MISSION CRITICAL South-Tek Systems

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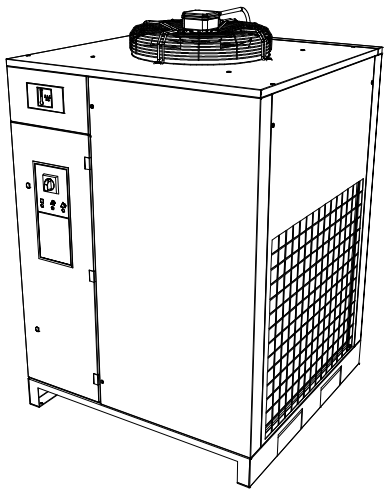
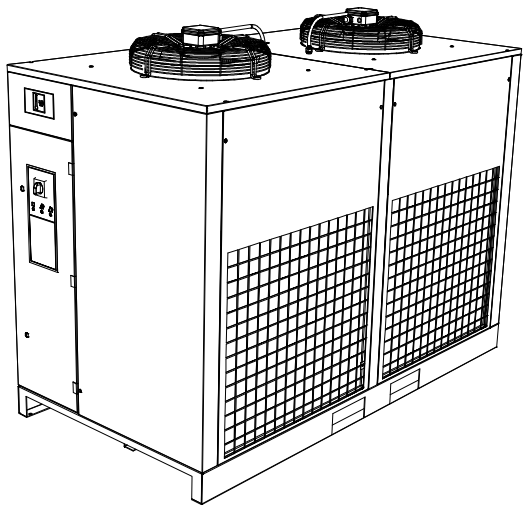
INSTRUCTION AND MAINTENANCE MANUAL

DRYERS

1600N - 1800N - 2200N - 2400N - 3000N





READ THIS MANUAL CAREFULLY BEFORE CARRYING OUT ANY OPERATIONS ON THE DRYER.

ENGLISH

CONTENTS

ATTENTION: THERE IS A COPY OF THE WIRING DIAGRAM INCLUDED WITH THE UNIT

ADDRESSES OF ASSISTANCE CENTRES

In the event of breakdown or malfunction of the dryer, switch it off and do not tamper with it. If repairs are needed, contact your dealer or the manufacture for an approved service contact and insist on the use of original spare parts. Failure to comply with the above may impact the safety and operation of the machine.

INTRODUCTION

Keep this manual for future consultation; the use and maintenance manual is an integral part on the dryer.
Read this manual carefully before carrying out any operations on the dryer.
The installation of the dryer and all operations involving it must be performed in conformity all the regulations in force concerning electronics and refrigerant circuit and personal safety.

CHARACTERISTICS AND SAFETY PRECAUTIONS

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 ELECTRICAL CONNECTIONS, HOWEVER SLIGHT, MUST BE CARRIED OUT BY PROFESSIONALLY SKILLED PERSONNEL.

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

THIS MACHINE IS NOT SUITABLE FOR OUTDOOR INSTALLATION

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

THE LUBRICATING LIQUIDS AND OTHER CONDENSATE FLUIDS MUST NOT BE DISCHARGED IN THE ENVIRONMENT. THESE POLLUTING AND HAZARDOUS PRODUCTS MUST BE DISPOSED OF ACCORDING TO THE LOCAL RULES AND REGULATIONS IN THE LOCATION OF THE INSTALLATION.

1.0 GENERAL CHARACTERISTICS

The dryer is a chilling machine with direct expansion heat exchanger and dry evaporator.
The air to be dried is sent to the heat exchanger in which the water vapor present is condensed: the condensate gathers in the separator and is discharged outside through an electronic level sensing drain..

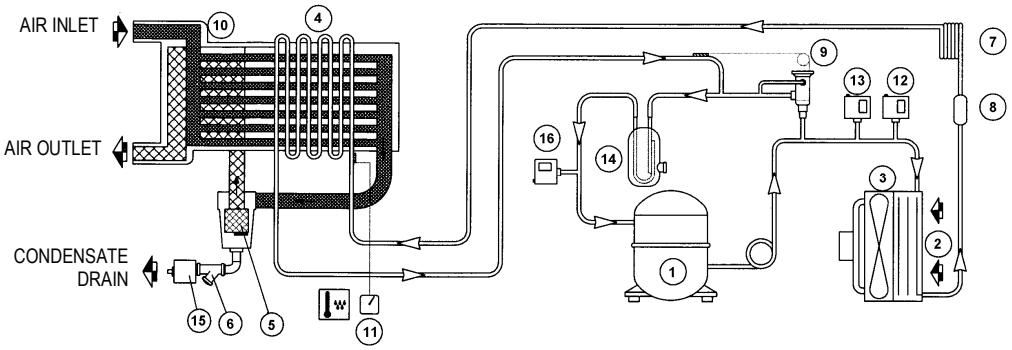
2.0 INTENDED USE

The dryer has been designed and built to dry compressed air for industrial use. The dryer cannot be used in premises where there is a risk of fire or explosion or where work is carried out which releases substances into the environment which are dangerous with regard to safety (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 only allowed if the compressed air is additionally treated by means of a suitable purification 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

The hot gaseous refrigerant leaves the evaporator (4) and enters the refrigeration compressor (1) where it is compressed and pumped into the condenser (2). With the aid of a cooling fan (3) the refrigerant is condensed into a liquid. The condensed liquid refrigerant then passes through a filter/dryer (8) to remove any residual moisture. A capillary tube (7) is used as an expansion device before the refrigerant re-enters the evaporator (4). The expansion and evaporation of the refrigerant produces a cooling effect. Due to the heat exchange with the compressed air passing through the heat exchanger, the air temperature is reduced causing water vapour to condense out of the air stream. The water is removed in a water separator (5) so that it can be evacuated though the automatic level drain (13). The now gaseous refrigerant is returned to the compressor (1) where the cycle repeats.
The circuit is equipped with a hot gas bypass (HGBP) system for the refrigerant which adjusts the available refrigerating capacity to the actual cooling load. This is achieved by injecting hot gas under the control of the HGBP valve (9) to maintain a constant refrigerant pressure in the evaporator. With this control the of the refrigeration pressure the temperature never decreases below (32°F / 0°C).

DRYER FLOW DIAGRAM



1) REFRIGERANT COMPRESSOR	9) HOT GAS BYPASS VALVE
2) CONDENSER	10) AIR-TO-AIR EXCANGER
3) FAN	11) DIGITAL CONTROLLER
4) EVAPORATOR	12) FAN CONTROL PRESSURE SWITCH
5) DEMISTER CONDENSATE SEPARATOR	13) MAX PRESSURE SWITCH
6) Y STRAINER	14) LIQUID SEPARATOR
7) EXPANSION CAPILLARY TUBE	15) CONDENSATE DRAIN
8) REFRIGERANT FILTER	16) MI. PRESSURE SWITCH

4.0 GENERAL SAFETY STANDARD

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.

ALL WORK ON THE ELECTRONICS AND REFRIGERANT CIRCUIT, HOWEVER SLIGHT, MUST BE CARRIED OUT BY PROFESSIONALLY SKILLED PERSONNEL.

5.0 DESCRIPTION OF WARNING SYMBOLS

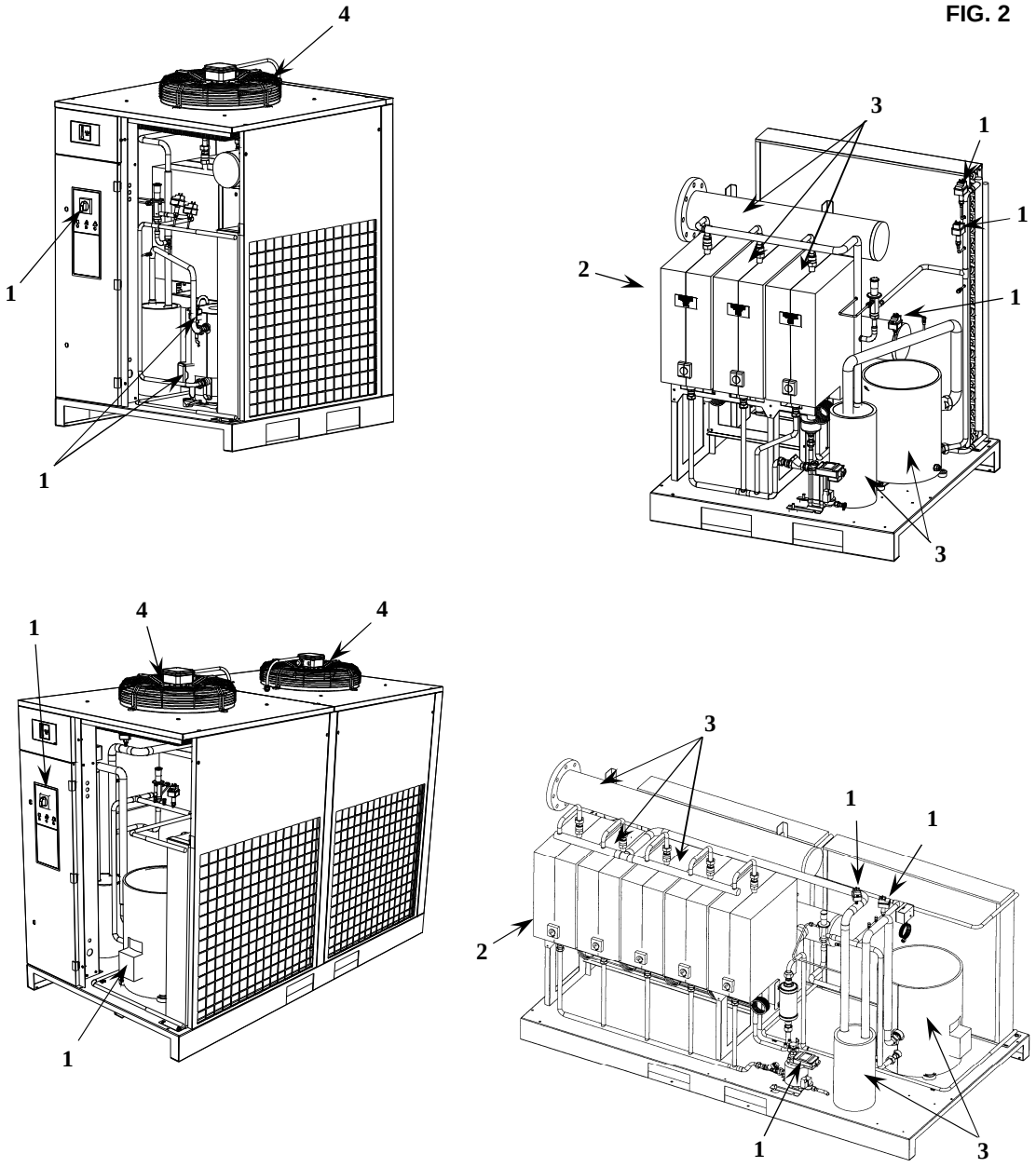
1) Electrocution Risk	2) Air not fit for breathing	3) High pressure	4) Fan rotating	5) Hot parts

6.0 DANGER ZONES

6.1 DANGER ZONES

(1)	(2)	(3)	(4)
Risks present on the whole machine			

FIG. 2



7.0 SAFETY DEVICES
7.1 SAFETY DEVICES

1) Cooling fan shield	3) Ground
2) Shield	

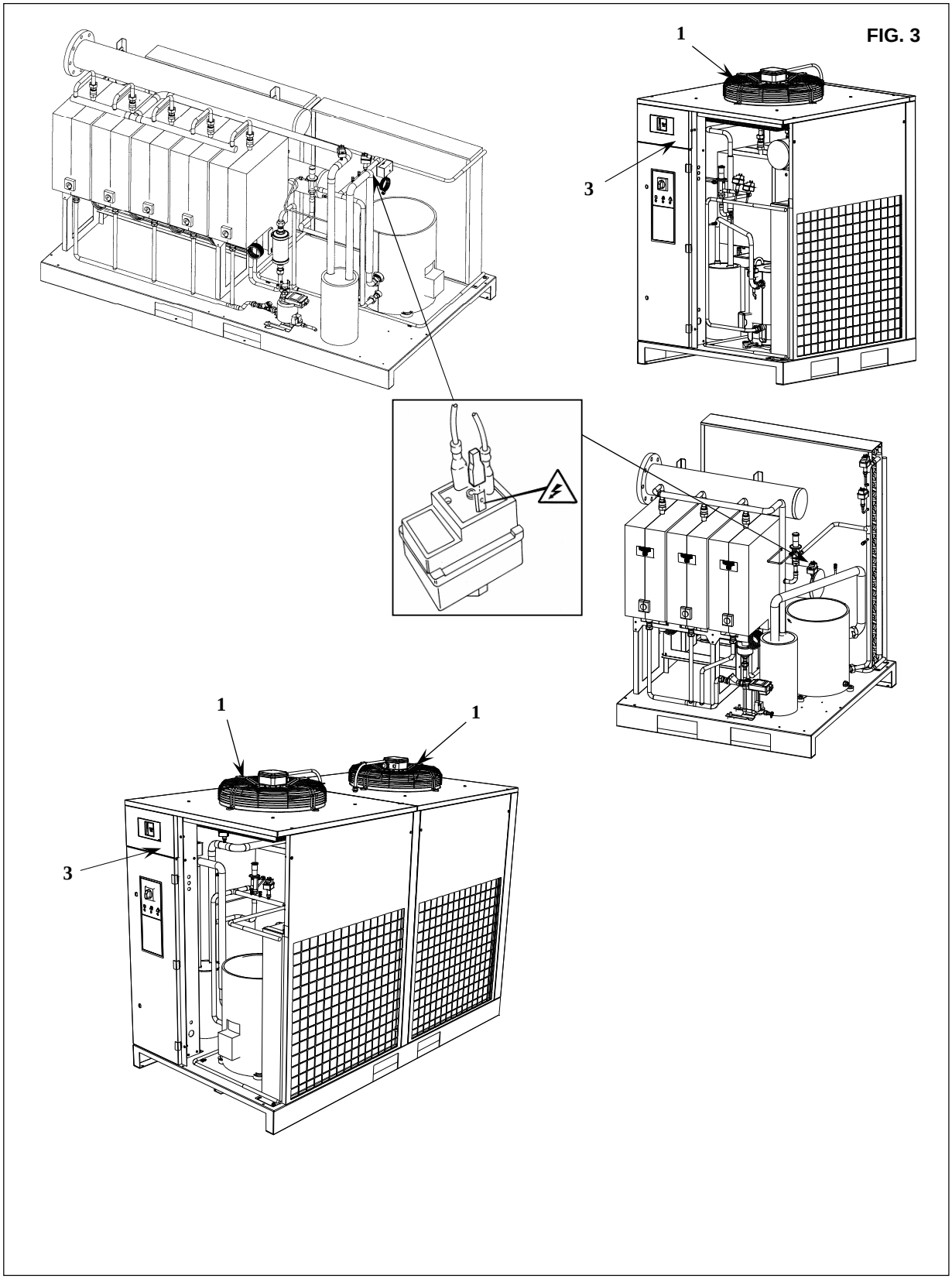
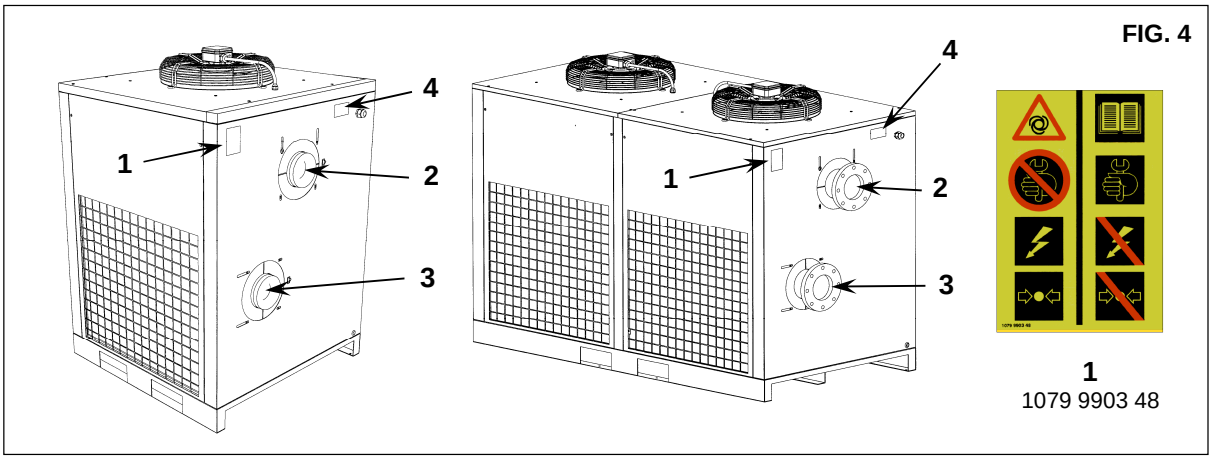


FIG. 3

8.0 POSITION OF WARNING LABEL

8.1 POSITION OF THE WARNING LABELS (Fig. 4)

The labels 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.
Ref.1 - Spare plate Code 1079 9903 48



8.2 POSITION OF THE DATA PLATES (Fig. 4)

2) “Compressed air inlet”	4) Identification plate
3) “Compressed air outlet”	

9.0 INSTALLATION LOCATION

9.1 FLOOR

The floor must be level and be of a type that can suitably support the total weight of the machine as shown in Fig. 5 Remember the total weight of the machine when positioning it.

9.2 VENTILATION

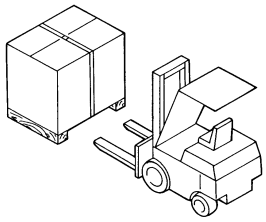
The choice of an appropriate room will prolong the life of your dryer; the room must be spacious, dry, well ventilated and free from dust.
The operating conditions to be complied with are the following:

Min. room temperature: 41 °F (5 °C) (compulsory)	Min. inlet allowed temperature: 37,4 °F (3 °C)
Max. room temperature: 113 °F (45 °C) (compulsory)	Max. inlet allowed temperature: 131 °F (55 °C)
Max. temperature of incoming air: 131 °F (55 °C)	Max. working pressure: 203 psi (14 bar)

- Please keep environmental conditions stable (temperature and humidity) in order to avoid refrigerant compressor/fan overload and/or reduction of dryer performance. Similar failures shall affect warranty reimbursements.
- Please ensure the appropriate composition of the air within the machine room: - clean with no damaging contaminants (e.g., dust, fibers, fine sand) - free of explosive or chemically unstable gases or vapors - free of acid/alkaline forming substances, particularly ammonia, chlorine or hydrogen sulfide. Similar failures shall affect warranty reimbursements.
- Please note that we do not recommend the use of ducting for the cooling air on these units.

10.0 TRANSPORT AND HANDLING

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



MODD.	NET WEIGHT Lb (kg)
1600N	837 (380)
1800N	1212 (550)
2200N	1323 (600)
2400N	1323 (600)
3000N	1433 (650)

FIG. 5

11.0 UNPACKING

CUTTING THE METAL STRAPPING CAN BE DANGEROUS, CUT PIECES SHOULD BE PROPERLY DISPOSED.

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 and contact your dealer or the manufacture for technical assistance.
The packing material (plastic bags, polystyrene foam, nails, screws, wood, metal strapping, etc.) must not be left within the reach of children or left in the environment, as they are a potential source of danger and pollution.Dispose of these materials in the approved collection centers.

12.0 INSTALLATION

12.1 POSITIONING

After unpacking the equipment and preparing the installation location, put the machine into position, checking the following items:

- ensure that there is sufficient space around the machine to allow maintenance (see Fig. 6).

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.

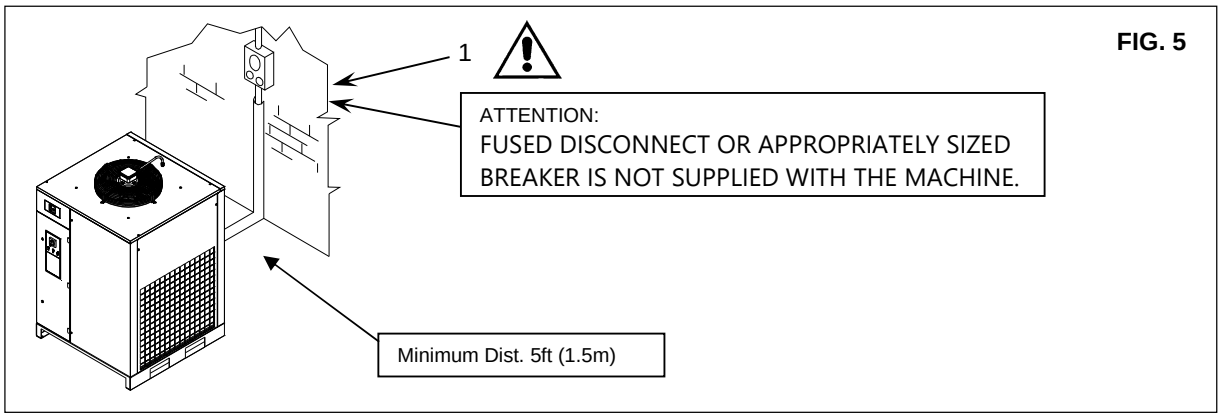


FIG. 5

12.2 ELECTRICAL CONNECTION

- Check that the supply voltage is the same as the value indicated on the machine data plate.
- Check the condition of the line leads and ensure that there is an a sufficient grounding line.
- **Ensure that there is a fused disconnect or appropriately sized breaker to protect the machine against over-currents, Ref. 1 Fig. 6. For details (size and type) see wiring/service diagram.**

ONLY PROFESSIONALLY LICENSED PERSONNEL SHOULD ACCESS TO THE ELECTRIC PANEL. SWITCH OFF THE POWER BEFORE OPENING THE DOOR OF THE ELECTRIC PANEL. COMPLIANCE WITH THE REGULATIONS IN FORCE CONCERNING ELECTRICAL WORK IS FUNDAMENTAL FOR OPERATOR SAFETY AND FOR THE PROTECTION OF THE MACHINE.

12.3 CONNECTION TO THE COMPRESSED AIR NETWORK

Install isolation valves (not supplied) Ref. 1 between the machine and the compressed air network so that the dryer may be isolated during maintenance operations (see figure 7).
Plumb the condensate auto-drain, Ref. (2) Fig. 7, to a location where it can be treated prior to disposal.
Condensate must be disposed of according to the local rules and regulations in the location of the installation.

- All refrigerant dryers shall be equipped with proper pre-filter at closest position to dryer air inlet. The filter should be replaced annually or sooner for installations with high contaminate levels or ambient humidity.

ALL DAMAGE DUE TO THE FAILURE TO COMPLY WITH THESE NDICATIONS CANNOT BE ATTRIBUTED TO THE MANUFACTURER AND MAY LEAD TO VOIDING OF THE MACHINE WARRANTY.

12.4 STARTING UP

See part B of this manual, Section 18.0

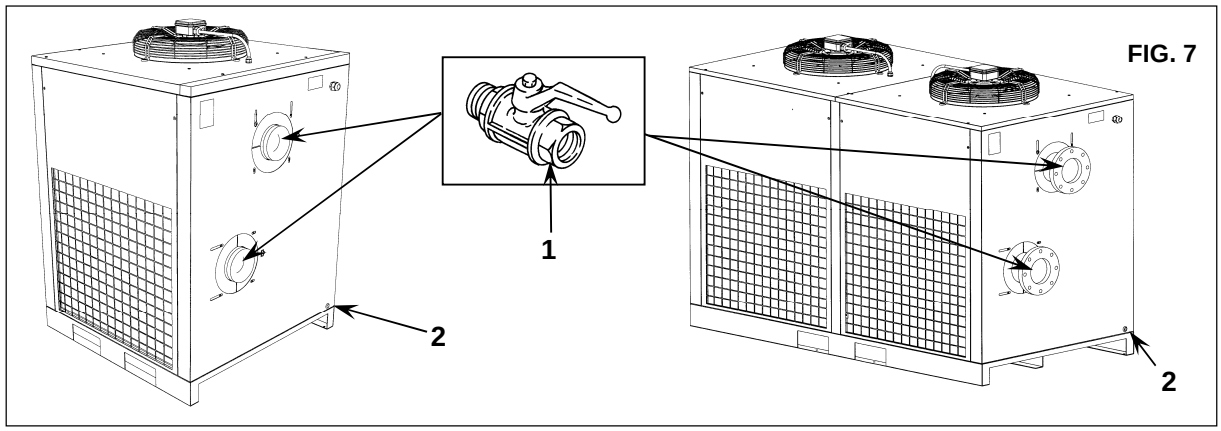
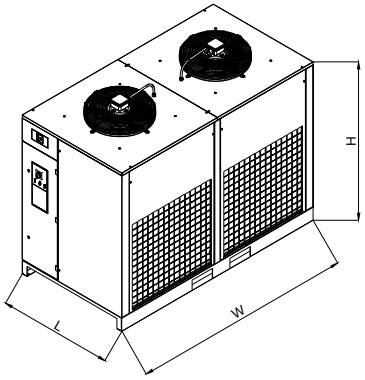
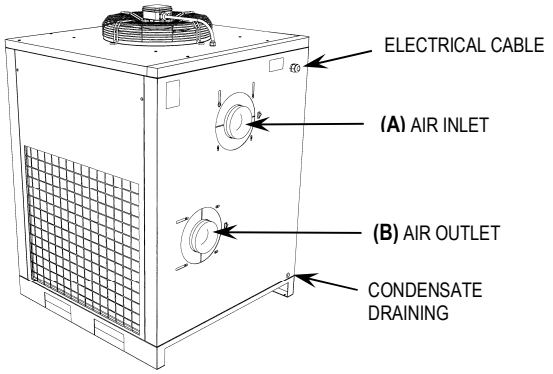


FIG. 7

13.0 DIMENSIONS AND TECHNICAL DATA (1600N-3000N)





MOD.		
1600N		
L (in / mm)	W (in / mm)	H (in / mm)
40,1 (1020)	44,2 (1123)	60,07 (1526)
MOD.		
1800N-3000N		
40,1 (1020)	82,6 (2099)	60,4 (1535)

Refrigerant gas (1)	GWP 100 (2)
MOD. DXR1600N-3000N R-404A	3922
(1) According to ISO 817	
(2) According to EN-378-1	

MOD.
1600N-3000N
A / B
FLANGE UNI DN125-ANSI 6"

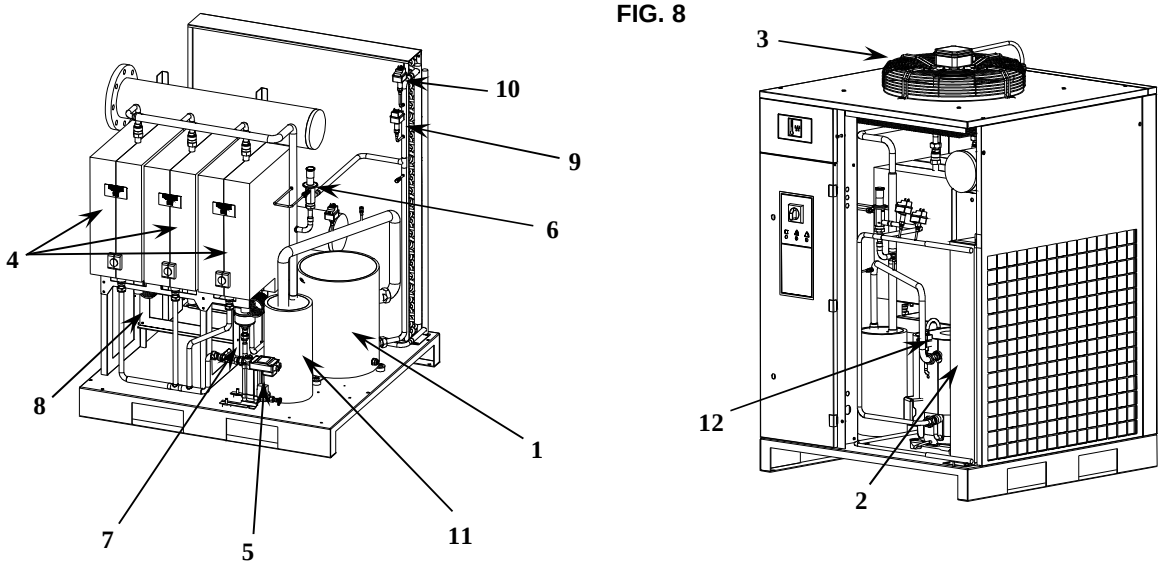
	Weight lb (kg)	Freon R404A lb (kg)	Nominal Power HP (W)	Nominal Power HP (W)	psi (bar) MAX.
MOD.		60 Hz	60 Hz	60 Hz	
1600N 17,5	837 (380)	14,6 (6,6)	13,1 (9740)	1,7 (1250)	203 (14)
MOD.		60 Hz	60 Hz	60 Hz	
1800N 18	1212 (550)	23,1 (10,5)	11,3 (9600)	3,4 (2500)	203 (14)
2200N 18,5	1323 (600)	24,3 (11,0)	16,7 (12500)	3,4 (2500)	203 (14)
2400N 19	1323 (600)	24,3 (11,0)	23,1 (17270)	3,2 (2400)	203 (14)
3000N 20	1433 (650)	33,1 (15,0)	23,1 (17270)	3,2 (2400)	203 (14)

Reference conditions:			Limit conditions:		
Ambient temperature	77 °F (25 °C)		Max. ambient temperature	113 °F (45 °C)	
Inlet air temperature	95 °F (35 °C)		Min. ambient temperature	41 °F (5 °C)	
Working pressure	101 psi (7 bar)		Max. inlet air temperature	131 °F (55 °C)	
			Max. working pressure	203 psi (14 bar)	

14.0 MACHINE ILLUSTRATION 14.1
GENERAL LAY-OUT *(1600N)*

1	Refrigerant compressor	7	Refrigerant filter-dryer
2	Condenser	8	Expansion capillary tube
3	Fan motor	9	Fan motor pressure switch
4	Evaporator	10	High pressure switch
5	Condensate drain	11	Liquid accumulator
6	Hot gas by pass valve	12	Low pressure switch

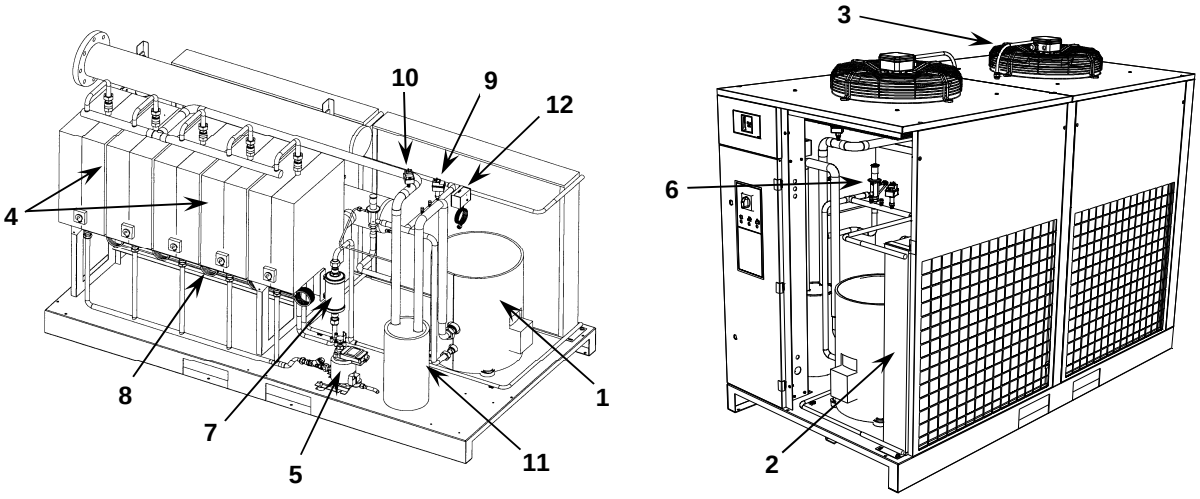
FIG. 8



14.2 GENERAL LAY-OUT *(1800N-2200N-2400N-3000N)*

1	Refrigerant compressor	7	Refrigerant filter-dryer
2	Condenser	8	Expansion capillary tube
3	Fan motor	9	Fan motor pressure switch
4	Evaporator	10	High pressure switch
5	Condensate drain	11	Liquid separator
6	Hot gas by pass valve	12	Fan motor pressure switch

FIG. 8a



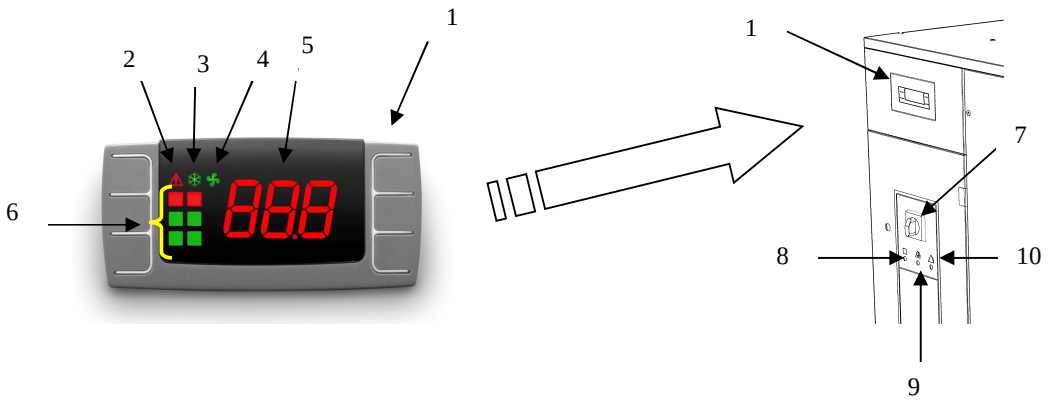
14.3 COMMAND AND CONTROL PANEL *(1600N-1800N-2200N-2400N-3000N)*

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 - Door block
Ref. 8) Green voltage indicator - Running
Ref. 9) Red alarm indicator for:
- Condensate drain

Ref. 10) Red alarm indicator for:
- High / Low pressure
- Fan motor protection

FIG. 9



2	Alarms
3	Power ON
4	Fan ON
5	Dryer on
6	PDP indicator

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

14.4 COMMAND AND CONTROL PANEL *(1600N-1800N-2200N-2400N-3000N)*

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

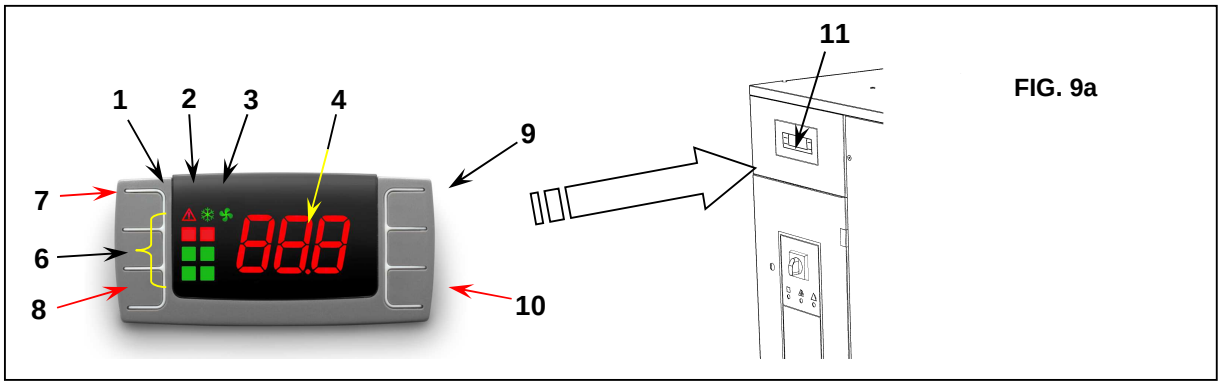


FIG. 9a

Reference	Name
1	Alarm icon
2	Refrigerant compressor icon
3	Fan icon
4	Dryer ON
6	PDP indicator
7	Button to snooze or to reset the alarm
8	SET button
9	UP button
10	DOWN button
8 + 9	Back to previous screen
8 + 10	Menu
11	Digital controller

ICONS

ICON	*NAME*	*MODE*	*FUNCTIONS*
	Alarm	**OFF**	No active alarms
		ON	Probe failure alarm
		ON	High/Low temperature alarm
		ON	Service alarm
	Refrigerant compressor	**OFF**	Dryer off
		ON	Dryer on
		Flashing + SE	Maintenance warning
		Flashing + L2	Dewpoint too low / Dryer is stopped
		Flashing + H3	Too high discarge temperature of the refrigerant compressor (see “H3” pag. 22) Dryer is stopped
	Fan	**OFF**	Fan off
		Flashing	Not applicable
		ON	Fan on

REMOTE ALARM FUNCTION

The controller allows to remotely a number of alarms. This is managed by means of a free NC (Normally Closed) contact. The contact opens in case of an alarm.

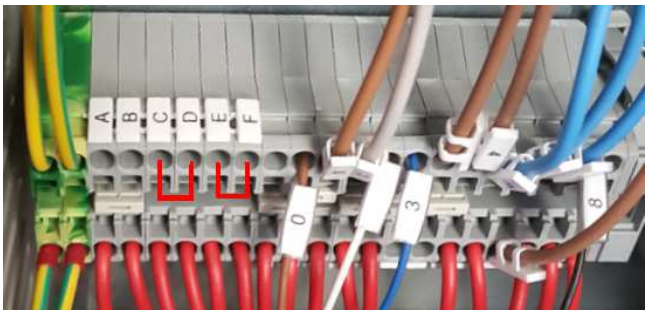


FIG. 9b

Location of the free contact connector

15.0 DISPOSING OF THE DRYERS

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 INSULATING FOAM, ETC.

SPECIAL CARE NEEDS TO BE TAKEN IN REGARDS TO THE REFRIGERANT WITHIN THE UNIT. IT SHOULD NOT BE RELEASED TO THE ATMOSPHERE. ALL REFRIGERANTS SHOULD BE RECLAIMED BY A PROPERLY CERTIFIED REFRIGERANT TECHNICIAN PRIOR TO THE UNIT BEING SCRAPPED.

PART “B”

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

16.0 ROUTINE MAINTENANCE

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

16.1 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 the recommended service intervals.

Every week	■ ■	Brush/blow off the finned surface of the condenser
	■ ■	Clean the filter of the automatic condensate drain
Every 2000 hours / 1 year	■ ■	Replace the filter of automatic condensate drain (2902016102)
Every 4000 hours / 2 year	■ ■	Replace drain kit (2200902017)

16.2 CLEANING OF THE AUTOMATIC CONDENSWATER DISCARGER FILTER (Fig. 10)

Clean the filter of the drain.

Proceed as follows:
- Isolate the unit from the compressed air network Ref. 1 Fig. 10
- Remove the panel Ref. 5 Fig. 10
- Release the pressure in the dryer by pressing the condensate drain “TEST” button locate on the drain Ref. 2 Fig. 10.
- Switch off the machine. Turn the switch in position STOP Ref. 3 Fig. 10.
- Lock-out and tag-out the unit at the fuse/breaker box.Ref. 4 Fig. 10

HOT PARTS INSIDE

- Remove the Y-strainer plug Ref. 6
- Remove the filter Ref. 7
- Clean the filter Ref. 7 with a jet of air, working from inside to outside
- Re-Install the filter, fix the plug Ref. 7 - 6
- Close the panel Ref. 5

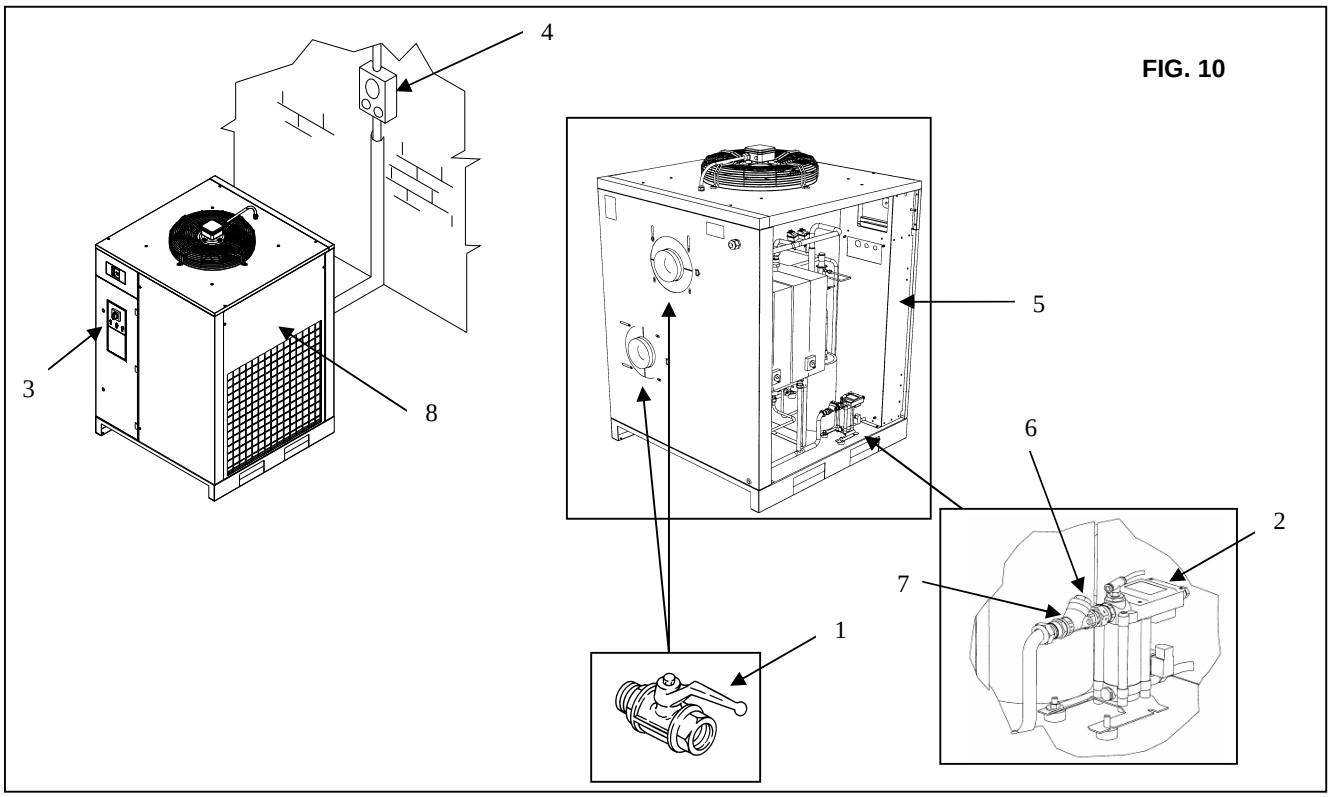


FIG. 10

16.3 CLEANING THE CONDENSER (Fig. 10)
The condenser must be cleaned every month.
Proceed as follows:
- Switch off the machine. Turn the switch to the STOP Ref. 3 Fig. 10
- Lock-out and tag-out the unit at the fuse/breaker box Ref. 4 Fig. 10
- Remove the panel Ref. 5 Fig. 10
- Clean the condenser fins Ref. 8 with compressed air (Fig. 10) **DO NOT USE WATER OR SOLVENTS**
- Close the panel Ref. 5 Fig. 10

17.0 TROUBLE-SHOOTING AND EMERGENCY REMEDIES

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 BY 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	-Clean the filter from the condensate drain ■■-Check the condensate drain
	2B) The dryer is working outside its rating	-Check the flow rate of treated air -Check the room temperature -Check the air temperature at the drier inlet.
	2C) The dryer is working under bad conditions of condensation	-Clean the condenser. ■■-Check the operation and the calibration of the press. switch ■■-Check that the fan is operation correctly.
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.	-Contact the electric power company
	The machine was switched off and on again without leaving enough time for pressure balancing.	-Wait a few minutes before starting the machine again.
	The motor starting system is defective.	■■ -Check the running and starting relays and condensers (if any)
6) The machine has stopped and does not restart even after a few minutes.	The termostatic protection with **manual reset** has intervened: make reference to **2B-2C-3A.**	
	The motor has burnt out.	
7) The compressor is very noisy.	Troubles with the internal mechanical parts or with the valves	

17.1 TROUBLE-SHOOTING AND EMERGENCY REMEDIES

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 fashing, label P1 flashing	PDP Temp probe failed	■■ replace probe
		Warning icon NOT fashing, label H1 flashing	High PDP call for service	■■ refrigerant leak ■■ flow rate / inlet ■■ temperature exeeding the limit
		Warning icon NOT fashing, label L1 flashing	Low PDP call for service	■■ hot gas by pass valve out of order ■■ ambient temperature lower then limits

EE ALARM

EE alarm is shown when internal EPROM errors happens, the dryer will stop running when this warning occurs. The error can be reset by pressing one of the four buttons of the controller, but if it persists the controller must be replaced.

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

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

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

PROCEDURE TO SET THE SERVICE INTERVAL ON PDP DEVICE

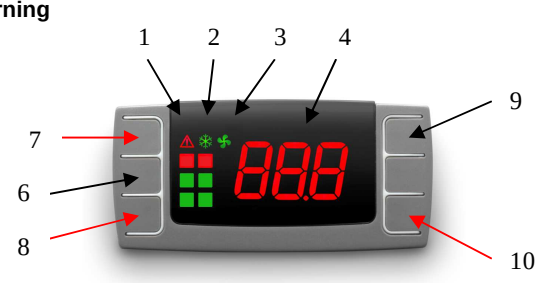
1		*2*		*3*	
	PDP is showing standard view.		**Push and hold buttons “SET” and “DOWN” to enter in the menu.**		**Message “SE” appears on display.**
4		*5*		*6*	
	Push and release “SET” to enter in the “SE” menu.		**Current service interal is displayed.** **(“60” or different value from “0” to “99”)**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

17.2 TROUBLE-SHOOTING AND EMERGENCY REMEDIES

Fault messages

Flashing fault message	Description	Remedy
 84759D	Dewpoint temperature probe failure	Replace the probe
 84865D	Refrigerant compressor discharge temperature probe failure	Replace the probe
 84762D	Pressure dewpoint too high	Refer to the fault and remedies section
 84765D	Pressure dewpoint too low	Refer to the fault and remedies section
 84864D	Refrigerant compressor discharge temperature too high; refrigerant compressor stopped.	Refer to the fault and remedies section
 84766D	Internal EPROM error	Reset by pressing one of the four buttons. If the problem persists, replace the controller
 84767D	Maintenance required	Perform the maintenance and reset the alarm

Resetting the maintenance warning



Front panel of the controller

To reset the maintenance warning, follow steps 1 to 12:
1. The display is flashing between standard view (dewpoint) and maintenance required (SE) alarm.
2. Push and hold buttons SET (8) and DOWN (10) to enter the menu.
3. Message “SE” appears on display.

4. Push and release the UP button (9).
5. Message “rS” appears on display.

6. Push and release the SET button (8).
7. Message “n” appears on display.

8. Push and release the UP button (9).
9. Message “y” appears on display.

10. Push and release SET (8) to reset service alarm.
11. Message “y” blinks for 3 seconds.

12. Then “rL” is fixed and “°C” blinks on display for about 10 seconds.

The service alarm is now reset.

Setting the service interval
To set the service interval, follow steps 1 to 9:

1. PDP is showing standard view.
2. Push and hold buttons SET (8) and DOWN (10) to enter the menu.
3. Message “SE” appears on display.

4. Push and release SET (8) to enter the “SE” menu.
5. Current service interval is displayed.
(“60” or any other value between “0” and “99”)

6. Select desired service interval using the UP and DOWN button.
(40=4000h, 55=5500h, 80+8000h,…)
7. Push and release SET to confirm the new service interval.
8. The selected value blinks during 3 seconds.

9. Then “rS” is fixed and “°C” blinks on display for about 10 seconds.

The new service interval is now set.

Freeze protection function

Once the digital controller detects a dewpoint temperature below -28,4°F (-2°C) lasting for more than 2 minutes, (L2 Alarms), it switches off the refrigerant compressor.

Resetting the dryer after a refrigerant compressor stop

Press button 7 to reset the alarm.

The dryer restarts when both the following conditions are true.

- The dewpoint temperature is higher than -2°C
- 30 second are passed from the refrigerant compressor stop (minimum balancing pressure stop time). A countdown is available if the reset is made before the minimum stop time.

Silent alarm function

To snooze the alarm, press button 7.

Refrigerant compressor discharge temperature visualization function

To see the discharge refrigerant compressor temperature, follow steps 1 to 5:

1. PDP is showing standard view.
2. Push and hold buttons SET (8) and DOWN (10) to enter the menu.
3. Push and release the UP button (9) until message “S3” appears on display.

4. Push and release the SET button (9) to enter the “S3” parameter.
5. Current temperature of discharge refrigerant compressor is displayed.

18.0 STARTING UP

BEFORE CARRYING OUT ANY OPERATION ON THE MACHINE, ENSURE THAT THE ELECTRIC POWER SUPPLY HAS BEEN DISCONNECTED
WAIT AT LEAST TWO HOURS BEFORE STARTING UP, AFTER ANY MACHINE MOVEMENT (TRANSPORT OR HANDLING).

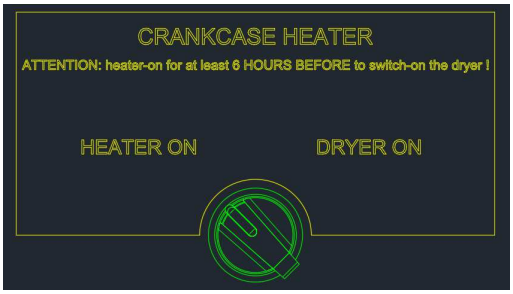
18.1 PRELIMINARY CONTROLS

Before starting the dryer, check:
- The connection to the compressed air piping: remember to remove protected caps supplied on the drier inlet and outlet.
- The connection to the condensate drainage system.
- That the power supply is matches the power supply indicated on the dryer nameplate.

18.2 BELT CRANKCASE HEATER INSTRUCTION

The dryer is equipped with a belt crankcase heater that prevents refrigerant and oil mixing, refrigerant condensation in the crankcase and refrigerant migration during the off-cycle period.
It's strongly recommended to energize the heater AT LEAST 6 hours before to switch on the dryer.

STEP1: connect the dryer to the main supply
STEP2: the selector below MUST be in "HEATER ON" position
STEP3: activate the main switch (IG) of the dryer
STEP4: AFTER AT LEAST 6 hours move the selector belt to "DRYER ON" position



ATTENTION !

- Repeat the four steps above each time the dryer is switched off for a prolonged period.
- For short period of inactivity (2-3 days), keep the heater on.

18.3 STARTING AND STOP

Start the system before the air compressor starts running and stop it after the air compressor has been stopped. 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 to balance.

BEFORE CARRYING OUT ANY MAINTENANCE JOBS IT IS MANDATORY TO STOP THE MACHINE, DISCONNECT IT FROM THE POWER SOURCE AND ISOLATE IT FROM THE COMPRESSED AIR DISTRIBUTION NETWORK.

PRESSURE DISCHARGE PROCEDURE

Proceed as follows:
- Isolate the unit from the compressed air network
- Remove the panel Ref. 2 Fig. 11
- Release the pressure in the dryer by pressing the condensate drain “TEST” button locate on the drain Ref. 3 Fig. 11
- Switch off the machine. Turn the switch to the STOP Ref. 4 Fig. 11
- Lock-out and tag-out the unit at the fuse/breaker box
- Close the panel

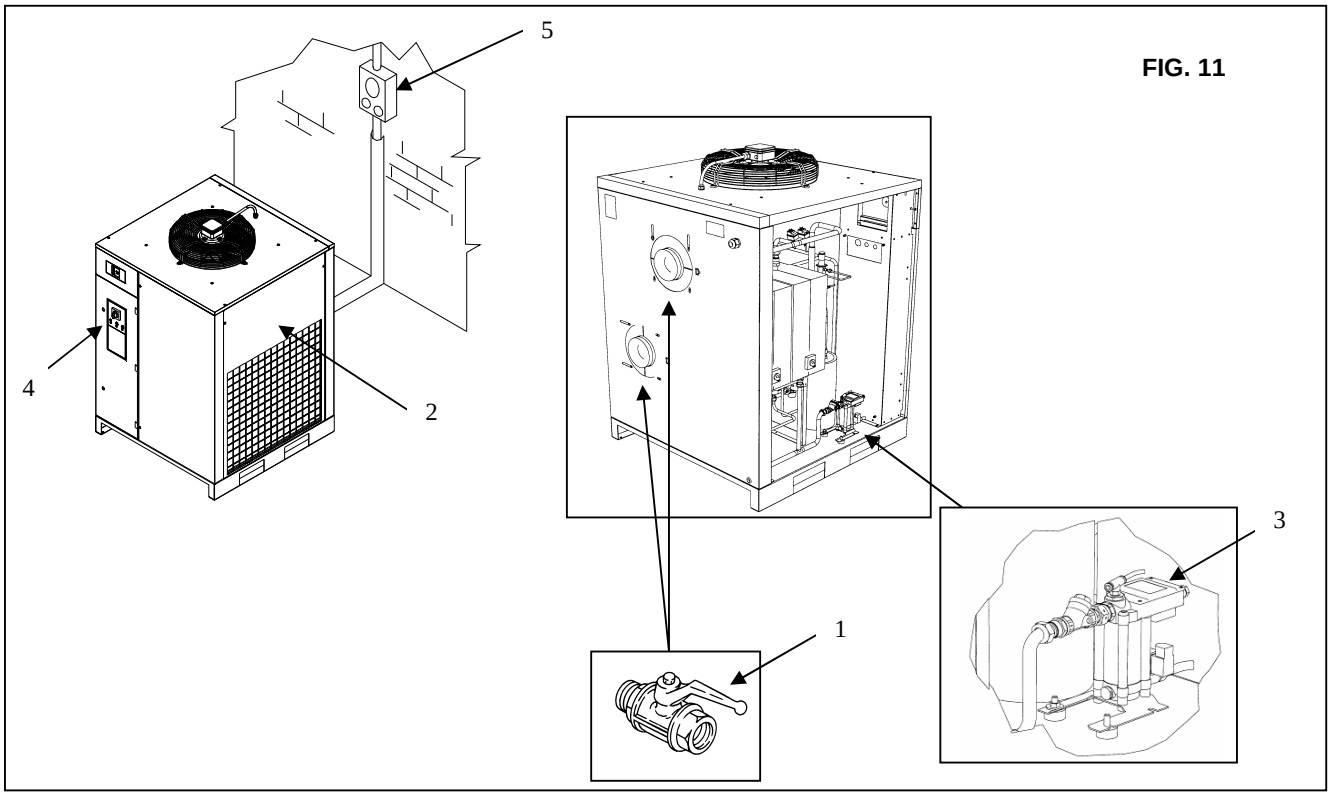


FIG. 11

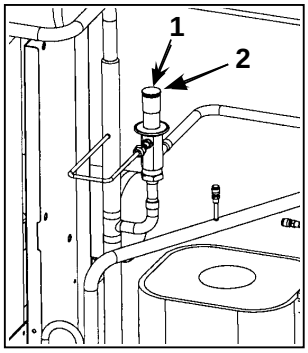
CALIBRATIONS
HOT GAS BYPASS VALVE

N.B.These valves have already been calibrated and they do not require any adjustment. An operating dew point that is different from the standard rated performance is typically caused by conditions other that the hot gas bypass valve.

Ref. 1) Closing cap
Ref. 2) Adiusting screw

WORKING PRESSURES AND TEMPERATURES OF **R404A**

	SUCTION SIDE OF REFRIGERATION COMPRESSOR	
	Evaporat. Temperat. °F (°C)	Evaporating Pressure psi (bar)
		R404A
RATED VALUES (Temp. 68°F - 20°C)	35,6 - 37,4 (2 – 3)	78,3 - 81,2 (5,4 - 5,6)



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