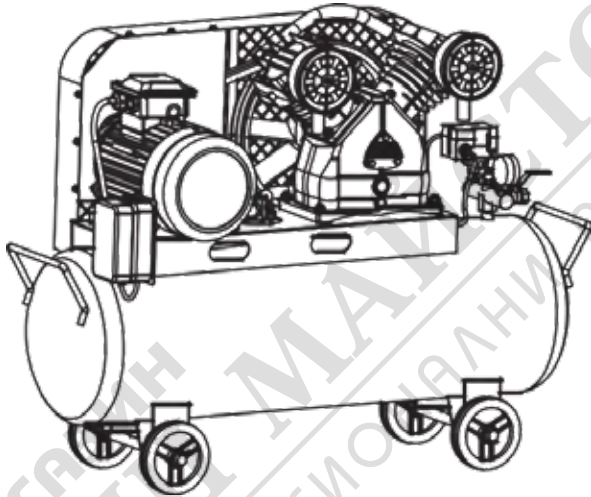




- Manual de utilizare
- User's Guide



Compresor de aer silentios, fara ulei | pg. 7



Oil-free silent air compressor | pg. 17

SV054-105 / SW102-170



Italia Star Com Due S.R.L.

📍 Autostrada Bucuresti-Pitesti, km. 13/2, Loc. Chiajna, IF

☎ 004/021.433.03.27

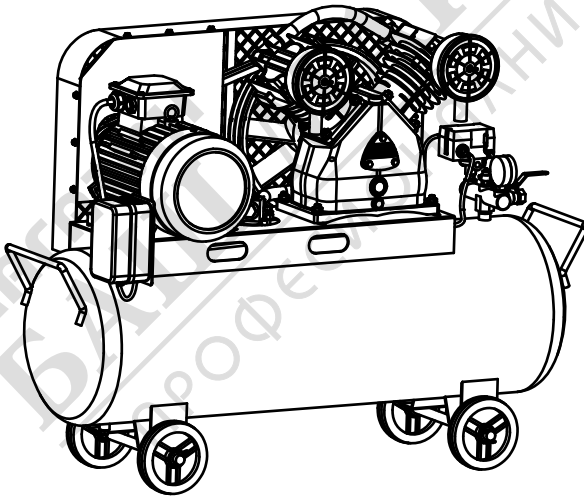
✉ info@italiastar.ro

🌐 www.italiastar.ro



Air Compressor

Operation Instructions



Warning to users: please read this manual carefully and save it carefully before use





To inform the user

1、 This manual describes how to operate the series air compressor produced by the company. Before installing, assembling or starting the unit, it is necessary to read this instruction carefully. Proper operation and maintenance of the unit can only be carried out after fully understanding the structure, functions and operation and maintenance methods of each part of the unit. It is very important to prolong the service life of the machine and keep it in good working condition.

2、 The machine cannot be reversed. The company shall not be jointly and severally liable for any loss caused by improper use of the machine or to the third chapter

3、 This series of products belong to the general mechanical products, there are many imitation products in the society, the company is not responsible for the product quality problems caused by the assembly of the company's pure parts.

4、 Due to the continuous improvement of the product structure, after a certain period of time, the contents described in this manual will be different from the actual products. Users can directly to the company's service station or to the company's technical department for consultation.





Chapter I Preface

First of all, thank you for choosing our air compressor.

In order to ensure the safe and reliable operation of the air compressor and maintain its durability, before use, be sure to read this manual carefully for correct use and maintenance.

Chapter II Overview

2.1 The characteristics of

Series air cooled mobile air compressor (hereinafter referred to as air compressor) is a new type of air supply equipment developed according to different specific climate and environmental conditions and mainly based on practicality. As a general power air source, it has the following remarkable characteristics:

2.1.1 Advanced: adopt the latest high-efficiency compressor mainframe developed and produced by the largest and most technologically advanced compressor manufacturers in China, whose energy efficiency ratio is ahead of that of domestic manufacturers. The air valve structure adopts the tongue spring/ring valve structure, which improves the efficiency of the traditional air valve by 8-10% and saves 20% electricity.

2.1.2 High quality: each host machine is inspected through multiple processes to ensure high precision required in design.

2.1.3 Safety: it has multiple protections such as pressure switch and safety valve to prevent overpressure operation.

2.1.4 Convenience: the whole machine has a thoughtful design, flexible movement, simple operation and convenient maintenance.

2.1.5 Smooth operation, low noise, low fuel consumption, high reliability, long service life and low maintenance cost.

Chapter III Working principles

Series air compressor is driven by the prime motor (motor, gasoline engine or diesel engine) crank-connecting rod mechanism to make the crankshaft rotating motion into



reciprocating linear motion of the piston, through the opening and closing of the inlet and exhaust valves, the atmospheric air is compressed into the air with rated working pressure, and the one-way valve into the gas storage tank. When the air source needs to be used, connect the gas-using device to the air outlet interface of the host machine and turn on the switch.

The main technical parameters

Model	Displacement l/min	Rated pressure Bar	Equipped power kw HP		Gas reservoir Volume L	Weight kg	Note
Single-stage compression belt air compressor							
SV054-105	786	8	4	5.4	105	90	
SW102-170	1179	8	7.5	10.2	170	120	

Note: if the product you purchased is not in the above model, please contact the dealer for details.

The company has the right to research, develop and improve the products, and has the right to change the design.

Chapter IV installation and preparation

4.1 selection of place for air compressor:

4.1.1 where moisture, dust and dirt are scarce and the air is clean and well ventilated, the service life of the machine can be extended and the efficiency can be improved.(for





users with poor service environment, such as foundries, steel works, wood plants, cement plants, etc., please check regularly and keep the air filter clean.)

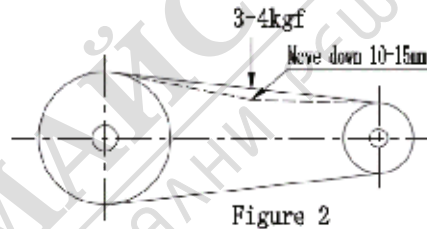
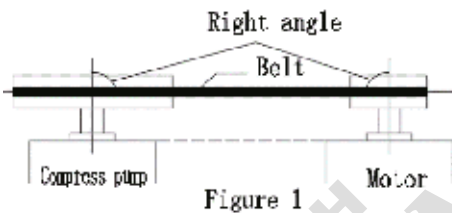
4.1.2 well-lit, easily inspected and refueled areas

Reserve maintenance space and place the machine horizontally as far as possible. The belt side should be no less than 500mm away from the wall, so as not to affect the cooling effect of the fan.

4.2 installation of prime mover:

4.2.1 when you buy the motor, gasoline engine or diesel engine assembly, please buy the product that matches the power (kW) of the air compressor.

4.2.2 when loading the belt, please follow the requirements in figure 1.



4.2.3 properly adjust the tightness of the belt, as shown in figure 2. Apply a 3-4kgf force at the midpoint of the two pulley, and move the belt down 10-15mm.

(1) if the belt is too tight, the load will be increased, the motor will be hot, and the belt will be easy to break.

(2) if the belt is too loose, it is easy to cause the belt to slip and produce high heat, damage the belt, and make the air compressor speed unstable.

(3) if the belt is to be replaced, all belts should be replaced together, not just one belt, otherwise the tension will be unbalanced.

4.3 wiring:

4.3.1 rubber cable shall be used for power cord. The power cord specification shall match the rated power of the motor.

4.3.2 the voltage of the power supply shall be checked before power supply, which shall be consistent with the specification requirements of the motor. The input voltage shall not be lower or higher than $\pm 5\%$ of the rated voltage.



4.3.3 when the machine is not in use and there is no staff to take care of it, the power must be unplugged to avoid causing fire.

4.4 lubricating oil :(special oil for air compressor)

4.4.1 compressor lubricants are generally of high quality and contain antioxidants, not easy to oxidized and thickened, not foaming, and low carbon residue, high flash point is the most ideal, due to a wide variety of compressor lubricants, usually choose l-dab100 (winter), l-dab150 (summer).The optimum operating temperature of the air compressor oil is between 5°C and 25°C.

4.4.2 the oil level shall be kept within the red circle line in the middle of the oil-closing mirror or the amount of oil shall be added as required by the label.

4.4.2.1 too much oil hinders the normal operation of the machine, or even causes burning.

4.4.2.2 if the oil quantity is too much, unnecessary waste will be caused, and the exhaust valve will accumulate carbon and damage the whole machine.

4.4.2.3 please pay attention to refueling when the air compressor stops running.

4.4.2.4 please pay attention to the quality of lubricating oil (such as the cleanliness and viscosity of lubricating oil), do not use thick lubricating oil or other miscellaneous oil, waste oil.

4.5 temperature description

4.5.1 the normal operating environment temperature of air compressor is between -5°C and 35°C, and the altitude shall not exceed 2000 meters.

4.5.2 when the suction pressure of the air compressor is 0.1mpa (absolute pressure) and the final exhaust pressure is the rated exhaust pressure under the normal operating environment temperature, the actual exhaust temperature of the air compressor shall not exceed 200°C single-machine compression, and the two-stage compression shall not exceed 180°C, and the lubricating oil temperature in the crankcase shall not exceed 70°C.

4.6 electrical schematic diagram, wiring diagram and common electrical faults and countermeasures:

4.6.1 three-phase electrical

1. Three-phase electrical schematic diagram: see figure 3.

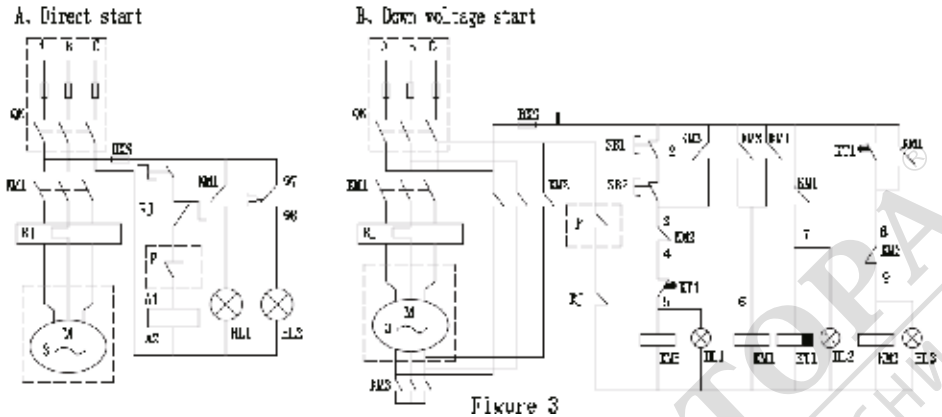


Figure 3

RJ - thermal overload electrical KM - ac contactor BXS - P - pressure switch fuses
 QK-- external switch KT-- time relay HL-- signal lamp

Note: the dotted part is all external control wiring

2. Wiring diagram of three-phase motor: see figure 4

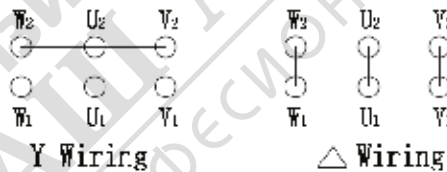


Figure 4

3. Common faults of three-phase electrical equipment and countermeasures

Special attention: electrical fault should be handled by experienced electrician, non-professional personnel should not handle without authorization, otherwise it is easy to cause equipment and personal injury.

(1) motor does not work:

- 1) the air pressure switch is cut off or damaged -- reset or replaced;
- 2) motor burning -- replacing motor;
- 3) burnt contactor coil -- replace the coil;



4) overload protection of thermal relay -- find the reason and eliminate it.

(2) burning of the controller

- 1) check the cable specifications;
- 2) short circuit of motor winding -- replace the motor;
- 3) check whether the controller specification matches the motor power.

4.6.2 single-phase electrical

2. Wiring diagram of single-phase motor: see figure 6

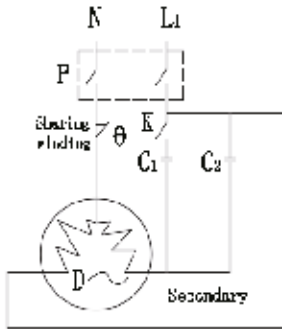


Figure 5

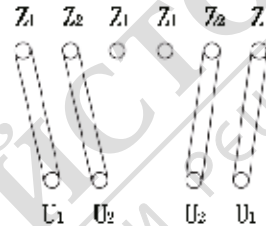


Figure 6

P - pressure switch K - centrifugal switch C1 - start capacitance - overheat protector
capacitance C2 – work

3. Common faults and countermeasures:

Special attention: electrical fault should be handled by experienced electrician, non-professional personnel should not handle without authorization, otherwise it is easy to cause equipment and personal injury.

(1) Motor cannot start:

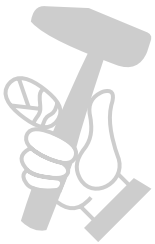
- 1) Motor burning -- replacing motor;
- 2) Disconnect the power cord -- find and exclude;
- 3) The pressure switch is disconnected or damaged -- repair or replacement;
- 4) Disconnect the overheat protector -- find out the reason and exclude waiting for the motor cooling before starting.

(2) The motor has a small starting torque, and the motor is buzzing:

- 1) The power grid voltage is too low -- find the reason;



- 2) Motor rotor stuck -- check and exclude or contact with the dealer;
 - 3) Winding burned out -- replacement;
 - 4) The centrifugal switch of the motor is disconnected -- check and exclude or contact with the dealer;
 - 5) Starting capacitance or working capacitance damage -- replacement;
 - 6) Wrong connection of starting capacitance or working capacitance -- reconnection as required.
- (3) High motor temperature:
- 1) Rotor fault -- search and replace;
 - 2) Bearing damage -- search and replace;
 - 3) Motor load is too high -- please use in rated condition.



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Chapter V Operations

5.1 Before operation, please check the following items:

Special note: the air compressor must be used in the specified working conditions.

5.1.1 Check whether the bolts and nuts are loose;

5.1.2 Whether the belt tightness is appropriate;

5.1.3 Whether the pipeline is normal;

5.1.4 Whether the lubricating oil is appropriate;

5.1.5 Whether the cables and electrical switches comply with the regulations and whether the wiring is correct;

5.1.6 Whether the power supply voltage meets the requirements;

5.1.7 Whether the air compressor belt can be easily rotated by hand (it must be shut down for safety during inspection);

5.1.8 Check whether all valves are in the proper position and in the correct opening and closing state;

5.1.9 Check the system and remove foreign bodies;

5.1.10 Open and close again the drain valve at the bottom of the gas storage tank;

5.1.11 If the system equipment is restarted after maintenance, all maintenance accessories and maintenance signs installed without safety maintenance shall be removed.

5.2 Matters needing attention when starting operation:

5.2.1 After checking the above points, open the exhaust valve completely and press the start button to make the machine start and run for 15 minutes under no load, so as to extend the life of the air compressor and prime mover;

5.2.2 Check whether the running direction is the same as indicated by the arrow on the belt cover. If not, please refer to figure 4 or figure 6

Rewiring;

5.2.3 If there is no abnormal sound after starting, close the valve to gradually increase the pressure in the gas tank to the predetermined pressure. After reaching the set pressure, the pressure switch automatically cuts off the power supply and the motor stops running.

5.3 Adjustment of pressure control system:





Special attention: please experience technicians or the company's sales staff, not to adjust.

If the pressure adjusting screw is rotated clockwise, the use pressure will be increased, and vice versa.

5.4 Safety valve adjustment:

Special note: the service pressure of the compressor shall not be higher than the rated working pressure of the compressor. If the adjustment is needed, it must be made by experienced technicians or the company's business staff, not by themselves.

The relief pressure of the relief valve is generally set higher than the exhaust pressure of 0.1mpa, so there is no need to adjust it by itself. If it is necessary to adjust the discharge pressure of the safety valve for other reasons, loosen the lock nut of the safety valve and adjust the screw again. If the valve is rotated clockwise, the discharge pressure will be increased; if the valve is rotated counterclockwise, the pressure will be set down; after setting the discharge pressure, tighten the lock nut.

Chapter VI maintenance and inspection

6.1 Regular inspection and maintenance:

6.1.1 Please keep the machine clean;

6.1.2 The drain valve of the gas storage tank should be opened once a day to remove oil and water, and every four hours in places with heavy humidity.

6.1.3 Check the lubricating oil level once a day to ensure that there is enough lubricating oil for the air compressor;

6.1.4 Clean or replace the air filter every 15 days (the filter element is consumable);

6.1.5 check the tightness of screws in various parts from time to time;

6.1.6 please replace the lubricating oil after the initial operation of 50 hours or a week, and replace the lubricating oil every 500 hours (for those with poor operating environment, replace the oil once every 150 hours), and replace the lubricating oil once every 36 hours after the operation.

6.1.7 Remove and clean the air valve after 500 hours (or half a year) of use.

6.1.8 Please clean all parts of the machine once a year;



6.1.9 All protective devices such as shields and warning marks shall be inspected regularly;

6.1.10 Periodically check the pressure release device, stop protection device, pressure gauge (semiannual) and safety valve sensitivity of the air compressor to ensure that the air compressor is in normal working state;

6.1.11 The parts subject to high temperature, such as valve, cylinder head, exhaust pipe, oil dirt and carbon deposits attached to the inner wall shall be inspected regularly. It is strictly prohibited to touch these parts during operation.

6.2 Use and maintenance:

6.2.1 Pressure and steering: do not use the equipment under high pressure. Safety valves must be provided for the supporting parts of the air compressor (such as the air storage tank), and the working pressure shall not exceed the rated working pressure. Air compressor steering should be the same as the arrow indicating box on the shield;

6.2.2 All maintenance work shall be carried out after the shutdown and power cut;

6.2.3 Before removing the compressed parts of the air compressor, the air compressor shall be separated from all pressure sources and the compressed air shall be completely discharged from the air compressor in advance;

6.2.4 When repairing the air compressor, take measures to avoid starting the air compressor due to negligence, disconnect the starting power, and hang a sign on the starting device "warning: maintenance is under way, do not start!"

6.2.5 All safety devices shall be maintained during the use of the complete set to maintain their normal functions. Safety devices shall not fail and shall only be replaced by other devices that can provide the same safety. Pressure gauges, safety valves and automatic pressure switches shall be checked regularly.

6.2.6 Air valves, air filters, cylinder heads, air ducts and components in contact with compressed air under normal conditions shall be cleaned regularly. Under no circumstances shall volatile, flammable or harmful cleaning agents be used for cleaning. After cleaning, all components shall be rinsed and dried.

6.2.7 Pressure vessels shall be subjected to pressure test regularly, with the inspection cycle of at least 10 years, and internal and external surface inspection at least every 6 years.



6.2.8 Before the air compressor moves, the air storage tank shall be decompressed. Before starting up, measures shall be taken to prevent the displacement of the air compressor from running.

6.3 Common mechanical failures and countermeasures:

1. Wrong running direction -- wrong motor connection; change the connection mode as required;
2. Slow speed:
 - 1) (Single-phase) capacitor connection error -- conversion between starting capacitor and working capacitor;
 - 2) Voltage reduction -- please ask the power company for maintenance;
 - 3) The belt is too loose -- adjust the belt;
 - 4) Motor fault -- repair the motor;
3. Violent vibration:
 - 1) Excessive exhaust pressure -- lower exhaust pressure;
 - 2) High speed -- lower speed;
 - 3) Improper belt or loose flywheel -- readjust;
 - 4) Crankshaft deformation -- send to a special factory for repair or replacement.
4. When the oil "cough! Cough!" Vision:
 - 1) Loose valve seat -- lock the valve seat;
 - 2) Piston impact cylinder head -- thickened liner;
 - 3) Wear of alloy layer of connecting rod bearing -- repair or replacement of alloy layer of bearing;
 - 4) Belt pulley or wheel keys loose -- tighten.
5. The pressure cannot rise or cannot reach the specified pressure:
 - 1) Poor performance of the valve plate or leakage of the valve plate -- repair and replace the valve plate;
 - 2) Valve seat spring failure -- replacement of new products;
 - 3) Carbon deposition or adhesion of foreign body on the valve plate -- removal and cleaning;
 - 4) Automatic load leakage of safety valve -- disassembly, cleaning, repair or replacement of new products;



- 5) Air leakage of exhaust valves, water release valves, pipe joints and screws -- repair, tighten or replace new products;
- 6) Piston ring wear -- replace the piston ring.
6. High oil consumption:
 - 1) Excessive refueling -- adjust a seat;
 - 2) Piston ring or cylinder wear -- replace new products.
7. Motor overheating:
 - 1) Excessive pressure adjustment leads to overload operation -- reducing the use pressure;
 - 2) The voltage is too high or the connection wire is too long -- please ask the power company to overhaul or replace the thicker wire;
 - 3) Exhaust valve or one-way valve failure -- replacement of new products;
 - 4) Burnt bearing -- replacement of new products;
 - 5) Burned piston -- replace new products;
8. Reduced air displacement:
 - 1) The quantity of demanded air displacement is greater than the quantity -- replace the air compressor with larger displacement;
 - 2) The output pressure is greater than the rated pressure -- reducing the service pressure;
 - 3) The exhaust pipe is too small and too long -- replace the larger and shorter exhaust pipe;
 - 4) Air filter blockage -- remove and clean up;
 - 5) Damaged or non-closed valve set -- send to a professional factory for repair;
 - 6) Wear of liner -- replacement of new products;
 - 7) Piston ring or cylinder wear -- replacement of new products;
 - 8) Belt looseness -- readjust the belt as required.
9. The unloading action fails:
 - 1) The release piston pin is not completely detached -- adjusted;
 - 2) Air leakage in the exhaust pipe -- replacement of new products;
 - 3) The head of the pressure rod of the release valve is worn or other parts are damaged -- repair;



- 4) Blockage or leakage of discharge pipeline -- disassembly and cleaning or replacement;
- 5) Dead piston release -- disassembly for maintenance or replacement;
10. The pressure of the air storage tank is too high or the safety valve squeals:
 - 1) The output pressure is greater than the rated pressure -- reducing the service pressure;
 - 2) Damage and failure of the load release system -- replacement;
 - 3) Setting the release pressure too high -- lowering the setting pressure;
 - 4) Damaged pressure gauge -- change and repair;
 - 5) Leakage of the discharge air pipeline -- maintenance or replacement;
 - 6) The setting pressure of the safety valve is too low or damaged -- raise the pressure of the safety valve or replace it with a new one;
11. Wear or break of valve set:
 - 1) Dirt of valve set -- remove and clean;
 - 2) Excessive pressure -- reduce the use pressure;
 - 3) Overheating of valve seat -- check whether the exhaust pipe is smooth and clean;
 - 4) Loose valve seat -- re-lock;
 - 5) Dirt and embroidery into the valve seat -- remove and clean;
 - 6) Broken valve plate -- new product for replacement.



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SPECIFICATIONS



Model	SV054-105	SW102-170
Motor type	Double value asynchronous motor	Double value asynchronous motor
Rated power (cp/W)	5.5 hp/4.000W	10 hp/7.500W
Voltage(V)	400V	400V
Speed (r/min)	1.000	1.000
Noise (db)	≤95db	≤95db
Displacement (L/min)	786L/min	1179L/min
Rated pressure (bar)	8 bar	8 bar
Tank volume (L)	105 l	170l
Weight (kg)	112	160
Dimension (mm)	1.280*560*1.020	1.530*606*1.040

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Warranty Certificate

Series AA No. _____
 Product name: _____
 Model : _____

Series no.: _____
 Accessories: _____
 Seller: _____
 Signature / stamp: _____

Buyer: _____
 Adress : _____
 Date of purchase: _____
 Signature / stamp: _____

DISTRIBUTOR:
 NAME:
 ADDRESS

I hereby confirm that I received the product in perfect condition with the utilization manual and I fully agree that this warranty certificate is valid only accompanied with the purchase invoice or receipt. If the product is not accompanied by this certificate or warranty is expired or canceled by the service due to abnormal usage conditions, the repairs will be done and charged after my consent

Warranty Conditions

24 months warranty period from the date of purchase.

The service under terms of warranty has to be required to the closest Authorised Assistance Centre (you can find the list in our sales network or check it on our website www.italiastar.ro in the Service area) ; the buyer has to apply for warranty always showing documents about the date of purchase of the item itself.

As warranty we mean reparation or substitution of those spares that have manufacturing defects.

For all the Italia Star products, the terms of warranty are one year after the date of delivery to the user.

Repairs done during the warranty period do not interrupt the period of the general warranty itself.

The warranty service include reparation or substitution of all the defective parts; if the reparation is done at the customer's place all the transfer to and from the assistance centre will be charged to the purchaser.

All the reparations under terms of warranty, even if done in one of our authorised assistance





centres, have to be approved by Italia Star Service department in order to allow the reparations.

The warranty cannot be accepted in the following cases:

- When the reparation or substitution of the parts has been done by a non-authorized Italia Star assistance service;
- When the cause of the problem is due to the use of non original Italia Star spare parts;
- When the user install on the machine non original or not indicated on the manual accessories;
- When the product has been, modified, repaired, disassembled from the buyer or from others;
- When there are modifications in the product done without Italia Star authorisation that can have influence on the correct functioning of the product;
- In case of incorrect start-up, incorrect use of the machine, incorrect use of the instruction given in the operating and maintenance manual, and not execution of the maintenance scheduled procedures;
- In case of natural disasters;
- In case of standard wear and tear;
- In case of damages caused by use of inadequate fuel and lubricant;
- In case of damages to the electrical components caused by an inadequate electrical system, in case of problems given by the electrical alimentation net, or by connections done without following the instruction of the operating and maintenance manual.

***THE WARRANTY IS NOT TRANSMISSIBLE**

Authorized Service



Name: _____

Address: _____

Phone: _____

e-mail: _____

