1 | One primary coarse fuel filter / water separator |
| 2 | One secondary engine fuel filter |



Drain condensate from the primary coarse fuel filter (water separator) regularly by loosening the drain plug (3). Catch the condensate in a drain pan. Tighten the plug after draining.

6.4.3.2 Priming the system

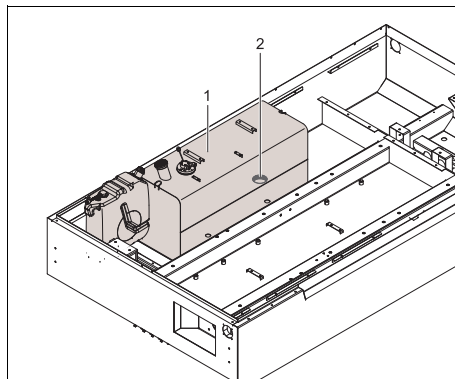
- Check to make sure the drain valve at the base of the fuel filter is closed.
- Remove the vent cap from the top of the clear cover. Fill the fuel filter full of clean fuel. Reinstall the vent cap and **tighten by hand only**.
- Start the engine. When the lubrication system reaches its normal operating pressure, increase engine speed to high idle for one or two minutes.
After the air is purged, loosen the vent cap until the fuel level lowers to just above the bottom of the collar. **Tighten the vent cap by hand only**.

- Hand tighten the collar again while the engine is running. **To avoid damage, do not use tools to tighten the collar.**



To avoid damaging the aluminium fuel processor body, do not overtighten fuel lines or fuel line fittings.

6.4.3.3 Cleaning fuel tank



To drain sediment and water from the fuel tank (1), remove the drain plug (2) of the fuel tank and frame.

For a better drainage slightly slope the unit.

Use water to clean the inside of the fuel tank, use a high-pressure purifier if necessary. Spurt the sediment and water to the drain side of the tank.



After cleaning or heavy rains, drain the spillage-free frame.

6.4.4 Cleaning coolers

Keep all coolers clean to maintain the cooling efficiency.

The fan side surface of the radiator, intercooler, aftercooler, charge air cooler and oil cooler is accessible by removing the service panels.

- Remove any dirt from the coolers with a fibre brush. Never use a wire brush or metal objects. Then clean by air jet in reverse direction of normal flow.
- Steam cleaning in combination with a cleansing agent may be applied (do not use jet at max. power).



To avoid damaging the coolers, angle between jet and coolers should be approx. 90 °.

- A spray gun should preferably be used to apply the solvent to the cooler block. Rinse the block by means of a water jet after a soaking-in period. Steam-cleaning may also be applied.
- Re-install the service panels.



Protect the electrical and controlling equipment, air filters, etc. against penetration of moisture. Never leave spilled liquids such as fuel, oil, coolant and cleansing agents in or around the compressor.

6.4.5 Poly V-belt tension adjustment

To check the cooler fan poly V-belt tension, measure the belt frequency. Use tensioning tool 2913 0022 00. The arrows show where the frequency should be measured.

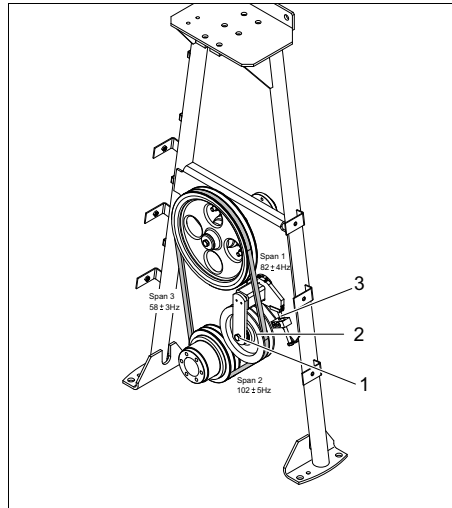
Following mounting frequency applies:

- span 1 = 82 ± 4 Hz
- span 2 = 102 ± 5 Hz
- span 0 = 58 ± 3 Hz.

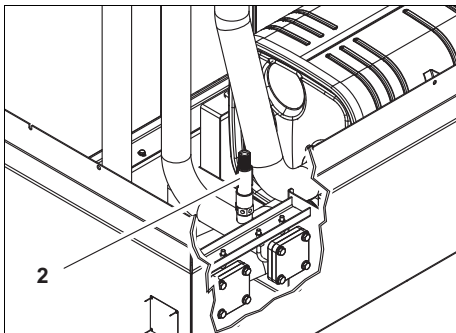
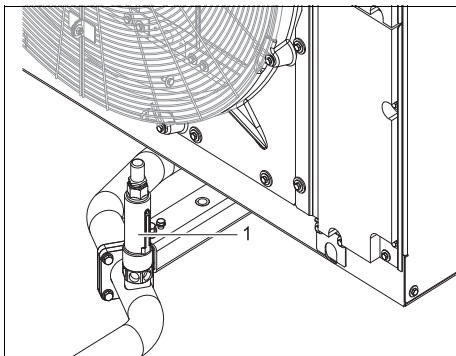
The mounting frequency must be checked on only 1 strand, after adjustment/replacement of the belt. The compressor must run for a few minutes. Then, shut down the unit and readjust the mounting frequency.

Correct the V-belt tension by loosening the fixing screw (1) of V-belt tensioner (2). Loosen the lock nut on the adjusting screw (3). Turn the adjusting screw clockwise to increase V-belt tension or counter-clockwise to decrease V-belt tension.

After adjusting the V-belt tension, retighten the adjusting screw lock nut and the fixing screw.



6.4.6 LP and HP safety valve adjustment



- 1 | LP safety valve
- 2 | HP safety valve



All adjustments and repairs and following checks must be done by an authorized representative of the valve supplier.

- A check of the opening of the lifting gear, once a year.
- A check of the set pressure once a year according to the local regulations. This check cannot be done on the unit and must be carried out on a proper test bench.

6.4.7 Battery care



Before handling batteries, read the relevant safety precautions and act accordingly.

If the battery is still dry, it must be activated as described in section 6.4.7.2.

The battery must be in operation within 2 months from being activated; if not, it needs to be recharged first.

6.4.7.1 Electrolyte



Read the safety instructions carefully.

Electrolyte in batteries is a sulphuric acid solution in distilled water.

The solution must be made up before being introduced into the battery.

6.4.7.2 Activating a dry-charged battery

- Take out the battery.
- Battery and electrolyte must be at equal temperature above 10°C.
- Remove cover and/or plug from each cell.
- Fill each cell with electrolyte until the level reaches 10 to 15 mm above the plates, or reaches the level marked on the battery.

- Rock the battery a few times so that possible air bubbles can escape; wait 10 minutes and check the level in each cell once more; if required, add electrolyte.
- Refit plugs and/or cover.
- Place the battery in the compressor.

6.4.7.3 Recharging a battery

Before and after charging a battery, always check the electrolyte level in each cell; if required, top up with distilled water only. When charging batteries, each cell must be open, i.e. plugs and/or cover removed.



Use a commercial automatic battery charger according to its manufacturer's instructions.

Apply with preference the slow charging method and adjust the charge current according to the following rule of thumb: battery capacity in Ah divided by 20 gives safe charging current in Amp.

To keep a battery charged, use the unit's battery charger.

Do not use this battery charger to charge an empty battery.

6.4.7.4 Maintaining the battery voltage

To maintain the battery voltage, use the unit's automatic battery charger.

- Battery charger EEC/AUS: 240 VAC / 24 VDC - 100 VA
- Battery charger USA: 120 VAC / 24 VDC - 100 VA

When power is supplied to the charger, the battery voltage will be kept within preset limits.

Three LEDs on top of the battery charger show the charging condition:

- Green: AC supply voltage present
- Yellow: Battery voltage high
- Red: DC voltage present / unit charging



Do not use the unit's automatic battery charger to charge an empty battery. In this case use a commercial automatic battery charger (see section 6.4.7.3).

6.4.7.5 Battery maintenance

- Keep the battery clean and dry.
- Keep the electrolyte level at 10 to 15 mm above the plates or at the indicated level; top up with distilled water only.
- Keep the terminals and clamps tight, clean, and lightly covered with petroleum jelly.

6.4.8 Servicing water separator

The water separator in the back of the unit filters water condensate out of the compressed air, before the air is discharged through the outlet valves.

Adjust the needle valve opening according to the condensate flow. Do not open or close the valve completely during operation. Open the needle valve during service completely for drain of any debris collected in the needle valve orifice.

Water condensate from the water separator is drained through a drain hole in the bottom of the frame. Use an appropriate drain pan and make sure that the condensate is properly disposed of.

6.4.9 Servicing automatic fire suppression system



Do not use a high pressure cleaner to clean the fire suppressing system or parts of it.

Preventive maintenance

To prevent the nozzles from getting dirty, ensure that the nozzles are covered by caps.

Check the heat sensitive detection wire for actual damage. A damaged detection wire can lead to a false release of the fire suppression system.

Periodic maintenance

To give maximum assurance that the system will operate as intended, maintenance must be performed every six months or sooner, depending on the operating and/or environment conditions. Maintenance must be performed by authorized personnel only. Please contact Atlas Copco.

All maintenance activities are to be recorded in a logbook.

6.5 Engine consumable specifications

6.5.1 Engine fuel specifications

For fuel specifications, please contact your Atlas Copco Customer Center.

6.5.2 Engine oil specifications



It is strongly recommended to use Atlas Copco branded lubrication oils for both compressor and engine.

High-quality, mineral, hydraulic or synthesized hydrocarbon oil with rust and oxidation inhibitors, anti-foam and anti-wear properties is recommended. The viscosity grade should correspond to the ambient temperature and ISO 3448, as follows.

Ambient temperature range	Type of lubricant
between -10°C and 50°C	PAROIL E Mission Green
between -25°C and 50°C	PAROIL E Xtra



Never mix synthetic with mineral oil.



After a complete change over to synthetic oil (or the other way around), you will need to do an extra rinse:

After doing the complete change procedure to synthetic oil, run the unit for a few minutes to allow proper and complete circulation of the synthetic oil.

Then drain the synthetic oil again and fill again with new synthetic oil. To set correct oil levels, follow the normal instructions.

Specifications PAROIL

PAROIL from Atlas Copco is the ONLY oil tested and approved for use in all engines built into Atlas Copco compressors and generators.

Extensive laboratory and field endurance tests on Atlas Copco equipment have proven PAROIL to match all lubrication demands in varied conditions. It meets stringent quality control specifications to ensure your equipment will run smoothly and reliably.

The quality lubricant additives in PAROIL allow for extended oil change intervals without any loss in performance or longevity.

PAROIL provides wear protection under extreme conditions. Powerful oxidation resistance, high chemical stability and rust-inhibiting additives help reduce corrosion, even within engines left idle for extended periods.

PAROIL contains high quality anti-oxidants to control deposits, sludge and contaminants that tend to build up under very high temperatures.

PAROIL's detergent additives keep sludge forming particles in a fine suspension instead of allowing them to clog your filter and accumulate in the valve/rocker cover area.

PAROIL releases excess heat efficiently, whilst maintaining excellent bore-polish protection to limit oil consumption.

PAROIL has an excellent Total Base Number (TBN) retention and more alkalinity to control acid formation.

PAROIL prevents Soot build-up.

PAROIL is optimized for the latest low emission EURO -3 & -2, EPA TIER II, III & IV engines running on low sulphur diesel for lower oil and fuel consumption.

PAROIL E Xtra and PAROIL E Mission Green are low SAPS oil. These oils are to be used in Stage IIIB/ Tier 4 Interim engines in order to provide the full performance and life of the engine and aftertreatment systems.

PAROIL E Mission Green

PAROIL E Mission Green is a mineral based high performance diesel engine oil with a high viscosity-index. Atlas Copco PAROIL E Mission Green is designed to provide a high level of performance and protection in standard ambient conditions as from -10°C.

	Litre	US gal	Imp gal	cu.ft	Order number
can	5	1.3	1.1	0.175	1630 0471 00
can	20	5.3	4.4	0.7	1630 0472 00
barrel	210	55.4	46.2	7.35	1630 0473 00

PAROIL E Xtra

PAROIL E Xtra is a synthetic ultra high performance diesel engine oil with a high viscosity-index. Atlas Copco PAROIL E Xtra is designed to provide excellent lubrication from start-up in temperatures as low as -25°C.

	Litre	US gal	Imp gal	cu.ft	Order number
can	5	1.3	1.1	0.175	1630 0135 01
can	20	5.3	4.4	0.7	1630 0136 01
barrel	210	55.4	46.2	7.35	1626 0102 00

6.5.3 Engine coolant specifications



Never remove the cooling system filler cap while coolant is hot.

The system may be under pressure. Remove the cap slowly and only when coolant is at ambient temperature. A sudden release of pressure from a heated cooling system can result in personal injury from the splash of hot coolant.

It is strongly recommended to use Atlas Copco branded coolant.

The use of the correct coolant is important for good heat transfer and protection of liquid-cooled engines. Coolants used in these engines must be mixtures of good quality water (distilled or de-ionised), special coolant additives and if necessary freeze protection. Coolant that is not to manufacturer's specification will result in mechanical damage of the engine.

The freezing point of the coolant must be lower than the freezing point that can occur in the area. The difference must be at least 5°C. If the coolant freezes, it may crack the cylinder block, radiator or coolant pump.

Consult the engine's operation manual and follow the manufacturer's directions.



Never mix different coolants and mix the coolant components outside the cooling system.

Specifications PARCOOL EG

PARCOOL EG is the only coolant that has been tested and approved by all engine manufacturers currently in use in Atlas Copco compressors and generators.

Atlas Copco's PARCOOL EG extended life coolant is the new range of organic coolants purpose designed to meet the needs of modern engines. PARCOOL EG can help prevent leaks caused by corrosion. PARCOOL EG is also fully compatible with all sealants and gasket types developed to join different materials used within an engine.

PARCOOL EG is a ready to use Ethylene Glycol based coolant, pre-mixed in an optimum 50/50 dilution ratio, for antifreeze protection guaranteed to -40°C.

Because PARCOOL EG inhibits corrosion, deposit formation is minimized. This effectively eliminates the problem of restricted flow through the engine coolant ducts and the radiator, minimizing the risk for engine overheating and possible failure.

It reduces water pump seal wear and has excellent stability when subjected to sustained high operating temperatures.

PARCOOL EG is free of nitride and amines to protect your health and the environment. Longer service life reduces the amount of coolant produced and needing disposal to minimise environmental impact.

PARCOOL EG

	Liter	US gal	Imp gal	cu.ft	Order number
can	5	1.3	1.1	0.175	1604 5308 01
can	20	5.3	4.4	0.7	1604 5307 02
barrel	208	54.9	45.8	7.28	1604 5306 01
barrel	1000	264.0	220.0	35.0	1604 5309 01

PARCOOL EG CONCENTRATE

	Liter	US gal	Imp gal	cu.ft	Order number
can	5	1.3	1.1	0.175	1604 8159 01

To ensure protection against corrosion, cavitation and formation of deposits, the concentration of the additives in the coolant must be kept between certain limits, as stated by the manufacturer's guidelines. Topping up the coolant with water only, changes the concentration and is therefore not allowed.

Liquid-cooled engines are factory-filled with this type of coolant mixture.

7 Checks and trouble shooting

7.1 Problem solving chart

The chart helps to solve mechanical and electrical problems.

It is assumed that the engine is in good condition and that there is adequate fuel flow to the filter and injection equipment.



An electrical fault must be traced by an electrician.

Make sure that the wires are not damaged and that they are clamped tight to their terminals.

7.2 Battery and alternator precautions

- Never reverse the polarity of the battery or the alternator.
- Never break any alternator or battery connections while the engine is running.
- When recharging the battery, disconnect it from the alternator. Before using booster cables to start the engine, be sure of the polarity and connect the batteries correctly.
- Never operate the engine without the main or voltage sensing cables connected in the circuit.

7.3 Trouble shooting

<i>Symptom</i>	<i>Possible cause</i>	<i>Corrective action</i>
<i>Compressor loaded automatically to full capacity after starting</i>	Loading solenoid valve stuck in loaded position.	Remove and check loading solenoid valve. Replace valve if necessary.
	Air intake throttle valve in open position.	Check position throttle valve. Disconnect loading solenoid valve from throttle valve housing and connect independent compressed-air line to throttle valve housing. Repeatedly admit air and listen for opening and closing sound of throttle valve. If sound is not evident, remove unloader valve assembly, dismantle and inspect. Replace parts where necessary.
<i>Compressor does not deliver air or not immediately after loading solenoid valve has been energized.</i>	Diaphragm of unloader piston cracked.	If air blows from venting device, open unloader piston cover and replace diaphragm.
	Air intake throttle valve stuck in closed position.	Disconnect loading solenoid valve from throttle valve housing and connect independent compressed-air line to throttle valve housing. Repeatedly admit air and listen for opening and closing sound of throttle valve. If sound is not evident, remove unloader valve assembly, dismantle and inspect. Replace parts where necessary.
	Air leaks in regulating system.	Same action as above.
	Loading solenoid valve out of order.	Check loading solenoid valve and electric wiring. Replace valve, if necessary.

<i>Symptom</i>	<i>Possible cause</i>	<i>Corrective action</i>
<i>Compressor capacity or pressure below normal</i>	Air consumption exceeds capacity of compressor.	Check equipment connected.
	Choked air filter element.	Remove and inspect air filter element. Clean or replace element, if necessary.
	Working pressure setpoint incorrect.	Adjust setting.
	Engine not up to max. load speed.	Check engine and correct if necessary.
	Loading solenoid valve leakage.	With unit running at max. load speed, disconnect pipe from loading solenoid valve. If air leaks, remove and inspect loading solenoid valve. Replace valve, if necessary.
	Compressor element(s) not in order.	Check interstage pressure and have compressor element(s) inspected by Atlas Copco.
	Air intake throttle valve remains partially closed.	Disconnect loading solenoid valve from throttle valve housing and connect independent compressed-air line to throttle valve housing. Repeatedly admit air and listen for opening and closing sound of throttle valve. If sound is not evident, remove unloader valve assembly, dismantle and inspect. Replace parts where necessary.
<i>Compressor capacity or pressure below normal</i>	Safety valve or relief valve leaking.	Remove and inspect safety valve or relief valve. Replace valve if not airtight after reinstallation.
	Unloading valve leaking.	Remove and inspect unloading valve. Replace valve, if necessary.
	Pipe connections leaking.	Check connections and repair if necessary.

<i>Symptom</i>	<i>Possible cause</i>	<i>Corrective action</i>
<i>Air pressure rises above maximum and causes safety valve to blow off</i>	Working pressure setpoint incorrect.	Adjust setting.
	Air intake throttle valve does not close for some reason.	Check position throttle valve. Disconnect loading solenoid valve from throttle valve housing and connect independent compressed-air line to throttle valve housing. Repeatedly admit air and listen for opening and closing sound of throttle valve. If sound is not evident, remove unloader valve assembly, dismantle and inspect. Replace parts where necessary.
	Unloading valve malfunctioning.	Remove and inspect unloading valve and blow-off silencers.
<i>Compressor overheating</i>	Insufficient compressor cooling.	Move unit away from walls; when banked with other units, leave space between them.
	Oil cooler clogged externally.	Clean oil cooler.
	Oil cooler clogged internally.	Consult Atlas Copco.
	Compressor oil filter clogged.	Replace oil filter.
	Compressor oil level too low.	Before checking compressor oil level, wait approx. 10 minutes after unit has stopped. Add correct oil, if necessary. Never overfill.
	Fan blade broken or fan drive defective.	Check and correct, if necessary.
	Working pressure too high.	Adjust setting.
	Pressure ratio over compressor element(s) too high.	Consult Atlas Copco.
	Bypass valve of oil cooler remains stuck in open position.	Remove bypass valve, clean and inspect.

<i>Symptom</i>	<i>Possible cause</i>	<i>Corrective action</i>
<i>Engine running but compressor does not load when 'Load' button is pressed</i>	Loading solenoid valve inoperative.	Check loading solenoid valve and electric wiring. Replace valve, if necessary.
	Diaphragm of unloader piston perforated or throttle valve remains closed for some reason.	Remove unloader piston cover and inspect rolling diaphragm. If in order, check piston for free axial movement by hand. If jammed, remove throttle valve housing, dismantle and replace defective parts.
	Control panel 'Load' button inoperative.	Consult Atlas Copco.
<i>Compressor oil pressure too low</i>	Compressor oil level too low.	Before checking compressor oil level, wait approx. 10 minutes after unit has stopped. Add correct oil, if necessary. Never overfill.
	Compressor oil filter clogged.	Replace compressor oil filter.
	Bypass valve in oil pump stuck in open position.	Remove bypass valve, clean and inspect.
	Oil pump failure.	Remove oil pump and inspect parts for wear.
	Bypass valve of oil sump stuck in open position.	Remove bypass valve, clean and inspect.
	Ambient temperature too low.	Use heaters, check oil viscosity.
Compressor oil pressure sensor disconnected.	Connect wiring.	

<i>Symptom</i>	<i>Possible cause</i>	<i>Corrective action</i>
<i>Engine does not start</i>	Engine oil pressure does not build up.	See Engine Operation Manual.
	Inlet shutdown valve is closed.	Open inlet shutdown valve with handle.
	Compressor oil pressure does not build up.	See problem “Compressor oil pressure too low”.
	Faulty compressor oil pressure shutdown switch.	Remove and test switch. Replace, if out of order.
	ECM fault.	Consult Atlas Copco.
	Coolant level(s) too low.	Check and adjust coolant level(s), if necessary.
	Crank time too short.	Adjust crank time on User Interface.
	Ambient temperature too low.	Connect engine heaters.
	Speed sensor inoperative.	Check speed sensor and electric wiring.
<i>After working for some time, the unit keeps shutting down</i>	Insufficient fuel supply.	Check fuel lines or bleed.
	Temperature or pressure sensor missing or malfunctioning.	Check via the User Interface display and replace sensor.
	Restriction in fuel supply to engine.	Check fuel lines and fuel filters.
	Air leak in fuel suction line or fuel filters.	Check suction side of electric fuel pump and fuel filters for air leaks.
	Compressor oil pressure too low.	See problem “Compressor oil pressure too low”.
	Engine oil pressure too low.	See Engine Operation Manual.
	Compressor overheating.	See “Compressor overheating”
	Engine overheating.	See Engine Operation Manual.
	<i>Excessive oil fumes or air flow coming from breather pot assembly on gear casing.</i>	Compressor element(s) seals defective.

<i>Symptom</i>	<i>Possible cause</i>	<i>Corrective action</i>
<i>Intercooler pressure below normal</i>	Choked air filter elements.	Remove and inspect air filter elements. Clean or replace elements, if necessary.
	Intercooler relief valve leaking.	Remove valve, clean and inspect.
	Air leak between LP and HP compressor element.	Inspect pipe connections and intercooler. Replace leaking O-rings, gaskets or intercooler, if necessary.
	LP compressor element not in order.	Have LP compressor element inspected by Atlas Copco.
	Intercooler clogged internally.	Consult Atlas Copco.
<i>Intercooler pressure above normal</i>	Aftercooler clogged internally.	Consult Atlas Copco.
	HP compressor element not in order.	Have HP compressor element inspected by Atlas Copco.
	HP silencer and/or check valve give restriction.	Check and take corrective action.

7.4 Compressor control module trouble shooting

7.4.1 Process information

While the compressor is running, the operator can take a brief look at all the incoming compressor and engine data, by pressing the Measuring View Indication button. This can be very useful for trouble shooting over the phone.

7.4.2 Fault codes

There are several parameters that are continuously watched.

When one of these parameters exceeds its specified limit the compressor will react depending the present status of the control box.

Alarm code	Alarm text	Fail class	Trigger
1231	FUEL FILL CHECK	Warning	PC
1503	INITIAL OVERHAUL REQUIRED	Warning	PC
1524	MINOR OVERHAUL REQUIRED	Warning	PC
1554	MAJOR OVERHAUL REQUIRED	Warning	PC
2000	EMERGENCY STOP INPUT	Shutdown	PC
2040	REMOTE EMERGENCY STOP	Shutdown	PC
2070	COOLANT LEVEL LOW WARNING	Warning	PC
2080	COOLANT LEVEL LOW SHUTDOWN	Shutdown	PC
2090	Δ P AIRFILTERS HIGH	Warning	PC
2100	NO PROJECTFILE DOWNLOADED	Warning	PC
3000	FUEL LEVEL LOW WARNING	Warning	PC
3010	FUEL LEVEL LOW SHUTDOWN	Controlled Stop	PC
3020	FUEL LEVEL SENSOR CIRCUIT	Warning	PC
3150	AIR DISCHARGE WARNING	Warning	PC
3160	AIR DISCHARGE SHUTDOWN	Shutdown	PC
3170	AIR DISCHARGE PRESSURE SENSOR CIRCUIT	Warning	PC
3350	COMPRESSOR OIL PRESSURE ALARM 1 - 1.3 BAR	Warning	PC
3360	COMPRESSOR OIL PRESSURE ALARM 2 - 0.9 BAR	Shutdown	PC
3370	COMPRESSOR OIL PRESSURE CIRCUIT	Shutdown	PC
3450	BATTERY LOW ALARM	Indication	PC

Alarm code	Alarm text	Fail class	Trigger
3460	BATTERY HIGH ALARM	Warning	PC
3720	INTERSTAGE PRESSURE SENSOR CIRCUIT	Warning	PC
4000	L.P. ELEMENT TEMPERATURE HIGH	Warning	PC
4010	L.P. ELEMENT TEMP. ALARM 2	Controlled Stop	PC
4020	L.P. ELEMENT TEMP. ALARM 3	Shutdown	PC
4040	L.P. ELEMENT TEMP. SENSOR CIRCUIT	Shutdown	PC
4100	AIR DISCHARGE TEMPERATURE ALARM 1	Warning	PC
4110	AIR DISCHARGE TEMPERATURE ALARM 2	Shutdown	PC
4120	A.D. TEMPERATURE SENSOR CIRCUIT	Warning	PC
4150	H.P. ELEMENT TEMPERATURE ALARM 1	Warning	PC
4160	H.P. ELEMENT TEMPERATURE ALARM 2	Shutdown	PC
4170	H.P. ELEMENT TEMPERATURE ALARM 3	Shutdown	PC
4190	H.P. ELEMENT TEMP. SENSOR CIRCUIT	Shutdown	PC
4450	COMPRESSOR OIL TEMP HIGH - 85°C	Warning	PC
4460	COMPRESSOR OIL TEMP TOO HIGH - 90°C	Shutdown	PC
4470	COMPRESSOR OIL TEMP SENSOR CIRCUIT	Shutdown	PC
5200	AIR SHUT OFF	Shutdown	PC
6190	CHARGE MONITORING FAIL	Indication	PC
6201	AIR DISCHARGE PRESSURE LIMITTING ALARM	Warning	PC
6327	START FAILURE	Shutdown	PC
6329	STARTER SPEED TOO LOW	Shutdown	PC
6426	UNINTENTIONAL RUN	Shutdown	PC
6427	RUN FAILURE	Shutdown	PC
6428	STOP FAILURE	Shutdown	PC
7002	COMMS FAILURE DELAY	Shutdown	PC
7007	ECU RED LAMP	Shutdown	ECU
7008	ECU AMBER LAMP	Warning	ECU
7009	ECU PROTECT LAMP	Warning	ECU
7010	ECU ENGINE SPEED ALARM LOW	Shutdown	PC
7020	ECU ENGINE SPEED ALARM HIGH	Shutdown	PC
7030	ECU ENGINE COOLANT TEMP. ALARM	Warning	PC

Alarm code	Alarm text	Fail class	Trigger
7040	ECU ENGINE AIR INLET TEMP. ALARM 1	Warning	PC
7050	ECU OIL PRESSURE LOW	Warning	PC
7070	ECU ENGINE LOAD ALARM - 15%	Shutdown	PC
7080	ECU AMBIENT TEMPERATURE ALARM - 50°C	Warning	PC
7300	ECU OIL LEVEL 1 - 45%	Shutdown	PC
7310	ECU OIL LEVEL 2 - 1%	Shutdown	PC

Details of ECU triggered alarms can be monitored via the ECU DM1 LIST menus.

In case of ECU AMBER LAMP or ECU PROTECT LAMP:

Only possible when engine is running or if Diagnostics Mode is active.

Access the ECU DM1 LIST menu via Alarm View.

In case of ECU RED LAMP:

Do NOT acknowledge the ECU RED LAMP alarm.

DM1 alarms are automatically copied into the Alarm View, and can be read there.

For all ECU triggered alarms, the respective SPN code is shown in the ECU DM1 LIST. A full list of supported SPN codes is provided by the engine manufacturer.

For following alarms, the Pc controller also shows full text next to the SPN code:

- ECU - FUEL FILTER TEMPERATURE
- ECU - INTERCOOLER TEMPERATURE
- ECU - FUEL PRESSURE
- ECU - FUEL FILTER PRESSURE
- ECU - WATER IN FUEL
- ECU - OIL LEVEL
- ECU - OIL FILTER PRESSURE
- ECU - OIL PRESSURE
- ECU - TURBO BOOST PRESSURE
- ECU - TURBO OIL PRESSURE
- ECU - INTAKE MANIFOLD TEMPERATURE
- ECU - AIR INLET PRESSURE
- ECU - COOLANT TEMPERATURE
- ECU - COOLANT LEVEL
- ECU - SUPPLY VOLTAGE
- ECU - AMBIENT AIR TEMPERATURE
- ECU - AIR INLET TEMPERATURE
- ECU - FUEL TEMPERATURE
- ECU - OIL TEMPERATURE
- ECU - ENGINE SPEED
- ECU - INJECTOR 1
- ECU - INJECTOR 2
- ECU - INJECTOR 3
- ECU - INJECTOR 4
- ECU - INJECTOR 5
- ECU - INJECTOR 6
- ECU - INJECTOR 7
- ECU - INJECTOR 8
- ECU - SOOT LOAD

7.5 Shutdown sensors

The unit comprises several shutdown sensors:

- Engine shutdowns (by ECM):
 - Engine Coolant Level Sensor Failure
 - Engine Coolant Temp. Sensor Failure
 - Engine Oil Temperature Sensor Failure
 - Engine Fuel Temperature Sensor Failure
 - Engine Air Inlet Temp. Sensor Failure
 - Engine Turbo Boost Press. Sensor Failure
 - Engine Oil Pressure Sensor Failure
 - Engine Fuel Pressure Sensor Failure
 - Engine Coolant Level Low
 - Engine Coolant Temperature Too High
 - Engine Air Inlet Temperature High
 - Engine Oil Pressure Too Low
 - Turbo Boost Pressure High
 - Engine Fuel Pressure Too Low
 - Engine Injector X Failure
 - Fuel Temperature Too High
 - Engine RPM Sensor Failure
- Fuel level shutdown
- LP element temperature shutdown
- HP element temperature shutdown
- Compressor oil pressure shutdown

- Apparatus shutdown:
 - Air discharge pressure sensor
 - LP element temperature sensor
 - HP element temperature sensor
 - Loaded solenoid valve output
 - ECM communication link
 - CAN communication link

8 Storage of the compressor

8.1 Storage instructions

Run the compressor regularly, e.g. twice a week, until warm.

Load and unload the compressor a few times to operate the unloading and regulating components. Close the air outlet valves after stopping.



If the unit is going to be stored without running from time to time, protective measures must be taken.

9 Disposal

9.1 General

When developing products and services, Atlas Copco tries to understand, address, and minimize the negative environmental effects that the products and services may have, when being manufactured, distributed, and used, as well as at their disposal.

Recycling and disposal policy are part of the development of all Atlas Copco products. Atlas Copco company standards determine strict requirements.

Selecting materials the substantial recyclability, the disassembly possibilities and the separability of materials and assemblies are considered as well as the environmental perils and dangers to health during the recycling and disposal of the unavoidable rates of not recyclable materials.

Your Atlas Copco compressor consists for the most part of metallic materials, that can be remelted in steelworks and smelting works and that is therefore almost infinite recyclable. The plastic used is labelled; sorting and fractioning of the materials for recycling in the future is foreseen.



This concept can only succeed with your help. Support us by disposing professionally. By assuring a correct disposal of the product you help to prevent possible negative consequences for environment and health, that can occur with an inappropriate waste handling.

Recycling and re-usage of material helps to preserve natural resources.

9.2 Disposal of materials

Dispose contaminated substances and material separately, according to local applicable environmental legislation.

Before dismantling a machine at the end of its operating lifetime drain all fluids and dispose of according the applicable local disposal regulations.

Remove the batteries. Do not throw batteries into the fire (explosion risk) or into the residual waste. Separate the machine into metal, electronics, wiring, hoses, insulation and plastic parts.

Dispose all components according to the applicable disposal regulations.

Remove spilled fluid mechanically; pick up the rest with absorbing agent (for example sand, sawdust) and dispose it according the applicable local disposal regulations. Do not drain into the sewage system or surface water.

10 Technical specifications

10.1 Torque values

10.1.1 For general applications

The following tables list the recommended torques applied for general applications at assembly of the compressor.

For hexagon screws and nuts with strength grade 8.8:

Thread size	M6	M8	M10	M12	M14	M16
Nm	9	23	46	80	125	205

For hexagon screws and nuts with strength grade 12.9:

Thread size	M6	M8	M10	M12	M14	M16
Nm	15	39	78	135	210	345

10.1.2 For important assemblies

Assemblies	Unit	Torque values
Axles to frame:		
Wheel nuts	Nm	80 +10/-0
Bolts, towing eye/towbar	Nm	80 ±10
Bolts, towbar/turntable	Nm	80 ±10
Bolts, front axle/frame	Nm	80 ±10
Bolts, rear axle/frame	Nm	205 ±20
Compressor to frame:		
Bolts, elements/gear casing	Nm	80 ±10
Bolts, gear casing/support	Nm	205 ±20
Bolts, support/buffer	Nm	205 ±20
Bolts, buffer/frame	Nm	80 ±10
Engine to frame:		
Bolts, engine/support	Nm	205 ±20
Bolts, support/buffer	Nm	205 ±20
Bolts, buffer/frame	Nm	80 ±10
Lifting beam to frame:		
Bolts, lifting beams/yoke (M12)	Nm	80 ±10
Bolts, lifting beams/yoke (M16)	Nm	205 ±20
Bolts, yoke/lifting supports	Nm	205 ±20
Bolts, lifting supports/frame	Nm	205 ±20

10.2 Settings of shutdowns and safety valves

Designation	Value
Engine shutdowns (see EOM)	
Fuel level	3%
LP element temperature	260°C
HP element temperature	260°C
Compressor oil pressure	0.9 bar(e)
HP safety valve opening pressure	13.7 bar(e) 198.7 psi
LP safety valve opening pressure	3.7 bar(e) 53,7 psi

10.3 Compressor/engine specifications

<i>Designation</i>	<i>Unit</i>	<i>Value</i>		
<i>Reference conditions</i>				
Absolute inlet pressure	bar(e)		1	
Relative air humidity	%		0	
Air inlet temperature	°C		20	
Normal effective working pressure	bar(e)	6.9	9.3	10.3
The inlet conditions are specified at the air inlet grating outside the canopy				
<i>Limitations</i>				
Minimum effective receiver pressure	bar(e)	0.5	0.5	0.5
Maximum effective receiver pressure, compressor unloaded	bar(e)	7.9	10.3	11.3
Maximum ambient temperature	°C	50	50	50
Minimum starting temperature with heaters	°C	-25	-25	-25
Minimum starting temperature without heaters	°C	-10	-10	-10
<i>Performance data</i> ¹⁾				
Engine shaft speed, normal and maximum	r/min	2100	2100	2100
Engine shaft speed, compressor unloaded	r/min	1300	1300	1300
Free air delivery ²⁾	l/s	375	373	371
Fuel consumption at full load	kg/h	37.5	39.8	41.4
Fuel consumption at unload	kg/h	5.3	5.3	5.3
Specific fuel consumption	g/m ³	29.0	30.3	31.8
Typical oil content of compressed air	mg/m ³	0	0	0
Compressed air temperature at outlet valves	°C	30	30	30
Noise level				
Sound pressure level (LP), measured according to EPA with a tolerance of ± 3dB(A) under free field conditions at 7 m distance	dB(A)		NA	
Sound power level (LW) complies with 84/532/533/EEC and 85/406/EEC limits	dB(A)		100	

Design data

Compressor

Number of compressor stages 2 in serial

Engine

Make Cummins

Type QSB 6.7

Coolant Liquid

Number of cylinders 6

Bore mm 107

Stroke mm 124

Swept volume l 6.7

Output according to SAEJ1995 at normal shaft speed kW 205

Capacity of oil sump:

Initial fill l 18.5

Refill (max.)⁴⁾ l 14

Capacity of cooling system (engine jackets) l 10

Unit

Capacity of compressor oil system l 32

Capacity of fuel tanks l 400

Air volume at inlet grating (approx.)³⁾ m³/s 9

Unit dimensions

Length mm 3612

(with towbar in towing position) mm 5763

Width mm 2030

Height mm 2370

Weight (ready to operate) kg 4960

Notes

1) At reference conditions, if applicable, and in normal shaft speed, unless otherwise stated.

2) Data	Measured according to	Tolerance
Free air delivery	ISO 1217 ed. 3 1996 annex D	$\pm 5\%$ 25 l/s <FAD<250 l/s $\pm 4\%$ 250 l/s <FAD

The international standard ISO 1217 corresponds to following national standards:

British BSI 1571 part 1

German DIN 1945 part 1

Swedish SS-ISO 1217

American ANSI PTC9

3) Air required for engine and compressor cooling, combustion and for compression

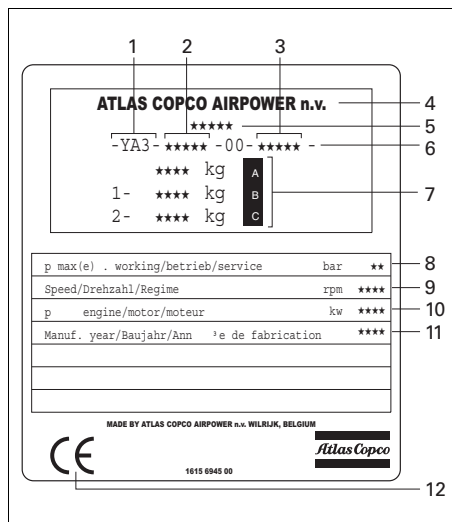
4) With filter change

10.5 Conversion list of SI units into British units

1 bar	=	14.504 psi
1 g	=	0.035 oz
1 kg	=	2.205 lbs
1 km/h	=	0.621 mile/h
1 kW	=	1.341 hp (UK and US)
1 l	=	0.264 US gal
1 l	=	0.220 imp gal (UK)
1 l	=	0.035 cu.ft
1 m	=	3.281 ft
1 mm	=	0.039 in
1 m ³ /min	=	35.315 cfm
1 mbar	=	0.401 in wc
1 N	=	0.225 lbf
1 Nm	=	0.738 lbf.ft
$t_{°F}$	=	$32 + (1.8 \times t_{°C})$
$t_{°C}$	=	$(t_{°F} - 32)/1.8$

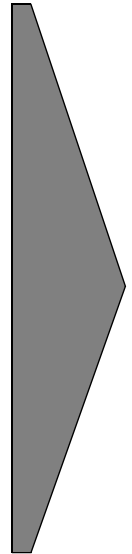
A temperature difference of 1°C = a temperature difference of 1.8°F.

10.6 Data plate



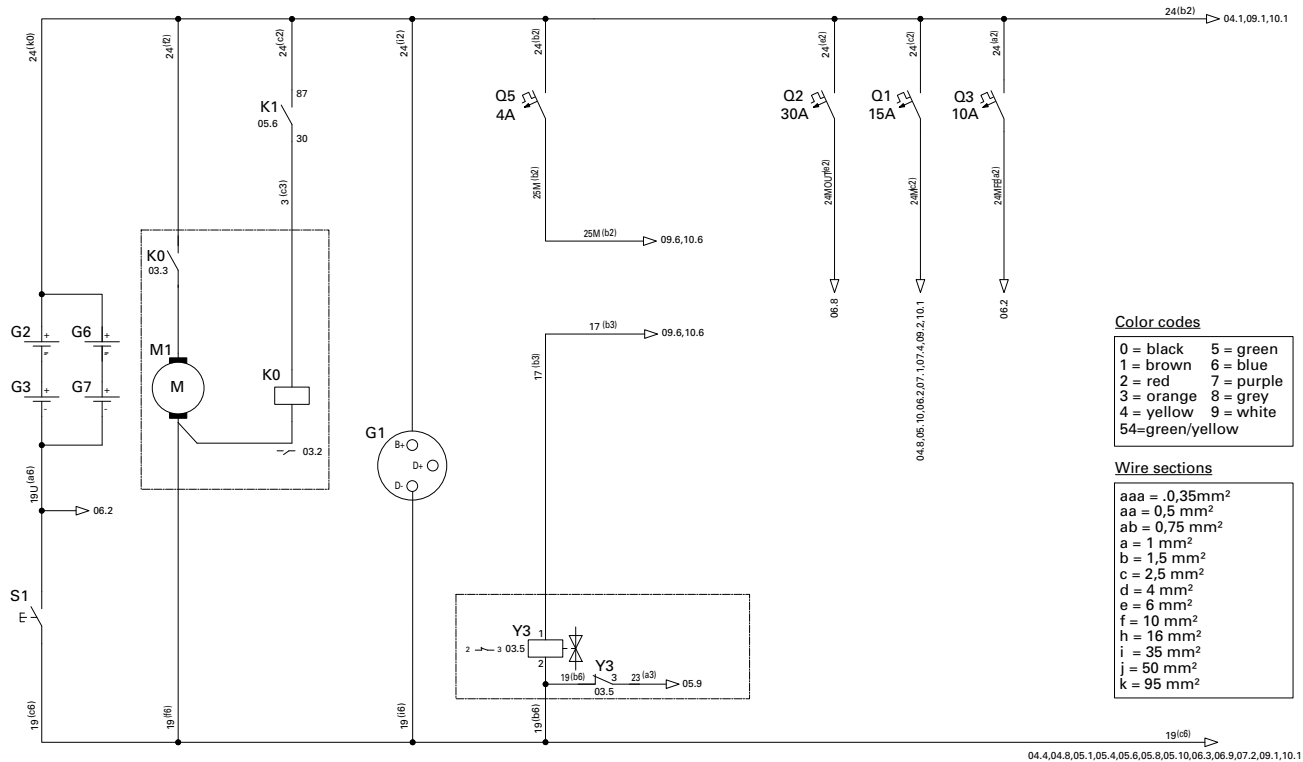
- 1 Company code
- 2 Product code
- 3 Unit serial number
- 4 Name of manufacturer
- 5 EEC or national type approved number
- 6 Vehicle identification number
- 7 A. Maximum permitted laden weight of the vehicle
B. Maximum permitted road weight of the front axle
C. Maximum permitted road weight of the rear axle
- 8 Working pressure
- 9 Speed
- 10 Engine power
- 11 Manufacturing year
- 12 EC mark in accordance with Machine Directive 89/392 EEC

Circuit diagrams



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Applicable for PTS 800 T3 Cud, Circuit diagram Engine



Color codes

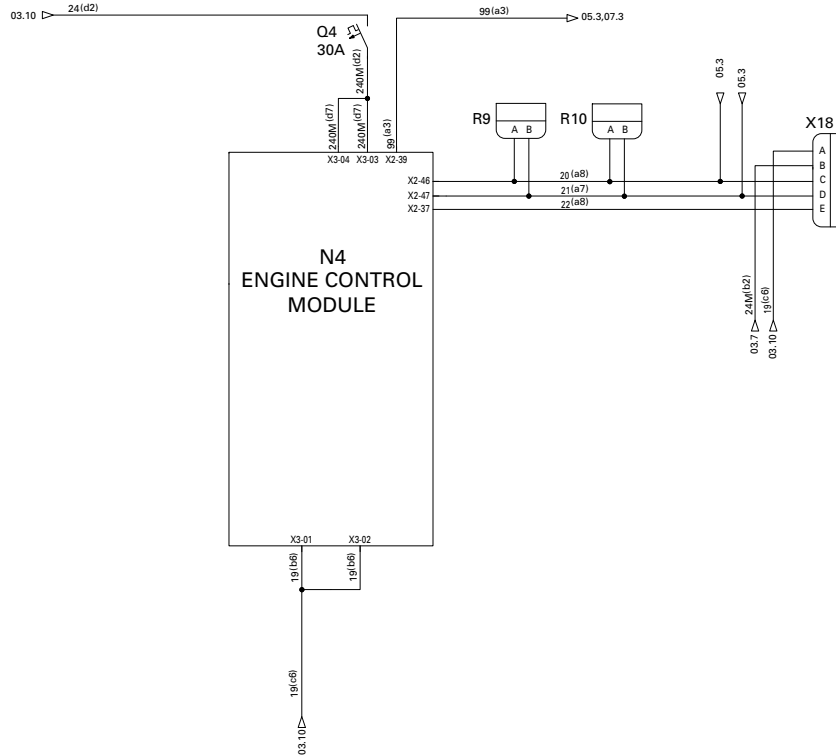
0 = black	5 = green
1 = brown	6 = blue
2 = red	7 = purple
3 = orange	8 = grey
4 = yellow	9 = white
54 = green/yellow	

Wire sections

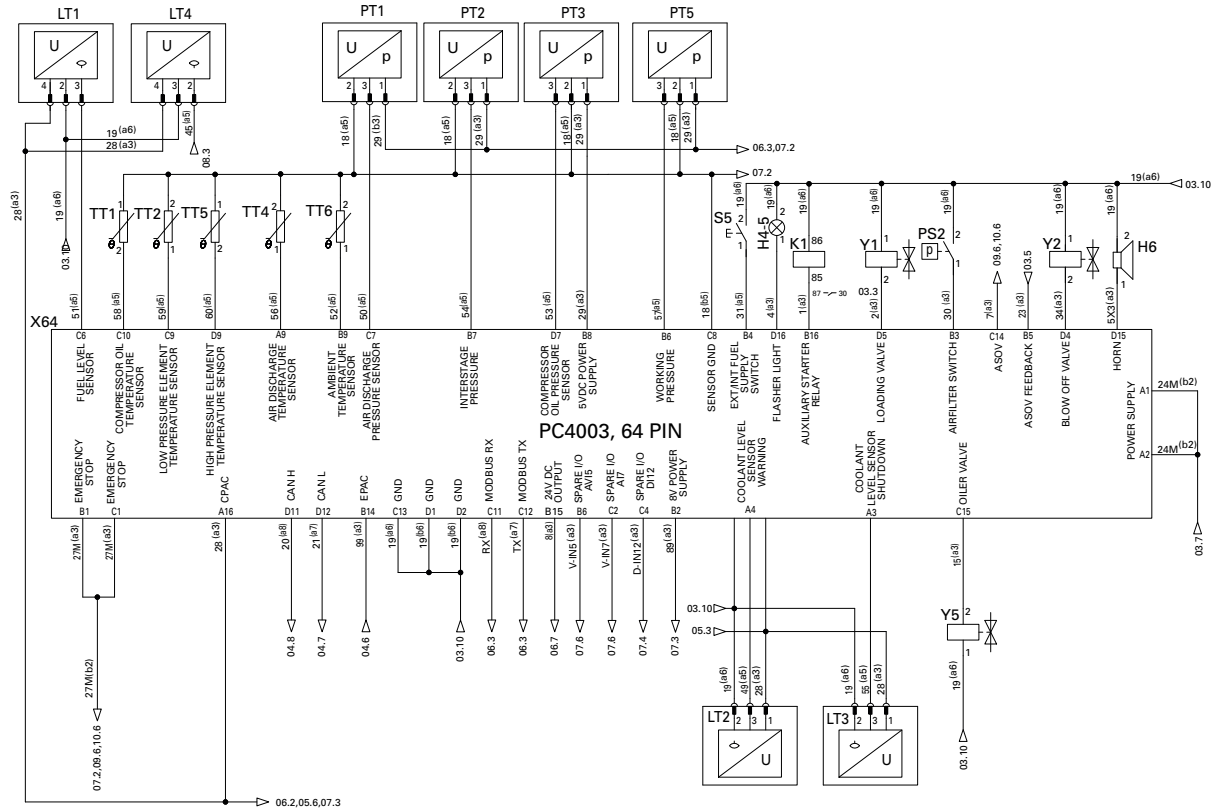
aaa = 0,35mm ²
aa = 0,5 mm ²
ab = 0,75 mm ²
a = 1 mm ²
b = 1,5 mm ²
c = 2,5 mm ²
d = 4 mm ²
e = 6 mm ²
f = 10 mm ²
h = 16 mm ²
i = 35 mm ²
j = 50 mm ²
k = 95 mm ²

03

Circuit diagram Engine

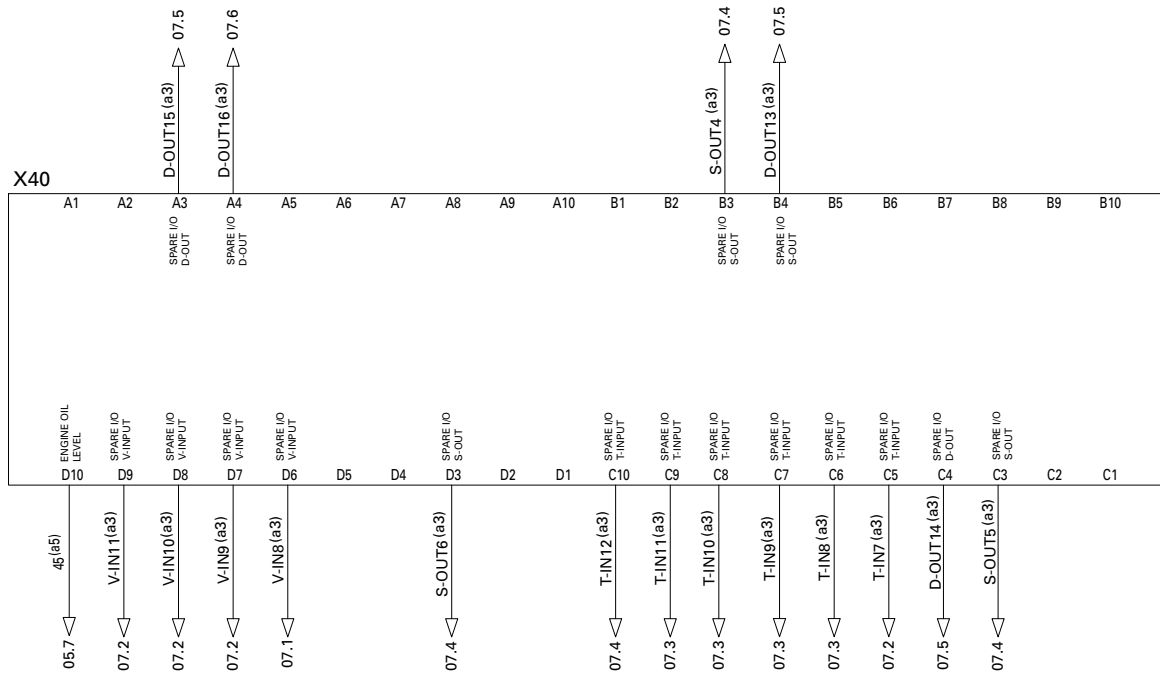


Circuit diagram Controller

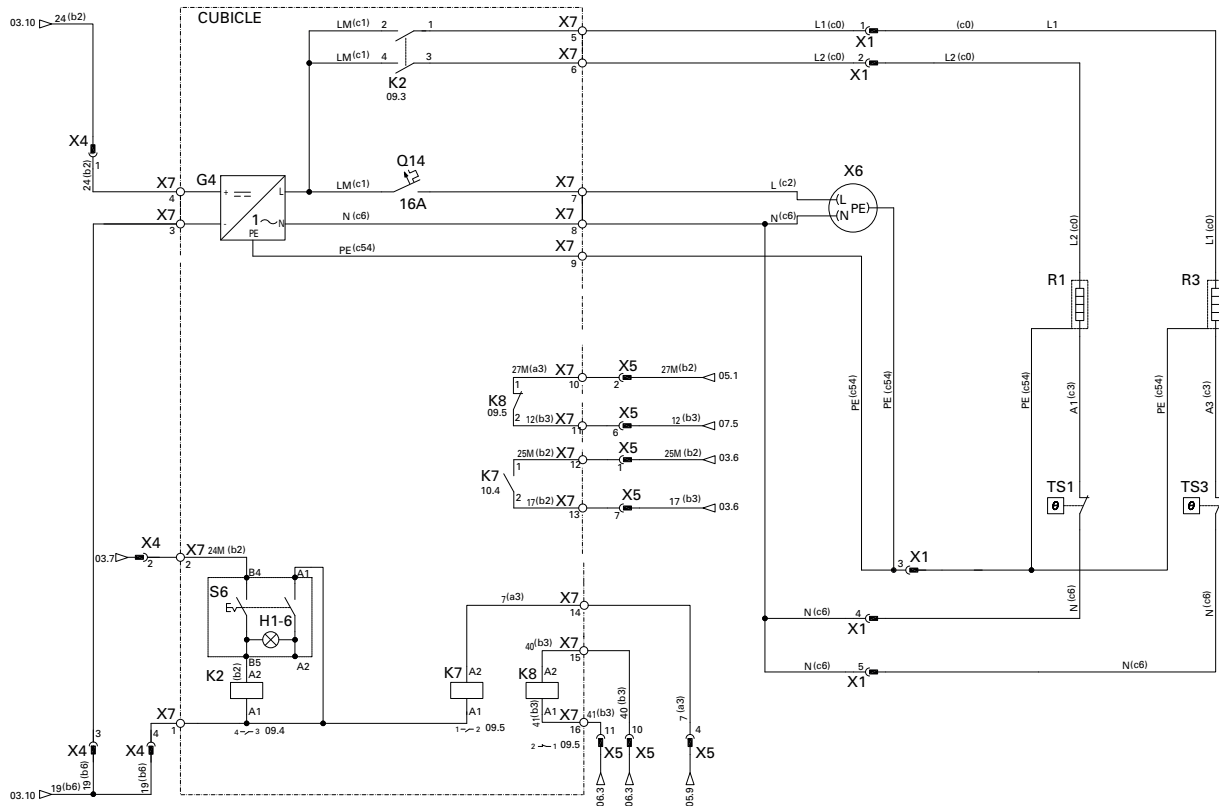


05

Circuit diagram Connector

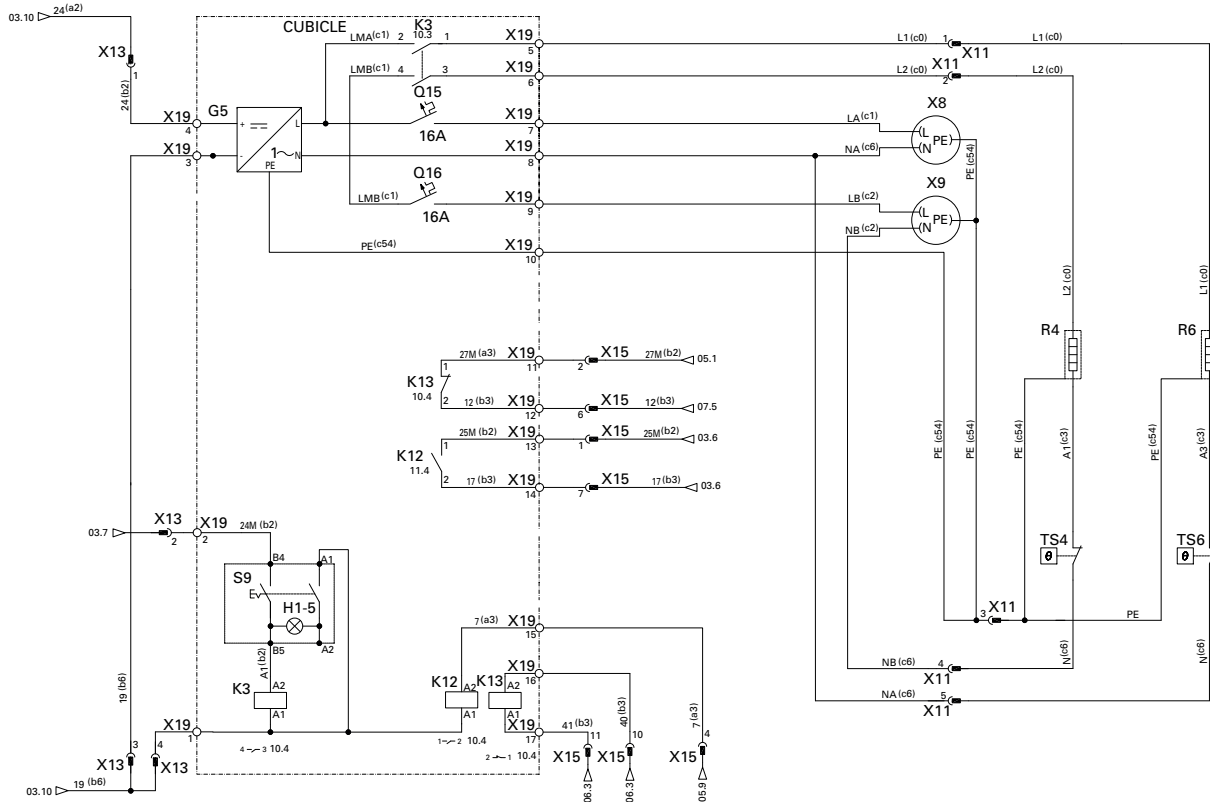


Circuit diagram Option EU



09

Circuit diagram Option USA



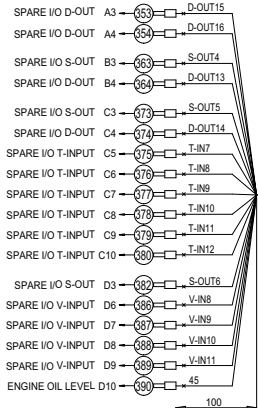
ITEM	DESCRIPTION	PG	ITEM	DESCRIPTION	PG	ITEM	DESCRIPTION	PG
F1	Inline fuse, 10A	97	Q2	Circuit breaker 24V outlet, 30A	94	TT6	Temperature sensor, ambient temperature	96
G1	Charging alternator	94	Q3	Circuit breaker fire extinguisher, 10A	94	X1	Connector heater EU	100
G2	Battery 100Ah	94	Q4	Circuit breaker ECM, 30A	95	X4	Connector to rear wiring EU	100
G3	Battery 100Ah	94	Q5	Circuit breaker inlet shutdown valve (4A, 24V)	94	X5	Connector to main wiring EU	100
G4	Battery charger EU	94				X6	Socket power EU	100
G5	Battery charger USA	101	Q14	Circuit breaker heater EU, 16A	100	X8	Socket power charger USA	101
G6	Battery 100Ah	94	Q15	Circuit breaker heater USA, 16A	101	X9	Socket power heater USA	101
G7	Battery 100Ah	94	Q16	Circuit breaker heater USA, 16A	101	X10	Connector Modbus	97
H1-5	Lamp, internal lights USA	101	R1	Heater water separator nozzle EU	100	X11	Connector heater USA	101
H1-6	Lamp, internal lights EU	100	R3	Compressor oil heater EU	100	X13	Connector to rear wiring USA	101
H4-5	Lamp, flasher light	96	R4	Heater water separator nozzle USA	101	X14	Connector remote box	98
H6	Horn	96	R6	Compressor oil heater USA	101	X15	Connector to main wiring USA	101
K0	Starter motor relay	94	R9	Resistor CAN J1939	95	X16	Customer installation connector, remote E-stop	98
K1	Aux. starter relay	96	R10	Resistor CAN J1939	95			
K2	Heater relay EU	100	S1	Battery switch	94	X17	Connector power outlet socket	97
K3	Heater relay USA	101	S2	Emergency stop switch	98	X18	Connector 9-pin diagnostic	95
K4	24V outlet relay	97	S3	Emergency stop switch	98	X40	Connector Pc4003, 40 pin	99
K7	Inlet shutdown valve relay	100	S4	Emergency stop switch	98	X64	Connector Pc4003, 64 pin	96
K8	Fire extinguisher relay	100	S5	External/internal fuel supply switch	96	Y1	Loading valve solenoid	96
K12	Inlet shutdown valve relay	101	S6	Heaters EU switch	100	Y2	Blow off valve solenoid	96
K13	Heater relay USA	101	S9	Heaters USA switch	101	Y3	Inlet shutdown valve solenoid	94
LT1	Level sensor, fuel level	96	TS1	Temperature switch nozzle heater EU	100	Y5	Oiler valve solenoid	96
LT2	Level sensor, coolant level warning	96	TS3	Temperature switch compressor heater EU	100			
LT3	Level sensor, coolant level shutdown	96	TS4	Temperature switch nozzle heater USA	101			
LT4	Level sensor, oil level	96	TS6	Temperature switch compressor heater USA	101			
M1	Starter motor	94	TT1	Temperature sensor, compressor oil temperature	96			
N4	Engine control module	95	TT2	Temperature sensor, low pressure element temperature	96			
PS2	Pressure switch air filter	96						
PT1	Pressure sensor, air discharge pressure	96	TT4	Temperature sensor, air discharge temperature	96			
PT2	Pressure sensor, LP element pressure	96						
PT3	Pressure sensor, compressor oil pressure	96	TT5	Temperature sensor, high pressure element temperature	96			
PT5	Pressure sensor, working pressure	96						
Q1	General circuit breaker, 15A	94						

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Applicable for PTS 800 T3 - Main wire harness

PC4003
label:
PC4003

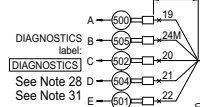
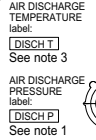
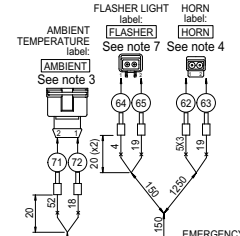
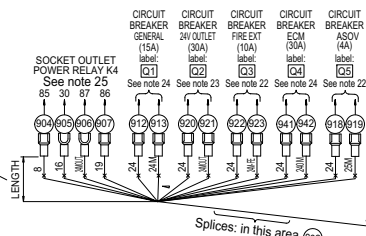
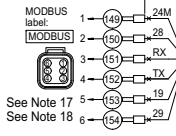
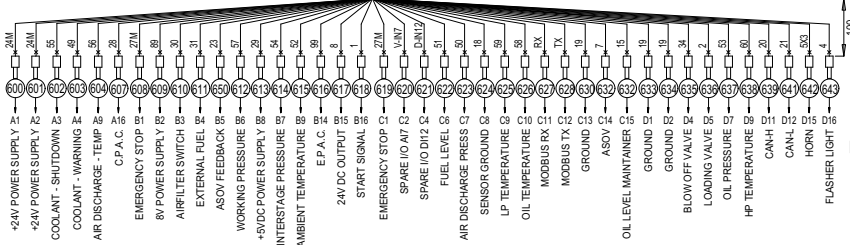
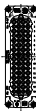
See note 21



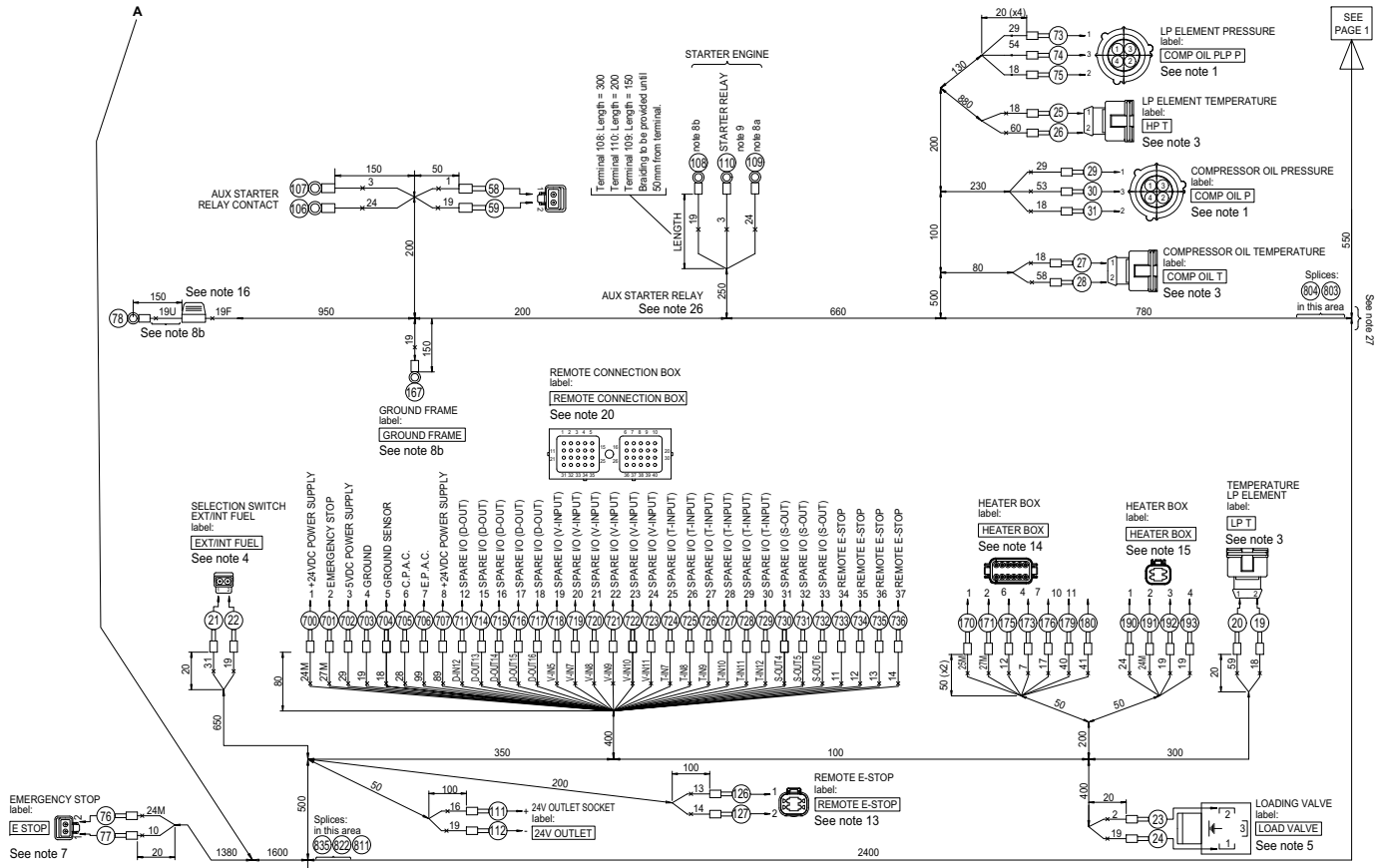
PC4003
label:
PC4003

See note 6

See Note 31



01



TERMINAL END A		TERMINAL END B		WIRE		
NR.	TERMINAL	NR.	TERMINAL	NR.	MM ²	COLOR
58	See Note 26	618	See Note 6	1	1	Orange
23	See Note 5	636	See Note 6	2	1	Orange
110	Eye M5	107	AMP 342145-1	3	2,5	Orange
64	See Note 7	643	See Note 6	4	1	Orange
632	See Note 6	173	See Note 14	7	1	Orange
904	See note 25	617	See Note 6	8	1	Orange
77	See Note 7	61	See Note 7	10	1	Red
60	See Note 7	733	See Note 20	11	1	Red
734	See Note 20	175	See Note 14	12	1	Red
735	See Note 20	126	See Note 13	13	1	Red
736	FIND	127	See Note 13	14	1	Red
141	See Note 4	632	See Note 6	15	1	Orange
905	Spade Terminal M5	111	Terminal End	16	6	Orange
54	See Note 26	176	See Note 14	17	1,5	Orange
3	See Note 1	804	Splice	18	1	Green
624	See Note 6			18	1,5	Green
19	See Note 3			18	1	Green
25	See Note 3			18	1	Green
27	See Note 3			18	1	Green
31	See Note 1			18	1	Green
70	See Note 3			18	1	Green
75	See Note 1			18	1	Green
704	See Note 20			18	1	Green
72	See Note 3			18	1	Green
145	See Note 1			18	1	Green

TERMINAL END A		TERMINAL END B		WIRE				
NR.	TERMINAL	NR.	TERMINAL	NR.	MM ²	COLOR		
63	See Note 4	833	Splice	19	1	Blue		
65	See Note 7			19	1	Blue		
153	See note 17			19	2,5	Blue		
630	See Note 6			19	1	Blue		
633	See Note 6			19	1,5	Blue		
634	See Note 6			19	1,5	Blue		
907	See note 25			19	1	Blue		
834	Splice			19	6	Blue		
				500	See Note 28	19	2,5	Blue
				928	See Note 29	19	1,5	Blue
		59	See Note 26	19	1	Blue		
		929	See Note 29	19	1,5	Blue		
		108	See Note 8b, Eye M12	19	10	Blue		
22	See Note 4	835	Splice	19	4	Blue		
				19	1	Blue		
				19	1	Blue		
				19	1,5	Blue		
				19	1,5	Blue		
				19	1	Blue		
				19	6	Blue		
				19	2,5	Blue		
				19	6	Blue		
				105	See note 8b, Eye M6	19	1,5	Blue
				161	See note 5	19	1	Blue
				68	See Note 1	19	1	Blue
				142	See Note 4	19	1	Blue
				55	See Note 26	19	1,5	Blue
95	See Note 1	19	1	Blue				
50	See Note 1	19	1	Blue				
98	See Note 3	19	1	Blue				
78	See Note 8b, Eye M10	Inline Fuse, See Note 16		19U	1	Blue		
85	See Note 19			19F	1	Blue		

TERMINAL END A		TERMINAL END B		WIRE				
NR.	TERMINAL	NR.	TERMINAL	NR.	MM ²	COLOR		
90	See Note 11, See Note 31	812	Splice	20	1	Grey		
939	See Note 2, See Note 31			20	1	Grey		
837	Splice			20	1	Grey		
		639	See Note 6, See Note 31	20	1	Grey		
		823	Splice	20	1	Grey		
502	See Note 28, See Note 31			20	1	Grey		
92	See Note 11, See Note 31			20	1	Grey		
91	See Note 11, See Note 31	824	Splice	21	1	Purple		
940	See Note 2, See Note 31			21	1	Purple		
825	Splice			21	1	Purple		
		641	See Note 6, See Note 31	21	1	Purple		
		826	Splice	21	1	Purple		
504	See Note 28, See Note 31			21	1	Purple		
93	See Note 11, See Note 31			21	1	Purple		
501	See Note 28	935	See Note 2	22	1	Grey		
650	See Note 6	56	See Note 26	23	1	Orange		
109	See Note 8a, Eye M12	802	Splice	24	10	Red		
912	See Note 24			24	2,5	Red		
918	See Note 22			24	1,5	Red		
922	See Note 22			24	1	Red		
941	See Note 24			24	4	Red		
190	See Note 15			24	1,5	Red		
106	AMP 342145-1			24	2,5	Red		
920	See Note 23			24	6	Red		
913	See Note 24			809	Splice	24M	2,5	Red
700	See Note 20					24M	1,5	Red
600	See Note 6					24M	1,5	Red
601	See Note 6	24M	1,5			Red		
191	See Note 15	24M	1,5			Red		
76	See Note 7	24M	1			Red		
149	See note 17	24M	1,5			Red		
505	See Note 28	24M	1,5			Red		

TERMINAL END A		TERMINAL END B		WIRE		
NR.	TERMINAL	NR.	TERMINAL	NR.	MM ²	COLOR
930	See Note 29	820	Splice	240M	4	Purple
931	See Note 29			240M	4	Purple
942	See Note 24			240M	4	Red
921	See Note 23	906	Spade Terminal M5	24MOUT	6	Red
923	See Note 22	84	See Note 19	24M-FE	1	Red
919	See Note 22	170	See Note 14	25M	1,5	Red
701	See note 20	807	Splice	27M	1,5	Orange
171	See Note 14			27M	1	Orange
608	See Note 6			27M	1	Orange
619	See Note 6			27M	1	Orange
66	See Note 1	822	Splice	28	1	Orange
94	See Note 1			28	1	Orange
49	See Note 1			28	1	Orange
150	See note 17			28	1	Orange
82	See Note 1			28	1	Orange
705	See Note 20			28	1	Orange
607	See Note 6			28	1	Orange
1	See Note 1			803	Splice	29
613	See Note 6	29	1			Orange
154	See note 17	29	1			Orange
29	See Note 1	29	1			Orange
73	See Note 1	29	1			Orange
702	See Note 20	29	1			Orange
143	See Note 1	29	1			Orange
97	See Note 3	610	See Note 6	30	1	Orange
21	See Note 4	611	See Note 6	31	1	Green
635	See Note 6	160	See note 5	34	1	Orange
179	See Note 14	88	See Note 19	40	1,5	Orange
180	See Note 14	89	See Note 19	41	1,5	Orange
81	See Note 1	390	See Note 21	45	1	Green
603	See Note 10	96	See Note 1	49	1	Green
2	See Note 1	623	See Note 6	50	1	Green

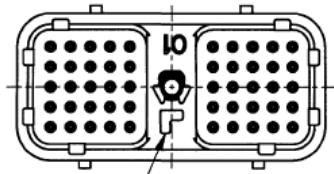
TERMINAL END A		TERMINAL END B		WIRE		
NR.	TERMINAL	NR.	TERMINAL	NR.	MM ²	COLOR
67	See Note 1	622	See Note 6	51	1	Green
71	See note 3	615	See Note 6	52	1	Green
30	See Note 1	637	See Note 6	53	1	Green
74	See Note 1	614	See Note 6	54	1	Green
602	See Note 10	51	See Note 1	55	1	Green
69	See Note 3	604	See Note 6	56	1	Green
144	See Note 1	612	See Note 6	57	1	Green
28	See Note 3	626	See Note 6	58	1	Green
20	See Note 3	625	See Note 6	59	1	Green
26	See Note 3	638	See Note 6	60	1	Green
707	See Note 20	609	See Note 6	89	1	Orange
616	See Note 6	811	Splice	99	1	Orange
936	See Note 2			99	1	Orange
706	See Note 20			99	1	Orange
62	See Note 4	642	See Note 6	5X3	1	Orange
152	See note 17	628	See Note 6	TX	1	Purple
151	See note 17	627	See Note 6	RX	1	Grey
620	See Note 6	719	See Note 20	V-IN7	1	Orange
621	See Note 6	711	See Note 20	D-IN12	1	Orange
353	See note 21	716	See Note 20	D-OUT15	1	Orange
354	See note 21	717	See Note 20	D-OUT16	1	Orange
363	See note 21	730	See Note 20	S-OUT4	1	Orange
364	See note 21	714	See Note 20	D-OUT13	1	Orange
373	See note 21	731	See Note 20	S-OUT5	1	Orange
374	See note 21	715	See Note 20	D-OUT14	1	Orange
375	See note 21	724	See Note 20	T-IN7	1	Orange
376	See note 21	725	See Note 20	T-IN8	1	Orange
377	See note 21	726	See Note 20	T-IN9	1	Orange
378	See note 21	727	See Note 20	T-IN10	1	Orange
379	See note 21	728	See Note 20	T-IN11	1	Orange
380	See note 21	729	See Note 20	T-IN12	1	Orange
382	See note 21	732	See Note 20	S-OUT6	1	Orange

TERMINAL END A		TERMINAL END B		WIRE		
NR.	TERMINAL	NR.	TERMINAL	NR.	MM ²	COLOR
386	See note 21	720	See Note 20	V-IN8	1	Orange
387	See note 21	721	See Note 20	V-IN9	1	Orange
388	See note 21	722	See Note 20	V-IN10	1	Orange
389	See note 21	723	See Note 20	V-IN11	1	Orange
166	See note 8b, Eye M8	167	See note 8b, Eye M8	19	4	Blue

NOTES

Note 1: Connector: G&H 17984.000.002 (DIN 72585 - 4 pins)
Terminals: G&H 26570.201.184
Wire Seal: G&H 14414.627.626
Strain relief: Coolant Level: G&H 14830.625.699 (90° elbow)
Air Discharge:
Working Pressure
Others: G&H 14439.625.699 (straight)
Unused cavities to be sealed with: G&H 14416.627.646

Note 2: Connector: Deutsch DRC26-50S-04
Terminals (1.5 mm²) Deutsch 0462-201-16141
Terminals (2.5 mm²) Deutsch 0462-209-16141
Unused cavities to be sealed with: Deutsch 114017



See key orientation

Note 3: Connector: AMP 0-963040-3
Terminals: AMP 0-929939-1
Wire Seal: AMP 828904-1

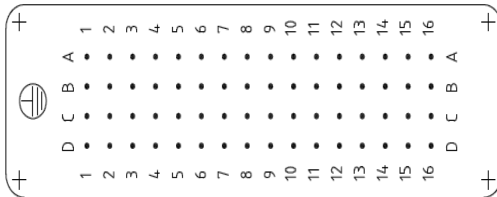
Seal Grommet: Bosch 1280 703 26026

Note 4: Connector: Deutsch DTM 06-2S
Terminals: Deutsch 1062-20-01221
Wedge: Deutsch WM 2S

Note 5: Connector: Hirschmann GDM-2009J
Seal: Hirschmann GDM3-16

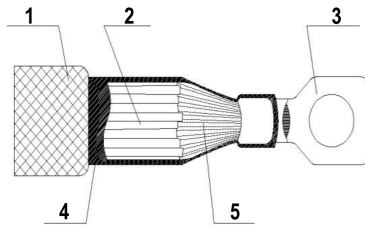
Note 6: Connector: Tyco 2-1103113-3 (HN.D.64.BU.C)
Terminals: Tyco 2-1105051-1 (0.5 mm²)
Terminals: Tyco 3-1105051-1 (1 mm²)
Terminals: Tyco 4-1105051-1 (1.5 mm²)
Hood: Tyco 0-1106465-2 (HB.24.STO-GR.1.M32.G)

Metal cable gland M32/IP68 mounted over 100mm shrinkable sleeve



Note 7: Connector: Deutsch DT 06 - 2S
Terminals: Deutsch 0462-201-16141
Secondary Lock: Deutsch W2S

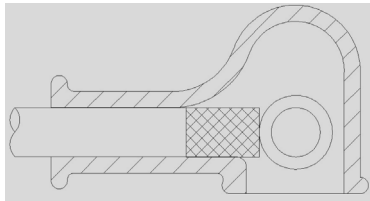
Note 8: Shrinkable sleeve to be attached as in drawing
Wall thickness: min. 1 mm
Wires may be divided over two terminals if necessary



1. Braiding
2. Insulated wires
3. Terminal
4. Sleeve
5. Non-insulated wires

Note 8a: The colour of the shrinkable sleeve should be red
Note 8b: The colour of the shrinkable sleeve should be blue

Note 9: Rubber cap mounted over eye terminal.
Use nylon strap to prevent rubber cap from falling off



Note 11a: Connector: Deutsch DT 06-3S
Terminals: Deutsch 0462-201-16141

- Secondary lock: Deutsch W3S-1939
- Note 11b: Connector: Deutsch DT 04-3P-P006
Wedge: Deutsch W3P-1939
Plug for Deutsch DT 06-3S
- Note 13: Connector: Deutsch DT04-4P
Terminals: Deutsch 0460-202-16141
Secondary lock: Deutsch W4P
Unused cavities to be sealed with: Deutsch 114017
- Note 14: Connector: Deutsch DT06-12S
Terminals: Deutsch 0462-201-16141
Secondary lock: Deutsch W12S
Unused cavities to be sealed with: Deutsch 114017
- Note 15: Connector: Deutsch DT06-4S
Terminals: Deutsch 0462-201-16141
Secondary lock: Deutsch W4S
Unused cavities to be sealed with: Deutsch 114017
- Note 16: Fuse Holder: Multicomp MCCQ-211 (or equal)
find Littlefuse 0257010 (or equal)
or Multicomp MCATQ 10A
Fuse holder's wires to be cut to appropriate length

- Note 17 Connector: Deutsch DT 06-6S
 Terminal: Deutsch 0462-201-16141
 Secondary lock: Deutsch W6S
- Note 18 Deutsch DT 04-6P-P006
 Deutsch W6P
 Provide plugs for all unused cavities
 Used as a plug for note 17
- Note 19 Connector: Deutsch DT 06-4S
 Terminal: Deutsch 0462-201-16141
 Secondary Lock : Deutsch W4S
- Note 20: Connector: Deutsch DRC16-40S
 Terminal: Deutsch 0462-201-16141
 Unused cavities to be sealed with Deutsch 114017
- Note 21: Insert: Tyco 2-1103111-3 (HN.D.40.Bu.C)
 Socket: Tyco 2-1105051-1 (0.5 mm²)
 Socket: Tyco 3-1105051-1 (1 mm²)
 Socket: Tyco 4-1105051-1 (1.5 mm²)
 Socket: Tyco 5-1105051-1 (2.5 mm²)
 Hood: Tyco 0-1106449-5 (HB.16.STS-GR.1.M32.G)
 Housing: AC 1088 0036 90 (HAN 16B-AK-LB)
 Metal cable gland M32/IP68 mounted over 100mm shrinkable sleeve.
 Hood entry at row 10

Note 29: Connector: Deutsch DTP06-4S
 Terminals (4 mm²) Deutsch 0462-203-12141
 Terminals (1,5 mm²) Deutsch 0462-201-16141
 Terminals (2,5 mm²) Deutsch 0462-209-16141
 Unused cavities to be sealed with: Deutsch 114017

Note 30: Provide protection for all open wire ends with suitable backshells between connector and braiding
 And if not available
 Provide protection for all open wire ends with flexible shrinkable sleeves between connector and braiding

Note 31: Twisted cables 1/25 mm, 1 mm²

	Term A.	Term B.	Wire	Color
Group 1:	90	812	20	grey
	91	824	21	purple
Group 2:	939	812	20	grey
	940	824	21	purple
Group 3:	812	837	20	grey
	824	825	21	purple
Group 4:	639	837	20	grey
	641	825	21	purple
Group 5:	837	823	20	grey
	825	826	21	purple

Group 6:	502	823	20	grey
	504	826	21	purple
Group 7:	92	823	20	grey
	93	826	21	purple

Note 100: Wire harness shall be provided with a marking label with AC part number and edition.

Note 101: Scan test to be performed on every conductor.

Note 102: Marking to be printed on each end of all wires.

Note 103: All plugs seen from wire connecting side.

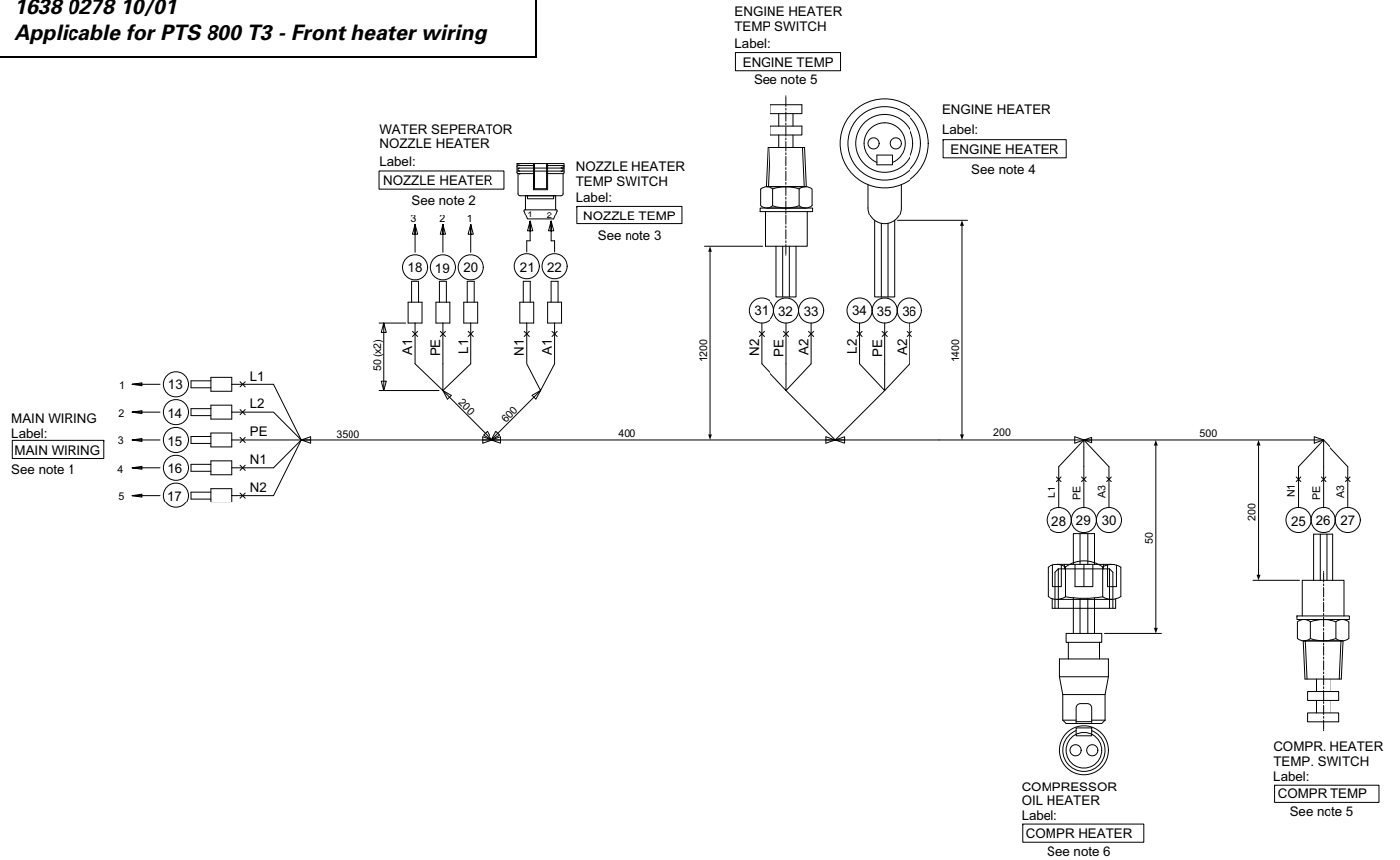
Note 104: Wire harness finishing: black braiding, unless stated otherwise.

Note 105: Label indicating AC part. Nr.and edition, testing and/or production date, supplier reference.
Black text on white background.

Note 106: Splices to be individually protected by an Atlas Copco approved sealing system
For more information refer Atlas Copco document 9822 9003 00

1638 0278 10/01

Applicable for PTS 800 T3 - Front heater wiring



TERMINAL END A		TERMINAL END B		WIRE				
NR.	TERMINAL	NR.	TERMINAL	NR.	MM ²	COLOR	TYPE	MARKING
13	See Note 1	800	Splice	L1	2.5	Black	H05V-K	L1
20	See Note 2			L1	2.5	Black	H05V-K	L1
28	See Note 6			L1	2.5	Black	H05V-K	L1
34	See Note 4	14	See Note 1	L2	2.5	Black	H05V-K	L2
15	See Note 1	19	See Note 2	PE	2.5	Green/Yellow	H05V-K	PE
16	See Note 1	801	Splice	N1	2.5	Blue	H05V-K	N1
21	See Note 3			N1	2.5	Blue	H05V-K	N1
25	See Note 5			N1	2.5	Blue	H05V-K	N1
31	See Note 5	17	See Note 1	N2	2.5	Blue	H05V-K	N2
18	See Note 2	22	See Note 3	A1	2.5	Orange	H05V-K	A1
33	See Note 5	36	See Note 4	A2	2.5	Orange	H05V-K	A2
30	See Note 5	27	See Note 6	A3	2.5	Orange	H05V-K	A3

NOTES

- Note 1: Connector: Deutsch DT06-6S
 Terminals: Deutsch 0462-209-16141
 Secondary lock: Deutsch W6S
- Note 2: Connector: Deutsch DTM 06-3S
 Terminals: Deutsch 1062-20-0122
 Secondary lock: Deutsch WM3S
- Note 3: Connector: AMP 0-963040-3
 Terminals: AMP 0-929939-1
 Wire seal: AMP 828904-1
 Seal grommet: Bosch 1280 703 26026
- Note 4: Connector with 4 feet 16-3 cord attached.
 Delivered with KIM HOTSTART glowplugs nrs: TF751-002 and TF752-002
 No KIM HOTSTART part number is available.
 contact MF1 department for delivery arrangements
 Middle wire (ground) is separately insulated.
 Residual insulation from wire separation on wire ends shall be removed before splicing.
 Power supply plug shall be removed.
- Note 5: Temperature switch, KIM HOTSTART nr.: DIT 810. (1/2" NPT)
 KIM HOTSTART nr.: DIT 810. (1/2" NPT)
 Middle wire (ground) is separately insulated.
 Residual insulation from wire separation on wire ends shall be removed before splicing.

- Note 6: Connector with 4 feet 16-3 cord attached.
Delivered with KIM HOTSTART glowplugs nrs: 0W650100-000 or 0W650200-000
No KIM HOTSTART part number is available.
contact MF1 department for delivery arrangements
Middle wire (ground) is separately insulated.
Residual insulation from wire separation on wire ends shall be removed before splicing.
Power supply plug shall be removed.
- Note 7: Wire insulation should be resistant to oil, fuel & coolant.
- Note 8: All terminals may be replaced by an equivalent part with the same functionality.
Contact engineering department before making any changes.
- Note 9: Wires to be held together by a 200mm nylon spiral.
- Note 10: Marking to be printed on each end of all wires.
- Note 11: Wire harness shall be provided with a marking label with AC part number
and edition.
- Note 12: Label indicating AC part. Nr. and edition, testing and/or production date, supplier reference.
Black text on white background.
- Note 13: Wire harness finishing; Black braiding, unless stated otherwise.

Note 14: Splices to be individually protected by an Atlas Copco approved sealing system.
For more information refer Atlas Copco document 9822 9003 00

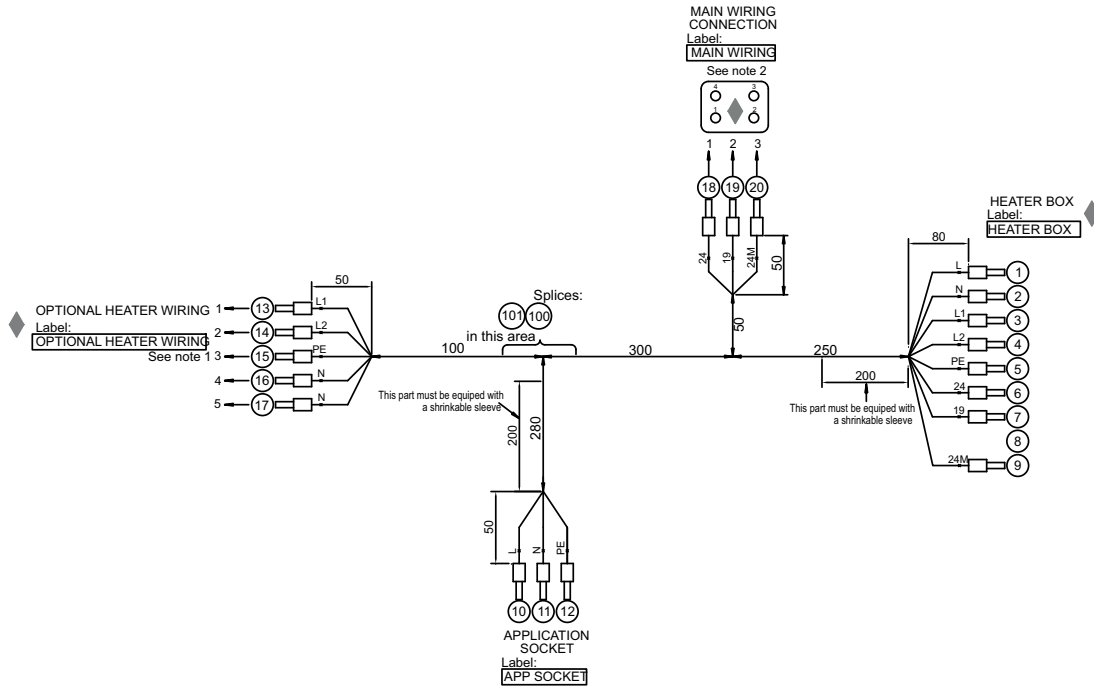
Note 15: Provide protection for all open wire ends with suitable backshells between connector and braiding

And if not available

Provide protection for all open wire ends with flexible shrinkable sleeves between connector and braiding

1626 9935 01/00

Applicable for PTS 800 T3 - Preheater wiring EU



TERMINAL END A		TERMINAL END B		WIRE		
NR.	TERMINAL	NR.	TERMINAL	NR.	MM ²	COLOR
1	Terminal end	10	Terminal end	L	2.5	red
2	Terminal end	100	Splice	N	2.5	blue
11	Terminal end			N	2.5	blue
16	see note 1			N	2.5	blue
17	see note 1			N	2.5	blue
3	Terminal end	13	see note 1	L1	2.5	black
4	Terminal end	14	see note 1	L2	2.5	black
5	Terminal end	101	Splice	PE	2.5	green/yellow
12	Terminal end			PE	2.5	green/yellow
15	see note 1			PE	2.5	green/yellow
6	Terminal end	18	see note 2	24	2.5	red
7	Terminal end	19	see note 2	19	2.5	blue
9	Terminal end	20	see note 2	24M	2.5	red

NOTES

Note 1:
Connector: Deutsch DT04-6P
Terminals: Deutsch 0460-215-16141
Sec. lock: Deutsch W6P
Counter plug:
Connector: Deutsch DT06-6S
Wedge: W6S
Use 6 plugs for all unused cavities

Note 2:
Connector: Deutsch DT04-4P
Terminals: Deutsch 0460-204-12141
Sec. lock: Deutsch W4P

Note 3:
Wire insulation should be resistant to oil, fuel and coolant.

Note 4:
All terminals may be replaced by an equivalent part with the same functionality.
Contact engineering department before making any changes.

Note 5:
Wires to be held together by a 200mm nylon spiral.

Note 6:
Marking to be printed on each end of all wires.

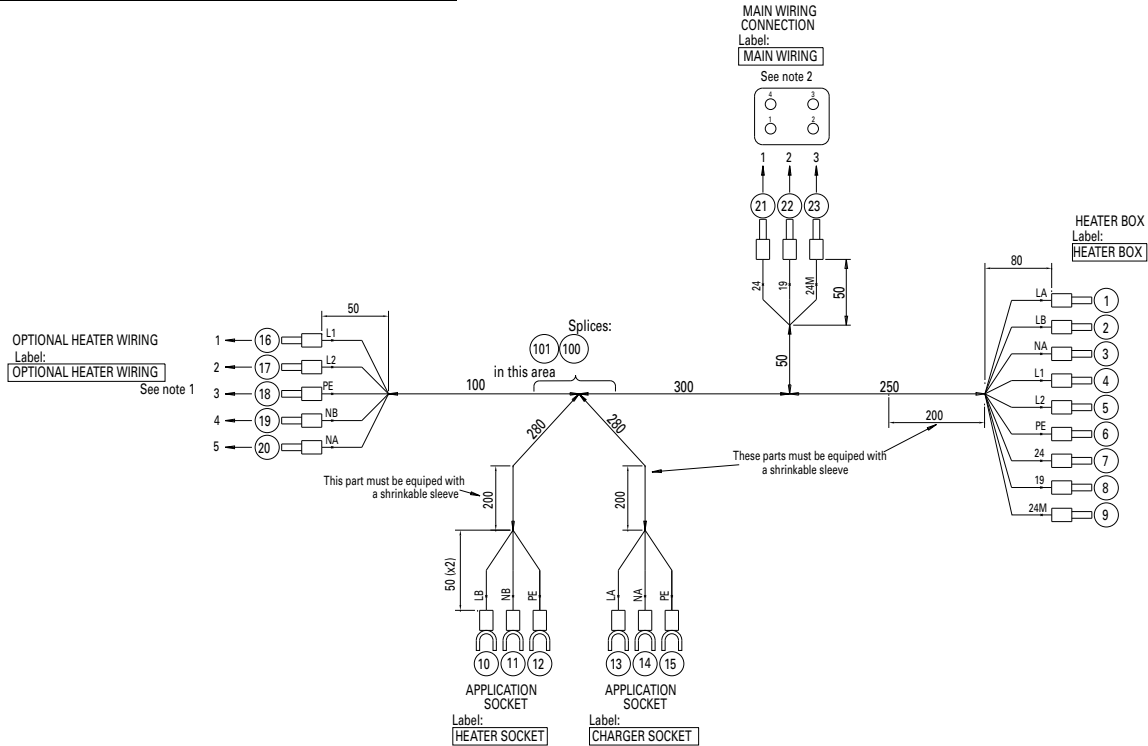
Note 7:
Wire harness shall be provided with a marking label with Atlas Copco part number and edition.

Note 8:
Label indicating Atlas Copco part number and edition, testing and/or production date, supplier reference. Black text on white background.

Note 9:
Wire harness finishing; black braiding, unless stated otherwise.

1638 0500 01/00

Applicable for PTS 800 T3 - Preheater wiring USA



TERMINAL END A		TERMINAL END B		WIRE		
NR.	TERMINAL	NR.	TERMINAL	NR.	MM ²	COLOR
1	Terminal end	13	Spade M3	LA	2.5	red
2	Terminal end	10	Spade M3	LB	2.5	red
3	Terminal end	100	Splice	NA	2.5	blue
14	Spade M3			NA	2.5	blue
20	see note 1			NA	2.5	blue
4	Terminal end			L1	2.5	red
5	Terminal end			16	see note 1	L2
6	Terminal end	17	see note 1	PE	2.5	green/yellow
12	Spade M3	101	Splice	PE	2.5	green/yellow
15	Spade M3			PE	2.5	green/yellow
18	see note 1			PE	2.5	green/yellow
7	Terminal end	21	see note 2	24	2.5	red
8	Terminal end	22	see note 2	19	2.5	blue
9	Terminal end	23	see note 2	24M	2.5	red
11	Spade M3	19	see note 1	NB	2.5	blue

NOTES

Note 1:
Connector: Deutsch DT04-6P
Terminals: Deutsch 0460-215-16141
Sec. lock: Deutsch W6P
Counter plug:
Connector: Deutsch DT06-6S
Wedge: W6S
Use 6 plugs for all unused cavities

Note 2:
Connector: Deutsch DT04-4P
Terminals: Deutsch 0460-204-12141
Sec. lock: Deutsch W4P

Note 3:
Wire insulation should be resistant to oil, fuel and coolant.

Note 4:
All terminals may be replaced by an equivalent part with the same functionality.
Contact engineering department before making any changes.

Note 5:
Wires to be held together by a 200mm nylon spiral.

Note 6:
Marking to be printed on each end of all wires.

Note 7:
Wire harness shall be provided with a marking label with Atlas Copco part number and edition.

Note 8:
Label indicating Atlas Copco part number, and edition, testing and/or production date, supplier reference. Black text on white background.

Note 9:
Wire harness finishing; black braiding, unless stated otherwise.

Note 10:
Use shrinkable sleeve to isolate terminal 10, 11, 12.

