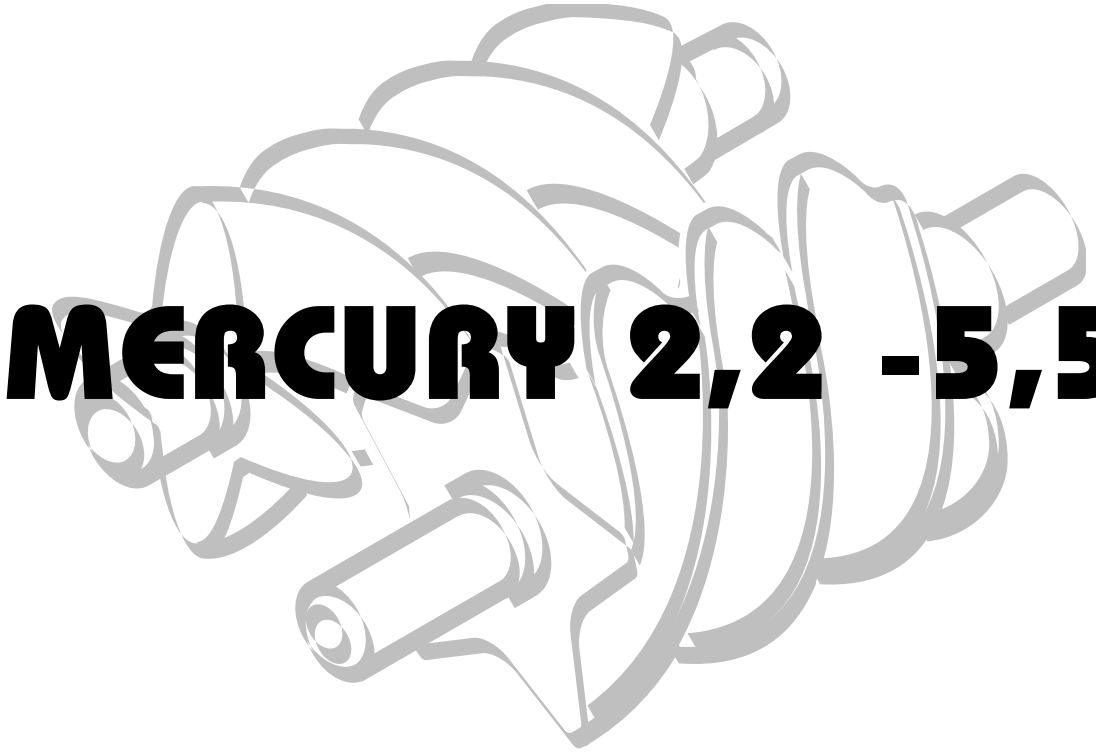
TRANSLATION OF THE ORIGINAL INSTRUCTIONS

GB

Manuale d'uso e manutenzione
Betriebs- und Bedienungshandbuch
Manuel d'utilisation et d'entretien
Instructie- en onderhoudshandleiding
Instruction and maintenance manual
Manual de uso y mantenimiento
Manual de uso e manutenção
Bruks- och underhållsanvisning
Руководство по эксплуатации и обслуживанию
Instrukcja użytkowania i konserwacji
ΟΔΗΓΙΕΣ ΧΡΗΣΗΣ ΚΑΙ ΣΥΝΤΗΡΗΣΗΣ



MERCURY 2,2 -5,5

CE

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 felelőssége 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 smerníc: 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/EK, 2006/95/EK, 2004/108/EK, 2009/105/EK, 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

OUTFIT

The following accessories are supplied with the compressor:

- user's guide
- anti-vibration elements
- oil/condensate exhaust tube
- air outlet cock

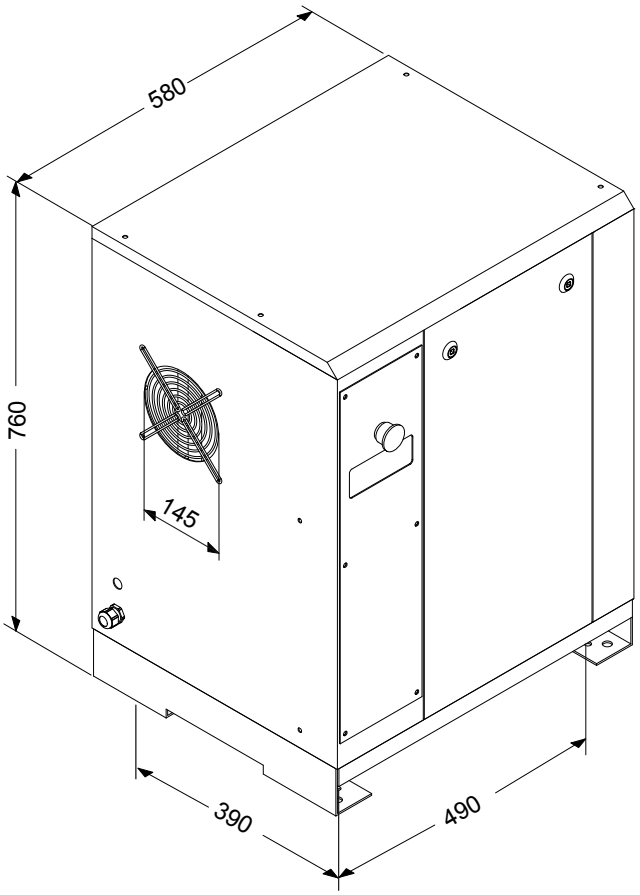
Check that the above accessories are available. Once the goods have been delivered and accepted, no complaints are accepted.

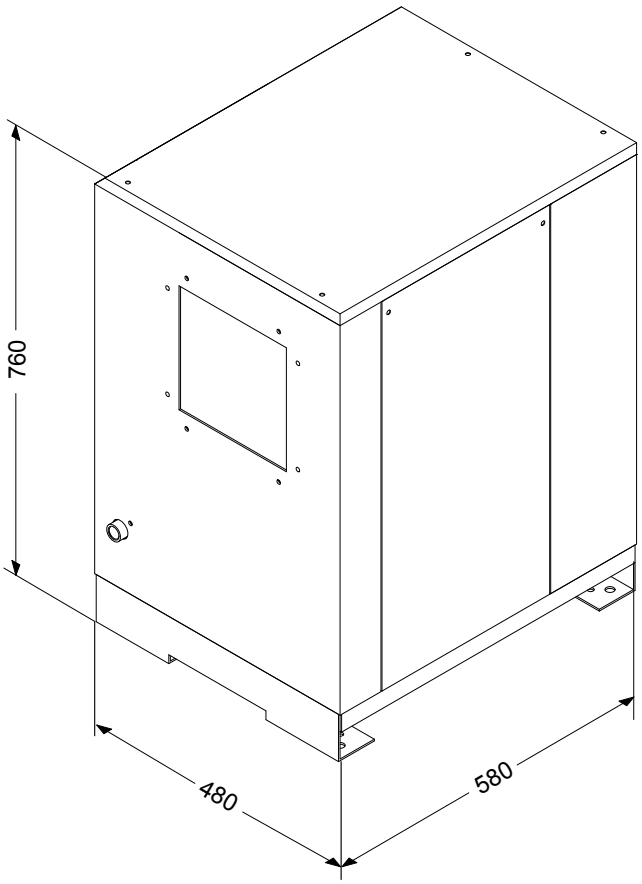
CONDITION OF THE MACHINE WHEN SUPPLIED

Every compressor is shop tested and delivered ready to be installed and to be set at work.
Oil used is: ROTENERGY PLUS.

OVERALL DIMENSIONS

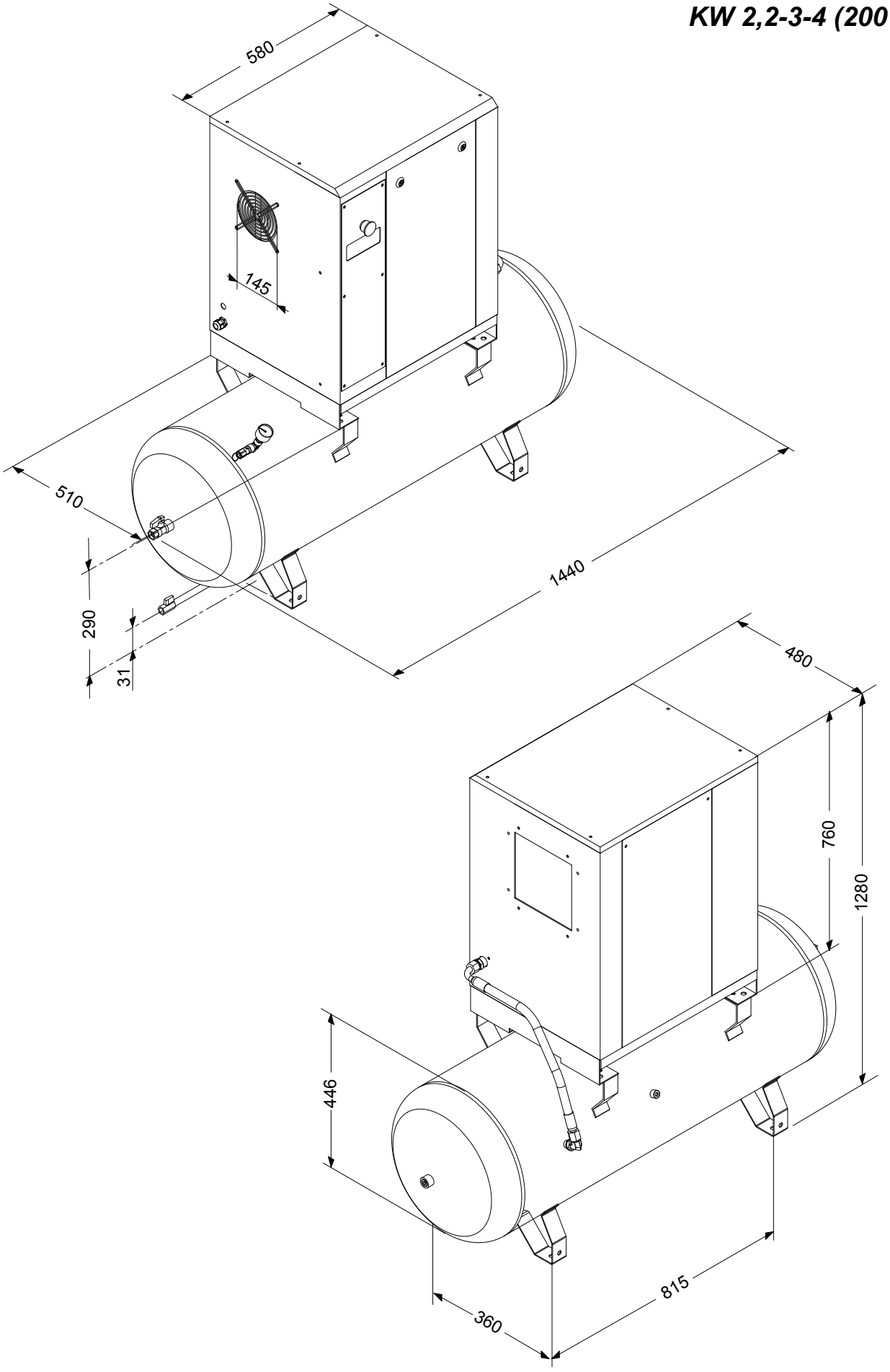
KW 2,2-3-4





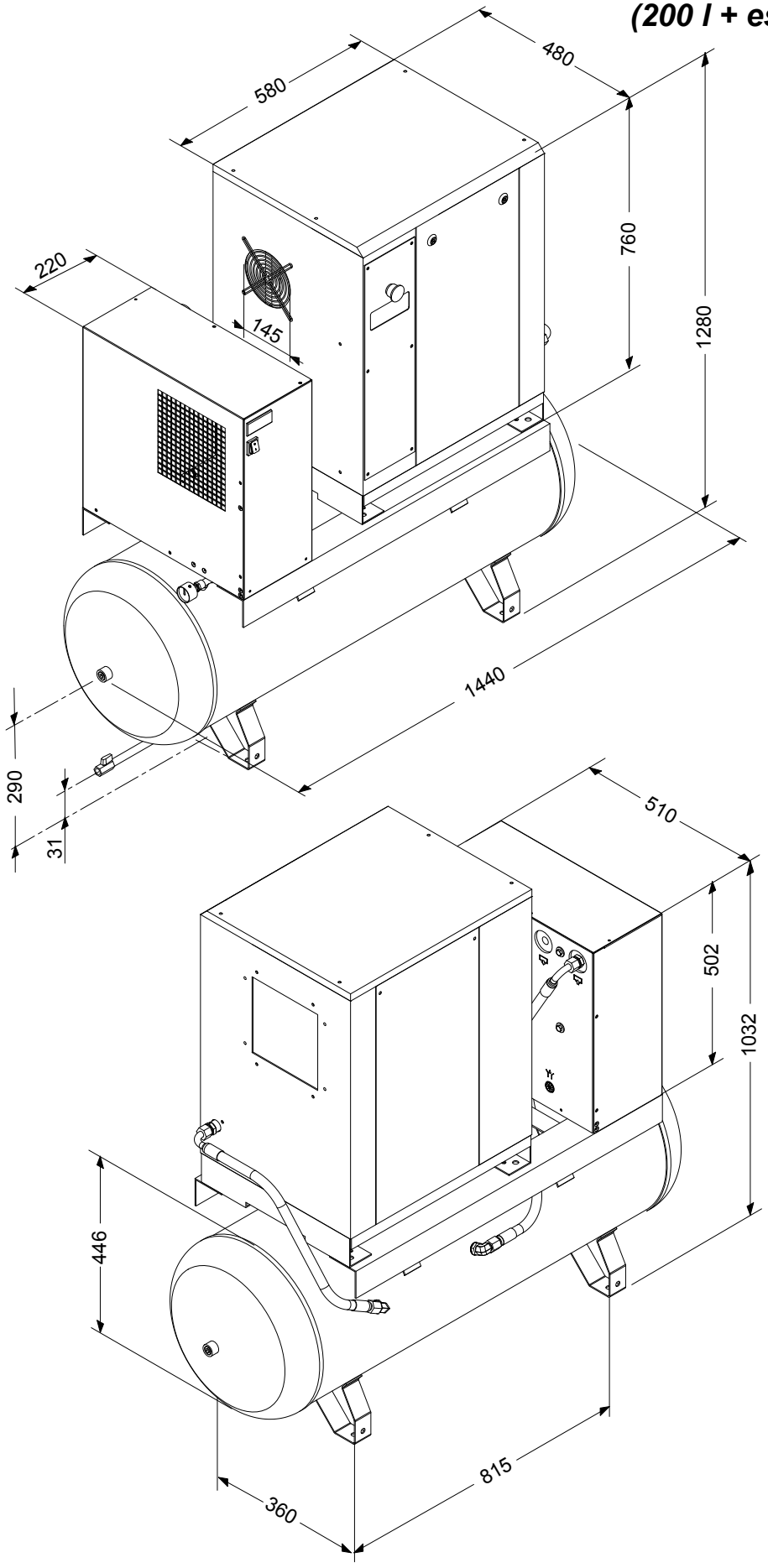
OVERALL DIMENSIONS

KW 2,2-3-4 (200 l)



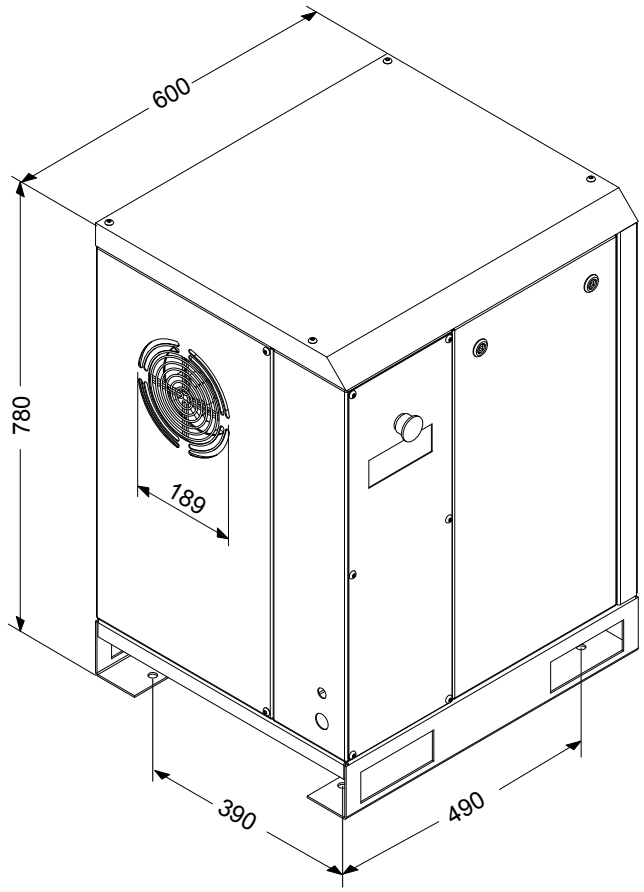
OVERALL DIMENSIONS

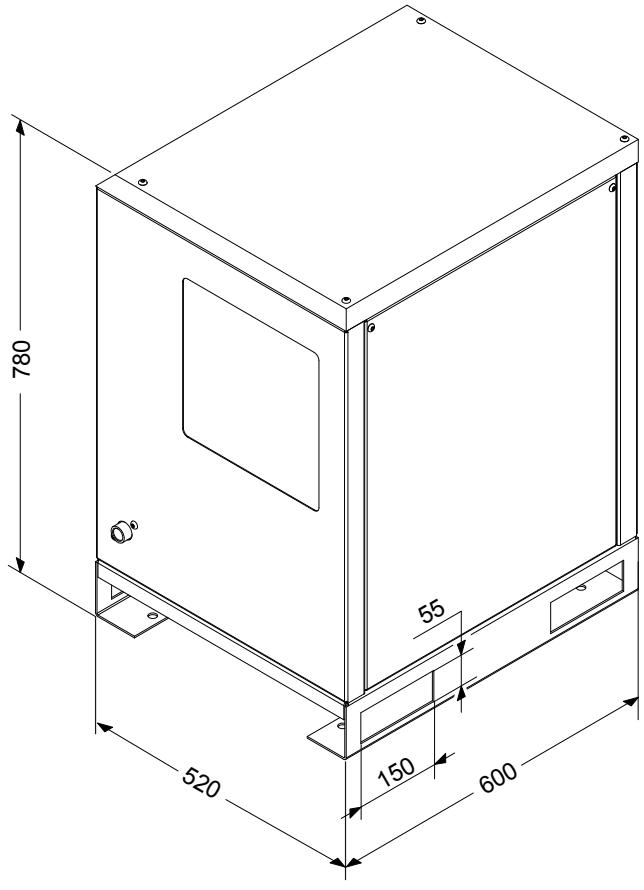
KW 2,2-3-4
(200 l + essicatore-dryer)



OVERALL DIMENSIONS

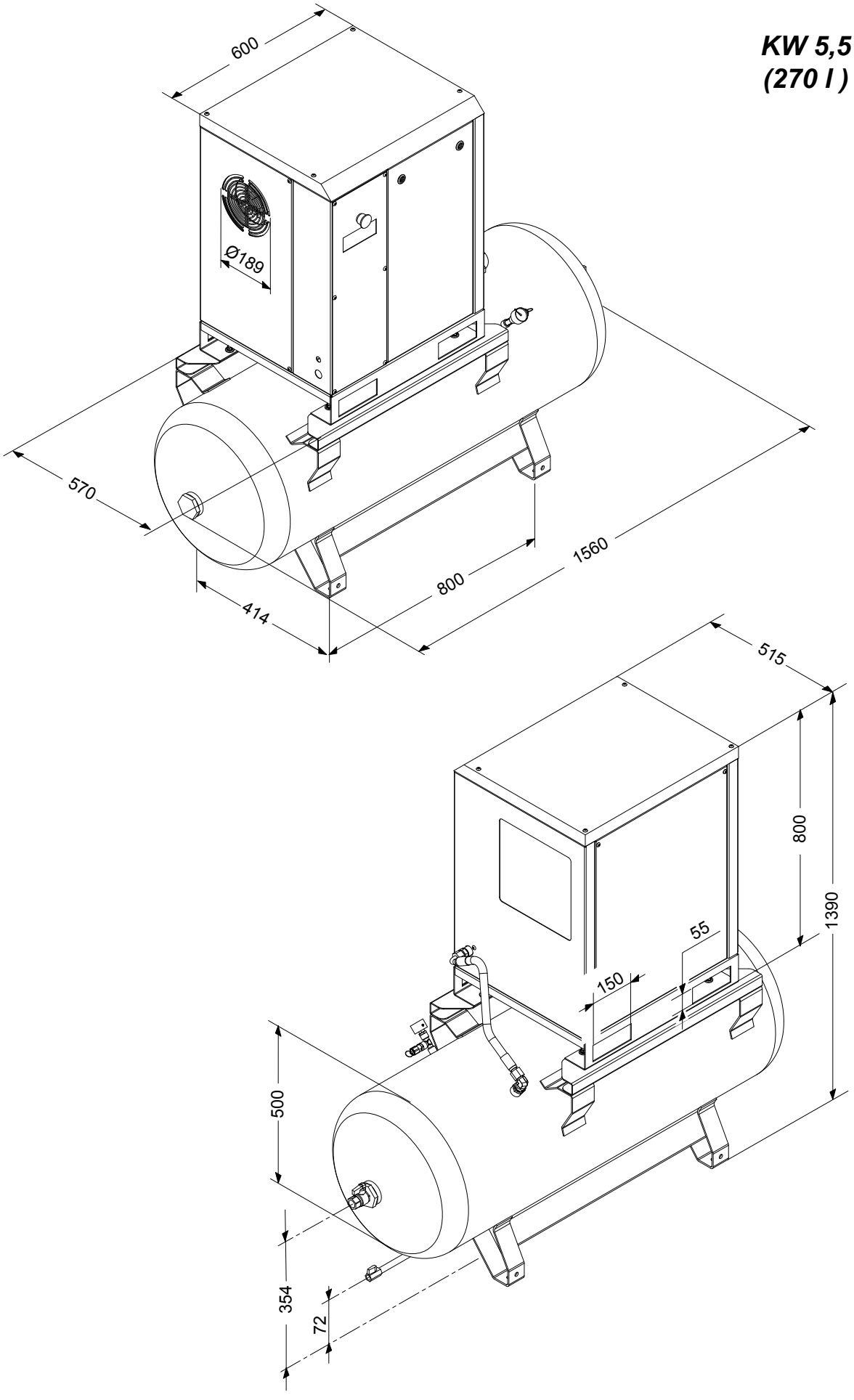
KW 5,5





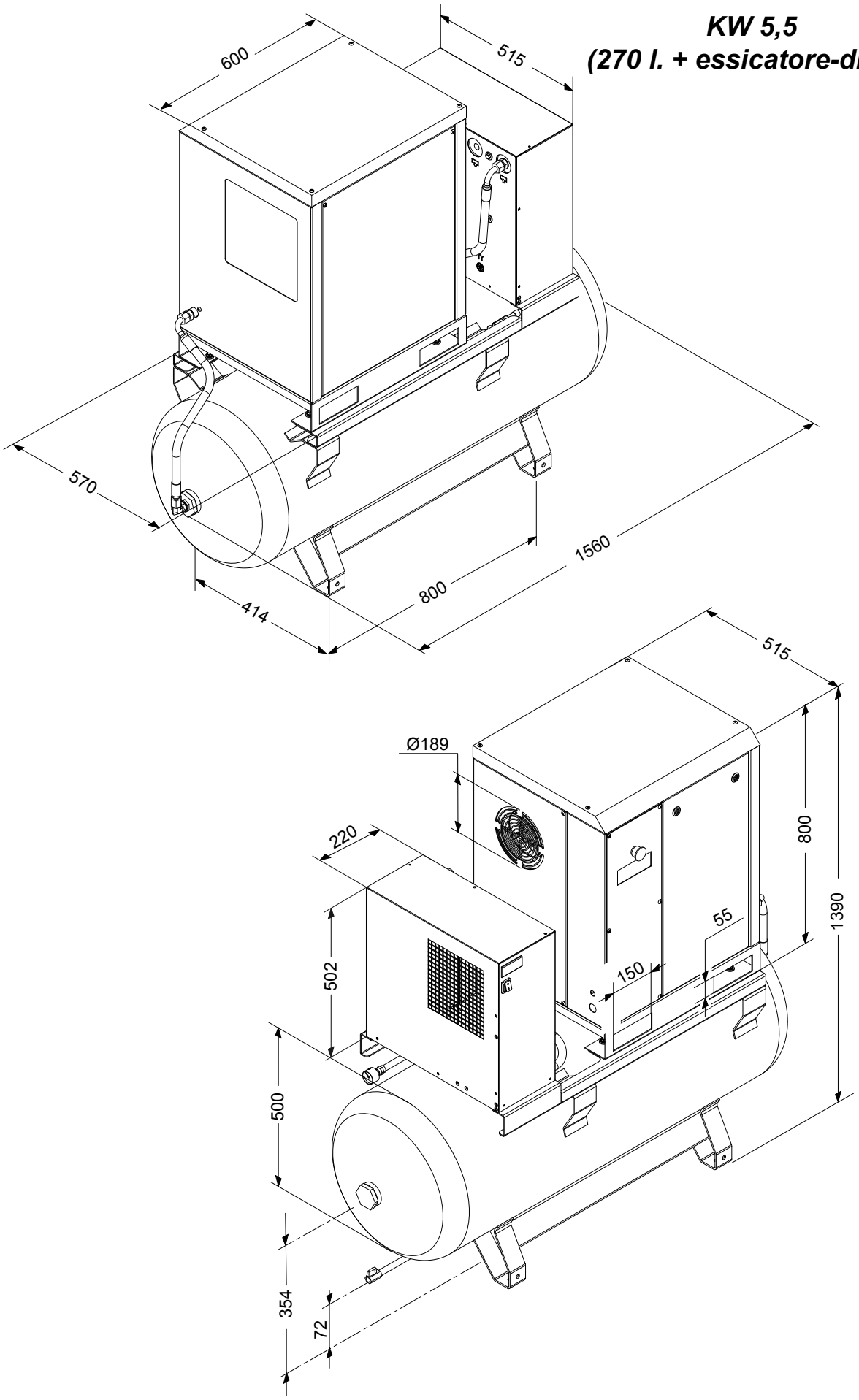
OVERALL DIMENSIONS

KW 5,5
(270 l)



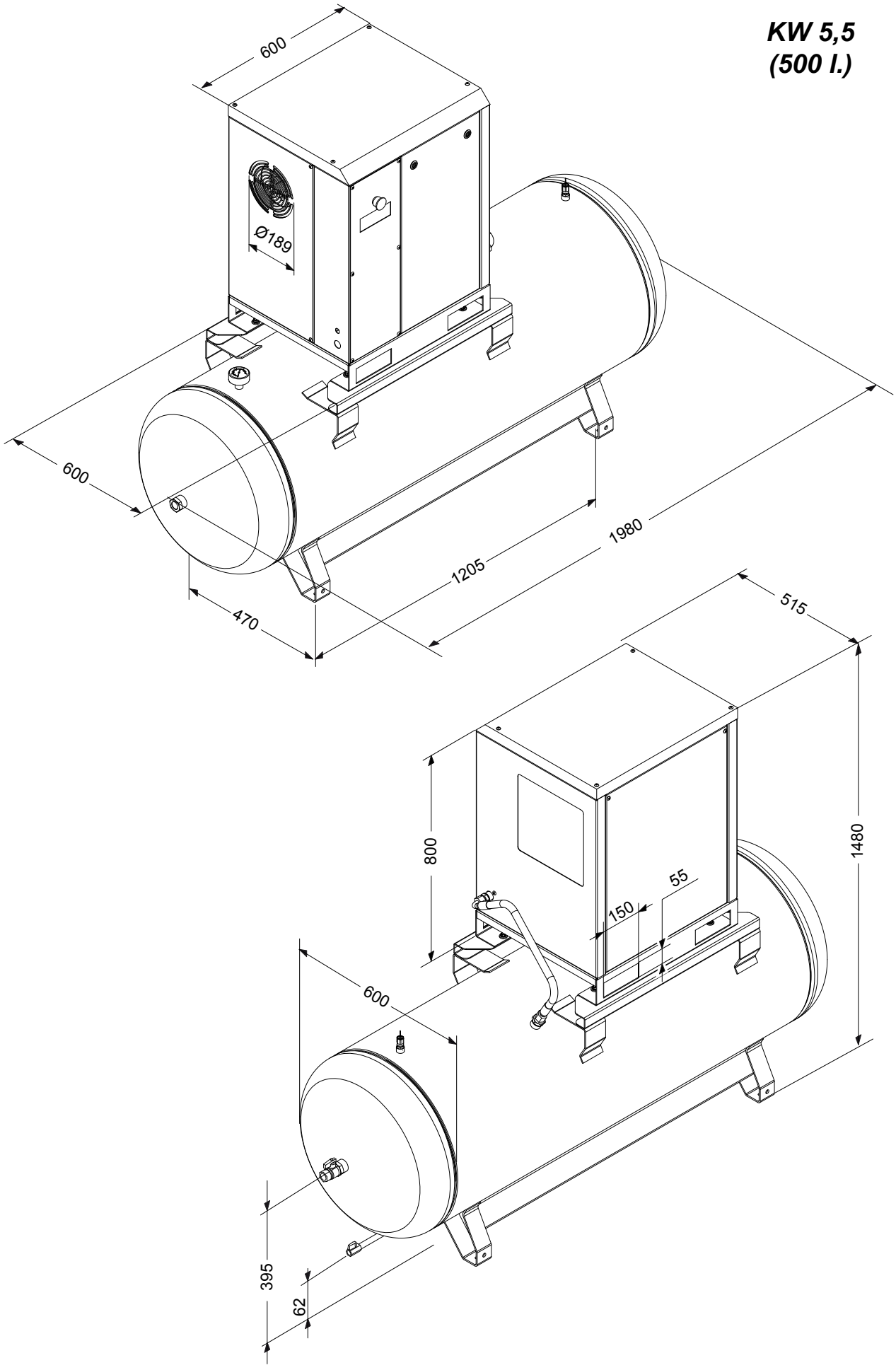
OVERALL DIMENSIONS

KW 5,5
(270 l. + essicatore-dryer)



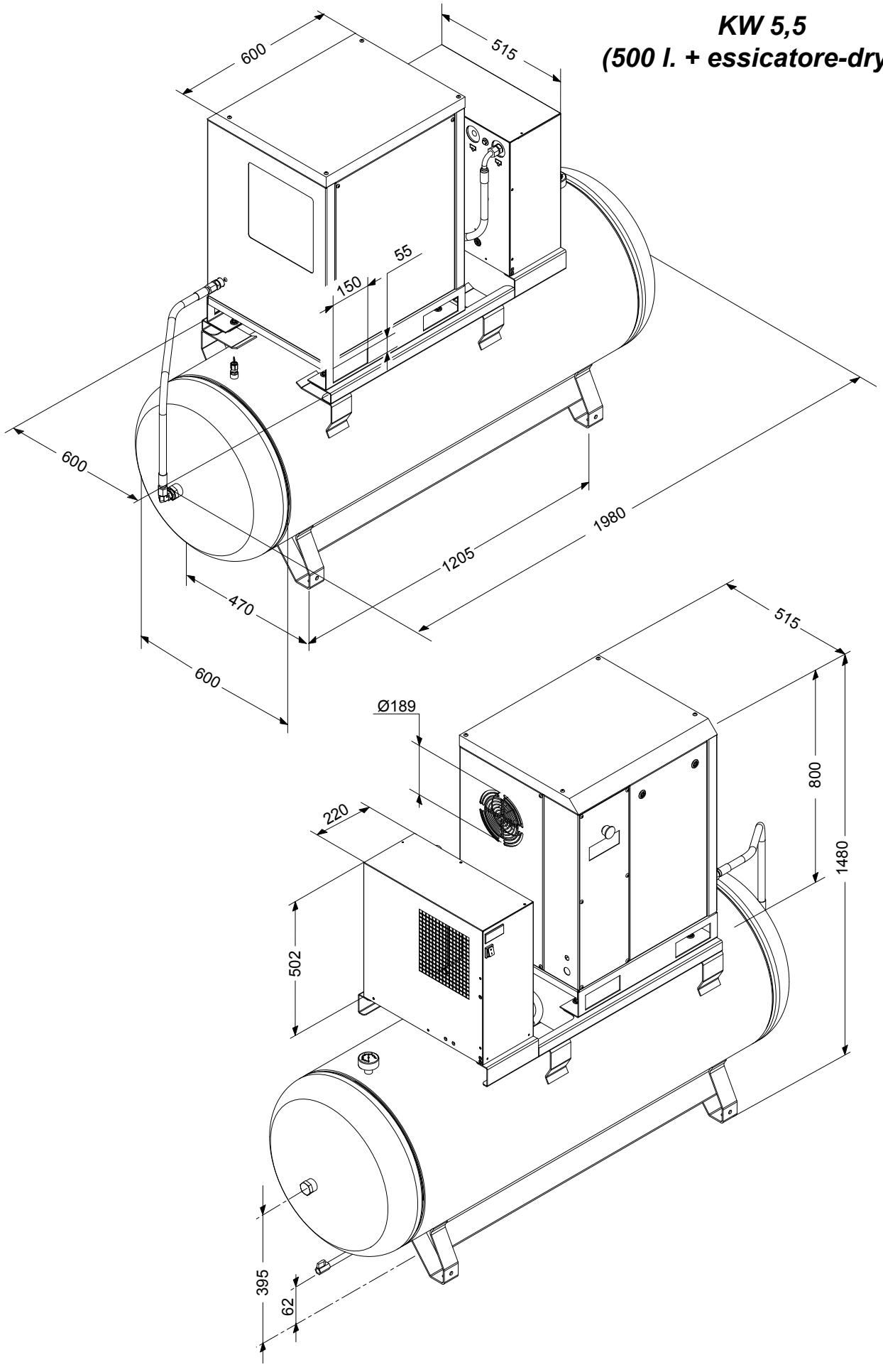
OVERALL DIMENSIONS

KW 5,5
(500 l.)



OVERALL DIMENSIONS

KW 5,5
(500 l. + essicatore-dryer)



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.

SYMBOLS USED ON THE COMPRESSOR

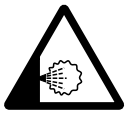
Several different labels are applied to the compressor. Their function is most of all to highlight any hidden dangers and to indicate correct behaviour during use of the machine or in particular situations.

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 carrying out any intervention on the compressor

SAFETY REGULATIONS

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 causes 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.

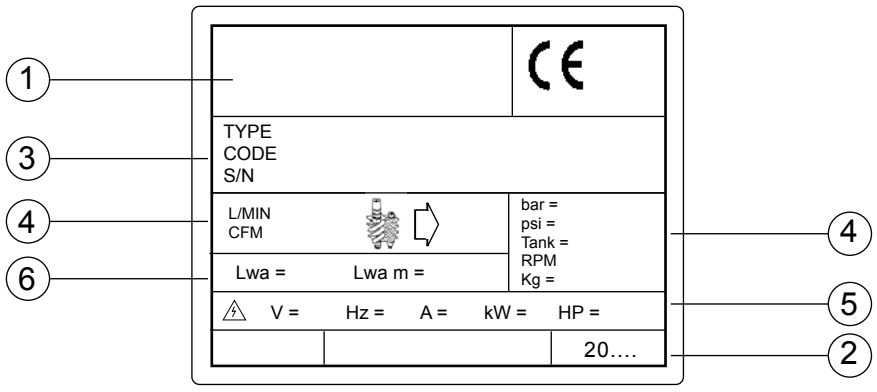
Do not tamper with safety and adjustment devices.

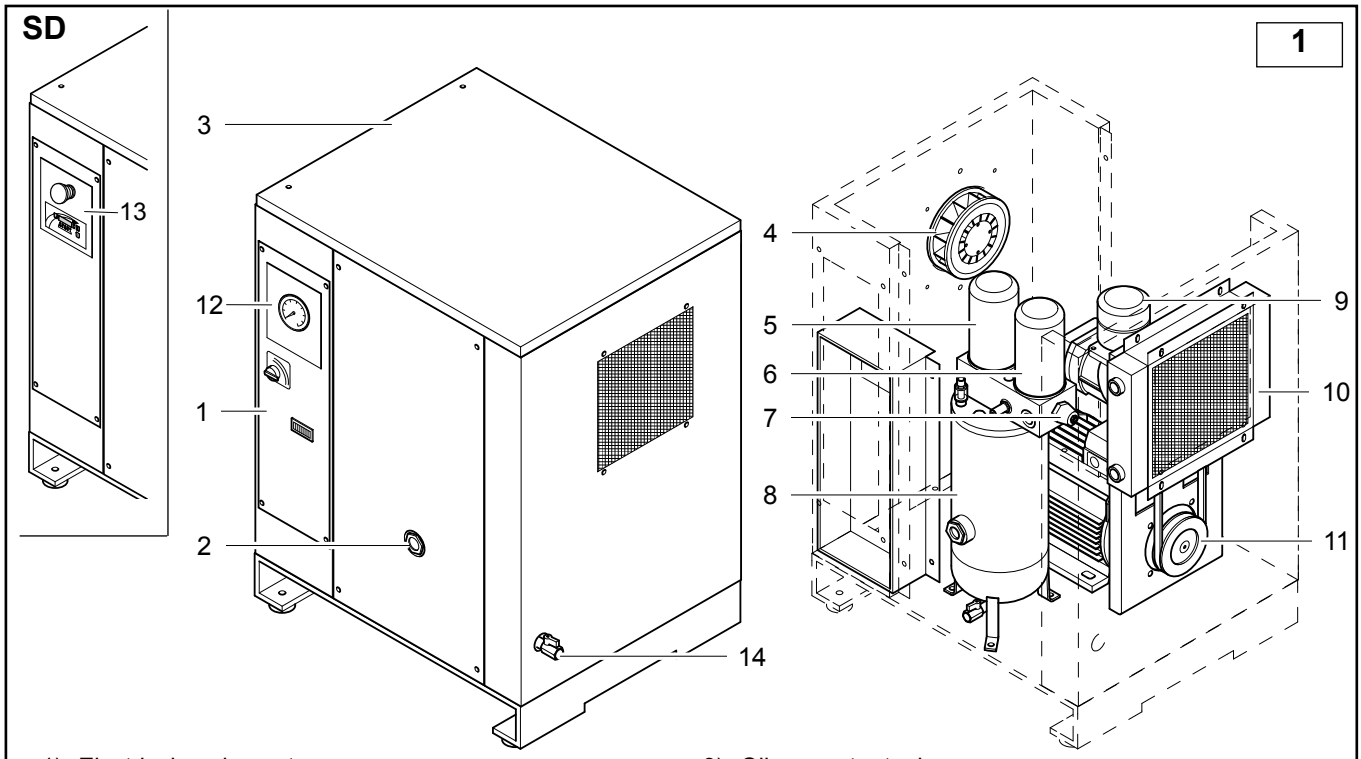
Never allow the compressor to function with the hatches/panels open or removed.

PRODUCT IDENTIFICATION

The compressor Your 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 capcity , Rotations per minute, weight.
5. Voltage , frequency , absorption, power.
6. Noise level





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) SD control panel
14) 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.

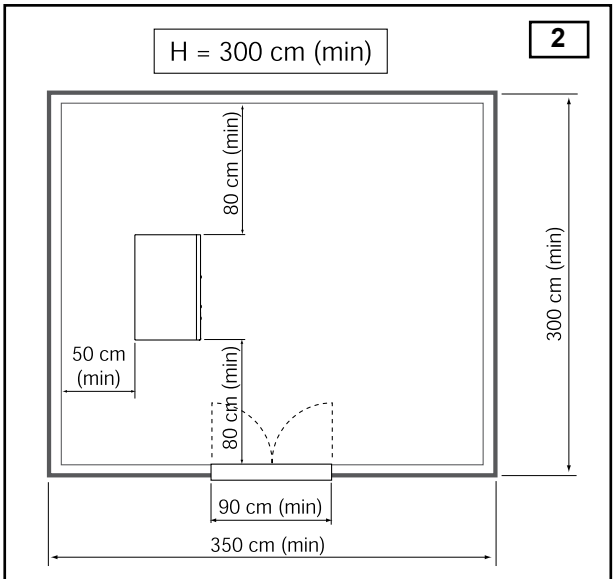
LOCATION (fig. 2)

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 (fig. 3)

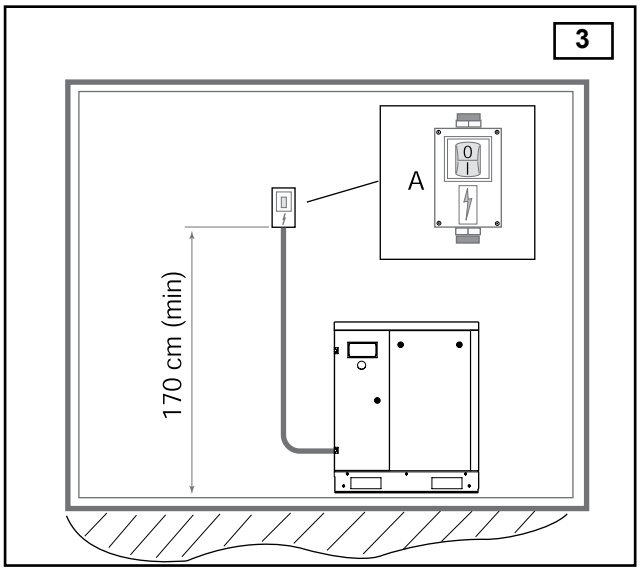
• The mains cable should have a cross-section suitable for the machine power and should include no. 3 phase wires, no. 1 neutral cable and no. 1 earth wire.

• 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.

3



Electric connection	400 V		2,2	3	4	4 SD	5,5 SD
Conductor min. section	mm2		4G1,5	4G2,5	4G2,5	4G2,5	4G2,5
Magnetic thermal switch	A		10	10	16	16	20
Fuses	Agl		10	16	20	16	16

Electric connection	230 V	2,2 (M)	2,2	3	4	4 SD	5,5 SD
Conductor min. section	mm2	3G2,5	4G2,5	4G4	4G4	4G2,5	4G6
Magnetic thermal switch	A	20	20	20	20	20	20
Fuses	Agl	20	20	25	35	20	25

TECHNICAL FEATURES

Technical characteristics	Type	2,2M		2,2		3		4		4 SD			5,5 SD		
Working pressure	bar g	8	10	8	10	8	10	8	10	8	10	13	8	10	13
Air-end	type	FS 14													
F.a.d. (according to ISO 1217 annex C)	l/min	300	260	325	290	430	385	580	485	580	485	-	720	650	485
Oil quantity	l	2,2											2,3		
Oil quantity for topping-up	l	0,25													
Max final air temperature above ambient	°C	-		-		-		-		-			-		
Re-claimable heat	kJ/h	7524		7524		10260		13680		13680			18800		
Cooling fan flow rate	m3/h	600											1000		
Oil carry over	mg/m3	2 - 4													
Electric motor	type	B3B14													
Rated power	kW	2,2		2,2		3		4		4			5,5		
Max. power absorbed, ventilation included	kW	3,21		3	3	3,8	4,2	4,8	4,8	5,2	5,1	5	6,55	6,70	6,85
Electrical box protection class	IP									54					
Maximum ambient temperature	°C	2 - 45													
Noise level (according Pneurop/Cagi N2CPTC2)	dB(A)	58				59		60		60			64		

Electrical data															
Voltage	V/Ph/Hz	230/1		400/3											
Auxiliary voltage	V/Hz	-		-		-		-		24/1			24/1		
Start-up absorbed current	A	75		35		40		52		24			30		
Max. absorbed current, ventilation included	A	14,3		5,2	5,2	6,2	6,6	8,7	8,4	8,7	8,5	8	10,2	10,5	10,2
Electrical motor protection class	kW	-		-		-		-		1,21			1,52		
Motor insulation class	IP	55/F													
Service factor		1,1													

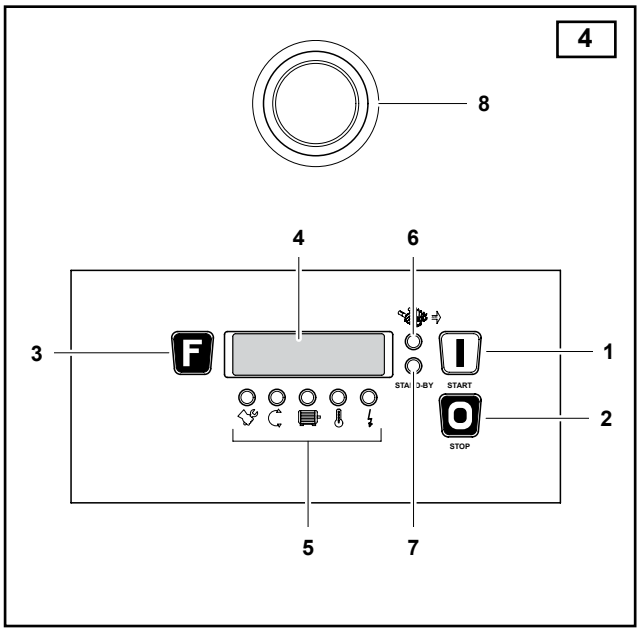
Protection devices															
Max oil temperature	°C	110													
Motor overload switch setting	A	14,5		5,5		6,6		8,8		5,2			6,8		
Safety valve setting	bar	14													

Dimensions and weight															
Length	mm	580											600		
Width	mm	480											520		
Height	mm	760											780		
Weight	kg	87		87		92		93		94			125		
Air outlet size	G	1/2”													

Dimensions and weight + thank		200											270	500	
Length	mm	1440											1560	1980	
Width	mm	510											570	600	
Height	mm	1280											1390	1480	
Weight	kg	144		144		149		151		152			203	236	
Air outlet size	G	1/2”													

Dimensions and weight + thank + dryer		200											270	500	
Length	mm	1440											1560	1980	
Width	mm	510											570	600	
Height	mm	1280											1390	1480	
Weight		175		175		180		182		182			234	267	
Air outlet size	G	1/2”													

CONTROL PANEL



The version is equipped with an electronic control called “Easytronic II Micro” which manages 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 Easytronic II Micro 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.

ALARMS

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

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

Maintenance
The warning light turns on to indicate a maintnance needed..

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.

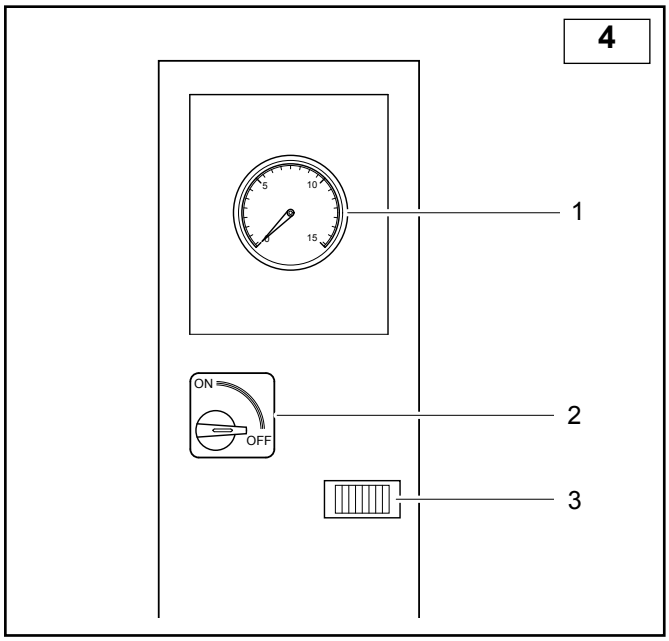
Only specialised technicians can start the compressor for the first time.

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 rotating direction is not correct, 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): Premendo il tasto START (1) si avvia la **procedura di accensione.**

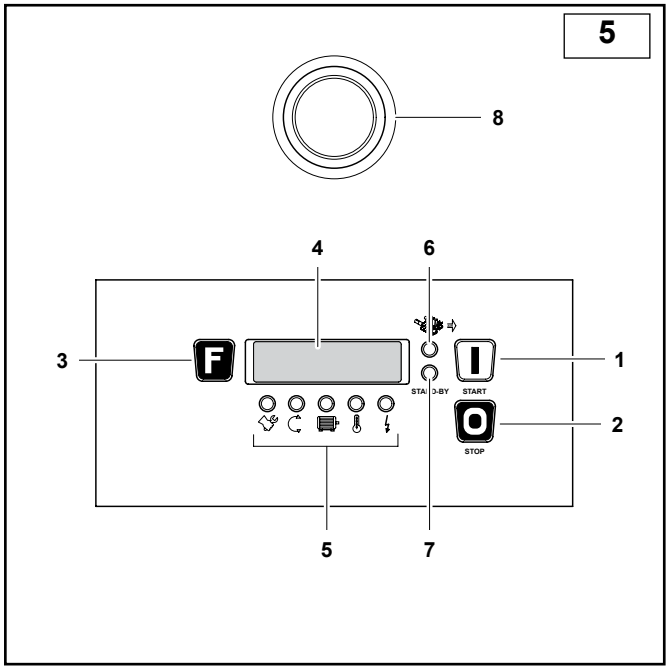
The **turning on procedure** starts by pressing the START key (1).

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 blocks and the warning light turns on the phase sequence device has intervened, press the RESET key (2) and bring the wall switch to 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.

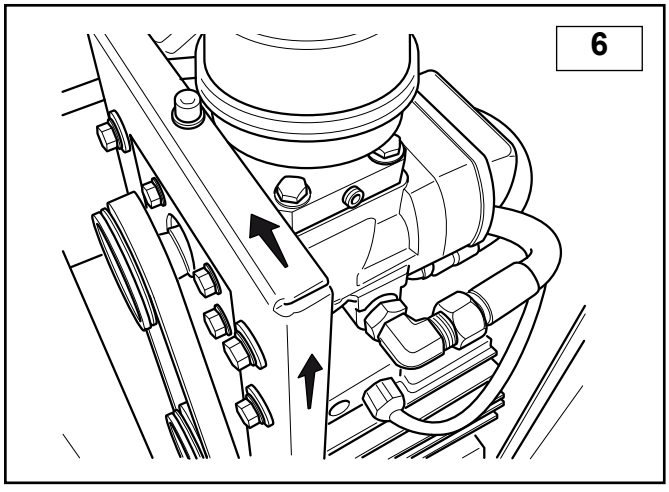
If at the end of the loadless operation (default 75 sec.) the pressure has not fallen below the “set load pressure” value the compressor stops and the Stand-by led turns on (7); otherwise upon reaching the “set load pressure” value the compressor restarts the loading phase and the Screw led turns on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



FUNCTIONING CYCLE

•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 the 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

	working hours **o**	at least
MAINTENANCE OPERATION		
Drain condensate from oil tank	-	once a week
Check oil and possible top up	500	once a month
Clean air intake filter cartridge	500	-
Check the drive belt tension.	500	
Check blockage and clean radiator	1000	once a year
Replace intake air filter cartridge	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		
Replace one-way drain valve	4000	-
Review suction valve	4000	-
Replace the transmission belt	6000	-
Review minimum pressure valve	8000	-
Replace hoses	8000	-
Replace solenoid valve	12000	-
Replace main motor bearing	12000	-
Review screw	16000	-

* 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)

When the compressor is off, remove the front panel (2) and check the oil level through the indicator.

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.7)

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.7)

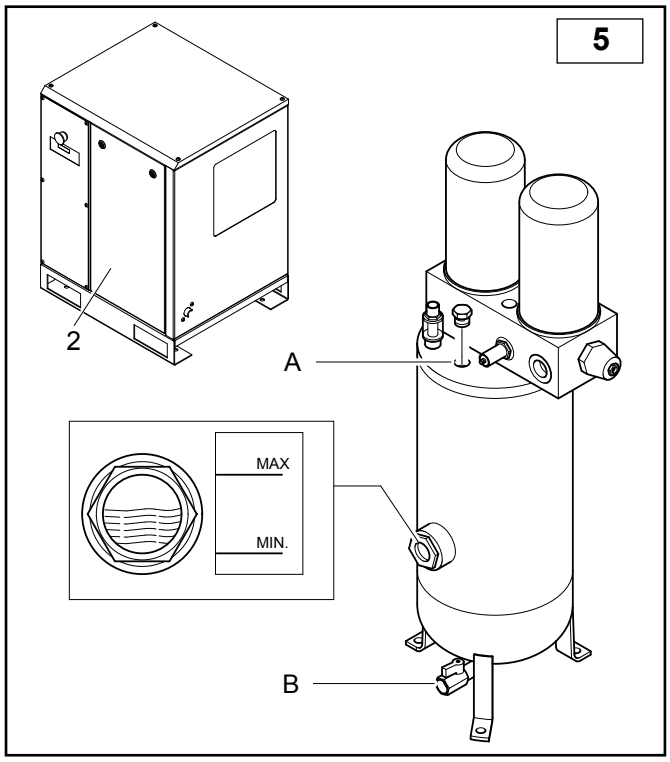
With the compressor stopped, remove the lid and the front panel.

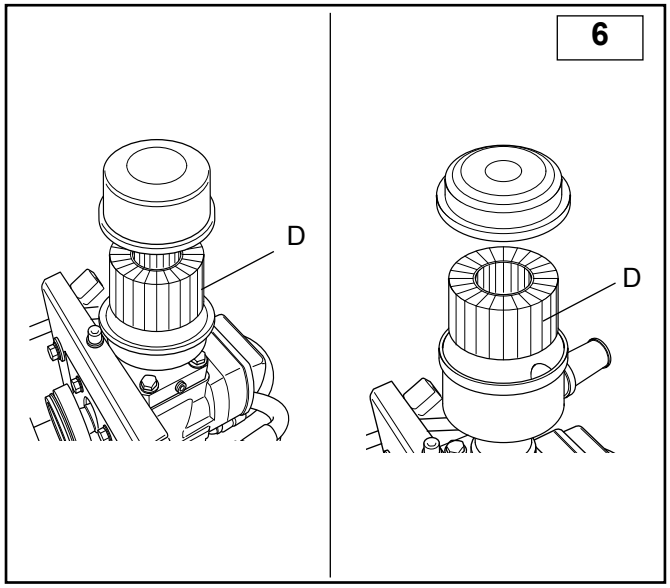
Alarm signal CH4

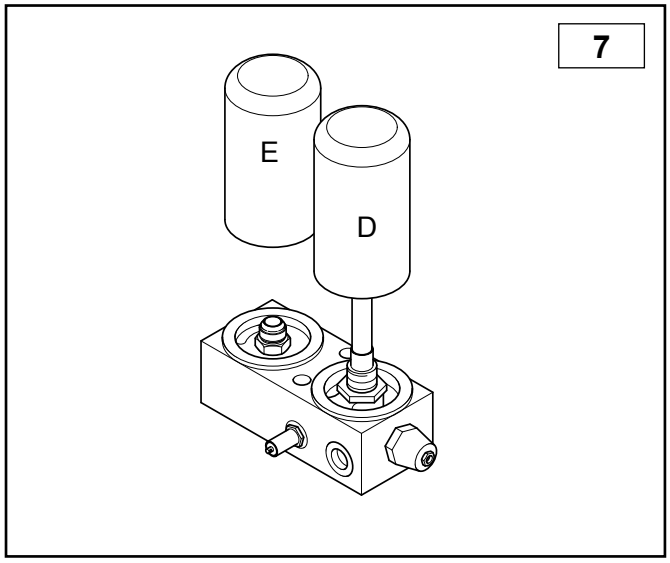
The oil separator filter **D** cannot be cleaned, but must be replaced.

• 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 (Fig.8)

When the compressor is hot - above 70 ° C , replace oil.

Alarm signal CH1

• Remove the front panel.

• Connect the cock B in the base of the separator tank to the drain hose supplied.

• Unscrew the cap from hole A, open the cock and drain the oil into a recovery container until complete discharge.

• Turn off the cock B, and remove the hose.

• Fill with new oil through hole A (approx. 2.2 liters for full coverage) and screw the cap .

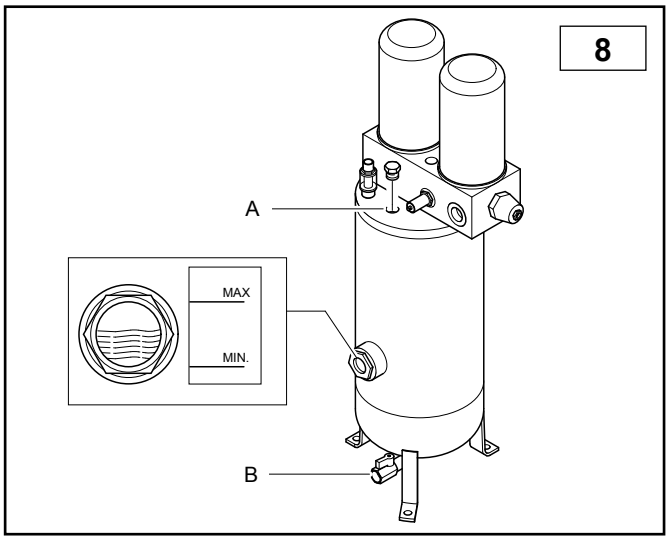
• Start the compressor and let it run for 5 minutes, then stop it, wait 5 minutes before checking the oil level. Top up if necessary.

EXHAUSTED OIL CAN POLLUTE THE ENVIRONMENT! For its disposal, operate in accordance to the laws in force for environmental protection .

• The equipment is delivered with: RotEnergy Plus oil.

If you want to change the type of oil, it is necessary to make such a change only at the full replacement. N**EVER MIX DIFFERENT TYPES OF OIL.**

In such a case it is advisable to replace 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:

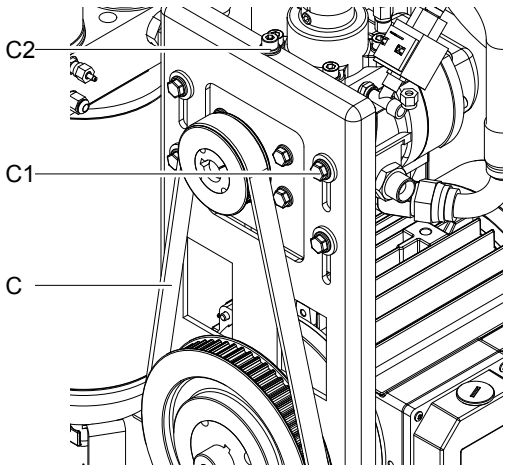
Value higher = belt too tight

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.



9A

Type	Pressure	Tension frequency **(Hz)**
5.5 SD	8 bar	110 Hz
5.5 SD	10 bar	
5.5 SD	13 bar	
4 SD	8 bar	105 Hz
4 SD	10 bar	
4 SD	13 bar	
4	8 bar	105 Hz
4	10 bar	
3	8 bar	95 Hz
3	10 bar	
2.2	8 bar	90 Hz
2.2	10 bar	
2.2M	10 bar	90 Hz

REPLACING THE TRANSMISSION BELT (Fig.9A)

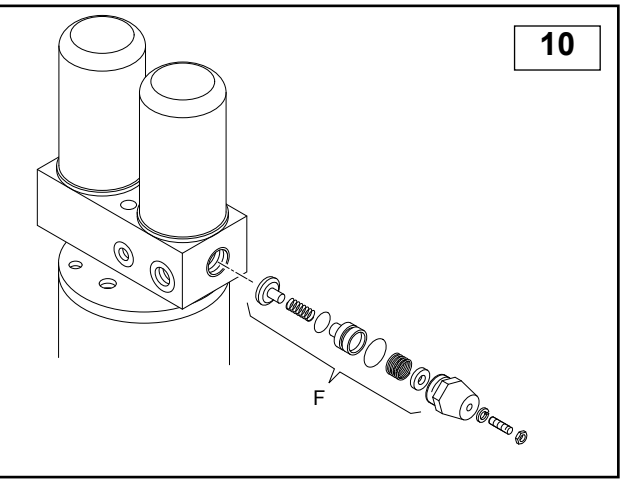
When the compressor is stopped, remove the rear panel. Loosen the four bolts C1 and act on screw C2 loosening belt C until completely loose.

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.Replace parts subject to wear (F) using the minimum pressure valve kit .



REPLACING THE FLEXIBLE HOSES

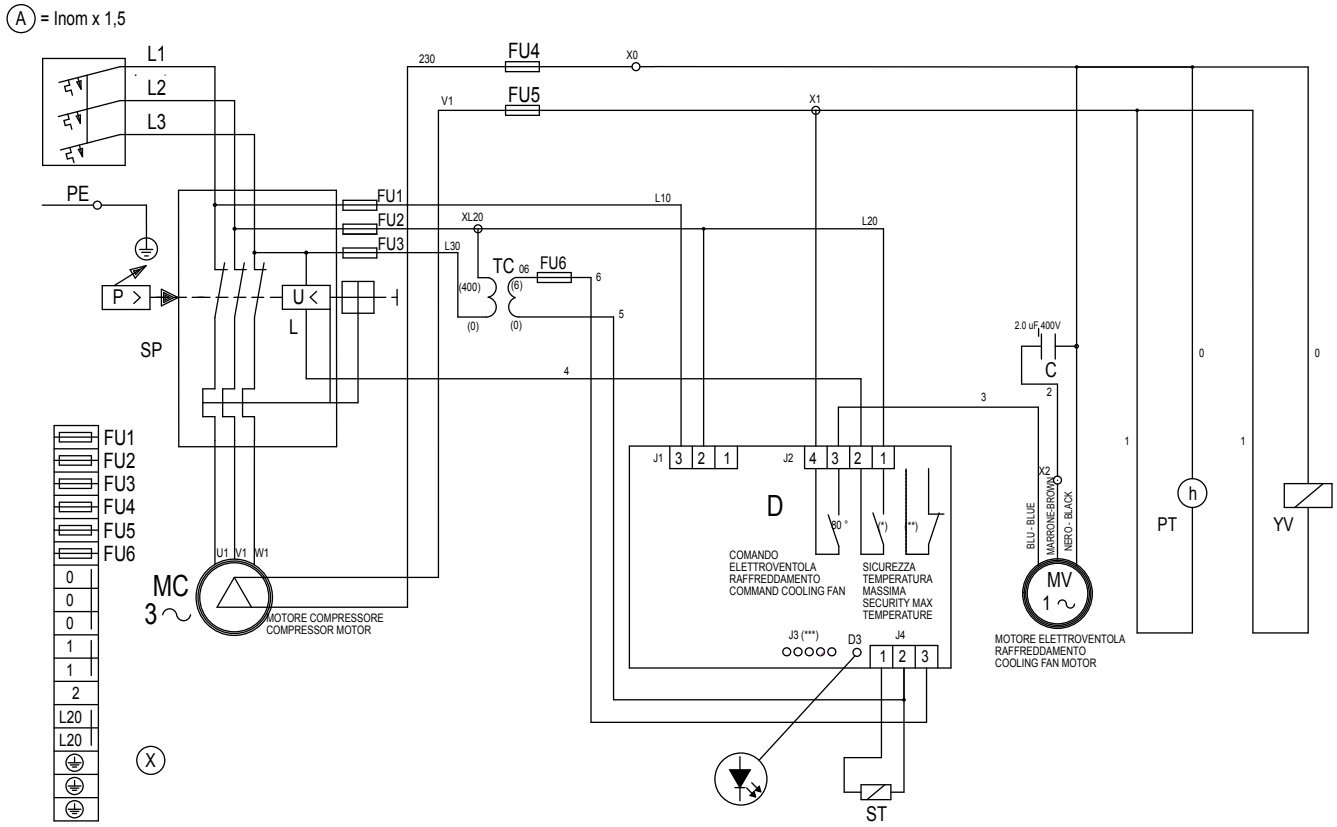
It is recommended that they are replaced when changing the oil.

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

TROUBLESHOOTING

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

WIRING DIAGRAM



Rif.-Ref.	Denominazione-Description	2,2 kW	3 kW	4 kW	
		230V-3 50/60 Hz			
FU1.FU2-FU3	Fusibili (Fuses) 2A 5x20				
FU4.FU5	Fusibili (Fuses) 2A 5x20				
FU6	Fusibile (Fuse) 500V mA 5x20				
TC	Trasformatore (Transformer) Pr.230/Sec 6				
SP	Telepressostato (Pressure switch with cut out)	6,6-10	10-16	10-16	
L	Bobina di minima (Min Magnet coil)				
D	Controllore elettronico (Electronic Controller)				
ST	Sonda termica (Temperature Probe)				
YV	Elettrovalvola (Solenoid Valve)				
PT	Contaore (Hours Counter)				
D3	LED Lampeggio (Led Flashing)				
	Sezione cavo motore (mmq) - Motor cable section (mmq)	4G1,5	4G2,5	4G2,5	

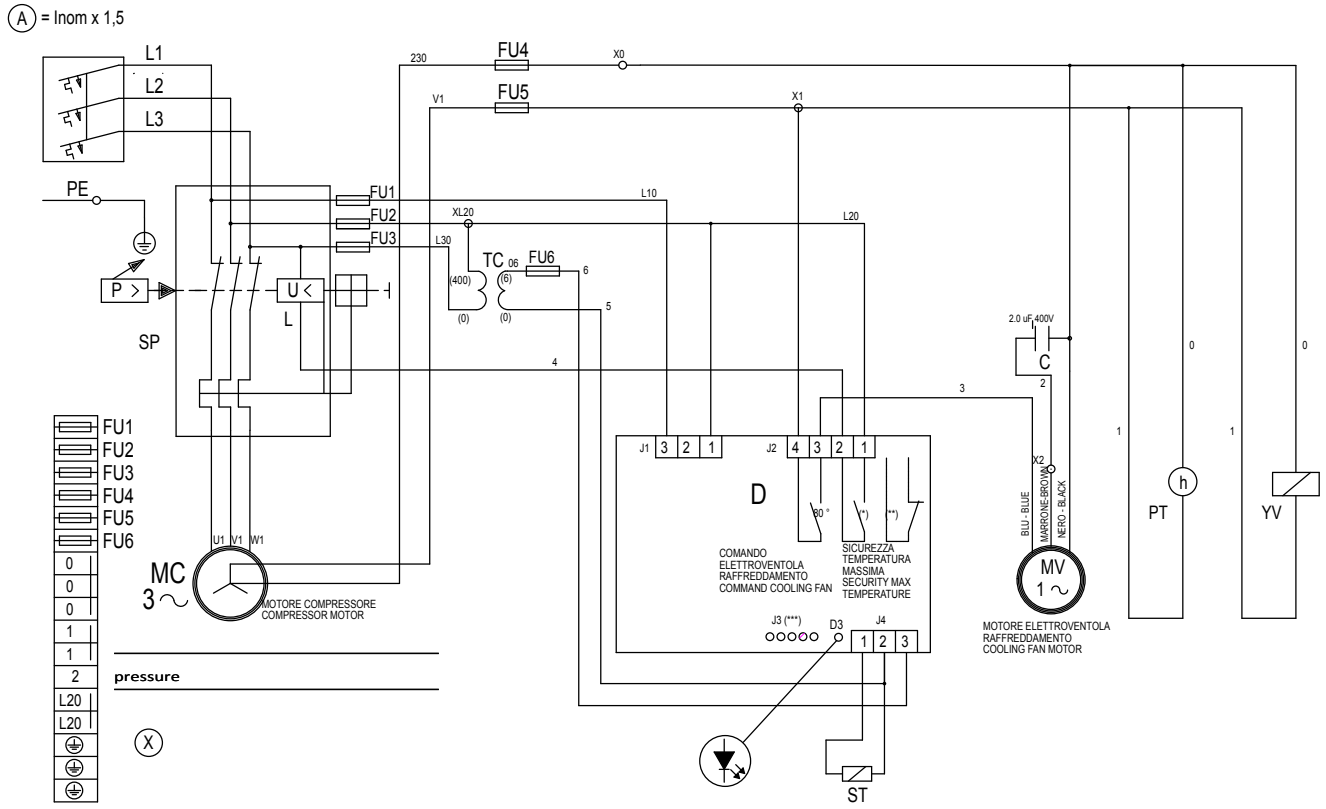
(*)-(NA)-ALIM. OUT
(*)-(NA)-ALIM. IN +T° > 110 °
(*)-(NA)-ALIM. IN + D3 LAMPEGGIO

(*)-(NA)-POWER SUPPLY OUT
(*)-(NA)-POWER SUPPLY IN +T° > 110 °
(*)-(NA)-POWER SUPPLY IN + D3 FLASHING

(**)-(NC)-ALIM.IN +T° < 100 °
(***) - ●●●●●
SEQUENZA FASI NON ABILITATO
(***) - ●●●●●
SEQUENZA FASI ABILITATO

(**)-(NC)-POWER SUPPLY IN +T° < 100 °
(***) - ●●●●●
PHASE SEQUENCE DEVICE DISABLED
(***) - ●●●●●
PHASE SEQUENCE DEVICE ENABLED

WIRING DIAGRAM



Rif.-Ref.	Denominazione-Description	2,2 kW	3 kW	4 kW	
		400V-50/60 Hz			
FU1.FU2-FU3	Fusibili (Fuses) 2A 6,3x32				
FU4.FU5	Fusibili (Fuses) 2A 5x20				
FU6	Fusibile (Fuse) 500V mA 5x20				
TC	Trasformatore (Transformer) Pr.400/Sec 6				
SP	Telepressostato (Pressure switch with cut out)	4-6,3	6,3-10	6,3-10	
L	Bobina di minima (Min Magnet coil)				
D	Controllore elettronico (Electronic Controller)				
ST	Sonda termica (Temperature Probe)				
YV	Elettrovalvola (Solenoid Valve)				
PT	Contaore (Hours Counter)				
D3	LED Lampeggio (Led Flashing)				
	Sezione cavo motore (mmq) - Motor cable section (mmq)	4G1,5	4G1,5	4G2,5	

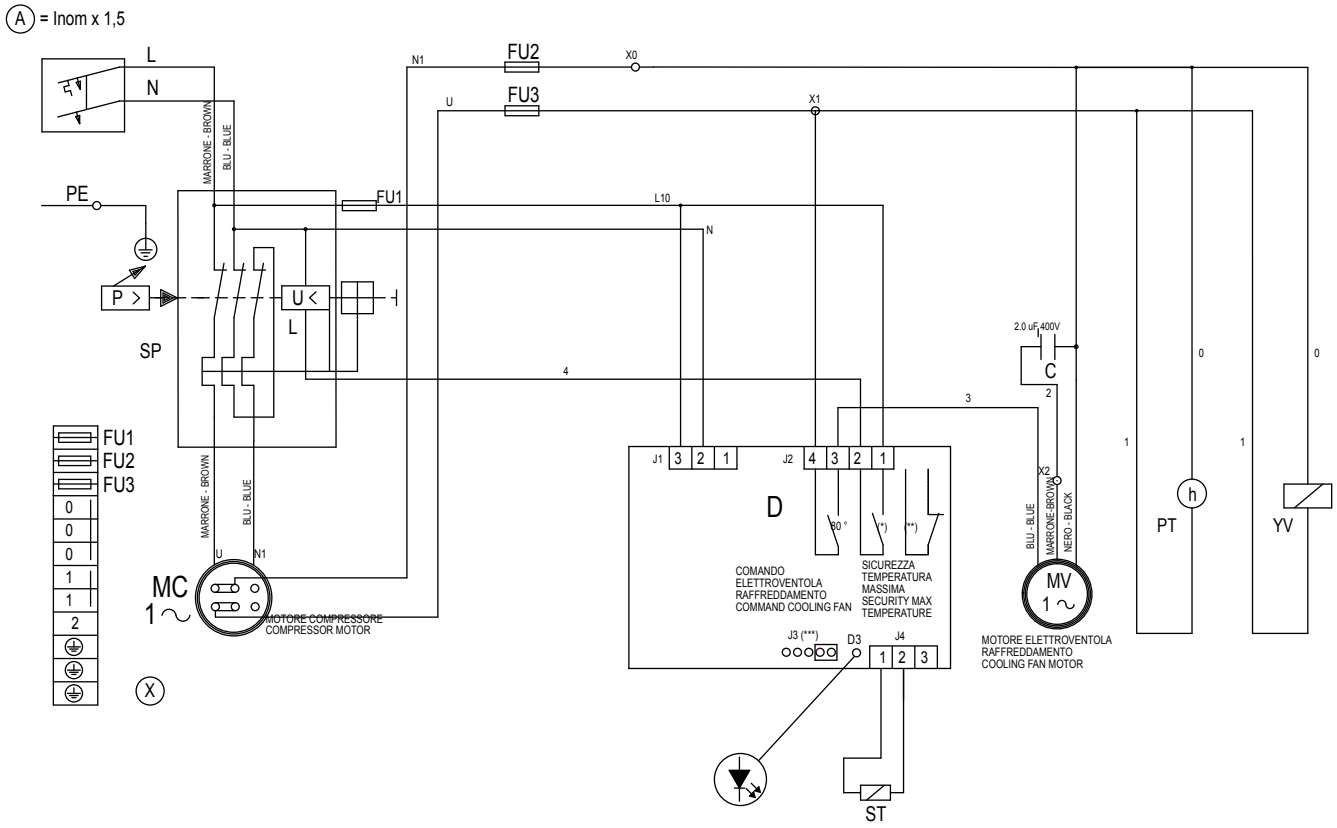
(*)-(NA)-ALIM. OUT
(*)-(NA)-ALIM. IN +T° >110 °
(*)-(NA)-ALIM. IN + D3 LAMPEGGIO

(*)-(NA)-POWER SUPPLY OUT
(*)-(NA)-POWER SUPPLY IN +T° >110 °
(*)-(NA)-POWER SUPPLY IN + D3 FLASHING

(**)-(NC)-ALIM.IN +T° < 100 °
(***) - ●●●●●
SEQUENZA FASI NON ABILITATO
(***) - ●●●●●
SEQUENZA FASI ABILITATO

(**)-(NC)-POWER SUPPLY IN +T° < 100 °
(***) - ●●●●●
PHASE SEQUENCE DEVICE DISABLED
(***) - ●●●●●
PHASE SEQUENCE DEVICE ENABLED

WIRING DIAGRAM



Rif.-Ref.	Denominazione-Description	2,2 kW			
		230V-1 50/60 Hz			
FU1.FU2-FU3	Fusibili (Fuses) 2A 5x20				
SP	Telepressostato (Pressure switch with cut out)	6,6-10			
L	Bobina di minima (Min Magnet coil)				
D	Controllore elettronico (Electronic Controller)				
ST	Sonda termica (Temperature Probe)				
YV	Elettrovalvola (Solenoid Valve)				
PT	Contaore (Hours Counter)				
D3	LED Lampeggio (Led Flashing)				
	Sezione cavo motore (mmq) - Motor cable section (mmq)	3G2,5			

(*)-(NA)-ALIM. OUT
(*)-(NA)-ALIM. IN +T° > 110 °
(*)-(NA)-ALIM. IN + D3 LAMPEGGIO

(*)-(NA)-POWER SUPPLY OUT
(*)-(NA)-POWER SUPPLY IN +T° > 110 °
(*)-(NA)-POWER SUPPLY IN + D3 FLASHING

(**)-(NC)-ALIM.IN +T° < 100 °

(***) - ●●●●●
SEQUENZA FASI NON ABILITATO

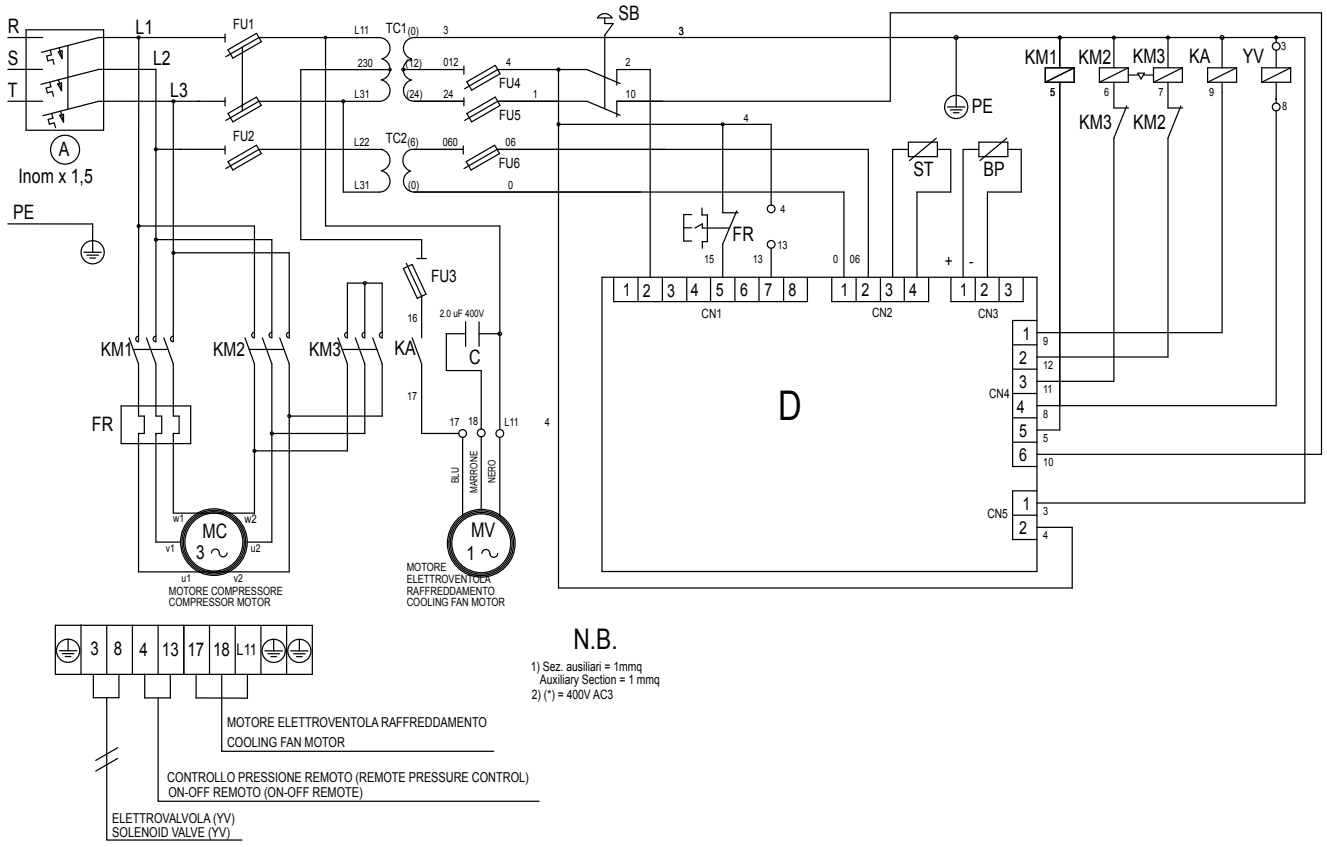
(***) - ●●●●●
SEQUENZA FASI ABILITATO

(**)-(NC)-POWER SUPPLY IN +T° < 100 °

(***) - ●●●●●
PHASE SEQUENCE DEVICE DISABLED

(***) - ●●●●●
PHASE SEQUENCE DEVICE ENABLED

WIRING DIAGRAM



Rif.-Ref.	Denominazione-Description	4 kW		5,5 kW	
		230 V	400 V	230 V	400 V
TC1	Trasformatore (Transformer) Pr.0/230/400 Sec.0/12/24 100 VA				
TC2	Trasformatore (Transformer) Pr.0/230/400 Sec.0/6				
SB	Pulsante emergenza (Emergency Button) + n.2 NC 230V 10A				
FU1	Fusibili ceramici (Ceramic Fuses) 10.3 x 38 GG 4A 500V				
FU2.FU3	Fusibili ceramici (Ceramic Fuses) 10.3 x 38 GG 1A 500V				
FU4-FU5	Fusibile ceramico (Ceramic Fuse) 10.3 x 38 GG 2A 500V				
FU6	Fusibile ceramico (Ceramic Fuse) 10.3 x 38 GG 0,5 A 500V				
KM1	Contattore linea (Line Contactor) bob.24 V 50/60 Hz	5,5 kW(*)	3 kW(*)	7,5 kW(*)	4 kW(*)
KM2	Contattore triangolo (Delta Contactor) bob.24 V 50/60 Hz	5,5 kW(*)	3 kW(*)	7,5 kW(*)	4 kW(*)
KM3	Contattore stella (Star Contactor) bob.24 V 50/60 Hz	4 kW(*)	3 kW(*)	5,5 kW(*)	4 kW(*)
KA	Rele´ ausiliario-Auxiliary Relay 2 contatti bob. 24Vac				
FR	Rele' termico (Thermal Relay) reset MAN/AUT - 1L+1R	(6-10)	(4-6)	(9-12)	(6-10)
YV	Elettrovalvola (Solenoid Valve) 24 VAC 50/60 Hz 8VA				
BP	Trasduttore di pressione (Pressure Probe) 0-16 Bar 4-20mA				
D	Controllore elettronico (Electronic Controller)				
ST	Sonda termica (Temperature Probe)				
MV	Motore Elettroventola Raffr. (Cooling fan motor) 230/1/50-60 Hz	70 W	70 W	70 W	70 W
	Sezione cavo motore (mmq) - Motor cable section (mmq)	7G1	7G1,5	7G1,5	7G1,5

1) Sez. ausiliari = 1mmq Auxiliary section= 1mmq

2) (*) = 400V AC3

3) (**) = 400 V - ALIM. - NERO-BLU-MARRONE - PONT. GIALLO-VERDE-BIANCO
POWER SUPPLY: BLACK-BLUE-BROWN - JOIN IN (#) YELLOW-GREEN-WHITE

3) (**) = 230V ALIM. - (MARRONE-BIANCO) / (BLU-VERDE)/(NERO-GIALLO)
POWER SUPPLY: (BROWN-WHITE) - (BLUE-GREEN) (BLACK-YELLOW)