



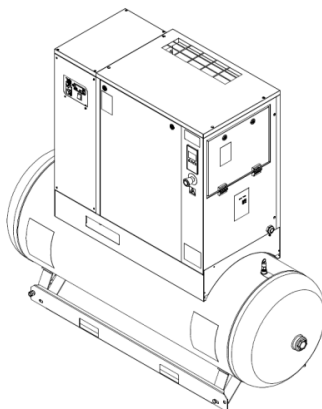
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## INSTRUCTION AND MAINTENANCE MANUAL

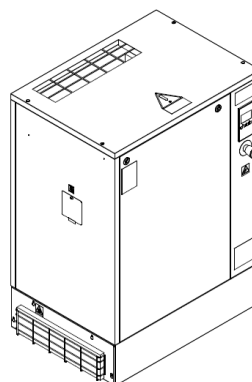
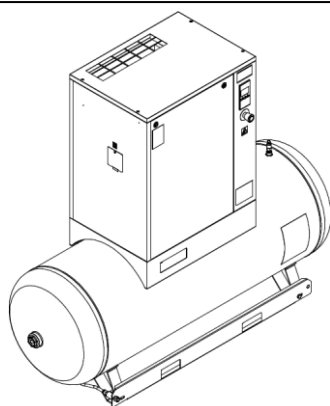
SILENCED SCREW ROTARY COMPRESSOR UNITS

**HP 4 - 5,5 - 7,5 - 10 – 10S - 15 - 20**

**KW 3 - 4 - 5,5 - 7,5 - 7,5S - 11 - 15**



**THIS MACHINE MUST BE CONNECTED TO TWO DIFFERENT POWER SUPPLIES: THREE-PHASE SUPPLY FOR THE COMPRESSOR SINGLE-PHASE SUPPLY FOR THE DRYER**



**READ THIS MANUAL CAREFULLY BEFORE CARRYING OUT ANY OPERATIONS ON THE COMPRESSOR UNIT.**



***THIS MACHINE IS EQUIPPED FOR BOTH CONTINUOUS AND INTERMITTENT WORKING, HOWEVER TO AVOID CONDENSATION PROBLEMS IN THE OIL, THE MACHINE MUST OPERATE FILLED WITH AT LEAST 10% OF ITS TOTAL CAPACITY, CHECK FOR SIGNS OF CONDENSATION IN THE OIL BY FOLLOWING THE INSTRUCTIONS GIVEN IN CHAPTER 15.2***

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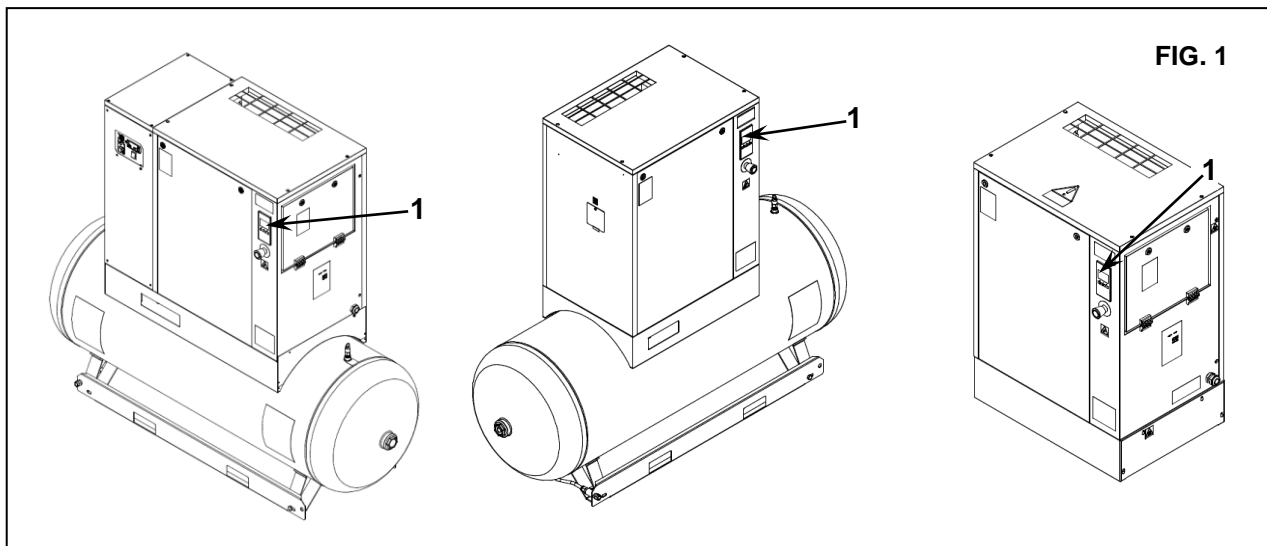
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**IMPORTANT: A COPY OF THE WIRING DIAGRAMS CAN BE FOUND INSIDE THE ELECTRIC BOARD OF THE COMPRESSOR.**

SILENCED SCREW ROTARY COMPRESSOR UNITS

**HP 4 - 5,5 - 7,5 - 10 – 10S - 15 - 20**  
**KW 3 - 4 - 5,5 - 7,5 - 7,5S - 11 - 15**

MACHINE AND MANUFACTURER IDENTIFICATION DATA



Position of the identification plate Fig. 1

## ADDRESSES OF ASSISTANCE CENTRES

In the event of breakdown or malfunction of the machine, switch it off and do not tamper with it.

We remind you that our technical service department is at your complete disposal to help you resolve any problems that may possibly be encountered, or to provide you with any other information necessary.

The constant and efficient performance of the compressor is ensured only if original spare parts are used.

We recommend therefore that you strictly observe the indications provided in the MAINTENANCE section and to use EXCLUSIVELY original spare parts.

The use of NON ORIGINAL spare parts automatically annuls the guarantee.

Failure to comply with the above may endanger the safety of the machine.

## INTRODUCTION

**Keep this manual with care for future consultation; the use and maintenance manual is an integral part of the machine. Read this manual carefully before carrying out any operations on the compressor unit.**

**The installation of the compressor unit and all operations involving it must be performed in conformity with the regulations in force concerning electric plants and personal safety.**

## CHARACTERISTICS AND SAFETY PRECAUTIONS



**MACHINE WITH AUTOMATIC START**



**BEFORE REMOVING THE PROTECTIVE GUARDS TO CARRY OUT ANY MAINTENANCE ON THE MACHINE, SWITCH OFF THE ELECTRIC POWER SUPPLY AND DISCHARGE THE RESIDUAL PRESSURE INSIDE THE UNIT.**

**ALL WORK ON THE ELECTRIC PLANT, HOWEVER SLIGHT, MUST BE CARRIED OUT BY PROFESSIONALLY SKILLED PERSONNEL.**

**THIS MACHINE IS NOT SUITABLE FOR EXTERNAL INSTALLATION**

**THIS MACHINE CORRESPOND TO THE ESSENTIAL SAFETY REQUIREMENTS FORESEEN FROM THE EUROPEAN STANDARD (2006/42 CE).**

***THE LUBRICATING LIQUIDS AND OTHER EVENTUAL FLUIDS MUST NOT BE DISCHARGED IN THE ENVIRONMENT. THESE POLLUTING AND HAZARDOUS PRODUCTS MUST COMPULSORY BE DISPOSED BY CHARGING AUTHORISED AND SPECIALISED FIRMS ACCORDING TO THE DIFFERENT TYPOLOGY OF PRODUCT.***

***DIFFERENTIATE THE COMPRESSOR COMPONENTS ACCORDING TO THE DIFFERENT CONSTRUCTION MATERIALS (PLASTIC, COPPER, IRON, OIL FILTER, AIR FILTER ECC...)***

The manufacturer does not accept responsibility for damage caused as a result of negligence or failure to abide by the instructions given above.

## AIR RECEIVER AND SAFETY VALVE:

- To limit internal corrosion, which could compromise the safety of the compressed air tank, **the condensation that is produced must be discharged at least once a day**. If an automatic drain fitted to the air receiver is present, it is necessary to check that it is working correctly every week and repair it if necessary.
- **The thickness of the receiver must be checked every year and also in accordance with legislation in force in the country where the receiver is installed.**
- **The tank cannot be used and must be replaced if the thickness falls below the minimum level given in the instruction documents for the tank.**
- The tank can be used within the temperature limits given in the conformity declaration.
- **The safety valves of the air receiver and oil receiver must be checked every year and replaced in accordance with legislation in force.**

**NOT RESPECTING THE ABOVE MENTIONED PRESCRIPTION CAN RESULT IN AIR RECEIVER BURSTING HAZARD.**

The manufacturer does not accept responsibility for damage caused as a result of negligence or failure to abide by the instructions given above.

## 1.0 GENERAL CHARACTERISTICS

The compressor units use single-stage screw rotary air compressors with oil injection.

The system is self-bearing and does not require bolts or other devices to anchor it to the floor.

The unit is completely assembled in the factory; the necessary connections for setting it up are:

- connection to the power mains (see installation chapter)
- connection to the compressed air network (see installation chapter)

**2.0 INTENDED USE**

The compressor has been built to supply compressed air for industrial use.

The machine cannot be used in premises where there is a risk of fire or explosion or where the activity performed can release into the environment dangerous substances (for example: solvents, inflammable vapours, alcohol, etc.). In particular the appliance cannot be used to produce air to be breathed by humans or used on direct contact with foodstuffs. These uses are allowed if the compressed air produced is filtered by means of a suitable filtering system (Consult the manufacturer for these special uses.)

This appliance must be used only for the purpose for which it was specifically designed.

All other uses are to be considered incorrect and therefore unreasonable.

The Manufacturer cannot be held responsible for any damage resulting from improper, incorrect or unreasonable use.

**3.0 OPERATION****3.1 OPERATION FOR COMPRESSOR**

The electric motor and the compressor unit are coupled by means of a belt transmission.

The compressor unit takes in the outside air through the suction valve. The intake air is filtered by the filter cartridge fitted upstream from the intake valve. Inside the compressor unit, the air and the lubricating oil are compressed and sent to the oil separating tank where the oil is separated from the compressed air; the air is then filtered again by the oil separating cartridge to reduce the amount of suspended oil particles to a minimum. The machine is fitted with a suitable air-cooling system.

The machine is protected by a special safety thermostat: if the oil temperature reaches 115 °C the machine cuts out automatically.

**3.2 OPERATION FOR DRYER**

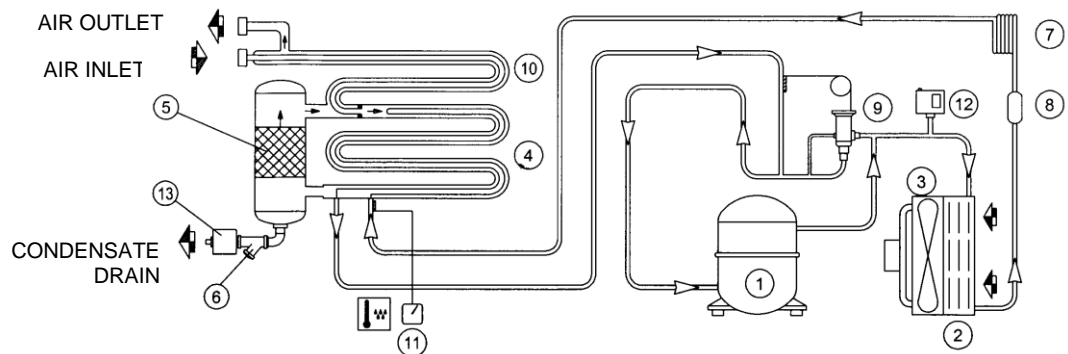
At the moment of use the air flows from the tank to the dryer and is then dried and sent to the distribution network. Dryer operation is described below. The gaseous refrigerant coming from the evaporator (4) is sucked by the refrigeration compressor (1) and it is pumped into the condenser (2). This one allows its condensation, eventually with the help of the fan (3); the condensed refrigerant passes through the dewatering filter (8) and it expands through the capillary tube (7) and goes back to the evaporator where it produces the refrigerating effect.

Due to the heat exchange with the compressed air which passes through the evaporator against the stream, the refrigerant evaporates and goes back to the compressor for a new cycle.

The circuit is equipped with a bypass system for the refrigerant; this intervenes to adjust the available refrigerating capacity to the actual cooling load.

This is achieved by injecting hot gas under the control of the valve (9): this valve keeps constant the pressure of the refrigerant in the evaporator and therefore also the dew point never decreases below 0 °C in order to prevent the condensate from freezing inside the evaporator.

The dryer runs completely automatically; it is calibrated in the factory for a dew point of ~ 3 °C and therefore no further calibrations are required.

**DRYER FLOW DIAGRAM****4.0 GENERAL SAFETY STANDARDS**

The appliance may be used only by specially trained and authorized personnel.

Any tampering with the machine or alterations not approved beforehand by the Manufacturer relieve the latter of responsibility for any damage resulting from the above actions.











The removal of or tampering with the safety devices constitutes a violation of the European Standards on safety.

**ATTENTION: UPSTREAM OF THE MACHINE INSTALL AN ISOLATOR KNIFE-SWITCH WITH AN AUTOMATIC CUTOUT AGAINST CURRENT SURGES AND EQUIPPED WITH A DIFFERENTIAL DEVICE.**

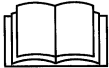


**ALL WORK ON THE ELECTRIC PLANT, HOWEVER SLIGHT, MUST BE CARRIED OUT BY PROFESSIONALLY SKILLED PERSONNEL.**

**5.0 DESCRIPTION OF DANGER SIGNALS**

	1) FLUID EJECTION		6) HIGH PRESSURE
	2) DANGEROUS ELECTRIC VOLTAGE		7) HOT PARTS
	3) AIR NOT FIT FOR BREATHING		8) MOVING PARTS
	4) NOISE		9) FAN ROTATING
	5) MACHINE WITH AUTOMATIC START		10) PURGE EVERY DAY

**5.1 DESCRIPTION OF COMPULSORY SIGNALS**

	11) READ THE USE AND MAINTENANCE INSTRUCTIONS		
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**6.0 DANGERS ZONES**

**6.1 DANGERS ZONES FOR COMPRESSOR UNIT**



Risks present on the whole machine

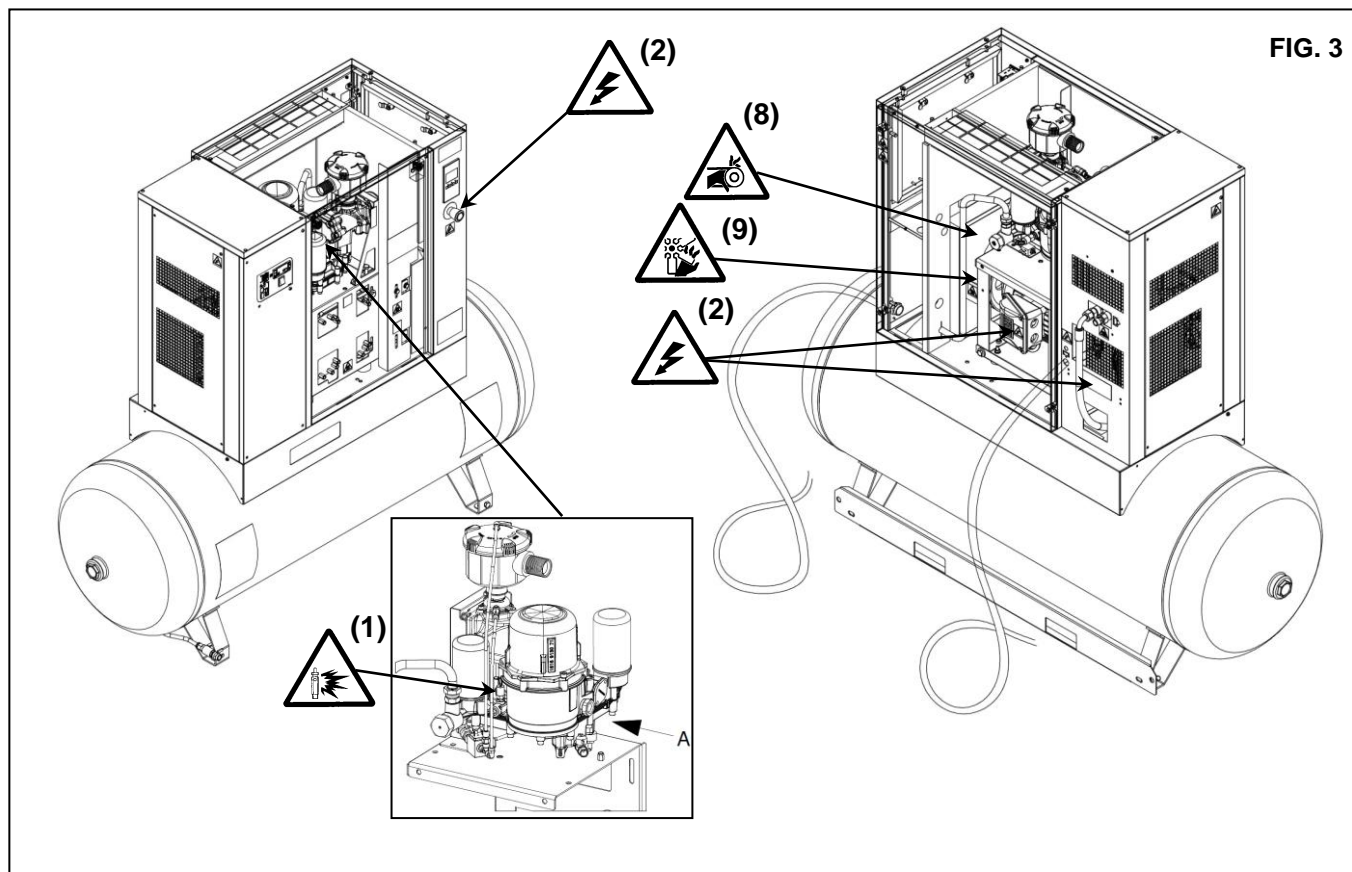


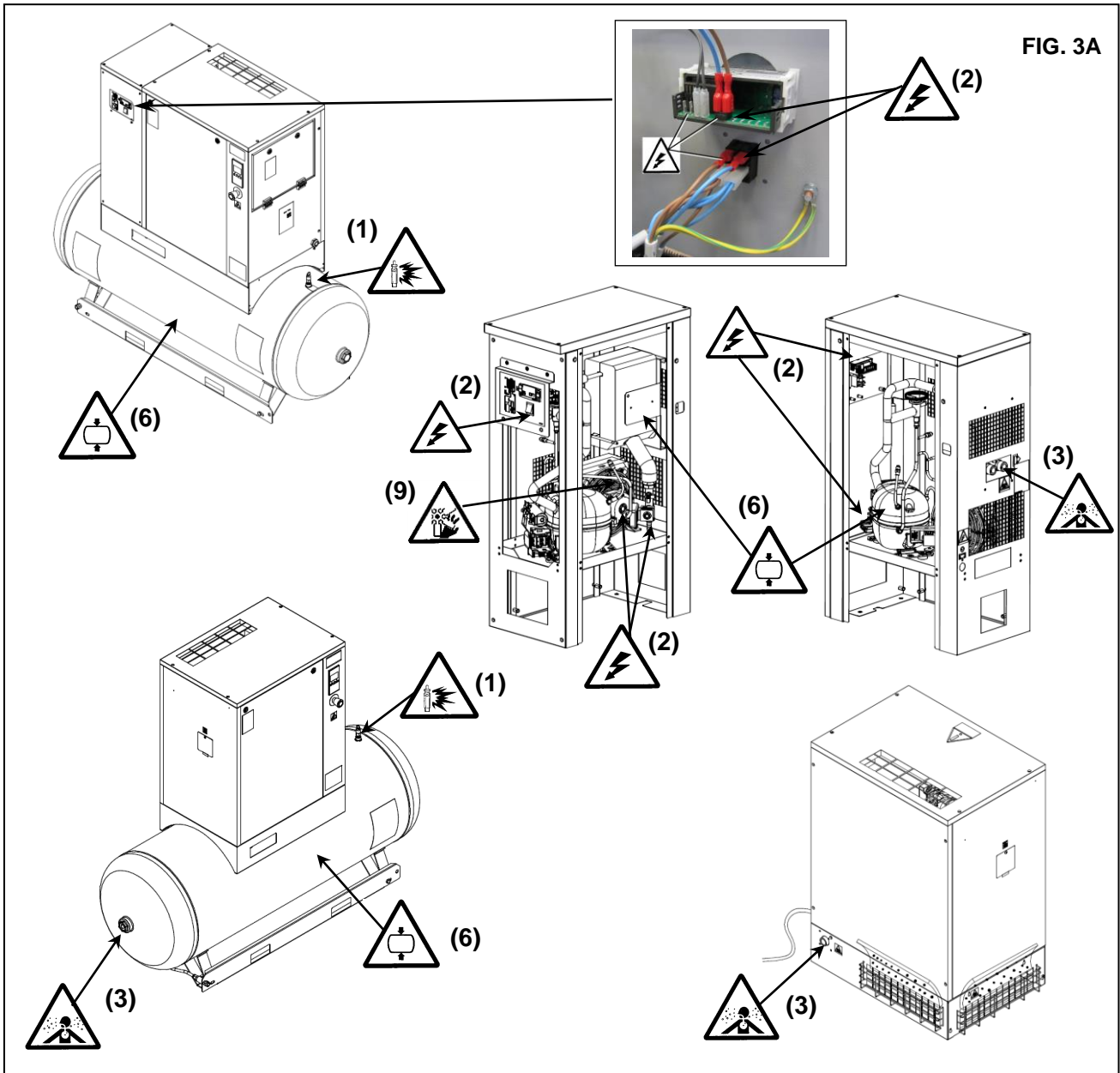
FIG. 3

6.2 DANGERS ZONES FOR DRYER UNIT AND TANK



Risks present on the whole machine

FIG. 3A



7.0 SAFETY DEVICES

7.1 SAFETY DEVICES FOR SCREW COMPRESSOR (Fig. 4)

- 1) Safety screws
- 2) The front protection and the cubicle door can be opened with a special key
- 3) Protection device - cooling fan / pulley
- 4) Safety valve
- 5) Emergency stop
- 6) Oil filling cap (with safety breather)

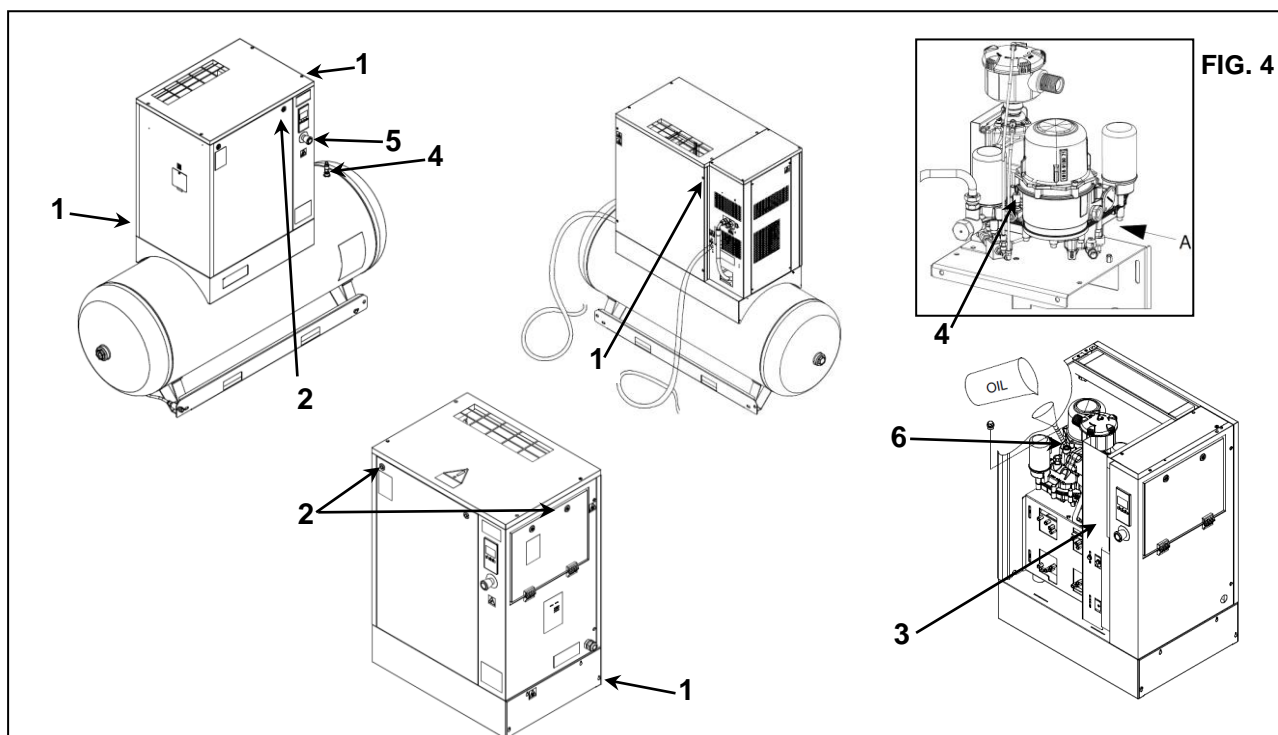


FIG. 4

**7.2 SAFETY DEVICES FOR DRYER UNIT AND TANK**

- 1) Safety valve
- 2) Protective switch cap.
- 3) Relay for compressor (automatic)
- 4) Overload protector for compressor

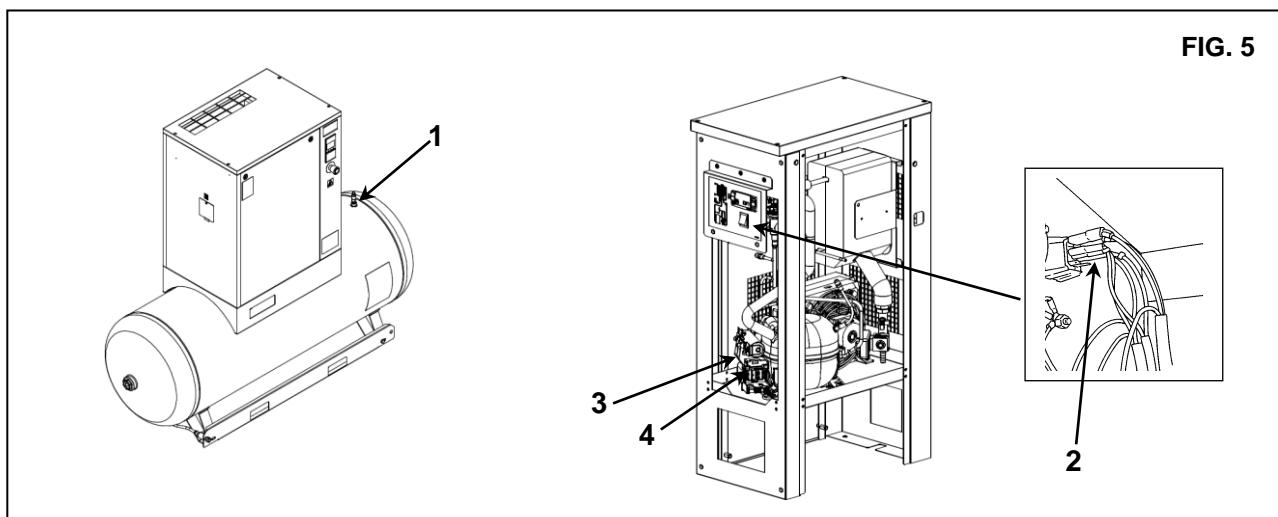


FIG. 5

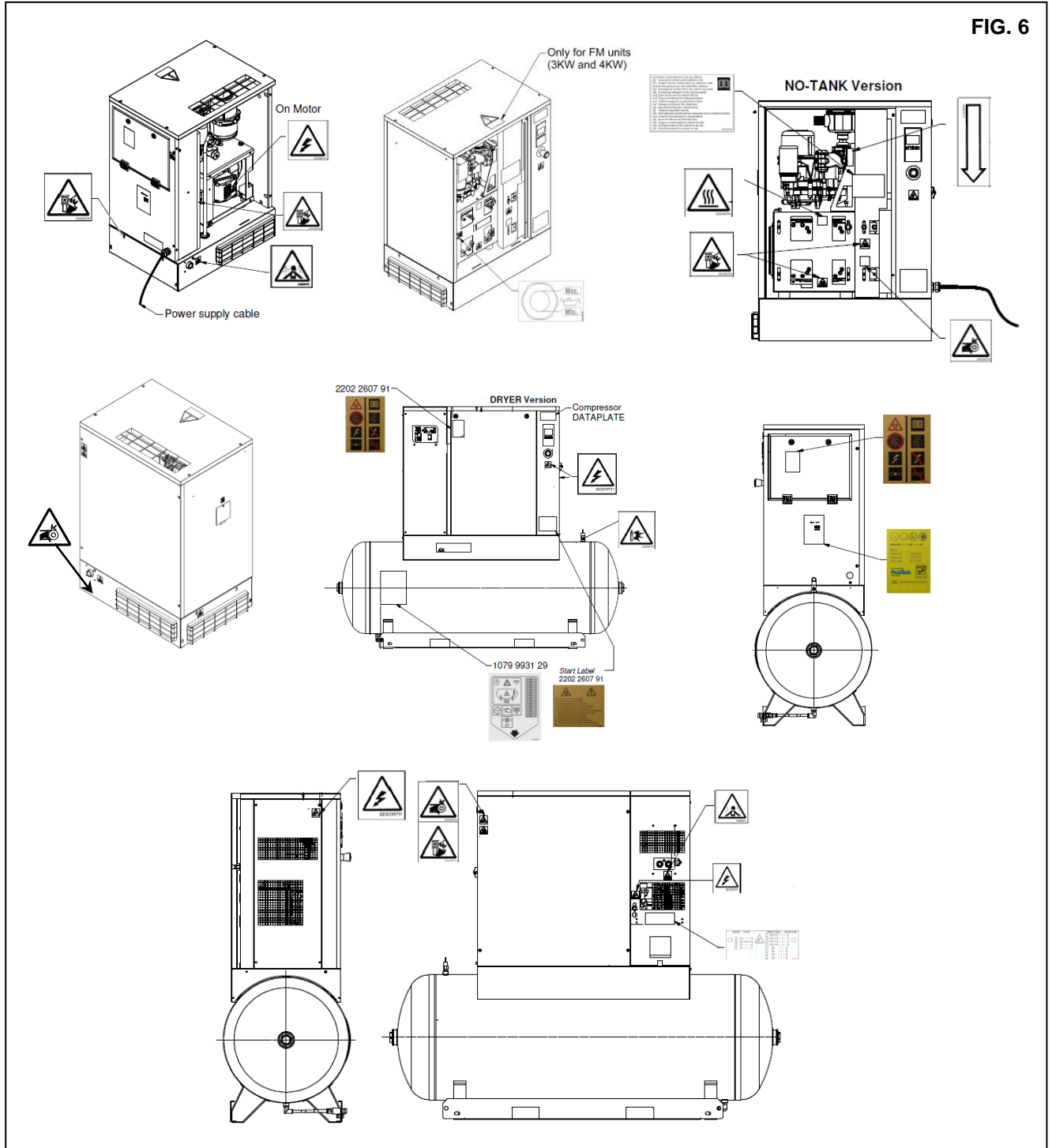
**8.0 POSITION OF PLATES**

**8.1 POSITION OF THE DANGER PLATES FOR COMPRESSOR UNIT**

The plates fitted on the compressor unit are part of the machine; they have been applied for safety purposes and must not be removed or spoiled for any reason.

Dangers plate Code 2202 2607 90

Plate "Machine with automatic start" Code 2202 2510 89





### 8.2 POSITION OF THE DANGER PLATES FOR DRYER UNIT AND TANK

The plates fitted on the compressor unit are part of the machine; they have been applied for safety purposes and must not be removed or spoiled for any reason.

Dangers plate 1079 9926 55

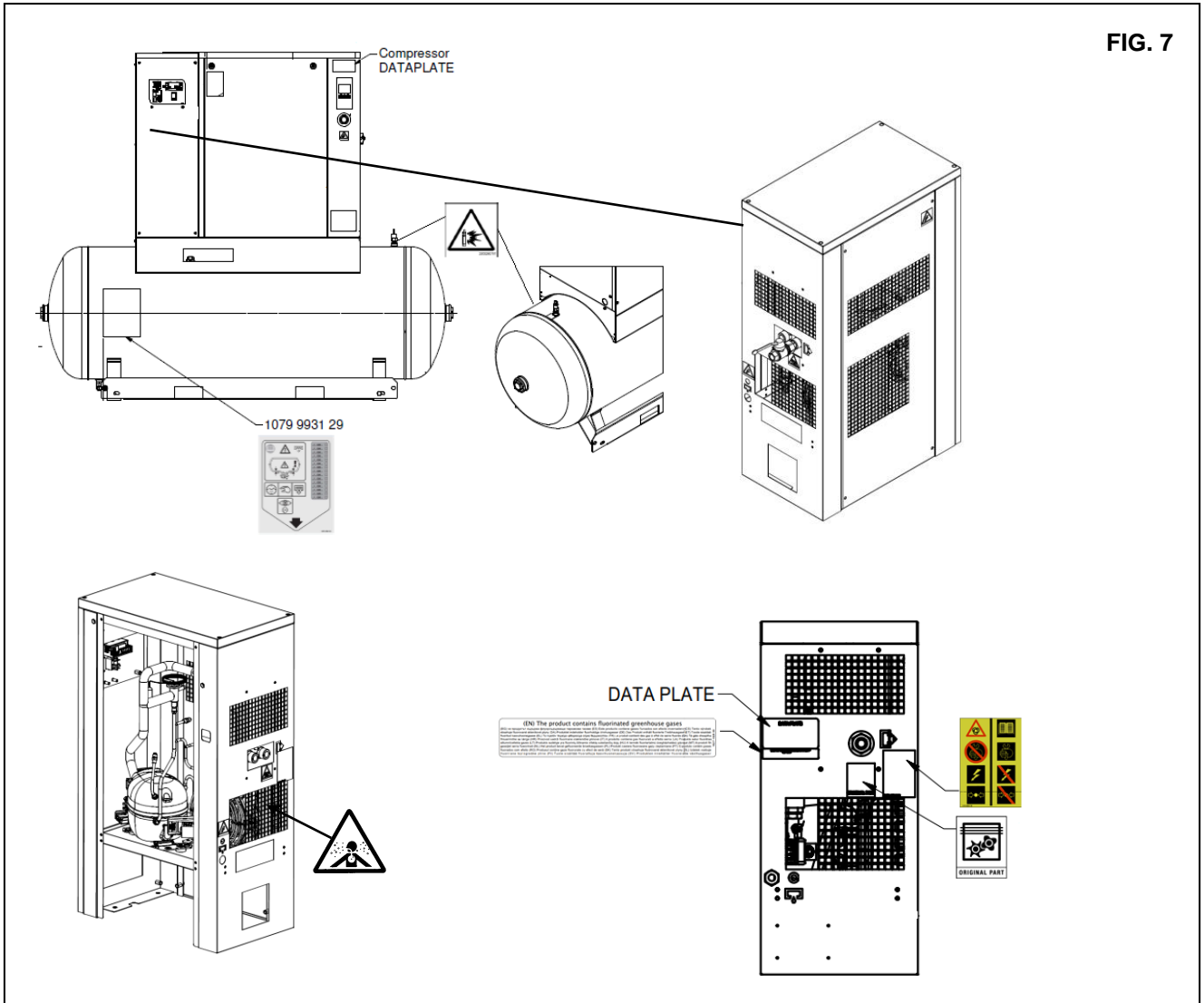
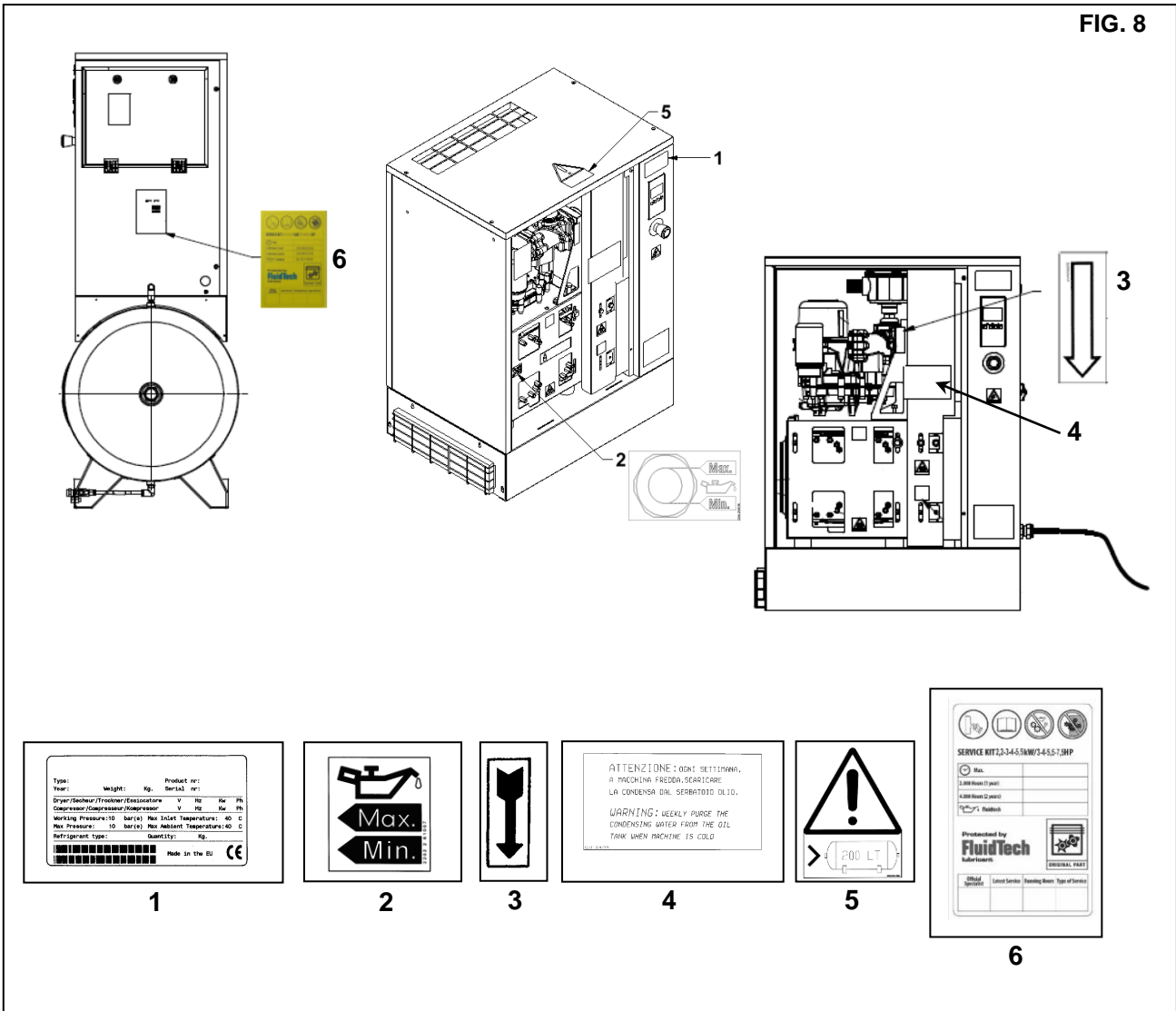


FIG. 7

8.3 POSITION OF THE DATA PLATE FOR COMPRESSOR UNIT

FIG. 8



Type:	Weight:	Product no.:
Year:	Kg.	Serial no.:
Dryer/Seahour/Frostfree/Refrigerator	V	Hx
Compressor/Compressor/Refrigerator	V	Hx
Working Pressure: 10 bar(s)	Max Inlet Temperature: 40 C	
Max. Pressure: 10 bar(s)	Max. Ambient Temperature: 40 C	
Refrigerant type:	Quantity:	Kg.
Made in the EU		



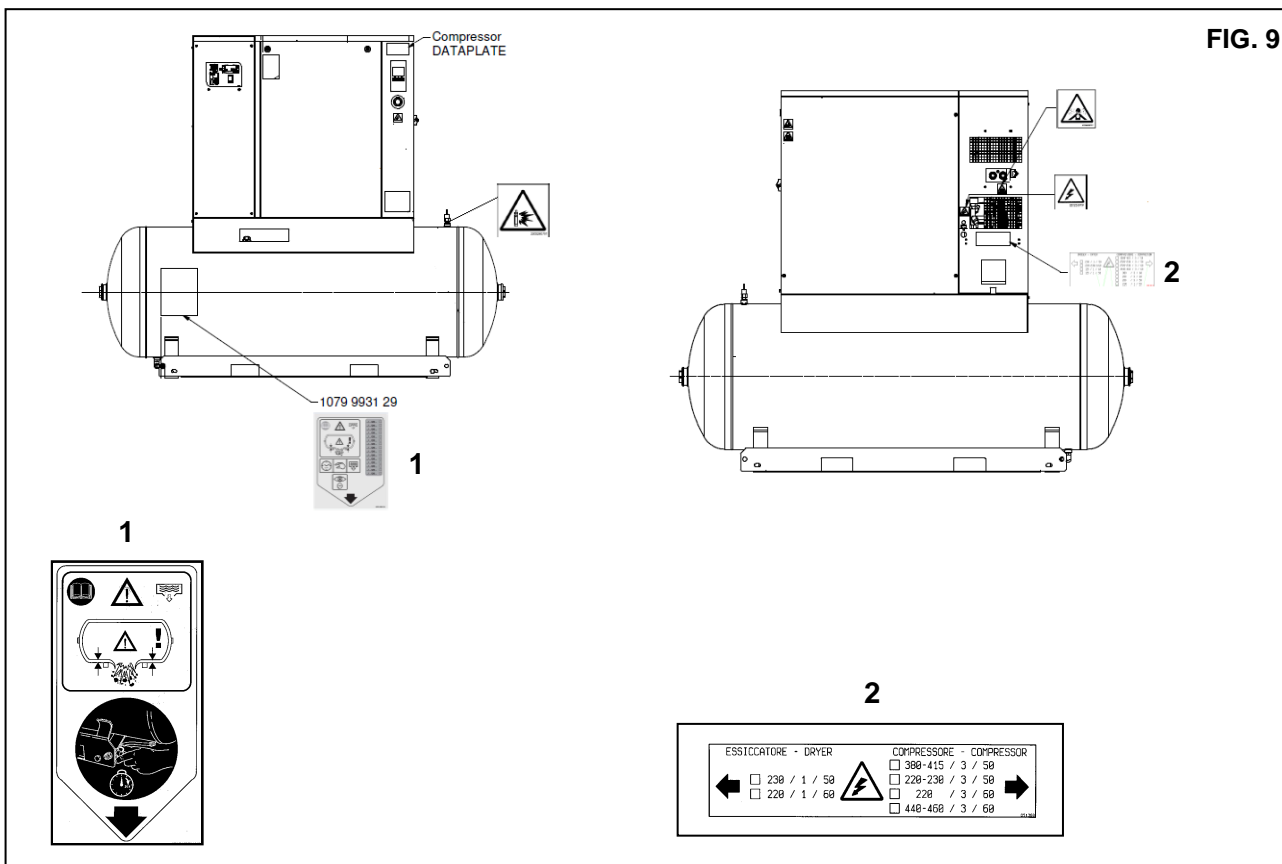
ATTENZIONE: OGNI SETTIMANA,  
A MACCHINA FREDDA, SCARICARE  
LA CONDENZA DAL SERBATOIO D'ILIO.

WARNING: WEEKLY PURGE THE  
CONDENSING WATER FROM THE OIL  
TANK WHEN MACHINE IS COLD



SERVICE KIT 123456789/101112			
Max.			
2.000 Hours (2 year)			
4.000 Hours (4 year)			
Produced by FluidTech			
Subcontractor			
Model	Lot/Serial No.	Working Hours	Type of Service

8.4 POSITION OF THE DATA PLATE FOR DRYER – AIR RECEIVER



9.0 COMPRESSOR ROOM

9.1 FLOOR

The floor must be even and of industrial type; the total weight of the machine is shown in the Chap. 13.0 Remember the total weight of the machine when positioning it.

9.2 VENTILATION

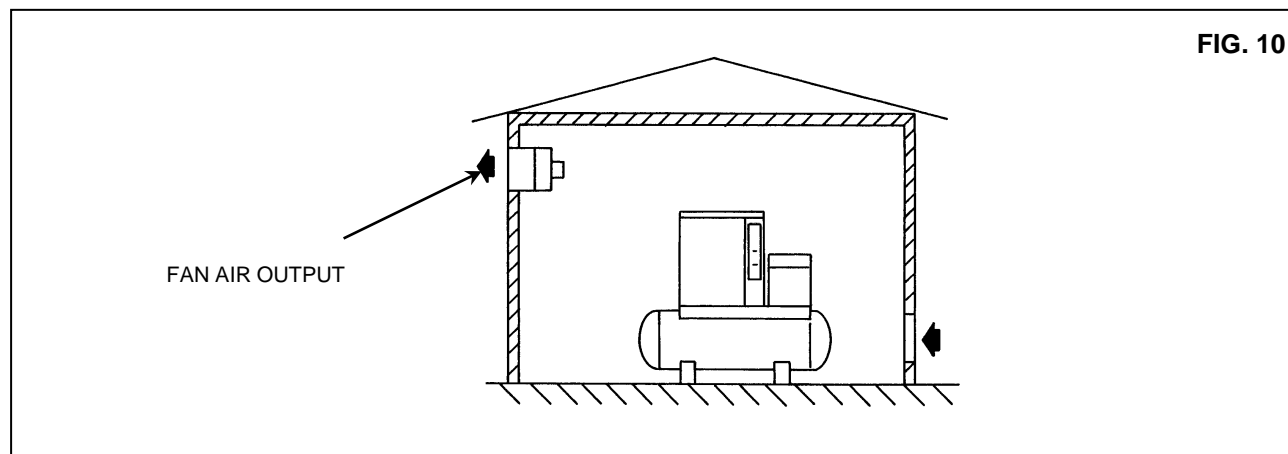
When the machine is operating, the room temperature must not be higher than **40 °C** or lower than **5 °C**. The volume of the room must be about **30 m<sup>3</sup>**.

The room must be provided with 2 openings for ventilation with a surface area of about **0,5 m<sup>2</sup>** each.

The first opening must be in a high position to evacuate the hot air, the second opening must be low to allow the intake of external air for ventilation.

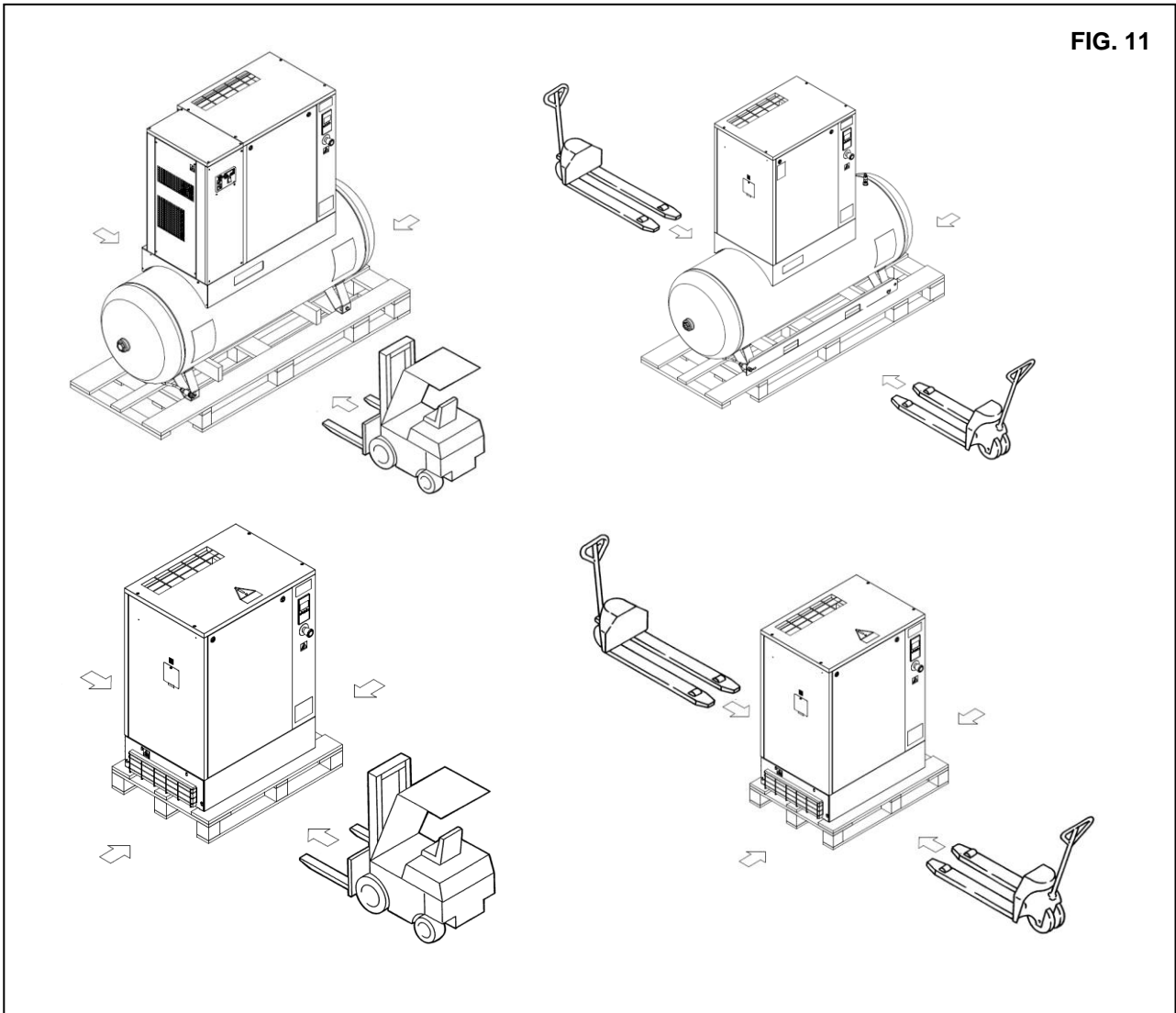
If the environment is dusty it is advisable to fit a filtering panel on this opening.

9.3 EXAMPLES OF VENTILATION OF THE COMPRESSOR ROOM



**10.0 TRANSPORT AND HANDLING**

The machine must be transported as shown in the following figures.



**11.0 UNPACKING**

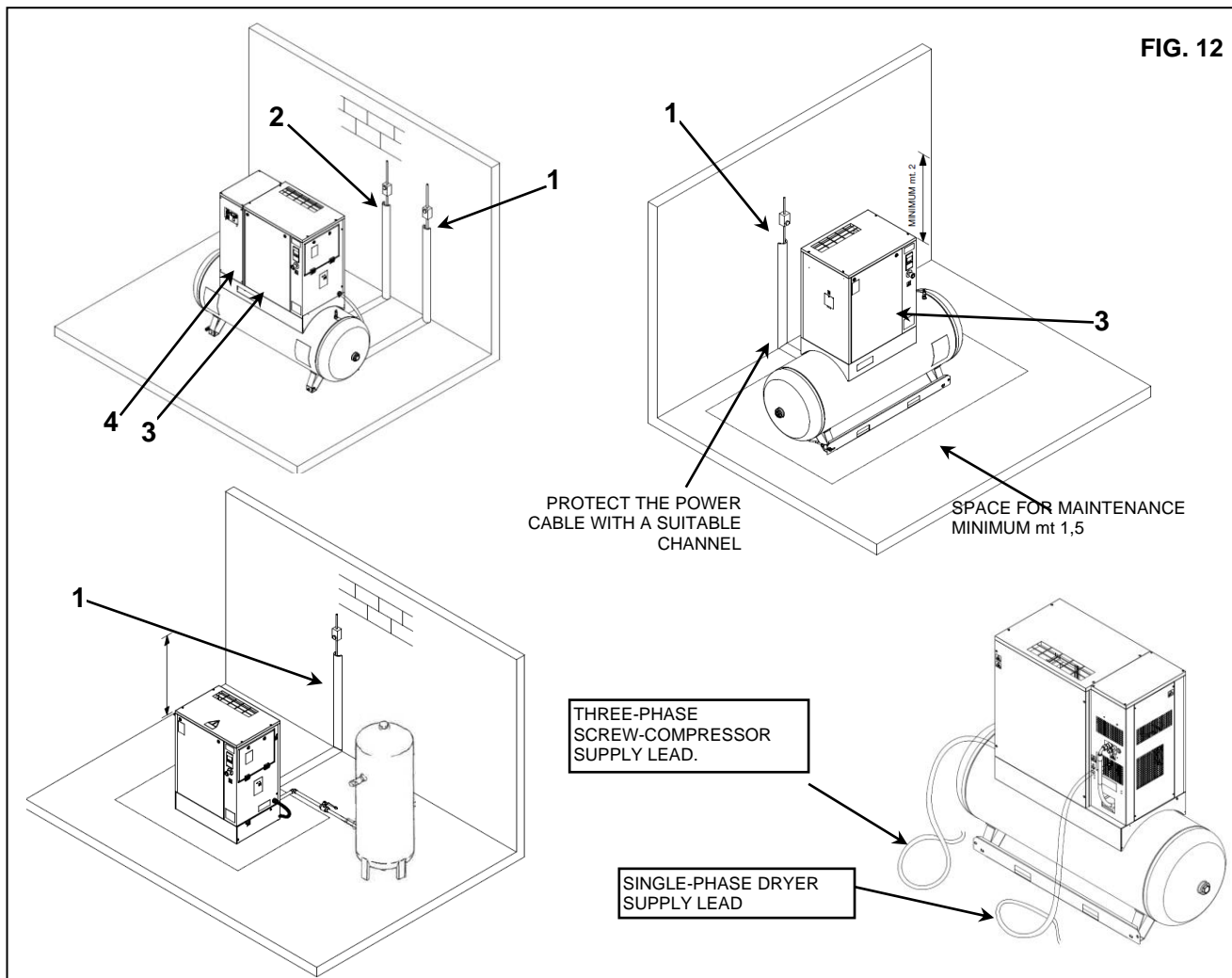
After removing the packing, ensure that the machine is unbroken and that there are no visibly damaged parts. If you are in doubt, do not use the machine but apply to the manufacturer technical assistance service or to your dealer. The packing material (plastic bags, polystyrene foam, nails, screws, wood, metal strapping, etc..) must not be left within the reach of children or abandoned in the environment, as they are a potential source of danger and pollution. Dispose of these materials in the approved collection centres.

## 12.0 INSTALLATION

### 12.1 POSITIONING

After unpacking the equipment and preparing the compressor room, put the machine into position, checking the following items:

- Ensure that there is enough space around the machine to allow maintenance (see Fig. 12).
- Check that the compressor is standing on a perfectly flat floor.



**ENSURE THAT THE OPERATOR CAN SEE THE WHOLE MACHINE FROM THE CONTROL PANEL AND CHECK THE PRESENCE OF ANY UNAUTHORIZED PERSONS IN THE VICINITY OF THE MACHINE.**

### 12.2 ELECTRICAL CONNECTION

- Check that the supply voltage is the same as the value indicated on the machine data plate.  
**CAUTION: the compressor Ref. 3 and the dryer Ref. 4 have two separate feeds, respectively three-phase and single-phase.**
- Check the condition of the line leads and ensure that there is an efficient earth lead.
- Ensure that there is an automatic cut-out device upstream for the machine against overcurrents, with a differential device (see Ref. 1 for compressor Ref. 2 for dryer) wiring diagram.
- Connect the machine power cables with the greatest care, according to the standards in force. These cables must be as indicated on the machine wiring diagram.



**ONLY PROFESSIONALLY SKILLED PERSONNEL MAY HAVE ACCESS TO THE ELECTRIC PANEL. SWITCH OFF THE POWER BEFORE OPENING THE DOOR OF THE ELECTRIC PANEL.**

**COMPLIANCE WITH THE REGULATIONS IN FORCE CONCERNING ELECTRIC PLANTS IS FUNDAMENTAL FOR OPERATOR SAFETY AND FOR THE PROTECTION OF THE MACHINE.**

**CABLES, PLUGS AND ALL OTHER TYPE OF ELECTRIC MATERIAL USED FOR THE CONNECTION MUST BE SUITABLE FOR THE USE AND COMPLYING WITH THE REQUIREMENTS STATED BY THE REGULATIONS IN FORCE.**

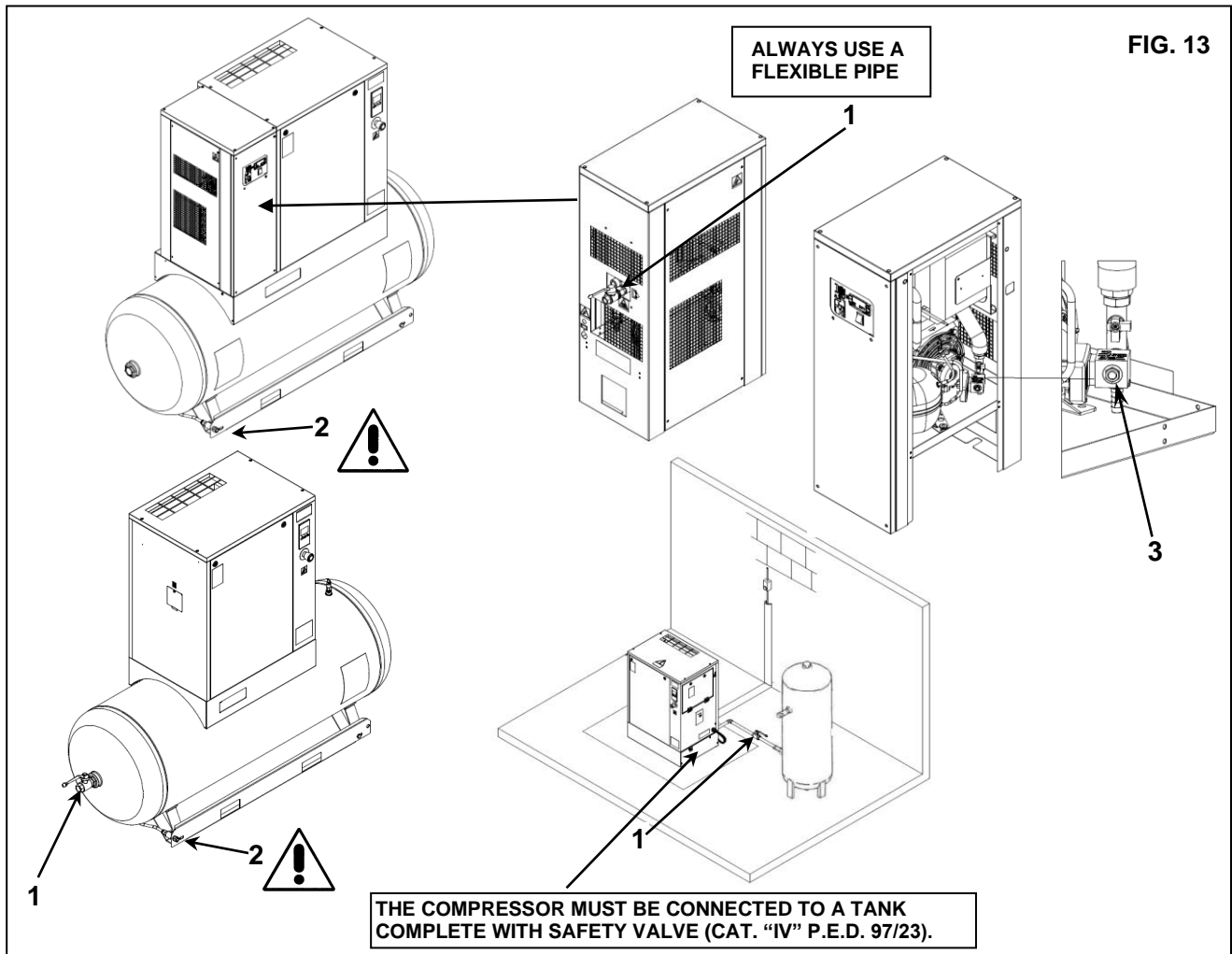
**12.3 CONNECTION TO THE COMPRESSED AIR NETWORK**

Fit a manual interception valve Ref. 1 between the machine and the compressed air network so that the compressor may be isolated during maintenance operations; (see figure 13).



**PIPES, FITTINGS AND CONNECTIONS USED FOR THE CONNECTION OF THE ELECTROCOMPRESSOR TO THE COMPRESSED AIR NETWORK MUST BE SUITABLE TO THE USE ACCORDING TO THE PRESCRIPTIONS OF THE REGULATIONS IN FORCE IN THE COUNTRY OF USE.**

**ALL DAMAGE DUE TO THE FAILURE TO COMPLY WITH THESE INDICATIONS CANNOT BE ATTRIBUTED TO THE MANUFACTURER AND MAY CAUSE INVALIDITY OF THE GUARANTEE CONDITIONS.**



The manual drainage Ref. 2 Fig. 13 the condensate automatic Ref. 3 Fig. 13, are led outside the machine with a flexible pipe that may be inspected. Drainage must comply with the local regulations in force.



**ALL DAMAGE DUE TO THE FAILURE TO COMPLY WITH THESE INDICATIONS CANNOT BE ATTRIBUTED TO THE MANUFACTURER AND MAY CAUSE INVALIDITY OF THE GUARANTEE CONDITIONS.**

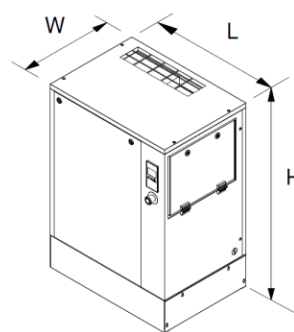
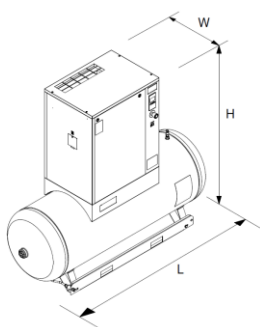
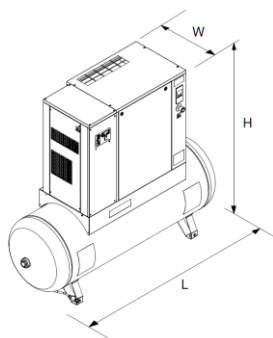
**12.4 STARTING UP**

See part B of this manual, **Chapter 20.0**

**13.0 DIMENSIONS AND TECHNICAL DATA 4-5,5-7,5-10 Hp**

*air receiver 200 Liters*

*on base*



<b>HP 4-5,5-7,5 KW 3-4-5,5</b>	Dimensions mm (inch)			Air Connection
	L	W	H	
	1429 (56.25)	573.1 (22.56)	1397 (55)	1/2"

<b>HP 4-5,5-7,5-10 KW 3-4-5,5-7,5</b>	Dimensions mm (inch)			Air Connection
	L	W	H	
	804.8 (31.68)	603.1 (23.74)	1020 (40.16)	3/4"

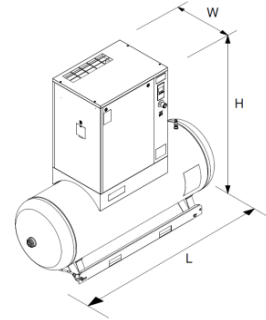
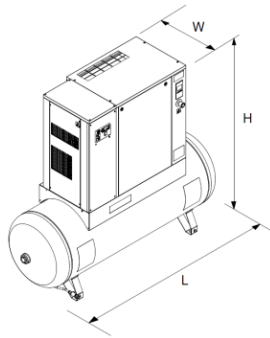
**50Hz**

	<b>HP 4 kW 3</b>	<b>HP 4 kW 3</b>	<b>HP 5,5 kW 4</b>	<b>HP 5,5 kW 4</b>	<b>HP 7,5 kW 5,5</b>	<b>HP 7,5 kW 5,5</b>	<b>HP 10 kW 7,5</b>	<b>HP 10 kW 7,5</b>
<b>Setting pressure bar(e) / psi</b>	8 (116)	10 (145)	8 (116)	10 (145)	8 (116)	10 (145)	8 (116)	10 (145)
Standard air capacity l/min.	460	367	584	512	871	722	1025	920
Net weight Kg. / lb (200L without dryer)	207 (456)	207 (456)	213 (470)	213 (470)	223 (492)	223 (492)	NA	NA
Net weight Kg. / lb (200L with dryer)	246 (542)	246 (542)	252 (556)	252 (556)	263 (580)	263 (580)	NA	NA
Net weight Kg. / lb (on base)	147 (324)	147 (324)	152 (335)	152 (335)	163 (359)	163 (359)	190 (419)	190 (419)
Setting controller (thermostat) °C / °F	115 (120) / 239 (248)							
Oil load Litres	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5

**60Hz**

	<b>HP 4 kW 3</b>	<b>HP 4 kW 3</b>	<b>HP 5,5 kW 4</b>	<b>HP 5,5 kW 4</b>	<b>HP 7,5 kW 5,5</b>	<b>HP 7,5 kW 5,5</b>	<b>HP 10 kW 7,5</b>	<b>HP 10 kW 7,5</b>
<b>Setting pressure bar(e) / psi</b>	8 (116)	10 (145)	8 (116)	10 (145)	8 (116)	10 (145)	8 (116)	10 (145)
Standard air capacity l/min.	-	-	-	-	-	-	-	-
Net weight Kg. / lb (on base)	147 (324)	147 (324)	152 (335)	152 (335)	163 (359)	163 (359)	190 (419)	190 (419)
Setting controller (thermostat) °C / °F	115 (120) / 239 (248)							
Oil load Litres	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5

**13.1 DIMENSIONS AND TECHNICAL DATA (air receiver 270 - 500 Liters)**



270 Liters				Air connection
Dimensions mm (inch)			1/2"	
L	W	H		
HP 4-5,5-7,5-10 KW 3-4-5,5- 7,5	1533 (60.35)	573.1 (22.56)	1447 (56.97)	

500 Liters				Air connection
Dimensions mm (inch)			1/2"	
L	W	H		
HP 4-5,5-7,5-10 KW 3-4-5,5- 7,5	1935 (76.18)	610.6 (24.03)	1606 (63.23)	

**50Hz**

	HP 4 kW 3	HP 4 kW 3	HP 5,5 kW 4	HP 5,5 kW 4	HP 7,5 kW 5,5	HP 7,5 kW 5,5	HP 10 kW 7,5	HP 10 kW 7,5
Setting pressure bar (e) / psi	8 (116)	10 (145)	8 (116)	10 (145)	8 (116)	10 (145)	8 (116)	10 (145)
Standard air capacity l/min.	460	367	584	512	871	722	1025	920
Net weight Kg. / lb (270L without dryer)	214 (472)	214 (472)	220 (485)	220 (485)	230 (507)	230 (507)	257 (567)	257 (567)
Net weight Kg. / lb (270L with dryer)	253 (558)	253 (558)	259 (571)	259 (571)	269 (593)	269 (593)	296 (653)	296 (653)
Net weight Kg. / lb (500L without dryer)	NA	NA	NA	NA	297 (655)	297 (655)	324 (714)	324 (714)
Net weight Kg. / lb (500L with dryer)	NA	NA	NA	NA	336 (741)	336 (741)	363 (800)	363 (800)
Setting controller (thermostat) °C / °F	115 (120) / 239 (248)							
Oil load Litres	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5

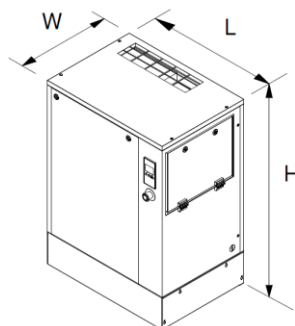
**60Hz**

	HP 4 kW 3	HP 4 kW 3	HP 5,5 kW 4	HP 5,5 kW 4	HP 7,5 kW 5,5	HP 7,5 kW 5,5	HP 10 kW 7,5	HP 10 kW 7,5
Setting pressure bar (e) / psi	8 (116)	10 (145)	8 (116)	10 (145)	8 (116)	10 (145)	8 (116)	10 (145)
Standard air capacity l/min.	-	-	-	-	-	-	-	-
Net weight Kg. / lb (270L without dryer)	214 (472)	214 (472)	220 (485)	220 (485)	230 (507)	230 (507)	257 (567)	257 (567)
Net weight Kg. / lb (270L with dryer)	253 (558)	253 (558)	259 (571)	259 (571)	269 (593)	269 (593)	296 (653)	296 (653)
Net weight Kg. / lb (500L without dryer)	NA	NA	NA	NA	297 (655)	297 (655)	324 (714)	324 (714)
Net weight Kg. / lb (500L with dryer)	NA	NA	NA	NA	336 (741)	336 (741)	363 (800)	363 (800)
Setting controller (thermostat) °C / °F	115 (120) / 239 (248)							
Oil load Litres	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5



**13.2 DIMENSIONS AND TECHNICAL DATA 10S-15-20 Hp**

**on base**



HP 10S-15-20 kW 7,5S-11-15	Dimensions mm (inch)			Air Connection
	L	W	H	
	937.8 (36.92)	708.1 (27.87)	1020 (40.16)	3/4"

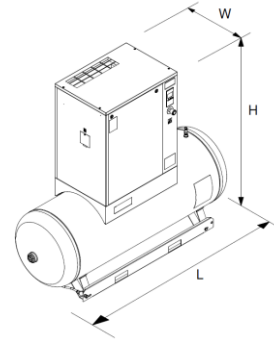
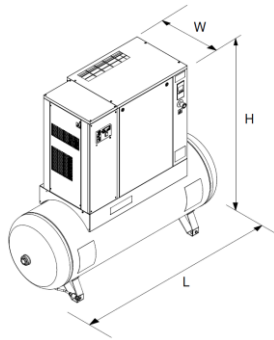
**50Hz**

	HP 10S kW 7,5S	HP 10S kW 7,5S	HP 10S kW 7,5S	HP 15 kW 11	HP 15 kW 11	HP 15 kW 11	HP 20 kW 15	HP 20 kW 15	HP 20 kW 15
Setting pressure bar (e) / psi	8 (116)	10 (145)	13 (188)	8 (116)	10 (145)	13 (188)	8 (116)	10 (145)	13 (188)
Standard air capacity l/min.	1140	996	780	1620	1416	1152	1860	1680	1332
Net weight Kg. / lb (on base)	204 (450)	204 (450)	206 (454)	215 (473)	215 (473)	217 (478)	234 (516)	234 (516)	236 (520)
Setting controller (thermostat) °C / °F	115 (120) / 239 (248)								
Oil load Litres	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5

**60Hz**

	HP 10S kW 7,5S	HP 10S kW 7,5S	HP 10S kW 7,5S	HP 15 kW 11	HP 15 kW 11	HP 15 kW 11	HP 20 kW 15	HP 20 kW 15	HP 20 kW 15
Setting pressure bar (e) / psi	9.1 (132)	10.8 (157)	12.5 (182)	9.1 (132)	10.8 (157)	12.5 (182)	9.1 (132)	10.8 (157)	12.5 (182)
Standard air capacity l/min.	-	-	-	-	-	-	-	-	-
Net weight Kg. / lb (on base)	204 (450)	204 (450)	206 (454)	215 (473)	215 (473)	217 (478)	234 (516)	234 (516)	236 (520)
Setting controller (thermostat) °C / °F	115 (120) / 239 (248)								
Oil load Litres	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5

**13.3 DIMENSIONS AND TECHNICAL DATA (air receiver 270 - 500 Liters)**



270 Liters				
HP 10S-15-20 KW 7,5S-11-15	Dimensions mm (inch)			Air connection
	L	W	H	1/2"
	1533 (60.35)	678.1 (26.69)	1447 (56.97)	


500 Liters				
HP 10S-15-20 KW 7,5S-11-15	Dimensions mm (inch)			Air connection
	L	W	H	1/2"
	1935 (76.18)	678.1 (26.69)	1578 (62.12)	


**50Hz**

	HP 10S kW 7,5S	HP 10S kW 7,5S	HP 10S kW 7,5S	HP 15 kW 11	HP 15 kW 11	HP 15 kW 11	HP 20 kW 15	HP 20 kW 15	HP 20 kW 15
Setting pressure bar (e) / psi	8 (116)	10 (145)	13 (188)	8 (116)	10 (145)	13 (188)	8 (116)	10 (145)	13 (188)
Standard air capacity l/min.	1140	996	780	1620	1416	1152	1860	1680	1332
Net weight Kg. / lb (270L without dryer)	274 (604)	274 (604)	303 (668)	286 (630)	286 (630)	315 (694)	305 (672)	305 (672)	334 (736)
Net weight Kg. / lb (270L with dryer)	317 (699)	317 (699)	347 (765)	329 (725)	329 (725)	358 (789)	348 (767)	348 (767)	377 (831)
Net weight Kg. / lb (500L without dryer)	338 (745)	338 (745)	340 (749)	350 (772)	350 (772)	352 (776)	369 (813)	369 (813)	371 (818)
Net weight Kg. / lb (500L with dryer)	381 (840)	381 (840)	383 (844)	393 (866)	393 (866)	395 (871)	412 (908)	412 (908)	414 (913)
Setting controller (thermostat) °C / °F	115 (120) / 239 (248)								
Oil load Litres	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5

**60Hz**

	HP 10S kW 7,5S	HP 10S kW 7,5S	HP 10S kW 7,5S	HP 15 kW 11	HP 15 kW 11	HP 15 kW 11	HP 20 kW 15	HP 20 kW 15	HP 20 kW 15
Setting pressure bar (e) / psi	9.1 (132)	10.8 (157)	12.5 (182)	9.1 (132)	10.8 (157)	12.5 (182)	9.1 (132)	10.8 (157)	12.5 (182)
Standard air capacity l/min.	-	-	-	-	-	-	-	-	-
Net weight Kg. / lb (500L without dryer)	338 (745)	338 (745)	340 (749)	350 (772)	350 (772)	352 (776)	369 (813)	369 (813)	371 (818)
Net weight Kg. / lb (500L with dryer)	381 (840)	381 (840)	383 (844)	393 (866)	393 (866)	395 (871)	412 (908)	412 (908)	414 (913)
Setting controller (thermostat) °C / °F	115 (120) / 239 (248)								
Oil load Litres	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5	~2.5

TYPE DRYER	Weight Kg. / lb	V230/50-60Hz Freon R513a [kg / lb]		Nominal Power W / HP		Nominal Power W / HP		Nominal Power W / HP		MAX. Press. Max. 
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	
NS 5,5-10 (C3)	28 (61,3)	0,250 (0,55)	0,250 (0,55)	203 (0,27)	181 (0,24)	29 (0,039)	49 (0,066)	232 (0,311)	230 (0,308)	bar 16 psi 232
NS 15-20 (C5)	34 (75)	0,500 (1,10)	0,500 (1,10)	305 (0,41)	328 (0,44)	33 (0,044)	54 (0,072)	338 (0,45)	382 (0,51)	bar 16 psi 232

TYPE DRYER	Weight Kg. / lb	V115/60Hz Freon R513a [kg / lb]		Nominal Power W / HP		Nominal Power W / HP		Nominal Power W / HP		MAX. Press. Max. 
		50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	
NS 5,5-10 (C3)	28 (61,3)		0,250 (0,55)		216 (0,29)		24 (0,032)		240 (0,32)	bar 16 psi 232
NS 15-20 (C5)	34 (75)		0,500 (1,10)		312 (0,42)		46 (0,062)		358 (0,48)	bar 16 psi 232

**Reference conditions:**

Ambient temperature 25 °C (77 °F)  
 Inlet air temperature 35 °C (95 °F)  
 Working pressure 7 bar (101 psi)

**Limit conditions :**

Max. ambient temperature 40°C (104 °F)  
 Min. ambient temperature 5°C (41 °F)  
 Max. inlet air temperature 55°C (131 °F)  
 Max. working pressure 16 bar (232,06 psi)

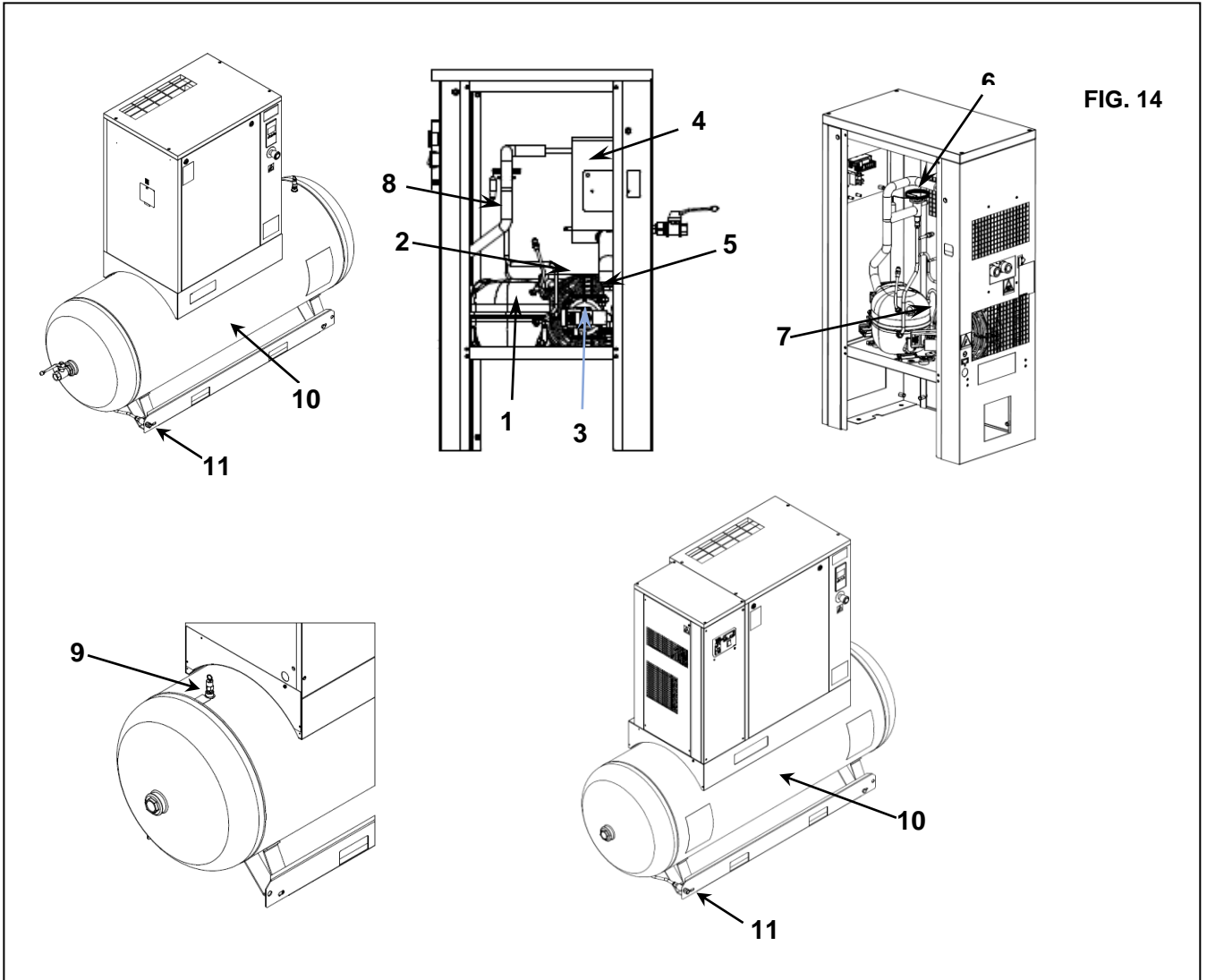
14.0 MACHINE ILLUSTRATION

14.1 GENERAL LAY-OUT FOR DRYER AND TANK

- 1 Refrigerant compressor
- 2 Condenser
- 3 Motor fan
- 4 Evaporator
- 5 Condensate drain solenoid valve
- 6 Hot gas bypass valve
- 7 Refrigerant filter

- 8 Expansion capillary tube
- 9 Safety valve (Compressed air tank) \*
- 10 Compressed air tank
- 11 Condensate manual drainage

**\* IT IS FORBIDDEN TO TAMPER WITH THE SETTING VALUES OF THE SAFETY VALVE**

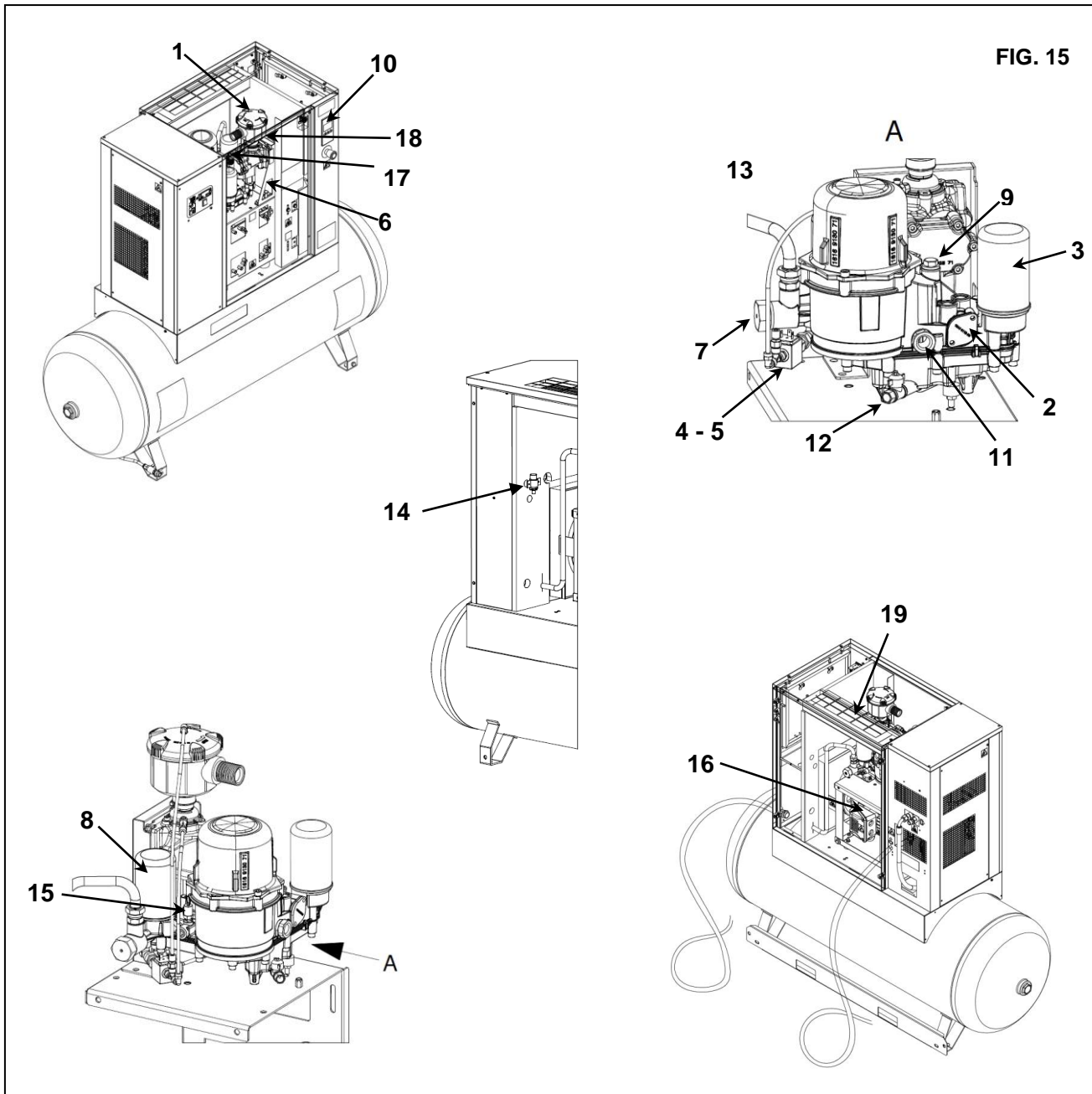


14.2 GENERAL LAY-OUT FOR SCREW COMPRESSOR

- 1 Air suction filter
- 2 Thermostatic valve
- 3 Oil filter
- 4 No-load running solenoid valve  
(Hp 7,5-10 / kW 5,5-7,5)
- 5 Drain solenoid valve (Hp 4-5,5 / kW 3-4)
- 6 Belt tightening system
- 7 Minimum pressure valve
- 8 Air-oil separator with oil separating filter
- 9 Top-up or oil filling cap
- 10 Control panel
- 11 Oil gauge

- 12 Oil discharge
- 13 Oil tank
- 14 Pressure sensor
- 15 Safety valve \*
- 16 Electric motor
- 17 Screw compressor
- 18 Suction unit
- 19 Oil cooler

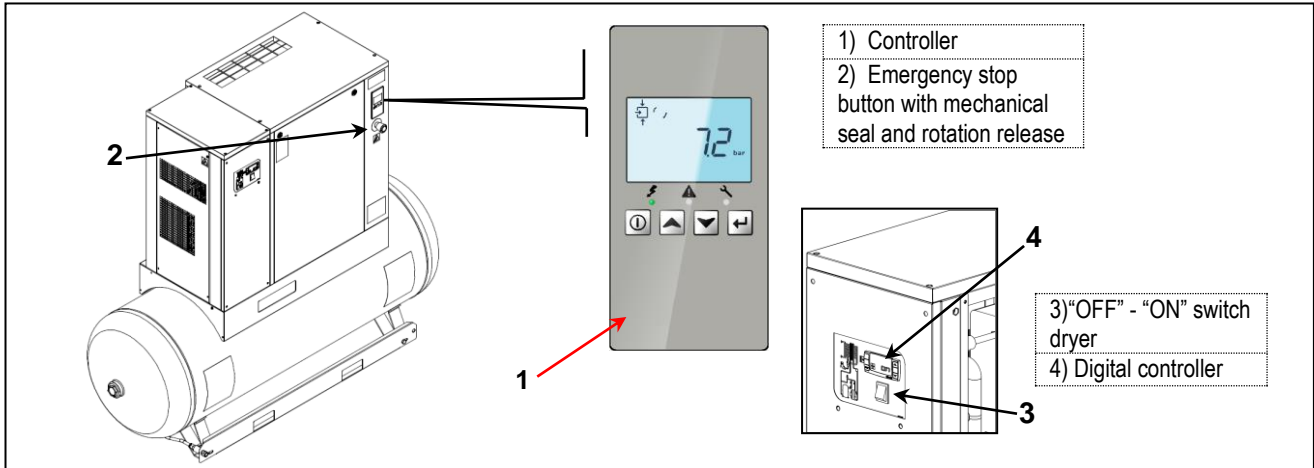
\* IT IS FORBIDDEN TO TAMPER WITH THE SETTING VALUES OF THE SAFETY VALVE



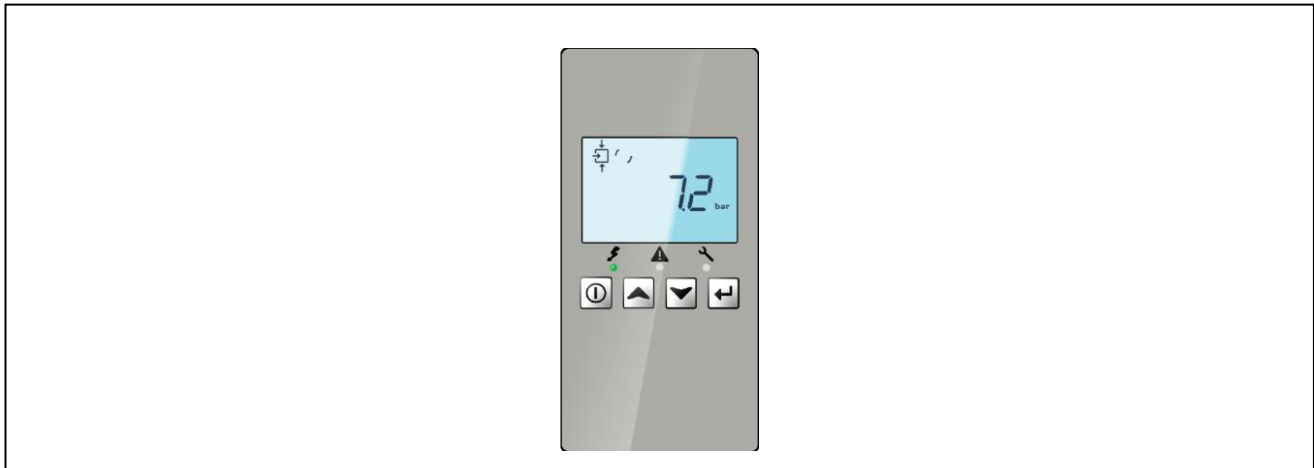
**14.3 CONTROLLER VERSION**



**BEFORE CARRYING OUT THE OPERATION TEST, READ CAREFULLY AND ACQUIRE A GOOD KNOWLEDGE OF THE COMMAND FUNCTIONS.**



**14.4 COMPRESSOR CONTROLLER**



**14.4.1 INTRODUCTION**

**In general, the controller has following functions:**

- Controlling the compressor;
- Protecting the compressor;
- Monitoring service intervals;
- Automatic restart after voltage failure (made inactive).

**AUTOMATIC CONTROL OF THE COMPRESSOR**

For 4-5.5HP (3-4kW) machines the controller automatically switches on/off the machines to maintain the pressure in the desired range.

For 7.5-10-15-20HP (5.5-7.5-11-15kW) machines the controller maintains the net pressure between programmable limits by automatically loading and unloading the compressor. A number of programmable settings, e.g. the unloading and loading pressures, the minimum stop time and the maximum number of motor starts are taken into account. The controller stops the compressor whenever possible to reduce the power consumption and restarts it automatically when the net pressure decreases. If the expected unloading period is too short, the compressor is kept running to prevent too short standstill periods.

**PROTECTING THE COMPRESSOR**

**SHUTDOWN WARNING**

The shutdown warning is a programmable warning that advises the operator about a possible problem before the shutdown. If one of the measurements exceeds the programmed shutdown warning level, this will also be indicated to warn the operator before the shutdown level is reached.

## SHUTDOWN

If the compressor element outlet temperature exceeds the programmed shutdown level or the overload relay of the main motor trips, the compressor will be stopped. This will be indicated on the display of the controller.

## SERVICE WARNING

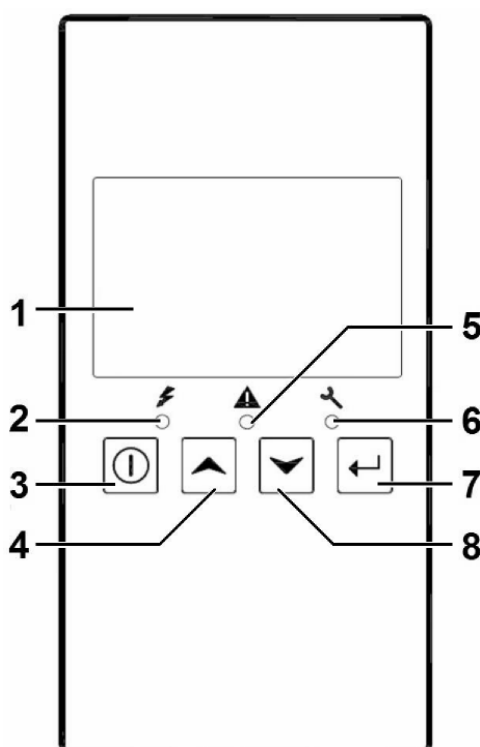
If the service timer exceeds the preset value, the controller advises the operator via the display, to carry out the service maintenance.

## AUTOMATIC RESTART AFTER VOLTAGE FAILURE

The controller has a built-in function to automatically restart the compressor when the voltage is restored after voltage failure. This function is deactivated on compressors leaving the factory.

## REMOTE CONTROL

This function allows the compressor to start/stop with an external switch signal. Your dealer can only do the activation. Please contact him for further details.














*Controller*

### 14.4.2 DETAILED DESCRIPTION

Reference	Designation	Function
1	Display	Shows icons and operating conditions.
2	LED, Voltage on	Indicates that the voltage is switched on.
3	Start/stop button	Keep pressed for 3 seconds to start compressor. Press to stop compressor if running. Use this button to go to previous screen or to end the current action.
4	Scroll button	Use these buttons to scroll through the menu.
5	LED, Warning	Is lit if a warning condition exists.
6	LED, Service	Is lit when service is needed.
7	Enter button	Press 3 seconds to enter in menu. Use this button to confirm the last action. Press 5 seconds to reset alarm.
8	Scroll button	Use these buttons to scroll through the menu.

**14.4.3 ICONS USED ON THE DISPLAY**

<b>FUNCTION</b>	<b>ICON</b>	<b>DESCRIPTION</b>
Stopped/Running		When the compressor is stopped, the icon stands still. When the compressor is running, the icon is rotating.
Compressor status		Motor stopped
		Running unloaded Running unloaded (blinking for manual stop) (only for 5.5-7.5kW units)
		Running loaded
Machine control mode		Remote start/stop active Fix: remote switch in ON position Blinking: remote switch in OFF position
Automatic restart after voltage failure		Automatic restart after voltage failure is active
Active protection functions		Emergency stop
Service		Service required
Units	<b>MPa</b>	Pressure unit (Mega Pascal)
	<b>bar</b>	Pressure unit (pounds per square inch)
	<b>PSI</b>	Pressure unit (bar)
	<b>°C</b>	Temperature unit (degree Centigrade)
	<b>°F</b>	Temperature unit (degree Fahrenheit)
		Motor
		A time/delay parameter is displayed. NOTE: <ul style="list-style-type: none"> <li>• x1000: ON if the displayed value is in thousands of</li> <li>• hrs: ON if the displayed value is in hours</li> <li>• s: ON if the displayed value is in sec</li> </ul>
		Element outlet temperature



#### 14.4.4 MAIN SCREEN

At power on, the first screen is a test screen (Icon, digit and led are on). The next screen is the Main screen, shown automatically. The Main screen shows:

- The compressor status by means of pictographs;
- The air outlet pressure;



**Main screen with pressure (stopped compressor)**

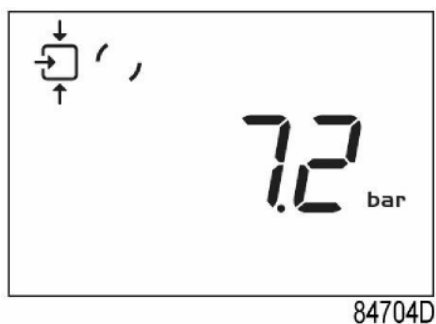
From the Main screen, it is possible with up and down buttons (4-8) to change the view from pressure to temperature of the element outlet.



**Main screen with temperature (stopped compressor)**

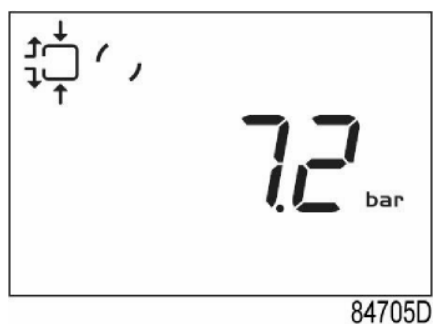
#### 14.4.5 MAIN FUNCTION

To switch on the compressor, press start/stop button (3) for 3 seconds. The compressor starts, and the status is shown:



**Screen with running compressor**

To stop the compressor, push start/stop button (3). The compressor immediately unloads (only for 7.5-10-15-20HP / 5.5-7.5-11-15kW units) or stops (4-5.5HP / 3-4kW units):



**Screen with unloading compressor**

When the unload time is elapsed 7.5-10-15-20HP / 5.5-7.5-11-15kW units, the compressor is stopped, and the controller goes back to main screen:



84706D

**Main screen with pressure (stopped compressor)**

To enter the main menu (starting from the Main screen), press the enter button (7) for 3 seconds. The main menu is shown:



84707D

**First screen of main menu**

It is possible to scroll in the menu with the up or down buttons (4-8). To select one item, push the enter button (7). To end the current action push start/stop (3) button.

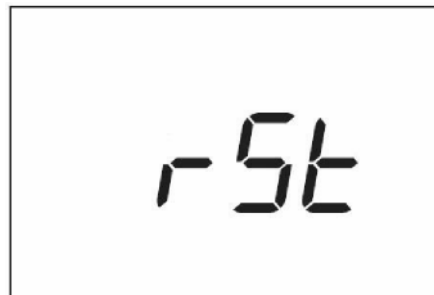
If the emergency stop button is pushed, the compressor stops immediately, and the following screen will appear:



84708D

**Emergency stop**

When the emergency push button is restored, reset the alarm by pressing the enter button (7) for 5 seconds. The following screen will appear:



84709D

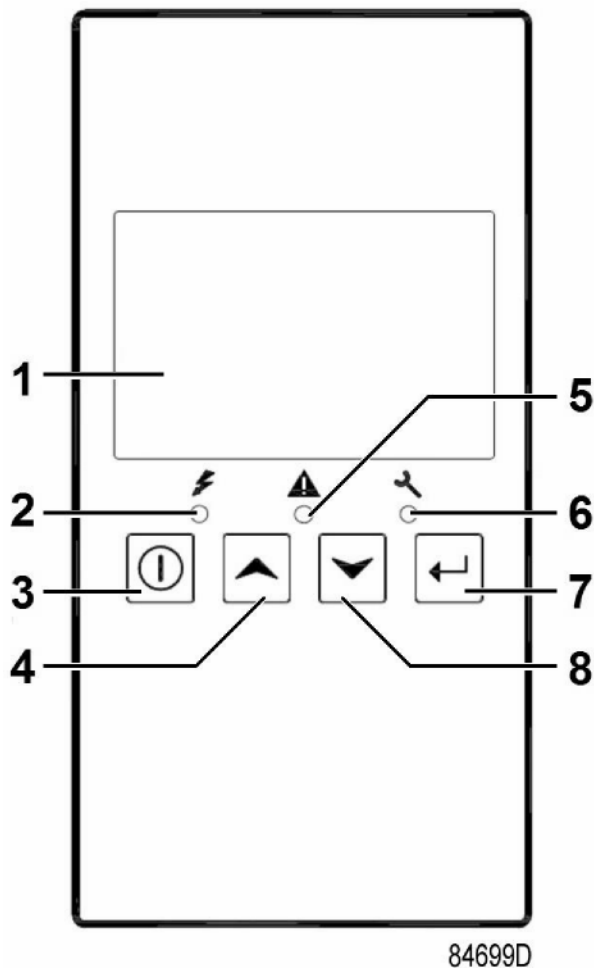
**Alarm reset**

### 14.4.6 SHUTDOWN WARNING

#### DESCRIPTION

A shutdown warning will appear in the event of:

- A too high temperature at the outlet of the compressor element. **Compressor element outlet temperature**
- If the outlet temperature of the compressor element exceeds the shutdown warning level (factory set at 110°C/ 230°F), warning LED (5) is on.
- Press Scroll up or down buttons (4-8). The screen shows the temperature at the compressor element outlet.



It remains possible to check the actual status of other parameters by pressing the enter button (7) for 3 seconds. Press button (3) to stop the compressor and wait until the compressor has stopped. The warning message will disappear as soon as the warning condition disappears.

### 14.4.7 SHUTDOWN

#### DESCRIPTION

THE COMPRESSOR WILL SHUTDOWN:

- In case the temperature at the outlet of the compressor element exceeds the shutdown level (detected by temperature sensor TT11) or by temperature switch (TSHH11/TSHH21).
- In case the pressure at the outlet of compressor exceeds the shutdown level (PT20)
- In case of error of the outlet pressure sensor (PT20) or temperature sensor (TT11).
- In case of overload of the compressor motor (M1)


**COMPRESSOR ELEMENT OUTLET TEMPERATURE**

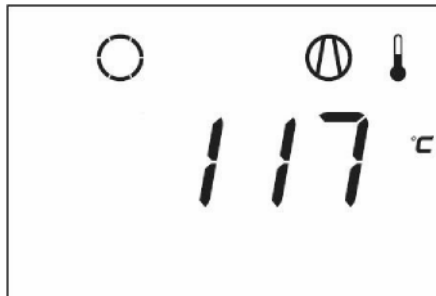
If the outlet temperature of the compressor element exceeds the shutdown level (factory setting 115°C/ 239°F):

- The compressor will shutdown.
- Alarm LED (5) will flash.
- The following screen will appear:



**Main screen with shutdown indication, element outlet temperature**

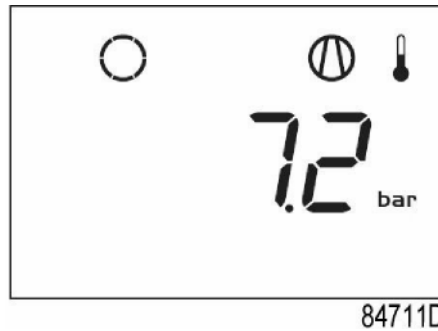
- The related pictograph  will appear flashing.
- Scroll Up or Down buttons (4-8) until the current element outlet temperature appears.



**Shutdown screen, element outlet temperature**

The screen shows that the temperature at the outlet of the compressor element is 117 °C.

- When the shutdown condition has been solved, press the Enter button (7) for 5 seconds.
- When <rSt> appears on the display, the compressor can be restarted.

**COMPRESSOR OUTLET PRESSURE**

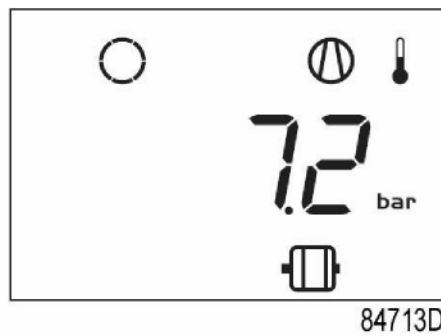
If the outlet pressure of the compressor element exceeds the shutdown level:

- The compressor will shutdown.
- Pressure readout will flash

**MOTOR OVERLOAD**

In the event of motor overload:

- The compressor will shut down or the compressor can't start
- Alarm LED (5) will flash.
- The following screen will appear:



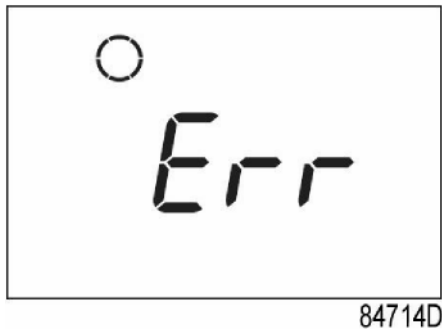
Main screen with shutdown indication, motor overload

- Contact you dealer for fault troubleshooting.
- When the shutdown condition has been solved, press the enter button (7) for 5 seconds.
- When <rSt> appears on the display, the compressor can be restart.

## ERROR PRESSURE/TEMPERATURE SENSOR

In the event of an error of the outlet pressure sensor (PT20) or temperature sensor (TT11):

- The compressor will shutdown.
- The following screen will appear:



Example of error sensor

- Contact your dealer for fault troubleshooting.
- When the shutdown condition has been solved, press the enter button (7) for 5 seconds.
- When <rSt> appears on the display, the compressor can be restarted.

## 14.4.8 SERVICE WARNING

### DESCRIPTION

A service warning will appear when the service timer has reached the preset time interval.

If the service timer exceeds the programmed time interval, alarm LED (6) is blinking with a following screen:



Blinking screen

- Press Enter button (7) to enter the main menu.
- Select <dAtA> and press Enter button (7) to enter the data menu.
- Scroll (buttons 4-8) until <d.6> appear, the service symbol is shown.
- Press enter button (7).
- The actual reading of the service timer is shown in <hrs>.



Example of running hours screen

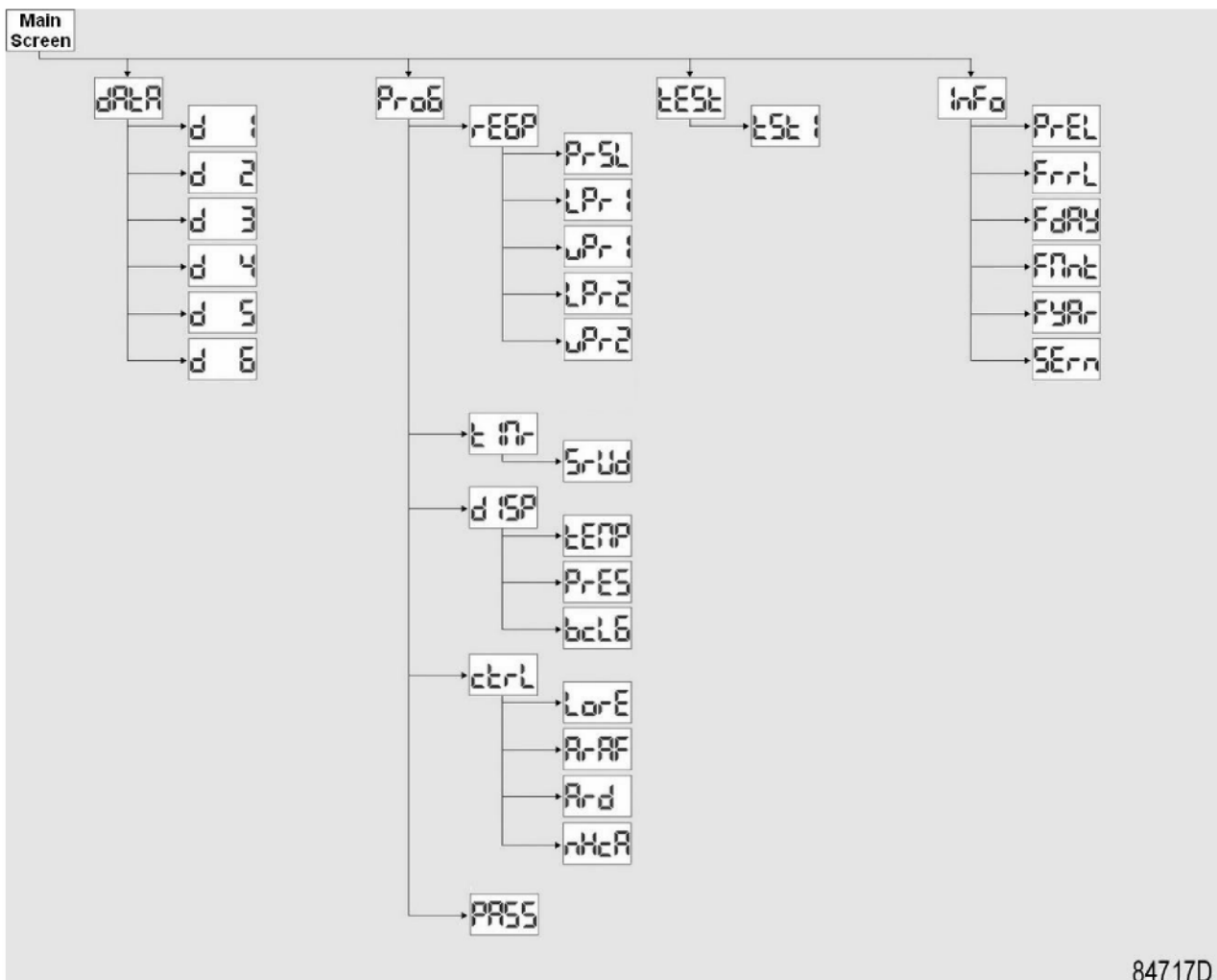
The example screen shows that the service timer is at 2002 hours.

Stop the compressor, switch off the voltage and carry out the required service actions. After servicing, reset the service timer.

See section [Calling up/resetting the service timer](#).

## 14.4.9 SCROLLING THROUGH ALL SCREENS

## COMPRESSOR CONTROLLER MENU TREE



General overview of the menu

From the Main screen press the enter button (7) for 3 seconds to enter the Menu. You will find the following items:

- **Data menu:** Data counters parameters.
- **Programming menu:** Submenu of Regulation pressure, Timer, Display setting and Control setting.
- **Test menu:** Display test.
- **Info menu:** Information of firmware release.

**OVERVIEW OF THE SCREENS**

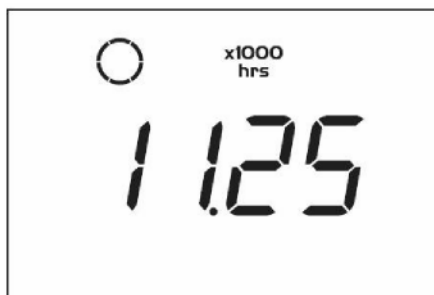
Menu item	Submenu	Digital input screen	Designation
<dAtA> Data		<d.1>	Calling up running hours
		<d.2>	Calling up motor starts
		<d.3>	Calling up module hours
		<d.4>	Calling up loading hours
		<d.5>	Calling up load solenoid valve (only for 7.5-10-15-20HP 5.5-7.5-11-15kW units)
		<d.6>	Calling up service timer
<ProG> Programming	<rEG.P> Regulation Pressure	<Pr.SL>	Calling up modifying pressure band selection
		<LPr.1>	Calling up modifying pressure band settings
		<uPr.1>	Calling up modifying pressure band settings
		<LPr.2>	Calling up modifying pressure band settings
		<uPr.2>	Calling up modifying pressure band settings
	<tiMr> Timer	<SrV.d>	Calling up maintenance warning
	<diSP> Display	<tEMP>	Calling up modifying unit of temperature
		<PrES>	Calling up modifying unit of pressure
		<bC.LG>	Calling up modifying time of backlight
	<Ctrl> Control	<Lo.rE>	Local/remote start/stop
		<Ar.Af>	Calling up automatic restart after voltage failure
		<Ar.d>	Delay automatic restart after voltage failure
		<nHCA>	Number of hourly compressor activation (only for 7.5-10-15-20HP / 5.5-7.5-11-15kW units)
	<PASS>		Activating password protection
<tEst> Test		<tSt.1>	Display testing
<info> Info		<P.rEL>	Parameter Map Release
		<F.rRI>	Firmware Release
		<F.dAY>	Firmware Release Day
		<F.Mnt>	Firmware Release Month
		<F.YAr>	Firmware Release Year
		<SEr.n>	Serial number



#### 14.4.10 CALLING UP RUNNING HOURS

Starting from the Main screen:

- Press Enter button (7) for 3 seconds to enter the Main menu.
- Select <dAtA> and press Enter button (7) to enter the Data menu.
- Scroll Up or Down buttons (4-8) until <d.1> and the motor stopped symbol is shown.
- Press Enter button (7): the running hours are shown.



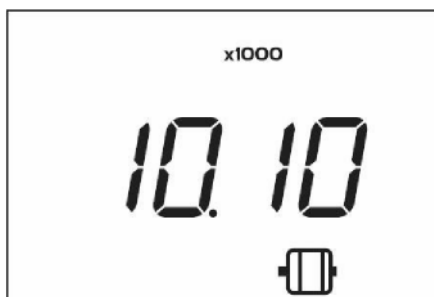
84718D

The screen shows the unit used <x1 000 hrs> and the value <11.25>: the running hours of the compressor are 11250 hours.

#### 14.4.11 CALLING UP MOTOR STARTS

Starting from the Main screen:

- Press Enter button (7) for 3 seconds to enter the Main menu.
- Select <dAtA> and press Enter button (7) to enter the Data menu.
- Scroll Up or Down buttons (4-8) until <d.2> and the motor symbol is shown.
- Press Enter button (7): the number of motor starts is shown.



84719D

This screen shows the number of motor starts (x1 or - if <x1000> lights up - x1 000). In the above example, the number of motor starts is 10100.

#### 14.4.12 CALLING UP MODULE HOURS

Starting from the Main screen:

- Press Enter button (7) for 3 seconds to enter the Main menu.
- Select <dAtA> and press Enter button (7) to enter the Data menu.
- Scroll Up or Down buttons (4-8) until <d.3> and <hrs> is shown.
- Press Enter button (7): the module time appears.



84720D

In the example shown, the screen shows the unit used <hrs> and the value <5000>: the controller module has been in service for 5000 hours.

**14.4.13 CALLING UP LOADING HOURS**

Starting from the Main screen:

- Press Enter button (7) for 3 seconds to enter the Main menu.
- Select <dAtA> and press Enter button (7) to enter the Data menu.
- Scroll Up or Down buttons (4-8) until <d.4> and the running loaded symbol is shown.
- Press Enter button (7): the loading time is shown.



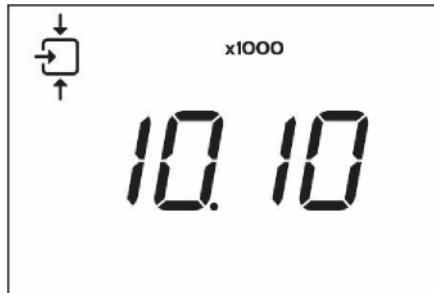
84721D

The screen shows the unit used <hrs> (or <x1000 hrs>) and the value <1755>:  
the compressor has been running loaded for 1755 hours.

**14.4.14 CALLING UP LOAD SOLENOID VALVE (ONLY FOR 7.5-10-15-20HP / 5.5-7.5-11-15KW UNITS)**

Starting from the Main screen:

- Press Enter button (7) for 3 seconds to enter the Main menu.
- Select <dAtA> and press Enter button (7) to enter the Data menu.
- Scroll Up or Down buttons (4-8) until <d.5> and the running loaded symbol is shown.
- Press Enter button (7): the number of loadings is shown.



84722D

This screen shows the number of loading actions (x1 or - if <x1 000> lights up - x1 000).  
In the above example, the number of unload to load actions is 10100.

#### 14.4.15 CALLING UP/RESETTING THE SERVICE TIMER

Starting from the Main screen:

- Press Enter button (7) for 3 seconds to enter the Main menu.
- Select <dAtA> and press Enter button (7) to enter the Data menu.
- Scroll Up or Down buttons (4-8) until <d.6> and <hrs> is shown.

**Press Enter button (7): the loading time is shown.**



84723D

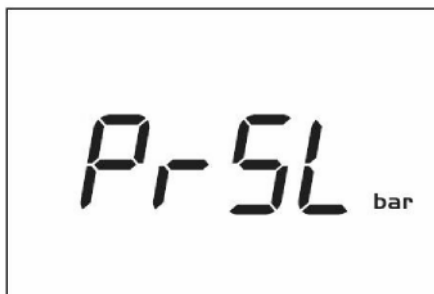
This screen shows the unit used <hrs> (or <x1 000 hrs>) and the value <1191>. In the example shown, the compressor has run 1191 hours since the previous service.

To reset the timer, contact your supplier.

#### 14.4.16 CALLING UP/MODIFYING PRESSURE BAND SELECTION

Starting from the Main screen:

- Press Enter button (7) for 3 seconds to enter the Main menu.
- Select <ProG> and press Enter button (7) to enter the Programming menu.
- Scroll Up or Down buttons (4-8) to <reG.P> for regulation pressure.
- Press Enter button (7) to enter the submenu.



84724D

- Scroll Up or Down buttons (4-8) until <PrSL> is shown and then press Enter button (7).
- Pressure band 1 (<SEL. 1>) is shown. Scroll Up or Down buttons (4-8) to pressure band 2 (<SEL.2>).
- Press Enter button (7) on the desired pressure band.

**14.4.17 CALLING UP/MODIFYING PRESSURE BAND SETTINGS**

Starting from the Main screen:

- Press Enter button (7) for 3 seconds to enter the Main menu.
- Select <ProG> and press Enter button (7) to enter the Programming menu.
- Scroll Up or Down buttons (4-8) to <reG.P> for regulation pressure.
- Press Enter button (7) to enter the submenu.

<LPr. 1> is parameter of Load Pressure band 1 <uPr. 1> is parameter of Unload Pressure band 1 <LPr.2> is parameter of Load Pressure band 2 <uPr.2> is parameter of Unload Pressure band 2

- Scroll Up or Down buttons (4-8) and press Enter button (7) to select parameter.
- The actually used pressure is shown. Scroll Up or Down buttons (4-8) to set pressure value and press Enter button (7) to confirm. The unit blinks and the new setting is saved.

**14.4.18 CALLING UP/MODIFYING THE UNIT OF TEMPERATURE**

The unit of temperature measurement can only be changed when the compressor is stopped. Starting from the Main screen:

- Press Enter button (7) for 3 seconds to enter the Main menu.
- Select <ProG> and press Enter button (7) to enter the Programming menu.
- Scroll Up or Down buttons (4-8) to <diSp> for display settings.
- Press Enter button (7) to enter the submenu.
- Scroll Up or Down buttons (4-8) to <tEMP> and press Enter button (7).
- The actually used unit is shown. Possible settings are <'C > and <'F >.
- Scroll Up or Down buttons (4-8) to set the unit of temperature and press Enter button (7) to confirm. The unit blinks and is saved.

**14.4.19 CALLING UP/MODIFYING THE UNIT OF PRESSURE**

The unit of pressure measurement can only be changed when the compressor is stopped. Starting from the Main screen:

- Press Enter button (7) for 3 seconds to enter the Main menu.
- Select <ProG> and press Enter button (7) to enter the Programming menu.
- Scroll Up or Down buttons (4-8) to <diSp> for display settings.
- Press Enter button (7) to enter the submenu.
- Scroll Up or Down buttons (4-8) to <PrES> and press Enter button (7).
- The actually used unit is shown. Possible settings are <bar>, <psi> and <MPa>.
- Scroll Up or Down buttons (4-8) to set the unit of pressure and press Enter button (7) to confirm. The unit blinks and is saved.

**14.4.20 CALLING UP/MODIFYING BACKLIGHT TIME**

The backlight will be activated after pressing any button and for the interval of time set in the parameter <bC.LG> (in sec).

Starting from the Main screen:

- Press Enter button (7) for 3 seconds to enter the Main menu.
- Select <ProG> and press Enter button (7) to enter the Programming menu.
- Scroll Up or Down buttons (4-8) to <diSp> for display settings.
- Press Enter button (7) to enter the submenu.
- Scroll Up or Down buttons (4-8) to <bC.LG> and press Enter button (7).
- The current backlight setting is shown. It is possible to set a value between 0s and 1 20s.
- Scroll Up or Down buttons (4-8) to set the time of backlight and press Enter button (7) to confirm. The unit blinks and is saved.

#### 14.4.21 ACTIVATING AUTOMATIC RESTART AFTER VOLTAGE FAILURE

##### DESCRIPTION

This function allows the compressor to restart automatically after voltage failure. Your dealer can only do the activation. Please contact him for further details.

After any power failure, before restarting, the compressor will wait for a fixed time. When delay time is running, the display will show the related countdown value as below:

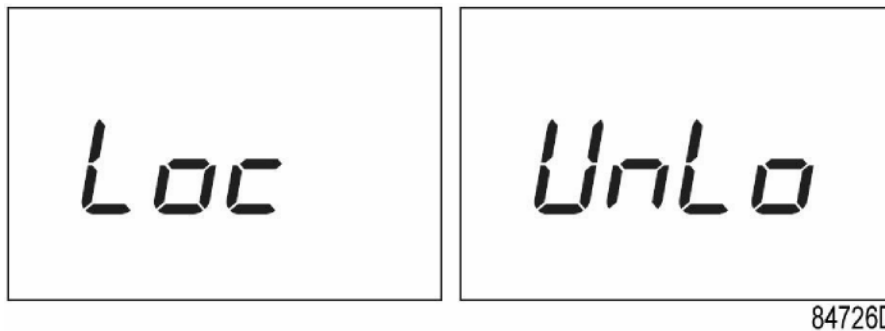


Example countdown delay time of automatic restart after power failure.

#### 14.4.22 KEYBOARD LOCK

Keep both Up and Down buttons pressed for more than 3 seconds to lock or unlock the keyboard.

- The display will show the label <Loc> blinking for 3 seconds if the keyboard has been locked.
- The display will show the label <UnLo> blinking for 3 seconds if the keyboard has been unlocked.



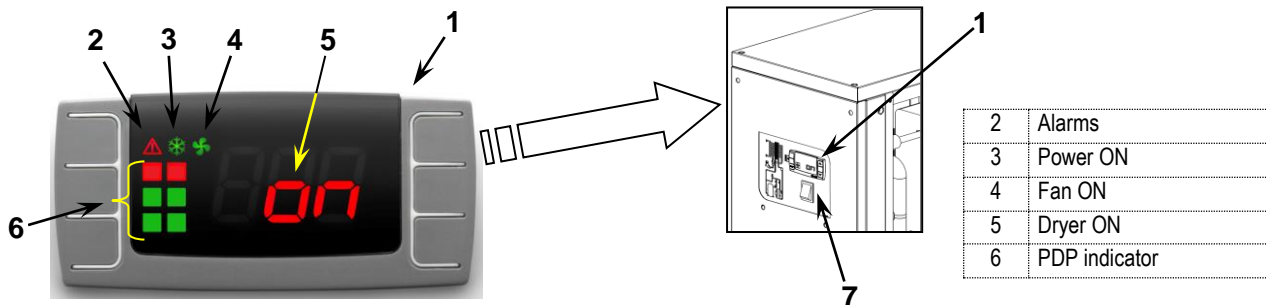
Example Lock/unlock screen.




**COMMAND AND CONTROL PANEL DRYER**



**BEFORE CARRYING OUT THE OPERATION TEST, READ CAREFULLY AND ACQUIRE A GOOD KNOWLEDGE OF THE COMMAND FUNCTIONS.**










Ref. 1) Digital controller  
 Ref. 7) Stop - Running button



	<b>ICON</b>	<b>MODE</b>	<b>FUNCTIONS</b>
	ALARM	OFF	No active alarms
		ON	Probe failure alarm High/Low temperature alarm
	COMPRESSOR	OFF	Dryer off
		FLASH	Maintenance warning
	FAN	ON	Dryer on
		OFF	Fan off
		FLASH	n/a
		ON	Fan on

DIGITAL CONTROL ALARMS

N.B. OPERATIONS MARKED ■■ MUST BE CARRIED OUT BY PROFESSIONALLY SKILLED PERSONNEL APPROVED THE MANUFACTURER

DISPLAY	FLASHING WARNING	NOTES	Possible root causes	Observations
		Dryer is working OK	n/a	n/a
				
		Warning icon NOT flashing, label P1 flashing	Fan control probe failed	■■ replace probe
		Warning icon NOT flashing, label P2 flashing	PDP Temp probe failed	■■ replace probe
		Warning icon NOT flashing, label H2 flashing	High PDP call for service	■■ refrigerant leak ■■ flow rate / inlet ■■ temperature exceeding the limit.
		Warning icon NOT flashing, label L2 flashing	Low PDP call for service	■■ hot gas bypass valve out of order. ■■ ambient temperature lower then limits

EE ALARM

EE alarm is shown when internal EPROM errors happens, if this warning will appear, the dryer will stop running. The error can be reset by pressing one of the four buttons of the controller, anyway please replace the controller itself.



NOTE: In case of EE alarm please contact your tech support.

**ENGLISH**

**SE ALARM**

After 6000Hrs, the controller will issue a "SE" warning. This is the maintenance due warning.












How to reset the maintenance warning: follow steps 1 to 12

<p>1</p> <p>PDP is flashing between standard view and "SE" alarm</p>	<p>2</p> <p>Push and hold buttons "SET" and "DOWN" to enter in the menu.</p>	<p>3</p> <p>Message "SE" appears on display.</p>
<p>4</p> <p>Push and release button "UP".</p>	<p>5</p> <p>Message "rS" appears on display.</p>	<p>6</p> <p>Push and release button "SET".</p>
<p>7</p> <p>Message "n" appears on display.</p>	<p>8</p> <p>Push and release button "UP".</p>	<p>9</p> <p>Message "y" appears on display.</p>
<p>10</p> <p>Push and release "SET" to reset service alarm.</p>	<p>11</p> <p>Message "y" blinks for 3 seconds.</p>	<p>12</p> <p>Then "rL" is fixed and "°C" blinks on display for ~10 seconds. Service alarm is reset</p>



PROCEDURE TO SET THE SERVICE INTERVAL ON PDP DEVICE

<p>1</p>	 <p>PDP is showing standard view.</p>	<p>2</p>  <p>Push and hold buttons "SET" and "DOWN" to enter in the menu.</p>	<p>3</p>  <p>Message "SE" appears on display.</p>
<p>4</p>	 <p>Push and release "SET" to enter in the "SE" menu.</p>	<p>5</p>  <p>Current service interval is displayed. ("60" or different value from "0" to "99")</p>	<p>6</p>  <p>Select desired service interval using "UP" or "DOWN". (40=4000h, 55=5500h, 80=8000h,...)</p>
<p>7</p>	 <p>Push and release "SET" to configure new service interval.</p>	<p>8</p>  <p>Value selected blinks for 3 seconds.</p>	<p>9</p>  <p>Then "rS" is fixed and "°C" blinks on display for ~10 seconds. New service interval is set</p>

**15.0 ORDINARY MAINTENANCE TO BE DONE BY THE USER**



**BEFORE CARRYING OUT ANY MAINTENANCE IT IS OBLIGATORY TO STOP THE MACHINE AND DISCONNECT IT FROM THE POWER MAINS AND FROM THE COMPRESSED AIR DISTRIBUTION NETWORK.**

The maintenance jobs described in this chapter may be carried out by the user. The more complex maintenance jobs which require professionally skilled personnel are listed in the chapter on **GENERAL ROUTINE MAINTENANCE. (See Chap. 21.0)**

**15.1 MAINTENANCE PROGRAMME**

- OPERATIONS THAT MAY BE CARRIED OUT BY THE USER
- ■ OPERATIONS THAT REQUIRE SKILLED PERSONNEL; THESE OPERATIONS ARE ILLUSTRATED IN PART "B" OF THIS MANUAL.

These maintenance intervals are recommended for work environments that are not dusty and are well ventilated. For particularly dusty environments, double the frequency of controls.

<b>Every Day (after use)</b>	<ul style="list-style-type: none"> <li>■ Drain condensate from the air tank</li> <li>■ Check automatic condensation emptying (dryer)</li> </ul>
<b>Every 50 working hours</b>	<ul style="list-style-type: none"> <li>■ Drain condensate from the oil tank</li> <li>■ Check the oil level</li> <li>■ Clean the filtering panel</li> <li>■ Brush/blow off the finned surface of the condenser</li> <li>■ Clean the filter of the automatic condensate drain</li> </ul>
<b>Every 500 hours</b>	<ul style="list-style-type: none"> <li>■ Clean the air suction filter</li> <li>■ Clean the condenser battery (on the dryer if fitted)</li> <li>■ Clean the dirt collection filter (dryer)</li> <li>■ ■ Check belt tension</li> </ul>
<b>Every 2000 hours</b>	<ul style="list-style-type: none"> <li>■ Change the suction filter</li> <li>■ ■ Change the oil</li> <li>■ ■ Change the oil filter</li> <li>■ ■ Replace the filter of automatic condensate drain (2902016102)</li> </ul>
<b>Every 4000 hours</b>	<ul style="list-style-type: none"> <li>■ ■ Clean the finned surface of the air-oil cooler</li> <li>■ ■ Change the oil separating filter</li> <li>■ ■ Replace drain kit (2200902017)</li> <li>■ Change the Pre-filter (2204220472) (Ed. 01)</li> </ul>

## 15.2 DRAINING CONDENSATE FROM THE OIL TANK

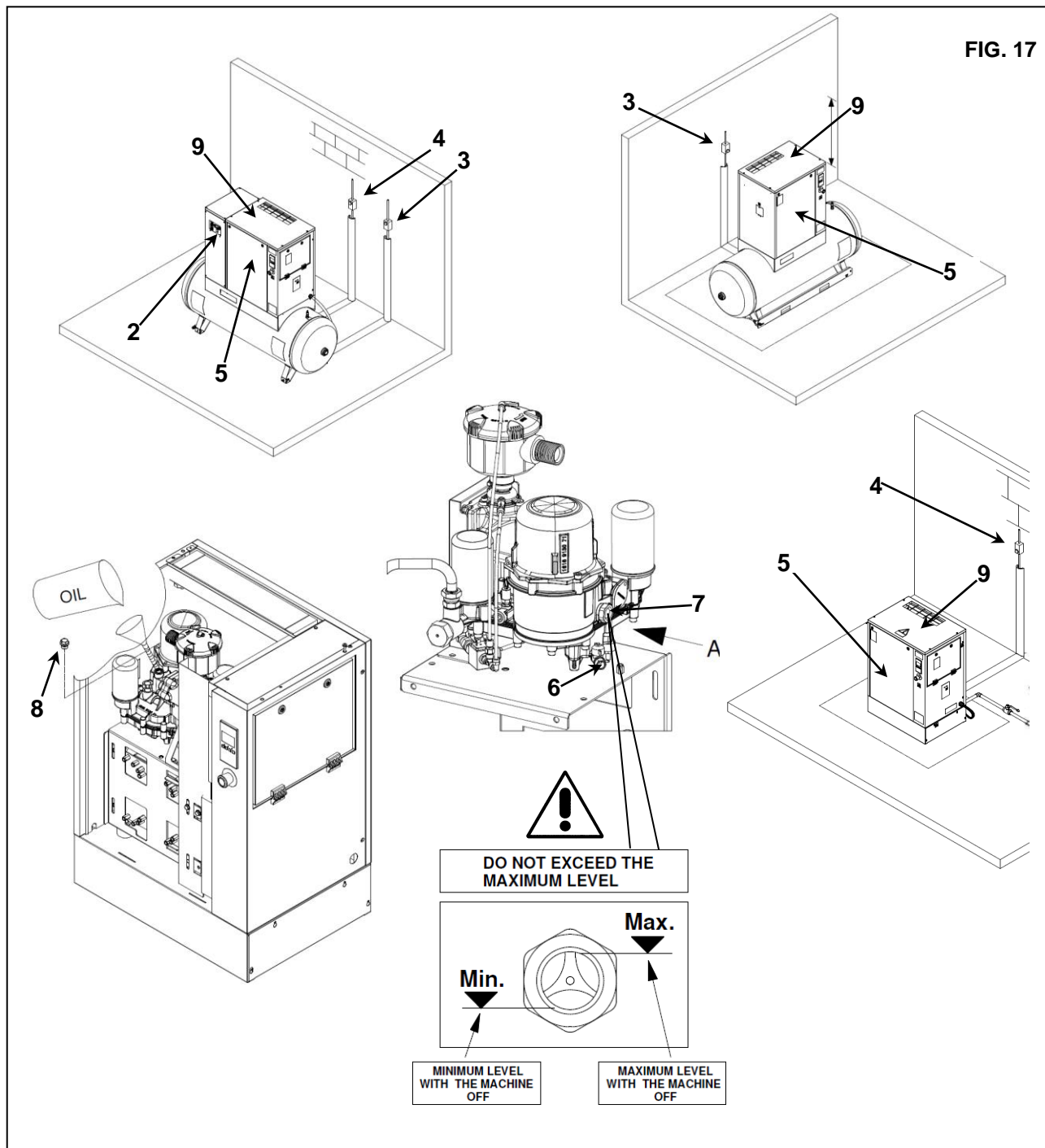
If the compressor work cycle contemplates long pauses during which the machine cools down, a certain amount of condensate will gather in the oil tank. This happens, for example, when stopping overnight or at weekends. The condensate must be drained off every 50 hours **or every week**. This operation may be performed only when the machine is cold, that is when it has been switched off for at least 8 hours.



**BEFORE DRAINING THE CONDENSATE, IT IS OBLIGATORY TO STOP THE MACHINE AND DISCONNECT IT FROM THE POWER MAINS.**

Proceed as follows:

- Stop the machine.
- Press the button switch Ref. 2 Fig. 17 (on the dryer if fitted).
- Turn off the differential supply switch, Ref. 3 (on the screw-compressor) and Ref. 4 (on the dryer if fitted) Fig. 17.



## ENGLISH

- Wait for the machine to cool down.
- Remove the panel Ref. 5 Fig. 17 with the key provided.
- SLOWLY turn on the tap Ref. 6 Fig. 17 and let the condensate flow out.
- When the first traces of oil appear, turn off the tap.



**CONDENSATE MUST BE DISPOSED OF IN CONFORMITY WITH THE LOCAL REGULATIONS IN FORCE.**

- Check the oil level on the indicator Ref. 7 Fig. 17.
- If the oil level is under the minimum, top up as described at point 15.3.



**USE OIL OF THE SAME TYPE AS THAT ALREADY IN THE MACHINE; DO NOT MIX DIFFERENT TYPES OF OIL**

### 15.3 CHECK OIL LEVEL AND TOP UP

- Stop the machine.
- **WAIT A FEW MINUTES FOR THE FOAM IN THE OIL COLLECTOR TO ABATE.**
- Slowly unscrew the oil cap Ref. 8 Fig 17, ensuring there is no pressure inside.
- Check the oil level on the indicator Ref. 7 Fig. 17.
- If the oil level is below minimum, fill up as follows
- Close the oil manifold cap Ref. 8 Fig 17.
- Press the button switch Rif. 2 Fig. 17 (on the dryer if fitted)
- Press the differential supply switch, Ref. 3 (on the screw-compressor) and Ref. 4 (on the dryer if fitted) Fig. 17.



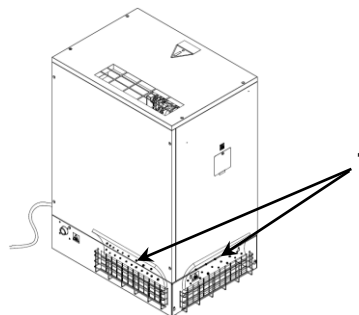
**BEFORE CARRYING OUT ANY OPERATION ON THE MACHINE, ENSURE THAT THE ELECTRIC POWER SUPPLY HAS BEEN DISCONNECTED.**

- Open the front protection Ref. 5 Fig. 17 using the special key.
- Remove the fixed protection device (machine cover) Ref. 9 Fig. 17.
- Slowly unscrew the oil cap Ref. 8 Fig 17, ensuring there is no pressure inside.
- Top up to maximum level Ref. 7 Fig. 17, with oil of the same type in the compressor.
- Close the oil manifold cap Ref. 8 Fig. 17.
- Close the fixed protection (machine cover) Ref. 9 Fig. 17 device again, using the appropriate safety screws.
- Close the front protection Ref. 5 Fig. 17.

### 15.4 CLEANING THE FILTERING PANEL

- Stop the machine.
- Turn off the differential supply switch Rif. 3 Fig. 18.
- Clean the filtering panel Rif. 1 Fig. 17A with a jet of air wash it with water, **do not use solvents.**

**EVERY 50 WORKING HOURS CLEAN THE FILTERING PANEL.**



**FIG. 17A**

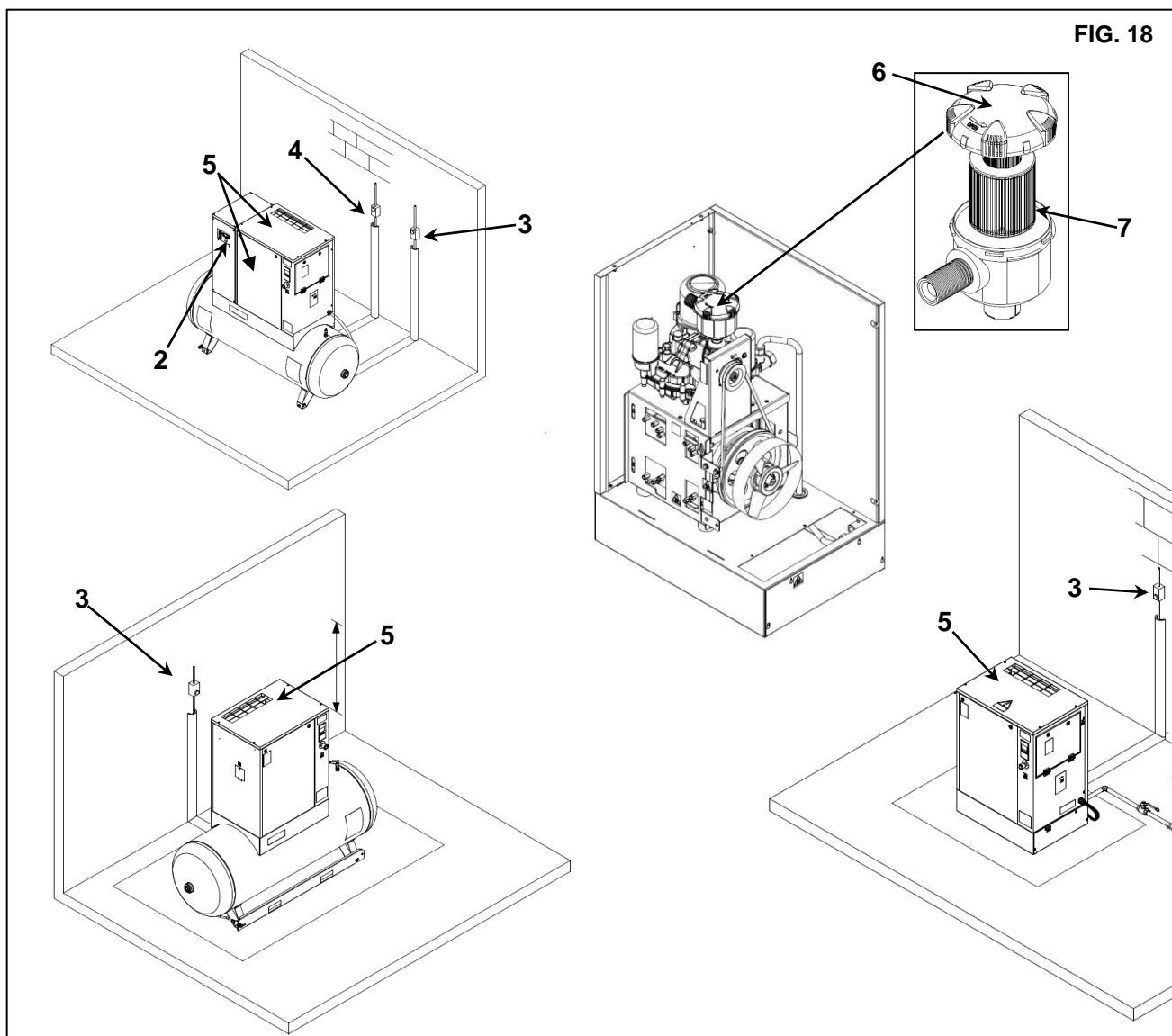
### 15.5 CLEANING THE SUCTION FILTER OR CHANGING THE FILTER

- Stop the machine.
- Press the button switch Ref. 2 Fig. 18 (on the dryer if fitted)
- Turn off the differential supply switch, Ref. 3 (on the screw-compressor) and Ref. 4 (on the dryer if fitted) Fig. 18.



#### HOT PARTS INSIDE

- Remove the fixed protection device (machine cover and front panel) Ref. 5 Fig. 18.
- Remove the cover Ref. 6 Fig. 18 (Check the direction of the arrow).
- Remove the filter Ref. 7 Fig. 18.



#### AVOID DROPPING FOREIGN BODIES INTO THE SUCTION MANIFOLD.

- Clean the filter with a jet of air, working from inside to outside, **DO NOT USE WATER OR SOLVENTS**. Alternatively, fit a new filter.
- Clean the disk on which the filter rests with a clean cloth.
- Fit the filter and the cover
- If necessary, dispose of the old filter in conformity with the local regulations in force.
- Close the fixed protection (machine cover) Ref. 5 Fig. 18 device again, using the appropriate safety screws.

**15.6 CHECKING THE AUTOMATIC AND MANUAL CONDENSATION EMPTYING (FOR DRYER AND TANK)**



**BEFORE CARRYING OUT ANY MAINTENANCE IT IS OBLIGATORY TO STOP THE MACHINE AND DISCONNECT IT FROM THE POWER MAINS AND FROM THE COMPRESSED AIR DISTRIBUTION NETWORK.**

The automatic and manual condensation drain (Rif. 8 and Ref. 11 Fig. 19) must be checked every day.

Proceed as follows:

- Press the "TEST" button, Ref. 8 Fig. 19, for a few seconds to check if the condensation is correctly emptied from the drainage pipe
- Check manual condensation emptying from the tank, to ensure that condensation is correctly emptied from the valve, Ref. 11 Fig. 19 (**PURGE EVERY DAY**).

**15.7 CLEANING THE CONDENSER BATTERY (FOR DRYER)**



**BEFORE CARRYING OUT ANY MAINTENANCE IT IS OBLIGATORY TO STOP THE MACHINE AND DISCONNECT IT FROM THE POWER MAINS AND FROM THE COMPRESSED AIR DISTRIBUTION NETWORK.**

The condenser must be cleaned every month (Ref. 6 Fig. 19).

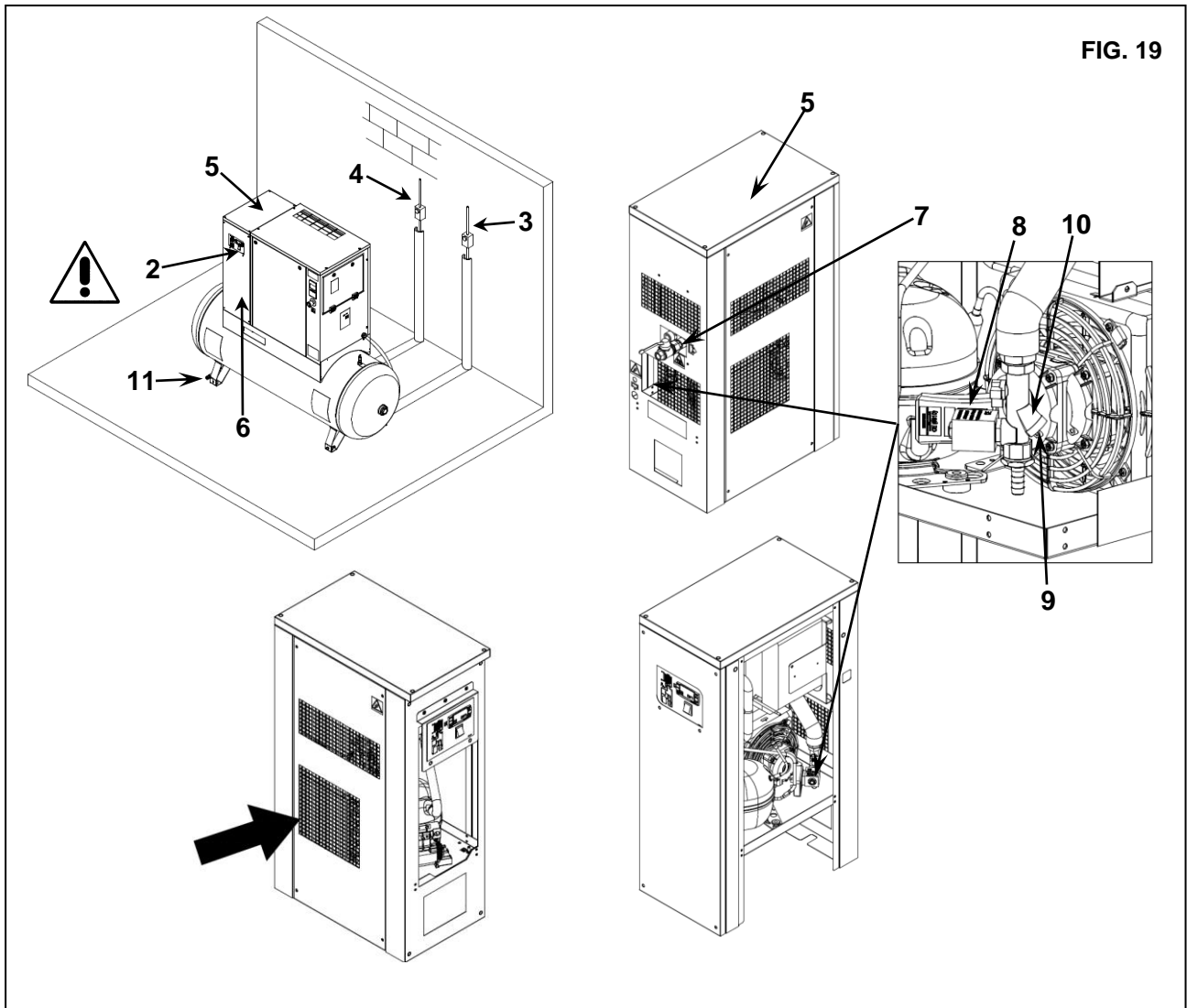
Proceed as follows:

- Stop the machine.
- Press the button switch Rif. 2 Fig. 19 (on the dryer if fitted)
- Turn off the differential supply switch, Ref. 3 (on the screw-compressor) and Ref. 4 (on the dryer if fitted) Fig. 19.



**HOT PARTS INSIDE**

- Remove the protection Ref. 5 Fig. 19
- Clean the condenser fins Ref. 6 Fig. 19 with compressed air. **DO NOT USE WATER OR SOLVENTS.**
- Close the protection Ref. 5 Fig. 19.



### 15.8 CLEAN THE DIRT COLLECTION FILTER FOR DRYER (Ref. 9 - 10 Fig. 19)



**BEFORE CARRYING OUT ANY MAINTENANCE IT IS OBLIGATORY TO STOP THE MACHINE AND DISCONNECT IT FROM THE POWER MAINS AND FROM THE COMPRESSED AIR DISTRIBUTION NETWORK.**

Proceed as follows:

- Close the tap Ref. 7 Fig. 19
- Stop the machine.
- Press the button switch Rif. 2 Fig. 19
- Turn off the differential supply switch, Ref. 3 (on the screw-compressor) and Ref. 4 (on the dryer) Fig. 19.
- Remove pressure from the dryer and tank by opening the condensation outlet valve Ref. 11 Fig. 19.
- Remove the stopper Ref. 9 Fig. 19
- Remove the filter Ref. 10 Fig. 19
- Clean the filter Ref. 10 Fig. 19 with a jet of air, working from inside to outside.
- Install the filter, fix the plug.

### 16.0 PERIODS OF INACTIVITY

If the machine has to remain inactive for a long period:

- Close the tap Ref. 1 and Ref. 2 Fig. 20.
- Stop the machine.
- Press the button switch Rif. 5 Fig. 20 (on the dryer if fitted)
- Turn off the differential supply switch, Ref. 6 (on the screw-compressor) and Ref. 7 (on the dryer if fitted) Fig. 20.
- Remove pressure from the dryer and tank by opening the condensation outlet valve Ref. 8 Fig. 20.
- Close the taps Rif. 8 Fig. 20 off again after discharging all the residual air pressure.

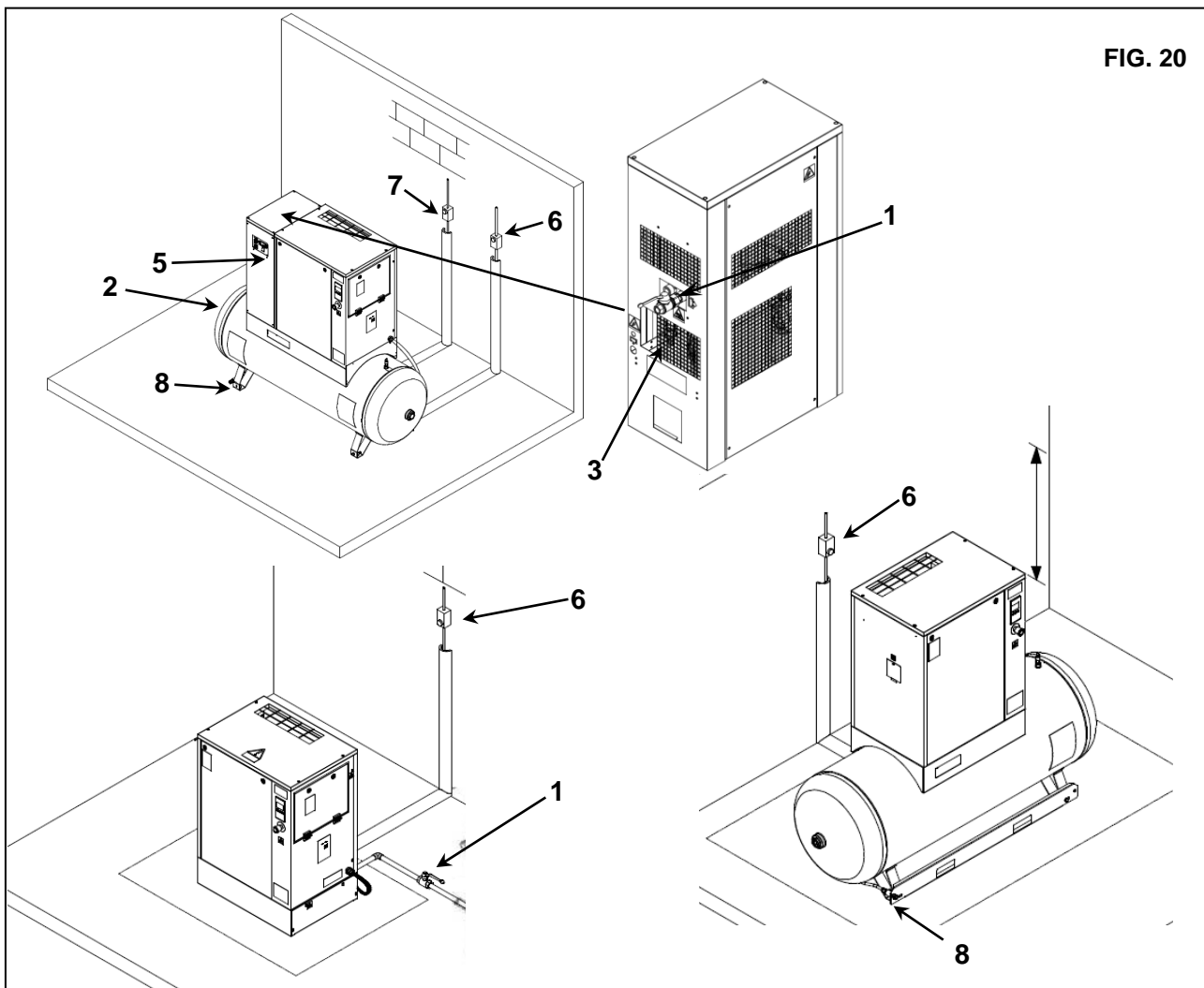


FIG. 20

During periods of inactivity the weather must be protected against atmospheric agents, dust and humidity which could damage the motor and the electrical system.

To restart the machine after periods of inactivity, consult the manufacturer.

**17.0 SCRAPPING THE UNIT**

If the machine is to be scrapped, it must be dismantled into parts of the same material, to be disposed of according to the local regulations in force.

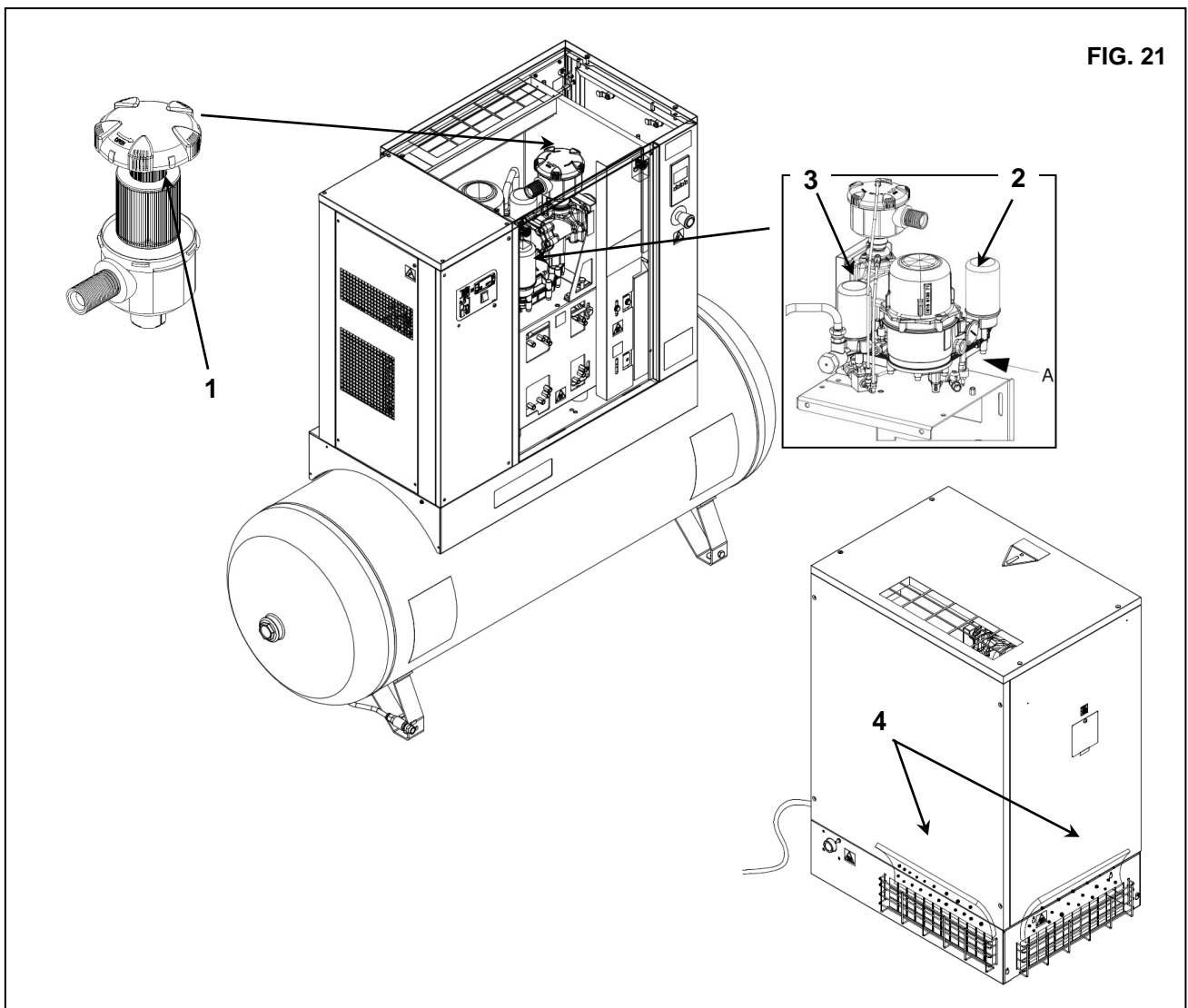


**ALWAYS RESPECT THE REGULATIONS IN FORCE FOR DISPOSING OF OLD OIL AND OTHER POLLUTING MATERIALS SUCH AS SOUND-DEADENING, INSULATING FOAM, ETC.**

**18.0 LIST OF SPARE PARTS FOR ROUTINE MAINTENANCE**

Ref.	DESCRIPTION	Code	HP 4 - 5,5 kW 3 - 4	HP 7,5 - 10 kW 5,5 - 7,5
			8 - 10 bar	8 - 10 bar
1	Suction air filter	6211 4737 50	■	
1	Suction air filter	6211 4738 50		■
2	Oil filter	6211 4726 50	■	■
3	Separator cartridge	6221 3726 50	■	
3	Separator cartridge	6221 3728 50		■
4	Filtering panel	2204 2204 72	■	■

Ref.	DESCRIPTION	Code	HP 10S - 15 - 20 kW 7,5 - 11 - 15
			8 - 10 bar
1	Suction air filter	6211 4739 50	■
2	Oil filter	6211 4726 50	■
3	Separator cartridge	6221 3728 50	■
4	Filtering panel	2204 2204 72	■





**19.0 TROUBLE-SHOOTING AND EMERGENCY REMEDIES**

N.B. OPERATIONS MARKED ■ ■ MUST BE CARRIED OUT BY PROFESSIONALLY SKILLED PERSONNEL APPROVED THE MANUFACTURER



ALL WORK MUST BE CARRIED OUT BY PROFESSIONALLY SKILLED PERSONNEL. BEFORE CARRYING OUT ANY MAINTENANCE JOBS IT IS OBLIGATORY TO STOP THE MACHINE AND DISCONNECT IT FROM THE POWER MAINS.

**19.1 TROUBLE-SHOOTING AND EMERGENCY REMEDIES FOR SCREW COMPRESSOR**

FAULT FOUND	POSSIBLE CAUSES	OBSERVATIONS
1) The machine does not start	1A - no power 1B - the transformer protection fuse is broken	- check the power supply line, Chapter 12.2 - replace fuse
2) The machine does not start	2A - the thermal protection in the main engine has triggered	- To rearm, turn the isolation switch to "OFF" / "ON".
3) The machine does not start	3A - the oil-overheating thermostat has triggered.	- environment temperature too high; improve ventilation in the compressor room, Chapter 9.2 ■ ■ - cooling radiator is dirty, clean the radiator - oil level too low; top up the oil tank
4) The compressor does not reach working pressure	4A - the compressed air consumption is too high 4B - the discharge electrovalve remains open, Ref. EV/SC wiring diagram	■ ■ - check the electric system
5) Excess oil consumption	5A - deteriorated oil separating filter oil level is too high	■ ■ - change the oil separating filter, Chapter 23

**19.2 TROUBLE-SHOOTING AND EMERGENCY REMEDIES FOR DRYER**



**ALL WORK MUST BE CARRIED OUT BY PROFESSIONALLY SKILLED PERSONNEL. BEFORE CARRYING OUT ANY MAINTENANCE JOBS IT IS OBLIGATORY TO STOP THE MACHINE AND DISCONNECT IT FROM THE POWER MAINS.**

**N.B. OPERATIONS MARKED ■ ■ MUST BE CARRIED OUT BY PROFESSIONALLY SKILLED PERSONNEL APPROVED THE MANUFACTURER**

FAULT FOUND	POSSIBLE CAUSES	OBSERVATIONS
1) No compressed air passes through the dryer outlet	1A) The pipes are frozen inside	■ ■ -The bypass valve of the hot gas is broken or out-of-calibration -The room temperature is too low and the evaporators piping are obstructed with ice
2) Presence of condensate in the pipings.	2A) The condensate separator does not work correctly  2B) The dryer is working outside its rating  2C) The dryer is working under bad conditions of condensation	■ ■ -Check the solenoid exhaust valve ■ ■ -Check the drainage timer  -Check the flow rate of treated air -Check the room temperature -Check the air temperature at the dryer inlet.  -Clean the condenser.  ■ ■ -Check the good operation of the fan.
3) The compressor head is very hot (> 55 °C)	Make reference to 2B Make reference to 2C 3A) The cooling circuit is not working with the right gas charge	■ ■ -Check if there are leaks of refrigerating gas. ■ ■ - Charge it again.
4) Motor cuts out on overload	Make reference to 2B Make reference to 2C Make reference to 3A	
5) The motor hums and does not start.	The line voltage is too low. You switched the machine off and on again without leaving enough time for the pressure balancing.  The starting system of the motor is defective.	-Contact the electric power company -Wait a few minutes before starting the machine again.  ■ ■ -Check the running and starting relays and condensers (if any)
6) The compressor is very noisy.	Troubles with the internal mechanical parts or with the valves	

# PART "B"



THIS PART "B" OF THE INSTRUCTIONS MANUAL IS RESERVED FOR PROFESSIONALLY SKILLED PERSONNEL APPROVED THE MANUFACTURER.

## 20.0 STARTING UP

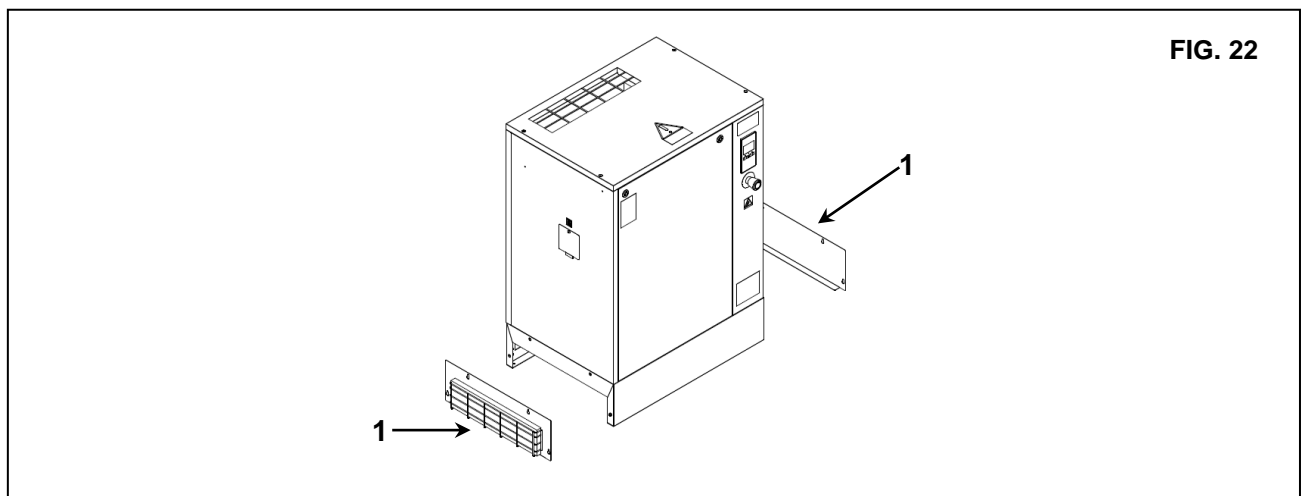


BEFORE CARRYING OUT ANY OPERATION ON THE MACHINE, ENSURE THAT THE ELECTRIC POWER SUPPLY HAS BEEN DISCONNECTED.

### 20.1 PREPARING FOR SETTING UP

After checking everything as indicated in Chap. 12, follow the instructions in Fig. 22.

- Fit the sound-deadening panels Ref. 1
- These parts are packed in the bodywork.



**20.2 PRELIMINARY CHECKS**

Check the oil level Ref. 1 Fig. 23; when delivered the machine is filled with oil; if the oil level is not as intended, top up with the same oil as the original type.

If more than 3 months have passed between the inspection in the factory and the date of installation, lubricate the screw group before starting up, following the procedure described below:

- Remove the protection Ref. 2 Fig. 23
- Remove the fixed protection device (machine cover) Ref. 3 Fig. 23.
- Remove the cover Ref. 4 Fig. 23
- Remove the air filter Ref. 5 Fig. 23
- Pour a little oil into the suction unit.
- Reassemble the air filter Ref. 5 Fig. 23
- Reassemble the cover Ref. 4 Fig. 23

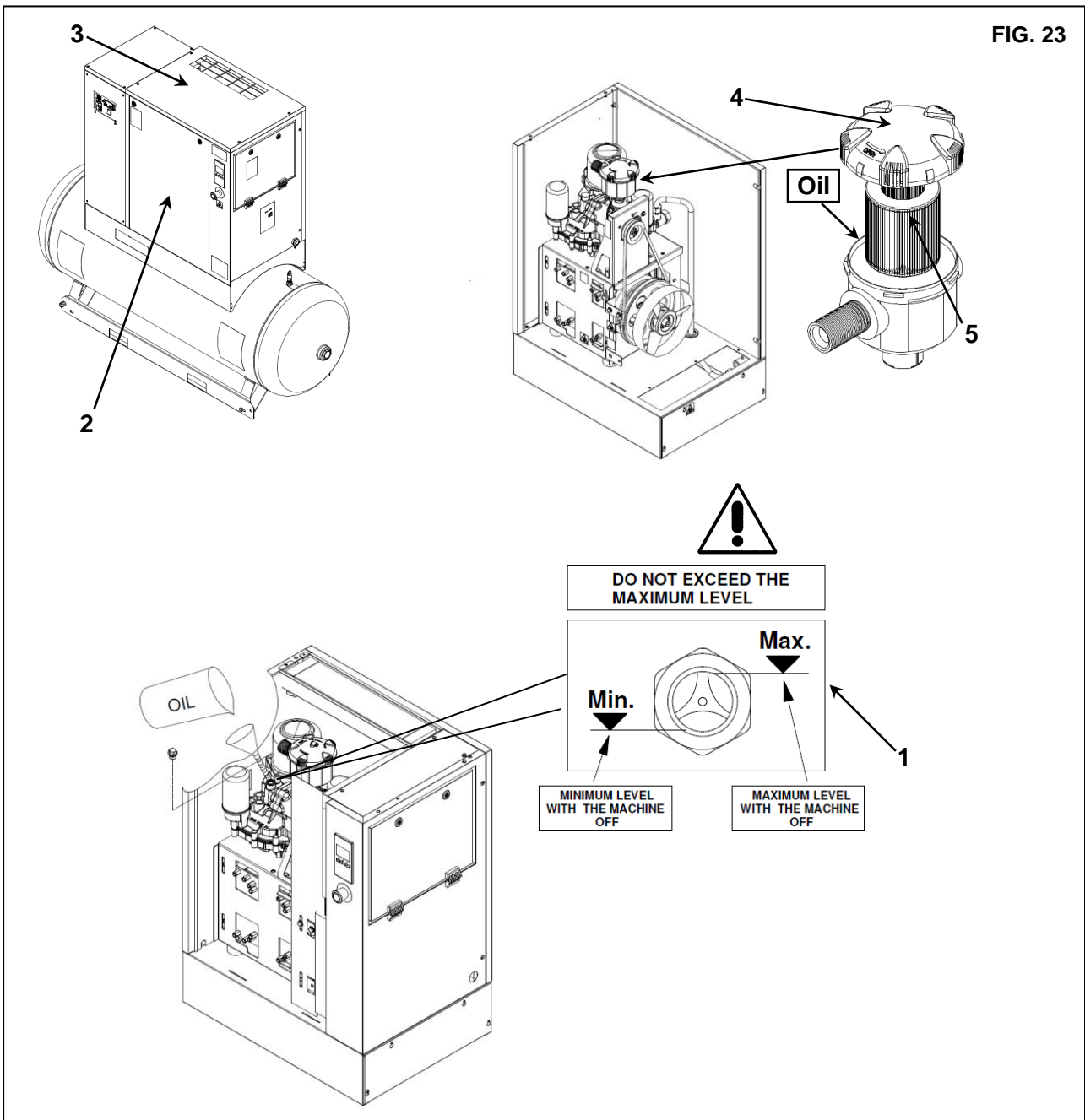
If more than 6 months have passed between the inspection in the factory and the date of installation, consult the manufacturer.

**20.3 STARTING THE DRYER**

Start the dryer before turning on the compressed air.

The compressed air piping will be free of condensate only by doing so.

The dryer must be kept running during all the time the air compressor is running. **WARNING:** if the dryer is switched off, before starting it again, wait at least 5 minutes in order to allow the pressure balancing.



**20.4 CHECK THE COMPRESSOR ROTATION DIRECTION AND START UP**

- Check that all the protective shields are in place.
- Apply voltage to the control panel by operating the automatic differential switch of the line Ref. 1 Fig. 24.
- Switch on the compressor pressing start/stop button for 3 seconds. Immediately after 1s, stop the compressor acting on the emergency stop button.
- If the rotation is correct, the paper sheet Ref. 3 is blown up (See Fig. A)
- If the rotation is not correct, the paper sheet remains flat (See Fig. B) **PHASE INCORRECT**

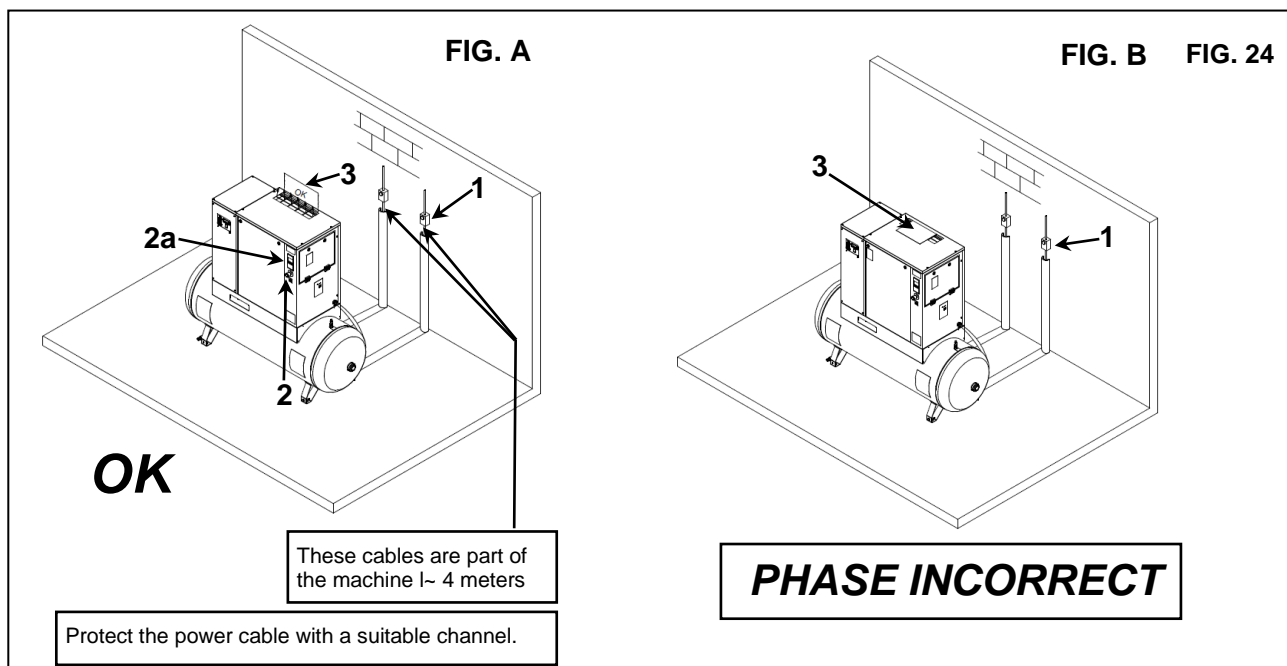


**ALL WORK ON THE ELECTRIC PLANT, HOWEVER SLIGHT, MUST BE CARRIED OUT BY PROFESSIONALLY SKILLED PERSONNEL.**

- Disconnect the energy supply and invert two connections as per Ref. 1 Fig. B.

**IT IS ADVISABLE NOT TO DO ANYTHING ON THE MACHINE PANEL.**

**IF ALL THE INSTRUCTIONS FOUND IN THIS MANUAL HAVE BEEN OBSERVED THE MACHINE CAN BE STARTED.**



**21.0 GENERAL ORDINARY MAINTENANCE REQUIRES TRAINED PERSONNEL**



**BEFORE CARRYING OUT ANY MAINTENANCE JOBS IT IS OBLIGATORY TO STOP THE MACHINE AND DISCONNECT IT FROM THE POWER MAINS.**

**MAINTENANCE SCHEDULE**

These maintenance intervals are recommended for work environments that are not dusty and are well ventilated. For particularly dusty environments, double the frequency of controls.

<b>Every Day (after use)</b>	<ul style="list-style-type: none"> <li>■ Drain condensate from the air tank</li> <li>■ Check automatic condensation emptying (dryer)</li> </ul>
<b>Every 50 working hours</b>	<ul style="list-style-type: none"> <li>■ Drain condensate from the oil tank</li> <li>■ Check the oil level</li> <li>■ Clean the filtering panel</li> <li>■ Brush/blow off the finned surface of the condenser</li> <li>■ Clean the filter of the automatic condensate drain</li> </ul>
<b>Every 500 hours</b>	<ul style="list-style-type: none"> <li>■ Clean the air suction filter</li> <li>■ Clean the condenser battery (on the dryer if fitted)</li> <li>■ Clean the dirt collection filter (dryer)</li> <li>■ Check belt tension</li> </ul>
<b>Every 2000 hours</b>	<ul style="list-style-type: none"> <li>■ Change the suction filter</li> <li>■ Change the oil</li> <li>■ Change the oil filter</li> <li>■ Replace the filter of automatic condensate drain (2902016102)</li> </ul>
<b>Every 4000 hours</b>	<ul style="list-style-type: none"> <li>■ Clean the finned surface of the air-oil cooler</li> <li>■ Change the oil separating filter</li> <li>■ Replace drain kit (2200902017)</li> </ul>

**N.B.: THE OPERATIONS MARKED ■ ARE DESCRIBED IN PART "A" OF THIS MANUAL ON CHAPTER 15.1**

22.0 CHANGING THE OIL

**CAUTION: THIS OPERATION MUST BE DONE TOGETHER WITH THE OIL FILTER AND AIR FILTER EXCHANGE**

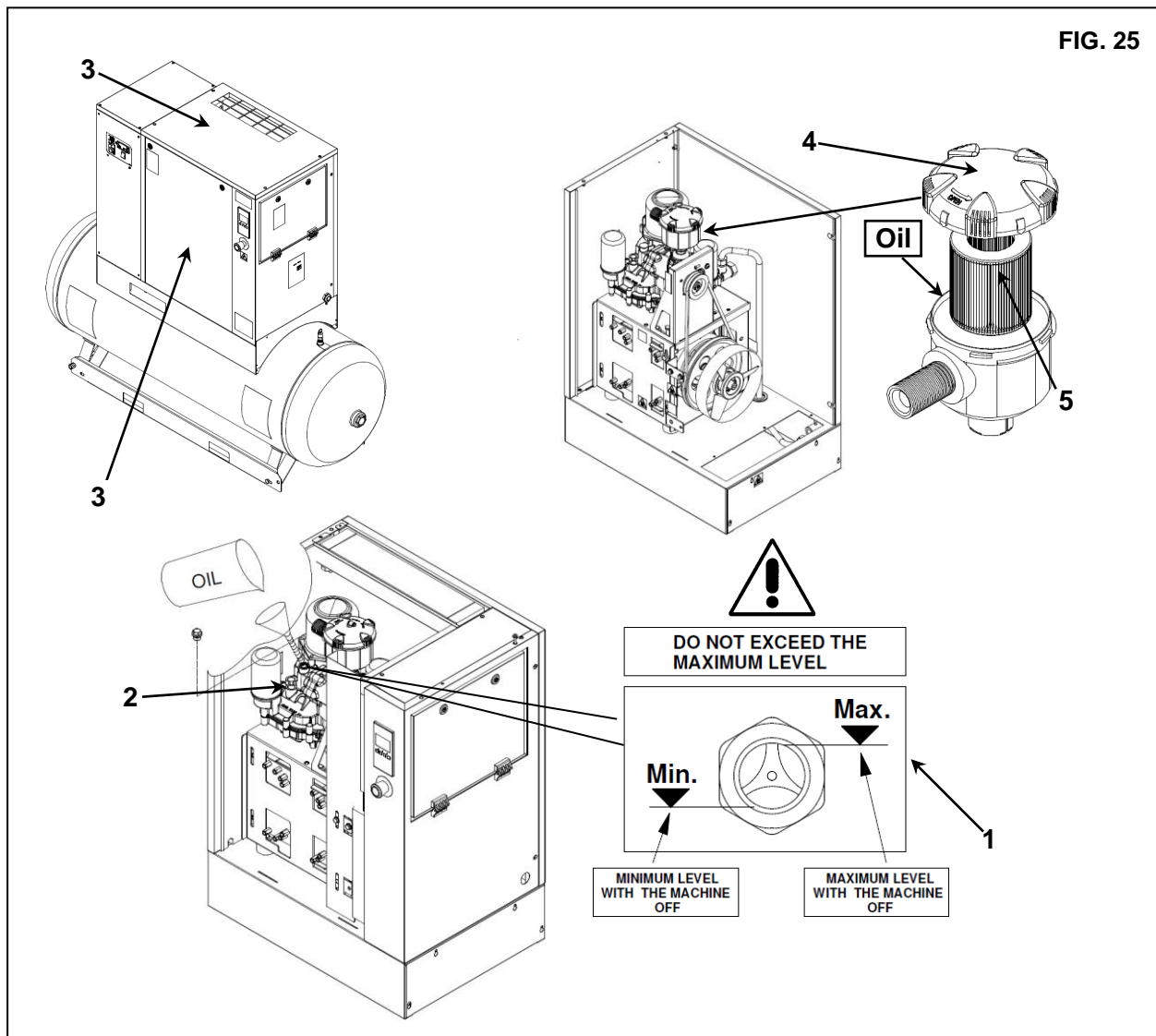


**BEFORE CARRYING OUT ANY MAINTENANCE JOBS IT IS OBLIGATORY TO STOP THE MACHINE AND DISCONNECT IT FROM THE POWER MAINS AND FROM THE COMPRESSED AIR DISTRIBUTION NETWORK.**

Oil changing is an important operation for the compressor: if the lubrication of the bearings is not efficient, the compressor life will be short. The oil must be changed when the machine is still warm, that is immediately after stopping it. The suggestions listed below should be scrupulously followed.

- After draining the old oil out of the machine Ref. 6 Fig. 17.
- Fill the oil manifold Ref. 2 Fig. 25 up to the level mark
- Pour a drop of oil into the intake unit, as described in Ref. 1 Fig, 25
- Close all the protections (cover and front protection) Ref. 3 Fig. 25
- Start the compressor.
- After about 1 minute, stop the machine.

**PROCEED AS DESCRIBED AT CHAPTER 15.3**



**THE OLD OIL MUST BE DISPOSED OF IN COMPLIANCE WITH THE REGULATIONS IN FORCE.**

**NOTE ON LUBRICANTS**

When delivered the machine is filled with oil. In normal conditions of use, these lubricants have proved to be able to withstand use for as many as 2.000 hours. However, due to the external polluting agents that get into the compressor with the air that it takes in, it is advisable to change the oil at more frequent intervals, as indicated on the routine maintenance chart. If the compressor is being used at high temperatures (continuous operation above 90 °C of the oil) or in particularly severe conditions, we advise changing the oil at shorter intervals than those recommended in the maintenance chart.

**DO NOT TOP UP WITH DIFFERENT OILS**

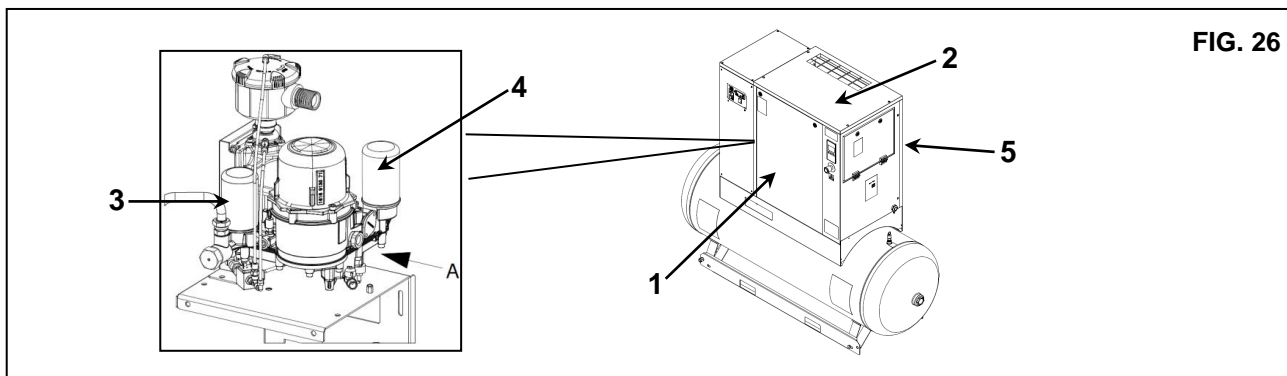
**23.0 REPLACE THE OIL SEPARATOR FILTER AND THE OIL FILTER**

**BEFORE CARRYING OUT ANY MAINTENANCE THE MACHINE MUST BE STOPPED, CUT OFF THE MACHINE FROM THE ELECTRICAL MAINS AND FROM THE COMPRESSED AIR DISTRIBUTION CIRCUIT, CHECK THAT THE MACHINE IS NOT UNDER PRESSURE.**

**N.B. INTERNAL PRESSURE IS AUTOMATICALLY DISCHARGED AFTER ABOUT 30 SECONDS WHEN THE MACHINE IS TURNED OFF**

Proceed as follows:

- Open the front panel Ref. 1 Fig. 26 with the special key.
- Remove the fixed protection device (machine cover) Ref. 2 Fig. 26 and Ref. 5 (Back Panel) Fig. 26
- Remove the oil separation filter Ref. 3 and oil filter Ref. 4 Fig. 26
- Lubricate the filter seals with a little oil before fitting.
- Tightening must be done by hand.
- Close the fixed protection (machine cover) Ref. 2 Fig. 26 device again, using the appropriate safety screws and Ref. 5 (Back Panel) Fig. 26 as well.
- Close the panel Ref. 1 Fig. 26.



**FIG. 26**

**24.0 BELT TENSION (Hp 4-5,5-7,5-10S-15-20 kW 3-4-5,5-7,5-7, 7,5S-11-15)**

**BEFORE CARRYING OUT ANY MAINTENANCE THE MACHINE MUST BE STOPPED, CUT OFF THE MACHINE FROM THE ELECTRICAL MAINS AND FROM THE COMPRESSED AIR DISTRIBUTION CIRCUIT, CHECK THAT THE MACHINE IS NOT UNDER PRESSURE.**

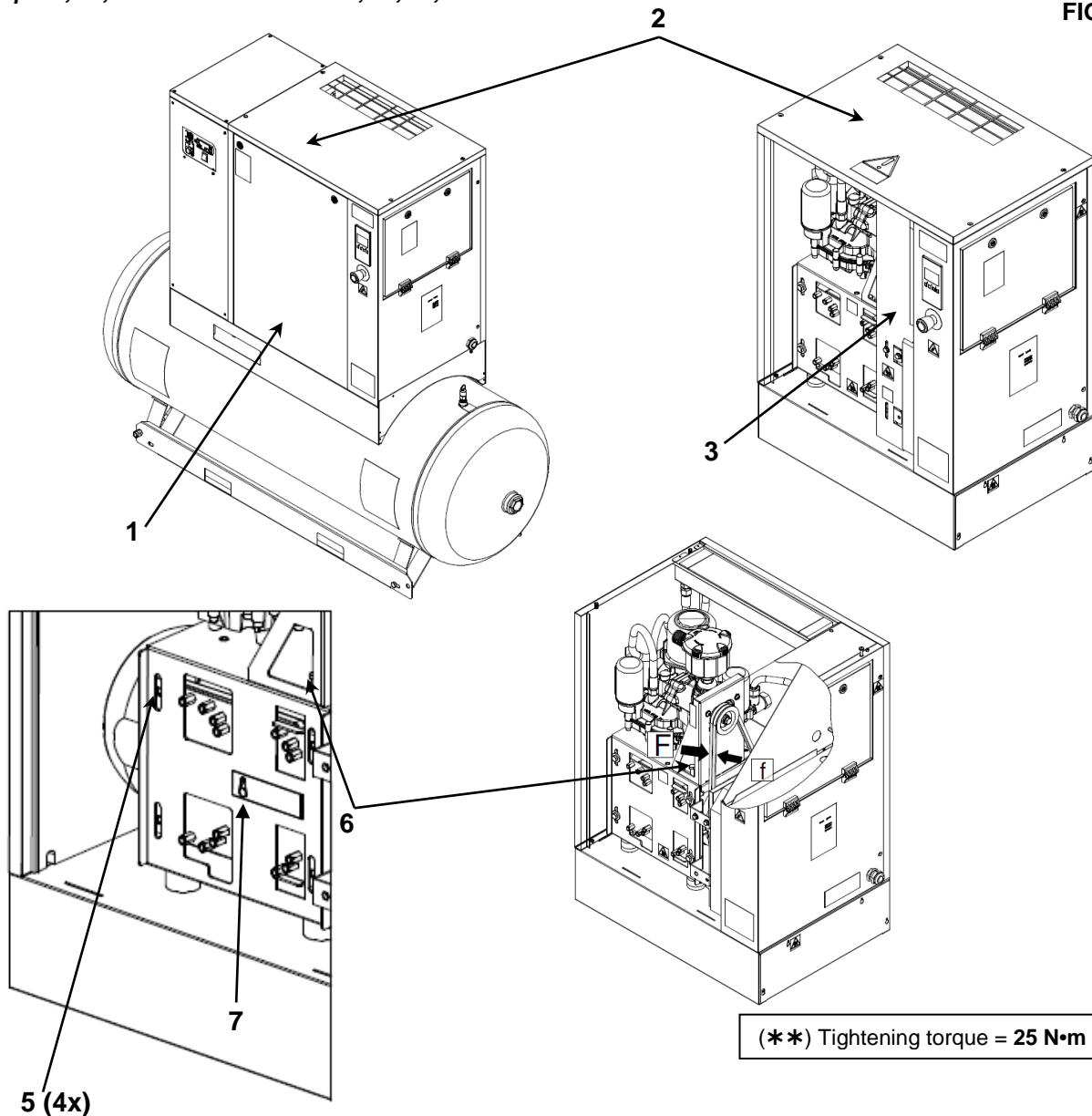
Tightening or retightening new belts

Proceed as follows:

- Open the front panel Ref. 1 Fig. 27 with the special key.
- Remove the fixed protections device Ref. 2,3 Fig. 27.
- Slacken the screws by half a turn Ref. 5 (Qty.4) Fig. 27
- Adjust the belt tension by turning the screw Ref. 6 Fig. 27, with an allen wrench.
- Close the screws again Ref. 5 (Qty 4) Fig. 27
- Check the belt tension according to the label Ref.7 Fig.27
- Close the fixed protection device Ref. 2,3 Fig. 27 device again, using the appropriate safety screws
- Close the front panel Ref. 1 Fig. 27.

Hp 4-5,5-7,5-10-10S-15-20 kW 3-4-5,5-7,5-7,5S-11-15

FIG. 27





**25.0 REPLACING THE BELT (Hp 4-5,5-7,5-10 / kW 3-4-5,5-7,5)**



BEFORE CARRYING OUT ANY MAINTENANCE THE MACHINE MUST BE STOPPED, CUT OFF THE MACHINE FROM THE ELECTRICAL MAINS AND FROM THE COMPRESSED AIR DISTRIBUTION CIRCUIT, CHECK THAT THE MACHINE IS NOT UNDER PRESSURE.

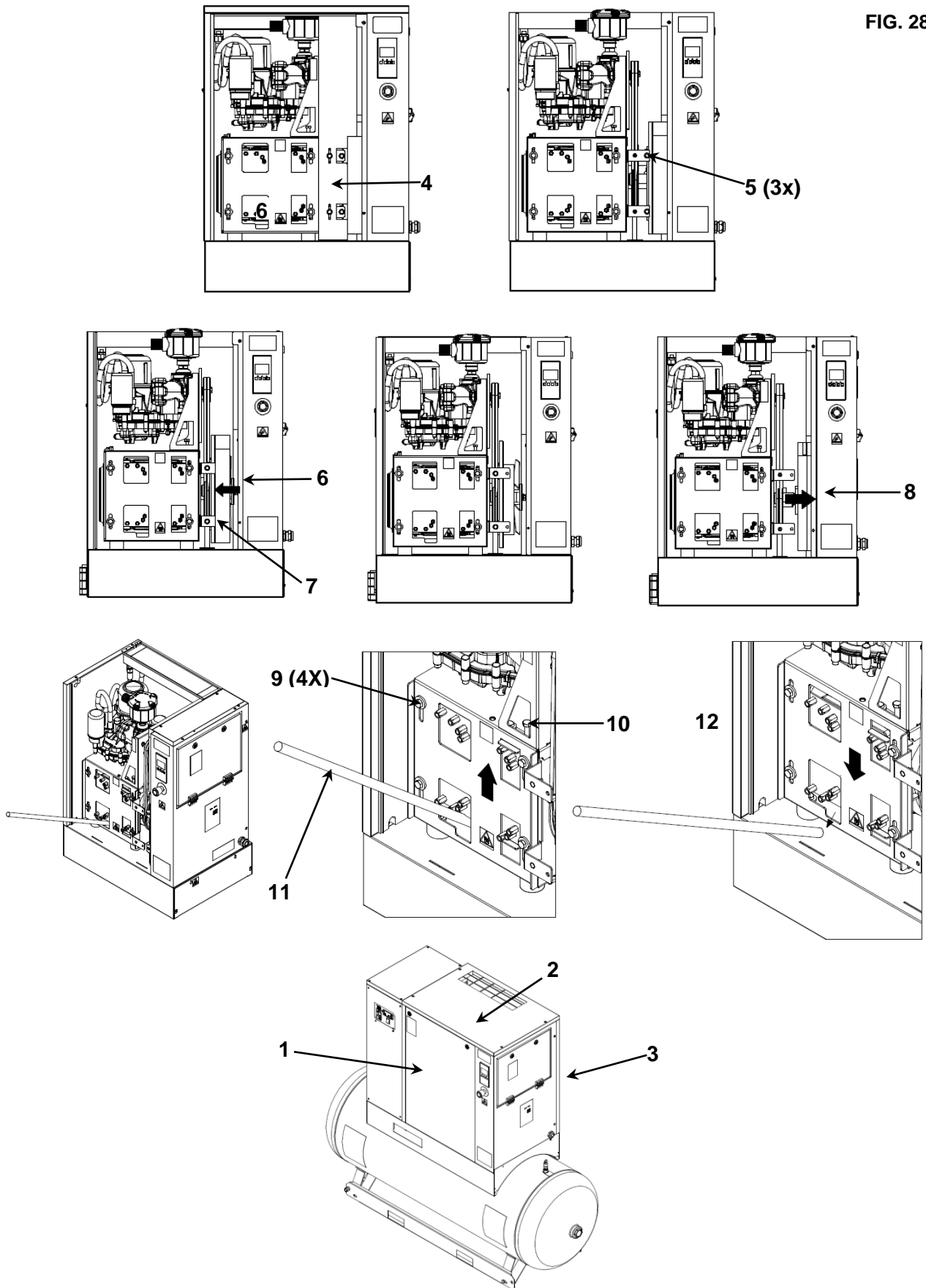


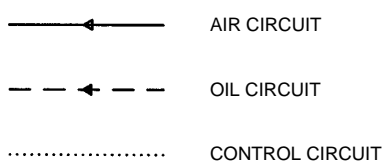
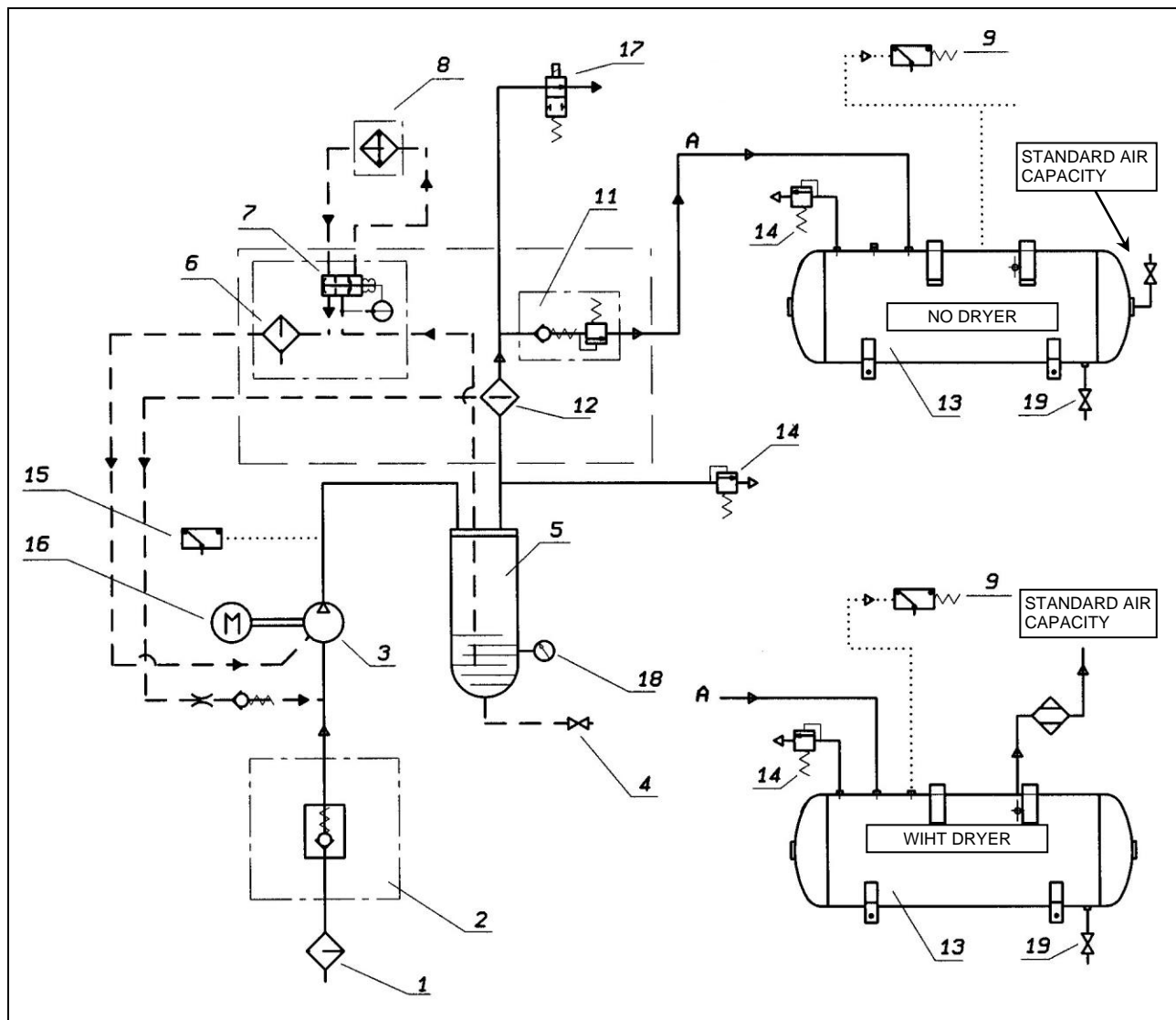
FIG. 28

## ENGLISH

Proceed as follows:

- Open the front panel Ref. 1 Fig. 28 with the special key.
- Remove Roof, back panel and protection plate Ref. 2,3,4 Fig. 28.
- Remove conveyor screw (Qty.3) Ref. 5 Fig 28.
- Move conveyor duct to left until it touches to the belt Ref. 6 Fig 28.
- Remove foam of conveyor Ref. 7 Fig 28.
- Move conveyor duct to right side until it touches cubicle box Ref 8 Fig 28.
- Slacken the screws by half a turn Ref. 9 Fig. 28
- Unscrew belt tightening screw completely Ref. 10 Fig. 28.
- Insert metal bar between the clearance of motor support and motor plate where there is extended lip Ref. 11 Fig 28.
- Lift the motor and motor plate upward by using metal bar Ref. 11 Fig 28.
- Tight the screws of motor in lifted position Ref. 9 (4X) Fig 28.
- Replace the existing belt with the new one.
- Slacken the screw of motors in lifted position Ref. 9 (4X) Fig 28.
- Slowly remove the metal bar and allow motor to move downward Ref. 12 Fig 28.
- Adjust the belt tension by turning the screw Ref. 10 Fig. 28, with an allen wrench.
- Close the screws again Ref. 9 (4X) Fig 28.
- Move conveyor to left side and apply the foam.
- Fix the conveyor screws Ref. 5 (3X) Fig 28.
- Close the fixed protection plate Ref. 4 Fig. 28 device again, using the appropriate safety screws.
- Close the roof, Back and front panel Ref. 2,3,1 Fig. 28.

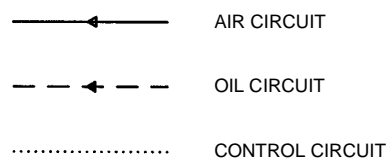
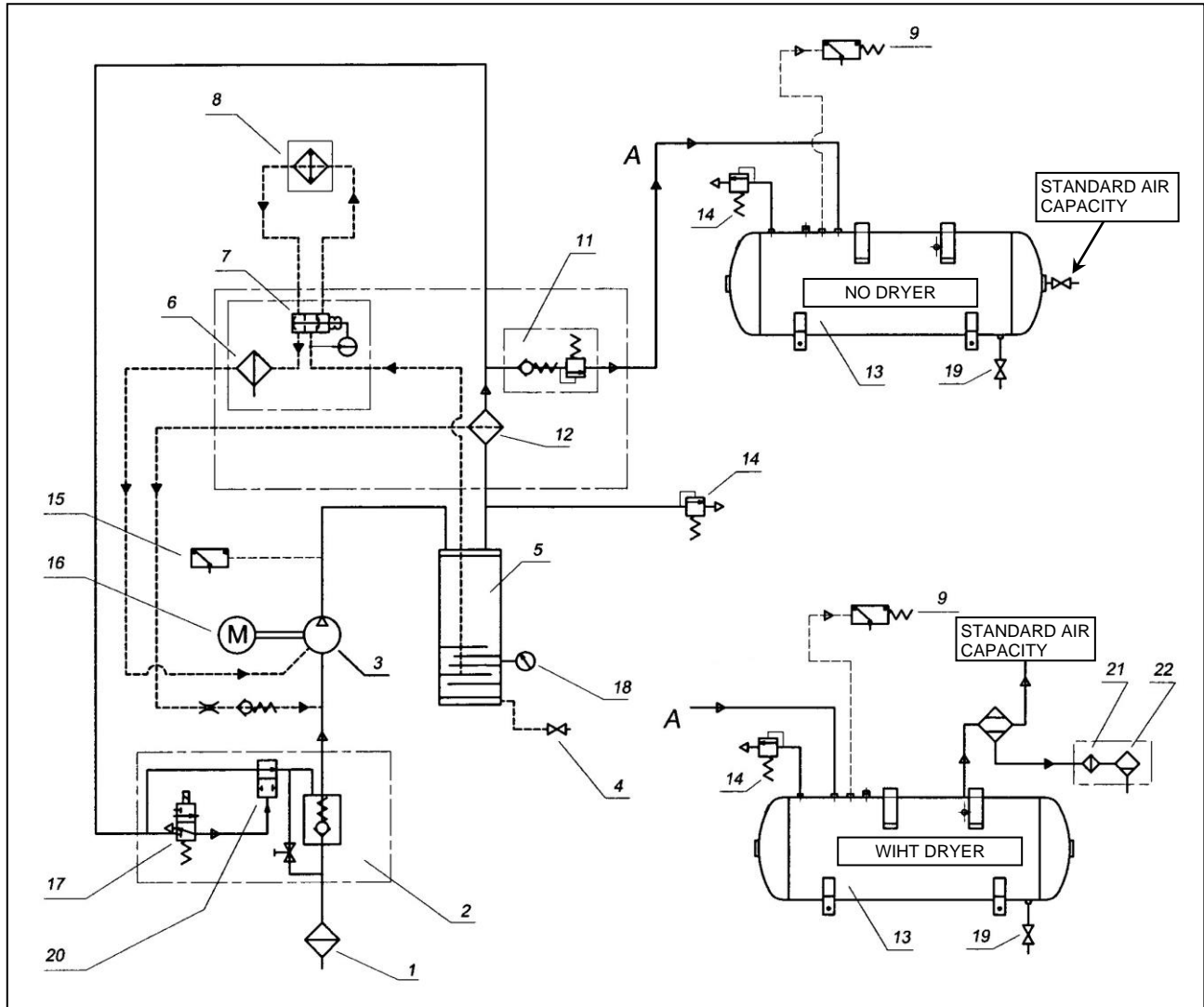
26.0 OLEOPNEUMATIC DIAGRAM (Hp 4-5,5 / kW -3-4)



- |                       |                           |
|-----------------------|---------------------------|
| 1 SUCTION FILTER      | 11 MINIMUM PRESSURE VALVE |
| 2 SUCTION REGULATOR   | 12 AIR-OIL SEPARATOR      |
| 3 SCREW COMPRESSOR    | 13 AIR RECEIVER           |
| 4 OIL DISCHARGE VALVE | 14 SAFETY VALVE           |
| 5 OIL MANIFOLD        | 15 SAFETY OIL TEMPERATURE |
| 6 OIL FILTER          | 16 ELECTRIC MOTOR         |
| 7 THERMOSTATIC VALVE  | 17 SOLENOID VALVE         |
| 8 AIR-OIL COOLER      | 18 OIL LEVEL              |
| 9 PRESSURE SENSOR     |                           |

PARTS 5,7 AND 11 ARE INTEGRATED IN 1 BLOCK.

26.1 OLEOPNEUMATIC DIAGRAM (Hp 7,5-10S -15-20 / kW 5,5-7,5-7,5S-11-15)



- |                           |  |
|---------------------------|--|
| 1 SUCTION FILTER          | 13 AIR RECEIVER                        |
| 2 SUCTION REGULATOR       | 14 SAFETY VALVE                        |
| 3 SCREW COMPRESSOR        | 15 SAFETY OIL TEMPERATURE              |
| 4 OIL DISCHARGE VALVE     | 16 ELECTRIC MOTOR                      |
| 5 OIL MANIFOLD            | 17 NO-LOAD RUNNING SOLENOID VALVE      |
| 6 OIL FILTER              | 18 OIL LEVEL                           |
| 7 THERMOSTATIC VALVE      | 19 CONDENSATE DISCHARGE VALVE          |
| 8 AIR-OIL COOLER          | 20 BLED SOLENOID VALVE                 |
| 9 PRESSURE SENSOR         | 21 IMPURITY TRAP                       |
| 11 MINIMUM PRESSURE VALVE | 22 CONDENSATE DISCHARGE SOLENOID VALVE |
| 12 AIR-OIL SEPARATOR      |  |

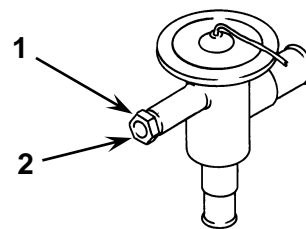
PARTS 5,7 AND 11 ARE INTEGRATED IN 1 BLOCK.

**27.0 CALIBRACION FOR DRYER**

**BYPASS VALVE FOR HOT GAS**

N.B. These valves have already been calibrated and they do not require any adjustment. A dew point different from the rated one generally depends on causes which are not attributable to their operation.

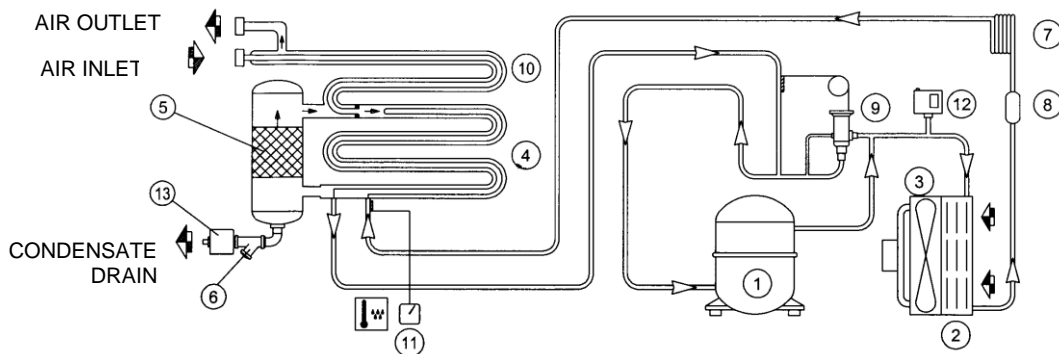
- 1) Closing cap
- 2) Adjusting screw



**WORKING PRESSURES AND TEMPERATURES OF R513a**

SUCTION SIDE OF REFRIGERATION COMPRESSOR		
	Evaporat. Temperat. °C	Evaporating Pressure bar
<b>RATED VALUES</b> (Temperat. 20 °C)	1÷2	R513A 2,1÷2,3

**27.1 FLOW DIAGRAM OF THE DRYER**



- 1 REFRIGERANT COMPRESSOR
- 2 FREON CONDENSER
- 3 MOTOR FAN
- 4 EVAPORATOR
- 5 DEMISTER CONDENSATE SEPARATOR
- 6 IMPURITY TRAP
- 7 EXPANSION CAPILLARY TUBE
- 8 REFRIGERATION FLUID FILTER
- 9 HOT GAS BYPASS VALVE
- 10 AIR-TO-AIR EXCANGER
- 11 DEW POINT THERMOMETER
- 12 FAN PRESSURE SWITCH
- 13 CONDENSATE DISCHARGE SOLENOID VALVE