

**Instruction Manual  
for Portable Compressors  
XAHS365 Md**

Instruction manual for portable compressors ..... 3

Circuit diagrams.....339

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**Atlas Copco**

ATLAS COPCO - PORTABLE AIR DIVISION

[www.atlascopco.com](http://www.atlascopco.com)



*Congratulations on the purchase of your XAHS365 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 troublefree operation. Please read the following instructions carefully before starting to use your machine.*

*While every effort has been made to ensure that the information in this manual is correct, Atlas Copco does not assume responsibility for possible errors. Atlas Copco reserves the right to make changes without prior notice.*

**CALIFORNIA  
Proposition 65 Warning**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

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## SAFETY PRECAUTIONS FOR PORTABLE COMPRESSORS

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

### 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, easy 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.

### 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 jewelry.
- 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.

## 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 retardation 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 Never exceed the maximum towing speed of the unit (mind the local regulations).
- 5 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.
- 6 To lift heavy parts, a hoist of ample capacity, tested and approved according to local safety regulations, shall be used.
- 7 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.
- 8 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.
- 9 Never leave a load hanging on a hoist.
- 10 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.
- 11 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.

## 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 pipework 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 cooling water 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 Insulation or safety guards of parts the temperature of which can be in excess of 80 °C (175 °F) and which may be accidentally touched by personnel shall not be removed before the parts have cooled to room temperature.
- 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.

## **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.

## TOOL APPLICATIONS SAFETY

Apply 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.

## 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.

### Pressure vessels

(according to directive 87/404/EEC annex II § 2)

Maintenance/installation requirements:

- 1 The vessel can be used as pressure vessel or as separator and is designed to hold compressed air for the following application:
  - pressure vessel for compressor,
  - medium AIR/OIL,
 and operates as detailed on the data plate of the vessel:
  - the maximum working pressure ps in bar,
  - the maximum working temperature Tmax in °C,
  - the minimum working temperature Tmin in °C,
  - the capacity of the vessel V in l.
- 2 The pressure vessel is only to be used for the applications as specified above and in accordance with the technical specifications. Safety reasons prohibit any other applications.
- 3 National legislation requirements with respect to re-inspection must be complied with.
- 4 No welding or heat treatment of any kind is permitted to those vessel walls which are exposed to pressure.
- 5 The vessel is provided and may only be used with the required safety equipment such as manometer, overpressure control devices, safety valve, etc.
- 6 Draining of condensate shall be performed regularly when vessel is in use.
- 7 Installation, design and connections should not be changed.
- 8 Bolts of cover and flanges may not be used for extra fixation.

### Safety valves

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

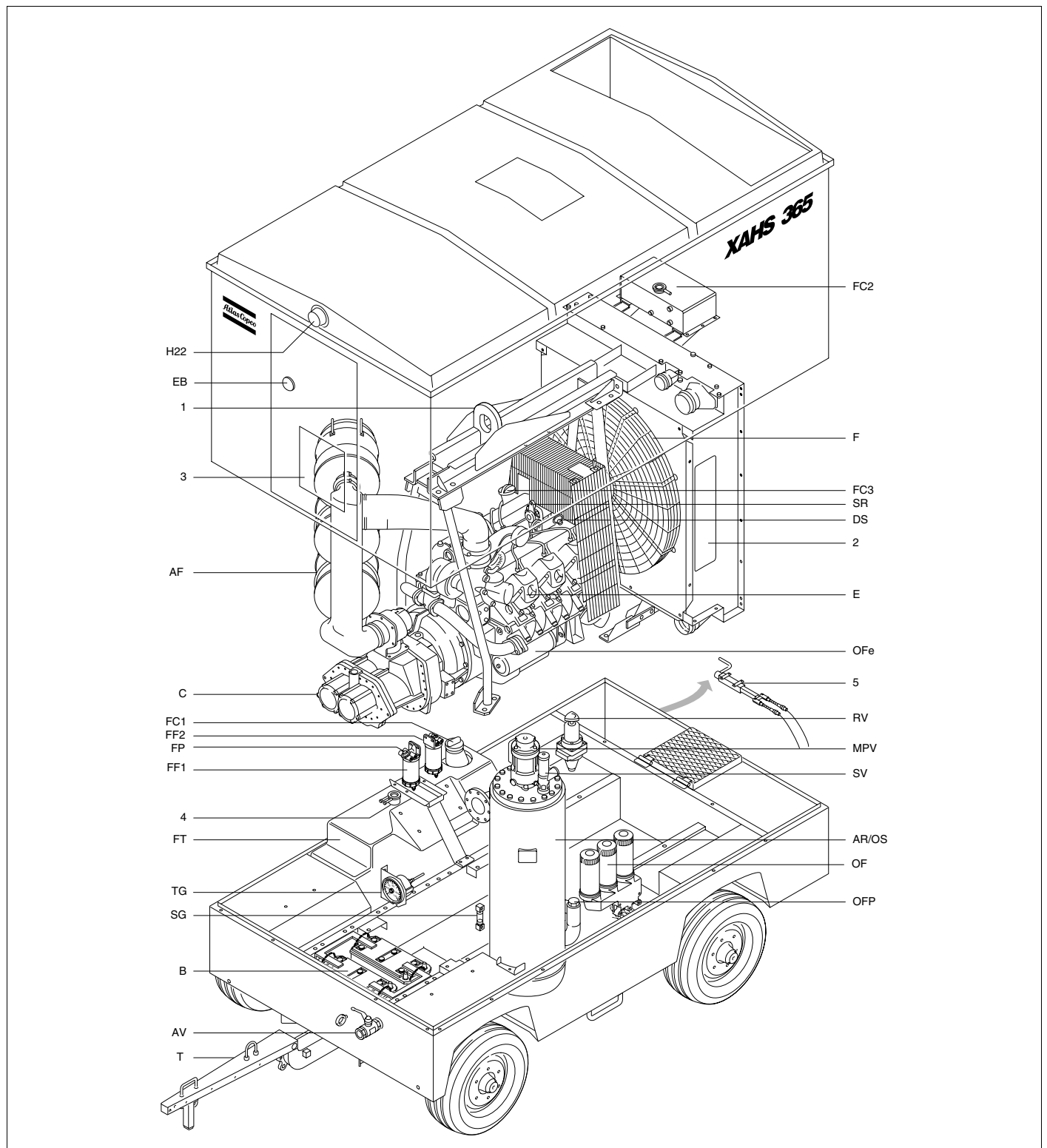
## LEADING PARTICULARS

### GENERAL DESCRIPTION

The XAHS365 is a portable, single-stage, oil-injected screw compressor, built for a normal effective working pressure of 12 bar (175 psi).

The compressor is driven by a liquid-cooled diesel engine, manufactured by MERCEDES.

An overview of the main parts is given in the diagram below.





**MAIN PARTS**

- 1 .....Lifting eye
- 2 .....Service door, coolers
- 3 .....Access to control and indicator panel
- 4 .....Sensor, engine fuel level
- 5 .....Hand brake
- AF.....Air filter, compressor and engine
- AR/OS .....Air receiver/oil separator
- AV .....Air outlet valve
- B .....Battery
- CE.....Compressor element
- DS .....Dipstick, engine oil level
- E .....Engine
- EB.....Emergency push button
- F .....Fan, coolers
- FC1 .....Filler cap, fuel
- FC2 .....Filler cap, engine coolant
- FC3 .....Filler cap, engine oil
- FF1 .....Fuel pre-filter
- FF2 .....Fuel fine-filter
- FP .....Fuel priming pump
- FT .....Fuel tank
- H22.....Flasher light
- MPV .....Minimum pressure valve
- OF.....Oil filters, compressor
- OFe.....Oil filter, engine
- OFP .....Oil filler plug, compressor
- RV.....Regulating valve
- SG .....Sight glass
- SR.....Speed regulator, engine
- SV.....Safety valve
- T .....Towbar
- TG .....Temperature gauge





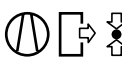









**BODYWORK**







The compressor, the engine, the cooling system, etc. are enclosed in a sound-insulated bodywork that can be opened by means of side, front and rear service doors.

A lifting eye is provided under a small door on top of the compressor.


**MARKINGS AND INFORMATION LABELS**

**Markings**

	Engine speed.
	Fuel level.
	Hours, time.
	Cooling water temperature.
	Compressor outlet pressure.
	Oil pressure engine.
	Automatic load.
	Compressor load.
	Battery.
	Air filter.
	Compressor temperature too high.
	Oil pressure engine too low.
	Engine cooling water level too low.
	Cooling water temperature too high.

	Fuel level too low.
	Read the instruction manual before starting.
	Service every 24 hours.
	Warning Part under pressure.
	Do not stand on outlet valves.
	Wait

**Information labels**


<p><b>Compressor noise emission control information</b>                  This compressor conforms to U.S. E.P.A. regulations for noise emissions applicable to portable air compressors.                  The following acts or the causing thereof by any person are prohibited by the Noise Control Act of 1972:</p> <p>(A) The removal or rendering inoperative, other than for the purpose of maintenance, repair or replacement, of any noise control device or element of design (listed in the owner's manual) incorporated into this compressor in compliance with the Noise Control Act.</p> <p>(B) The use of this compressor after such device or element of design has been removed or rendered inoperative.</p>	
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- (B) The use of this compressor after such device or element of design has been removed or rendered inoperative.

<p><b>Tampering with noise control system prohibited</b>                  Federal law prohibits the following acts or the causing thereof:</p> <p>(1) the removal or rendering inoperative by any persons other than for purposes of maintenance, repair or replacement of any device or element of design incorporated into any new compressor for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use.</p> <p>(2) the use of the compressor after such device or element of design has been removed or rendered inoperative by any person.</p>															
<p>Among those acts included in the prohibition against tampering are the acts listed below.</p> <table border="0"> <tr> <td>1. Removal or rendering inoperative any of the following:</td> <td>2. Removal of any of the following:</td> </tr> <tr> <td>a. engine exhaust muffler,</td> <td>a. sound absorptive material, including sealing strips on doors, panels and other canopy parts,</td> </tr> <tr> <td>b. cooling air exhaust and intake silencers,</td> <td>b. fan shroud,</td> </tr> <tr> <td>c. acoustic baffles,</td> <td>3. Operation of the compressor with any of the enclosure doors open.</td> </tr> <tr> <td>d. housing components, canopy or bottom panel,</td> <td></td> </tr> <tr> <td>e. engine or compressor mounts,</td> <td></td> </tr> <tr> <td>f. inlet air throttling system.</td> <td></td> </tr> </table>		1. Removal or rendering inoperative any of the following:	2. Removal of any of the following:	a. engine exhaust muffler,	a. sound absorptive material, including sealing strips on doors, panels and other canopy parts,	b. cooling air exhaust and intake silencers,	b. fan shroud,	c. acoustic baffles,	3. Operation of the compressor with any of the enclosure doors open.	d. housing components, canopy or bottom panel,		e. engine or compressor mounts,		f. inlet air throttling system.	
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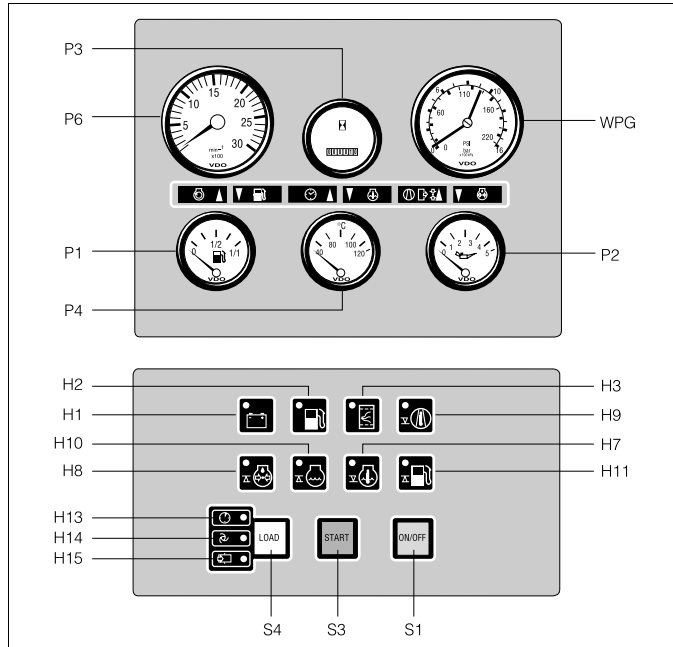
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  - b. fan shroud.
- 3. Operation of the compressor with any of the enclosure doors open.

## CONTROL AND INDICATOR PANEL

The control and indicator panel is located behind the small panel in the front service door.



### Push buttons and fuses

#### S1..... On/off push button

To switch the voltage on and to stop the engine.

#### S3..... Start push button

To start the engine.

#### S4..... Compressor loading push button

To load the compressor. Once the button is pressed, the pressure starts building up.

#### S20..... Emergency push button

To stop the compressor in case of emergency. This is done by pushing the red button on the door of the control panel. To reset the push button, press it and turn it anticlockwise. Use this button only in case of an emergency.

### Gauges

WPG.. Working pressure gauge

P1 ..... Fuel level gauge

P2 ..... Engine oil pressure gauge

P3 ..... Hourmeter

P4 ..... Temperature gauge, engine coolant

P6 ..... Tachometer

### Lamps

#### H1..... Alternator charging indicator lamp

Goes out after starting, indicating that the alternator is charging.

#### H2..... Low fuel level alarm lamp

Starts flashing when there is only fuel left for approx. half an hour of operation.

#### H3..... Air filter servicing alarm lamp

Starts flashing if the air filter elements need servicing.

#### H7..... Engine coolant temperature fault indicator lamp

Starts flashing if coolant temperature is too high.

#### H8..... Engine oil pressure fault indicator lamp

Starts flashing if the engine oil pressure is too low.

#### H9..... Compressor temperature fault indicator lamp

Starts flashing if the compressor element outlet temperature is too high.

#### H10.... Engine coolant level fault indicator lamp

Starts flashing if the coolant level is too low.

#### H11.... Fuel level fault indicator lamp

Lights up if the fuel level is too low.

#### H13.... Warming up indicator light

Indicates that the engine is warming up or cooling down

#### H14.... Automatic load indicator light

Lights up when automatic load is chosen and the compressor is waiting for loading.

#### H15.... Manual load indicator light

Lights up when the compressor is loaded.

## ADDITIONAL CONTROLS AND INDICATORS

The compressor contains a number of controls and indicators which are not situated on the control and indicator panel.

#### H22.... Flasher light

Located above the front service door. Starts flashing when the air filters need to be serviced, when there is only fuel left for half an hour of operation or in case of a shutdown.

#### SG ..... Sight glass oil level

The sight glass is located next to the air receiver and indicates the oil level in the air receiver.

#### TG..... Compressor element air outlet temperature gauge

Located behind the front service door and indicates the temperature of the air at the outlet of the compressor element.

## **SHUTDOWN SWITCHES**

The following shutdown switches, causing the engine to stop in activated position, are provided:

### *S5..... Engine oil pressure shutdown switch*

Located on the engine oil filter housing.

Closes at rising oil pressure and opens if the oil pressure drops below the setting of the switch.

### *S7..... Compressor element air outlet temperature shutdown switch*

Sensing element on air outlet of the compressor element. The indicator scale and switch are located in the compressor element compartment.

Normal closed switch. Opens if the air outlet temperature exceeds the setting of the switch.

### *S14.... Engine coolant temperature shutdown switch*

Located on the water manifold on top of the cylinder head.

Normal open switch. Closes if temperature rises above the setting of the switch.

### *S37:1.Low fuel level shutdown switch*

Located in the fuel tank.

Normal open switch. Closes if the fuel level becomes too low.

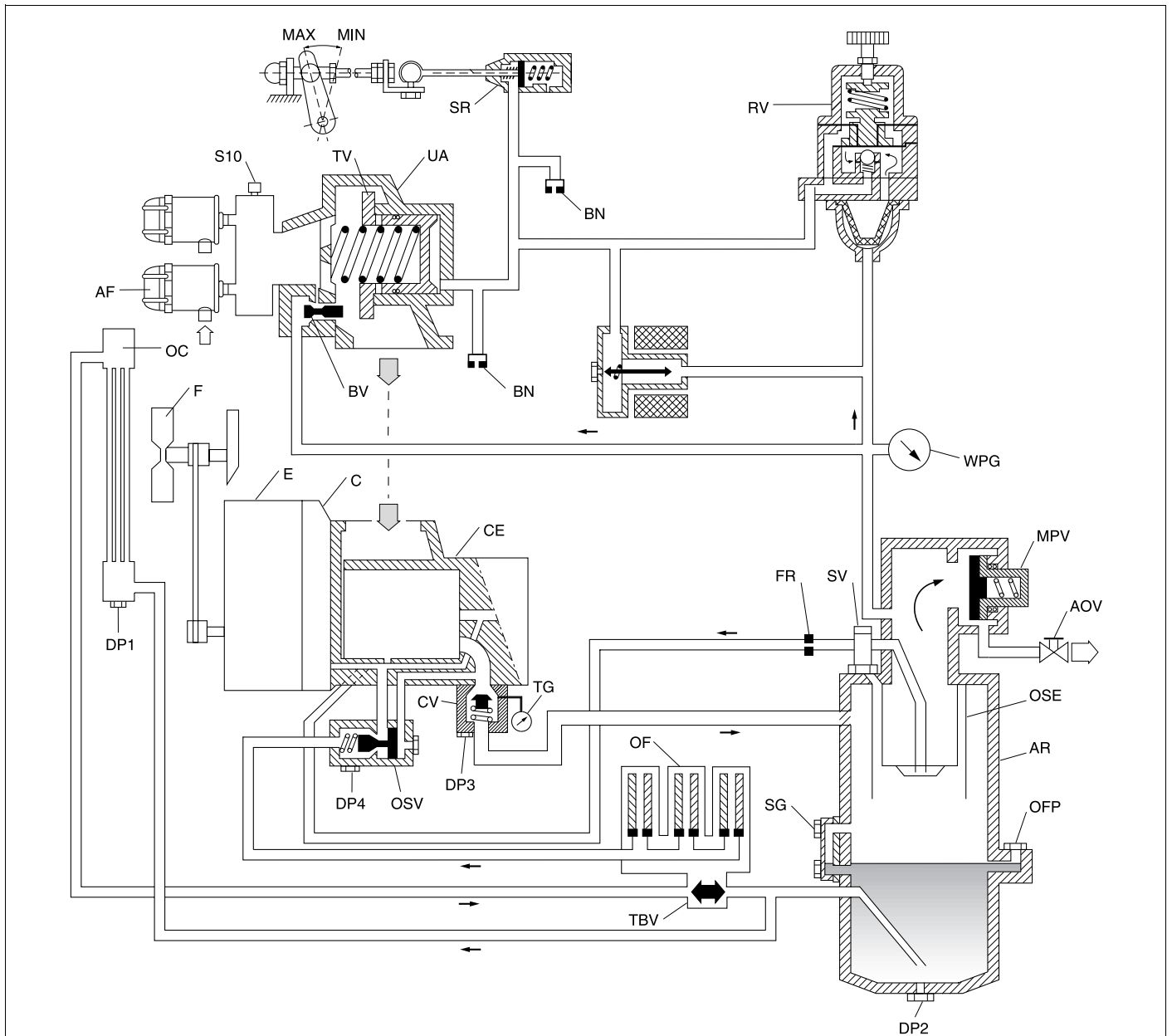
### *B12.... Coolant level sensor*

Located in the coolant tank.

The coolant level sensor sends an analog signal to the control module when the coolant level in the coolant tank is sufficient. The signal will be interrupted if the coolant level becomes too low.

**SPEED REGULATION AND UNLOADING SYSTEM**

The system is controlled by a regulating valve which continuously matches the air output to the air consumption.



- |     |                          |     |   |     |                             |
|-----|--------------------------|-----|---|-----|-----------------------------|
| AF  | Air filter               | DP4 | Drain plug, oil stop valve                    | RV  | Regulating valve            |
| AOV | Air outlet valve         | E   | Engine  | SG  | Sight glass                 |
| AR  | Air receiver             | F   | Fan   | SR  | Speed regulator             |
| BN  | Blow off nozzle          | FR  | Flow restrictor, oil scavenging line          | SV  | Safety valve                |
| BV  | Bleed off valve          | MPV | Minimum pressure valve with none return valve | S10 | Pressure switch, air filter |
| C   | Coupling                 | OC  | Oil cooler                                    | TBV | Thermostatic bypass valve   |
| CE  | Compressor element       | OF  | Oil filter                                    | TG  | Temperature gauge           |
| CV  | Check valve              | OFP | Oil filler plug                               | TV  | Throttle valve              |
| DP1 | Drain plug, oil cooler   | OSE | Oil separator element                         | UA  | Unloader assembly           |
| DP2 | Drain plug, air receiver | OSV | Oil stop valve                                | WPG | Working pressure gauge      |
| DP3 | Drain plug, check valve  |     |   |     |                             |

## OPERATING INSTRUCTIONS

### INSTRUCTIONS FOR PARKING AND TOWING

1. Before towing the compressor, ensure that the towing equipment of the vehicle matches the towing eye. The height of the towing device of the vehicle must be  $800 \pm 150$  mm ( $31.2 \pm 5.9$  in).
2. Place the compressor as level as possible; however, it can be operated temporarily in a slant position not exceeding  $15^\circ$ .
3. Never move the compressor with air hoses connected to the air outlet valves.
4. Always apply the hand brake when parking the compressor.
5. Always lift the unit using the lifting eye. The lifting eye is provided on top of the compressor under a small door. Open the door from the outside of the compressor and fix the hook of the hoist to the lifting eye. Lifting acceleration and retardation shall be kept within safe limits.



**Helicopterlifting using the lifting eye is not allowed.**

### BEFORE STARTING

1. Check the engine and compressor oil levels. Check the engine coolant level. Check the fuel level and top up if necessary.
2. Drain water and sediment from the fuel filters.
3. Empty the air filter dust traps.
4. Attach the air line(s) to the closed air outlet valve(s). Connect the safety cable and do not exert external force on the outlet valve(s)

### STARTING

1. Press the ON/OFF button. The unit will first perform a lamp test. After the test, the alternator charging indication lamp and the engine oil pressure lamp will light up.
2. Press the START button and hold until the engine fires. The alternator charging indication lamp and the engine oil pressure lamp will extinguish when the alternator supplies power and the oil pressure has built up.

### Notes:


1. The start prevention switch (S18) prevents the engine from starting as long as the pressure in the vessel exceeds 1.6 bar.
2. To restart, push the ON/OFF button first.

### LOADING

1. To select automatic load, press the LOAD button after the engine has started (before the warming up indicator light H13 extinguishes). The compressor will start loading when the engine has warmed up (minimum 30 sec, maximum 5 min).
2. To select manual load, press the LOAD button after the engine has warmed up (after the warming up indicator light H13 extinguishes). The compressor will load immediately. When pressing the LOAD button again, the compressor will run in no load condition.

### DURING OPERATION

Following checks should be carried out regularly:

1. Check the engine oil pressure (P2), the coolant temperature (P4) and all lamps for normal readings.
-  **Avoid to let the engine run out of fuel. If it happened, priming will speed up the starting.**
2. Check the adjustment of the regulating valve, i.e. whether the valve starts decelerating the engine when reaching the preset working pressure in the air receiver.
  3. Check the air outlet temperature (TG) of the compressor element. Close the door after checking.


### STOPPING

1. Close the air outlet valve(s).
2. Press the ON/OFF button. The engine will stop after a 30 seconds cool down period.

## MAINTENANCE

### PREVENTIVE MAINTENANCE SCHEDULE

The schedule gives an overview of all maintenance tasks to be performed on the compressor and includes some engine maintenance. Refer to maintenance group II of the "Engine Service Booklet" for full maintenance instructions.

MAINTENANCE SCHEDULE	Daily	Weekly	6 Months	Yearly
		<i>50 hours</i>	<i>500 hours</i>	<i>1000 hours</i>
<b>SERVICE PAK</b>	-	<b>With unit</b>	<b>2912 4214 05</b>	<b>2912 4216 06</b>
Engine oil level	Check	Check	Check	Check
Engine oil		Change (11)	Change	Change
Engine oil filter (2)		Replace (11)	Replace	Replace
Compressor oil level	Check	Check	Check	Check
Compressor oil (7)				Change
Compressor oil filters (2,8)		Replace (11)		Replace
Coolant level	Check	Check	Check	Check
Air filter dust traps	Empty	Empty	Empty	Empty
Air filter elements (3)		Clean	Clean	Replace
Fuel filters/waterseparator (6)	Drain	Drain	Drain	Drain
Fuel pre-filter element (2,9)			Replace	Replace
Fuel fine-filter element (2,9)			Replace	Replace
Filter element, regulating valve				Replace
Regulating valve, speed regulator, unloader			Check	Check
Pressure drop over oil separator element (10)				Measure
Flow restrictor in oil scavenging line				Clean
Cooler fins		Check/Clean	Check/Clean	Check/Clean
Electrolyte and terminals of batteries		Check	Check	Check
Tension and condition of belts		Check	Check	Check
Routing and condition of flexible hoses		Check	Check	Check
Oil, water, fuel system		Check for leaks	Check for leaks	Check for leaks
Flexible joints and pivots of engine stop solenoid		Lubricate	Lubricate	Lubricate
Flexible joints and pivots of speed regulator		Lubricate	Lubricate	Lubricate
Door hinges, locks			Lubricate	Lubricate
Tightness of bolts and nuts, wheel nuts		Check	Check	Check
Pressure and condition of tyres		Check	Check	Check
Wheel axle suspension arm bearings (5)			Grease	Grease
Drawbar to steering gear shaft (5)			Grease	Grease
Spindle of brake handle (5)			Grease	Grease
Brake system			Check	Check
Wheel hub bearings				Repack
Condition of vibration dampers		Check	Check	Check
Water and sediment in fuel tank (1,6)			Drain	Drain
Compressor bodywork			Clean	Clean
Safety valve (4)			Check	Check/Test
Temperature and oil pressure shutdown switches				Test
Vacuum switch				Test
Engine in/outlet valve clearance		Adjust (11)		Adjust
Engine speed		Check	Check	Check
Check valve spring				Replace
<b>Inspection by Atlas Copco Service technician</b>				



Keep the bolts of the housing, the lifting eye, the towbar and the axle securely tightened. Refer to "Technical specifications" for the torque values.  
Keep the wheel brakes properly adjusted.

## NOTES

1. Top up with fuel at the end of each day's operation to prevent condensate from contaminating the fuel.
2. More frequently when operating in high ambient temperatures.
3. More frequently when operating in a dusty atmosphere.
4. Screw the cap of the safety valve anticlockwise using a glove. After testing, retighten the cap by hand.
5. Use ball bearing grease for the wheel bearings, graphite grease for the drawbar and spindle.
6. Drain until clean fuel flows from the drain cock.
7. Some oil brands launch special oil types for screw compressors allowing a longer oil change interval. Consult Atlas Copco.
8. Use Atlas Copco oil filters, with by-pass valve, as specified in the parts list.
9. Replace the fuel filters regularly. Gummed or clogged filters mean fuel starvation and reduced engine performance. The quality of the fuel determines the frequency of filter renewal.
10. Replace the element if pressure drop exceeds 0.8 bar (12 psi).
11. To be performed only initially, after the first 50 hours.

## BATTERY CARE

### Charging

Before handling batteries, read the chapter 'Safety precautions' and act accordingly. A Service Bulletin (ASB) dealing elaborately with batteries and due care is available on request.

### Maintenance

Keep the batteries clean and dry, the electrolyte level at 10 to 15 mm (0.4 to 0.6 inch) above the plates or at the indicated level. Top up with distilled water only. Cover the terminals lightly with petroleum jelly.

## STORAGE

Regularly run the compressor until it is warmed up. Load and unload the compressor a few times. Keep the outlet valve closed after stopping.

If the compressor is going to be stored without running from time to time, protective measures must be taken as described in a separate Service Bulletin (ASB), which may be obtained on request.

## SERVICE PAK

The service paks of Atlas Copco offer you all the benefits of genuine Atlas Copco parts. Service programmes and paks provide for the right parts and maintenance for your compressor and engine. The use of service paks minimises downtime and keeps your maintenance budget low. The order numbers of the service paks kits are listed on top of the maintenance schedule.

Contact your Atlas Copco representative for more information.



## OIL SPECIFICATIONS

### Engine

It is strongly recommended to use Atlas Copco Par Oil SAE 15W40 which is specially selected to keep the engine in excellent condition.

- 5 litre can : 1615 5953 00
- 20 litre can : 1615 5954 00
- 208 litre drum : 1615 5955 00

If it is desired to use another brand of oil, consult the engine instruction manual for oil specifications, viscosity recommendations and oil change intervals.

### Compressor

It is strongly recommended to use Atlas Copco Par Oil M which is specially selected to keep the compressor in excellent condition.

- 5 litre can : 1615 5947 00
- 20 litre can : 1615 5948 00
- 208 litre drum : 1615 5949 00

If it is desired to use another brand of oil, contact Atlas Copco for the recommended oil.

## CHANGE OF OIL AND OIL FILTERS

1. Run the compressor until it is warmed up. Close the outlet valve(s) and stop the compressor. Wait until the pressure is released. Unscrew the oil filler plug one turn. This uncovers a vent hole, which permits any pressure in the system to escape.
2. Remove the oil filters (by means of an oil filter spanner).
3. Clean the filter seats on the manifold, taking care that no dirt drops into the system. Oil the gaskets of the new oil filters. Screw the filters into place until the gaskets contact their seats, then tighten one half turn only.
4. Drain the oil by removing all these drain plugs: the air receiver/ oil separator, oil cooler, oil stop valve, check valve and gearbox drain plug. Reinstall and tighten the plugs, using new gaskets, after draining.
5. Fill the air receiver until the level reaches the screw thread in the filler pipe. Take care that no dirt drops into the system. Reinstall and tighten the filler plug.
6. Run the compressor at no-load for a few minutes to circulate the oil. Load the compressor and let it run at maximum speed and normal working pressure until the thermostatic by-pass valve of the oil cooler has opened (approx. 85 °C (185 °F) (TG)). Close the air outlet valves. Stop and let the compressor depressurize as described in step 1. Add oil until the level shows in the sight glass (SG). Reinstall and tighten the filler plug.

7. Start the compressor and let it run at maximum speed and normal working pressure. Close the air outlet valve and stop the compressor. Let the compressor depressurize as described in step 1. Check the oil level, which must show in the sight glass; if it does not, repeat steps 6 and 7.

## ADJUSTMENTS & SERVICING PROCEDURES

### AIR FILTERS

#### Recommendations



Never remove the elements while the compressor is running.

The elements may not be washed more than three times.

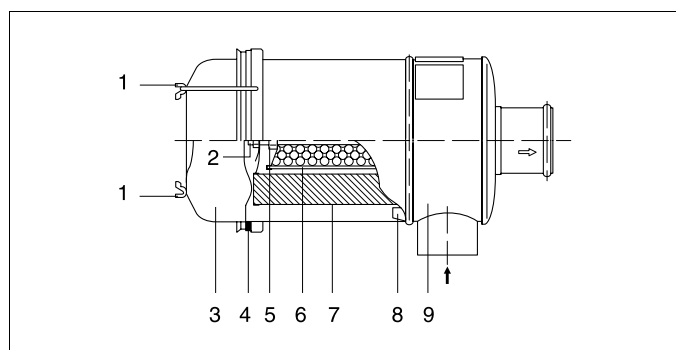
New elements must also be inspected for tears or punctures before installation.

Discard the elements when damaged.

A dirty safety cartridge is an indication of a malfunctioning air filter element. Replace the element and the safety cartridge in this case.

Replace the safety cartridges together with the filter elements. The safety cartridges cannot be cleaned.

#### Main parts



- |                                   |                    |
|-----------------------------------|--------------------|
| 1 Snap clips                      | 6 Safety cartridge |
| 2 Retaining nut, filter element   | 7 Filter element   |
| 3 Dust trap                       | 8 Cyclone blades   |
| 4 Baffle                          | 9 Filter housing   |
| 5 Retaining nut, safety cartridge |                    |

#### Servicing

The instructions apply to one filter; they should be repeated for all other filters.

1. Release the snap clips (1) and remove the dust trap (3). Clean the trap.
2. Remove the retaining nut (2) and withdraw the element (7) from the housing (9).

If the element is to be serviced for immediate reuse, reinstall the dust trap to protect the air intake system while cleaning the element.

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

#### Cleaning

1. Release the two snap clips (1) that secure the dust trap to the filter body and remove the dust trap.
2. Pry off the plastic baffle (4) from the dust trap and empty the latter.
3. Clean the dust trap and baffle and reassemble them, taking care that the slot in the baffle fits over the stud of the trap.
4. Reinstall the dust trap on the filter body, with the side marked TOP upwards, and secure it with the clips. Never use oil in the traps.

### COOLERS

Keep the coolers clean to maintain the cooling efficiency.

Service doors are provided in both sides of the fan cowl to allow easy access to the fan side surface of the coolers. A service door in the bottom of the fan cowl is provided to remove dirt. The door can be opened from the inside of the fan cowl.

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.

If the dirt is oily, wash the coolers with fuel or a cleaning agent. A spray gun should preferably be used to apply the solvent to the fins. Rinse the block by means of a water jet after a soak in period. Steam-cleaning may also be applied.

Close the service doors. Do not leave liquids behind.



**Protect the electrical and regulating equipment, air filters, etc. against penetration by moisture.**

### SAFETY VALVE



**All adjustments or repairs are to be done by an authorized representative of the valve supplier.**

Following checks must be carried out:

- a check of the opening of the lifting gear, twice a year. This can be done by screwing the cap of the valve anticlockwise.
- a check of the set pressure once a year according to the local regulations. This check cannot be done on the machine and must be carried out on a proper test bench.

## FUEL SYSTEM

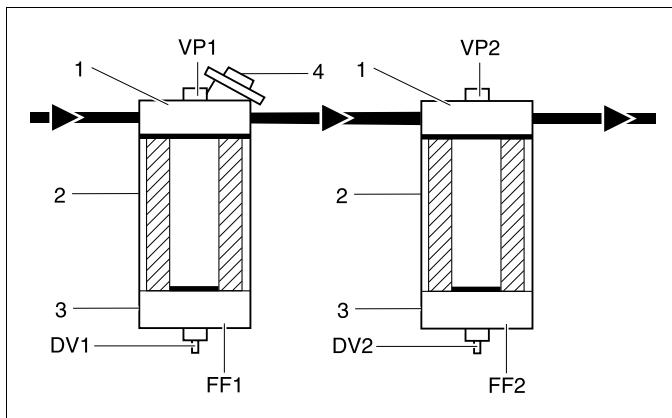
The fuel filter assembly strains out water and impurities from the fuel.

The fuel is drawn from the tank through the fuel pre-filter (FF1) and the fuel fine-filter (FF2) to the engine injection pump.

Only one third of the fuel drawn is used for combustion. The remnant is used to cool the injection pump and is returned to the tank via a fuel cooler.

The fuel cooler is located behind the grating at the right-hand side of the compressor.

The fuel filters each consist of an adapter head, a spin-on filter element and a waterseparator bowl.



DV1,2	Drain valve	1	Adapter head
FF1	Fuel pre-filter	2	Filter element
FF2	Fuel fine-filter	3	Filter bowl
VP1,2	Vent plug	4	Hand-pump

### Draining the fuel pre-filter

1. Open the bowl drain valve (DV1) and pump water out.
2. Close the drain valve.

### Draining the fuel fine-filter

1. Open the bowl drain valve (DV2) to evacuate water.
2. Close the drain valve.

### Replacing the fuel pre-filter element

1. Drain the fuel from the bowl.
2. Remove the filter and separate the bowl from the element.
3. Apply a film of gas oil to the new bowl seal.
4. Screw the bowl to the new element tightly by hand.
5. Apply a film of gas oil to the new element seal.

6. Screw on the filter tightly by hand.
7. Open the head vent and operate the pump. Close the vent when fuel begins to purge.
8. Check for leaks, retighten if necessary.

### Replacing the fine-filter element

1. Drain from the bowl.
2. Remove the filter and separate the bowl from the element.
3. Apply a film of gas oil to the new bowl seal.
4. Screw the bowl to the new element tightly by hand.
5. Apply a film of gas oil to the new element seal.
6. Fill the element with fuel and screw on the filter tightly by hand.
7. Check for leaks, retighten if necessary.

## COOLANT

The coolant is a mixture of water and anticorrosion/antifreeze agent. The coolant must remain in the system all the year round to ensure adequate corrosion protection and to increase the boiling point. Renew the coolant every two years, as the corrosion protection diminishes.

It is not permitted to use water alone as a coolant even if antifreeze properties are not required. The water in the coolant has to satisfy certain requirements, which are frequently, but not always, met by drinking water. If the quality of the water is insufficient, the water has to be treated. Information regarding this can be obtained from any Mercedes-Benz Service Station.

The portion of anticorrosion/antifreeze agent in the coolant must not drop below 40 % by volume during operation (equals antifreeze protection down to approximately -25 °C). A lower portion does not adequately ensure the anticorrosive properties.

To avoid any damage to the cooling system:

- Use only approved anticorrosion/antifreeze agents. Information is available from any Mercedes-Benz Service Station.
- When replenishing the system (after loss of coolant) it is essential to ensure an anticorrosion/antifreeze portion of 50 % by volume (antifreeze protection down to -37 °C).
- Do not use more than 55 % by volume of anticorrosion/ antifreeze agent (= maximum antifreeze protection). Otherwise the antifreeze properties will be reduced and the heat dissipation impaired.

In exceptional cases, where it is evident that no anticorrosion/antifreeze agent can be obtained and no antifreeze protection is required (e. g. tropics), 1 % by volume = 10 cm<sup>3</sup>/litre of corrosion protection oil must be added. In such cases, renew the coolant annually.

## SHUTDOWN SWITCHES AND SENSORS

### Compressor element air outlet temperature (S7)

Test the switch by immersing its sensing element in hot oil. The contact of the switch (S7) must open at the preset temperature.

The setting of the switch can be adjusted by means of a slotted screw protruding through the protecting glass of the temperature indicator scale (TG).

The screw has a cap with two holes. A key, supplied with the machine, can be applied through the holes in the slot to turn the screw until the switch trips at the specified temperature.

### Engine coolant temperature (S14)

Test the switch as described above. The contact of the switch should close at the preset temperature.

### Engine oil pressure (S5)

Test the switch on a compressed air line. The contact of the switch must close and open at the specified pressures.

### Low fuel level (S37:1)

Test the switch by moving the float up and down. The contact of the switch must open with the float in the lowest position and close by lifting the float.

### Coolant level (B12)

Make sure the toptank is filled sufficiently with coolant before testing the coolant level sensor. Top up if necessary.

Test the sensor as follows:

- Shut down the unit before disconnecting the sensor. If the unit is started, it will shutdown after 6 seconds and the engine coolant level fault indicator lamp (H10) will light up.
- Reconnect the sensor correctly. The engine coolant level fault indicator lamp (H10) will go out. Now the unit should start normally, without a shutdown.



**The engine temperature switches, as well as the level switches/sensors and pressure switches, have no setting device; replace them in case of malfunctioning.**

**Test current not to exceed 1 A at 24 V.**

### Air filter vacuum switch

1. Stop the compressor. Disconnect the wires from the switch and remove the latter with its coupling from the air intake chamber.
2. Fit the switch to a tee. Connect a vacuum gauge and a hose or pipe to the tee.

3. Reconnect the wires to the switch and press the on/off push button.
4. Create a vacuum with the mouth through the hose, while observing the vacuum gauge and the filter servicing alarm lamp. The lamp should light up when the vacuum has reached the setting of the switch. Replace the switch if it does not respond.
5. Reinstall the switch and reconnect the wires.

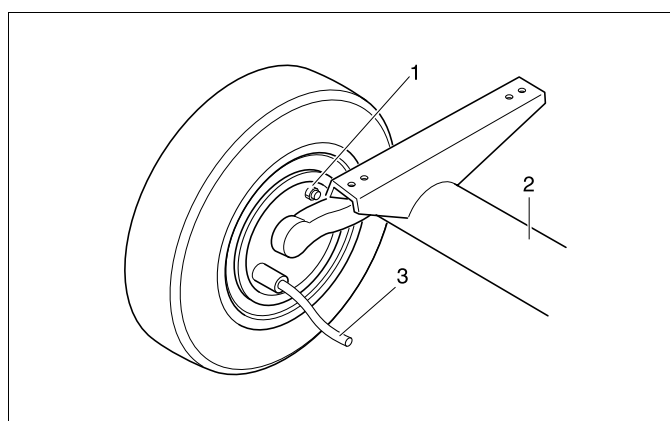
## BRAKE ADJUSTMENT

The compressors are equipped with a parking brake which acts on the rear wheels.

### Brake shoe adjustment

Brake shoe adjustment re-establishes the brake lining-to-drum clearance and compensates for lining wear.

1. Jack up the rear axle until the wheels clear the floor. The jack must have a lifting capacity of at least 2500 kg (5500 lb). Support the compressor on wooden blocks.
2. Release the parking brake completely.
3. Tighten the brake adjusting nut (1) on the rear wheels to expand the brake shoes until they drag against the brake drums.
4. With the shoes against the drums, back off the adjusting nuts just enough until the drums rotate freely. If the drums do not rotate freely, remove the wheels and drums and blow out the dust and dirt from the linings. Remove all rust from the shoes with sandpaper, reinstall the drums and wheels and adjust the shoes. Remove the blocks and the jack.
5. Road-test the compressor and check if the brake drums warm up. If the brakes drag, back off the adjusting nuts one or two more notches as required.



- 1 Adjusting nut, brake shoe
- 2 Torsion axle
- 3 Brake cable

## Brake cable adjustment

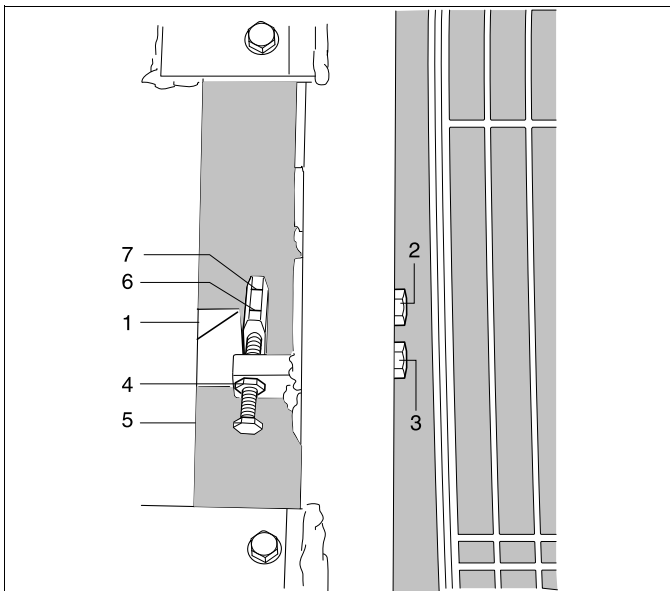
Adjustment of the crank-type parking brake can be done by shortening the brake cables equally by means of their clevises. Grease the spindle of the brake handle with graphite grease by means of a brush at least every three months.

## BELT-TENSIONING ADJUSTMENT

Marker (1) must point between the minimum (7) and maximum (6) marks.

To correct the belt tension, proceed as follows:

1. Loosen bolts (2 and 3).
2. Loosen lock nut (4).
3. Tighten bolt (5) until marker (1) points at the maximum mark (6).
4. Tighten lock nut (4) and bolts (2 and 3).



- |            |                   |
|------------|-------------------|
| 1 Marker   | 5 Regulation bolt |
| 2 Bolt     | 6 Maximum mark    |
| 3 Bolt     | 7 Minimum mark    |
| 4 Lock nut |                   |

## PROBLEM SOLVING

The troubleshooting chart helps to solve mechanical problems. It is assumed that the engine is in good condition and that there is adequate fuel flow to the filters and injection equipment.

If the engine has stopped through a shutdown switch, only one restarting attempt is permitted while tracing the fault.

Always check the alarm lamps during starting, as the lamps indicate which switch has tripped, thus assisting in tracing the trouble. Any bulb can be replaced.

An electrical fault must be traced by an electrician. Make sure that the wires are not chafed, damaged or broken and that they are clamped tight to their terminals.



**Never carry out measurements on the instrument panel. Measurements on the wiring of the instrument panel may only be carried out after disconnecting the wiring from the instrument panel.**

## ALTERNATOR PRECAUTIONS

1. Never reverse the polarity of the batteries or alternator.
2. Never break any alternator or battery connections while the engine is running.
3. When recharging the batteries, disconnect them from the alternator. Before using booster cables to start the engine, be sure of the polarity and connect the batteries correctly.

<b>Problem</b>	<b>Possible faults</b>	<b>Corrective actions</b>
1. <i>Lamp H1 does not light up when pressing S1.</i>	<ul style="list-style-type: none"> <li>a. Defective or discharged batteries.</li> <li>b. Loose battery cable(s) or terminals oxidized.</li> <li>c. Loose connection or damaged wiring.</li> <li>d. Alternator/regulator defective.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check electrolyte level and charge of batteries. If no cells are shorted and batteries are discharged, trace cause and correct.</li> <li>b. Check and correct as necessary.</li> <li>c. Check wiring and connections. Correct as necessary.</li> <li>d. Disconnect the wire from alternator terminal D+ and connect it to terminal B-. If H1 lights up, replace the alternator.</li> </ul>
2. <i>Starter motor does not crank engine after pressing S1 and depressing S3.</i>	<ul style="list-style-type: none"> <li>a. Low battery output.</li> <li>b. Air receiver pressure above 1.6 bar.</li> <li>c. Start solenoid K0 or starter motor defective.</li> </ul>	<ul style="list-style-type: none"> <li>a. See remedy 1a.</li> <li>b. Wait until air receiver is completely depressurized.</li> <li>c. Check start solenoid K0. Have motor repaired, if necessary.</li> </ul>
3. <i>Starter motor cranks engine when depressing S3, but engine does not fire.</i>	<ul style="list-style-type: none"> <li>a. Engine stop solenoid Y1 defective.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check and correct or replace as necessary.</li> </ul>
4. <i>Engine fires but lamp H1 remains alight.</i>	<ul style="list-style-type: none"> <li>a. Alternator drive belt broken or slipping.</li> <li>b. Alternator/regulator defective.</li> </ul>	<ul style="list-style-type: none"> <li>a. Check and correct as necessary.</li> <li>b. Have assembly repaired.</li> </ul>
5. <i>Engine starts but shuts down after approx. 10 seconds.</i>	<ul style="list-style-type: none"> <li>a. Fuel tank contains insufficient fuel.</li> <li>b. Insufficient engine oil pressure.</li> <li>c. Engine oil pressure switch S5 or compressor temperature switch S7 defective.</li> <li>d. Engine temperature switch S14 or fuel level sensor B6 defective.</li> <li>e. Low coolant level.</li> </ul>	<ul style="list-style-type: none"> <li>a. Fill fuel tank.</li> <li>b. Stop at once, consult "Operating Instructions" book of the engine.</li> <li>c. Stop at once, test switches, replace as necessary.</li> <li>d. Stop at once. Test switches; replace as necessary.</li> <li>e. Fill coolant tank.</li> </ul>
6. <i>Hourmeter P3 does not count running time.</i>	<ul style="list-style-type: none"> <li>a. Hourmeter defective.</li> </ul>	<ul style="list-style-type: none"> <li>a. Replace.</li> </ul>
7. <i>Compressor is loaded automatically to full capacity after starting.</i>	<ul style="list-style-type: none"> <li>a. Loading valve stuck in loaded position.</li> <li>b. Air intake throttle valve stuck in open position.</li> <li>c. Air leaks in regulating system.</li> </ul>	<ul style="list-style-type: none"> <li>a. Remove and dismantle. Correct as necessary.</li> <li>b. See 11f.</li> <li>c. See 12b.</li> </ul>
8. <i>Engine does not speed up immediately after compressor load push button has been pressed and compressor does not deliver air.</i>	<ul style="list-style-type: none"> <li>a. Membrane of regulating valve cracked.</li> <li>b. Air intake throttle valve stuck in closed position.</li> </ul>	<ul style="list-style-type: none"> <li>a. If air blows from venting devices, remove and dismantle valve. Replace membrane.</li> <li>b. See 11f.</li> </ul>
9. <i>Excessive compressor oil consumption. Oil mist being discharged from air outlet valves.</i>	<ul style="list-style-type: none"> <li>a. Oil level too high due to overfilling or formation of condensate in oil tank.</li> <li>b. Flow restrictor in oil scavenging line of air receiver clogged.</li> <li>c. Oil separator element defective.</li> </ul>	<ul style="list-style-type: none"> <li>a. Unscrew filler plug one turn and wait until all pressure is released. Drain oil until the oil level shows in the sight glass.</li> <li>b. Remove hoses and clean flow restrictor.</li> <li>c. Have element removed and inspected by an Atlas Copco Service representative.</li> </ul>

<b>Problem</b>	<b>Possible faults</b>	<b>Corrective actions</b>
10. <i>Air consumption varies at pressures above working pressure, but engine does not accelerate nor decelerate.</i>	a. <a href="#">Speed regulator defective.</a>	a. Remove, dismantle and inspect parts.
11. <i>Compressor capacity or pressure below normal.</i>	a. Air consumption exceeds capacity of compressor. b. <a href="#">Choked air filter elements.</a> c. <a href="#">Regulating valve defective.</a> d. Engine not up to max. load speed.  e. <a href="#">Oil separator element clogged.</a>  f. <a href="#">Air intake throttle valve remains partially closed.</a>  g. <a href="#">Safety valve leaking.</a>  h. <a href="#">Bleed-off valve leaking.</a>	a. Check equipment connected. b. Remove and inspect elements. Clean or replace, if necessary. c. Dismantle and inspect parts. d. When engine control lever is against max. speed stop, check speed and in case of power loss, see "Operating Instructions" book of the engine. If lever is not against stop, remove and inspect speed regulator and adjust length of operating rod. e. Have element removed and inspected by an Atlas Copco Service representative. f. Remove air filters, air intake manifold and throttle valve spring seat. Withdraw the valve and inspect. Replace parts where necessary. Caution: the spring seat is fixed with 4 short and 2 long setscrews: first remove the short screws, then release the spring tension by alternately unscrewing the long ones. g. Remove and inspect. Replace if not airtight after reinstallation. h. Remove and inspect. Replace if necessary.
12. <i>Pressure in air receiver rises above maximum and causes safety valve to blow.</i>	a. <a href="#">Regulating valve opens too late or its ball valve spring is broken.</a> b. Air leaks in regulating system. c. <a href="#">Speed regulator malfunctioning.</a> d. <a href="#">Air intake throttle valve does not close for some reason.</a> e. <a href="#">Minimum pressure valve malfunctioning.</a> f. <a href="#">Bleed-off valve malfunctioning.</a>	a. Dismantle and inspect parts. b. Check hoses and their fittings. Stop leaks; replace leaking hoses. c. Remove, dismantle and inspect piston ring and its O-ring. Replace worn or defective parts. d. See 11f. e. Remove and inspect valve. f. Remove and inspect valve.
13. <i>After working for some time, the unit stops through a shutdown switch. A fault indicator lamp is alight.</i>	a. Engine oil pressure too low. b. Compressor or engine overheating.  c. Fuel tank contains insufficient fuel. d. Low coolant level.	a. See the instruction manual of the engine. b. Start compressor while observing compressor temperature indicator TG. If white pointer rapidly reaches red pointer, compressor overheats (see item 15); if white pointer does not reach red one and unit stops, engine overheats (see the engine instruction manual). c. Fill fuel tank. d. Top up cooling system.

<b>Problem</b>	<b>Possible faults</b>	<b>Corrective actions</b>
14. <i>Air and oil mist expelled from air filters immediately after stopping.</i>	<ul style="list-style-type: none"> <li>a. Check valve at element outlet leaking or broken.</li> <li>b. Plunger of oil stop valve jammed.</li> </ul>	<ul style="list-style-type: none"> <li>a. Remove and inspect. Replace valve if necessary. Replace air filter elements and safety cartridges. Check the oil level and add oil if necessary. Run the compressor for a few minutes, stop and recheck oil level.</li> <li>b. See a.</li> </ul>
15. <i>Compressor overheating.</i>	<ul style="list-style-type: none"> <li>a. Insufficient compressor cooling.</li> <li>b. Oil cooler clogged externally.</li> <li>c. Oil cooler clogged internally.</li> <li>d. Oil filters clogged.</li> <li>e. Oil level too low.</li> <li>f. Thermostatic by-pass valve remains stuck in open position.</li> <li>g. Fan blade(s) broken.</li> <li>h. Oil stop valve malfunctioning.</li> <li>i. Oil separator element clogged.</li> </ul>	<ul style="list-style-type: none"> <li>a. Locate compressor away from walls; when banked with other compressors, leave space between them.</li> <li>b. Clean oil cooler.</li> <li>c. Consult Atlas Copco.</li> <li>d. Replace filters.</li> <li>e. Check oil level. Top up level, if necessary.</li> <li>f. Remove and check for proper opening and closing. Replace if out of order.</li> <li>g. Check and correct as necessary.</li> <li>h. Remove and inspect valve.</li> <li>i. See 9c.</li> </ul>



## AVAILABLE OPTIONS

### MANIFOLD WITH 3 EXTRA VALVES

The compressors with a working pressure of max. 12 bar can be provided with a manifold with 3 extra valves.

When this option is installed, four 1" and one 2" valves are available for connection of multiple flexible hoses.

Refer to page [426](#).

### SKID

The skid is a replacement of the standard wagon-type undercarriage and is especially advantageous when the compressor is used for a considerable time on the same worksite.

Refer to page [437](#).

### ROOF PANELS AND WHEELCHOCKS

All units destined for Germany have extra roof panels on the roof front and are delivered with additional wheelchocks. These wheelchocks should be used whenever the unit is parked on a slope, to prevent it from rolling downhill.

Refer to page [429](#) and [436](#).

### SAFETY CHAIN

The safety chain must be installed between the towing vehicle and the unit before towing a unit without brakes. Thus the unit is secured when something unusual should happen to the towbar or the towing eye.

Refer to page [418](#).

### COLD START

The cold start option allows units to start better in cold conditions. The combustion heater warms up the cooling water that is circulated through the engine. Thereby the water will warm up the engine, which will make starting easier.

Refer to page [454](#).

### ELECTRIC FUEL PUMP

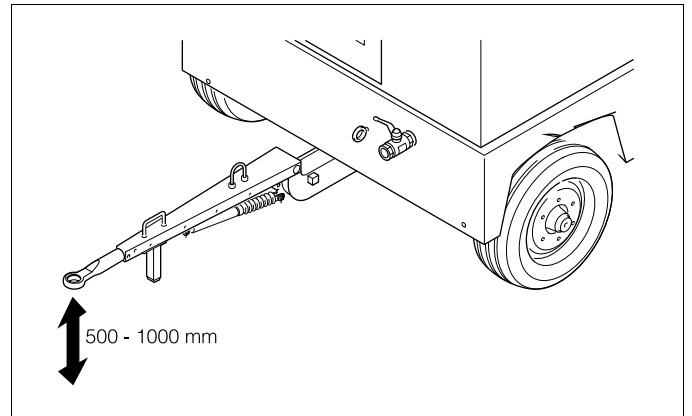
The electric fuel pump option makes it easier to pump fuel from the fuel tank to the engine (without use of the handpump). Always make sure the filter in the fuel suction pipe is not clogged.

Refer to page [398](#).

### TOWBAR LEVEL DEVICE FOR WAGON

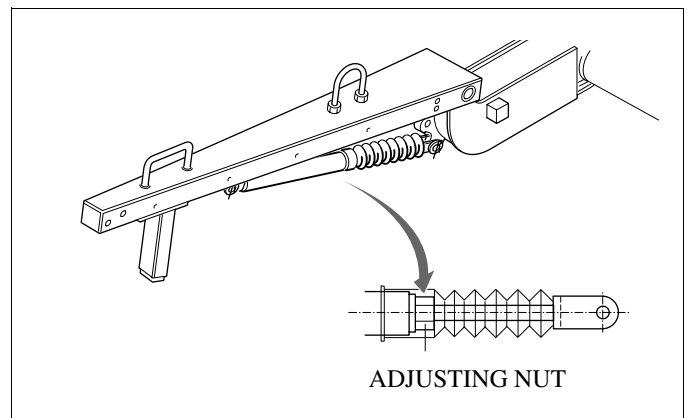
The towbar level device is installed between the fixed and hinged part of the towbar and is used to keep the towbar floating at a height between 500 mm and 1000 mm.

The towbar is factory adjusted to a height of 750 mm.



#### Adjustment of the towbar level device

Turn the adjusting nut to the right (left) to increase (decrease) the tension of the level device. The towbar will then be raised (lowered).



Refer to page [435](#).

### PNEUMATIC BRAKES AND ROAD SIGNALISATION FOR WAGON AND TANDEM

The compressors with pneumatic brakes and road signalisation may be used for high speed towing on main roads.

The maximum speed is limited to 80 km/h or according to the restrictions enforced by any local regulations.

The pneumatic brakes are provided at both the front and rear axles.

The pneumatic brakes are in conformity with EEC 73/320, amendment 88/194 and ECE R13-06.

The road signalisation is in conformity with EEC 76/756, amendment 91/663 and ECE R48-00.

Refer to page [438](#), [440](#), [442](#) and [444](#).

### **AXLES AND ADJUSTABLE TOWBAR FOR TANDEM (WITH PNEUMATIC BRAKES)**

The compressors, mounted on a tandem undercarriage with adjustable towbar allow an optimal towing and manoeuvrability.

The axles and adjustable towbar should always be installed in combination with the pneumatic brakes and road signalisation, allowing the compressor to be used for high speed towing on main roads.

Refer to page [407](#) and [413](#).

### **AFTERCOOLER, WATERSEPARATOR AND FINE FILTER**

The aftercooler, waterseparator and fine filter are provided to decrease the temperature of the outlet air and to remove any residual oil and moisture in the outlet air.

The aftercooler cools the outlet air. The condensation formed by the cooling is separated by the waterseparator. Any final oil and humidity is eliminated by the fine filter.

A pressure decrease will appear due to the installation of the aftercooler, waterseparator and fine filter. The pressure gauge indicates the pressure in front of the aftercooler. As a result, the outlet pressure will always be a little less than the pressure indicated.

Refer to page [450](#).

### **AFTERCOOLER, WATER- AND OILSEPARATOR, FINE FILTER AND REHEATER**

The aftercooler, water- and oilseparator, fine filter and reheater are provided to remove any residual moisture in the outlet air and to keep the outlet air on constant temperature avoiding the formation of condensation in the pipes or hoses.

The aftercooler cools the outlet air. The condensation formed by the cooling is separated by the waterseparator and any final humidity and oil is deleted by the fine filter. The air is reheated afterwards.

A pressure decrease will appear due to the installation of the aftercooler, waterseparator and fine filter. The pressure gauge indicates the pressure in front of the aftercooler. As a result, the outlet pressure will always be a little less than the pressure indicated.

Refer to page [451](#).

## TECHNICAL SPECIFICATIONS

### READINGS ON GAUGES

<i>Gauge</i>	<i>Reading</i>	<i>Unit</i>
Working pressure (WPG)	Between unloading and working pressure	bar
Fuel level (P1)	Above 0	Fuel tank full
Engine oil pressure (P2)	Above 2.5	bar
Hourmeter (P3)	Adding up	h
Engine coolant temp. (P4)	Below 95	°C
Tachometer (P6)	Between maximum load and no-load speed	r/min

### TORQUE VALUES

	<i>Assemblies</i>	<i>Value</i>
	Wheel nuts <sup>(1)</sup>	200 Nm
	Bolts, frame/axles	205 Nm
	Bolts, lifting eye/frame	205 Nm
<i>Element to frame</i>	Bolts, element/support	80 Nm
	Bolts, support/buffer	205 Nm
	Bolts, buffer/frame	80 Nm
<i>Engine to frame</i>	Bolts, support/buffer	205 Nm
	Bolts, buffer/frame	80 Nm

### SETTINGS OF SWITCHES AND SAFETY VALVE

	<i>Switch</i>	<i>Makes at</i>	<i>Brakes at</i>
<i>Shut-down switches</i>	Engine coolant temperature (S14)	–	105 °C
	Engine oil pressure (S5)	1.14	0.8 bar(e)
	Compressor element air outlet temperature (S7), adjustable up to <sup>(2)</sup>	–	120 °C
<i>Alarm switch</i>	Air filter vacuum indicator switch (S10)	–	35 mbar
<i>Safety valve (SV)</i>	Opening pressure	–	16 bar(e)

### OUTLET VALVE SPECIFICATIONS

<i>Valve</i>	<i>Value</i>
Diameter valve 1	1 “
Diameter valve 2	2 “

**COMPRESSOR/ENGINE SPECIFICATIONS**

	<i>Value</i>	
<b>Compressor/engine</b> <sup>(3)</sup>	Number of compression stages	1
	Maximum (unloading) pressure	14 bar(e)
	Normal working pressure	12 bar(e)
	up to altitude of <sup>(4)</sup>	4000 m
	Minimum working pressure	4 bar(e)
	Free air delivery <sup>(5)</sup>	358 l/s
	Compressor cooling system	oil
	Mercedes diesel engine, water-cooled	OM 441 LA
	Engine speeds:	
	- Maximum load speed	1600 r/min
	- Unloading speed	1000 r/min
	Electrical system, negative earthed	24 V
	Batteries:	
	- Number	2
	- Voltage/capacity	12 V/143 Ah
	- Cold cranking current:	
	- SAE J537h	900 A
- DIN 72311	630 A	
Weight		
- Standard unit DRY	3800 kg	
- Standard unit WET	4300 kg	
<b>Filling capacities</b>	Compressor oil system	± 66 l
	Engine oil system	± 15 l
	Fuel tank	334 l
	Engine cooling system	54 l
<b>Compressor</b>	Air receiver capacity	192 l
	Temperature above ambient of air leaving air outlet valves	± 60 °C
	Max. ambient temperature at sea level, normal working pressure and max. load speed	50 °C
	Sound power level (LW) complies with 84/532//533/EEC and 85/406/EEC limits	102 dB(A)
	Sound pressure level according to ISO 2151	74 dB(A)
<b>Dimensions</b>	Overall length, drawbar raised	± 4210 mm
	Overall width	± 1810 mm
	Overall height	± 2369 mm
	Minimum turning circle	Ø 8462 mm
<b>Towing</b>	Compressors with parking brake only	
	Max. towing speed <sup>(6)</sup>	25 km/h
	Michelin tyres:	
	- Type	XC PR10
	- Size	6.5R16 in
	- Pressure, front/rear	4.5/4.5 bar(e)
	Compressors with pneumatic brakes (optional equipment)	
	Max. towing speed <sup>(6)</sup>	80 km/h
	Michelin tyres:	
	- Type	XCA 118N TL
	- Size	225/75R16 in
- Pressure, front/rear	4.5/4.5 bar(e)	

## NOTES

1. Check and retighten the wheel nuts to the specified torque after the first 50 km travel.
2. 100 °C for compressors for Germany.
3. At reference conditions, if applicable, and at normal shaft speed unless otherwise stated.
4. With a maximum ambient temperature of 24 °C.
5. Measured according to ISO 1217 ed.3 1996 annex D  
Tolerance  $\pm 5\%$  25l/s < FAD < 250l/s  
 $\pm 4\%$  250l/s < FAD  
(FAD = Free air delivery)
6. If not limited by local regulations.

## CONVERSION LIST OF SI UNITS INTO BRITISH UNITS

1 bar	=	14.504 psi	1 m	=	3.281 ft
1 g	=	0.035 oz	1 mm	=	0.039 in
1 kg	=	2.205 lb	1 m <sup>3</sup> /min	=	35.315 cfm
1 km/h	=	0.621 mile/h	1 mbar	=	0.401 in wc
1 kW	=	1.341 hp (UK and US)	1 N	=	0.225 lbf
1 l	=	0.264 US gal	1 Nm	=	0.738 lbf.ft
1 l	=	0.220 imp gal (UK)	t <sub>F</sub>	=	32 + (1.8 x t <sub>C</sub> )
1 l	=	0.035 cu.ft	t <sub>C</sub>	=	(t <sub>F</sub> - 32)/1.8

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

**DATAPLATE**

The diagram shows a data plate with the following fields and callouts:

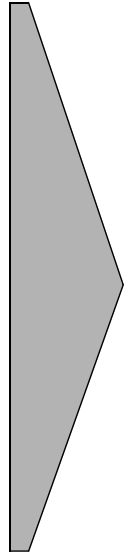
- 1: Company code
- 2: Product code
- 3: Unit serial number
- 4: Name of manufacturer (ATLAS COPCO AIRPOWER n.v.)
- 5: EEC or national type approval number (-YA3-\*\*\*\*\*-00-\*\*\*\*\*-)
- 6: Vehicle identification number (\*\*\*\* kg A, \*\*\*\* kg B, \*\*\*\* kg C)
- 7: Working pressure (p max(e) . working/betrieb/service bar \*\*)
- 8: Speed (Speed/Drehzahl/Regime rpm \*\*\*\*)
- 9: Engine power (p engine/motor/moteur kw \*\*\*\*)
- 10: Manufacturing year (Manuf. year/Baujahr/Année de fabrication \*\*\*\*)
- 11: EEC mark in accordance with Machine Directive 89/392 EEC (CE mark)

Legend:

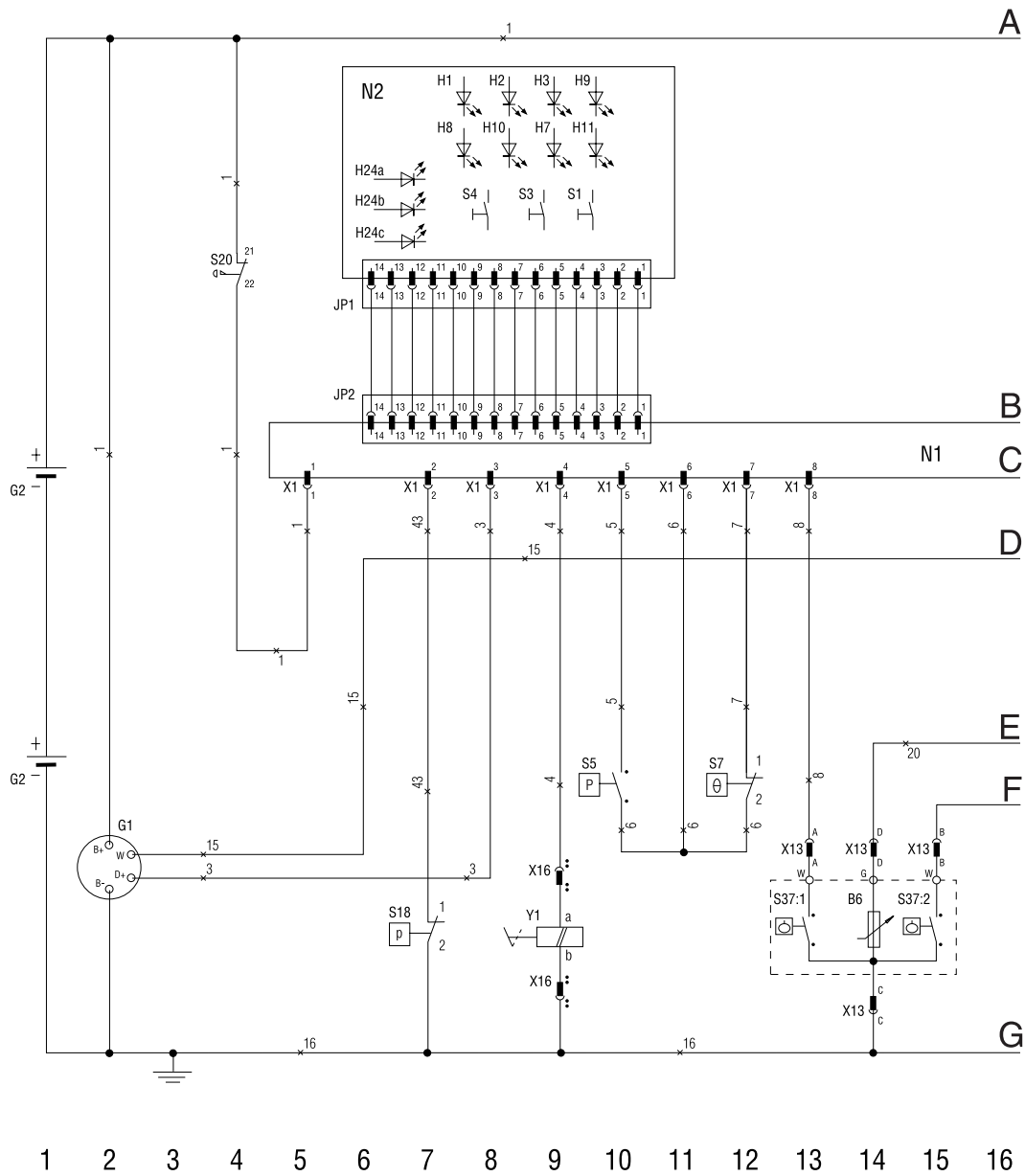
- A Maximum permitted loaden weight of the vehicle
- B Maximum permitted road weight of the front axle
- C Maximum permitted road weight of the rear axle

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**Circuit diagrams**  
**Elektrische schema's**  
**Schémas de circuits**  
**Schaltpläne**  
**Esquema de conexiones**  
**Kopplingscheman**  
**Diagrammi dei circuiti**  
**Kretsskjema**  
**Kredsløbsdiagrammer**  
**Διαγράμματα κυκλωμάτων**  
**Esquemas eléctricos**  
**Sähkökaaviot**



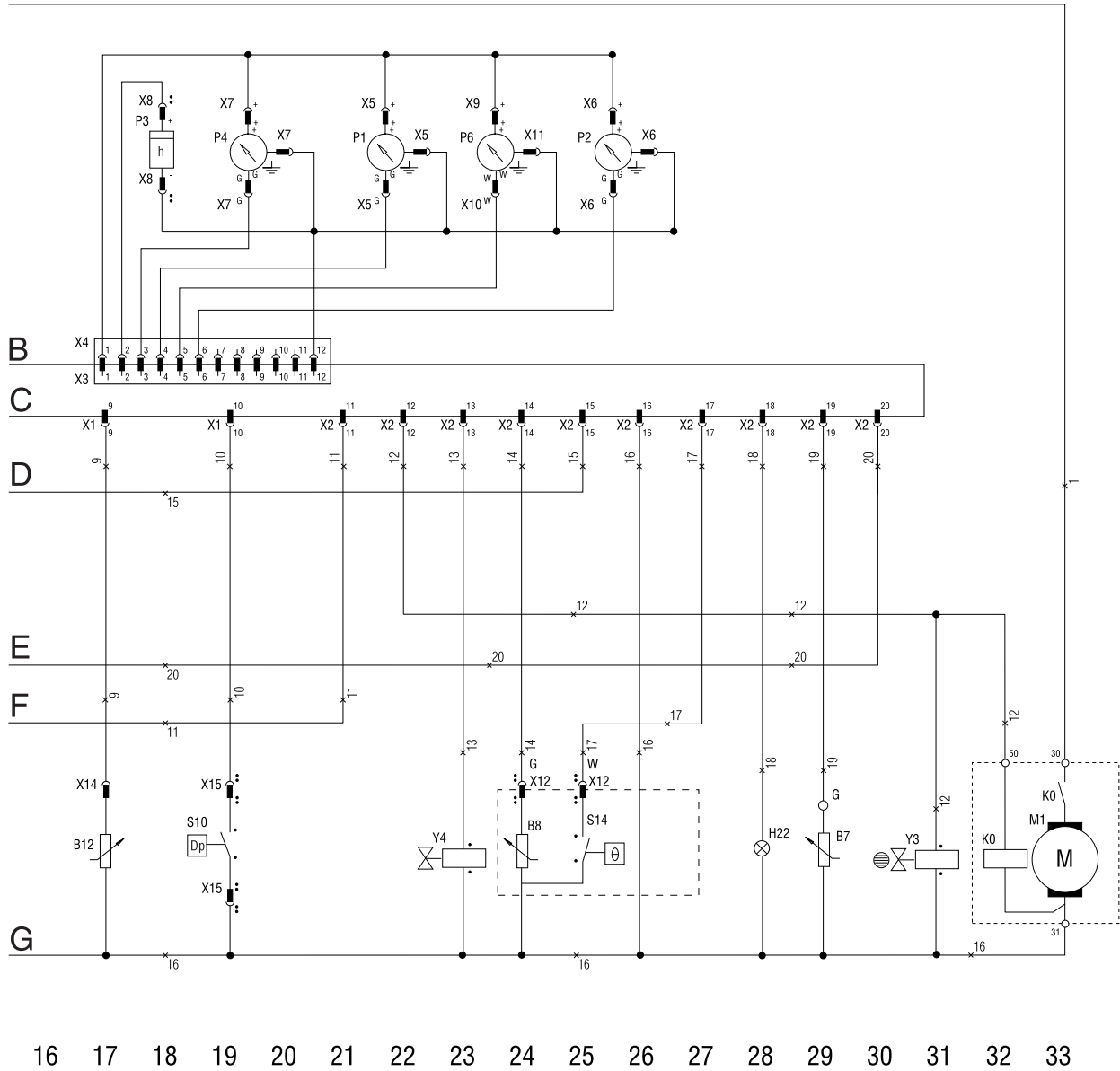
9822 0894 01





**9822 0894 01**

A



	ENGLISH	NEEDERLANDS	FRANCAIS	DEUTSCH
B6	Fuel level sensor	Sensor, brandstofpeil	Capteur, niveau de carburant	Sensor, Kraftstoffstand
B7	Oil pressure sensor engine	Sensor, motoroliedruk	Capteur, pression d'huile moteur	Sensor, Motoröldruck
B8	Engine coolant temperature sensor	Sensor, temperatuur motorkoelvoelvoestof	Capteur, température réfrigérant moteur	Sensor, Motor Kühlmitteltemperatur
B12	Coolant level sensor	Sensor, koelvoelvoestofpeil	Capteur, niveau du réfrigérant	Sensor, Kühlmittelstand
G1	Alternator	Alternator	Alternateur	Wechselstromgenerator
G2	Battery (2x)	Baterij (2x)	Batterie (2x)	Batterie (2x)
H1	Indication lamp charge	Verklikkerlamp, laadstroom	Témoin, charge alternateur	Ladekontrollleuchte
H2	Indication lamp low fuel level	Verklikkerlamp, te laag brandstofpeil	Témoin, réserve de carburant	Wamllampe, niedriger Kraftstoffstand
H3	Indication lamp airfilter	Verklikkerlamp, luchtfilter	Témoin, filtre à air	Warnlampe, Luftfilterwartung
H7	Indication lamp temperature engine coolant	Verklikkerlamp, temperatuur motorkoelvoelvoestof	Témoin, température réfrigérant moteur	Störungsmeldelempe, Motor Kühlmitteltemperatur
H8	Indication lamp low oil pressure engine	Verklikkerlamp, te lage motoroliedruk	Témoin, pression d'huile moteur trop basse	Störungsmeldelempe, Motoröldruck
H9	Indication lamp temperature compressor	Verklikkerlamp, compressortemperatuur	Témoin, température compresseur	Störungsmeldelempe, Compressor temperatuur
H10	Indication lamp low level engine coolant	Verklikkerlamp, te laag peil motorkoelvoelvoestof	Témoin, niveau réfrigérant moteur trop bas	Störungsmeldelempe, Motor Kühlmittelstand
H11	Indication lamp shut-off fuel level	Verklikkerlamp, stop brandstofpeil	Témoin, arrêt niveau de carburant	Meldelampe, Kraftstoffabspernung
H22	Alarm flasher light	Alarmknipperlicht	Lampe clignotante d'alarme	Alarm-Blinkleuchte
H24a	Indication lamp wait to load	Verklikkerlamp, wacht voor belasting	Témoin, attente de charge	Meldelampe, Warten auf Belasting
H24b	Indication lamp automatic load	Verklikkerlamp, automatisch belasten	Témoin, charge automatique	Meldelampe, automatische Belasting
H24c	Indication lamp running loaded	Verklikkerlamp, belaste working	Témoin, mise en route chargée	Meldelampe, Belastungsbetrieb
JP1,2	1-4-pole connector	Konnektor, 14 stiften	Connecteur 14 broches	1-4-poliger Stecker
K0	Starter solenoid	Startersolenoid	Electrovalve de démarrage	Startermagnet
M1	Starter motor	Startmotor	Démarreur	Starter
N1	Control module	Stuurmodule	Module de commande	Steuermodul
N2	Display	Scherm	Afficheur	Display
P1	Fuel level gauge	Brandstofmeter	Indicateur, niveau de carburant	Kraftstoffstandanzeiger
P2	Engine oil pressure gauge	Motoroliedrukmeter	Indicateur, pression d'huile moteur	Motoröldruckmesser
P3	Hourmeter	Urenteller	Compteur d'heures	Stundenzähler
P4	Temperature gauge, engine coolant	Temperatuurmeter, motorkoelvoelvoestof	Indicateur de température, réfrigérant moteur	Temperatuermesser, Motor Kühlmittel
P6	Tachometer	Toerenteller	Tachymètre	Drehzahlmesser
S1	Toggle switch on/off	Kipschakelaar aan/uit	Commutateur, marche/arrêt	Ein/Aus-Taste
S3	Starter switch	Startschakelaar	Interrupteur, démarrage	Starttaste
S4	Load switch	Belastingschakelaar	Interrupteur, mise en charge	Taste für Compressorbelasting
S5	Shut-down switch, engine oil pressure	Stopschakelaar, motoroliedruk	Interrupteur d'arrêt, pression d'huile moteur	Ausschalter, Motoröldruck
S7	Shut-down switch, compressor low pressure element temperature	Stopschakelaar, temperatuur LD-kompressor element	Interrupteur d'arrêt, température élément compresseur BP	Ausschalter, Temperatur Niederdruck-Kompressor element
S10	Pressure switch airfilter	Drukschakelaar, luchtfilter	Pressostat, filtre à air	Druckschalter, Luftfilter
S14	Shut-down switch, engine coolant temperature	Stopschakelaar, temperatuur motorkoelvoelvoestof	Interrupteur d'arrêt, température réfrigérant moteur	Ausschalter, Motor Kühlmitteltemperatur
S18	Pressure switch start prevention	Drukschakelaar, verhinderen van starten	Pressostat, prévention contre démarrage	Druckschalter, Startverhütung
S20	Emergency stop switch	Noodstopshakelaar	Interrupteur d'arrêt d'urgence	Not-Aus-taste
S37:1	Shut-down switch, low fuel level	Stopschakelaar, te laag brandstofpeil	Interrupteur d'arrêt, réserve minimum de carburant	Ausschalter, niedriger Kraftstoffstand
S37:2	Warning switch, low fuel level	Waarschuwingsschakelaar, te laag brandstofpeil	Interrupteur d'avertissement, réserve minimum de carburant	Warnschalter, niedriger Kraftstoffstand
X1	Male connector control unit X1:1...X1:10	Connector (mamm.) controle-eenheid X1:1...X1:10	Connecteur mâle, unité de commande X1:1...X1:10	Steckerbuchse, Regler X1:1 ... X1:10
X2	Female connector control unit X2:1...X2:20	Connector (vrouw.) controle-eenheid X2:1...X2:20	Connecteur femelle, unité de commande X2:1...X2:20	Steckerbuchse, Regler X2:11 ... X2:20
X3:4	1-2-pole connector	Konnektor, 12 stiften	Connecteur 12 broches	12-poliger Stecker
X5	Connector, engine fuel level gauge	Connector, brandstofpeilmeter motor	Connecteur, indicateur de niveau de carburant moteur	Stecker, Kraftstoffstandanzeiger Motor
X6	Connector, engine oil pressure gauge	Connector, motoroliedrukmeter	Connecteur, indicateur de pression d'huile moteur	Stecker, Motoröldruckmesser
X7	Connector, engine coolant temperature gauge	Connector, temperatuurmeter motorkoelvoelvoestof	Connecteur, indicateur de température du réfrigérant moteur	Stecker, Temperatuermesser Motor Kühlmittel
X8	Connector, hourmeter	Connector, urenteller	Connecteur, compteur d'heures	Stecker, Stundenzähler
X9/10/11	Single-pole connectors, tachometer	Enkelpolige connectoren, toerenteller	Connecteurs unipolaires, tachymètre	Einpolige Stecker, Drehzahlmesser
X12	Connector, coolant temperature switch	Connector, temperatuurschakelaar voor koelvoelvoestof	Connecteur, interrupteur de température réfrigérant	Stecker, Kühlmitteltemperaturschalter
X13	Connector, fuel level switch	Connector, brandstofpeilschakelaar	Connecteur, interrupteur de niveau de carburant	Stecker, Fullstandschalter Kraftstoff
X14	Connector, engine coolant level sensor	Connector, sensor voor motorkoelvoelvoestofpeil	Connecteur, niveau de réfrigérant moteur	Stecker, Kühlmitteltemperatur
X15	Connector, airfilter pressure switch	Connector, drukschakelaar luchtfilter	Connecteur, pressostat filtre d'air	Stecker, Druckschalter Luftfilter
X16	Connector, fuel stop solenoid valve	Connector, magneetventiel voor brandstofstop	Connecteur, électrovalve d'arrêt carburant	Stecker, Magnetventil für Kraftstoffabspernung
Y1	Fuel stop shut-off solenoid valve	Magneetventiel voor brandstofstop	Electrovalve, arrêt carburant moteur	Magnetventil, Kraftstoffabspernung
Y3	Solenoid valve extra fuel for OM 441-442 LA engines only	Magneetventiel extra brandstof, enkel bij OM 441-442 LA motoren	Electrovalve, carburant supplémentaire pour moteurs OM 441-442 LA uniquement	Magnetventil für Zusatzkraftstoff, nur für Motoren OM 441-442 LA
Y4	Solenoid valve for loading	Magneetventiel, belasten	Electrovalve, charge	Magnetventil für Belasting

	ESPAÑOL	SVENSKA	ITALIANO	NORSK
B6	Sensor, nivel de combustible	Givare, bränslenivåmätare	Sensore livello carburante	Følger for drivstoffnivå
B7	Sensor, presión de aceite del motor	Givare, motorns oljetrycksmätare	Sensore pressione olio, motore	Oljetrykkmåler
B8	Sensor, temperatura refrigerante del motor	Givare, motorns kylmedelstemperaturmätare	Sensore di temperatura refrigerante motore	Følger for kjølevæsketemp
B12	Sensor, nivel de refrigerante	Givare, motorns kylmedelsnivå	Sensore livello refrigerante	Følger for kjølevæsketemp
G1	Alternador	Växelströmsgenerator	Alternatore	Dynamo
G2	Batería (2x)	Batteri (2x)	Batteria (2x)	Batteri (2x)
H1	Lámpara indicadora, carga del alternador	Indikeringslampa, laddning	Lampadina indicazione carico	Indikatorlampe for lading
H2	Lámpara de alarma, bajo nivel de combustible	Alarmlampa, låg bränslenivå	Lampadina indicazione livello carburante basso	Indikatorlampe for lavt drivstoffnivå
H3	Lámpara de alarma, filtro de aire	Alarmlampa, luftfilter	Lampadina indicazione filtro dell'aria	Indikatorlampe for luftfilter
H7	Lámpara indicadora de fallo, temperatura refrigerante del motor	Felindikeringslampa, motorns kylmedelstemperatur	Lampadina indicazione temperatura refrigerante motore	Indikatorlampe for motorens kjølevæsketemperatur
H8	Lámpara indicadora de fallo, baja presión de aceite del motor	Felindikeringslampa, motorns oljetryck	Lampadina indicazione pressione olio motore bassa	Indikatorlampe for lavt oljetrykknivå i motoren
H9	Lámpara indicadora de fallo, temperatura del compresor	Felindikeringslampa, kompressorns temperatur	Lampadina indicazione temperatura compressore	Indikatorlampe for kompressorens temperatur
H10	Lámpara indicadora de fallo, bajo nivel de refrigerante del motor	Felindikeringslampa, motorns kylmedelsnivå	Lampadina indicazione basso livello refrigerante motore	Indikatorlampe for lavt kjølevæsketemp i motoren
H11	Lámpara indicadora de fallo, parada nivel de combustible	Felindikeringslampa, avstängning för låg bränslenivå	Lampadina indicazione spenta livello carburante	Indikatorlampe, nivå for drivstoffavstengning
H22	Lámpara de alarma, luz de destellos	Blinkertlampa	Lampadina di allarme	Alarm, signallampe
H24a	Lámpara indicadora de fallo, espera de carga	Indikeringslampa, väntar på pålastning	Lampadina indicazione aspettare per caricare	Indikatorlampe for avventer belastning
H24b	Lámpara indicadora de fallo, carga automática	Indikeringslampa, automatisk pålastning	Lampadina di indicazione carico automatico	Indikatorlampe for automatisk belastning
H24c	Lámpara indicadora de fallo, puesta en marcha cargada	Indikeringslampa, pålastad drift	Lampadina di indicazione in funzione caricata	Indikatorlampe for kjøring under belastning
JP1,2	Conector 14-polares	14-poligt kontaktdon	Connettore a 14 poli	14-polet kontakt
K0	Solenoido de arranque	Startmagnet	Solenoido dell'avviamento	Magnetkontakt for starter
M1	Motor de arranque	Startmotor	Motore di avviamento	Startermotor
N1	Módulo de control	Kontrollmodul	Modulo di controllo	Kontrollmodul
N2	Visualización	Display	Display	Vise
P1	Indicador de nivel de combustible	Bränslenivåmätare	Indicatore livello carburante	Drivstoffmåler
P2	Manómetro, presión de aceite del motor	Motorns oljetrycksmätare	Indicatore pressione olio motore	Oljetrykkmåler
P3	Cuentahoras	Timräkneverk	Contaore	Timemåler
P4	Indicador de temperatura, refrigerante del motor	Temperaturmätare, motorns kylmedel	Indicatore temperatura, refrigerante motore	Temperaturmåler, kjølevæske
P6	Tacómetro	Varvräknare	Tachimetro	Turteller
S1	Interruptor de palanca conexión/desconexión	Till/från strömslällare	Interruttore a levetta on/off	Av/på-bryter
S3	Interruptor de arranque	Startströmslällare	Interruttore avviamento	Startbryter
S4	Interruptor de carga	Pålastningsströmslällare	Interruttore di carico	Pålastingsbryter
S5	Interruptor de parada, presión de aceite del motor	Säkerhetsstoppströmslällare, motorns oljetryck	Interruttore di arresto, pressione olio motore	Bryter for sikkerhetsstopp ved ukorrekt oljetryk
S7	Interruptor de parada, temperatura del elemento baja presión del compresor	Säkerhetsstoppströmslällare, temperaturen för kompressorns lågtrycksэлемент	Interruttore di arresto, temperatura elemento bassa pressione compressore	Bryter for sikkerhetsstopp ved ukorrekt temp. på kompress.
S10	Presostato, filtro de aire	Vakuumslällare, luftfilter	Interruttore pressione, filtro dell'aria	Trykkbryter for luftfilter
S14	Interruptor de parada, temperatura de refrigerante del motor	Säkerhetsstoppströmslällare, motorns kylmedelstemperatur	Interruttore di arresto, temperatura refrigerante motore	Bryter for sikkerhetsstopp ved ukorrekt kjølevæsketemperatur
S18	Presostato, prevención de arranque	Vakuumslällare, startspår	Interruttore pressione prevenzione avvio	Trykkbryter for å hindre start
S20	Interruptor parada de emergencia	Nödstoppsströmslällare	Interruttore di arresto di emergenza	Nødstopbryter
S37:1	Interruptor de parada, bajo nivel de combustible	Säkerhetsstoppströmslällare, låg bränslenivå	Interruttore di arresto, basso livello carburante	Bryter for sikkerhetsstopp, lavt drivstoffnivå
S37:2	Interruptor de alarma, bajo nivel de combustible	Varningsströmslällare, låg bränslenivå	Interruttore di allarme, livello carburante basso	Varselbryter, lavt drivstoffnivå
X1	Conector macho de unidad de control X1:1...X1:10	Kontrollenhetens han-kopplingsdetalj X1:1...X1:10	Connettore maschio unità di controllo X1:1...X1:10	Kontrollenhet for hannkontakt X1:1...X1:10
X2	Conector hembra de unidad de control X2:1...X2:20	Kontrollenhetens hon-kopplingsdetalj X2:1...X2:20	Connettore femmina unità di controllo X2:1...X2:20	Kontrollenhet for hunnkontakt X2:1...X2:20
X3,4	Conector 12-polares	12-poligt kontaktdon	Connettore a 12 poli	12-polet kontakt
X5	Conector, Manómetro de aceite del motor	Kopplingsdetalj, motorns oljetrycksmätare	Connettore, indicatore pressione olio motore	Kontakt, oljetrykkmåler
X6	Conector, Manómetro de temperatura de refrigerante del motor	Kopplingsdetalj, motorns kylmedelstemperaturmätare	Connettore, indicatore temperatura refrigerante motore	Kontakt, måler for kjølevæsketemperatur
X7	Conector, Cuentahoras	Kopplingsdetalj, timräkneverk	Connettore, contaore	Kontakt, timesteller
X8	Conectores unipolares, tacómetro	Enpoliga kopplingsdetaljer, varvräknare	Connettore a polo unico, tachimetro	Enpolet kontakt, turteller
X9/10/11	Conector, temostato del refrigerante	Kopplingsdetalj, kylmedlets temperaturströmslällare	Connettore, interruttore temperatura refrigerante	Kontakt, bryter for kjølevæsketemperatur
X12	Conector, interruptor de nivel de combustible	Kopplingsdetalj, bränslenivåströmslällare	Connettore, interruttore livello carburante	Kontakt, bryter for drivstoffnivå
X13	Conector, nivel de refrigerante del motor	Kopplingsdetalj, motorns kylmedelsnivå	Connettore, livello refrigerante motore	Kontakt, kjølevæsketemp
X14	Conector, presostato del filtro de aire	Kopplingsdetalj, luftfilterets vakuumslällare	Connettore, interruttore pressione filtro d'aria	Kontakt, trykkbryter for luftfilter
X15	Conector, válvula solenoide de parada combustible	Kopplingsdetalj, stoppentventil for bränsle	Connettore valvola solenoide arresto carburante	Kontakt, magnetventil for drivstoffavstengning
X16	Solenoido de parada, combustible	Stoppmagnet för bränslevätsänging	Valvola solenoide di arresto carburante	Magnetkontakt for stopp av drivstoff
Y3	Válvula solenoide, combustible adicional para motores OM 441-442 LA únicamente	Extra bränsleventil, endast för OM 441-442 LA motorer	Carburante extra valvola solenoide solo per motori OM 441-442 LA	Magnetventil for ekstra drivstoff, gjelder bare OM 441-442 LA-motorer
Y4	Válvula solenoide para carga	Magnetventil för pålastning	Valvola solenoide per carico	Magnetventil for pålastning

	DANSK	ΕΛΛΗΝΙΚΑ	PORTUGUÊS	SUOMI
B6	Føler, brændstofniveau	Αισθητήρας στάθμης καυσίμου	Sensor de nível de combustível	Polttoainemäärän anturi
B7	Føler, motorolietyk	Αισθητήρας πίεσης λαδιού κινητήρα	Sensor de pressão de óleo do motor	Moottorin öljypaineanturi
B8	Føler, motorølevasketemperatur	Αισθητήρας θερμοκρασίας ψυκτικού κινητήρα	Sensor de temperatura do líquido de arrefecimento do motor	Moottorin jäähdytysnesteen lämpötila-anturi
B12	Føler, kølevæskeniiveau	Αισθητήρας στάθμης ψυκτικού	Sensor de nível do líquido de arrefecimento	Jäähdytysnestemäärän anturi
G1	Generator	Ευαλακτής	Alternador	Vaihtovirtalaturi
G2	Batteri (2x)	Μπαταρία (2x)	Bateria (2x)	Akku (2 kpl)
H1	Indikatorlampe, generatoropladning	Λυχνία ενδείξης φόρτισης	Lâmpada indicadora de carga	Latauksen merkkivalo
H2	Alarmlampe, for lidt brændstof	Λυχνία ενδείξης χαμηλής στάθμης καυσίμου	Lâmpada indicadora de nível baixo de combustível	Alhaisen polttoainemäärän varoitusvalo
H3	Alarmlampe, luffilter	Λυχνία ενδείξης φίλτρου αέρα	Lâmpada indicadora de filtro de ar	Ilmansuodattimen varoitusvalo
H7	Indikatorlampe for motorens kølevandstemperatur	Λυχνία ενδείξης θερμοκρασίας ψυκτικού κινητήρα	Lâmpada indicadora da temper. do líquido de arrefecimento do motor	Moottorin jäähdytysnesteen lämpötilan varoitusvalo
H8	Indikatorlampe, for lav motorolietyk	Λυχνία ενδείξης χαμηλής πίεσης λαδιού κινητήρα	Lâmpada indicadora de baixa pressão de óleo do motor	Moottorin alhaisen öljypaineen varoitusvalo
H9	Indikatorlampe for kompressorens temperatur	Λυχνία ενδείξης θερμοκρασίας συμπιεστή	Lâmpada indicadora da temperatura do compressor	Kompressorin lämpötilan varoitusvalo
H10	Indikatorlampe, for lavt motorølevandsniveau	Λυχνία ενδείξης χαμηλής στάθμης ψυκτικού κινητήρα	Lâmpada indicadora de nível baixo do líquido de arrefecimento do motor	Moottorin alhaisen jäähdytysnestemäärän varoitusvalo
H11	Indikatorlampe, brændstofniiveau udløser afbrydelse	Λυχνία ενδείξης διακοπής στάθμης καυσίμου	Lâmpada indicadora do nível de corte do combustível	Merkkivalo, pysäytys/alhainen polttoainemäärä
H22	Alarmblinklampe	Λαμπτήρας προειδοποίησης συναγερμού	Lâmpada intermitente de alarme	Hälytysvilkku
H24a	Indikatorlampe, venter på belastning	Λυχνία ενδείξης αναμονής φόρτισης	Lâmpada indicadora de espera de carga	Merkkivalo, odota ennenkuin kuormitit
H24b	Indikatorlampe, automatisk belastning	Λυχνία ενδείξης αυτόματης φόρτισης	Lâmpada indicadora de carga automática	Merkkivalo, automaattinen kuormitus
H24c	Indikatorlampe, lører med belastning	Λυχνία ενδείξης φόρτισης λειτουργίας	Lâmpada indicadora de funcionamento em carga	Merkkivalo, käynti kuormitettuna
JP1,2	I4-faset kontaktklemme	14-πολικός σύνδεσμος	Ligação em 14 polos	I4-napainen liitin
K0	Startmagnet	Ηλεκτρομαγνητική βαλβίδα εκκίνησης	Bobine de chamsada do motor de arranque	Käynnistysolenoidi
M1	Startmotor	Μίζα	Motor de arranque	Käynnistimmoottori
N1	Kontrolmodul	Στοιχείο ελέγχου	Módulo de controle	Ohjainmoduli
N2	Skerm	Οθόνη	Visor	Näytön
P1	Brendstofmåler	Μετρητής στάθμης καυσίμου	Indicador de nível de combustível	Polttoainemittari
P2	Motorolietyksmåler	Μετρητής στάθμης λαδιού κινητήρα	Manômetro de óleo do motor	Moottorin öljypaineittari
P3	Timetæller	Ωρομετρητής	Contador de tempo de operação	Käyttötuntimittari
P4	Temperaturmåler, motorølevæske	Μετρητής θερμοκρασίας, ψυκτικού κινητήρα	Termômetro do refrigerante do motor	Moottorin jäähdytysnesteen lämpömittari
P6	Takometer	Ταχύμετρο	Taquímetro	Kierroslukumittari
S1	ON/OFF trykknapp	Διακοπής επαφής εκκίνησης/διακοπής	Contactor ligado / desligado	Kemukytkin
S3	Startknapp	Διακοπής εκκίνησης	Contactor de arranque	Käynnistyskytkin
S4	Belastingsknapp	Διακοπής φόρτισης	Contactor de carga	Kuormituskytkin
S5	Afbryderlede, motorolietyk	Διακοπής διακοπής λειτουργίας, πίεση λαδιού κινητήρα	Contactor de paragem, pressão de óleo do motor	Moottorin öljypaineavahti
S7	Afbryderlede for lavtryk-kompressorelementets temperatur	Διακοπής διακοπής, στοιχείο θερμοκρασίας χαμηλής πίεσης συμπιεστή	Contactor de paragem, temperat. do elemento de baixa pressão do compr.	Kompressorin alipaineosan lämpötilavahti
S10	Trykafbryder, luftfilter	Διακοπής πίεσης φίλτρου αέρα	Contactor de pressão do filtro de ar	Ilmansuodattimen painekytkin
S14	Afbryderlede, motorens kølevandstemperatur	Διακοπής διακοπής, θερμοκρασίας ψυκτικού κινητήρα	Contactor de paragem, temperatura do líquido de arrefecimento do motor	Moottorin jäähdytysnesteen lämpötilavahti
S18	Trykafbryder, startbrykktelse	Διακοπής πίεσης απορροφής εκκίνησης	Contactor de pressão, inibição de arranque	Käynnistyskeskeston painekytkin
S20	Nødsopknapp	Διακοπής διακοπής έκτακτης ανάγκης	Contactor de paragem de emergência	Hätäpysäytyskytkin
S37:1	Afbryderlede, for lavt brændstofniiveau	Διακοπής διακοπής, χαμηλή στάθμη καυσίμου	Contactor de paragem, nível baixo de combustível	Alhaisen polttoainemäärän vahti
S37:2	Advansrelæ, for lavt brændstofniiveau	Διακοπής προειδοποίησης, χαμηλή στάθμη καυσίμου	Contactor de alarme, nível baixo de combustível	Alhaisen polttoainemäärän varoituskytkin
X1	Hankobling til styreenhed X1:1 ... X1:10	Αρσενική μονάδα ελέγχου συζευκτήρα X1:1...X1:10	Ficha macho da unidade de comando X1:1...X1:10	Ohjainlaitteen urosliitin X1:1...X1:10
X2	Hankobling til styreenhed X2:11 ... X2:20	Θηλυκή μονάδα ελέγχου συζευκτήρα X1:11...X1:20	Ficha fêmea da unidade de comando X2:11...X2:20	Ohjainlaitteen naarsliitin X2:11...X2:20
X3,4	I2-faset kontaktklemme	12-πολικός σύνδεσμος	Ligação em 12 polos	I2-napainen liitin
X5	Forbindelsesklemme, motorbrændstofmåler	Συζευκτήρας, μετρητής ελέγχου στάθμης καυσίμου	Ficha, indicador de nível de combustível	Moottorin polttoainemittarin liitin
X6	Forbindelsesklemme, manometer for motorolietyk	Συζευκτήρας, μετρητής ελέγχου πίεσης λαδιού κινητήρα	Ficha, manômetro de óleo do motor	Moottorin öljypaineittarin liitin
X7	Forbindelsesklemme, temperaturmåler for motorølevæske	Συζευκτήρας, μετρητής ελέγχου θερμοκρασίας ψυκτικού κινητήρα	Ficha, termômetro do líquido de arrefecimento do motor	Moottorin jäähdytysnesteen lämpömittarin liitin
X8	Forbindelsesklemme, timetæller	Συζευκτήρας, ωρομετρητής	Ficha, contador de horas	Käyttötuntimittarin liitin
X9/10/11	En-polede forbindelsesklemmer, takometer	Μονοπολικό συζευκτήρας, ταχύμετρο	Fichas unipolares, taquímetro	Kierroslukumittarin yksinapaliitimet
X12	Forbindelsesklemme, afbryder for kølevæsketemperatur	Συζευκτήρας, διακοπής θερμοκρασίας ψυκτικού	Ficha, contactor de temperatura do líquido de arrefecimento	Jäähdytysnesteen lämpötilakytkimen liitin
X13	Forbindelsesklemme, afbryder for brændstofmængde	Συζευκτήρας, διακοπής στάθμης καυσίμου	Ficha, contactor de nível de combustível	Polttoainemäärän kytkimen liitin
X14	Forbindelsesklemme, motorølevæskeniiveau	Συζευκτήρας στάθμης ψυκτικού κινητήρα	Ficha, nível do líquido de arrefecimento do motor	Moottorin jäähdytysnestemäärän liitin
X15	Forbindelsesklemme, luftfilterets trykafbryder	Συζευκτήρας, διακοπής πίεσης φίλτρου αέρα	Ficha, contactor de pressão do filtro de ar	Ilmansuodattimen painekytkimen liitin
X16	Forbindelsesklemme, magnetventil for brændstofstop	Συζευκτήρας ηλεκτρομαγνητικής βαλβίδας διακοπής καυσίμου	Válvula electromagnética de paragem da ligação de combustível	Liitin, magneettiventiliili, polttoaineen syötön katkaisu
Y1	Brændstofstop magnetventil	Ηλεκτρομαγνητική βαλβίδα διακοπής καυσίμου	Válvula electromagnética de corte de combustível	Polttoaineen syötön katkaisun magneettiventiliili
Y3	Magnetventil for ekstra brændstof, kun til OM 441-442 LA-motoren	Επιπλέον καύσιμο για ηλεκτρομαγνητική βαλβίδα μόνο για κινητήρες OM441-442 LA	Válvula electromagnética de combustível extra, só para motores OM 441-442 LA	Magneettiventiliili-lisäpolttoaine, vain OM 441-442 LA -moottoreille
Y4	Belastingsmagnetventil	Ηλεκτρομαγνητική βαλβίδα φόρτισης	Válvula electromagnética para carga	Kuormituksen magneettiventiliili

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**XAHS365 Md**