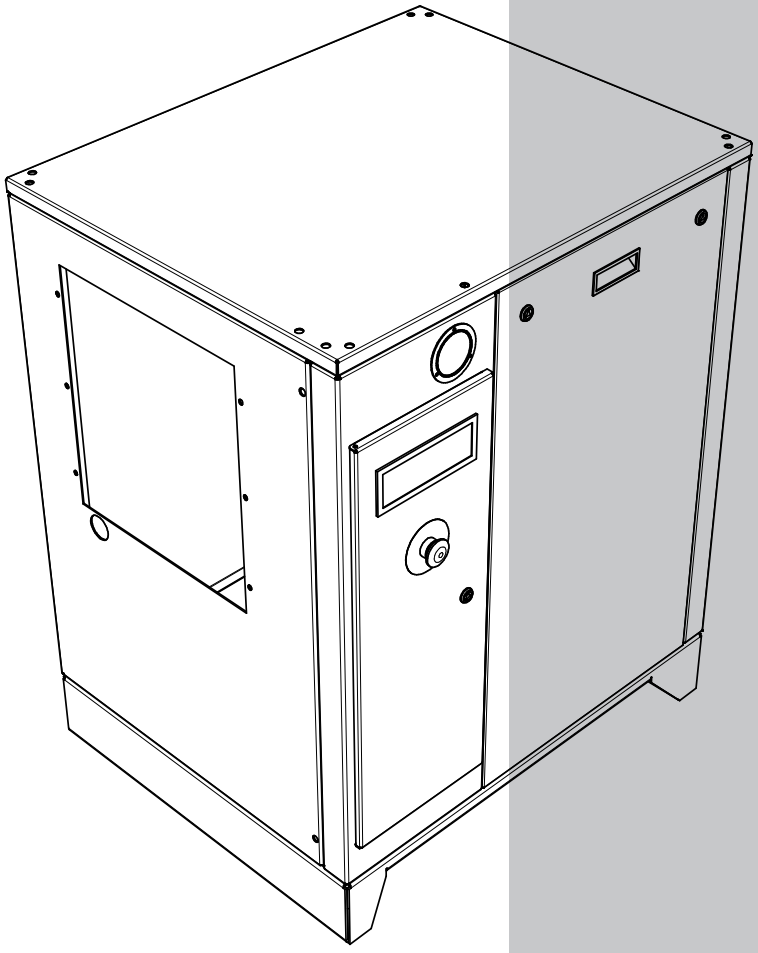
SCREW COMPRESSOR

GSR 10 - 15



OPERATING INSTRUCTIONS
AND SAFETY ADVICES

CE

Cod. 006EN00

INDICE GENERALE

CONGRATULATIONS

We thank you for your custom and hope that you work well with your new compressor. GIS s.r.l. is at your disposal for assistance in helping you to solve any problems.

1. GENERAL INFORMATION

The compressor must be used exclusively in compliance with the instructions given in this manual, which must be stored carefully in an easily accessible place, available to the operators for the whole working life of the machine. Always indicate the model and serial number in any requests.

1.1. Warnings and care

Read this user manual carefully before any operations. The non-compliance with the instructions contained herein could cause injury or damage.
The machine was designed and built for the operations described herein. All other uses are forbidden.
Installation and maintenance must be carried out by qualified personnel. Always comply with the accident prevention regulations in force.

The manufacturer shall not be liable for any injuries or damage caused to the machine or other property due to the improper use of the compressor, non-compliance of the safety regulations described in this manual, negligence, even minor modifications or the use of non-original spare parts.

1.2. How to use the manual

Symbols have been used to highlight important situations. These symbols may be next to a text, a figure or at the head of the page. Pay the maximum attention to the meanings of the symbols: they are used to replace technical concepts or safety warnings, and should be considered as a "reminder". Consult the page below for any doubts over their meaning.

CAUTION
Highlights an important description concerning hazardous conditions, safety warnings, or very important information.

MACHINE OFF
All operations must be carried out with the machine off.

CAUTION MACHINE UNDER PRESSURE
All operations must be carried out without any pressure in the de-oiler.

SWITCH OFF THE POWER
All operations on the machine must be done with the power switched off.

QUALIFIED PERSONNEL
All activities marked by this symbol must only be carried out by a specialised technician.

1.3 "CE" marking

The CE marking confirms the conformity of the compressor to health and safety requirements laid down in the European Directives listed in the CE declaration of conformity. The marking is shown on an adhesive black polyester label with silver printing, measuring L:90mm H:80mm. The label is positioned as shown in **fig. 1** and provides the following information:

CE marking
Compressor model
Serial number
Max. working pressure
Electrical voltage and frequency
Nominal output
Weight
Year of construction

1.4. Maintenance and servicing information

Our technical assistance service is at your full disposal for any information you may require to solve any problems. For clarifications, please contact our customer service or your local dealer. The best performance of our compressors is guaranteed only through the use of original spare parts. You are advised to strictly follow the instructions given in the maintenance chapter and use only original spare parts.

The use of non-original spare parts automatically annuls the warranty.

1.5. General safety warnings

IMPORTANT
Here below some important instructions are given for using the compressor safely. Follow them carefully. The incorrect use and maintenance of the compressor may cause injury to the user.

1. Do not touch any moving parts
Never place any parts of the body near the machine when in operation.

2. Do not use the compressor without the guards mounted
Never use the compressor with the guards removed. If maintenance requires the removal of any of the guards, prior to re-starting make sure that all the guards are correctly installed. It is strictly forbidden to disable any of the safety devices installed on the compressor.

3. Protective grilles
Do not stick any objects or parts of the body into the protective grilles, to prevent physical injury or damage to the compressor.

4. Use the compressor correctly
Operate the compressor following the instructions given in this manual. Do not allow children or unauthorised personnel to use the compressor.

5. Always use protective goggles
Always wear goggles or similar eye protection. Do not direct the air to any part of the body or towards other people.

6. Work clothing
Do not wear inappropriate clothing or accessories. If required, wear protective hair nets or hats.

7. Use the compressor sensibly
The compressor must not be used by persons under the effect of alcohol, drugs or medicines which could cause drowsiness.

8. Knowledge of the compressor
Before using the compressor, all staff must be familiar with all its functions and controls.

9. Intended use of the compressor
Never use the compressor for any purpose other than those described in this instruction manual.

10. Air
Never direct the air jet towards persons or animals.

11. Hot parts
To avoid burns, do not touch the pipes, motor or any other hot parts.

12. Work area
Keep the work area around the compressor clean and well ventilated. Never use the compressor in an area near paints, solvents or combustible/explosive materials.

13. Compressor maintenance
Check the outside of the compressor. If the power cable is damaged, repair or replace it. Contact a service centre if required.

14. Checking for faulty components or air leakage
Check the alignment of the moving parts, pipes, pressure gauges, pressure reducers, pneumatic connections and other important parts for the operation of the compressor. Check that all screws, bolts or covers are fixed firmly. All damaged parts must be repaired by a service centre.

15. Body protection against thermal shocks
Avoid accidental contact between the body and the metal parts of the compressor such as the pipes, tank or earthed parts. Never use the compressor in a wet or damp environment.

16. Disconnect the compressor
When carrying out any servicing operations, or to switch the compressor off when not in use, disconnect the compressor from the mains electricity and discharge the pressure from the tank.

17. Handling
Do not transport the compressor when connected to the electricity supply or with the tank under pressure. Before disconnecting the compressor from the mains, make sure the switch is in the OFF position.

18. Power cable precautions
Do not disconnect the plug by pulling the cable. Do not tread on or crush the cable. Keep away from heat, oil or sharp surfaces. Do not switch off the compressor by pulling the power cable. Use the red emergency button to switch off the compressor.

19. Extension cables
When using the compressor outdoors, use appropriate external extension cables.

20. Cleaning the suction grille and plastic parts
Keep the ventilation grille clean. Clean the grille regularly when working in particularly dirty environments. Do not use solvents, thinners or substances containing hydrocarbons as these could damage the plastic parts. Use soapy water or other appropriate liquids.

21. Nominal compressor voltage.
Use the compressor at the voltage specified on the plate. Using the compressor at a different voltage could damage the electric motor.

22. Compressor faults
If the compressor makes strange noises or vibrates excessively when working, check it and contact the service centre if required.

23. Spare parts
Use only original spare parts available from our dealers. The use of non-original spare parts annuls the warranty and may cause the compressor to malfunction. Repairs should only be carried out at an authorised centre.

24. Pneumatic circuit
Use pipes, couplings and pneumatic tools which withstand pressures higher than those used.

25. Tank
Do not unscrew any of the tank connections without first checking that the tank is empty. It is strictly forbidden to drill holes, weld or modify the tank in any way.

26. Compressor modifications
It is strictly forbidden to modify the compressor in any way without authorisation. This could cause damage or personal injury. Consult an authorised service centre for any operations.

27. Use of the compressor for painting
Do not work in closed environments or near live flames. Make sure the working environment is suitably ventilated. Protect the mouth and nose with a mask.

KEEP THIS MANUAL CAREFULLY AND MAKE IT AVAILABLE TO ANYONE USING THE COMPRESSOR!
WE RESERVE THE RIGHT TO MAKE ANY NECESSARY MODIFICATIONS WITHOUT NOTICE!

1.6. Label positions

See figure 1.

SIGNAL	MEANING
	CAUTION: Disconnect from the mains and completely discharge the pressure prior to carrying out any maintenance operations on the machine
	**CAUTION: Hot surface**
	**CAUTION: pressurized component or system**

2. COMPRESSOR TECHNICAL DATA

See figure 2.

MODEL	GSR 10	GSR 15
Machine type	Oil-injected screw compressor	
Control	Belt transmission	
Screw type	SCA 8	SCA 8
Capacity (ISO 1217 annex B 1996)	1.15 m3/min - 40.61 cfm	1.65 m3/min - 58.26 cfm
Max working pressure	13 bar g -188.5 psi g	13 bar g -188.5 psi g
Min. working pressure	5 bar g -72.5 psi g	5 bar g -72.5 psi g
Max. absorbed power**	7.5 kW - 10 hp	11 kW – 15 hp
Max air/oil output temperature	105 °C -221°F	105 °C -221°F
Max. room temperature	45 °C -113 °F	45 °C -113 °F
Min. room temperature	5 °C -41 °F	5 °C -41 °F
Weight	170 kg - 314.96 lb	180 kg - 394.83 lb
Supply voltage	See machine plate	
Max. absorbed current	15 A	22.5 A
Current absorption on start-up	30 A	56.25 A
Electric motor nut cap	IP 55	IP 55
Insulation class	F	F
Service factor	S1	S1
Amount of oil	6 litres	6 litres
Air outlet coupling	3/4"	3/4"
Max. fan flow rate	3350 m3/h	3350 m3/h
Oil residue in air	<3 ppm	<3 ppm
Electric motor degree of protection	MEC132	MEC132
Max. starts per hour	10	10
Noise level***	66	68
MODEL	**GSR 10**	**GSR 15**
Width	800	800
Depth	650	650
Height	1010	1010

* When the room temperature is less than 5°C use an ISO VG 32 lubricant.
** Value measured with working pressure: 10 bar g.
*** Noise level measured in free field at 1 metre distance ±3 dB(A) at maximum working pressure.

3. UNPACKING

The compressor must be lifted using a fork-lift truck of an appropriate capacity.

- Check that the external packaging is undamaged.
- Unpack the machine carefully.
- Check that the outside of the machine is undamaged.
- Dispose of the packaging according to the environmental laws in force.

The compressor must be handled as shown in **fig. 3**.

4. POSITIONING

The room where the compressor is installed must have the requirements laid down in the accident prevention laws in force as well as the following characteristics:
Low dust percentages.
Appropriate ventilation and a size that ensures, with the machine running, suitable room temperatures (min. 5°, max. 45°).
If the hot air ventilation is inadequate, install fans in the room as high as possible (**see figure 5**).

WARNING

- Do not install check valves between the compressor and the tank.
- Pipes must not exceed 3 metres in length; otherwise install a fan on the output side (**see figure 4**).
- Pipes must have a constant section of 0.07m².
- The condensate must not be dispersed into the atmosphere or into the mains drains. The drainage pit must be fitted with a valve and a removable container, and must be connected to suitable equipment for separating the air from the water.

4.1. Positioning the compressor

Make sure that the compressor is placed on a flat surface. The compressor does not require any specific preparation of the supporting surface. Anti vibration devices with relative nuts and washers may be supplied on request.

5. BEFORE START-UP

When starting the machine for the first time, make sure that:
• the supply voltage corresponds to that indicated on the plate;
• the size of the main switch mounted on the wall must comply with the indications in the technical data table (see Chapter 2);
• check for the correct oil level (see Chapter 6.2);
• the electrical connections must be done with appropriately sized cables (see Chapter 6.4).

IMPORTANT
Strictly follow the SAFETY WARNINGS concerning the use of the machine.

For the European market, tanks are built in compliance with EC Directive 87/404/EEC, and compressors are built in compliance with Directive 98/37/EEC.

Check your model on the data plate shown on the compressor and at the beginning of this manual.

5.1. Using the compressor

The compressors are designed and constructed solely to produce compressed air.

IN THE EVENT OF ANY OTHER USE, THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY RISKS CAUSED.

IN THE EVENT OF USE OF THE COMPRESSOR IN A MANNER OTHER THAN THAT AGREED AT THE TIME OF PURCHASE THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY INJURY OR DAMAGE TO PROPERTY OR THE MACHINE ITSELF.

The electrical system shall not be used in explosion-proof environments or for inflammable products.

WARNING
NEVER DIRECT THE AIR JET TOWARDS PERSONS OR ANIMALS. DO NOT USE COMPRESSED AIR FOR RESPIRATORY PURPOSES OR IN PRODUCTION PROCESSES IN WHICH THE AIR PRODUCED, UNLESS PREVIOUSLY TREATED AND FILTERED, COMES INTO DIRECT CONTACT WITH FOOD PRODUCTS.

5.2. Lubricating the compressor

IMPORTANT
Before carrying out any operations to remove or top up the oil in the compressor, disconnect the power supply and wait for the system to return to normal pressure.
Handle lubricants with appropriate protection.

You are advised to use a lubricant that is compatible with ISO VG 46 oil (mineral base oil) used during testing. The pour point must be at least -8+10°C and the flash point must be above +200°C.

ESSO	**Exxcolub 46**
SHELL	**Corena d 46**
TOTAL	**Azolla zs 46**
MOBIL	**Dte oil 25**
BP	**Energol hlp 46**
DUCKHAMS	**Zircon 46**

When using incompatible oil, follow the procedure described in chapter 5.3

- **Never mix oils of different types.**
- Use VG32 grade oil in cold climates and VG68 in tropical climates.

- Before starting the compressor without oil, add approximately 0.1 l lubricant through the regulator suction outlet keeping the shutter down and rotating the rotors in the right direction by hand.

- **CAUTION**
  When lowering the shutter, take care not to damage the sealing OR on the butterfly valve.


- Add mineral lubricant to the tank through the hole up to the level shown in the viewer. The quantity of oil used should be around 4 l.

- Switch the compressor on, initially switching on and off with brief pauses, for around 10 minutes in a row.

- Then switch off the compressor, discharge the pressure and top up the lubricant tank through the hole up to the level shown in the viewer.

5.3. Using the compressor with synthetic oil

When using synthetic lubricants follow the procedure described below (washing cycle).

- Remove the mineral lubricant from the compressor circuit through the drain cock.

- **Add the synthetic lubricant or detergent oil to the tank through the hole up to the required level.**

- **Before starting the motor and running the compressor, when switching on for the first time after installation, add approximately 0.1 l lubricant through the regulator suction outlet keeping the shutter down and rotating the rotors in the right direction by hand.**

- **CAUTION**
  When lowering the shutter, take care not to damage the sealing OR on the butterfly valve.

- Switch the compressor on, initially switching on and off with brief pauses, for around 10 minutes in a row.
- Then switch off the compressor and drain all the lubricant from the system through the cock.

- Add new synthetic lubricant to the tank through the hole to the required level, and run the compressor for around 10 full minutes.


- Switch off the compressor, discharge the pressure and top up the lubricant tank through the hole up to the level shown in the viewer.

WARNING

If you do not complete the above-described "washing cycle", lubricating problems may be caused due to the possible incompatibility of the mixture of lubricants. Handle lubricants with appropriate protection. Dispose of the mineral lubricant in compliance with the environmental laws in force.

WARNING

Before carrying out any operations to remove or top up the oil in the compressor, disconnect the power supply and wait for the system to return to normal pressure. Handle lubricants with appropriate protection.

5.4. Connecting the compressor to the electricity supply

The electrical connection of the machine to the mains is done by the customer under his own responsibility, using specialised personnel and in compliance with the accident prevention standard EN 60204.

EARTHING

The compressor must be earthed during use in order to protect the operator from electric shocks. The connection must be done by a specialised technician or service centre. The earth wire of the power cable on the compressor must be connected exclusively to the terminal on the compressor. Before replacing the plug of the power cable, disconnect the earth wire.

EXTENSIONS

Do not use damaged extension cables. Make sure the extension lead is in good condition. When using an extension lead, make sure that the cable section is suited to the absorbed current on the compressor. Too thin an extension cable can lead to drops in voltage and power losses or may cause the compressor to overheat. The extension cable section must be proportionate to its length, as shown in the following table:

KW	220/240 V 50/60 Hz	380/415 V 50/60 Hz
7.5	10 mm²	4 mm²
11	16 mm²	10 mm²

Avoid all risk of electric shocks. Never use the compressor with a damaged electrical cable or extension lead. Check the power cables regularly. Never use the compressor in hazardous environments where electric shocks are possible.

KW	220/240 V 50/60 Hz	380/415 V 50/60 Hz
7.5	10 mm²	4 mm²
11	16 mm²	10 mm²

- Connection cable length : 4 m (max environm. 50° C.)

The compressor must be installed by a specialised technician.

FUSES AND THERMAL MAGNETIC SWITCH

Install the socket, thermal magnetic switch and fuses near the compressor (at a distance of no more than 3 metres). The thermal magnetic switch and fuses must correspond to the features listed in the table below:

KW POWER	NOMINAL VOLTAGE 220/240 V		NOMINAL VOLTAGE 380/415 V	
	THERMAL MAGNETIC	FUSE	THERMAL MAGNETIC	FUSE
7.5	40 A	40 A	25 A	30 A
11	63 A	80 A	40 A	40 A
The values refer to gL type (standard) fuses. The values refer to K switches. When using aM fuses (delayed), the values must be reduced by 20%.				

- Check that the installed power in kW is at least twice the absorption of the electric motor.
- The mains voltage must correspond to that shown on the machine's electrical data plate, with a max. permissible tolerance of 6%.
- The power plug must not be used as a switch, but must be plugged into a current socket fitted with an appropriate differential switch (thermal magnetic).

Never use earth in place of neutral. Earthing must be done in compliance with accident prevention standards (EN 60204). Check that the mains voltage corresponds to that required for the operation of this type of compressor.

5.5. Connecting the compressor power cable

- Insert the power cable through the cable clamp and follow the path shown by the red arrow as indicated in **figures 5, 6 and 7**.

WARNING
THE POWER CABLE MUST NOT BE TAUT.

- Fix the three wires of the power cable to the three fuse holder phases on the electrical panel, tightening the screws (**see figure 8**); check that the wires are firmly in place.
- Tighten the cable clamp nut.

5.6. Connecting the compressor to the pneumatic supply

Use pneumatic pipes for compressed air with maximum pressure and section suited to the compressor. Do not repair the pipe if faulty, but replace it.

Connect the compressor to the mains pneumatic supply using the 1/2" female coupling on the compressor as shown in **figure 9**.

Use a pipe with a diameter equal to or greater than that of the 1/2" outlet on the compressor.

Install two ball valves of a suitable capacity between:
- the compressor and the air tank
- the air tank and the user line

Check valve already installed in the compressor.

6. FIRST START-UP

The first start-up of the compressor (operational testing) must be done exclusively by a specialised technician. Connect the compressor following the instructions in this manual, and then contact the dealer to validate the technical warranty (see notes in the sales clauses).

Having followed all the assembly instructions illustrated in chapter 6, proceed to prepare the compressor for first start-up.
Every time the compressor is switched on, the control panel checks the power line phases to ensure the correct rotation of the screw assembly.

On first start-up, switch on the voltage and press the START button.

- If the power line phases are correctly positioned, the screw assembly rotates as shown by the arrow in **figure 10.**
- If the power line phases are positioned incorrectly, the control panel will indicate a machine block alarm (see Chapter 8.5). Consequently, change the connections of the two line power phases and start the compressor again.

CAUTION
The rotation of the screw assembly in the opposite direction to that indicated by the relief arrow on the body (see figure 10) may damage the screw assembly.

WARNING
In case of replacing the electric motor, when starting up for the first time you must visually check the direction of rotation of the screw assembly.

WARNING
It is indispensable to strictly follow the SAFETY WARNINGS concerning the use of the machine.

7. CONTROL PANEL

See Figure 11.

A Alarm codes
B Display showing temperature pressure and alarms
C Multiplication factors
D Running with no pressure
E Start
F Stop
G Display of temperature, Working hours, Maintenance and Reset

7.1. Description of operations

1. When the compressor is switched on, the display shows the message OFF.
2. From OFF the compressor is started by pressing -I- with the display showing the working pressure or temperature (according to the setting of parameter P01 = control via pressure transducer or mechanical pressure switch).
3. The compressor is stopped by pressing -0-.
4. In the event of an alarm the relative alarm code is shown on the display.

7.2. Parameter settings

With the compressor on OFF press **F** and -0- together for 3 seconds to enter the parameter settings, showing the parameter code on the display; press **F** to view the set value and use the buttons -I- and/or -0- to change the value; press **F** again to view the next parameter code; use buttons -I- and/or -0- to scroll through the next parameter codes and press **F** each time to enable the setting. Exit the settings mode by pressing **F** for 3 seconds to return to OFF. When programming, if the set value is the same as the maximum or minimum value of that setting, the number flashes on the display.

7.3. Anti-panic function

For safety reasons, when setting the parameters if no buttons are pressed for 60 seconds, the controller automatically exits the programming mode and saves any modified data.

7.4. List of parameters

FUNCTION	DESCRIPTION	SETTING	DEFAULT
P01	Pressure control	0 (transducer) ÷ 1 (pressure switch)	0
P02	Transducer full scale	15 ÷ 16	15 bar
P03	High pressure alarm	(P02-0.5) ÷ (P04+0.5)	11 bar
P04	Stop pressure	(P03-0.2) ÷ (P05+0.2)	10 bar
P05	Start pressure	(P04-0.2) ÷ 3	8.5 bar
P06	Offset pressure transducer	-2.0 ÷ +2.0	0
P07	Max. screw temperature field	130°C ÷ (P07+2 C°)	130°C
P08	Set screw high temperature alarm	(P07-2°C) ÷ (P09+2°C)	105°C
P09	Set screw high temperature pre-alarm	(P08-2°C) ÷ (P10+2°C)	100°C
P10	Set screw low temperature alarm	(P09-2°C) ÷ -10°C	0°C
P11	Offset temperature probe	10 ÷ +10°C	-05°C
P12	Timer star/delta commutation	2 ÷ 20 sec.	5 sec.
P13	Star timer	10 ÷ 50 m.s.	20 m.s.
P14	Launch timer	1 ÷ 5 sec.	2 sec.
P15	No pressure timer	0 ÷ 10 min.	3 min
P16	Timer P15 fixed - variable	0 (fixed) ÷ 1 (variable)	0
P17	Safety timer	1 ÷ 240 sec.	30 sec.

FUNCTION	DESCRIPTION	SETTING	DEFAULT
P18	Change air filter	100 ÷ 3.000 h	2,000 h
P19	Change oil filter	100 ÷ 9.900 h	2,000 h
P20	Change filter separator	100 ÷ 9.900 h	3,000 h
P21	Oil change	100 ÷ 9.900 h	2,000 h
P22	Check machine	100 ÷ 9.900 h	2000 h
P23	Start time	6 ÷ 20	20
P24	Low voltage alarm	0 ÷ 1	1
P25	Remote start/stop on IN3	0 ÷ 1	0
P26	Pressure measuring scale	0 ÷ 1	0
P27	Temperature measuring scale	0 ÷ 1	0
P28	RL5 configuration	0 ÷ 1	0
P29	Set fan ON (RL5)	(P09-2°C) ÷ 30°C	70°C
P30	Delta T fan OFF (RL5)	5 ÷ 15°C	10°C

NOTES ON PARAMETERS

1. With parameter P01 set to "1", parameters P02 ÷ P06 are not shown.
2. With parameter P24 set to "0", if the supply voltage falls below 9.0 Vac, the controller switches off; the compressor will automatically restart when the voltage returns to above 10.5 Vac, with the time set on parameter P17, without displaying the low voltage alarm. With parameter P24 set to "1", if the supply voltage falls below 9.0 Vac, the controller switches off; when the voltage returns to above 10.5 Vac, the display shows the alarm code AL7 and stays OFF; the compressor must be restarted manually using button -I-.
3. P25=0 input IN3 enabled for phase sequence relay and associated to the relative inversion/no phase alarms P25=1 input IN3 enabled as remote start/stop (phase check disabled).
4. With parameter P28 set to "0", RL5 is configured as an alarm relay and parameters P29 and P30 are not shown. With parameter P28 set to "1", RL5 is configured as a fan contactor control and parameters P29 and P30 are shown.
5. The count for parameters P18 ÷ P22 refers to the ON time of RL1 and occurs retrospectively; when the count reaches 0 it continues negatively. The hours are memorised every 15 minutes and if during the count there is a black out a fraction of 15 minutes is lost.
6. The parameter P22 if set to 9.900 does not generate the relative alarm.
7. The parameter P23 is the number of starts the motor is allowed in one hour (see alarm code AL8).
8. The parameter P26 is used to measure and show the pressure in two different scales: 0=bar 1=PSI)
9. The parameter P27 is used to measure and show the temperature in two different scales: 0=°C 1=°F

7.5. Alarm codes

VISUAL ALARMS (WARNINGS)

AL0 = loss of set data and acquisition of default data (code flashes on the display).
AL4 = high screw temperature pre-alarm: value measured by the temperature probe above the set P09 (alternate alarm code showing the pressure or temperature depending on the setting of parameter P01: alarm with automatic reset when the temperature falls below the set value -2°C.
AL8 = the compressor has reached the maximum set number of starts and stops: it will continue to work on charge or discharge, depending on the pressure, until the hour since the first start in that hour ends.
NOTE: with visual alarm, RL5 (if configured to "0") excites intermittently.

MACHINE BLOCK ALARMS

AL1 = inverted/no phase: IN3 (phase sequence relay) moves to N.O. (Normally Open).
AL2 = In 2 (OR alarms) moves to N.O. (Normally Open).
AL3 = high screw temperature: temperature measured by the probe above the set P08.
AL5 = faulty screw probe.
AL6 = low screw temperature: temperature measured by the probe below the set P10.
AL7 = low voltage.
AL9 = safety pressure switch open: no voltage to digital inputs.

*AL10 = pressure greater than the set P03 (alarm detected with parameter P01 set to 0.
*AL11 = pressure transducer failure (possible incorrect configuration of parameter P01: pressure transducer - pressure switch or pressure transducer failure).
*AL12 = emergency button open. NOTE: with the compressor blocked all relays are de-excited and RL5 (if P25 is set to —0“) is excited.

*As the display has only 3 available characters, the alarms AL10, AL11, and AL12 are displayed in short as A10, A11 and A12.

MAINTENANCE MESSAGES
F-A = change air filter (timer P18 expired)
F-O = change oil filter (timer P19 expired)
F-S = change separator filter (timer P20 expired)
OIL = change oil (timer P21 expired)
C-h= check compressor (timer P22 expired)

To reset the block alarms press F with the compressor in OFF.
To reset visual alarms (warnings) and maintenance messages press F even with the compressor running.

NOTE:
1. The block alarm codes have priority over visual alarms (warnings) while visual alarms have priority over maintenance messages.
2. With a maintenance message displayed and reset but with the timer not reset, on the next power on the message will be displayed again.
3. The alarm codes and maintenance messages are displayed in all machine states.

TEMPERATURE DISPLAY
If parameter P01 is set to **1** (mechanical pressure switch) the temperature will be shown directly on the display during operation. If parameter P01 is set to **0** (pressure transducer) to view the temperature, with compressor in ON, simply press the button F once; after 5 seconds the display will return to showing the working pressure.

MAINTENANCE TIMER DISPLAY
With the compressor in ON, to view the maintenance intervals:
press F for 3 seconds to view the message **F-A** (Air Filter); press again and the display will show the remaining hours on the relative timer; press F again and the display will show the message F-O (Oil Filter), the message F-S (Separator Filter), the message OIL (oil), the message C-H (check compressor) with the remaining hours of the relative timers.
Viewing the residual hours of the timer C-H, press F to return to the main display.
NOTE:
1. if within 60 sec. you do not press F you will return to the main display.
2. if the timer display is negative, the first digit of the display shows the sign “-“ and the following digits the number of hours with any leds switched on to indicate the multiplication factor.

MAINTENANCE TIMER RESET
To reset the timer, the compressor must be on **OFF**.
Press F for 3 seconds, the display shows the message **F-A** (Air filter) and press it again to view the residual hours of the relative timer (flashing); if you wish to reset this timer press F for 3 seconds, passing automatically to the next message **F-O**, at the end of the reset; if you do not wish to reset the timer press F to move to the next message **F-O** (Oil filter). As with the timer **F-A** press F again to view the timers **F-S** (separator filter), OIL (Oil), **C-H** (Check compressor), with the residual hours flashing; to reset any of these, proceed as described for timer **F-A**. After resetting the last timer **C-H**, the display will automatically show the message **OFF**.
NOTE: if the button is not pressed for 60 seconds the controller automatically returns to displaying the message **OFF**.

WORKING HOURS DISPLAY
To view the number of working hours, with the compressor in **ON**, proceed as follows: press F and I together and the display shows the message **h-t** (hour count ON for RL1); press F again to view the relative hours, any leds on

indicate the multiplication factor. Press F again to view the message **h-L** (hour count ON for RL4); press F again to view the relative hours, any leds on indicate the multiplication factor. Press F again to return to the main display.

WORKING HOUR COUNTER RESET

To reset the hour counter, the compressor must be in OFF.

Press 0 F I together and hold down for 3 seconds, the display shows the message **r-h**; to reset, press F for 3 seconds, after which the message **r-h** will start to flash and indicate that the working hours are being reset for both parameter **h-t** (total hours) and parameter **h-L** (charged hours). After the reset, the display shows the message **OFF**.

HOW THE CONTROL PANEL CONTROLS THE COMPRESSOR

1. Power on:
   a) the display shows the message **OFF**;
   b) all relays are in **OFF**.
2. Compressor **ON** from I showing the pressure or temperature on the display (depending on the setting of parameter P01 = pressure check) and the led indicating the status of RL4 (charge solenoid valve).

Safety time P17

Press stop 0, the compressor stops with the following procedures:

a) if the compressor is charging, in the no pressure phase for the time set on P17; during this time restart is done from the start button I ; with timer P17 expired, the compressor switches off with message **OFF**;

b) if the compressor is in the no pressure phase and the P15 count is greater than P17, on expiry of P15 the compressor switches off with message **OFF**; if the P15 count is lower than P17, this starts the count, after which the compressor switches off with message **OFF**;

c) if the compressor is **OFF** because the set pressure has been reached, it switches off with message **OFF**;

d) when the compressor switches off and the **OFF** message appears the timer P17 starts counting; during this time if the start button I is pressed, the message **ON** flashes alternating with the measured pressure or temperature value (depending on the selection of parameter P01) and the compressor will not start until the timer P17 count has expired. With the compressor off due to an alarm, the timer P17 count starts; if during this time the alarm message is reset and the start button I is pressed, the message **ON** flashes alternating with the measured pressure or temperature value (depending on the selection of parameter P01) and the compressor will only after start after the end of the timer P17 counting.

Managing the remote start/stop on IN3

Enabling the remote start/stop on IN3 input (P25 set to 1), with the compressor in ON by pushbutton I, if you open IN3 input the display shows the message "StP" placing the compressor with no pressure in the same modalities and times relating to the pressure of the stop button 0; when the compressor moves from "pressure" to "no pressure" status via the remote start/stop, the display shows the message "StP" alternate with pressure or temperature detected (depending on mechanical pressure switch or pressure transducer; see parameter P01 pressure check).

Charge solenoid valve management (RL4)

1. With **P15** set as a fixed time = 0
   When the pressure reaches the stop set, RL4 goes to **OFF** displaying the pressure or temperature (depending on the configuration of the pressure control in parameter P01) and the time set on the timer P15 begins; on expiry of the timer, if the pressure has not fallen below the start set the compressor stops; during the timer counting, if the pressure drops below the start set, the charge solenoid valve RL24 goes to **ON** and the display shows the pressure or temperature while timer P15 is reset.
2. With **P15** set as a variable time = 1 On first start the compressor carries out the cycle described in point 1; on the next cycle the time the pressure takes to drop from the stop set to the start set is counted; if this time (tx) is greater than the time set on P15, on the next no pressure cycle the time P15 is reduced by 1 minute and so on until a minimum time of 2 minutes. When tx drops below P15 varied, the next no pressure cycle is counted as per the time set on P15.

IF PRESENT: Fan management (RL5 set to 1)

With the delta contactor enabled (RL2), the fan contactor (RL5) is managed according to the following logic:

a) if the screw temperature is more than or equal to parameter P26 = RL5 ON;

b) if the screw temperature is less than parameter (P26 -P27) = RL5 OFF.

7.6. Technical Features

- Industrial control device for managing screw compressors; **must not be fitted in explosive environments.**

- Conforming to referred EC directives:
  Low Voltage: 2006/95/EC
  Safety: EN 60730-1 (General standards)
  EMC: 2004/108/EC

- Conforming to directive **UL 508 (FILE#:E316817)**.

- Inlets and outlets via quick coupling stamped circuit clamps (300V, 15A, 18-14AWG).

- Black self-extinguishing ABS casing:
  a) according to EC directive:
  IP 64 for front panel IP 20 for other parts;
  b) according to the UL directive:
  Type 1 and Type 12 for front panel assembly, installation in environments with grade 2 pollution for all other parts.

- Tightening torque: 7 Nm

- Working temperature: -25°C (-13°F) ÷ 50 °C (122°F) with 90% RH non condensating.

- Storage temperature: -30°C (-22°F) ÷ 70 °C (158°F).

- Power 12 Vac ± 10% -50 ÷ 60 Hz (secondary transformer power : ~6 VA).

- Max. absorbed current: ~ 220 mA.

- Display: 3 displays with 7 green colour segments. 3 green leds.

- 1 pressure transducer input which can also be configured as an electro-mechanical pressure switch input.

- 1 input for screw temperature probe.

- 3 push-buttons: Start – Stop - Function (display of temperature, working hours, maintenance, reset).

- 3 opto isolated digital inputs, 12-24 Vac for measuring:
  IN 1 = emergency push- button
  IN 2 = OR alarms (motor thermal - fan thermal) IN 3 = phase sequence relay
- 5 relay outputs with 1.5Amax contacts (general use):
  RL1 = line contactor
  RL2 = star contactor
  RL3 = delta contactor
  RL4 = charge solenoid valve
  RL5 = can be configured as a generic alarm or fan contactor

MAX. ABSORBED CURRENT WITH ALL RELAYS CLOSED: 4.5A
- Non volatile memory for holding set data, machine status and working hours.
- Electronic control in OFF with micro mains interruptions of more than ~300 m.s.. 30

7.7. Control panel wiring diagram and connections key

See diagram in figure 12.

CONNECTIONS WARNINGS

Comply with all the technical characteristics and electrical wiring instructions; in particular, the temperature probe wire must be isolated from the power cables and the appropriate RC filters must be mounted on the remote control switch coils.

Also make sure that the high and low voltage cables are kept in separate conduits.

- There must be sufficient space at the back of the controller for the wiring and connectors.
- The back of the controller must be protected against condensation, oil and dust.
- Do not wash the front of the controller with jets of water, but use a soft cloth with soap and water.

KEY:

Connector M1

Pole no. 1-2 = power supply 12 Vac ± 10% 50'60 Hz
Pole no. 3-4 = temperature probe
Pole no. 5-6 = pressure transducer (pole no. 5 = negative - pole no. 6 = positive) or electro-mechanical pressure switch clean contact.

Connector M2

Pole no. 1 = Neutral = 0 Vac
Pole no. 2 = Input IN 1 - emergency push-button (L)
Pole no. 3 = Input IN 2 -OR alarms: motor thermal switch, fan thermal switch etc. (L)
Pole no. 4 = Input IN 3 – phase sequence relay (L)

Connector M3

Pole no. 1 = common relay -24-230 Vac
Pole no. 2 = relay output RL1 - line contactor
Pole no. 3 = relay output RL2 - star contactor
Pole no. 4 = relay output RL3 - delta contactor
Pole no. 5 = relay output RL4 - charge solenoid valve
Pole no. 6 = relay output RL5 - fan contactor or alarm output

List of components 4KW diagram

POS.	CODE	DESCRIPTION	MANUFACTURER	QTY
FU1	90.60.002	Line fuses	WIMEX	10x38 32A
FU2	90.60.003	M2 fuses	WIMEX	10x38 4A
FU3	90.60.004	AUX fuses	WIMEX	10x38 2A
FU4	90.60.003	AUX fuses	WIMEX	10x38 4A
FU5	90.60.004	AUX fuses	WIMEX	10x38 2A
KM1	90.20.040	Contactor M1	MOELLER	DILM17-01-24V
KM2	90.20.040	Contactor M1	MOELLER	DILM17-01-24V
KM3	90.20.040	Contactor M1	MOELLER	DILM12-01-24V
KM4	90.20.038	Contattore M2	MOELLER	DILEM-10-24V
FR1	90.20.210	Thermal relay	MOELLER	ZB32-24-16-24A
TR1	90.40.006	Transformer 100VA	TRASFITALIA IU1000383	0-400/0-12-24V
CF	90.40.005	Phase sequence relay	GAVAZZI	DPA51CM44

List of components 5.5KW diagram

POS.	CODICE	DESCRIZIONE	COSTRUTTORE	QTÀ
FU1	90.60.002	Line fuses	WIMEX	10x38 32A
FU2	90.60.003	M2 fuses	WIMEX	10x38 4A
FU3	90.60.004	AUX fuses	WIMEX	10x38 2A
FU4	90.60.003	AUX fuses	WIMEX	10x38 4A
FU5	90.60.004	AUX fuses	WIMEX	10x38 2A
KM1	90.20.040	Contactor M1	MOELLER	DILM17-01-24V
KM2	90.20.040	Contactor M1	MOELLER	DILM17-01-24V
KM3	90.20.040	Contactor M1	MOELLER	DILM12-01-24V
KM4	90.20.038	Contattore M2	MOELLER	DILEM-10-24V
FR1	90.20.210	Thermal relay	MOELLER	ZB32-24-16-24A
TR1	90.40.006	Transformer 100VA	TRASFITALIA IU1000383	0-400/0-12-24V
CF	90.40.005	Phase sequence relay	GAVAZZI	DPA51CM44

List of components 7.5KW diagram

POS.	CODICE	DESCRIZIONE	COSTRUTTORE	QTÀ
FU1	90.60.005	Line fuses	WIMEX	10x38 20A
FU2	90.60.003	M2 fuses	WIMEX	10x38 4A
FU3	90.60.004	AUX fuses	WIMEX	10x38 2A
FU4	90.60.003	AUX fuses	WIMEX	10x38 4A
FU5	90.60.004	AUX fuses	WIMEX	10x38 2A
KM1	90.20.210	Contactor M1	MOELLER	DILM12-10-24V
KM2	90.20.211	Contactor M1	MOELLER	DILM12-01-24V
KM3	90.20.212	Contactor M1	MOELLER	DILM09-01-24V
KM4	90.20.038	Contactor M2	MOELLER	DILEM-10-24V
FR1	90.20.213	Thermal relay	MOELLER	ZB12-12-10-12A
TR1	90.40.006	Transformer 100VA	TRASFITALIA IU1000383	0-400/0-12-24V
CF	90.40.005	Phase sequence relay	GAVAZZI	DPA51CM44

7.8. Thermal relay calibration information

IMPORTANT
Switch off the power to the compressor before carrying out any operations inside the electrical panel. To run the compressor correctly on full continuous charge at maximum working pressure makes sure that the temperature in a closed working environment does not exceed +45°C. It is recommended to use the compressor at a maximum load of 80% in one hour at full charge, to ensure correct operation over time.

The FR1 thermal relay must be adjusted to within the levels shown in the table below; if the thermal relay cuts in, check the absorption and voltage on the line terminals during operation and the power connections inside the electrical panel and the motor terminal board. The FR1 thermal relay is set according to the following table.

- **for star delta starting versions**

See figure 13.

FOR STAR DELTA STARTING		
KW POWER	**NOMINAL VOLTAGE 380/415V-3PH**	**NOMINAL VOLTAGE 220/240V-3PH**
7.5	9.5 A	16.5 A
11	13.5 A	23.3 A

8. ELECTRO-PNEUMATIC CIRCUIT DIAGRAM AND MACHINE DESCRIPTION

See figure 14

1 Suction valve
2 Screw compressor
4 3/2 solenoid valve
5 Safety valve
7 Oil radiator
8 Air radiator
9 Min. pressure valve
10 ON button
11 Pressure switch
12 Oil return from separator
13 De-oiling filter
14 Air/oil delivery pipe from screw assembly
15 Air/oil separator tank
16 Suction filter
17 Oil filter
22 Oil recovery viewer
25 Thermostatic valve
26 Cooling electro-fan
27 Suction prefilter panel
28 Transmission belt
29 Electric motor
30 Oil level
31 Oil drain
32 Control panel
33 Electrical panel
34 Oil top-up plug

The working hours shown in the table refer to the optimum use of the machine and therefore may vary according to the working environment and the number of cycles.

IMPORTANT!! USE ONLY ORIGINAL SPARE PARTS!!!
IMPORTANT!! HOT PARTS INSIDE!!!

KIT	MACCHINA	CODICE	DESCRIZIONE CODICE	ORE DI LAVORO
	GSR 10-15	90.03.018	De-oiling filter	every 2000 hours
	GSR 10-15	90.02.030	Oil filter	every 2000 hours
	GSR 10-15	34,01,026	Air filter cartridge	every 2000 hours
	GSR 10-15	11.06.001	Belt spare parts kit GSR10/10	every 8000 hours
	GSR 10-15	11.06.007	Belt spare parts GSR15/10	every 8000 hours
	GSR 10-15	38.01.010	Suction prefilter panel	every 2000 hours

ROUTINE MAINTENANCE WITHOUT SPARE PARTS KIT	
Check oil level and top up if necessary	every 500 hours
Oil change	every 2500/3000 hours
Clean air filter	every 500 hours
Check for blockages and clean radiator	every 500 hours
Check belt tension and wear	every 1000 hours

9. COMPRESSOR MAINTENANCE

9.1. Tensioning the belts

Make sure that the pulleys mounted on the shafts are correctly aligned and that the belts have the correct tension. For belt transmission, you are advised to use the "POLY V" model. The recommended tension values are given in the table below.

WARNING
MAKE SURE THAT THE PULLEYS MOUNTED ON THE SHAFTS ARE CORRECTLY ALIGNED AND THAT THE BELTS HAVE THE CORRECT TENSION.

WARNING
EXCESSIVE BELT TENSION WILL REDUCE THE LIFE OF THE SCREW BEARINGS. MAKE SURE THAT THE TRANSMISSION IS PROTECTED WHEN THE MACHINE IS RUNNING IN ORDER TO PREVENT INJURY.

Tensioning the belt

1. Remove the front panel **fig. 15**;
2. Unscrew the two locking nuts on the transmission plate tie rods (see **fig.16**);
3. Unscrew the four locking nuts on the transmission plate (see **fig. 17**);
4. Screw the two tie rods (see **fig.18**) taking care to tension them so that the tensioning plate is as flat as possible.
5. Set the tension according to the following table (see **fig.19)** and once the belt is taut take care to:
   - tighten the four plate fixing screws;
   - tighten the two tie rod locking nuts;
   - reassemble the front panel and fix with the 4 screws;
   - check the actual belt tension (see **fig.19**).

9.2. Suction prefilter maintenance

1. Slide the prefilter out from the guides (rear mobile part) and clean it carefully with a jet of air.
2. Reassemble the clean prefilter on the guides taking care to position it so that it covers the whole suction surface of the compressor.

See figures 20 and 21.

CLEAN THE PANEL WITH A JET OF AIR OR WASH WITH WATER. DO NOT USE SOLVENTS.

THE CLEANING OR REPLACEMENT OF THE PREFILTER PANEL MUST BE DONE WITH THE MACHINE SWITCHED OFF AND AT NORMAL AMBIENT PRESSURE.

THE OIL LEVEL MUST BE CHECKED OR TOPPED UP WITH THE MACHINE SWITCHED OFF AND AT NORMAL AMBIENT PRESSURE.

SPENT OIL MUST BE DISPOSED OF IN COMPLIANCE WITH THE LAWS IN FORCE.

IN HEAVY DUTY ENVIRONMENTAL CONDITIONS (e.g.: PARTICULARLY DUSTY PLACES), CARRY OUT MAINTENANCE MORE FREQUENTLY .

INCORRECT OIL, AIR AND DE-OILING FILTER MAINTENANCE MAY DAMAGE THE SYSTEM. CARTRIDGES USED FOR LONGER THAN PRESCRIBED CAN DAMAGE THE COMPRESSOR.

IT IS INDISPENSABLE TO STRICTLY FOLLOW THE SAFETY WARNINGS CONCERNING THE USE OF THE MACHINE.

MAINTENANCE MUST BE CARRIED OUT BY QUALIFIED PERSONNEL. IN ANY CASE COMPLY WITH THE ACCIDENT PREVENTION REGULATIONS IN FORCE (USE SUITABLE PROTECTION).

9.3. Replacing the oil filter

Replace the first cartridge after 500 hours of work and subsequently after 2000 hours of work. Open the rear panel and remove the filter cartridge with a chain or belt wrench. Then replace the used cartridge with a new one.
See figures 22 and 23.

Before screwing back the filter cartridge, oil the seal. Screw on the new filter cartridge by hand.

9.4. Replacing the de-oiling filter

Replace the first de-oiling cartridge after 3000 hours of work. When using the compressor in heavy duty conditions, refer to the dealer or authorised servicing centre for advice on maintenance intervals. Open the side panel; remove all the pneumatic connections on the de-oiling tank making sure that there is no air in the accumulation tank (**fig. 24**). Remove the flange (**fig. 25**) and then remove the inner cartridge (**fig. 26**). Then replace the used cartridge with a new one.

9.5. Oil change

Change the oil for the first time after 500 hours of work. Then change the oil every 2500/3000 hours or in any case once a year. If the compressor is not used often (a couple of hours a day), change the oil every 6 months and check periodically for any condensation residues by opening the oil drain cock (**see pos. A in figure 6**).

Opening the drain cock, the oil begins to drain from the screw assembly. Make sure you have all the equipment necessary to collect the oil.

Unscrew the oil plug on the de-oiling tank and open the drain cock. When empty, close the drain cock. Then top up with oil to the level shown on the viewer (**see figure 27**). Screw on the oil cap. Having replaced the oil and the oil filter, run for around 10 minutes and then switch off the compressor; check the oil level again and top up if required.
Do not mix different types of oil. Make sure that the oil circuit is completely empty prior to maintenance. When changing the oil, replace the oil filter also.

9.6. Replacing the air filter

Replace the air filter cartridge every 2000 hours of work. Unscrew the upper cover and replace the air filter cartridge.
See figure 28.

10. EXTRAORDINARY COMPRESSOR MAINTENANCE

MAINTENANCE CHECK SHEET

Hours of	Prefilter panel		Air filter cartridge		Oil filter cartridge		Separator cartridge			Oil		Belt			Date	Signature
	Cleaning	Replacement	Cleaning	Replacement	Replacement	Pressure difference	Pressure difference	Replacement	Control	Top up	Change	Control	Tensioning	Replacement		

11. SPARE PARTS

Table 1

POS.	CODE	NAME	QTY
1	50.08.063	Mobile base	1
2	50.08.073	RH side panel	1
3	50.08.069	LH side panel, LH	1
4	50.08.064	Electrical panel holder panel	1
5	50.08.074	Back panel	1
6	50.08.066	Front panel	1
7	50.08.075	Upper cover	1
8	50.08.012	RH prefilter bracket	1
9	50.08.013	LH prefilter bracket	1
10	07.01.010	Handle	2
11	07.01.001	Lock	4
12	50.08.068	Electrical panel holder box	1
13	50.08.067	Equipment holder plate	1
14	50.08.072	Closing panel	1
15	07.01.001	Lock	1
16	38.01.010	Prefilter panel	1
17	90.40.011	Control panel	1
18	90.20.021	Emergency push - button	1

Table 2

POS.	CODE	NAME	QTY
1	02.05.004	Drive unit	1
1	02.05.015	Drive unit	1
2	90.20.113	Radiator-fan	1
3	90.20.112	De-oiling tank	1
4	03.04.002	Screw assembly	1
5	90.40.036	Solenoid valve	1
6	34.01.022	Suction filter	1
7	90.25.011	Suction valve	1
8	20.05.009	Pipe	1
9	20.05.019	Pipe	1
10	20.05.020	Tubo	1

Table 3

POS.	CODE	NAME	QTY
1	02.05.004	Motor H132 15 Hp	1
1	02.05.003	Motor H132 10 Hp	1
2	11.06.034	Belt POLI-V 10 BAR 10 Hp	1
2	11.06.007	Belt POLI-V 10 BAR 15 Hp	1
3	50.08.050	Tightener	1
4	50.08.039	Motor holder	1
5	09.05.004	Motor pulley 10 BAR 10 Hp	1
5	09.05.018	Motor pulley 10 BAR 15 Hp	1

POS.	CODE	NAME	QTY
6	09.05.101	Fixing bush 10-15 Hp	1
6	09.05.102	Fixing bush 10 Hp	1
6.1	09.05.100	Fixing bush 15 Hp	1
7	09.05.001	Pulley 10 Hp screw	1
7	09.05.012	Pulley 15 Hp screw	1
8	30.01.011	Anti vibration device	4
9	42.03.003	Copper washer	1
10	42.03.001	Copper washer	1
11	14.50.013	Nipple	1
12	14.50.001	Nipple	1
13	03.04.002	Screw	1
14	90.40.016	Probe	1
15	90.25.102	OR seal	1
16	12.01.033	Coupling	1
17	14.01.011	Nipple	1
18	90.40.008	One-way valve	1
19	14.01.002	Nipple	1
20	12.02.030	Coupling	1
21	90.40.036	Solenoid valve	1
22	50.13.010	Regulator	1
23	41.03.017	Nut	1
24		OR seal	4
25		OR seal	1
26		Piston	1
27		Spring	1
28		Seal	1
29		Butterfly	1
30		Fork	1
31		OR seal	1
32		OR seal	1
33		Suction valve kit	1
34	34.01.026	Filter	1
35	34.01.022	Complete filter kit	

Table 4

POS.	CODE	NAME	QTY
1	07.60.011	Air oil radiator	1
2	50.08.071	Electro-fan conveyor Ø300	1
3	07.50.002	Electro-fan Ø300	1
4	14.51.010	Nipple	3
4.1	14.50.010	Nipple	1
6	42.03.002	Copper washer	3

POS.	CODE	NAME	QTY
6.1	42.03.001	Copper washer	1
8	90.40.040	Head	1
8.1	90.02.018	Oil filter	1
9	14.50.001	Coupling	1
11	90.03.018	De-oiling filter	1
13	12.01.030	Straight coupling	2
15	20.03.001	Copper pipe	1
16	18.01.003	Coupling	1
17	19.02.010	Ball cock	1
18	42.03.001	Copper washer	5
19	42.03.002	Copper washer	2
20	14.10.002	Plug	1
21	40.20.001	Oil level	1
22	13.03.008	T-coupling	1
23	13.01.002	Reduction	1
24	05.02.002	Safety valve	1
25	08.01.002	Pressure gauge	1
26	90.20.008	Nipple	2
27	42.03.001	Nipple	2
28	12.02.030	Coupling	2
29	01.01.100	Tank	1
30	12.05.001	Coupling	1
31	14.50.010	Nipple	1
32	42.03.001	Copper washer	1
33	90.20.110	Valve kit	
34	90.40.021	Complete valve	

TEST CERTIFICATE

This certifies that the compressor passed the factory tests.

The following checks were carried out:
- All components were correctly assembled and work properly;
- The electrical tests were completed with positive results;
- The parts subject to pressure were tested with positive results;
- The oil and air circuits have no leaks;
- The outside of the machine has no visual defects;
- The air yield, absorbed power and working temperature parameters are regular.

The Tester

Dichiarazione di conformità - Géclaration de conformité
Declaration of Conformity - Konformitätserklärung
Declaración de conformidad - Overensstemmelseserklæring
Överensstämmande intyg - EG-Conformiteitsverklaring

(I) DICHIARAZIONE DI CONFORMITA' CE

La GIS S.r.l. con sede legale in Via Dei Barrocciai, 29 - 41012 Carpi (MO) Italy, dichiara che l'elettrocompressore d'aria descritto nel presente libretto, con numero di matricola e anno di costruzione sotto indicati, è conforme alle seguenti disposizioni:
Direttiva 2006/42/CE
Direttiva 2004/108/CE: compatibilità elettromagnetica e successive modifiche
Direttiva 2006/95/CE: bassa tensione e norme pertinenti

Il rappresentante legale
Gianfranco Sgarbi

(D) CE - ÜBEREINSTIMMUNGSERKLÄRUNG

Die Firma GIS S.r.l. mit Sitz in Via Dei Barrocciai, 29 - 41012 Carpi (MO) Italy,erklärt, daß der in dieser Betriebsanleitunfg beschriebene Elektroluftkonpressor, mit der folgenden Serienummer und dem folgenden Baujahr die folgenden Direktiven entspricht:
Richtlinie 2006/42/CE
Richtlinie 2004/108/CE: elektromagnetische Kompatibilitât und folgende Änderungen
Richtlinie 2006/95/CE: Niederspannung und dazu gehörige Richtlinien

Der gesetzliche Vertreter
Gianfranco Sgarbi

(F) DÉCLARATION DE CONFORMITÉ CE

La Sté. GIS S.r.l. avec son siège en Via Dei Barrocciai, 29 - 41012 Carpi (MO) Italy, déclare que l'électrocompresseur d'air décrit dans cette notice, avec numéro de série et année de fabrication comme spécifié ci-dessous, est conforme aux dispositions suivantes:
Directive 2006/42/CE
Directive 2004/108/CE: compatibilité électromagnétique et modifications suivantes
Directive 2006/95/CE: basse tension et normes pertinentes

Le réprésentant légal
Gianfranco Sgarbi

(E) DECLARACIÓN DE CONFORMIDAD CE

La sociedad GIS S.r.l. con sede en Via Dei Barrocciai, 29 - 41012 Carpi (MO) Italy, declara que el electrocompresor de aire descrito en este manual, con número de serie y año de fabricación como se detalla abajo, está conforme con las disposiciones siguientes:
Directiva 2006/42/CE
Directiva 2004/108/CE: compatibilidad electromagnética y sucesivas modificaciones
Directiva 2006/95/CE: baja tensión y normas pertinentes

El representante legal
Gianfranco Sgarbi

(GB) CE - CONFORMITY DECLARATION

Messrs. GIS S.r.l. with headquarters in Via Dei Barrocciai, 29 - 41012 Carpi (MO) Italy, declare that the air electrocompressor described in this manual, with serial No. and year of manufacture as specified below, complies with the following regulations:
2006/42/CE Directive
2004/108/CE Directive: electromagnetic compatibility and following modifications
2006/95/CE Directive: low voltage and relevant rules

The legal rapresentative
Gianfranco Sgarbi

(I) Nr. di matricola/Modello (D) Seriennummer/Typ
(F) Nr. de série/Modèle (E) Número de serie/Modelo
(GB) Serial number/Model

(I) Anno di costruzione (D) Baujahr
(F) Année de fabrication (E) Año de fabricación
(GB) Year of manufacture

Fascicolo tecnico - Dossier technique
Technical file - Techn. Dokumentation

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