PAC SERIES



PAC SERIES 7.5-11-15-18

User's Maintenance & Spare Parts Manual

Dear Customer,

Thank you for choosing Pilot Air.

In order to get the best performance out of this product, please read this manual carefully.

To avoid incorrect operation of the equipment and possible physical risk to the operator, please read and strictly follow the instructions contained in this manual.

Note, these instructions are in addition to the safety rules that apply in the country where the air compressor is installed.

Before packing for shipment, each machine undergoes a rigorous test to ensure the absence of any manufacturing faults and to demonstrate that the device can perform all the functions for which it has been designed.

This manual must be maintained available in any moment for future references and it has to be intended as inherent part of the relevant dryer.

Due to the continuous technical evolution, we reserve the right to introduce any necessary change without giving previous notice.

Should you experience any trouble, or for further information, please do not hesitate to contact us.

Best Regards,

PILOT AIR COMPRESSORS
http://www.pilotair.com
Phone: 1300 667 579
Email: service@pilotair.com.au / spares@pilotair.com.au

DECLARATION OF CONFORMITY

The following declaration is attached to the compressor in original copy.
All identification data: manufacturer, model, code and serial number are stamped on EC label.
For any request for copies it is ESSENTIAL to provide ALL the data stamped on EC label.

IT- Dichiara sotto la sua esclusiva responsabilità, che il compressore d'aria qui di seguito descritto è conforme alle prescrizioni di sicurezza delle direttive: 2006/42/CE, 2006/95/CE, 2004/108/CE, 2009/105/CE, EN 1012-1, EN 60204-1, EN 61000-6-3/4.	**SI** - Na lastno odgovornost izjavlja, da je spodaj opisani zračni kompresor v skladu z varnostnimi predpisi, ki veljajo za stroje 2006/42/EU, 2006/95/EU, 2004/108/EU , 2009/105/EU, EN 1012-1, EN 60204-1, EN 61000-6-3/4.
GB - Declares under its sole responsibility that the air compressor described below complies with the safety requirements of directives: 2006/42/EC, 2006/95/EC, 2004/108/EC, 2009/105/EC, EN 1012-1, EN 60204-1, EN 61000-6-3/4	**HU** Kizárólagos felelősségе tudatában kijelenti, hogy a lent megnevezett légsűrítő megfelel a 2006/42/EK, 2006/95/EK, 2004/108/EK, 2009/105/EK, EN 1012-1, EN 60204-1 és EN 61000-6-3/4 irányelvek rendelkezéseinek
FR - Déclare sous son entière responsabilité que le compresseur d'air décrit ci-après est conforme aux prescriptions de sécurité des directives : 2006/42/CE, 2006/95/CE, 2004/108/CE, 2009/105/CEE, EN 1012-1, EN 60204-1, EN 61000-6-3/4..	**CZ** - prohlašuje s plnou odpovědností, že uvedený vzduchový kompresor vyhovuje bezpečnostním požadavkům směrnic: 2006/42/ES, 2006/95/ES, 2004/108/ES , 2009/105/ES, EN 1012-1, EN 60204-1, EN 61000-6-3/4.
DE - erklärt unter ihrer alleinigen Verantwortung, daß der in Folge beschriebene Luftkompressor den Sicherheitsvorschriften der Richtlinien: 2006/42/EG, 2006/95/EG, 2004/108/EG, 2009/105/EG, EN 1012-1, EN 60204-1, EN 61000-6-3/4..	**SK** - Zodpovedne vyhlásuje, že uvedený vzduchový kompresor zodpovedá bezpečnostným požiadavkám smernic: 2006/42/ES, 2006/95/ES, 2004/108/ES, 2009/105/ES, EN 1012-1, EN 60204-1, EN 61000-6-3/4.
ES - Declara bajo su exclusiva responsabilidad que el compresor de aire descrito a continuación responde a las prescripciones de seguridad de las directivas : 2006/42/CE, 2006/95/CE, 2004/108/CE, 2009/105/CEE,EN 1012-1, EN 60204-1, EN 61000-6-3/4	**RU** - Заявляет под свою полную ответственность, что нижеописанный воздушный компрессор соответствует требованиям безопасности согласно директивам 2006/42/EC, 2006/95/EC, 2004/108/EC, 2009/105/EC, EN 1012-1,EN 60204-1, EN 61000-6-3/4
PT - Declara sob a sua exclusiva responsabilidade que o compressor de ar descrito a seguir está em conformidade com as prescrições de segurança das directivas: 2006/42/CE, 2006/95/CE, 2004/108/CE, 2009/105/CEE, EN 1012-1, EN 60204-1, EN 61000-6-3/4	**NO** - Erklærer under eget ansvar at luftkompressoren her beskrevet er i overensstemmelse med sikkerhetsforskriftene i direktivene: 2006/42/EC, 2006/95/EC, 2004/108/EC, 2009/105/EC, EN 1012-1, EN 60204-1, EN 61000-6-3/4..
NL - Verklaart onder zijn eigen verantwoordelijkheid dat de hieronder beschreven luchtcompressor in overeenstemming is met de veiligheidsvoorschriften van de richtlijnen: 2006/42/EG, 2006/95/EG, 2004/108/EG, 2009/105/EG(ex 87/404/EEG), EN 1012-1, EN 60204-1, EN 61000-6-3/4	**TR** - Tek sorumluluk kendisinde olmak üzere, aşağıda anlatılan hava kompresörünün şu direktifl erin güvenlik gereklerine uygun olduğunu beyan eder/ederiz: 2006/42/EC, 2006/95/EC, 2004/108/EC, 2009/105/EC, EN 1012-1, EN 60204-1, EN 61000-6-3/4
DK - Forsikrer på eget ansvar, at luftkompressoren, der beskrives nedenfor, er i overensstemmelse med sikkerhedsforskrifterne i direktiverne: 2006/42/EC, 2006/95/EC, 2004/108/EC, 2009/105/EC, EN 1012-1, EN 60204-1, EN 61000-6-3/4..	**RO** - Declara pe propria raspundere ca,compresorul de aer denumit in continuare,este in conformitate cu cerintele de securitate cuprinse in directivele: 2006/42/CE, 2006/95/CE, 2004/108/CE , 2009/105/CE, EN 1012-1, EN 60204-1, EN 61000-6-3/4
SE - Försäkrar under eget ansvar att den luftkompressor som beskrivs följande är i överensstämmelse med säkerhetsföreskrifterna i EU-direktiv: 2006/42/EG, 2000/14/EG, 2006/95/EG, 2009/105/EG, EN 1012-1, EN 60204-1, EN 61000-6-3/4..	**BG** - Декларира на собствена отговор ност, че въздушният компресор описан по-долу е в съответствие с изискванията на директивата за безопасност: 2006/42/EC, 2006/95/EC, 2004/108/EC, 2009/105/EC, EN 1012-1, EN 60204-1, EN 61000-6-3/4
FI - vakuuttaa, että seuraavassa esitelty ilmakompressori vastaa alla lueteltujen direktiivien turvallisuusvaatimuksia: 2006/42/EC, 2006/95/EC, 2004/108/EC, 2009/105/EC, EN 1012-1, EN 60204-1, EN 61000-6-3/4..	**RS** - Izjavljuje pod punom odgovornošću da je dole opisan kompresor vazduha u skladu sa sigurnosnim zahtevima sledećih Direktiva: 2006/42/EZ, 2006/95/EZ, 2004/108/EZ, 2009/105/EZ, EN 1012-1, EN 60204-1, EN 61000-6-3/4
GR - Δηλώνει με αποκλειστική δική της ευθύνη, ότι ο συμπιεστής αέρος που περιγράφεται παρακάτω ανταποκρίνεται στις προδιαγραφές ασφαλείας των οδηγιών: ☐2006/42/ΕΚ, 2006/95/ΕΚ, 2004/108/ΕΚ, 2009/105/ΕΚ, EN 1012-1, EN 60204-1, EN 61000-6-3/4.	**LT** - Su visa atsakomybe pareiškia, kad žemiau aprašytas oro kompresorius atitinka saugumo direktyvų 2006/42/ES, 2006/95/ES, 2004/108/ES, 2009/105/ES, EN 1012-1, EN 60204-1, EN 61000-6-3/4
PL - Deklaruje pod pełną własną odpowiedzialność, że opisana niżej sprężarka powietrzna odpowiada wymaganiom bezpieczeństwa zawartym w Dyrektywach 2006/42/EC, 2006/95/EC, 2004/108/EC, 2009/105/EC, EN 1012-1, EN 60204-1, EN 61000-6-3/4	**EE** - Avaldab enda täieliku vastatusega, et edaspidi kirjeldatud õhukompressor vastav ohutuse nõudmistele direktiividele 2006/42/CE, 2006/95/CE, 2004/108/CE, 2009/105/CE, EN 1012-1, EN 60204-1, EN 61000-6-3/4.
HR - Izjavljuje pod punom odgovornošću da je dolje opisan kompresor zraka u skladu sa sigurnosnim zahtjevima sljedećih direktiva 2006/42/EC, 2006/95/EC, 2004/108/EC, 2009/105/EC, EN 1012-1, EN 60204-1, EN 61000-6-3/4	**LV** - Apliecinā zem savas pilnīgas atbildības, ka apakšā aprakstītais gaisa kompresors atbilst direktīvu, 2006/42/EC, 2006/95/EC, 2004/108/EC, 2009/105/EC, EN 1012-1, EN 60204-1, EN 61000-6-3/4..

INDEX

GB

1	Declaration of Conformity	3
2	General Information	5
3	Overall Dimensions	6
4	Safety Regulations	7
5	Installation	11
6	Technical Features	13
7	Controls and Settings	14
8	Alarms	17
9	Functioning Cycle	19
10	Maintenance	20
11	Troubleshooting	23
12	Wiring Diagram	24
13	Warrant Terms and Conditions	25

OUTFIT

The following accessories are supplied with the compressor:

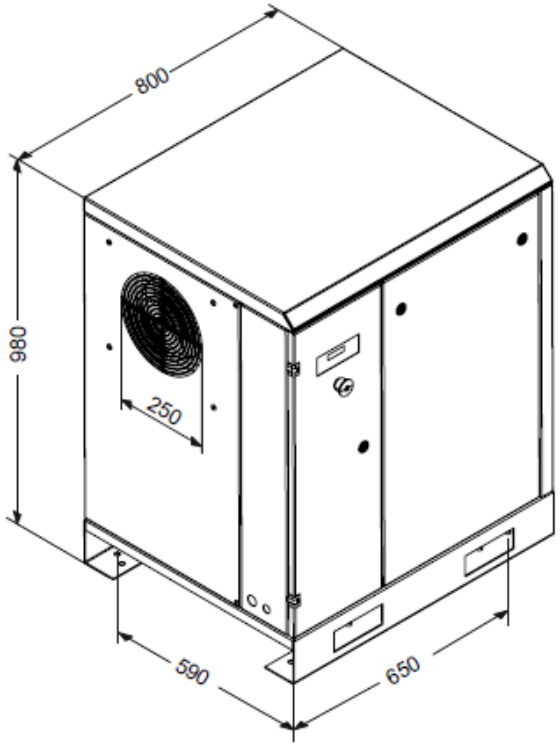
- User's Guide
- Anti-vibration elements
- Oil/condensate exhaust tube
- Air outlet cock

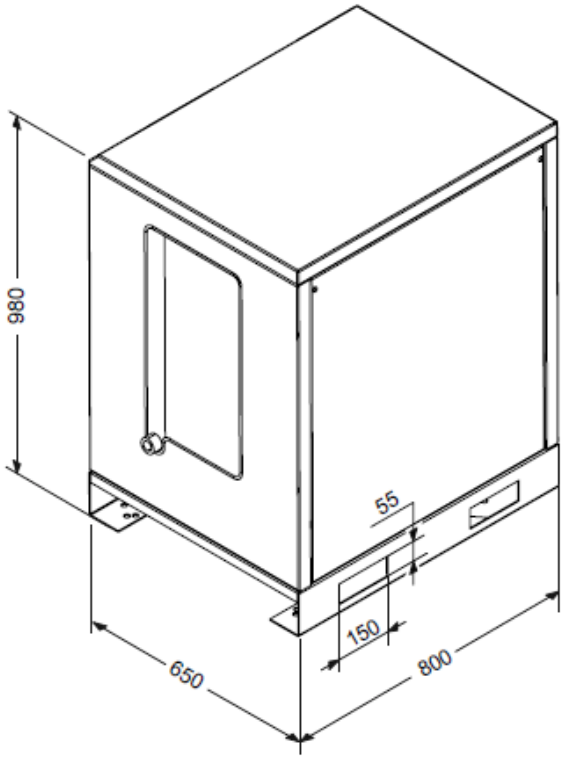
Check that the above accessories are available. Once the goods have been delivered and accepted, no complaints are accepted.

CONDITION OF THE MACHINE WHEN SUPPLIED

Every compressor is shop tested and delivered ready to be installed and to be set at work.

Oil used is: ROTENERGY PLUS


800
980
250
590
650


980
55
150
650
800

READ THIS PAGE CAREFULLY BEFORE PERFORMING ANY OPERATION ON THE COMPRESSOR

GENERAL WARNINGS

• The rotating compressors are destined for arduous and continuous industrial use. They are particularly adapt for application in industries where a large consumption of air is requested for long periods of time.

• The compressor must be used exclusively as indicated in this manual, which must be kept carefully in an easily accessible place known to everyone, as it must remain with the machine for its entire duration.

• The company in which the compressor is to be installed must appoint a person in charge of the compressor itself. Controls, adjustments and maintenance interventions are under his responsibility: if this person must be replaced, the substitute must read the user and maintenance manual and any notes made regarding technical and maintenance interventions carried out up to this time.

SYMBOLS USED IN THE MANUAL

Several symbols have been used inside the manual, which highlight dangerous situations, give practical advice or simple information. These symbols are found at the side of a text, at the side of a figure or at the top of a page (in this case they refer to all subjects considered on the entire page).

Pay attention to the meaning of the symbols.



ATTENTION!
Highlights an important description regarding: technical interventions, dangerous conditions, safety warnings, advice and/or very important information.



MACHINE AT A STANDSTILL!
Every operation highlighted by this symbol must only be carried out with the machine at a standstill.



REMOVE VOLTAGE!
It is compulsory to deactivate the electric power supply to the machine before carrying out any interventions on the machine.



SPECIALISED STAFF!
All interventions highlighted with this symbol must be carried out exclusively by a specialised technician.

READ THIS PAGE CAREFULLY BEFORE PERFORMING ANY OPERATION ON THE COMPRESSOR

SYMBOLS USED ON THE COMPRESSOR

Several different labels are applied to the compressor. Their function is most of all to highlight any hidden dangers and to indicate correct behavior during use of the machine or in particular situations.

It is of fundamental importance that they are respected.

Warning symbols


High temperature risk


Electric shock risk


Risk from hot or dangerous gases in the work area


Pressurised container


Moving mechanical parts


Maintenance in progress


Machine with automatic start-up

Prohibition symbols


Do not open hatches when the machine is functioning


If necessary, always use the emergency stop button and not the line isolating switch


Do not use water to put out fires on electrica appliances

Obligation symbols


Carefully read the user instructions

READ THIS PAGE CAREFULLY BEFORE PERFORMING ANY OPERATION ON THE COMPRESSOR

TO DO:

- Make sure that mains voltage corresponds to the voltage indicated on CE plate and that cable of suitable cross-section are used for electric connections.
- Always check oil level before starting the compressor.
- Be familiar with emergency stop control and all other controls.
- Unplug the connector before any maintenance work, so to avoid accidental start.
- Ensure that all parts have been correctly reassembled after any maintenance work.
- Keep children and animals off the working area to avoid injuries caused by devices connected to the compressor.
- Ensure that temperature of the working environment ranges between +2 and + 45 ºC. Compressor working temperature shall range between 70÷85°C (20-25°C room temperature). Lower temperatures may cause condensate accumulation inside the oil separator tank (inside the compressor). **Check for condensate and if necessary, drain it (see maintenance).**
- The compressor should be installed and operated in a non-explosive environment.
- Allow at least 80 cm between the compressor and the wall so to allow free air flow to the fan.
- Press the emergency button on the control panel only in case of actual need so as to avoid possible damages to people or the very compressor.
- When calling for technical assistance and/or advice, always mention model, code and serial number indicated on CE plate.
- Always follow the maintenance schedule specified in the user's guide.

DO NOT:

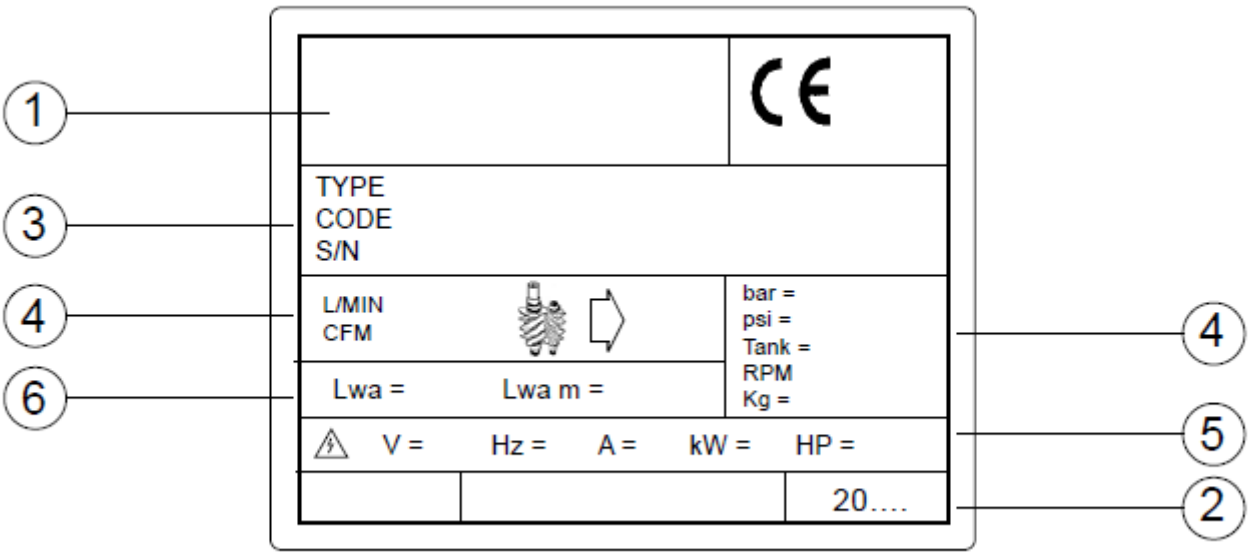
- Do not touch inner parts and pipes as they are very hot during compressor operation and stay hot for a certain time after compressor stops.
- Do not position inflammable close to and onto the compressor.
- Do not move the compressor when the tank is under pressure.
- Do not operate the compressor if the power cable is damaged or defective or if connection is unstable.
- Do not operate the compressor in wet or dusty environments.
- Never aim the air jet at people or animals.
- Do not allow unauthorized people to operate the compressor and give them all required instructions.
- Do not hit fans with blunt objects as they might break during compressor operation.
- Never operate the compressor without air filter.
- Do not tamper with safety and adjusting devices.
- Never operate the compressor when doors/panels are open or removed.
- Do not strike the fans with contusive or metal objects as they could cause sudden breakage during functioning.
- Do not allow the compressor to function without the filter and/or air pre-filter.
- Do not tamper with safety and adjustment devices.
- Never allow the compressor to function with the hatches/panels open or removed.

READ THIS PAGE CAREFULLY BEFORE PERFORMING ANY OPERATION ON THE COMPRESSOR

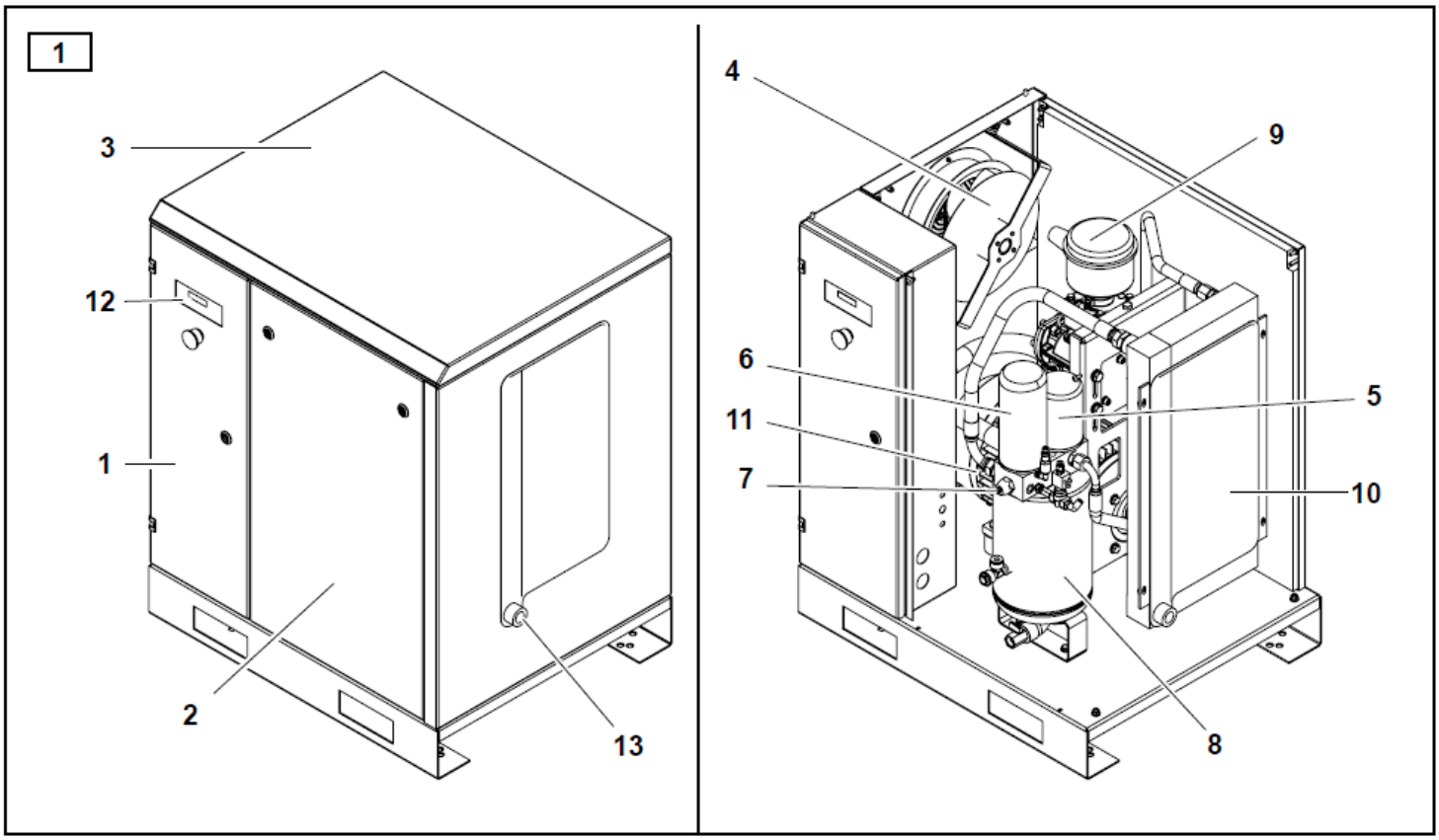
PRODUCT IDENTIFICATION

The compressor you have purchased has its own CE plate showing the following data:

1. Manufacturer's data
2. Year of manufacture
3. TYPE = name, CODE = code , SERIAL NO. = serial number (to be always mentioned when calling for technical assistance)
4. Tech data: air intake/air delivery, Max. operating pressure, Tank capacity, Rotations per minute, weight.
5. Voltage, frequency , absorption, power.
6. Noise level



DESCRIPTION OF THE COMPRESSOR



1) Electrical equipment
2) Front panel / Oil indicator level
3) Lid
4) Electric fan
5) Oil filter
6) Oil separator filter
7) Minimum pressure valve
8) Oil separator tank
9) Air filter / Intake regulator / Screw compressor
10) Oil radiator
11) Electric motor
12) Control panel
13) Air intake outlet

UNPACKING AND HANDLING THE MACHINE

When delivered, compressor top is protected by cardboard packing.

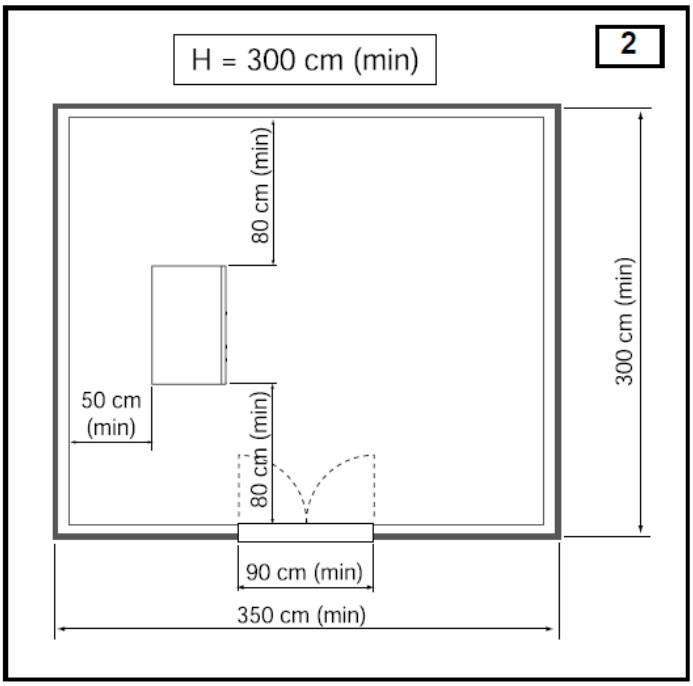
Wear suitable protective gloves and then cut outer straps and then remove cardboard from the top. Check the (outer) good condition of the machine before moving the compressor. Visually check that no parts are damaged. Also, ensure that all accessories are available.

Lift the machine using a fork lift truck. Fit the anti-vibration elements into their proper seat and move the machine to the room chosen for its location with maximum care.

Keep all packing materials at least for the warranty period for possible moving. In case of need, it will be safer for delivery to the technical assistance dept.

Then, dispose of packing materials in compliance with current laws.

LOCATION (fig. 2)



The room chosen for the installation of the compressor should meet the following requirements and comply with what is specified in the current safety and accident prevention regulations:

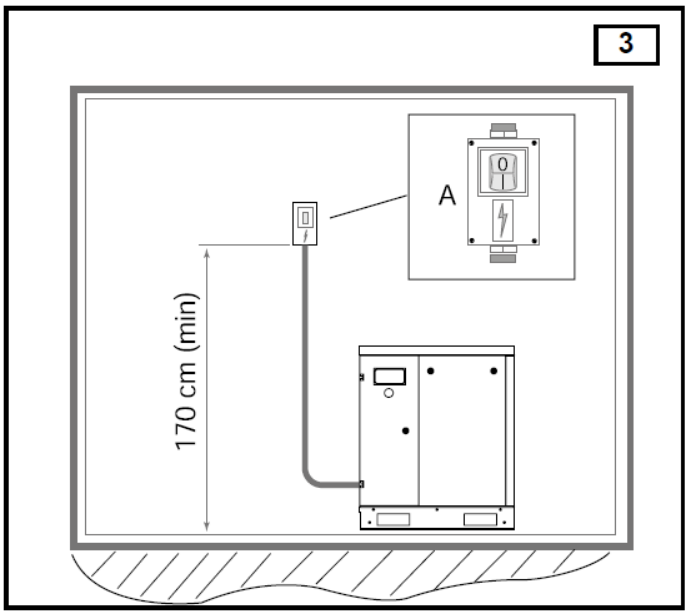
- **low percentage** of fine dust,
- **proper room ventilation and size** that allow room temperature under 45°C. In the event of inadequate hot air discharge, fit the exhaust fans as high as possible.

Condensate should be collected either into a pit or a tank.

The dimensions of the spaces are indicative only but it is advisable to follow them as closely as possible.

ELECTRICAL HOOK-UP





- The mains cable should have a cross-section suitable for the machine power and should include no. 3 phase wires, no. 1 neutral cable and no. 1 earth wire.
- Between the mains cable and the compressor control panel a fused switch near the point where the cables go into the machine is **absolutely necessary**. The switch should be at least at 1.7 m from the ground.
- The switch (A) should be easily reached by the operator. The cables should be of the approved type and installed with the following grade of protection: minimum IP44

N.B. To determine the cables cross-section and the type of switch refer to the data reported on the technical table. Sizing according to "VDE 0100, Part 430 and 523", star-delta starter, 30° C ambient temperature and cable length lower than 50 meters.

Electric connection	400 V	7,5	11	15 - 16	230 V	7.5	11	15 - 16
Conductor min. section	mm2	4G4	4G6	4G10	mm2	4G10	4G10	4G16
Magnetic thermal switch	A	25	32	40	A	35	50	63
Fuses	AgI	30	35	35	AgI	35	50	63

TECHNICAL FEATURES



Technical characteristics	Type	7,5			11			15			16		
Work pressure	bar g	8	10	13	8	10	13	8	10	13	8	10	13
Pump group	type	FS26TF			FS26TF			FS26TF			FS50TF		
Air outflow rate (according to ISO 1217 annex C)	l/min	1250	1000	750	1650	1500	1150	2150	1850	1550	2400	2050	1700
Oil quantity	l	6,5			6,5			6,5			6,5		
Quantity of top up oil	l	0,8			0,8			0,8			0,8		
Max input power from the mains	°C	10			12			15			17		
Heat carried	kJ/h	25600			37600			51300			51300		
Fan flow rate	m3/h	1500			1500			2000			2000		
Oil residuals in the air	mg/m3	2-4			2-4			2-4			2-4		
Electric motor	type	132 B3B14			132 B3B14			132 B3B14			132 B3B14		
Nominal Input	kW	7,5			11			15			15		
Max input power from the mains	kW	8,9			12,9			15,9			17,1		
Electric box protection level	IP	54			54			54			54		
Ambient temperature limit	°C	+2/+45			+2/+45			+2/+45			+2/+45		
Sound pressure (according to Pneurop/Cagi PN2CPTC2)	dB(A)	68			69			70			68		

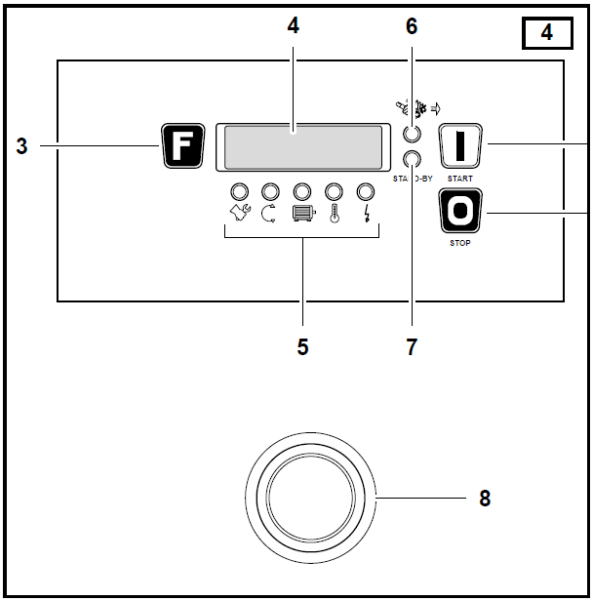
Electrical data													
Voltage power supply	V/Ph/Hz	400/3~/50			400/3~/50			400/3~/50			400/3~/50		
Auxiliary voltage	V/Hz	24/50			24/50			24/50			24/50		
Current input at start up	A	36			59			79			83		
Max current input	A	15,5			24			30			30		
Current absorbed when empty	kW	3,8			5,1			5,8			5,8		
Electric motor protection degree	IP	55			55			55			55		
Insulation class		F			F			F			F		
Service factor		1,1			1,1			1,1			1,1		

Protection devices													
Oil circuit max temperature	°C	110			110			110			110		
Pre-alarm oil temperature calibration	°C	105			105			105			105		
Thermal motor relay calibration	A	10,5			14,5			17,5			17,5		
Safety valve calibration	bar	14			14			14			14		

Dimensions													
Length	mm	800			800			800			800		
Width	mm	650			650			650			650		
Height	mm	980			980			980			980		
Weight	kg	190			210			220			241		
Air outlet	G	3/4"			3/4"			3/4"			3/4"		

CONTROL PANEL

The version is equipped with an electronic control called which managers all of the compressor functions



1. START key: controls start-up of the compressor
2. RESET key: controls turning off of the compressor
3. “Function” key: allows movement from one display to the other
4. Display: shows the information
5. Alarm warning lights: turn on in case of alarm
6. Screw warning light: turning on means that the compressor is loading.
7. Stand-by warning light: turning on indicates the compressor is waiting
8. Emergency shutdown button: pressing this button causes immediate stoppage of the compressor. **To be used only and exclusively** in the event of real need.

WORKING TIMES

- START-STOP function: the compressor starts from the pressure switch command. When maximum pressure is reached, it stops and restarts automatically only if the minimum pressure value allowed is reached.
- The compressor function is regulated by the electronic control unit, which measures the pressure by means of a pressure transducer and determines the stopping of the machine when the maximum pressure is reached (vacuum pressure) and it restarts when the pressure decreases to the minimum calibration level (load pressure)
- The machine stop is a delayed type that does not occur at exactly the same time as reaching maximum P value but after a certain time (vacuum time), during which no air is taken.
- The factory vacuum time is 75 seconds but check that the n° of switch on per hour DO NOT exceed the max advised n° of 10. If above 10, increase the “vacuum time”, in order to avoid not necessary switch on and switch off cycles.

PRESSURE REGULATOR

The User should install an intercepting and regulating device downstream of the compressor in order to set the air distribution line according to his/her needs.

MODIFIABLE PARAMETERS

These settings apply exclusively to the models fitted with power unit.

User Menu

With the compressor off, keep the “Function” key pressed for at least 5 seconds.

N°	Parameter	U.M	Min. value	Default value	Max value
U0	Set loadless pressure (*)	Bar	0.5	10.0	15.0
U1	Set loading pressure (**)	Bar	0	8.5	(Set P loadless) – 0.5
U2	Unit of measure (***)	Bar/Psi	0	1	1

- To select the parameter desired use START (forward) and RESET (back) keys,
- Then press the FUNCTION key to show the value of the chosen parameter,
- To change the value, use START (to increase) and RESET keys (to decrease),
- Confirm the value set by pressing the function key.
- The power unit returns to the main menu, and after 5 seconds without pressing any key it returns to the standard display.

(*) Set loadless pressure: indicates the value of pressure at which the compressor starts the loadless operating cycle. (**) Set loading pressure: indicates the value of pressure at which the compressor starts compressing air again.
(***) 1=bar, 0=psi

Assistance Menu

The settings below must be performed only by authorised technicians,

With the compressor off or in alarm status, keep the “FUNCTION” and “RESET” buttons pressed for at least 5 seconds, then a password will be requested.

N°	Parameter	U.M	Min. value	Default value	Max value
A0	Temperature to power fan	°C	0	80	150
A1	Time loadless	sec	30	75	900
A2	Delay time in stoppage phase	sec	30	60	900
A3	Enable pressure sensor (*)		0	1	1
A4	Enable temperature sensor (*)		0	1	1
A5	Enable automatic start (*)		0	0	1
A6	Enable phase sequence (*)		0	1	1
A7	Expiry oil hours	hours	0	2000	65536
A8	Expiry oil filter hours	hours	0	2000	65536
A9	Expiry air filter hours	hours	0	1000	65536
A10	Expiry oil separator hours	hours	0	2000	65536
A11	Total hours (**)	hours	0	—	65536
A12	Loading hours (**)	hours	0	--	65536

(*) 1=enabled, 0=disabled

- to select the parameter desired use START(forward) and RESET keys (back),
- then press the FUNCTION key to show the value of the chosen parameter,
- to change the value use START (to increase) and RESET keys (to decrease),
- confirm the value set by pressing the FUNCTION key.
- The power unit returns to the main menu, and after 5 seconds without pressing any key it returns to the standard display.

During normal operation of the compressor, the following signals can occur:

Alarm warning lights (rif.5, fig.5)



Maintenance
The warning light indicates that maintenance is required.



The warning light turns on to indicate a wrong electrical connection. The compressor blocks.
Check connection to the mains cable and to the terminals of the electrical panel of the compressor.



Oil temperature.
Blinking warning light = pre-alarm without compressor block
Fixed warning light = alarm with compressor block
Let the compressor cool down and check the oil level.



The maximum temperature of the motor has been exceeded. The compressor blocks.
Let the motor cool down and check setting of thermal relay.



Indicates there has been a blackout. The compressor blocks.
With compressor stopped, press RESET to disable the alarm before restarting.

Alarm messages, the following alarms are shown on screen:

AL1 Faulty or broken temperature sensor with blockage of compressor. Replace sensor.
AL2 Faulty or broken pressure sensor with blockage of compressor. Replace sensor.
AL3 No phase or phase sequence transformer not operational with blockage of compressor.
Check presence of phase and if necessary replace transformer.
AL4 Maximum alarm pressure with blockage of compressor.
Contact an assistance centre to remove the cause of the problem.
AL5 Fast rise in temperature with blockage of compressor.
Contact an assistance centre to remove the cause of the problem.
AL6 The emergency button has been pressed.
Reset the button to correct position.

All alarms cause the compressor to block, which can be restarted only when the problem which has caused the blockage is resolved.

The alarm signal remains even after the problem has been solved, to disable it press the RESET button before restarting the compressor.

Maintenance Signalling

The power unit also signals periodic maintenance operations, the internal counters decrease at each hour of loading of the compressor until zero is reached, at this point the maintenance signal will appear on the display:

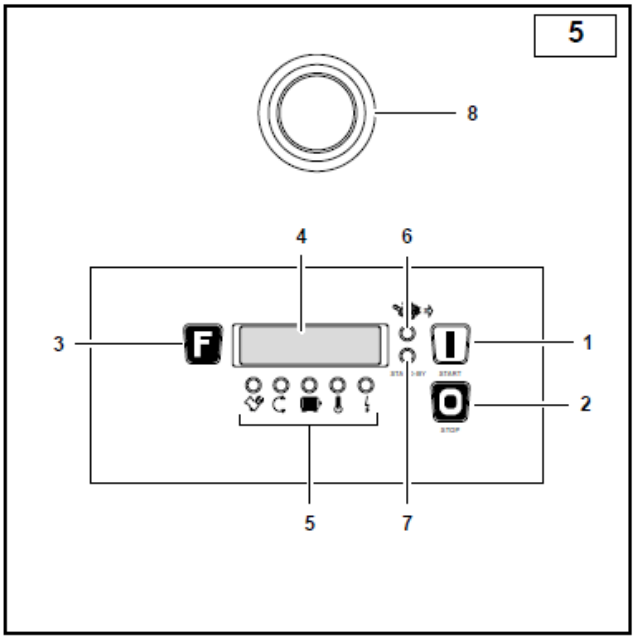
CH1 Expiry of oil hours. Replace oil.
CH2 Expiry of oil filter hours. Replace oil filter
CH3 Expiry air filter hours. Replace air filter.
CH4 Expiry of oil separator hours. Replace oil separator filter.

If more signals are verified at the same time they are displayed in sequence.

Once the maintenance has been performed the internal counters must be reprogrammed.

Before starting the machine for the first time, check that:

- The mains voltage is the same as the voltage on the CE plate;
- The electric connections have been made using cables of proper cross-section,
- The (wall) main power switch has suitable fuses;
- The oil level is over the minimum level – top up with the same type of oil if necessary;



CONNECT THE TANK WITH A HOSE.

Only specialized technicians can start the compressor for the first time.

ON/OFF (fig.4): Before starting up the machine remove the rear panel, switch on the machine by positioning switch (2) in the ON position and check the correct rotating direction of the motor, as indicated by the arrows applied on the screw-motor plate (fig.6).

If the rotation direction is not correct the compressor does not start; a warning sound and a light on the electronic thermostat (inside the electrical compartment) alert to the issue.

Immediately switch off the machine taking both the switch (2) and the wall switch to the OFF position. Open the electric compartment and invert the position of the electric cables of the two phases in the powering terminal board.

Close the electric compartment and restart.

SD Star-delta (fig.5): The **turning on procedure** starts by pressing the START key (1).
The Stand-by led (7) blinks and after a few seconds the presence of the phases and their correct sequence is checked.

If the compressor does not start and the light  comes on, the phase sequence device has intervened, press the RESET (2) button and set the wall mounted switch to the OFF position.

Open the electric compartment and invert the position of two phases in the power terminal box. Close the electrical compartment and restart.

The start-up procedure is repeated: the Screw led (6) blinks and after a few seconds it becomes fixed, the load phase starts until the “set loadless pressure” value is reached.

The Screw led (6) blinks again and the loadless operation phase begins.

If at the end of the loadless operation (default 75 sec.) the pressure has not fallen below the “set load pressure” value the compressor stops and the Stand-by led turns on (7); otherwise upon reaching the “set load pressure” value the compressor restarts the loading phase and the Screw led turns on in fixed mode (6).

During normal function, press the Function key (3). The following information will be displayed:
pressure,
temperature,
total hours of operation (with compressor on),
hours of operation loaded (with compressor in load phase).

By pressing the RESET key (2) **the turn off procedure** starts, the Screw led (6) blinks and the compressor enters the loadless operation mode for the time set by the parameter “delayed stop time” (default 60 sec.). At the end of the cycle the compressor stops.



- Correct maintenance is crucial to achieve maximum efficiency of your compressor, and to lengthen its operating life.
- It is also important to comply with the maintenance intervals recommended, but it must be remembered that such intervals are suggested by the manufacturer in the event that the environmental conditions of use of the compressor are optimal (see “Installation” chapter).
- The maintenance intervals can therefore be reduced depending on environmental conditions in which the compressor operates.
- The oil used is RotEnergy Plus, the use of a different oil does not guarantee perfect efficiency and compliance with the maintenance intervals.
- The following pages describe the routine maintenance operations which can be performed by the person in charge of the compressor, the non-routine maintenance operations must instead be performed by an authorised technical assistance centre.

Maintenance table

MAINTENANCE OPERATION	MAINTENANCE INTERVAL		
	working hours	o	at least
ROUTINE MAINTENANCE			
Condensate drain for oil tank	-		once a week
Check oil and possible top up	500		once a month
Clean filtering element	500		once a year
Check the tension of the transmission belt	500		once a year
Check blockage and clean radiator	1000		once a year
Replace the filtering element	1000		once a year
Replace oil filter	**2000***		**once a year**
Replace oil separator filter	**2000***		**once a year**
Replace oil	**2000***		**once a year**
NON-ROUTINE MAINTENANCE			
Clear/Replace one-way drain valve	**4000**		**once a year**
Review suction valve	4000		-
Review minimum pressure valve	8000		-
Replace the transmission belt	8000		-
Replace hoses	8000		-
Replace solenoid valve	12000		-
Electric motor bearings replacement	12000		-
Review screw	20000		-

* When using mineral oils, intervals are reduced to 1000 hours or one year

If the hourly limit is not reached, the maintenance operations highlighted in **bold** must be performed at least **once a year**.

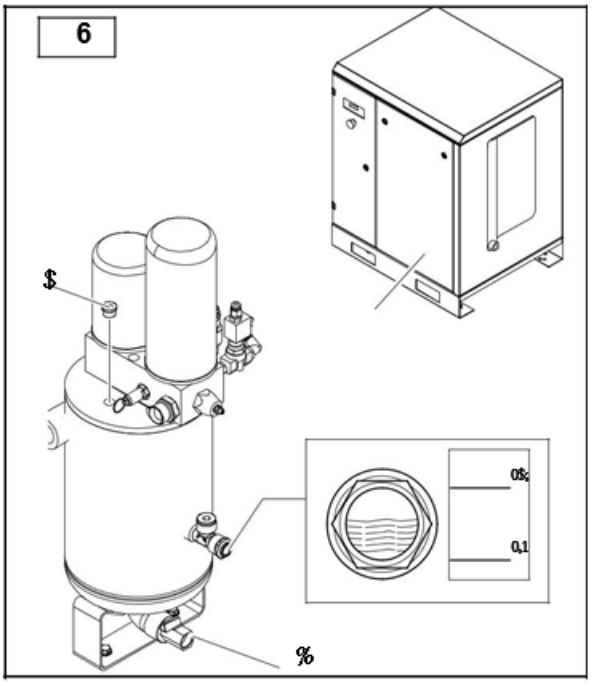
- To verify correct machine operation, perform the followng checks **after the first 100 hours of work:**

1) Check the oil level: top up with the same type of oil if necessary.
2) Check for proper screw tightening: in particular the power electric connection screws.
3) Visually check that all **fittings seal properly.**
4) Check the **belt tension** and if necessary, reset it.
5) Check the **hours of work** and the **type of service selected**
6) Check **room temperature**.

BEFORE MAINTAINING THE MACHINE ALWAYS PERFORM THE FOLLOWING:

√ **Press the machine automatic stop button** (do not use the emergency button).
√ Power the machine off by means of the wall outer switch.
√ Close the line cock.
√ Make sure that no compressed air is inside the oil separator tank.
√ Remove fairing and/ or panels.

DRAIN CONDENSATE (Fig.6)



The oil/air mixture cooling is set at a higher temperature with respect to the dew point of the air (under standard operating conditions of the compressor). However, the condensate in the oil cannot be fully removed.

Blow off compressed air through cock **B** and then close it as soon as oil begins to flow out instead of water. Check the oil level and top up if necessary

CONDENSATE IS A POLLUTING MIXTURE! It must not be let into the sewage.

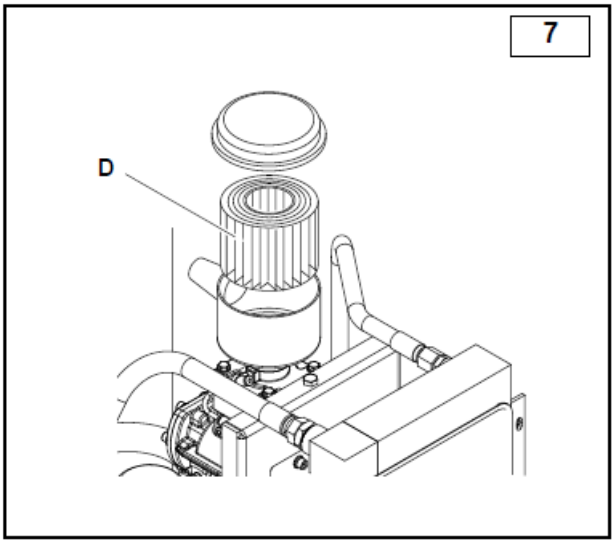
OIL CHECK AND TOP UP IF NECESSARY (Fig.6)

With the compressor off, check the oil level by means of the warning indicator positioned on the front panel 2.

If the level is under the minimum, remove the front panel and refill through hole A. Quantity of oil for refilling from the min to the max level = 0.5 litres.

Use ONLY oil of the same type (RotEnergy Plus).

CLEANING/REPLACING THE FILTERING ELEMENT (Fig.7)



With the compressor stopped, remove the lid and carefully clean the filtering element **D** using compressed air from the inside towards the outside. Check, against the light, for the presence of possible tears and if necessary, replace it.

The filtering element and the lid should be mounted with care, so that no dust can enter the compression unit.

Never allow the compressor to function without the filtering element.

Replace the filtering element D. Alarm signal CH3

CLEANING THE RADIATOR

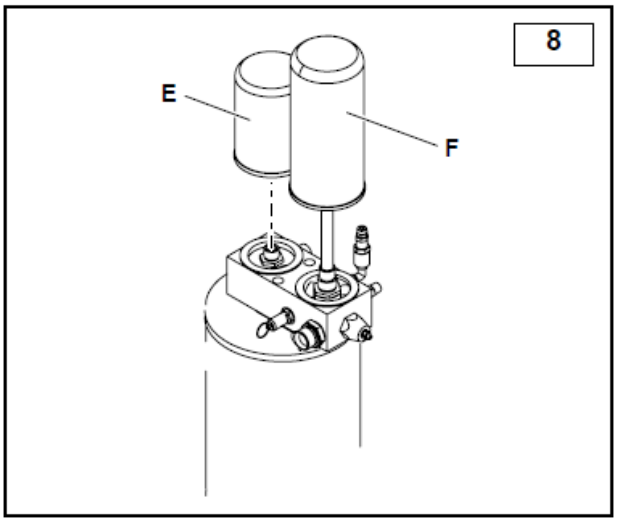
It is recommended that in case of over temperature anomalies and however, at least once a year that the radiator is cleaned.

Proceed as follows:

position a sheet of protective plastic under the radiant pack; spray (with a washing + detergent gun) from inside towards the outside.

Check that the air flows correctly by means of the radiator.

REPLACING THE OIL FILTER (FIG.8)



With the compressor stopped, remove the lid and the front panel. **Alarm signal CH2**

At each change replace also the oil filter E, unscrew the old filter and replace it. Always apply some oil on the edge of the filter and on the seal before refitting manually the filter.

REPLACING THE SEPARATOR FILTER (FIG.8)

With the compressor stopped, remove the lid and the front panel. **Alarm signal CH4**

The oil separator filter F cannot be cleaned, but must be replaced.

Unscrew filter manually (or if necessary use an appropriate filter tool) turning it anticlockwise.

After having slightly greased the oil separator filter seal and O-ring, fit the new filter by turning clockwise.

REPLACING THE OIL

When the compressor is hot - above 70 °C, replace the oil. **Alarm signal CH1**

- Remove the front panel
- Connect the drain hose provided to cock B located at the base of the separator tank.
- Unscrew the plug from hole A, open the cock and allow the oil to drain in to a container until draining is complete.
- Close cock B and withdraw the hose.
- Refill with new oil using hole A (quantity for complete refilling: 5 litres) and refit the plug**.**
- Start up the compressor and allow to function for 5 minutes, and then shut it down. Discharge all of the air and wait 5 minutes before controlling the oil level. Top up, if necessary.

THE EXHAUSTED OIL IS HIGHLY POLLUTANT! For its disposal comply with the current laws on environmental protection.

The first equipment oil is: RotEnergy Plus. In the case of changing the type of oil, operate only for the complete replacement.

NEVER MIX DIFFERENT TYPES OF OIL.

In this case, change also the oil filter and the separator filter.

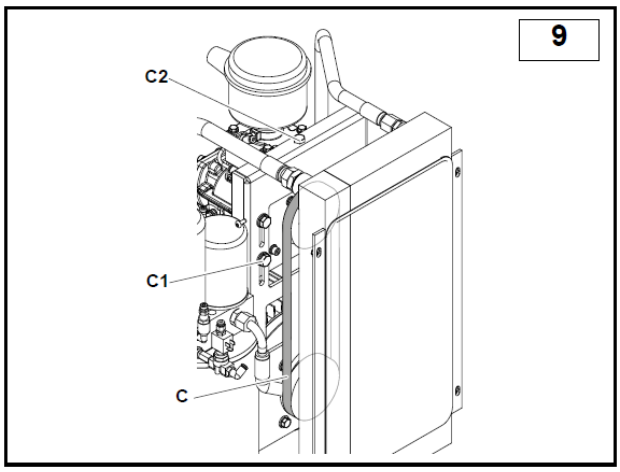
CHECKING THE TRANSMISSION BELT TENSION (FIG.9)

When the compressor is stopped, remove the rear panel and check the belt tension.

Use a suitable measuring instrument that determines with precision the belt tension degree by means of a frequency measuring device in order to perform this control.

Operate as follows:

- Place the microphone of the measuring instrument near to the belt (about half way) and hit the belt with a wrench.
- Read the value detected by the instrument and if different from the values indicated in the table (fig.9A), adjust the tension:



Value higher = belt too tight
Value lower = belt too loose

Adjust by loosening the four bolts and adjust the tension with screw C2.
After adjusting, tighten the bolts C1.
Check the frequency value again and if necessary, repeat the operation.

BELT TENSION

9A

(Hz) 50	8		11		15		16
8	74	8	83	8	92	8	108
10	78	10	86	10	93	10	108
13	78	13	91	13	99	13	112

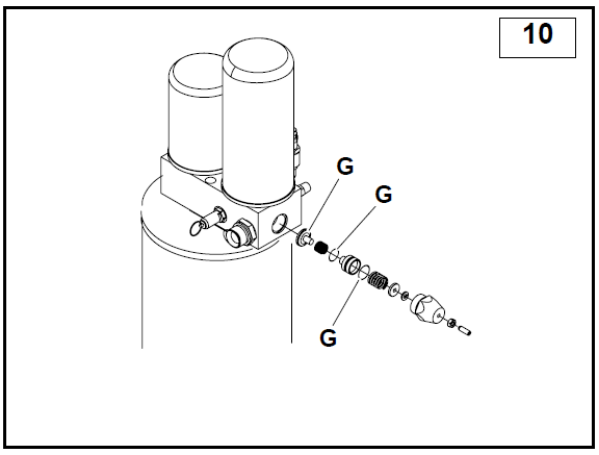
(Hz) 60	8		11		15		16
8	75	8	85	8	96	8	102
10	78	10	84	10	97	10	106
13	77	13	86	13	100	13	104

REPLACING THE TRANSMISSION BELT (fig.9)

When the compressor is stopped, remove the rear panel. Loosen the four bolts C1 and act on screw C2 loosening belt C until completely loose.

Remove the belt and replace it with a new one.

After replacing, check the belt tension as described previously.



REPLACING THE MINIMUM VALVE (Fig.10)

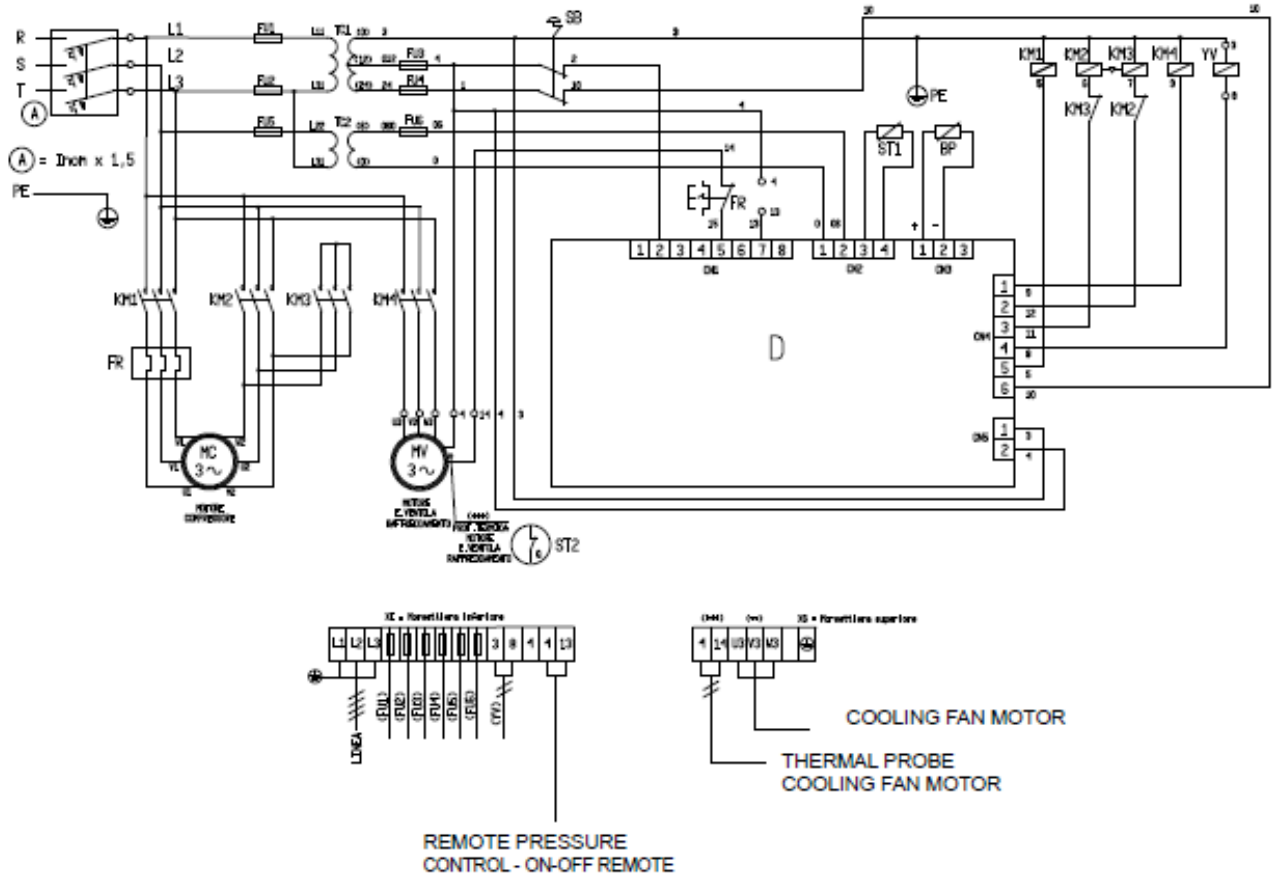
Replace the seals highlighted with the letter G.

REPLACING THE FLEXIBLE HOSES

It is recommended that they are replaced when changing the oil.

Loosen the hose fittings, replace them and tighten with force the fittings. Continue with the final phases of the oil changing procedure.

Problem	Cause	Remedy
Motor stopped (thermal relay operation signal)	Voltage too low	Check voltage, press Reset and then restart.
	Overtemperature	Check motor absorption and relay setting. In case of regular absorption press Reset and restart.
Oil consumption high	Drainage faulty	Check oil drain hose and check valve
	Oil level too high	Check oil level and drain some, if necessary
	Oil separator filter broken	Replace oil separator filter
	Oil separator filter seal leaking	Replace oil separator nipple seals
Intake filter leaks oil	Intake regulator stays open	Check regulator and solenoid valve
Safety valve opening	Pressure too high	Check the pressure settings.
	Intake regulator does not close at the end of the cycle	Check regulator and solenoid valve
	Oil separator filter clogged	Replace oil separator filter
Sensor for compressor temperature triggered	Room temperature too high	Improve ventilation
	Radiator clogged	Clean radiator with solvent
	Oil level too low	Top up oil
	Cooling fan does not start	Check the electric fan motor.
Compressor performance low	Air filter dirty or clogged	Clean or replace filter
Compressor does not compress air while running	Regulator closed. It cannot open because dirty.	Remove intake filter and check for proper manual opening. Remove and clean, if necessary.
	Regulator closed. It cannot open because no command is received.	Check for signal on solenoid valve. Replace damaged part, if any.
Compressor compresses air over max. pressure value	Regulator open. It cannot open because dirty.	Remove and clean regulator
	Regulator open. It cannot open because no command is received.	Check for signal availability between pressure switch and solenoid valve. Replace damaged part, if any.
Compressor does not start	Oil separator filter clogged	Replace oil separator filter
	Min. pressure valve does not close perfectly	Remove the valve, clean and replace seal, if necessary
Compressor hardly starts	Voltage too low	Check mains voltage
	Tube leaking	Tighten fittings



Ref.	Denomination	8		11		15 - 16	
		230 V	400 V	230 V	400 V	230 V	400 V
TC1	Transformer Pr.0/230/400 Sec.0/12/24	100 VA	100 VA	100 VA	100 VA	150 VA	100 VA
TC2	Transformer Pr.0/230/400 Sec.0/6						
SB	Emergency button + n.2 NC 230V 10A						
FU1.FU2.FU4	Ceramic fuses 6.3 x 32 GF 4A 500V						
FU3.FU5	Ceramic fuses 6.3 x 32 GF 1A 500V						
FU6	Ceramic fuse 6.3 x 32 GF 500mA 500V						
KM1	Coil line hour counter .24 V 50/60 Hz	11 kW(*)	5,5 kW(*)	11 kW(*)	7,5 kW(*)	18,5 kW(*)	11 kW(*)
KM2	Coil triangle hour counter.24 V 50/60 Hz	11 kW(*)	5,5 kW(*)	11 kW(*	7,5 kW(*)	18,5 kW(*)	11 kW(*)
KM3	Coil star hour counter.24 V 50/60 Hz	7,5 kW(*)	4 kW(*)	11 kW(*)	7,5 kW(*)	15 kW(*)	7,5 kW(*)
KM4	Contactor cooling solenoid valve 24 V 50/60 Hz	3 kW(*)	3 kW(*)	3 kW(*)	3 kW(*)	3 kW(*)	3 kW(*)
FR	Thermal- reset MAN/AUT - 1L+1R	(14-20)	(9-12,5)	(20-25)	(11-16)	(30-36)	(17-22)
YV	Electric valve 24 VAC 50/60 Hz 8VA						
BP	Pressure transducer 0-16 Bar 4-20mA						
D	Electronic control 12VAC						
ST1	Thermal probe						
MV	Motor E. Cooling fan 230/400V 50/60 Hz	180 W	180 W	180 W	180 W	180 W	180 W
	Motor cable cross-section (mmq)	7x4	7x2,5	7x6	7x2,5	7x10	7x4

1) Aux. section = 1mmq
2) (*) = 400V AC3
3) (**) = 400 V

VOLTAGE - BLACK-BLUE-BROWN
YELLOW-GREEN-WHITE BRIDGE

230V
VOLTAGE. - (BROWN-WHITE) /
(BLUE-GREEN)/(BLACK-YELLOW)

WARRANTY

Pilot Air Compressors Pty Ltd manufactured goods - 1 Year Warranty and 3 Year Warranty (where applicable)

November 2024

Pilot Air Compressors Pty Ltd (Pilot Air) warrants to the first purchaser of goods (manufactured by it) (Product) from Pilot Air and the last purchaser prior to installation that, subject to compliance with the Conditions of Warranties below that:

1. **For a period of 12 months from the date of purchase, the Product will be free from defects due to defective factory workmanship or materials; and**

2. **For a period of 12 months from the date of purchase that Pilot Air branded accessories supplied by Pilot Air will be free from defects due to defective factory workmanship or materials.**

3. **The compressor pump only (and excluding all other components of the unit) in the following units:**

   - **TM Series Units**
   - **Professional K11/K17 Units**

   will be free from defects due to defective factory workmanship or materials for a period of 3 years from the date of purchase.

4. **The compressor pump, receiver tank and platform only (and excluding all other components of the unit) in the following units:**

   - **Classic K Series Units**
   - **Petrol Industrial Series Units**
   - **Diesel Industrial Series Units**
   - **Three Phase Industrial Series Units**

   will be free from defects due to defective factory workmanship or materials for a period of 5 years from the date of purchase. All warranties subject to recommended servicing being carried out by PilotAir Service or authorised repair agents using genuine PilotAir Spare parts.

5. **The 'PAC' and 'ATVS' Series of Rotary Screw type compressors will be free from defects due to defective factory workmanship or materials for 3,000 working hours in the first 12 months from the date of purchase. This warranty is extended to a period of 3 years for the air end of the PAC and ATVS Series Compressors.**

6. **Where compressors are powered with either petrol or diesel engines, the engine only is subject to the warranty provided by the manufacturer of the engine.**

WARRANTY

7. Non-Pilot Air accessories (meaning accessories which are not Pilot Air manufactured and branded) which are supplied by Pilot Air are not covered by this warranty. Purchasers are referred to the individual manufacturer's warranty. Purchasers can request a copy of the applicable warranties by contacting Pilot Air using the contact details below.

Conditions of Warranties

a) **The warranties specified herein are subject to the following conditions:**

b) **Pilot Air will not be liable for a breach of any of its warranties unless the Claimant provides proof of purchase of the Product and makes a written claim to Pilot Air at the address set out below, either within 30 days after the defect would have become reasonably apparent, or if the defect was reasonably apparent prior to installation, then the claim must be made prior to installation;**

c) **The warranties are not transferable;**

d) **The Product must be installed, operated, maintained and serviced strictly in accordance with the relevant Pilot Air literature current at the time of installation and must be installed in conjunction with the components or products specified in the Pilot Air literature. To obtain copies of such literature go to www.pilotair.com.au or telephone Pilot Air on (02) 9648 3099;**

e) **If the claimant chooses to rely upon any warranty specified herein the claimant's sole remedy under the warranty for breach of the warranty is (at Pilot Air's option) that Pilot Air will either supply replacement Product, rectify the affected Product or pay for the cost of the replacement or rectification of the affected product;**

f) **In the circumstances where the guarantees under the Australian Consumer Law do not apply in respect to the purchase of its Products, Pilot Air will not be liable for any losses or damages (whether direct or indirect) including property damage or personal injury, consequential loss, economic loss or loss of profits, arising in contract or negligence or howsoever arising. Without limiting the foregoing, Pilot Air will not be liable for any claims, damages or defects arising from misuse of the Product, inadequate maintenance and storage of the Product, repairs rendered necessary or arising from the use of non-genuine Pilot Air parts in the product, normal wear and tear maintenance of the Product, deterioration of any part of the Product due to normal wear and tear, work performed on the Product other than by an authorised Pilot Air service technician or their agent, use of the Product for any purpose other than which it was intended to be used, use of the Product after essential parts and accessories have been removed, operating the Product continuously under excessive load, and if the serial/model label has been removed or obscured on the Product;**

g) **In circumstances where the guarantees under the Australian Consumer Law do not apply in respect to the purchase of its Product/s: all warranties, conditions, liabilities and obligations other than those specified herein are excluded to the fullest extent allowed by law.**

h) **Parts repaired or replaced under any warranty specified herein are warranted only for the remaining period of the original warranty period.**

i) **All defective parts that are the subject of a claim under any warranty specified herein become the property of Pilot Air.**

j) **The warranties specified herein do not apply to the following parts or conditions and cannot be relied upon in the situation whereby:**

   i. **any Pilot Air product or part has been subject to misuse, negligence, accidental damage, improper or inadequate use, inadequate maintenance or improper storage or been operated under unusual conditions or continuously under excessive load;**

   ii. **the defect has been caused by the use of non genuine Pilot Air parts;**

   iii. **the defect or deterioration was due to normal use, fair wear and tear and exposure, unless due to any defect in material or workmanship;**

   iv. **work was undertaken on any Pilot Air product or part by an unauthorised Pilot Air agent;**

   v. **the serial /model label has been removed from any Pilot Air product or part;**

   vi. **normal maintenance items/parts including valves and piston rings**

k) **Warranty repairs on all 240 Volt and portable units shall be on a back to base basis that the Claimant is required to return the Product to the nominated warranty agent as advised by Pilot Air, provided that such costs are not significant;**

l) **The replacement or repair of any defective part or correction of operating faults under any warranty specified herein is to be made only after Pilot Air, or its authorised representative, have examined the unit to their satisfaction, with their decision being final.**

m) **In the circumstances where Pilot Air accepts or it is determined by Pilot Air that the claimant has a valid claim under this warranty, and subject to paragraph (m) below, Pilot Air will bear all of the claimant's reasonable and proximate expenses incurred as a result of claiming under this warranty. The claimant is to inform Pilot Air in writing to the address identified below within 21 days from when the claimant first makes a claim under this warranty of all such claims and expenses and provide it with copies of all receipts and invoices where relevant before any reimbursement is made by Pilot Air to the claimant. The claimant is responsible for all other costs of claiming under this warranty.**

n) **Pilot Air will not be responsible for any courier, transport or freight related costs whatsoever associated with the return to it of any defective Product that have not first been approved by it. Pilot Air reserves the right to first inspect any defective Product and decide how, if at all, the defective Product is to be returned to it. Any unapproved courier, transport or freight related costs will be to the claimant's account.**

Important Note:

If you acquire goods from Pilot Air as a consumer according to the Australian Consumer Law, our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Any rights a consumer may have under any warranty specified herein are in addition to other rights and remedies of a consumer under a law in relation to the goods to which these warranties relate. Nothing in this document shall exclude or modify any legal rights a customer may have under the Australian Consumer Law or otherwise which cannot be excluded or modified at law.

Contact details if you wish to make a claim under any warranty specified herein:

For more information or to make a claim under any warranty specified herein please telephone Pilot Air on 1300 667 579 , email Pilot Air via our website: http://www.pilotair.com.au or write to Pilot Air at:

Pilot Air Compressors Pty Ltd

115 Beaconsfield Street

Silverwater NSW 2128