

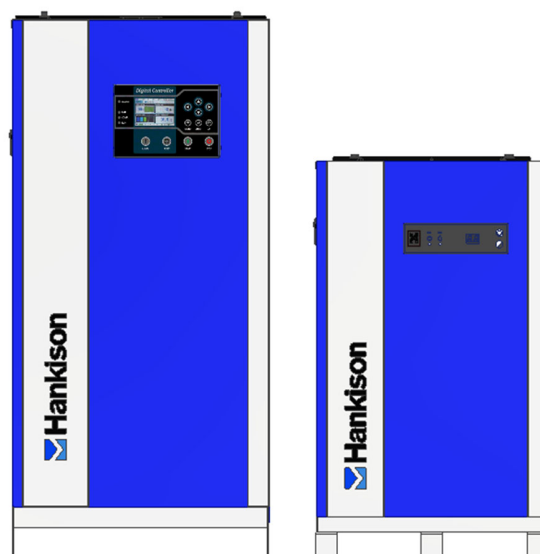
FLXA Series

Refrigerated Type Compressed
Air Dryers

MODELS: FLXA1.1-A, FLXA 1.2-A,
FLXA 1.5-A, FLXA 2.1-A,
FLXA 3.1-A, FLXA 4.5-A
FLXA 5.5-A

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INTRODUCTION

Compressed air is generated by compressing atmospheric air which contains moisture and other contaminants, into high pressure air. After compression, the air is not saturated but when it is cooled by the aftercooler, the RH remains 100%.

If it travels down the pipeline and cools further, moisture starts to condense into liquid water. Condensate water in the pipeline is harmful to the manufacturing process as it causes rust or sludge etc.

To avoid this problem, the only solution is to dry the compressed air with an air dryer. Refrigerated compressed air dryers are used as a cost effective and energy efficient solution for eliminating moisture from the compressed air system.

The discovery of using phase change material (PCM) as a component in the refrigerated compressed air dryer to produce latent heat has encouraged great energy savings. Through latent heat properties, it can save up to 99% of energy at no load condition. This is indeed a breakthrough in refrigerated compressed air dryer technology.

SAFETY

The dryers are designed and built with safety as a prime consideration; industry accepted safety factors have been used in the design. Each dryer is checked at the factory for safety and operation. All necessary adjustments are made before shipment.

Follow the maintenance schedules outlined in this manual for good performance and safe operation.

Only qualified personnel with proper tools should do maintenance.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or

Allow access to the device only to qualified personnel

Safety instructions in this manual used to indicate hazard seriousness levels are classified as follows:

▲ DANGER

Immediate hazard which WILL result in severe injury or death.

▲ WARNING

Hazard or unsafe practice which COULD result in severe injury or death.

▲ CAUTION

Hazard or unsafe practice which COULD result in minor injury or product damage.

▲WARNING

Carefully read the following safety rules before proceeding with installation, operation or maintenance. The rules are essential to ensure safe dryer operation. Failure to follow these rules may avoid the warranty or result in dryer damage or personal injury also for Installation only in locations not accessible to the general public.

1. Do not install or try to repair a dryer that has been damaged in shipment. See Receiving and Inspection for instructions.
2. Compressed air and electricity have the potential to cause personal injury or equipment damage. Before doing any work on the dryer, be sure the electrical supply has been locked and tagged, and the internal pressure of the dryer has been vented to the atmosphere.
3. Do not operate the dryer at pressures or temperatures above the maximum conditions shown on the data plate.
4. Always supply electrical power that complies with the voltage shown on the data plate.
5. Do not readjust the dryer without factory authorization.
6. Do not operate the dryer with any dryer cabinet panel removed.

▲WARNING

Cooling air flow across the condenser may be reduced if a dryer panel has been removed while the dryer is operating, resulting in the dryer not functioning properly and/or dryer failure. Failure to follow these instructions may result in a non-warrantable dryer failure.

7. Only a competent refrigeration mechanic works on the refrigeration system.
8. Use only manufacturer's genuine replacement parts. The manufacturer bears no responsibility for hazards caused using unauthorized parts.

INSTALLATION

Inspect the dryer closely when it is received. Record any indication of damage on the delivery receipt, especially if the dryer will not be immediately uncrated. Obtain the delivery person's signed agreement to recorded damages to facilitate future insurance claims.

Since the dryer is shipped F.O.B. Factory, the manufacturer's responsibility for the shipment ceases when the carrier signs the bill for lading.

If goods are received short or in damaged condition, notify the carrier and insist on a notation of the loss or damage across the face of the freight bill. Otherwise, no claim can be made against the carrier.

If concealed loss or damage is discovered, notify your carrier at once and request an inspection. This is necessary. Unless you do this, the carrier will not consider any claim for loss or damage. The carrier will inspect and may grant a concealed damage notation. If you give the carrier a clear receipt for the goods that have been damaged or lost in transit, you do so at your own risk and expense.

The manufacturer is willing to assist you in collecting claims for loss or damage. Willingness does not make the manufacturer responsible for collecting claims or replacing material. Claim filing and processing is your responsibility.

Ambient Air Temperature

Locate the dryer indoors where the ambient air temperature will be between 36°F (2°C) and 110°F (43°C). Intermittent operation at ambient temperatures up to 110°F (43°C) will not damage the dryer but may result in a higher dew point or dryer shutdown due to high refrigerant discharge pressure (see Field Service Guide). Call your local distributor if prolonged operation at ambient temperatures above 110°F (43°C) or below 36°F (2°C) is unavoidable.

Do not operate air-cooled dryers at ambient air temperatures below 39°F (4°C). Such operation may result in low suction pressure, causing freeze-up.

Location and Clearance

Mount the dryer on a level base and bolt down if the base vibrates. If the dryer is air cooled, install it in a clean, well-ventilated area to reduce fouling of the condenser coils with dirt and dust.

Allow 39 inches (1000 mm) clearance on the sides and the front of the dryer for cooling airflow on air-cooled dryers and for service access on air-cooled dryers.

System Arrangement

Liquid water adversely affects dryer performance. To prevent "slugging" the dryer with liquid water, locate the dryer downstream of an after cooler and a mechanical separator. Install drain valves to discharge condensate that collects in these areas.

If the airflow is relatively constant and will not cause short term overloading of the dryer, it is recommended that the dryer be located downstream of the receiver tank. If the nature of the application is such that the air demand regularly exceeds the dryer flow rating, it is recommended that the dryer be located upstream of the receiver.

For safety and convenience, install inlet and outlet shutoff valves and depressurization valves at the locations indicated. These valves allow the dryer to be isolated and depressurized for servicing. Bypass piping may be installed around the dryer for uninterrupted airflow when the dryer is serviced. If the compressed air operation cannot tolerate wet air for short periods, install a second dryer in the bypass line.

Compressed air systems commonly require filters to remove compressor oils, particulates, condensed liquids and other contaminants. When an oil-removal filter is used, install the filter downstream of the dryer. At this location, the life of the replaceable filter element is prolonged since the dryer removes some of the entrained oil and drained through the separator.

Piping and Connections

The user must furnish piping unless otherwise specified. Connections and fittings must be rated for the maximum operating pressure given on the dryer data plate and must be in accordance with applicable codes. Support all piping; do not allow the weight of any piping to stress the dryer or filters. Inlet and outlet shutoff valves and bypass valves are recommended. Piping should be at least the size of the inlet and outlet connections to minimize pressure drop in the air system. See General Arrangement drawings for dryer inlet and outlet connection sizes.

Drains

To minimize air losses, the drain valve control time should be adjusted to open the drain port just long enough to discharge accumulated condensate and it controlled by PCB. Set the drain valve operating time so that only air discharges at the end of the open period. Recommended initial settings are a 1 to 4 second drain opening and 60 seconds drain closed time. If liquid still discharges as the port is closing, set the timer for a shorter cycle or a longer opening.

NOTE: Discharge is at system pressure. Drain line should be anchored.

NOTE: Condensate may contain oil. Comply with applicable laws concerning proper disposal.

Electrical Connections

⚠WARNING

Operation of dryers with improper line voltage constitutes abuse and could affect the dryer warranty.

The dryers are constructed according to NEMA Type 1 electrical standards. Field wiring must comply with local and national fire, safety and electrical codes. Installation must be in accordance with the National Electrical Code. Confirm that your line voltage is the same as the voltage listed on the dryer data plate. Refer to Figures 9A, 9B and 9C electrical schematics.

If the SUPPLY CORD is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

HOW IT WORKS

Phase Change Mechanism of the FLXA Dryer

1. When the refrigeration compressor and the condenser fan are running, the cold refrigerant in the chiller (evaporator) cools the liquid Phase Change Material (PCM) which gradually solidifies.
2. When the PCM is sufficiently cooled and solidified, the refrigeration compressor and condenser fan will stop.
3. The compressed air is continuously cooled by PCM while the refrigeration compressor is inactive. No power is consumed during this period.
4. The PCM gradually liquefies as it absorbs heat from the compressed air, and when fully melted, the refrigeration compressor and condenser fan resume to cool the PCM.

Compressed Air Flow

The dryers use refrigeration cooling to condense entrained moisture out of the air stream. Warm saturated air enters the air-to-air heat exchanger where it is cooled by outgoing cold air. The inlet air is further cooled in the refrigeration chiller. The condensate is removed from the air stream by an electronic drain valve.

The cold, dry air is reheated by incoming warm air as it passes back through the air-to-air heat exchanger. Using the outgoing air to pre-cool the inlet air condenses up to 65 percent of the moisture out of the inlet air before it reaches the chiller. Pre-cooling the inlet air reduces the heat load on the refrigerant compressor, permitting the use of a smaller refrigerant compressor.

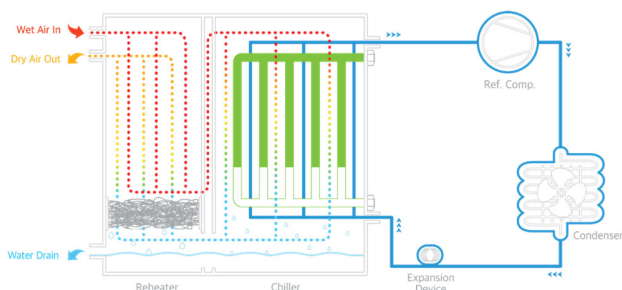


Figure 2.
Schematic diagram of the compressed air flow and refrigerant

CONTROLLER

Energy Saving Controller 5.1

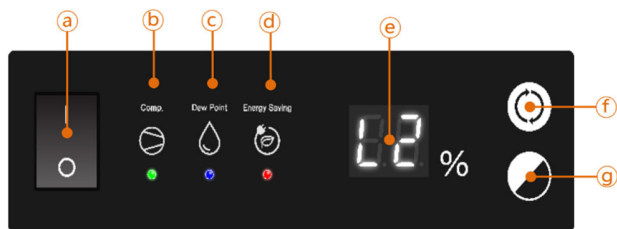


Figure 2. Energy Saving Controller 5.1

- Ⓐ : POWER ON/OFF SWITCH
- Ⓑ : Ref. Comp. Running light
- Ⓒ : Dew Point Light
- Ⓓ : Energy Saving Light
- Ⓔ : Energy Saving or Dew Level
- Ⓕ : Select for displaying E/S or Dew Level
- Ⓖ : Select for Displaying Operated Time or EDV Timer Setting Mode

- ES-CON 5.1 displays energy savings and dew point temperature.
- To start the dryer, simply turn on the main power switch (Ⓐ) after applying power.
- The refrigeration compressor is set to automatically turn on and off according to load changes. The "Ⓑ" lamp lights up when the refrigeration compressor is operating.
- The FND display "Ⓔ" displays the dew point level as shown below.

Temperature Range	Less than 4°C	4°C ~ 8°C	9°C ~ 12°C
Level display	11	12	13

Temperature Range	13°C ~ 16°C	More than 17°C	
Level display	14	15	

5. Alarm Function

If the refrigeration compressor stops due to overload or high-pressure switch operation, the LED lamps (Ⓑ) + (Ⓒ) + (Ⓓ) will flash at 1-second intervals, and the alarm number will be displayed on "Ⓔ."

Display Content	Definition
11	Displayed when there is no compressor operation signal (feedback) (operation stopped)
12	Displayed when temperature sensor T1, T2 is open or short (continues to operate)
13	Abnormal Sensor Temperature The detected sensor temperature is outside the normal range. - There may be a refrigerant leak or a compressor malfunction. - The sensor may be faulty
14	This is a configuration window for selecting the contact type of the alarm output relay (NO/NC selectable) - NO (Normally Open): Relay contact opens when alarm is active. (Default setting) - NC (Normally Closed): Relay contact closes when alarm is active.

6. How to Set the Drain

- Press Key (Ⓕ) five times while holding down Key (Ⓖ).
- Each time Key (Ⓕ) is pressed, the display changes sequentially to dt, dr, rr, On, CL, Co, CF, CS, Cd, and rY.
- Change the menu to On, then press Key (Ⓕ) to set the on time.
- Change the menu to CL, then press Key (Ⓕ) to set the close time.
- Save the mode and return to normal mode: Press Key (Ⓖ) to save and exit to normal mode.
- To force drain, press the Key (Ⓖ) for 3 seconds.
- Please set the on time and off time by referring to the table below.

Setting Time	unit	Setting Value								
On Time	(Sec)	0.5	1	2	3	4	5	7	9	Full open
Displayed (e)		05	1_	2_	3_	4_	5_	7_	9_	F_
Close Time	(Min)	0.5	1	2	3	5	7	9	10	15
Displayed (e)		05	_1	_2	_3	_5	_7	_9	10	15

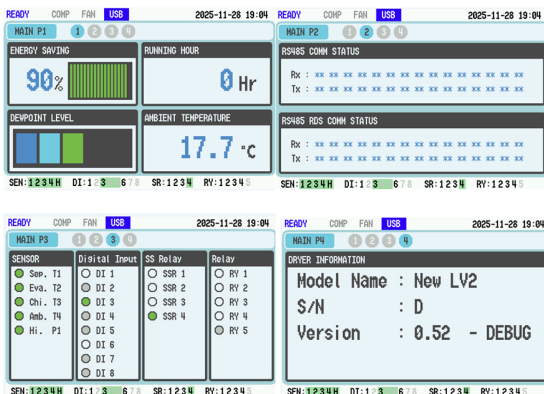
Energy Saving Controller 3.1



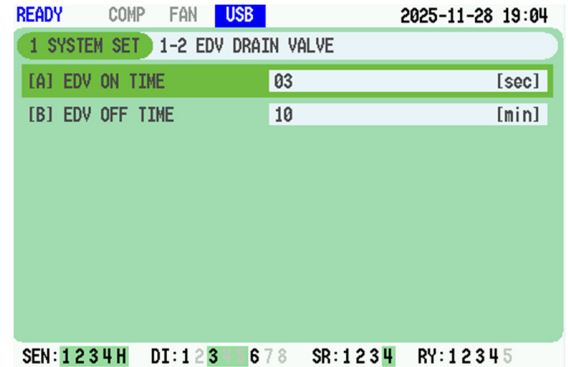
Figure 3. Energy Saving Controller 3.1

- Ⓐ: START_ Starts the air dryer
- Ⓑ: STOP_ Stops the air dryer
- Ⓒ: MENU_ Switches from the main screen to the menu screen
- Ⓓ: ENTER_ Selects a menu and saves settings
- Ⓔ: ESC_ Cancels a selection, holds an alarm when an alarm occurs
- Ⓕ, Ⓖ, Ⓗ, Ⓘ: (directional keys)_ Switches between screens and changes settings in the menu
- Ⓙ: LCD panel_ Status display and settings
- Ⓚ: ALARM_ Lights up when the air dryer fails
- Ⓛ: FAN_ Lights up when the fan is running
- Ⓜ: COMP_ Lights up when the comp is running
- Ⓝ: RUN_ Lights up when the air dryer is running
- Ⓞ: ALARM_ Checks the details of multiple faults when they occur
- Ⓟ: RESET_ Clears the fault Troubleshooting when a fault occurs

- The ① LCD panel of the Controller ES-Con3.1 displays energy savings, operating time, and dew point level.
- To start the dryer, turn on the power and press START Ⓐ. The dryer will begin operating.
- Press Ⓕ or Ⓙ on the initial screen to check the information below.



- Ⓒ: Press the MENU button to configure RS485 communication settings, check alarm history, Time Settings, Language Settings, Drain time settings.
- Press the “Menu button” and go to “Drain time Settings” and Select 1 -2 Drain time Settings to adjust the drain time.
※ Use the ⒻⒼⒽⒾ buttons to move through the menus and the ENTER button Ⓓ to select a menu and save the settings.
After saving, press the Ⓔ: ESC button to cancel the selection or return to the menu.



- To force drain, press the Key (Ⓗ) for 3 seconds.
- Alarm display

ALARM LIST (Caution)		
NO	Definition	Display Content
1	NO LOSS Drain Fault	C01
2	Pressure transmitter range error	C02
3	EDV Drain Fault	C03

ALARM LIST (Abnormal)		
NO	Definition	Display Content
1	Ref. Compressor Feedback Signal Loss (comp MC + HPS)	E01
2	Fan moter Feedback signal Loss (Fan MC)	E02
3	Ref. Compressor over current trip	E03
4	Fan moter over current trip	E04
5	Temperature Sensor #1 Open	E05
6	Temperature Sensor #2 Open	E06
7	Temperature Sensor #3 Open	E07
8	Temperature Sensor #4 Open	E08
9	Temperature Sensor #1 Range	E09
10	Temperature Sensor #2 Range	E10
11	Temperature Sensor #3 Range	E11
12	Temperature Sensor #4 Range	E12
13	Low pressure Trip	E13
14	RDS Leak Detect	E14
15	RDS Comunication error	E15
16	RDS Fault	E16

START-UP/OPERATION

Never use the disconnect switch to shut down the dryer for an extended period (except for repair). Failure to follow these instructions may result in a non-warrantable compressor failure.

IMPORTANT: For models FLXA 1.5-A through FLXA 5.5-A, energize dryer for 24 hours prior to starting refrigerator compressor! Failure to follow these instructions may result in a non-warrantable compressor failure.

Follow the procedure below to start your dryer. Failure to follow the prescribed start-up procedure will invalidate the warranty. If problems arise during start-up, call your distributor. Before repair, vent the internal pressure of the dryer to atmospheric pressure.

Before starting dryer

Drain connections must be made before the dryer can be operated. The dryers are fully automatic and require no auxiliary controls.

1. Turn the dryer on/off switch to off.
2. Check that the main electrical supply voltage matches the voltage specified on the dryer data plate.
3. Check proper connection and support of compressed air lines to the dryer; check bypass valve system, if installed.
4. SLOWLY pressurize the dryer. The outlet valves of the dryer should be closed to prevent flow through the dryer.
5. Turn on the main electrical power to the dryer.
6. Ensure adequate ventilation for air cooled dryers.
7. Do not operate the dryer with any dryer cabinet panel removed.

⚠ WARNING

Cooling air flow across the condenser may be reduced if a dryer panel has been removed while the dryer is operating, resulting in the dryer not functioning properly and/or dryer failure. Failure to follow these instructions may result in a non-warrantable dryer failure.

To start dryer

IMPORTANT: For models FLXA 1.5-A through FLXA 5.5-A, energize dryer for 24 hours prior to starting refrigerator Compressor! Failure to follow these instructions may result in a non-warrantable compressor failure.

1. Turn the power switch to ON. The refrigerant compressor will turn on.
2. Allow the dryer to run for 15 minutes.
3. Slowly open the dryer outlet valves permitting flow through the dryer.
4. Confirm that condensate is discharging from the drain valve by pressing the "Push-to Test" button.
5. Confirm that the inlet air temperature, pressure and airflow to the dryer meet the specified requirements (see Engineering Data section).

6. Confirm that the condensate lines from the drain valve discharge into a collection tank or an environmentally approved disposal system.

The FLXA dryer is designed to run and stop repeatedly. Let the FLXA dryer operate even when the demand for compressed air is interrupted; the FLXA dryer will not freeze up.

Shutdown

When the dryer must be shut down for maintenance or other reasons, use the following procedure.

1. Turn off the power switch.
2. Disconnect the main power supply.
3. Lock out and tag the power supply in accordance with OSHA requirements.

If mechanical repairs are to be made or service is performed, vent the internal pressure of the dryer to atmospheric pressure. Restart the dryer according to the start-up instructions.

Disconnect power supply and depressurize dryer before servicing. Dismantling or working on any component of the compressed air system under pressure may cause equipment failure and serious personal injury.

MAINTENANCE

The FLXA Dryer requires little maintenance for satisfactory operation. Good dryer performance can be expected if the following routine maintenance steps are taken.

General

For continued good performance of your refrigerated dryer, all refrigeration system maintenance should be performed by a competent refrigeration mechanic.

NOTE: Before corrective maintenance is done during the warranty period, call your local distributor and proceed according to instructions. Refer to the warranty for limits of your coverage.

Daily Maintenance

Check the operation of the drain valve at least once daily. See the Field Service Guide for remedies to drain valve malfunctions.

Monthly Maintenance

It is recommended to inspect the condenser coils monthly. If necessary, remove dirt or other particles with compressed air from an OSHA-approved air nozzle that limits its discharge pressure to 30 psig (2.1 kgf/cm²).

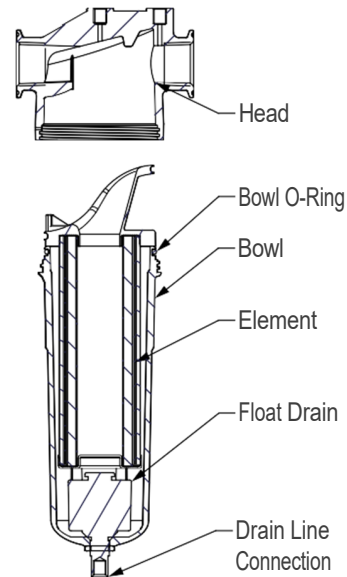
Yearly Maintenance

It is recommended to replace the drain service unit annually.

For units purchased with mounted filtration, replace prefilter and after filter elements annually.

Maintenance kits are available to facilitate annual maintenance.

Models: FLXA 1.1-A, FLXA 1.2A, FLXA 1.5-A, FLXA 2.1-A, FLXA 3.1-A



Models: FLXA 4.5-, FLXA 5.5-A

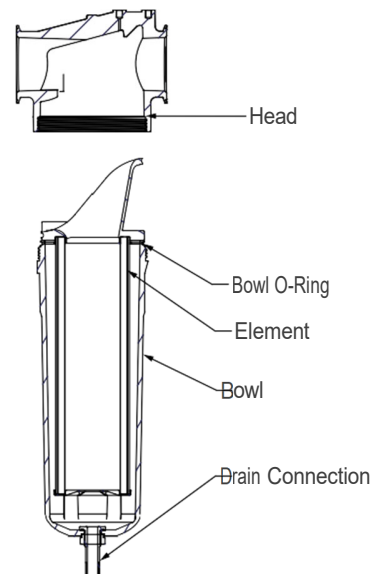


Figure 4. Mounted Filtration

FIELD SERVICE GUIDE

PROBLEM	SYMPTOM	POSSIBLE CAUSE	REMEDY
Water downstream of dryer.	No discharge from drain valves.	Drain valve failure or accumulation of dirt in drain valve strainer.	Dismantle drain valve: clean, repair or replace. See maintenance section.
	Inlet air temperature is too high.	Aftercooler malfunction.	Check aftercooler discharge temperature. Reduce temperature to 122°F (50°C) max.; reduce airflow if temperature is above 95°F (35°C).
	Liquid water entering dryer.	Aftercooler drain valve malfunction.	Dismantle aftercooler drain valve; clean, repair or replace.
	Excessive airflow (may also cause high pressure drops).	Dryer is improperly sized.	Check airflow and dryer capacity (See Engineering Data Tables). Reduce airflow or resize and replace dryer.
	Compressor cuts out on internal overload.	Inadequate ventilation of refrigerant compressor.	Ensure adequate ventilation of the condensing unit (see Clearance). Motor will restart automatically when compressor is cool.
		Leak in refrigeration system.	Locate leak, repair and recharge. Motor will restart automatically when compressor is cool.
	Compressor windings read open or shorted.	Compressor burned out.	Have a refrigeration mechanic check and replace.
	The dew point level is red on LCD window.	Inlet air temperature too high.	Reduce aftercooler discharge temperature to design conditions (See Engineering Data Tables).
		Excessive airflow.	Check airflow and system capacity. Reduce airflow or resize and replace system.
		Condenser fouled or clogged.	Clean or replace condenser.
		Fan motor inoperative.	Replace fan motor.
		High ambient temperature.	Ventilate area. See Engineering Data Tables.
High pressure drop across dryer.	Inlet air temperature is too low.	Low ambient temperature.	Consult your local distributor.
	Excessive airflow (may also cause water downstream of dryer).	Dryer is improperly sized.	Check airflow and dryer capacity. Reduce airflow or resize and replace dryer.
	Dryer icing up.		Adjust operating conditions to meet sizing conditions.
No condensate from drain valve.	Valve venting. But no condensate from valve.	Accumulation of dirt in valve strainer.	Dismantle valve strainer. Strainer clean or replace.
	Valve continuously venting.	Clogged valve orifice.	Replace valve.
		Short in electrical component.	Check and replace connector or controller assembly.
	Valve not cycling.	No electrical power.	Check and correct power supply and connections.
		Drain valve malfunction.	Replace drain valve.
	No response when test button is pushed.	No electrical power.	Check and correct power supply and connections.

ENGINEERING DATA

MODEL	FLXA 1.1-A	FLXA 1.2-A	FLXA 1.5-A	FLXA 2.1-A	FLXA 3.1-A	FLXA 4.5-A	FLXA 5.5-A
Air System Data							
Rated Air Flow at 100°F & 100 psig Inlet, 100°F Ambient (scfm)	75	100	150	200	300	450	550
Minimum / Maximum Inlet Compressed Air Pressure							
Without Filtration	44 / 232 psig (3.0 / 16.0 barg)						
With Filtration	44 / 232 psig (3.0 / 16.0 barg)					44 / 150 psig (3.0 / 10.3 barg)	
Minimum / Maximum Inlet Compressed Air Temperature	39° / 120°F (4° / 49°C)						
Minimum / Maximum Ambient Temperature	36° / 110°F (2° / 43°C)						
Refrigeration System Data							
Refrigerant Type	R-513A						
Refrigerant Charge	See Data Tag on Dryer						
Compressor High Pressure Switch Setting (cut out / cut in)							
R-513A: 304 psig / Manual Reset (21.0 barg / Manual Reset)	■	■	■	■	■	■	■
Air-Cooled Condensers							
Air Flow Across Condenser (cfm)	1,000		1,707		2,237		2,825
Exhausted Condensing Heat Capacity (Btu/h))	4,327	4,982	12,420	14,844	21,425	34,092	37,501
Electrical Data							
MODEL	FLXA 1.1-A	FLXA 1.2-A	FLXA 1.5-A	FLXA 2.1-A	FLXA 3.1-A	FLXA 4.5-A	FLXA 5.5-A
Nominal Voltage	115/1/60			460/3/60			
Input Power @ Rated Flow (kW)	0.48	0.60	1.11	1.28	1.86	2.75	2.91
Minimum Circuit Ampacity	7.59	9.46	17.14	3.48	5.07	7.60	7.71
Maximum Overcurrent Protector (amps)	12.89	16.26	29.84	6.05	8.67	13.22	13.33
Compressor rated Load Amps	5.3	6.8	12.7	2.57	3.6	5.62	5.62
Compressor Locked Rotor Amps	35	43	78	20	25	48.5	48.5
Fan Motor rated Load Amps	0.96	0.96	1.26	0.27	0.57	0.57	0.68
Fan Motor Input Power @ Rated Flow (kW)	0.11	0.11	0.18	0.16	0.29	0.29	0.37

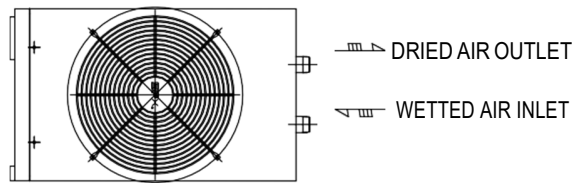
CORRECTION FACTORS (MULTIPLIERS)

Air Inlet Temperature °F (°C)	Multiplier	Air Inlet Pressure psig (barg)	Multiplier	Ambient Air Temperature °F (°C)	Multiplier
80°F (27°C)	1.46	75 psig (5.2 bar)	0.86	80°F (27°C)	1.12
90°F (32°C)	1.23	100 psig (6.9 bar)	1.00	90°F (32°C)	1.06
100°F (38°C)	1.00	120 psig (8.3 bar)	1.04	100°F (38°C)	1.00
110°F (43°C)	0.83	150 psig (10.3 bar)	1.09	110°F (43°C)	0.84
120°F (49°C)	0.68	225 psig (15.5 bar)	1.15		

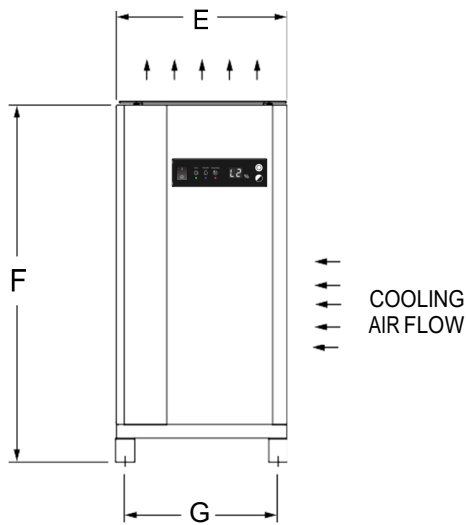
DRAWINGS: GENERAL ARRANGEMENT

Figure 8A
Model: FLXA 1.1-A

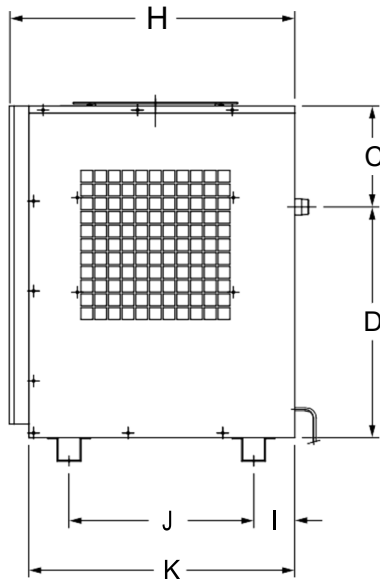
MODEL	DIMENSIONS, INCHES (MM)											INLET/OUTLET CONNECTIONS	WEIGHT Lb. (kg)
	A	B	C	D	E	F	G	H	I	J	K		
FLXA 1.1-A	4.11/16 (119)	4.15/16 (126)	8.3/8 (213)	19.3/16 (487)	14.1/4 (362)	29.9/16 (751)	12.3/4 (324)	23.3/4 (603)	3.3/8 (86)	15.3/8 (391)	22.1/8 (562)	1" NPT	126 (57)



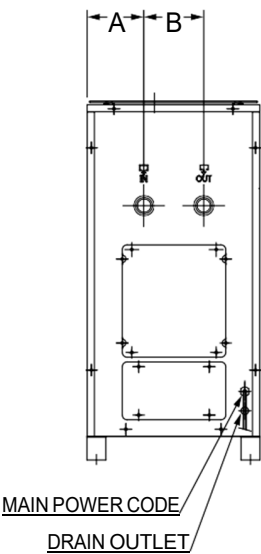
TOP VIEW



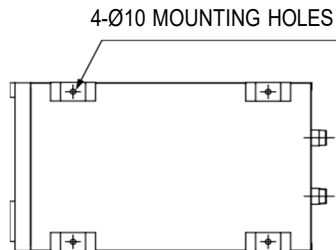
FRONT VIEW



RIGHT SIDE VIEW



REAR VIEW

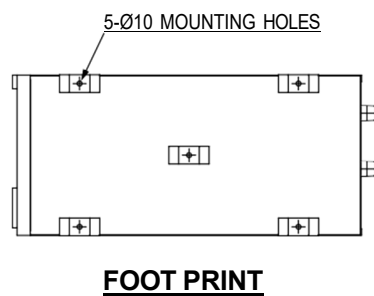
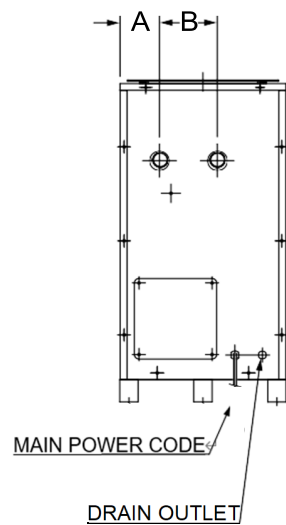
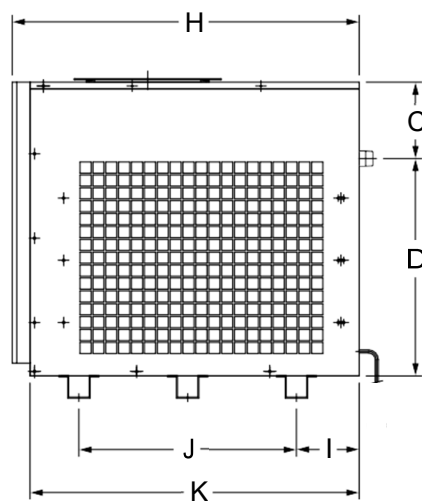
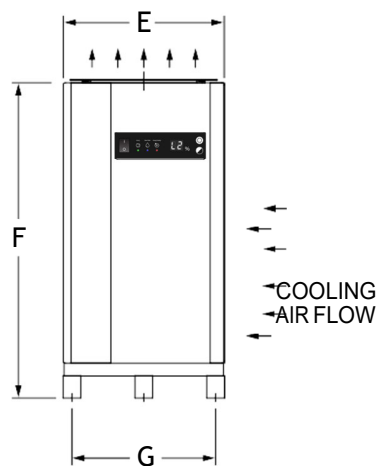
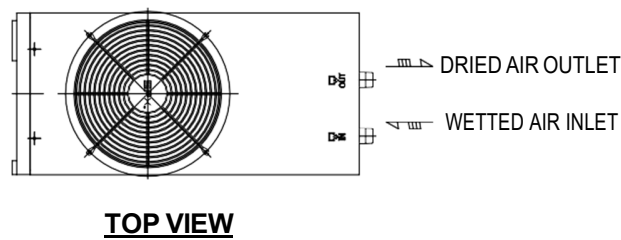


FOOT PRINT

DRAWINGS: GENERAL ARRANGEMENT

Figure 8B
Model: FLXA 1.2-A

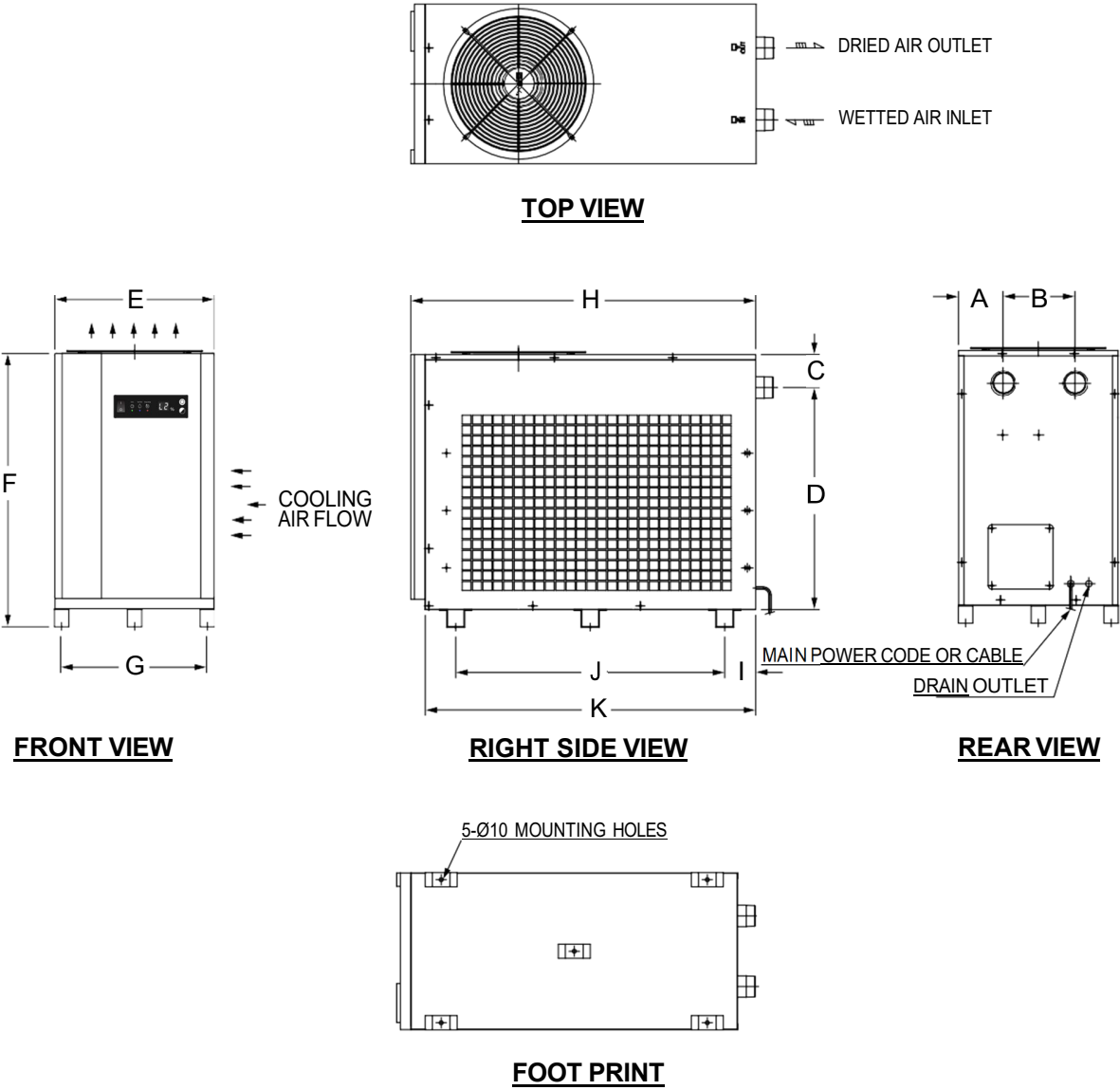
MODEL	DIMENSIONS, INCHES (MM)											INLET/OUTLET CONNECTIONS	WEIGHT Lb. (kg)
	A	B	C	D	E	F	G	H	I	J	K		
FLXA 1.2-A	3.3/8 (86)	4.15/16 (126)	6.3/4 (172)	19.1/4 (489)	14.5/16 (363)	28 (711)	12.3/4 (324)	30.3/4 (781)	5.9/16 (141)	19.5/16 (490)	29.3/16 (741)	1" NPT	147 (66.5)



DRAWINGS: GENERAL ARRANGEMENT

Figure 8C
Models: FLXA 1.5-A, FLXA 2.1-A

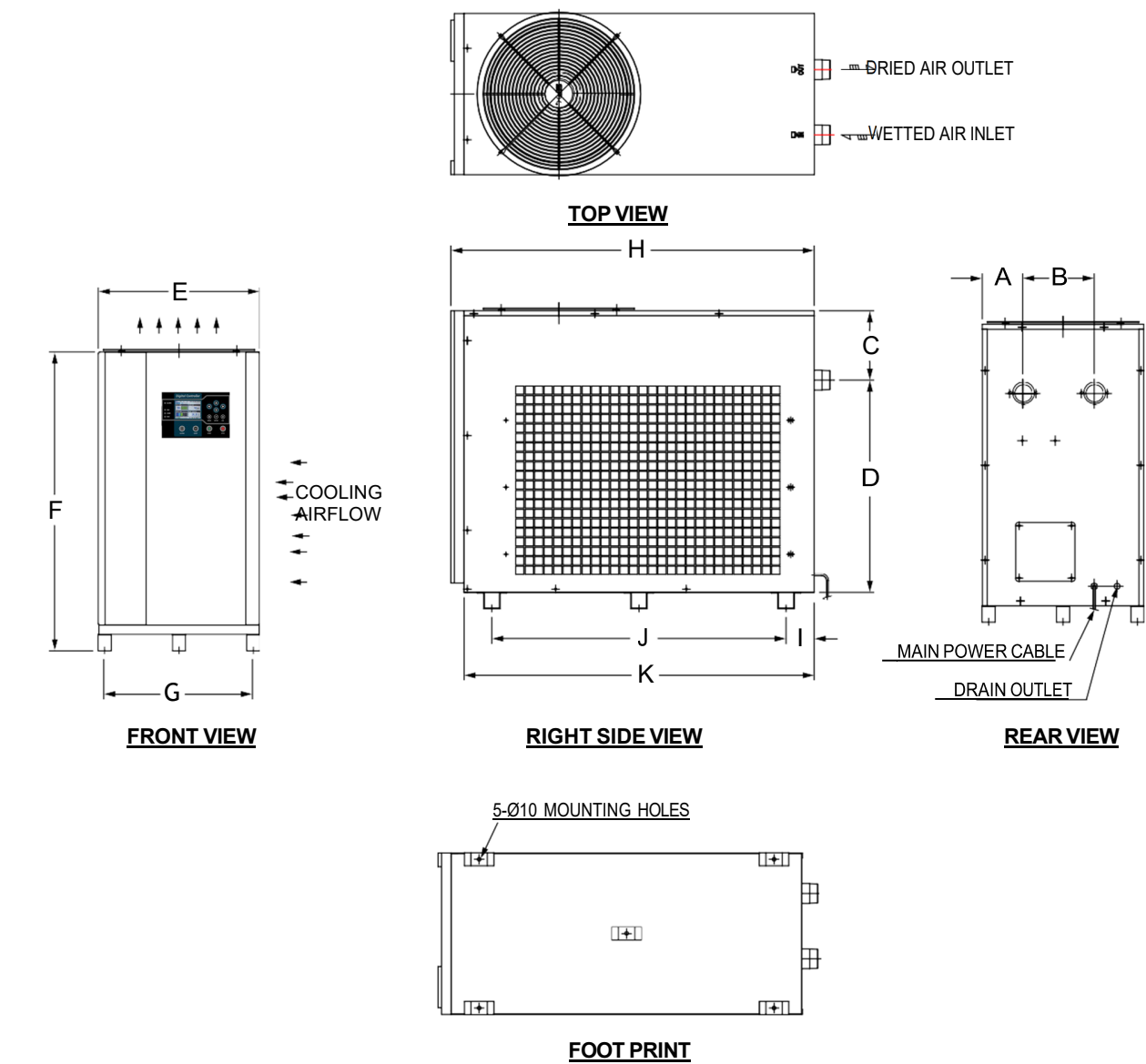
MODEL	DIMENSIONS, INCHES (MM)											INLET/OUTLET CONNECTIONS	WEIGHT Lb. (kg)
	A	B	C	D	E	F	G	H	I	J	K		
FLXA 1.5-A	4.7/8 (123)	7.7/8 (199)	3.5/8 (92)	24.3/8 (619)	17.7/16 (443)	29.15/16 (761)	15.7/8 (404)	35.1/2 (901)	3.3/8 (86)	27.3/16 (690)	33.7/8 (861)	2" NPT	214 (97)
FLXA 2.1-A	4.7/8 (123)	7.7/8 (199)	3.5/8 (92)	24.3/8 (619)	17.7/16 (443)	29.15/16 (761)	15.7/8 (404)	37.7/8 (961)	3.3/8 (86)	29.9/16 (750)	36.1/4 (921)	2" NPT	243 (110)



DRAWINGS: GENERAL ARRANGEMENT

Figure 8E
Model: FLXA 3.1-A

MODEL	DIMENSIONS, INCHES (MM)											INLET/OUTLET CONNECTIONS	WEIGHT Lb. (kg)
	A	B	C	D	E	F	G	H	I	J	K		
FLXA 3.1-A	4.7/8 (123)	7.7/8 (199)	8.5/16 (211)	25.9/16 (650)	19.3/8 (493)	35.7/8 (911)	17.7/8 (454)	43.3/4 (1111)	3.3/8 (86)	35.7/16 (900)	42.3/16 (1071)	2" NPT	320 (145)

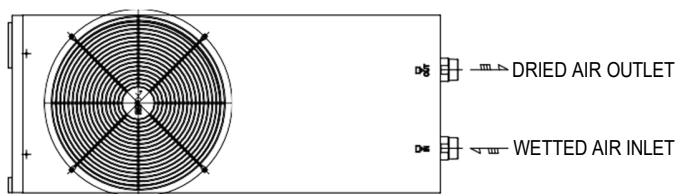


DRAWINGS: GENERAL ARRANGEMENT

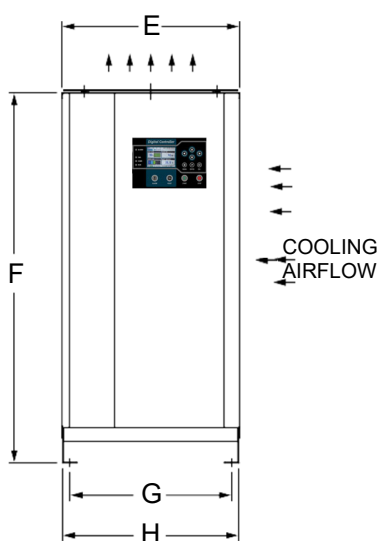
Figure 8G

Models: FLXA 4.5-A, FLXA 5.5-A

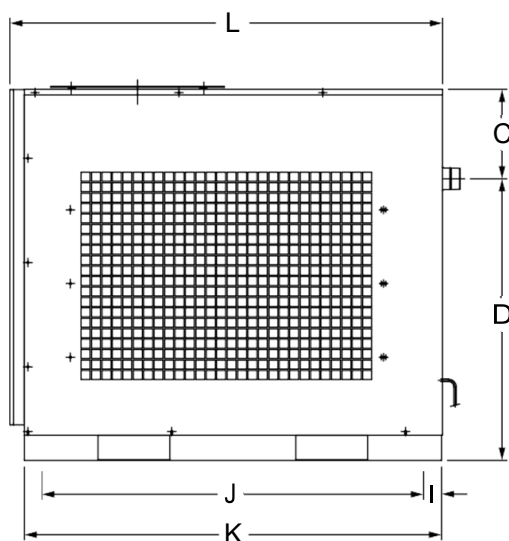
MODEL	DIMENSIONS, INCHES (MM)												INLET/ OUTLET CONNEC- TIONS	WEIGHT Lb. (kg)
	A	B	C	D	E	F	G	H	I	J	K	L		
FLXA 4.5-A	4.7/8 (123)	8.9/16 (218)	9.13/16 (248)	30.13/16 (783)	19.7/16 (493)	40.5/8 (1031)	17.3/4 (450)	19.5/16 (490)	1.15/16 (50)	43.11/16 (1110)	47.5/8 (1210)	49.5/16 (1252)	2" NPT	410 (186)
FLXA 5.5-A	4.7/8 (123)	8.9/16 (218)	9.13/16 (248)	30.13/16 (783)	19.7/16 (493)	40.5/8 (1031)	17.3/4 (450)	19.5/16 (490)	1.15/16 (50)	43.11/16 (1110)	47.5/8 (1210)	49.5/16 (1252)	2" NPT	441 (200)



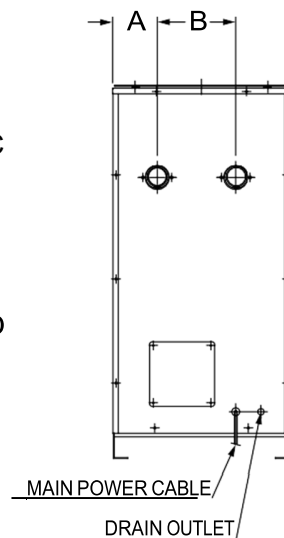
TOP VIEW



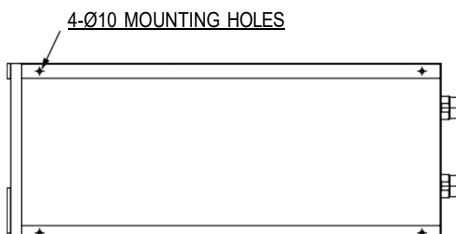
FRONT VIEW



RIGHT SIDE VIEW



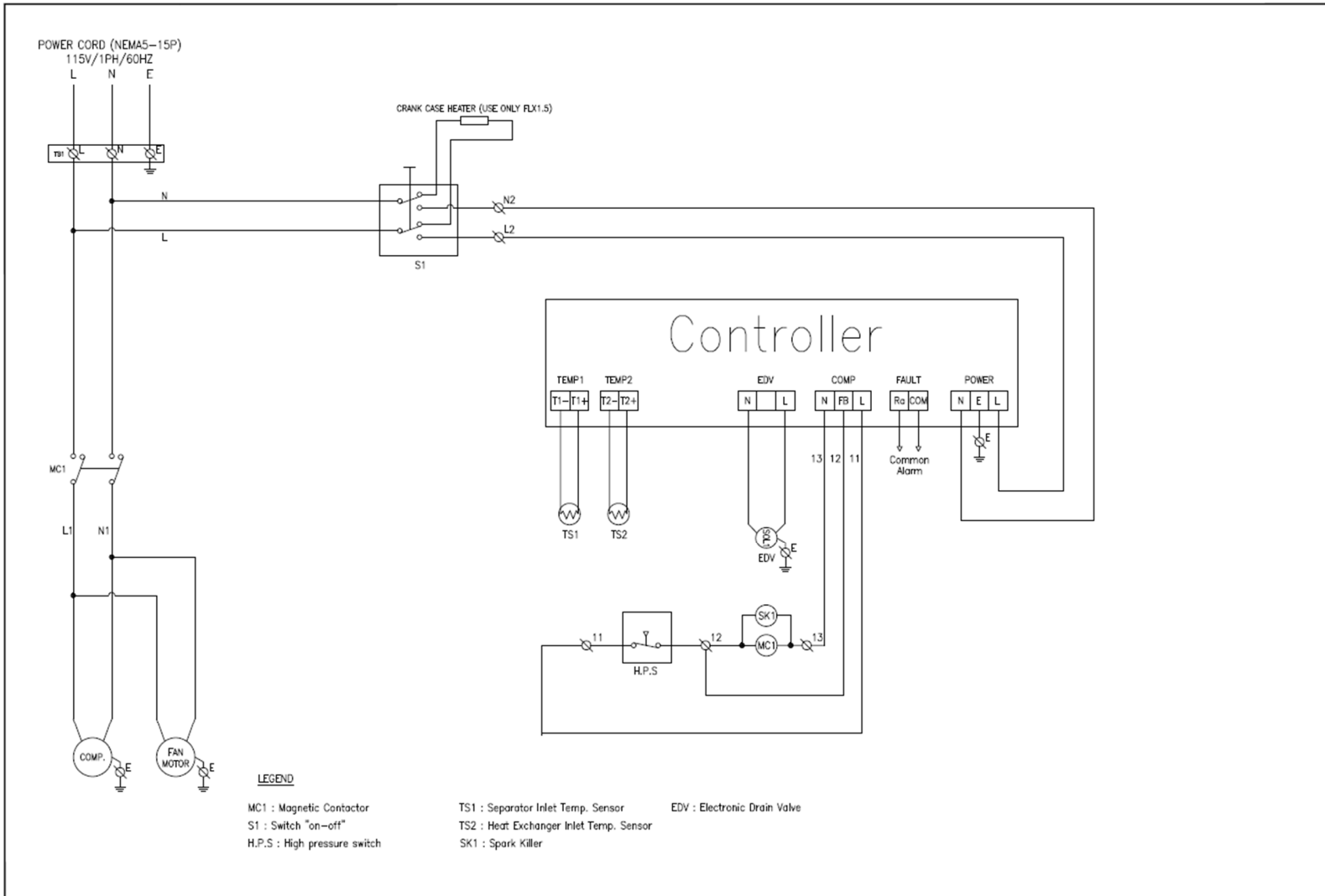
REAR VIEW



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DRAWINGS: ELECTRICAL SCHEMATIC

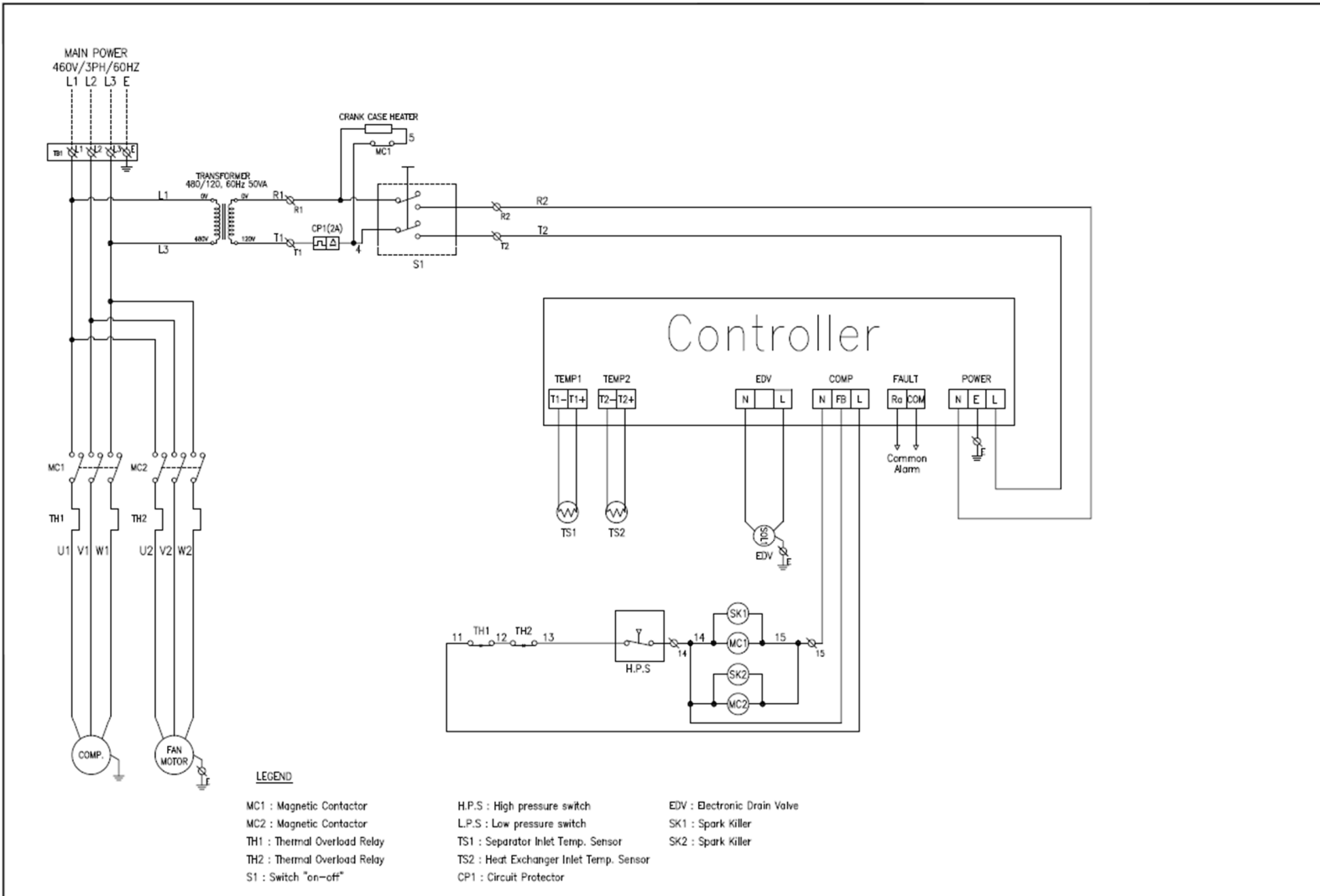
Figure 9A
Models: FLXA 1.1~1.5(115V/1PH/60Hz)



DRAWINGS: ELECTRICAL SCHEMATIC

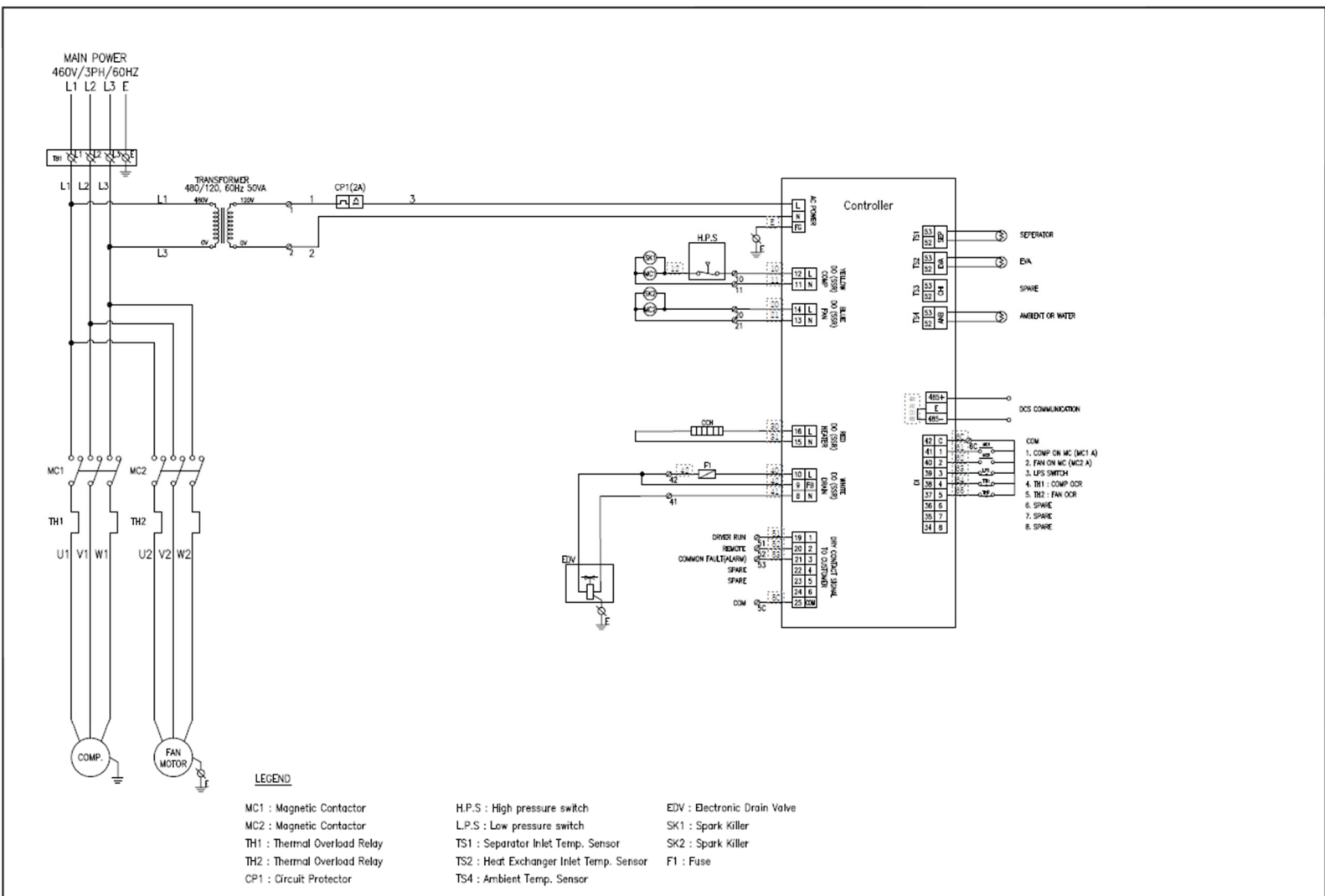
Figure 9B

Model: FLXA 2.1-A (460V/3Ph/60Hz)



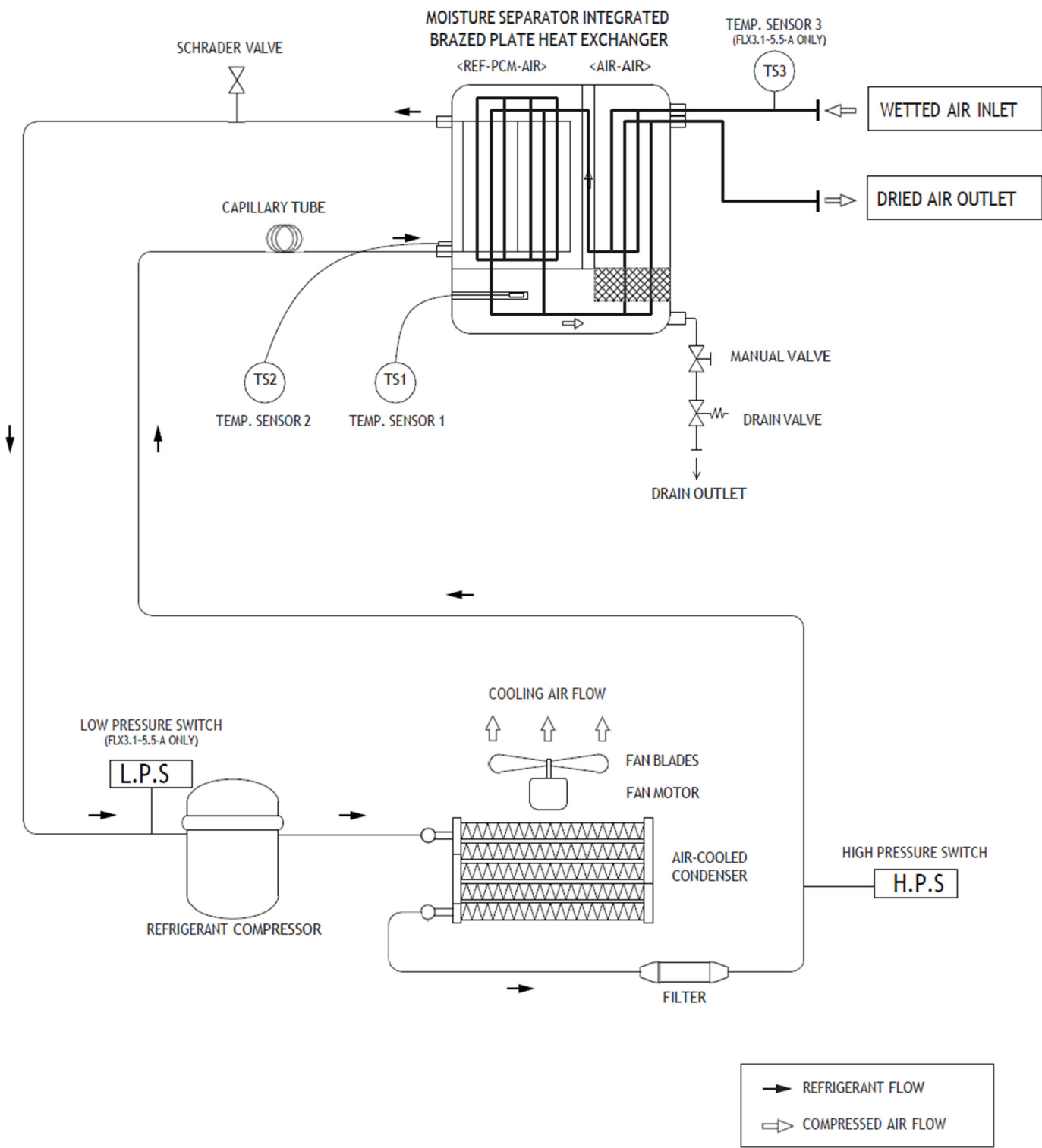
DRAWINGS: ELECTRICAL SCHEMATIC

Figure 9C
Models: FLXA 3.1-A, FLXA 4.5-A, FLXA 5.5-A



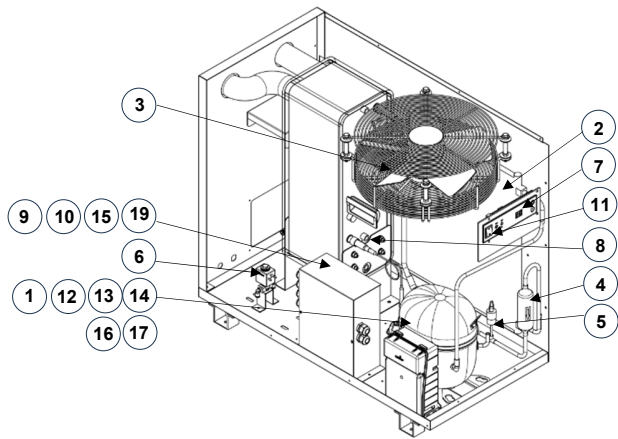
DRAWINGS: AIR AND REFRIGERANT FLOW SCHEMATIC

Figure 10

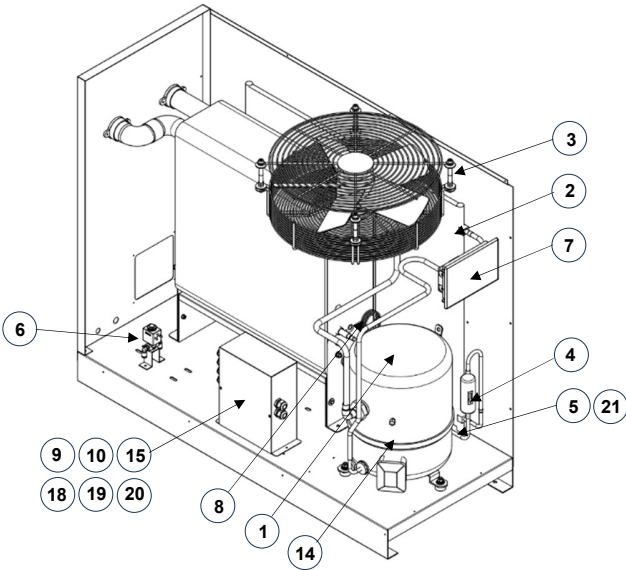


REPLACEMENT PARTS

Model: FLXA 1.1~2.1-A



Models: FLXA 3.1~5.5A



No	Model name	FLXA 1.1-A	FLXA 1.2-A	FLXA 1.5-A	FLXA 2.1-A	FLXA 3.1-A	FLXA 4.5-A	FLXA 5.5-A
	Part name	(115V)	(115V)	(115V)	(460V)	(460V)	(460V)	(460V)
1	Refrigerant Compressor	47919689001	47919692001	47947865012	47947865022	47947865029	7439958	7439958
2	Condenser	7483424	7440045	7440110	7439968	7440111	7439967	7440112
3	Fan Motor	47947865001	47947865001	47947865017	47947865023	47947865030	47947865030	47947865041
4	Strainer	3142596	3142596	7433676	7433676	7433676	7433676	7433676
5	High Pressure Switch	47947865006	47947865006	47947865006	47947865006	47947865006	47947865006	47947865006
6	Drain Valve	47947865007	47947865007	47947865007	47947865007	47947865007	47947865007	47947865007
7	Controller	47950089001	47950089001	47950090001	47950090001	47950091001	47950091001	47950091001
8	Temperature Sensor (White)	7452820	7452820	7452820	7452820	7452820	7452820	7452820
9	Temperature Sensor (Red)	7452821	7452821	7452821	7452821	7452821	7452821	7452821
—	Temperature Sensor (Yellow)					7452822	7452822	7452822
—	Magnetic Contactor (Compressor)	7440413	7440413	7440413	7440251	7440251	7440251	7440251
10	Magnetic Contactor (Fan)				7440221	7440221	7440221	7440221
11	On/Off Switch	3209745	3209745	7440052	3209745			
12	Start Capacitor	47919714001	47919720001	47947865015				
13	Run Capacitor			47947865016				
14	Crankcase Heater			7483445	47947865027	47947865027	47947865027	47947865027
15	Voltage Transformer	—	—	—	7439965	7439965	7439965	7439965
16	PTC Relay (Compressor)	—	—	—	—	—	—	—
17	Overload Protection (Compressor)	—	—	—	—	—	—	—
18	Comp. Thermal Overload Relay				47948863001	47948863001	47948867001	47948867001
19	Fan Thermal Overload Relay				47948864001	47948864001	47948868001	47948868001
20	Circuit Protector				47948865001	47948865001	47948865001	47948865001
21	Low Pressure Switch					47947865035	47947865035	47947865035

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WARRANTY

The manufacturer warrants the product it manufactures, when properly installed, operated, applied, and maintained in accordance with procedures and recommendations outlined in manufacturer's instruction manuals, will be free from defects in material or workmanship for a period as specified below, provided such defect is discovered and brought to the manufacturer's attention within the aforesaid warranty period.

The manufacturer will repair or replace any product or part determined to be defective by the manufacturer within the warranty period, provided such defect occurred in normal service and not because of misuse, abuse, neglect or accident. Normal maintenance items requiring routine replacement are not warranted. The warranty covers parts and labor for the warranty period unless otherwise specified. Repair or replacement shall be made at the factory or the installation site, at the sole discretion of the manufacturer. Although not required for warranty consideration, it is recommended that the manufacture be contacted prior to doing any warranty related service work. This action will provide guidance and instruction on the repair often times authorization to perform the work. NOTE: The manufacturer reserves the right to repair, replace it in the case of warranty approval or reject the warranty claim once submitted.

Unauthorized service and use of unauthorized or pirated parts voids the warranty and any resulting charges or subsequent claim will not be paid. Products repaired or replaced under warranty shall be warranted for the unexpired portion of the warranty applying to the original product.

The foregoing is the exclusive remedy of any buyer of the manufacturer's product. The maximum damages liability of the manufacturer is the original purchase price of the product or part.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL, OR STATUTORY, **AND IS EXPRESSLY IN LIEU OF THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.** THE MANUFACTURER SHALL NOT BE LIABLE FOR LOSS OR DAMAGE BY REASON OF STRICT LIABILITY IN TORT OR ITS NEGLIGENCE IN WHATEVER MANNER INCLUDING DESIGN, MANUFACTURE OR INSPECTION OF THE EQUIPMENT OR ITS FAILURE TO DISCOVER, REPORT, REPAIR, OR MODIFY LATENT DEFECTS INHERENT THEREIN. THE MANUFACTURER, HIS REPRESENTATIVE OR DISTRIBUTOR SHALL NOT BE LIABLE FOR LOSS OF USE OF THE PRODUCT OR OTHER INCIDENTAL OR CONSEQUENTIAL COSTS, EXPENSES, OR DAMAGES INCURRED BY THE BUYER, WHETHER ARISING FROM BREACH OF WARRANTY, NEGLIGENCE OR STRICT LIABILITY IN TORT.

Please note that the manufacturer's warranty for this product is intended to cover manufacturing defects and therefore does not cover consumable components (desiccants, filter elements, soft goods, standard maintenance kit wear items, etc.) or components that require periodic user adjustment (expansion valve, hot gas bypass valve or cooling water regulating valve) or calibration (dew point elements/sensors, gauge calibration, etc.).

Warranty Period

Parts and labor for two (2) years from the date of shipment from the factory.

An extended warranty of up to 5 years from the date of purchase may be available for your dryer. Please contact your local distributor for more details of the requirements for activation of warranty extension.

AUTHORIZATION FROM THE SERVICE DEPARTMENT IS NECESSARY BEFORE MATERIAL IS RETURNED TO THE FACTORY OR IN-WARRANTY REPAIRS ARE MADE.

SERVICE DEPARTMENT: (724) 746-1100



FLXA Series

Refrigerated Type Compressed
Air Dryers

Models: FLXA1.1-A, FLXA 1.2-A,
FLXA 1.5-A, FLXA 2.1-A,
FLXA 3.1-A, FLXA 4.5-A
FLXA 5.5-A

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Specifications may change without
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