TOOSA

SCREW AIR COMPRESSOR



User Manual

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Important: Please read all these instructions before operating this product and save these instructions. This manual has been compiled by and is an integrated part of the product with which it's enclosed and should be kept with it for the future reference.

This manual describes the purpose for which the product has been designed and contains all the necessary information to ensure its correct and safe use. We recommend that this manual is read before any operation or, before performing any kind of adjustment to the product and prior to any maintenance tasks. By following all the general safety instructions contained in this manual you will help to ensure operator safety and extend the potential life span of the equipment. All photographs and drawings in this manual are supplied to help illustrate the operation of the product. Whilst every effort has been made to ensure accuracy of information contained in this manual our policy of continuous improvement determines the right to make modifications without prior warning.

NOTE: The information contained in this Instruction Manual is designed to assist you in the safe operation and maintenance of the compressor Some illustrations in this Instruction Manual may show details or attachments that differ from those on your own compressor. Contact your nearest Dealer if you are unsure about any information included in this manual or require any additional information about the safe use, operation maintenance, or repair of this equipment.

INTRODUCTION

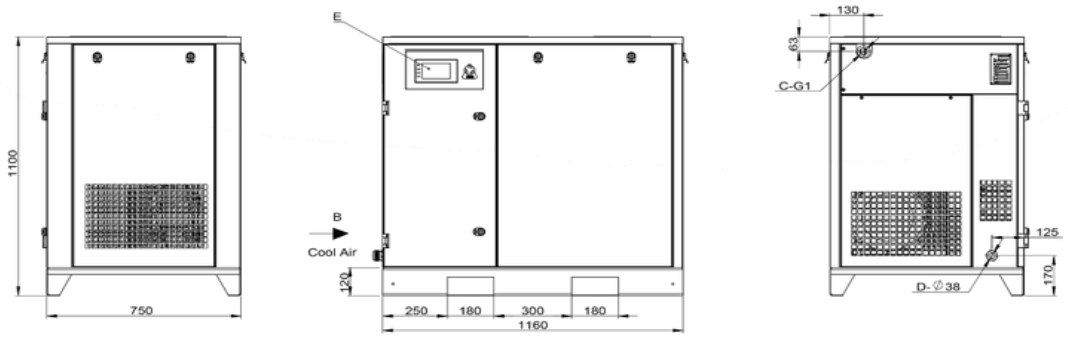
- Direct-driven rotary screw compressor designed for high-capacity continuous, industrial use
- Fitted with an efficient heavy duty three-phase electric motor
- Fixed speed or variable speed running modes
- High capacity screw air end
- Quiet running performance, ideal for environments requiring low noise emissions
- Powder-coated solid steel cabinet housing with foam noise insulation barriers
- Advanced controller system
- Welded tank fully-compliant with the latest European manufacturing & safety standards

SPECIFICATIONS

Compressor	Unit	3HP	5.5HP	10HP	20HP	30HP
Working Pressure	bar	8/10	8/10	8/10/12	8/10/12	8/10/12
Motor Power	KW	2,2	4,0	7,5	15	22
Transmission Type	-	Direct	Direct	Direct	Direct	Direct
F.A.D	m3/min	0.32/0.3	0.6/0.56	1.1/1.0/0.8	2.4/1.8/1.5	3.4/3.2/2.8
Motor Speed	rpm	2850	2890	2900	2930	2930
Oil Capacity	Liters	3	3	4.5	5.5	7.5
Voltage	V/Ph/Hz	230/1/50	400/3/50	400/3/50	400/3/50	400/3/50
Efficiency	-	85.9%	88.1%	90.1%	91.9%	92.7%
Noise Level	dB(A)	58±3	58±3	62±3	65±3	66±3
Weight	Kg	120	150	240	330	370

Drawing of Compressors

15/20HP Screw air compressor



UNPACKING & POSITIONING

PLEASE NOTE THE FOLLOWING PHOTOGRAPHS & INSTRUCTIONS ARE FOR REFERENCE ONLY AND MAY DIFFER FOR YOUR COMPRESSOR MODEL. PLEASE CONTACT YOUR DEALER IF YOU NEED ANY ADVICE ON THE ASSEMBLY PROCEDURE.

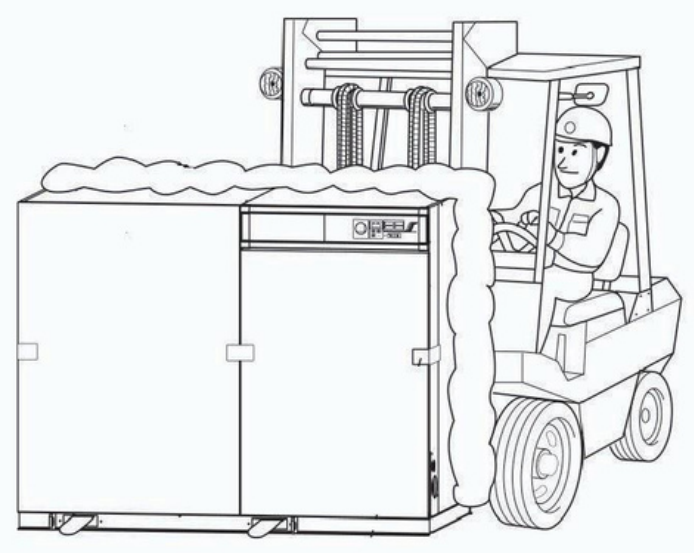
- Check the outer packing for any signs of damage that may have occurred in transit
- Unpack the compressor (paying attention to any instruction on the packaging itself)
- Check the equipment for damage. Do not use the equipment if damage is detected. If in doubt, contact your dealer for advice.
- Open the hatches and visually check the internal parts.
- Store the packing (at least for the warranty period).

Lifting And Moving The Machine

Lift the equipment using a forklift truck. After removing the packing materials, check to ensure the product is in perfect condition and that there are no damaged parts from transit. If your compressor is supplied with anti-vibration mounts ensure that they are fitted correctly as required.

Positioning

Position the compressor on a flat surface in a well aired place, protected against atmospheric agents and not a a place subject to explosion hazard.
The compressor should be installed in a dust free and well-ventillated working environment that adheres to your local Health and Safety and workplace standards. The ideal environmental temperature should be between 5°C & 45°C



SAFETY GUIDELINES



Read and ensure that you understand all of the operating instructions, safety precautions and warnings in this Instruction Manual before operating or maintaining this compressor. Most accidents that result from compressor operation and maintenance are caused by the failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing a potentially hazardous situation before it occurs, and by observing appropriate safety procedures. Hazards that must be avoided to prevent bodily injury or machine damge are identified by warnings on the compressor and in this Instruction Manual. Never use this compressor or modify it in any way that has not been specifically recommended by the manufacturer. Contact a qualified electrician for advice on any issues relating to electrical safety in your working environment.

Electrical Safety



Ensure that you check the equipment thoroughly to ensure it is safe and fit for purpose before each use. It is important that you inspect all plags, sockets, power cables and electrical fittings for wear and damage and repair or replace any defective components. The risk of electric shock can be minimised by the correct use of the appropriate electrical safety devices.



For products that require a connection of a 230/400V supply you should contact a qualified electrician to ensure that a suitable rated supply is available. We recommend that you discuss the installation of an industrial round pin plug and socket with your electrician based on the compressor specifications.

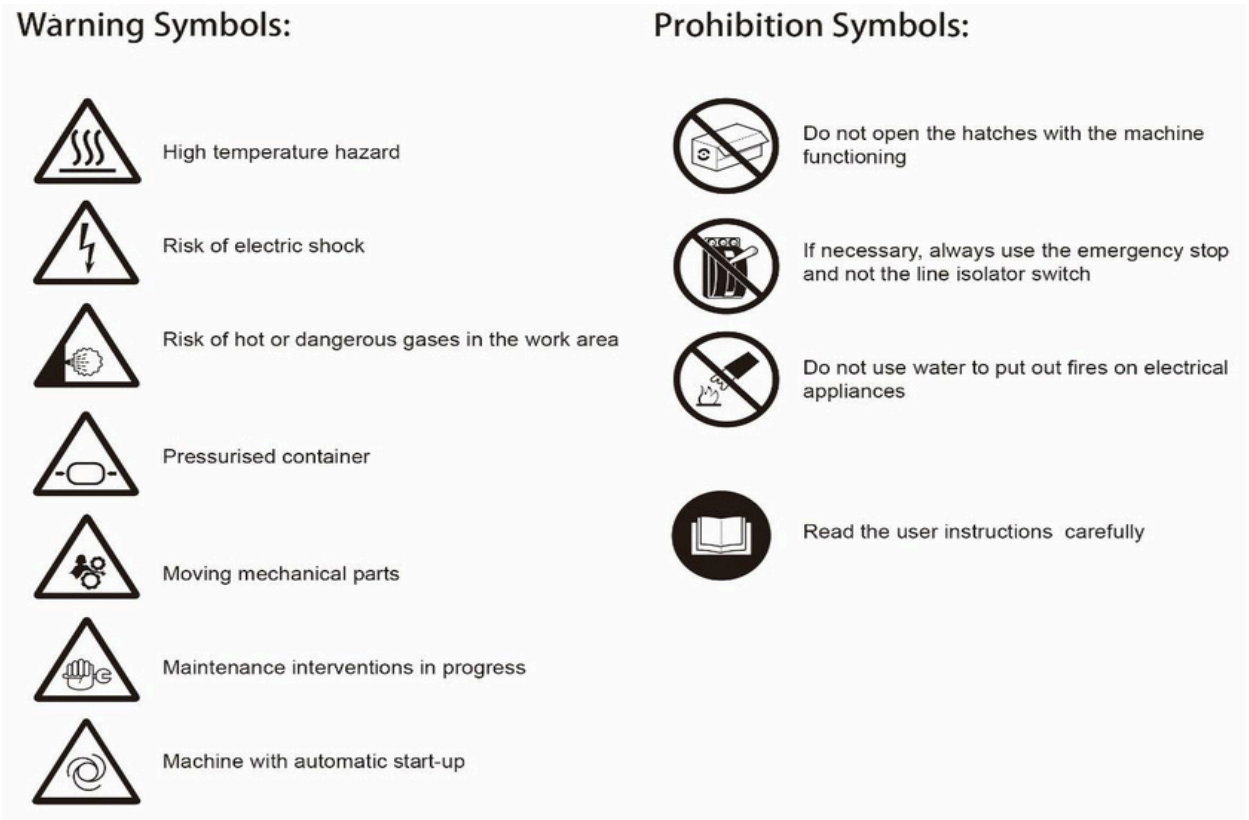
- We recommend that you fit a Residual Current Circuit Breaker (RCCB) in the main distribution board and that a Residual Current Device (RCD) is used when operating this equipment.
- The Electricity at Work Act 1989 includes legislation that places legal implications on employers to ensure the safety of electrical devices in the workplace. The regulations dictate that all portable equipment must be inspected regularly and tested to ensure that it is safe for use. Portable equipment' means any electrical item that can be moved and this is often referred to as Portable Appliance Testing (PAT) . PAT testing should be carried out regularly on this equipment by trained, authorised personnel, as required by the legislation.
- The Health and Safety at Work Act 1974 states that it is the responsibility of the owner of electrical appliances to ensure that both the equipment and working environments are maintained to ensure safe operation at all times.
- Check that all equipment cables are secure, correctly insulated, free from damage, and protected against short circuit and overload before connecting to the power supply. Do not use worn or damaged cables, plugs, sockets or other fittings
- Ensure the power cables are kept away from heat, oil and sharp edges.
- Ensure that the power supply matches voltage requirements specified on the equipment before use. Check with your electrician.
- We recommend that the equipment is connected directly to the power supply without the use of extension leads as the resulting voltage drop can reduce motor performance.
- Always disconnect the compressor from the power source and remove the compressed air from the air tank before servicing, inspecting, maintaining, cleaning, replacing or checking any parts.
- Do not use the compressor in damp / wet conditions.
- IMPORTANT: During electrical installation please ensure that the motor is wired to turn in the direction indicated on the air end.

Equipment Safety

- Never place your hands, fingers or other body parts near the compressor's moving parts during operation. Ensure that the equipment is isolated from the power supply and all switches in the OFF position before carrying out maintenance, repairs or adjustments.
- Never operate this compressor without all guards or safety features in place and in proper working order. If maintenance or servicing requires he removal of a guard or safety features, be sure to replace the guards or safety features before resuming operation of the compressor.
- Always wear safety goggles or equivalent eye protection. Compressed air must never be aimed at anyone or any part of the body.
- When not in use, the compressor should be stored in dry place. Keep out of reach of children. Keep children and animals away from the work area.
- Clear all work areas of unnecessary tools, debris, furniture etc. prior to use. Cluttered work areas can lead to injuries.
- Do not wear loose clothing or jewellery when operating this equipment. They can be caught in moving parts. Wear protective hair covering to contain long hair.
- Follow instructions for lubricating this equipment as required.
- Watch what you are doing and remove any potential distractions before use. Use common sense at all times.
- Do not operate this equipment when you are tired or if you are under the inluence of aicohol, druas or medication that makes you drowsy.
- Check for the correct alignment of moving parts, binding of moving parts, condition of parts, mounting, and air leaks, and any other issues that might affect the safe operation of this equipment. A guard or other part that is damaged should be properly repaired or replaced by an authorized service centre unless otherwise indicated elsewhere in this instruction manual. Have defective pressure switches replaced by an authorized service centre. Do not use compressor if the switch does not turn it on and off.
- Operate the compressor according to the instructions provided in this manual. Never allow the compressor to be operated by children, individuals unfamiliar with its operation or unauthorized personnel.
- Keep all screws, bolts, and plates tightly mounted. Check regularly.
- The motor air vent must be kept clean so that air can freely fow at all times. Check for dust build-up frequently and clean as required.
- If the equipment appears to be operating unusually, making strange noises, or otherwise appears defective, stop using it immediately and arrange for repairs by a authorized service centre.
- Solvents such as petrol, thinner, benzine, carbon tetrachloride, and alcohol may damage and crack plastic parts. Do not wipe them with such solvents. Wipe plastic parts with a soft cloth lightly dampened with soapy water and dry thoroughly.
- Only use approved replacement parts. Non-approved parts will void your warranty and can lead to malfunction and resulting injuries. Genuine parts are available from your dealer.
- Do not modify the compressor for any use other than which it was designed for by the manufacturer. Do not tamper with or attempt to adjust the tank, pressure switch or safety valve. Never strap anything to the tank. Do not subject the tank to impact, vibration, heat, abrasion or corrosive materials.
- Always contact an authorized service centre for advice on any repairs. Unauthorized modification may not only impair the compressor performance but may also result in accident or injury to repair personnel who do not have required knowledge and technical expertise to perform the repair operations correctly.

- When the compressor is not in use, ensure the pressure switch is turned off, disconnect the equipment from the power source and open the drain cock to discharge the compressed air from the air tank.
- To reduce the risk of burns, do not touch tubes, heads, cylinder and motors. During or immediately after use. Allow equipment to cool down before carrying out maintenance, repairs or adjustments.
- Never direct the output jet of air at persons or animals. Ensure air supply valve is turned OFF before disconnecting the air supply hose.
- Read the all safety instructions for any tool or accessory used with the compressor and ensure the safe working pressure of any appliance used exceeds the output pressure of the compressor. If you are using a spray guy it is important to ensure that the work area has sufficient ventilation in place
- Do not operate in vicinity of flammable liquids, gases or solids.
- Do not operate the compressor without an air filter or restrict the air flow around the equipment
- When the compressor is not in use ensure that it is switched off, disconnected from the power supply and the air and moisture drained from the tank.

WARNING LABELS



CHECKS BEFORE FIRST USE

Transportation Bolts

Remove all transporation bolts if installed (these are fixed in the factory prior to shipping to reduce the risk of vibration damage during transit.)



Visual Equipment Inspection

Check the equipment, cables, connections, hoses and all equipment parts for any signs of damage or fault prior to use. If you detect any damage contact your nearest Dealer for advice.

Important: Do not run the compressor if any damage or faults are detected before use.

Check Oil Level

Before using the compressor check the oil level using the inspection glass. If the oil is not between the MIN and MAX marks it should be topped up with a suitable screw compressor oil (semi-synthetic Shell Corena S3R46 or above) contact your nearest dealer for advice if required before filling.

Check Power Supply Is Correct For This Compressor

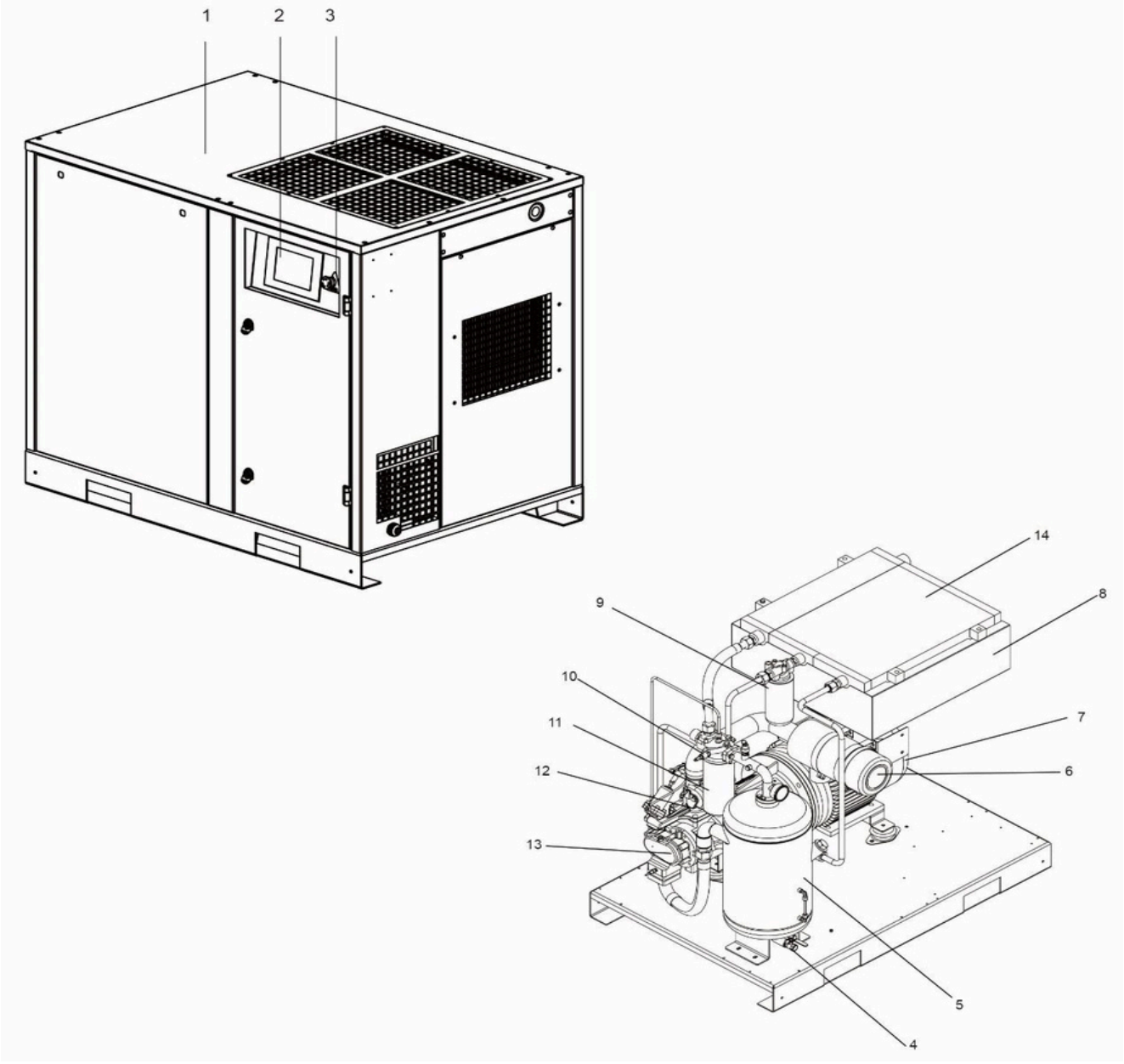
It is essential that the air compressor has an adequate power supply. The correct voltage and supply ratings are shown on the label. Always check with a qualified electrician for advice on how to correctly install and test this equipment.

Always utilize more air hose before choosing to use an extension lead, as low voltage could cause damage to the motor. (Low voltage damage is not covered under warranty)

Read and understand all the electrical safety guidelines laid out in this manual, follow all applicable local authority safety guidelines.

EQUIPMENT IDENTIFICATION

1.Housing & Assembly	6.Air Filter	11.Air/Oil Separator
2.Control Panel	7. Motor	12.Intake Valve
3.Emergency Stop	8. Fan	13.Air End
4.Drain Valve	9.Oil Filter	14. Cooler
5.Air/Oil Separator Tank	10.Safety Valve	



TROUBLESHOOTING

FAULT:	Motor stops due to circuit breaker relay intervention.
CAUSE:	1.Supply voltage is incorrect. 2. Supply voltage is incorrect.
REMEDY:	1.Check / correct the voltage, press Reset button to restart. 2.Check motor absorption and check relay calibration. If absorption is normal press Reset and re-start.

FAULT:	High oil consumption.
CAUSE:	1.Faulty drainage 2. Oil level too high. 3. Oil separator broken. 4. Faulty seal on the oil separator nipple
REMEDY:	1.Check the oil drainage pipe and the non-return valve 2. Check the oil level and discharge if necessary 3.Replace the oil separator 4. Replace the oil-separator nipple seal.

FAULT:	Oil leak from suction filter.
CAUSE:	1.Suction adjuster does not close properly.
REMEDY:	1.Check the adjuster and the electrovalve

FAULT:	Safety valve opens continually
CAUSE:	1.Pressure too high 2. The suction adjuster does not close at cycle end. 3. Oil separator blocked
REMEDY:	1.Check pressure transducer & calibration 2. Check adjuster and electrovalve 3.Check the difference between the line pressure and the oil separator tank, replace oil separator if necessary.

FAULT:	The compressor is running but does not compress air.
CAUSE:	1.The adjuster is closed, it does not open because it is dirty or has no command.
REMEDY:	1.Remove the suction filter and check if adjuster opens manually. If necessary, disassemble and clean. 2.Check the presence of the signal between the pressure gauge and solenoid valve. Replace damaged parts.

FAULT:	Compressor overheating.
CAUSE:	1.Environmental temperature is too high. 2. Radiator is blocked. 3. Oil level is too low. 4. The solenoid valve does not start-up.
REMEDY:	1.Increase ventilation. 2. Clean the radiator using solvent. 3. Add oil. 4. Check the command relay and fan motor.

FAULT:	The compressor continues to compress air above the maximum pressure.
CAUSE:	1.The adjuster is open, it does not close because it is dirty or has no command. 2. Faulty pressure transducer.
REMEDY:	1.Disassemble and replace the adjuster Check the presence of the signal between the pressuregauge and electrovalve. Replace any damaged parts. 2. Replace the transducer.

FAULT:	Oil located in the cabinet / housing.
CAUSE:	1.Leaking pipes / loose connections. 2. Leak from the screw unit front flange.
REMEDY:	1.Check pipes and tighten connections as required. 2. Replace the sealing rings.

FAULT:	Tank pressure drops continually.
CAUSE:	Air leak, check all connections.
REMEDY:	Locate and rectify leak. Run the compressor at maximum pressure then switch off and disconnect. Brush a soapy water solution over the connections and look for bubbles. Tighten any connections showing leaks. If problem persists contact your authorised service agent.

FAULT:	Tank pressure won't build up or performance is reduced.
CAUSE:	1.The drain valve is open. 2. Air filter dirty or blocked.
REMEDY:	1.Close the tank drain valve. 2. Clean or replace the filter.

FAULT:	The compressor won't switch off.
CAUSE:	Pressure switch fails to stop motor. Faulty pressure switch.
REMEDY:	Contact your authorised service agent.

FAULT:	Tank pressure won't build up.
CAUSE:	The compressor head gasket or valve plate is faulty.
REMEDY:	Contact your authorised service agent.

FAULT:	There is a leak from the base of the pressure switch when the compressor is running.
CAUSE:	Failure of the pressure relief valve. (Located in the base of pressure switch).
REMEDY:	Contact your authorised service agent.

FAULT:	There is a leak from the base of the pressure switch when the compressor is stopped.
CAUSE:	The non-return valve (from the tank) is leaking.
REMEDY:	Disassemble and clean, if necessary replace valve insert. Contact your authorised service agent.

FAULT:	The compressor is noisy with metallic clangs /knocks.
CAUSE:	1.Bearing problem. 2. Low oil level.
REMEDY:	1.Stop the compressor and contact a specialized service technician. 2. Top up with oil.

FAULT:	The compressor sounds like it is trying to start (motor makes a humming noise).
CAUSE:	Faulty capictor or fault within the electric motor.
REMEDY:	Stop the compressor and contact a specialized service technician.

FAULT:	Overload switch activated.
CAUSE:	1.Startup load may have activated overload switch. 2. Head unloader not functioning. 3. Extension lead is too long (if in use).
REMEDY:	1.Leave for a few minutes then press the reset button and restart. 2. Stop the compressor and contact a specialized service technician. 3.Remove the extension lead and test compressor by connecting the compressor as close to the main fuse box as possible.

FAULT:	Air leaks from the safety valve at pressures less than 10 bar
CAUSE:	The safety valve is faulty.
REMEDY:	Replace the safety valve.

FAULT:	Compressor stops and will not restart.
CAUSE:	1.Power failure. 2. Motor failure.
REMEDY:	1.Check electrical supply and fuse. 2. Contact your authorised service agent.

Installation

Position the compressor in a stable manner on a level surface, making sure that you leave at least 50cm free between the equipment and any walls or other surfaces to allow sufficient air flow for the ventilation system.

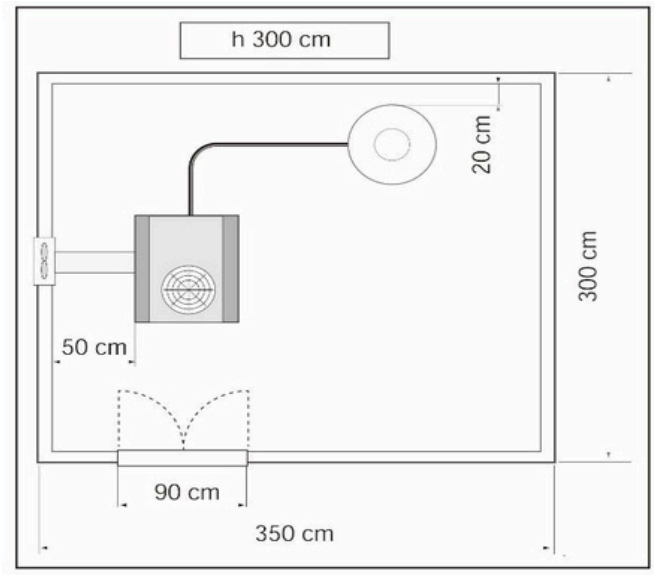
Position the air tank and connect the compressor and tank using the flexible pipe supplied. The flexible pipe helps to prevent the transmission of vibration produced by the compressor to the air distribution line.

Important: Hot (exhaust) air escapes from the top of the compressor at a temperature of about 15-35°C higher than the environmental temperature.

It is essential to ensure sufficient ventilation within the working enviroment to accommodate the exhaust air.

If necessary during the summer months

you can fit an additional exhaust pipe with section more or less equal to the radiator, together with a fan to extract the hot air outside of the working environment to ensure a safe working temperature.



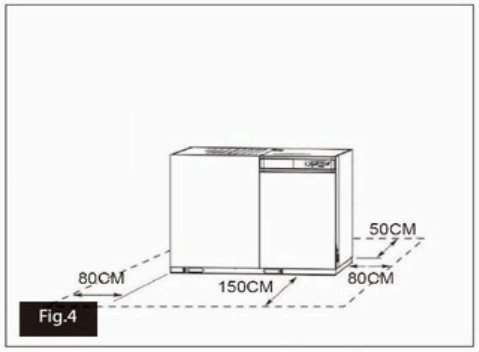
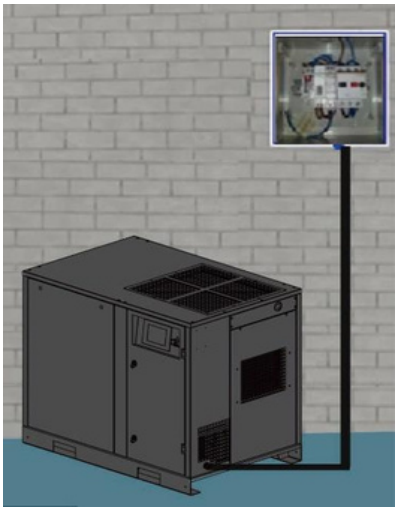


Fig.4

The electrical installation must be designed and realized by skilled professional electricians who have to take care and guarantee for it. The indications written in this guide are general suggestions only, which must beverified and confirmed case by case by the designer of the electrical system and/or the skilled professional electriciams



It is strictly necessary to install an automatic circuit breaker switch between the main cable and the compressor control panel :

- Located at least at 1.7m from the ground
- Easily reachable by the operator
- Cables should be of the approved type and installed with minimum protection degree: IP44
- Main cable should have a cross-section suitable for the machine power and should include no.3 phase wires and no.1 earth wire.

MAINTENANCE

Before attempting any maintenance jobs on the compressor, make sure of the following:

1. The master power switch is tuned off and equipment is isolated from the main supply.
2. Pressure switch or the control unit switches are all in the OFF position.
3. All pressure has been removed from the air tank.

Procedure	Hours of Service
Check oil level and top-up if necessary	100
Clean suction filter	500
Check blockage and cleaning of the radiator	1000
Complete oil replacement (Shell Corena S3 R 46/ISO 46)	4000 (or at least once a year)
Oil filter replacement (Mann-Filter WD742/6)	1000
Air filter replacement (TND165080-02)	1000
Oil-separator filter replacement (LB 962/2)	2500
Discharge condensation	At least once a month (depending on usage)
Check minimum pressure valve	12000

Please note: Maintenance intervals are strongly influenced by enviromental conditions and working conditions of the compressor. Contact your Dealer for any additional information or advice on the maintenance schedule for the equipment (**service password：1988**).

ENVIRONMENTAL PROTECTION



Recycle any packaging and unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment.

When the product becomes completely unserviceable, reaches the end of its working life and requires disposal, drain off any fluids (if applicable) into approved containers and dispose of the product and the fluids according to local regulations.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT STATEMENT



Information on Disposal for Users of Waste Electrical & Electronic Equipment

This symbol on the product(s) and / or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take this product(s) to designated collection points where it will be accepted free of charge.

For private households:

Dispose of this product at the end of its working life and in compliance with the EU Directive on Waste Electrical and Electronic Equipment (WEEE). Contact your local solid waste authority for recycling information for this equipment.

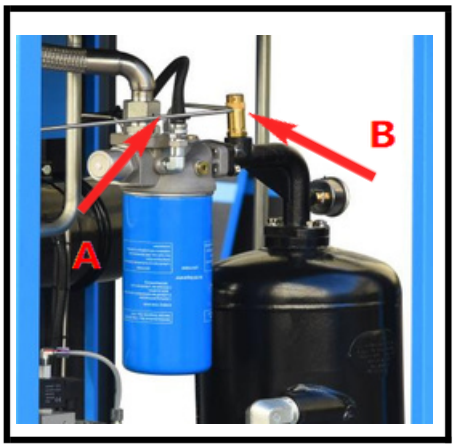
Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling.

Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with you national legislation.

Breakdown Alarms

There are a number of different alarm settings (varying in severity) which will alert the user to operating issues with the compressor and instructions will be shown on the digital display how to resolve them.

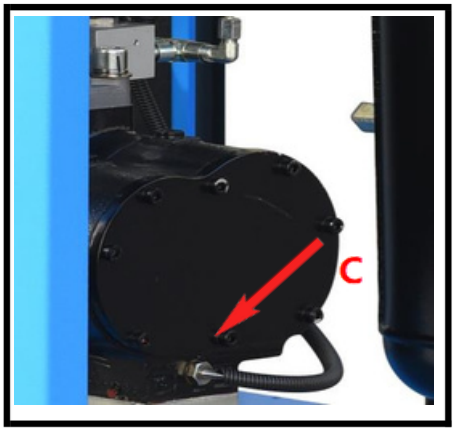


Safety Devices and Controls

A: Pressure transducer: adjusts the START and STOP pressure

B: Safety valve: opens the air discharge at the safety value.

C: Maximum temperature probe: stops the motor when +110°C is exceeded



Startup Procedure

When starting the compressor for the first time follow the procedure listed below:

1. Check and confirmed that the compressor has been correctly installed and is free from damage.

2.Check the power supply to the air compressor control panel. If the power supply phase is incorrect, the LCD will show "power supply phase sequence error" information. Check with your electrician or contact dealer for advice.

3. Rotation confirmation: Press the "START" button ,and press the " Emergency Stop Button " immediately to confirm that the rotation direction is correct.
If not correct, swap two of the power phase wires

4.START: press the "START" button to run the machine if setup is correct.

Shutdown Procedure

Stop: please press the "STOP " button, the air compressor will stop automatically.

Emergency button:

If there is any abnormal sound, vibration and leakage, please press the "emergency stop button" to stop the repair immediately