



INDUSTRIAL DEHUMIDIFIERS



FD

SERIES

Vers. Std, S

Cod.: FD160 FD160S FD240 FD240S

USE &
MAINTENANCE
MANUAL

CE

M.FD160-240UK-04



This machines series belongs to the electric appliances
functioning at low tension (230 o 400 V).

The installation must be done following all safety norms and laws
according with place of installation.

Please read carefully all safety norms (Chapter 1.4)

INDEX

DECLARATION OF CONFORMITY	pag.3
TECHNICAL DATA	
pag.4	
DRYING CAPACITY – FAN PERFORMANCE	pag.5
<u>CHAPTER 1: GENERAL POINTS</u>	pag.6
1.1 AVAILABLE MODELS AND THEIR ACCESSORIES	pag.6
1.2 UTILITY AND CONSERVATION OF THE MANUAL	pag.6
1.3 NORMS REFERENCES	pag.7
1.4 GENERAL SAFETY NORMS	pag.7
<u>CHAPTER 2: INSPECTION TRANSPORT AND SITE HANDLING</u>	pag.8
2.1 INSPECTION	pag.8
2.2 LIFTING AND SITE HANDLING	
pag.8	
2.3 UNPACKING	pag.8
2.4 LOCATION	pag.9
<u>CHAPTER 3: INSTALLATION</u>	
pag.9	
3.1 CLEARANCES	pag.9
3.2 ELECTRICAL CONNECTIONS	pag.10
3.2.1 Generality	
3.2.2 Main supply connection	
3.2.3 Remote humidistat connections	
3.3 CONNECTION TO THE CONDENSED WATER DRAINAGE FITTING	pag.11
3.4 DUCTWORK UNIT CONNECTION	pag.11
<u>CHAPTER 4: START UP</u>	pag.12
4.1 PRE-START CHECK	pag.12
4.2 START UP	pag.12
4.3 SIGNALLING LEDS PANEL	pag.12
4.4 FUNCTIONING LIMITS	pag.13
4.5 DEFROSTING	pag.14
4.6 MACHINE STOP (STAND-BY)	pag.14
4.7 REMOTE CONTROL	
pag.14	
<u>CHAPTER 5: CONTROL AND SAFETY DEVICES</u>	pag.15
5.1 CONTROL DEVICES	pag.15
5.1.1 Humidity control switch	
5.2 SAFETY DEVICES	pag.15
5.2.1 High pressure switch	
5.2.2 Low pressure switch	
5.2.3 Defrost thermostat	
5.2.4 Control device of the phase sequences	
<u>CHAPTER 6: MAINTENANCE AND PERIODIC CHECKS</u>	pag.16
6.1 IMPORTANT WARNINGS	pag.16
6.2 GENERAL OBSERVATIONS AND ADVISES	pag.16
6.3 POWER SAVINGS	pag.17
<u>CHAPTER 7: DISPOSAL OF THE UNIT AT THE END OF ITS LIFE</u>	pag.17
<u>CHAPTER 8: TROUBLE SHOOTING</u>	pag.18
8.1 UNIT UNDER ALARM	pag.18

DECLARATION OF CONFORMITY

3



**(Community directives Low Voltage and Electro-magnetic
Compatibility)**

FRAL Company s.r.l. Viale dell'Industria e dell'Artigianato 22/c – 35010 Carmignano di Brenta – PD – hereby declares that the following products:

Dehumidifiers FD160 FD240 series

Have been designed, manufactured and distributed by according to safety and electro-magnetic compatibility to European Norms and Regulations:

**MACHINES NORMS (2006/42/CE - 17.05.2006) ;
SECURITY REGULATIONS FOR LOW TENSION APPLIANCES 2006/95/CE -
12.12.2006;
ELECTROMAGNETIC COMPATIBILITY (EMC) – 2004/108/CE – 15.12.2004.**

It is hereby certified that this Dehumidifier conform to the:
IEC Regulations **CEI-EN 60335-2-40, CEI-EN 55014-1, 55014-2.**
**The machine is built according to RoHS European Norms:
2011/65/UE year 2011 and CEI-EN 50581.**

The Legal Agent
Ing. Alberto Gasparini

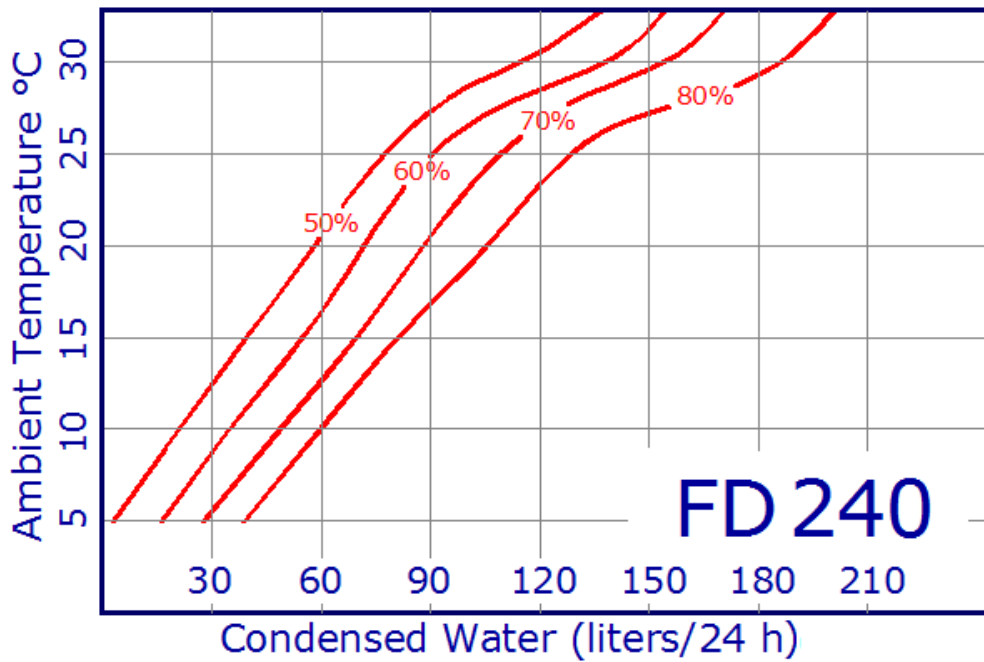
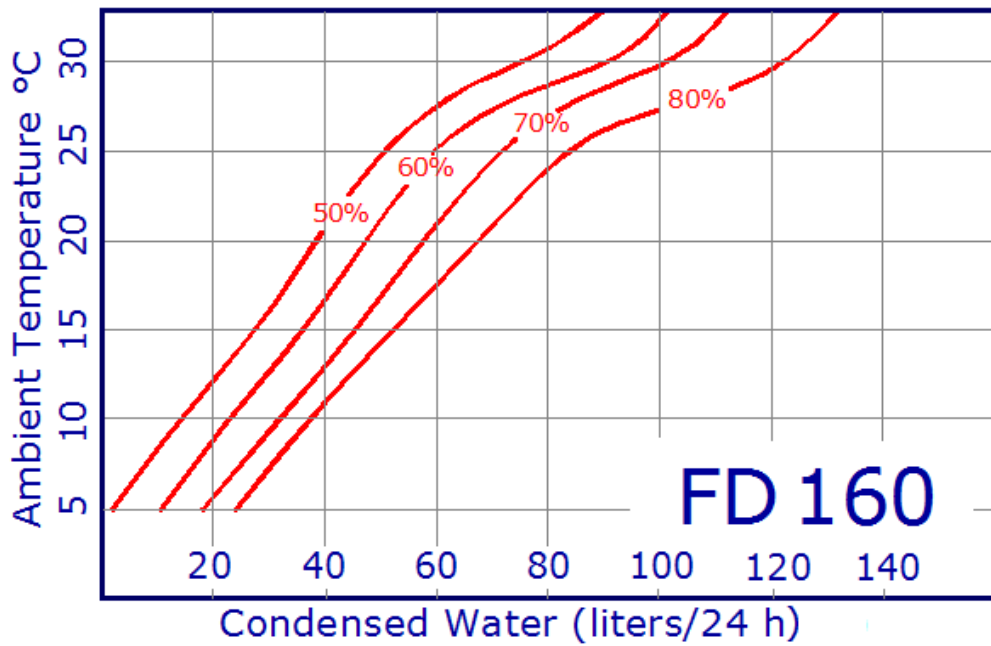
TECHNICAL DATA

	Model	160	240
Drying capacity	l/24h	160 ⁽¹⁾	240 ⁽¹⁾
Rated power consumption	kW	1,7 ⁽³⁾	2,55 ⁽³⁾
Maximum power consumption	kW	2,35 ⁽²⁾	2.95 ⁽²⁾
Maximum current consumption	A	11.5 ⁽²⁾	6.1 ⁽²⁾
Start up current	L.R.A.	33	28
Rated air flow	m ³ /s m ³ /h	0,42 1500	0,56 2000
Available static pressure	Pa	90	100
refrigerant charge (see label)	kg	1,2 R407c	1,7 R410a
Sound pressure level (3m free field)	dB(A)	54	55
Temperatute operating range	°C	7-35 1-35 ⁽⁴⁾	7-35 1-35 ⁽⁴⁾
Humidity operating range	%	40-99	40-99
Condensed Water draining connection	"	¾" M	¾" M
Lenght	mm	980	980
Depth	mm	680	680
Height	mm	490	580
Operating weight	kg	66	72
Rated Power Supply	V/ph/Hz	230/1/50	400/3--N/50

(1) Referred to: inlet air temp. 32 °C relative humidity 90%

- (2) Referred to: inlet air temp. 35 °C relative humidity 80%
- (3) Referred to: inlet air temp. 26.6 °C relative humidity 60%
- (4) S version with hot gas defrost

DRYING CAPACITY



FAN PERFORMANCE

AIR FLOW WITH DIFFERENT HEAD PRESSURES							
Available head pressure (Pa)	0	20	40	60	75	90	105
Air flow cm/h FD160 (min. fan speed)	1800	1700	1600	1600	1500	1400	-
Air flow cm/h FD240 (max. fan speed)	2300	2200	2200	2000	1900	1800	1600

CHAPTER 1: GENERAL POINTS

1.1 AVAILABLE MODELS AND THEIR ACCESSORIES

6

Their electric installation must be carried out by qualified technicians according to the pertinent norms and regulations and in conformity to the requirements of application - installation place.

FD series consists of 2 models with 2 different versions:

FD 160

- Standard Version (mod. FD 160)
- Hot Gas Defrost (mod. FD 160S)
- Hot gas Defrost + Electric Heatres (mod. FD160S+4kW)

FD 240

- Standard Version (mod. FD 240)
- Hot Gas Defrost (mod. FD 240S)
- Hot gas Defrost + Electric Heatres (mod. FD240S+4kW)

Both models are also available in DEHU-CLIMA versions see other specific manual:
 All models can be configured with in-line airflow or top airflow (see chapter 10).

1.2 UTILITY AND CONSERVATION OF THE MANUAL

This Manual conforms to the requirements of the Norms 98/37/CE and subsequent modifications. The Manual gives all necessary indications required for the transport, Installation, start-up and maintenance of the machines, which must be strictly followed by the user for a correct functioning of the same.

To this purpose, the user must also strictly comply with the security norms described in the Manual.

The manual must always follow the machine and must be kept in a place which will guarantee its perfect conservation for the proper use from the operator.

GRAPHIC SYMBOLS AND INDICATIONS INCLUDED IN THE MANUAL:



shows that ATTENTION must be paid to all procedures and operations to be carried out for ensuring the correct functioning of the machine, describes the operations that must be avoided, and finally informs the operator about the correct procedure and operations to be followed for the proper use of the machine.

1.3 NORMS REFERENCES

The machines described in this manual have been designed according to the pertinent CE Norms, in conformity with the MACHINES DIRECTIVES cited in the previous paragraph.

The machines are also complying with the essential requirements of the following European Rules and Directives:

- ✓ Machine Safety Norms 89/392 CEE,
- ✓ Electrical Safety Rules for the Low Tension Appliances 2006/95 CEE,
- ✓ Electromagnetic Compatibility Norms 2004/108 CEE,
- ✓ Under Pressure Devices 97/23/CE.

1.4 GENERAL SAFETY NORMS

This machines series belongs to the electric appliances
functioning at low tension (230 o 400 V).

The installation must be done following all safety norms and laws according with place of
installation.

Please read carefully all safety norms (Chapter 1.4)

When installing or servicing the unit, it is necessary to strictly follow the rules reported on this manual, to conform to all the specifications of the labels on the unit, and to take any possible precautions of the case for workers.

Pressure in refrigerant circuit and electrical equipment present in the unit can be hazardous when installing or servicing the unit



Therefore, all operations on the unit must be done only by trained people.



Not observing the rules reported on this manual, and every modification to the unit done without explicit previous authorisation, will cause the immediate termination of the warranty.



Attention: before every operation of servicing on the unit, be sure that the electric supply is disconnected.



Close to the unit a switched electrical plug must be present.



Main supply must be protected with a differential switch.



Never modify settings of the safety devices.

Never sprinkle water over the unit and its electrical components.



It must not be used under explosive atmosphere

CHAPTER 2: INSPECTION, TRANSPORT AND SITE HANDLING

2.1 INSPECTION

After receiving the unit, immediately check its integrity. The unit left the factory in perfect condition; any eventual damage must be questioned to the carrier and recorded on the Delivery Note before it is signed. Our firm must be informed, within 8 days, of the extent of the damage. The Customer must prepare a written statement of any severe damage.

8

2.2 LIFTING AND SITE HANDLING

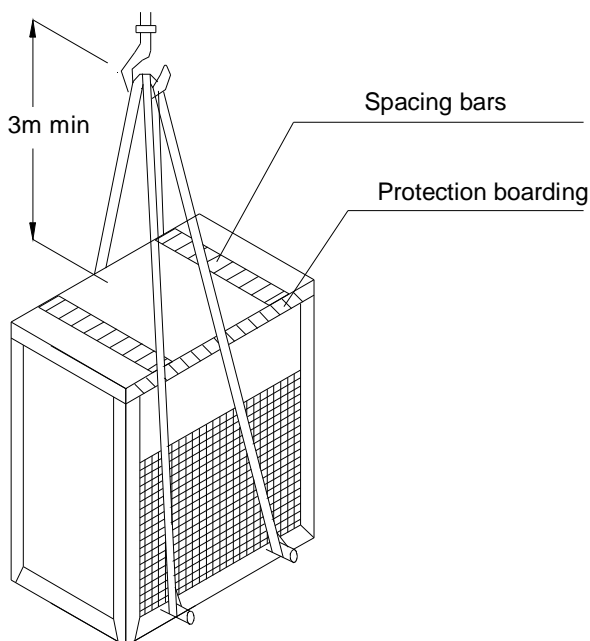
The lifting is obtained by using a forklift: fork must be inserted in the base pallet, and care must be taken in order that the fork does not hit the section base or panel (see the picture below).

To unload the unit with a crane, pass bars under the machine and attach the necessary cable or chain lifting devices to the bar, ensuring that they are clamped firmly; protect the sides of the chiller with boarding or material of a similar nature.

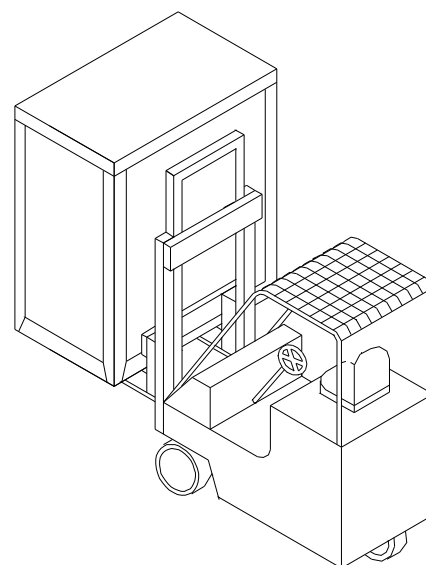
2.3 UNPACKING

When unpacking the unit pay attention not to damage the unit.

The package is made up by different materials: wood, paper, nylon etc. It's a good rule to keep them separately and deliver to the proper collecting centre in order to reduce their environmental impact.



Lifting method with a crane



Lifting method with a forklift

2.4 LOCATION

Consideration must be given to the following points when determining the most suitable site for the unit installation:

- location arrangement in order to guarantee adequate air flow (no narrow spaces)
- electrical power supply location;
- accessibility for servicing/maintenance and repair of the unit and/or its components;
- floor loading strength and ability to support the operating weight of the unit;
- possible objection to operating noise.

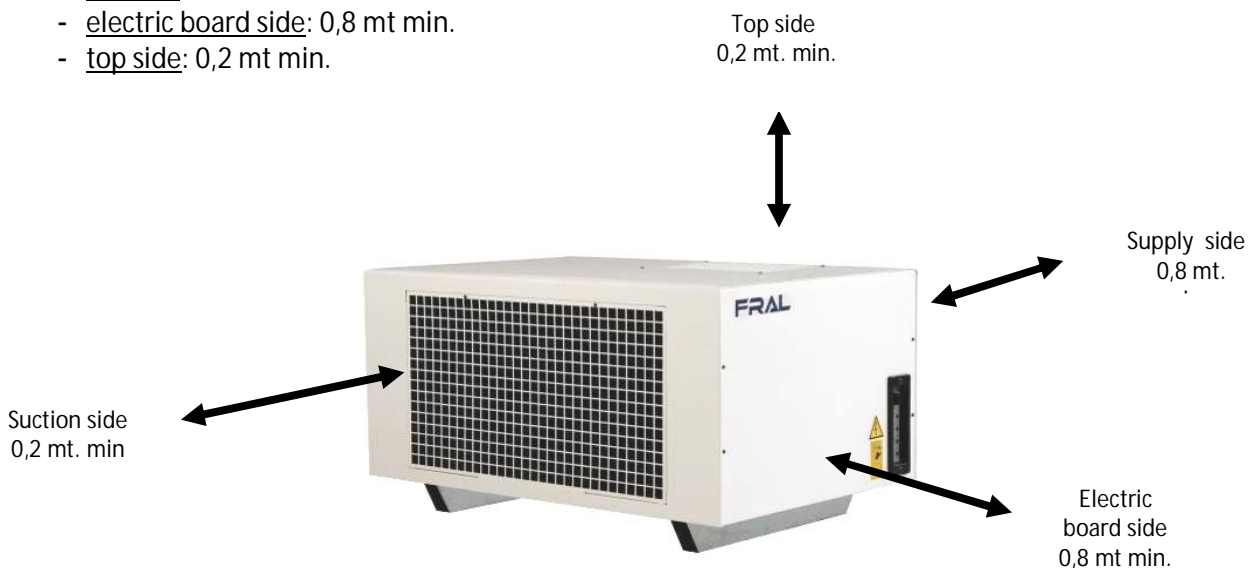
CHAPTER 3: INSTALLATION

3.1 CLEARANCES

Absolute care must be taken to ensure adequate air volume to the air intake and fan discharge, and to avoid air recirculation through the unit that will deeply reduce its performances.

For these reasons it is necessary to observe the following clearances (see the pictures in the following pages):

- air filter suction side: 0,5 mt min.
- fan side: 0,8 mt min.
- electric board side: 0,8 mt min.
- top side: 0,2 mt min.



3.2 ELECTRICAL CONNECTIONS

3.2.1 Generality



Before every operation on the electric section, be sure that the electric supply is disconnected.



Main supply must be protected with a differential switch



Close to the unit a main switch must be present.

10

It must be verified that electric supply is corresponding to the unit electric nominal data (tension, phases, frequency) reported on the label in the front panel of the unit.

Power connections must be made using a three-wire cable + neutral wire + ground cable.



Power cable and line protection must be sized according norm and laws according with absorbed current of the machine (see technical data).

The line voltage fluctuations must not be more than $\pm 5\%$ of the nominal value, while the voltage unbalance between one phase and another must not exceed 2%. If those tolerances should not be respected, please contact our Firm to provide proper devices.



Electric supply must be in the limits shown: in the opposite case warranty will terminate immediately.



Electrical connections therefore must be always done according to the instructions reported on the wiring diagram enclosed with the unit and norms and laws.

Ground connection is compulsory. Installer must connect ground cable with a dedicated terminal on the apposite terminal block.

3.2.2 Main supply connection

The Electric Power Supply Connection must be carried out according to the indications given in the Electric Diagram, by connecting the cable supplied with the machine and according with safety norms.

Models FD160 must be electrically powered with phase-neutral-earth.

Models FD240 must be electrically powered with 3 phase-neutral-earth.

In model FD240, the compressor has only one allowable rotation direction; therefore, the machine has a control device for the phases sequence; in case that it may show a wrong sequence, the device inform you with a blinking light; in this case two phases must be interchanged.

Pay much attention to above indications because the compressor will be damaged if the rotation direction is not correct.

3.2.3 Remote humidistat connections

Remote humidistat connection must be realised according with electric diagram and safety norms. Connections must be done according to the electric wiring diagram specifications.

3.3 CONNECTION TO THE CONDENSED WATER DRAINAGE FITTING

Connect condensed water drainage fitting (3/4" M) to a draining pipe. It should be always avoided to form a double siphon, which could obstruct the water flowing with the consequent risk of flooding the area.

11

3.4 DUCTWORK UNIT CONNECTION (see pag.5 for airflow performances)

All the units are provided with a centrifugal fan that can be ducted.

If only one side should be ducted, a flanged connection with overall dimensions larger than discharge hole should be used.

If either suction side should be ducted, remove suction air filter and its panel, use a flanged connection with overall dimensions larger than suction hole located on the front of the unit and install an air filter into the suction ductwork.



It is very important to install an air filter into the suction ductwork if the filter of the machine itself has been removed. If this filter should not be present, serious damage could occur to the units.

SECTION 4: START UP

4.1 PRE-START CHECK

- ✓ Check that all power cables are correctly connected and all terminals are fastly fixed.
- ✓ The voltage at the phase R S T clamps must be the one indicated on the unit label $\pm 5\%$ tolerance. If this should not happen, please, contact our Factory.



Caution: before proceeding to start up, check that all the cover panel be located in the proper position and locked with fastening screws.

12

4.2 START UP

Before to proceed to start up, close electrical line main switch (not supplied with the unit): the green led (line) will be lit up.

All the units are provided with electronic control that manages all the various functions of the unit.

To start the unit, activate humidity switch by rotating the knob or by pressing the instrument keyboard, depending on the type of instrument installed): the green light (WORKING) will be ON.



For temporary stop (night-time, weekend, etc.) never break the power supply and strictly follow the procedures illustrated at paragraph 4.6.

4.3 SIGNALLING LEDS PANEL

Units are provided with signalling light panel that indicates unit operational status. Below is reported a brief description of their meaning.

Alarm GREEN Light (ALARM): indicates the unit alarm status.



Electrical supply RED Light (POWER): indicates that unit is properly electrically supplied.



Compressor RED Light (WORKING): indicates humidistat call and running compressor status.



Defrost Light (RED): indicates that the defrost cycle is on.



Led status signalling panel



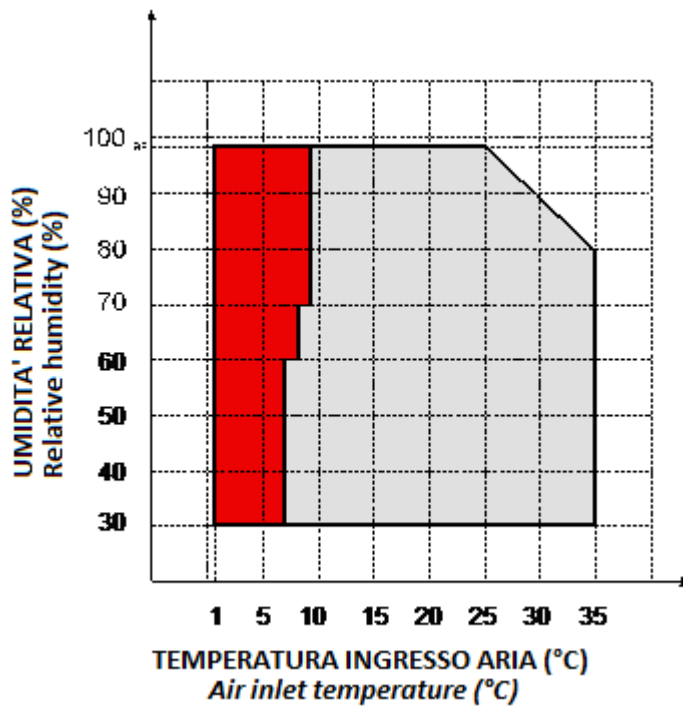
4.4 FUNCTIONING LIMITS

Following Diagram represents FD units application .



It is strongly recommended to let the units operate within the below reported limits. Exceeding these limits it is not granted neither normal operation nor unit reliability and integrity (for special applications, please contact our Company).

Operating Table – standard units



In standard unit applications Table, on the left side is indicated operating limit extension, if unit is provided with hot gas defrost.

4.5 DEFROSTING

The frost which could cover the battery, obstructs the passage of the air, reduces the air contact surface and, consequently, the performance; if the frost accumulation is excessive, it can seriously damage the whole system.

All units are provided with Defrost System.

The standard versions have their defrost simply through the periodic stop of the compressor, using the heat of the environment itself.

In the versions with Hot Gas Defrost System, the defrosting is controlled by the electronic system in combination with a thermostat, the bulb of which is installed inside the evaporator. The defrosting phase in the Hot Gas System takes place only when the thermostat activates it in presence of freeze. During the defrosting time the DEFROST light is ON.

14

4.6 MACHINE STOP (STAND BY)

If the machine is connected, it works with automatic system controlled by a humidostat. When the humidostat activates the defrost system, only the light Power is ON.

When one wishes to turn off the machine, the knob of the humidostat must be set on position OFF.

Before the first Start-up, the machine must be kept in STAND-BY position at-least for 4 hours.

4.7 REMOTE CONTROL

It is possible to use a remote control with the machine. In this case must be used a remote humidostat to be connected to the terminal boxes of the electric panelboard in place of the standard humidostat.

It is also possible to have an ON-OFF switch to be electrically connected in series to the humidostat.

CHAPTER 5: CONTROL AND SAFETY DEVICES

5.1 CONTROL DEVICES

All the control devices are tested on factory before the unit is delivered. Their operating mode is described in the following paragraphs.

5.1.1 HUMIDITY CONTROL SWITCH

Humidity control switch enables or disables unit operation depending on the humidity value desired. To verify its correct operation, rotate the control knob clock wise (or set the desired value through the instrument keyboard if a keyboard instrument should be present) and set the humidity desired value close to lower limit. At this point verify that fan and compressor (after a time delay) will be started in sequence. Verify as well that the unit is stopped when humidity set is reached.

15

5.2 SAFETY DEVICES

All the safety devices are set and tested on factory before they are delivered. Their operating mode is described in the following paragraphs.



All service operations on control and safety devices must be done by **TRAINED PEOPLE ONLY**: wrong setting values of the mentioned devices could cause serious damage to the unit and injuries to the people.

5.2.1 HIGH PRESSURE SWITCH

High pressure switch stops the unit when the discharge pressure exceeds its pre-set limit value. The reset is manual (by pressing the push-button at the top of the pressure switch located in the electric panel) and can be done only when pressure is decreased below the device reset value (see table below).

5.2.2 LOW PRESSURE SWITCH

Low pressure switch stops the unit when the suction pressure decreases below its limit pre-set value. The reset is automatic and it occurs only when pressure is higher than the device differential resetting value (see table below).

5.2.3 DEFROST THERMOSTAT (only in S version)

This device signals to electronic control that defrost procedure is needed (see paragraph 4.5).

When defrost cycle is activated, defrost thermostat will control its conclusion.

CONTROL DEVICES	ACTIVATION	DIFFERENTIAL	REINSERTION
High pressure switch R407c(bar)	29	7.7	Manual
High pressure switch R410a (bar)	42	33	Manual
Low pressure switch (bar)	0.7	1.4	Automatic
Defrost temperature switch (°C)	1	3	Automatic

5.2.4 CONTROL DEVICE OF THE PHASE SEQUENCES (not available in model FD160)

Since the rotative compressors can function only in one rotating direction, this device controls that the phases be correctly connected.

In case they may not be correctly connected, the machine will not start, a light will begin to flash in the relays and on the panel the green light ALARM will be ON.

CHAPTER 6: MAINTENANCE AND PERIODIC CHECKS

6.1 IMPORTANT WARNINGS



All this operation described in this chapter **MUST BE DONE BY TRAINED PEOPLE ONLY**



Before every operation of servicing on the unit, be sure that the electric supply has been disconnected.



In the inner side of the unit movable parts are present. Be very careful when operating in their surroundings.



A portion on the compressor shell and discharge line are usually at high temperature level. Be very careful when operating in their surroundings.



Aluminium coil fins are very sharp and can cause serious wounds. Be very careful when operating in their surroundings.



After servicing operations, close the unit with cover panels, fixing them with locking screws.

6.2 GENERAL OBSERVATIONS AND ADVISES

It is a good rule to carry on periodic checks in order to verify the correct working of the unit:

- ✓ Check that safety and control devices are working correctly (monthly).
- ✓ Make sure that all the terminals on the electric board and on the compressor be well locked. Periodic cleaning of the sliding terminals of the contactors should be done: if any damage is found, please replace the contactors (monthly).
- ✓ Make sure that there is no oil leakage from compressor (monthly).
- ✓ Check that the electric resistance in the compressor crankcase be properly functioning (monthly: low temperature units only).

- ✓ Clean draining pan and pipeline (monthly).
- ✓ Clean finned coils filters with compressed air in the opposite direction of the airflow. If filters should be fully clogged, clean them with a water jet to be sprayed against the air flow side (monthly or more frequently if the unit operates on a dusty environment).
- ✓ Check mounting of fan blades and their balancing (every 4 months).
- ✓ Make sure that the unit is not too noisy (every 4 months).

6.3 POWER SAVINGS

To reduce power consumption, take care of following suggestions :

- ✓ Make sure that room in which unit should operate has doors and windows firmly closed;
- ✓ Set the humidity control switch to the proper value: lower set values than necessary (even few points) may cause great capacity loss with consequently longer operating periods: it is advisable to set humidity values below 60% only if strictly necessary.
- ✓ For the machine which has a second condenser (monoblock or split system) check every month if the heat exchanger is clean and free from room dust, and check the efficiency of the motorfan.

CHAPTER 7: DISPOSAL OF THE UNIT AT END OF ITS LIFE

Once the unit is arrived at the end of its life and needs to be removed or replaced, the following operations are recommended:

- ✓ the unit refrigerant has to be recovered by trained people and sent to proper collecting centre;
- ✓ compressor lubricating oil has to be recovered and sent to proper collecting centre;
- ✓ the frame and various components, if no longer usable, have to be dismantled and subdivided according to their nature; in particular, copper and aluminium, which are present in conspicuous quantity in the unit.

These operations allow easy material recovery and recycling process, reducing environmental impact. It is recommended to follow the pertinent norms in the disposal of the wasted materials.

CHAPTER 8: TROUBLE SHOOTING

In the following pages are reported the most common troubles that can cause the unit to stop or to operate in an uncorrect way.



Concerning the solutions, it is necessary to take an extreme care on the actions to adopt: an excessive confidence may cause serious accidents to inexperienced people. It is advisable, once the cause is detected, to contact our servicing people or trained people only.

8.1 UNIT UNDER ALARM

18

When red light is lit up, the unit is stopped and set under alarm condition.

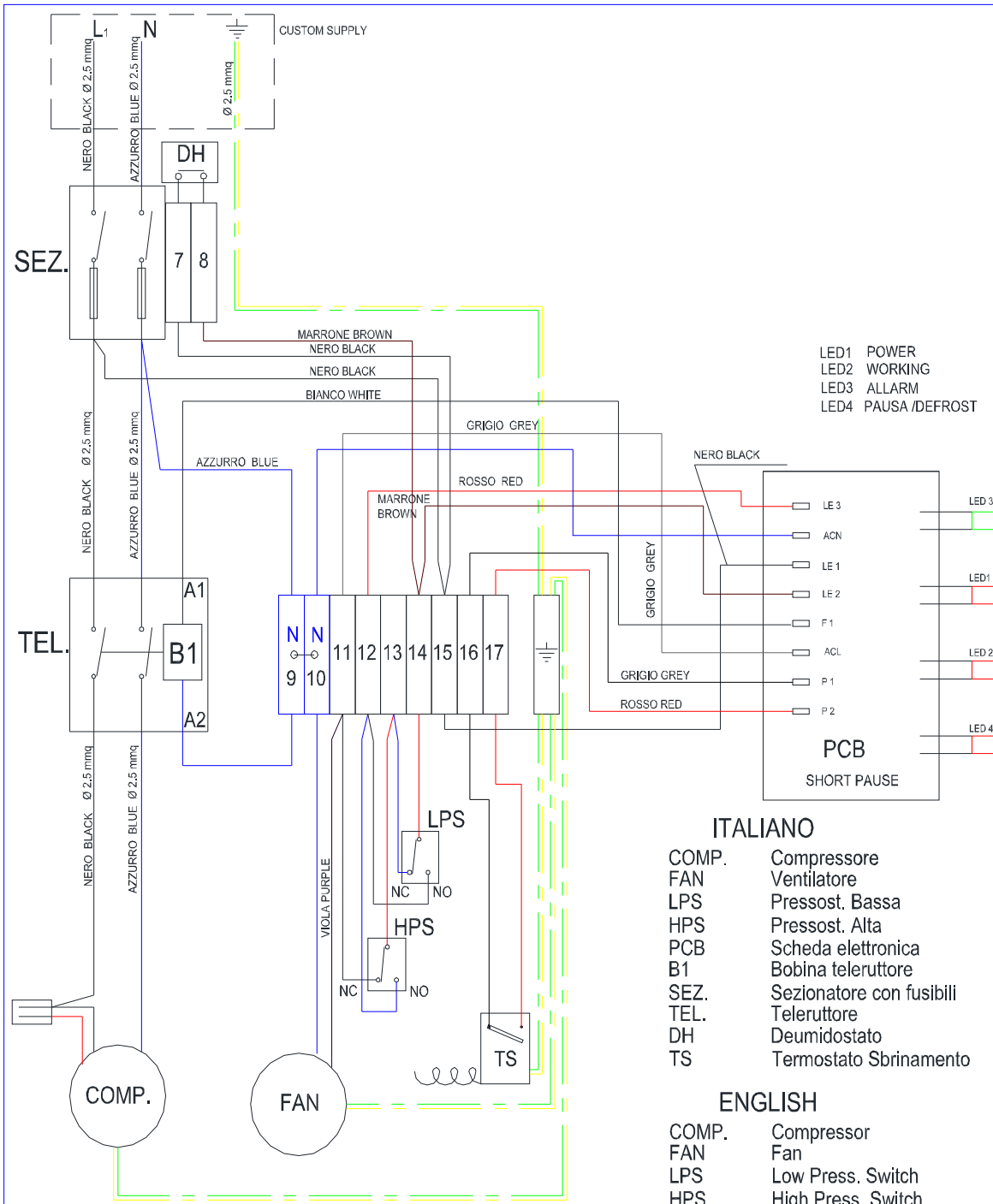


To restore normal operating mode, it is necessary to detect and remove the cause of the alarm

SYMPTOMS	LIGHTS ON	PROBABLE CAUSE	POSSIBLE REMEDIES
A			
Unit does not start and alarm Green Light is OFF	None	Power supply, missing fuses open	Provide power supply, replace fuses
	Power supply light	Too high humidity set	Set a lower humidity set point
	Any red light	Electronic board or Lights board defective	Replace defective board
	Power supply Light, Defrost Light	Electronic board or Lights board defective	Replace defective board
	Power supply Light, Working Light	Compressor inside thermal protection activated, compressor defective, fan defective	Let the compressor cool down, replace defective compressor, replace defective fan

SYMPTOMS	LIGHTS ON	PROBABLE CAUSE	POSSIBLE REMEDIES
<i>B</i>			
Fan starts, compressor does not start, but green alarm is off	Power supply Light, Working Light	Compressor thermal protection enabled, compressor defective	Let the compressor cool down, replace defective compressor
	Any red light	Electronic board or Light board defective	Replace defective board

SYMPTOMS	LIGHTS ON	PROBABLE CAUSE	POSSIBLE REMEDIES
<i>C</i>			
Unit doesn't start, and green alarm led is on	Green alarm led, Flashing relays Light (only 240)	Wrong Sequences in the phases connection	Invert two phases
	Green alarm led	High pressure switch off, air filter clogged	Clean filter and reset High pressure switch
	Green alarm led	High Pressure Switch off (opened panel, too low air flow, suction side obstructed)	Close the panel, clean suction side, reset high pressure switch
	Green alarm led	Low pressure switch off caused by low refrigerant charge (automatic reset)	Verify if leachages, charge the system
	Any led	Electronic board or led board defective	Replace defective board



LED1 POWER
LED2 WORKING
LED3 ALLARM
LED4 PAUSA /DEFROST

ITALIANO

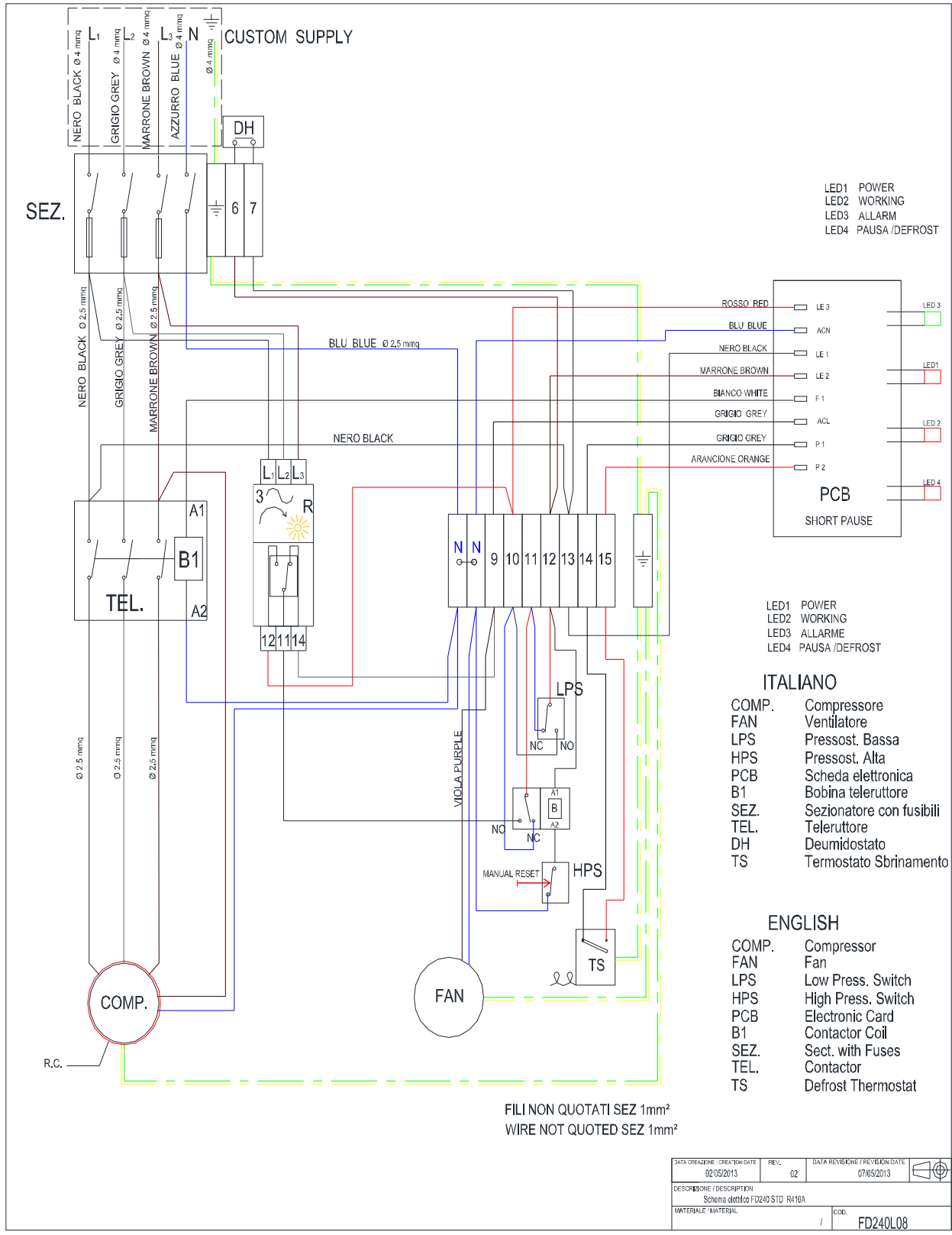
- COMP. Compressore
- FAN Ventilatore
- LPS Pressost. Bassa
- HPS Pressost. Alta
- PCB Scheda elettronica
- B1 Bobina teleruttore
- SEZ. Sezionatore con fusibili
- TEL. Teleruttore
- DH Deumidostat
- TS Termostato Sbrinamento

ENGLISH

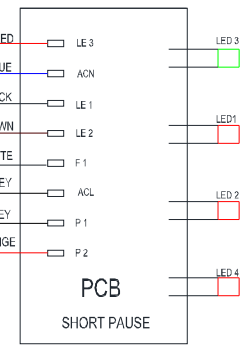
- COMP. Compressor
- FAN Fan
- LPS Low Press. Switch
- HPS High Press. Switch
- PCB Electronic Card
- B1 Contactor Coil
- SEZ. Sect. with Fuses
- TEL. Contactor
- DH Dehumidostat
- TS Defrost Thermostat

FILI NON QUOTATI SEZ 1mm²
WIRE NOT QUOTED SEZ 1mm²

DATA CREAZIONE / CREATION DATE 02/11/2011	REV. 02	DATA REVISIONE / REVISION DATE 28/05/2013	
DESCRIZIONE / DESCRIPTION Schema elettrico FD160 STD			
MATERIALE / MATERIAL /		COD. FDL19028	



LED1 POWER
LED2 WORKING
LED3 ALLARM
LED4 PAUSA /DEFROST



LED1 POWER
LED2 WORKING
LED3 ALLARME
LED4 PAUSA /DEFROST

ITALIANO

- COMP. Compressore
- FAN Ventilatore
- LPS Pressost. Bassa
- HPS Pressost. Alta
- PCB Scheda elettronica
- B1 Bobina teluruttore
- SEZ. Sezionatore con fusibili
- TEL. Teluruttore
- DH Deumidostato
- TS Termostato Sbrinamento

ENGLISH

- COMP. Compressor
- FAN Fan
- LPS Low Press. Switch
- HPS High Press. Switch
- PCB Electronic Card
- B1 Contactor Coil
- SEZ. Sect. with Fuses
- TEL. Contactor
- TS Defrost Thermostat

FILI NON QUOTATI SEZ 1mm²
WIRE NOT QUOTED SEZ 1mm²

DATA CREAZIONE / CREATION DATE	REV.	DATA REVISIONE / REVISION DATE	
02/05/2013	02	07/05/2013	
DESCRIZIONE / DESCRIPTION			
Schema elettrico FD240 STD R410A			
MATERIALE / MATERIAL		COD.	
		FD240L08	

CHAPTER 10: DRAWING (lay out)

