Preserve this handbook for future reference

Before using the compressor, read the instructions for use carefully and comply with the following safety precautions. Consult this handbook if you have any doubts regarding functioning.

Preserve all the documentation so that anyone who uses the compressor can consult this beforehand.

1 SAFETY PRECAUTIONS

The ACOUSTIC PRESSURE's value measured at 4 m in free field corresponds to the ACOUSTIC POWER's value stated on the yellow label located on the compressor, minus 20 dB.

Only for model "BDV 580/270-5,5": this compressor is not suitable for outdoor use.

⚠ BEFORE USE

- **The compressor must be used in a suitable environment (well ventilated with an ambient temperature of between +5°C and +40°C) and never in places affected by dust, acids, vapors, explosive or flammable gases.**
- Always maintain a safety distance of at least 4 meters between the compressor and the work area.
- Any coloring of the belt guards of the compressor during painting operations indicates that the distance is too short.
- Insert the plug of the electric cable in a socket of suitable shape, voltage and frequency complying with current regulations.
- For 3-phase versions, have the plug fitted by a qualified electrician according to local regulations. When starting the compressor for the first time, check the correct direction of rotation and that this matches the direction indicated by the arrow on the belt guard (versions with plastic protection) or on the motor (versions with metal protection).
- Use extension cables with a maximum length of 5 meters and of suitable cross-section.
- The use of extension cables of different length and also of adapters and multiple sockets should be avoided.
- Always use the switch of the pressure switch to switch off the compressor or use the switch of the electric panel for models equipped with this. Never switch off the compressor by pulling out the plug in order to avoid restart with pressure in the head.
- Always use the handle to move the compressor.
- When operating, the compressor must be placed on a stable, horizontal surface to guarantee correct lubrication.
- Position the compressor at least 50 cm from the wall to permit optimal circulation of fresh air and to guarantee correct cooling.

⚠ GENERAL SAFETY INSTRUCTIONS

- Never direct the jet of air towards persons, animals or your body. (Always wear safety goggles to protect your eyes from flying objects that may be lifted by the jet).
- Never direct the jet of liquids sprayed by tools connected to the compressor towards the compressor.
- Never use the appliance in your bare feet or with wet hands or feet.
- Never pull the power cable to pull the plug out of the socket or to move the compressor.
- Never leave the appliance exposed to adverse weather conditions (rain, sun, fog, snow).
- Never transport the compressor with the reservoir pressurized
- Never weld or machine the reservoir. In the case of faults or corrosion, replace it completely.
- Never allow inexpert persons to use the compressor. Keep children and animals away from the work area.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- Never position flammable or nylon or fabric articles close to and/or on the compressor.
- Never clean the compressor with flammable liquids or solvents. Clean with a damp cloth only, after making sure that you have unplugged the compressor.
- The compressor is designed only to compress air and must not be used for any other type of gas.
- The compressed air produced by the compressor cannot not be used for pharmaceutical, food or hospital purposes except after particular treatments. It is not suitable for filling the air bottles of scuba divers.
- Never use the compressor without guards (belt guard) and never touch moving parts.

⚠ OPERATION

- **To avoid overheating of the electric motor, this compressor is designed for intermittent operation as indicated on the dataplate** (for example, S3-50 means 5 minutes ON and 5 minutes OFF). In the case of overheating, the thermal cutout of the motor trips, automatically cutting off the power when the temperature is too high due to excess current take-off.
- **To facilitate machine restart, it is important not only to carry out the operations indicated but also to set the button of the pressure switch, returning this to the OFF position and then ON again (figures 1a-1b).**
- On single-phase versions, press the reset button on the terminal box of the motor (**fig. 2**).
- On 3-phase versions, operate manually on the button of the pressure switch, returning this to the ON position (**figure 3**).
- The single-phase versions are fitted with a pressure switch equipped with a delayed closing air vent valve (or with a valve located on the check valve) that facilitates motor start-up; therefore a few-second jet of air from this, with the reservoir empty, is to be considered normal.
- To guarantee machine safety, all the compressors are fitted with a safety valve that is activated in the case of failure of the pressure switch (**fig. 4a-4b-4c**).
- The red notch on the pressure gauge refers to the maximum operating pressure of the tank. It does not refer to the adjusted pressure.
- When connecting an air-powered tool to a hose of compressed air supplied by the compressor, interruption of the flow of air from the hose is compulsory.
- Use of the compressed air for the various purposes envisaged (inflation, air-powered tools, painting, washing with water-based detergents only, etc.) requires knowledge of and compliance with the rules established for each individual use.

2 ASSEMBLY

⚠ **You must fully assemble the appliance before using it for the first time.**

Fitting the wheels

Fit the supplied wheels as shown in **figures 16** and **17**.

Fitting the supporting foot

Fit the supplied rubber stopper as shown in **figure 18**.

Fitting the coupling for tank pressure

Screw the coupling for unregulated tank pressure to the pressure vessel as shown in **figures 19** and **20**.

Fitting the transport handle

Screw the transport handle to the compressor as shown in **figures 21** and **22**.

3 VOLTAGE

Single-phase version 230 V / 50 Hz

The compressor is equipped with a mains cable with shock-proof plug. This can be connected to any 230V ~ 50Hz shock-proof socket which is protected by a 16 A fuse. Before you use the machine, make sure that the mains voltage complies with the specifications on the rating plate. Long supply cables, extensions, cable reels etc. cause a drop in voltage and can impede motor start-up. In the case of low temperatures below +5°C, motor start-up is jeopardized as a result of stiffness.

Connection of the mains plug (electrical information for the BS plug)

⚠ ***Important!***

The wires in the mains lead fitted to this product are coloured in accordance with the code shown in **fig. 23**.

- **This product is double insulated and therefore does not require a connection to earth.**
- **The 3 pin plug must comply to BS1363/A.**
- **Fuse must comply to BS1362.**

If for any reason the 13 amp plug fitted to this product requires replacement it must be wired in accordance with the following instruction:

Do not connect the brown (live) or blue (neutral) to the earth pin marked 'E' ⏚ on the 3 pin plug.

Connect the Blue wire to the terminal marked Neutral (N). Connect the Brown wire to the terminal marked Live (L). Ensure that the outer insulation is gripped by the cord grip and that the wires are not trapped when replacing the plug cover. The mains lead on this product is fitted with a 13 amp (BS1363/A) plug. A 13 amp (BS1362) fuse must be fitted in the plug.

If in doubt consult a qualified electrician

There are no user serviceable parts inside this product except those referred to in the manual. Always refer servicing to qualified service personnel. Never remove any part of the casing unless qualified to do so; this unit contains dangerous voltages.

⚠ ***Warning!***

For your protection if this product is to be used outdoors it should not be exposed to rain or used in damp locations. Do not place the product on damp surfaces, use a workbench if available. For added protection use a suitable residual current device (R.C.D.) at the socket outlet.

Note: If the mains cable requires replacing it must be replaced with an identical one and fitted by a qualified person.

3-phase version 400 V / 50 Hz

- The compressor is equipped with a mains cable with a 16A CEE plug. This plug has a phase converter . Before you put the equipment into operation, check whether the motor rotates in the correct direction (see the direction arrow on the V-belt cover) by switching on the compressor briefly. If the compressor motor rotates in the wrong direction, you must correct the rotating field by reversing the phase converter in the plug (use a screwdriver to depress the phase converter slightly and turn it through 180°).
- The motor is equipped with an overload switch. If the compressor overloads, the overload switch will switch off the equipment automatically to protect the compressor from overheating. If the overload switch triggers, wait for the compressor to cool down.
- Long supply cables, extensions, cable reels etc. cause a drop in voltage and can impede motor start-up.
- In the case of low temperatures below +5°C, motor start-up is jeopardized as a result of stiffness.

4 START-UP AND USE

- Check that the rating data match the effective characteristics of the system (voltage and power).
- Check for correspondence between the compressor plate data with the actual specifications of the electrical system. A variation of ± 10% with respect of the rated value is allowed.
- Insert the power plug in a suitable socket checking that the button of the pressure switch located on the compressor is in the "O" (OFF) position (**figures 5a-5b-5c**).
- For the 3-phase versions, connect the plug to a panel protected by suitable fuses.
- For the versions fitted with electric panel ("Tandem" control units or delta/star starters) have installation and connections (to the motor, to the pressure switch and to the electrovalve if any) carried out by qualified personnel.
- Check the oil level by means of:
  - The sight glass (**fig. 6a**),
  - Or the oil dipstick (**figures 6c - 6d**).

  And then, if necessary, unscrew the vent plug and top up (with new oil).
- At this point, the compressor is ready for use.
- Operating on the switch of the pressure switch (or the selector for versions with electric panel), (**figures 5a-5b-5c**), the compressor starts, pumping air in the reservoir through the delivery hose.
- On reaching maximum operating pressure (factory-set during testing), the compressor stops, venting the excess air present in the head and in the delivery hose through a valve located under the pressure switch (in delta/star versions, through an electrovalve that is activated when the motor stops).
- The absence of pressure in the head facilitates subsequent restart. When air is used, the compressor restarts automatically when the lower calibration value is reached (approx. 2 bar between upper and lower). The pressure inside the reservoir can be checked on the gauge provided (**figures 4a-4b-4c**).
- The compressor continues to operate automatically with this work cycle until the position of the switch of the pressure switch (or of the selector of the electric panel) (**figures 5a-5b-5c**) is modified. To use the compressor again, wait at least 10 seconds after this has been switched off before restarting.
- In the versions with electric panel, the pressure switch must always be aligned with the **I** (**ON**) position.
- In tandem versions, the control unit provided permits use of only one of the two compressor groups (if necessary alternatively) or of both at the same time according to requirements. In this second case, start-up will be differentiated slightly to avoid excessively high current take-off at start-up (timed starting).
- Only the wheel-mounted compressors are fitted with a pressure reducer (in the versions with fixed feet, it is usually installed on the use line). Air pressure can be regulated in order to optimize use of air-powered tools operating on the knob with the valve open (pulling it up and turning it in a clockwise direction to increase pressure and counterclockwise to reduce this) (**fig. 7**). Once you have set the value required, push the knob down to lock it.
- The value set can be checked on the gauge (for versions equipped with this, **figures 7 - 8**).
- **Please check that the air consumption and the maximum working pressure of the pneumatic tool to be used are compatible with the pressure set on the pressure regulator and with the amount of air supplied by the compressor.**
- When you have finished working, stop the machine, pull out the plug and empty the reservoir.

5 MAINTENANCE

- The service life of the machine depends on maintenance quality.
- **PRIOR TO ANY OPERATION SET THE PRESSURE SWITCH TO THE OFF POSITION, PULL OUT THE PLUG AND COMPLETELY DRAIN THE RESERVOIR.**
- Check that all screws (in particular those of the head of the unit) are tightly drawn up (**figures 9a-9b**). The control must be performed before the first start-up of the compressor and subsequently before the first intensive use in order to restore the correct closing torque value modified as a result of heat expansion.

TABLE 1 – TIGHTENING OF HEAD TENSION RODS

	Nm Min. torque	Nm Max. torque
Screw M6	9	11
Screw M8	22	27
Screw M10	45	55
Screw M12	76	93
Screw M14	121	148

- Clean the suction filter according to the type of environment and in any case at least every 100 hours. If necessary, replace the filter (a clogged filter impairs efficiency while an inefficient filter causes harsher wear on the compressor **(figures 10a - 10b)**.
- Change the oil after the first 100 hours of operation and subsequently every 300 hours. Check the oil level periodically.
- Use **API CC/SC SAE 40**. (For cold climates, **API CC/SC SAE 20** is recommended). Never mix different grade oils. If the oil changes color (whitish = presence of water; dark = overheated), it is good practice to replace the oil immediately.
- After topping up, tighten the plug (**figures 11a - 11b - 11c**) making sure that there are no leaks during use. Once a week, check the oil level to assure lubrication in time (**figures 6a - 6d**).
- Periodically (or after completing work if for more than an hour), drain the condensate that forms inside the reservoir due to the humidity in the air (**fig. 12**) in order to protect the reservoir from rust and so as not to restrict its capacity.
- Periodically, check the tension of the belts which must have a flexion (f) of around 1 cm (**fig. 13**).

TABLE 2 – MAINTENANCE

FUNCTION	AFTER THE FIRST 100 HOURS	EVERY 100 HOURS	EVERY 300 HOURS
Cleaning of intake filter and/or substitution of filtering element		•	
Change of oil*	•		•
Tightening of head tension rods	The check must be carried out prior to the first compressor starting.		
Draining tank condensate	Periodically and at the end of work		
Checking the tension of the belts	Periodically		

* Spent oil and condensate **MUST BE DISPOSED OF** in compliance with protection of the environment and current legislation.

The compressor must be disposed in conformity with the methods provided for by local regulations.

6 POSSIBLE FAULTS AND RELATED PERMITTED REMEDIES

Request the assistance of a qualified electrician for operations on electric components (cables, motor, pressure switch, electric panel, etc).

FAULT	CAUSE	REMEDY
Air leak from the valve of the pressure switch.	Check valve does not perform its function correctly due to wear or dirt on the seal.	Unscrew the hex-shaped head of the check valve, clean the housing and the special rubber disk (replace if worn). Re-assembler and tighten carefully (**figures 14a-14b**).
	Condensate drainage cock open.	Close the Condensate drainage cock.
	Rilsan hose not inserted correctly in pressure switch.	Insert the Rilsan hose correctly inside the pressure switch.
Reduction of efficiency, frequent start-up. Low pressure values.	Excessively high consumption.	Decrease the demand of compressed air.
	Leaks from joints and/or pipes.	Change gaskets.
	Clogging of the suction filter.	Clean/replace the suction filter (**figures 10a-10b**).
	Slipping of the belt.	Check belt tension **(fig. 13).**
The motor and/or the compressor overheat irregularly.	Insufficient ventilation.	Improve ambient conditions.
	Closing of air ducts.	Check and if necessary clean the air filter.
	Insufficient lubrication.	Top up or change oil (**figures 15a-15b-15c**).
After an attempt to start the compressor, it stops due to tripping of the thermal cutout caused by forcing of the motor.	Start-up with head of the compressor charged.	Release the compressor head by using the pressure switch push button.
	Low temperature.	Improve ambient conditions.
	Voltage too low.	Check that the mains voltage matches that of the dataplate. Eliminate any extensions.
After an attempt to start the compressor, it stops due to tripping of the thermal cutout caused by forcing of the motor.	Incorrect or insufficient lubrication.	Check level, top up and if necessary change the oil.
	Inefficient electrovalve.	Call the Service Center.
During operation, the compressor stops for no apparent reason.	Tripping of the thermal cutout of the motor.	Check level oil.
		Single-stage, mono-phase versions: operate on the button of the pressure switch returning this to the OFF position (**fig. 1a**). Reset the thermal cutout (**fig. 2**) and restart (**figure 1b**). If the fault persists, call the Service Center.
		Versions with delta-star starter: operate on the button of the thermal cutout located inside the box of the electric panel and restart. If the fault persists, call the Service Center.
		Other versions: Operate on the button of the pressure switch returning this to the OFF position and then to ON again (**fig. 1a-1b**). If the fault persists, call the Service Center.
	Electric fault.	Call the Service Center.
When operating, the compressor vibrates and the motor emits an irregular buzzing sound. If it stops, it does not restart although the sound of the motor is present.	**Single-phase motors**: faulty capacitor.	Have the capacitor replaced.
	3-phase motors: One of the phases of the 3-phase power supply is missing due probably to blowing of a fuse.	Check the fuses inside the electric panel or the electric box and if necessary replace those that have been damaged.
Irregular presence of oil in the network.	Too much oil inside the unit.	Check oil level.
	Wear on segments.	Call the Service Center.
Leaking of condensate from the vent cock.	Presence of dirt/grit inside the cock.	Clean the cock.

Any other type of operation must be carried out by authorized Service Centers, requesting original parts. Tampering with the machine may impair its safety and in any case make the warranty null and void.

Warranty and repair.

In the event of defective goods or requirements for spare parts, kindly contact the sales point where you made your purchase.