



## OPERATING INSTRUCTIONS MANUAL

# FLE-60RC

(575V)

## INDUSTRIAL / COMMERCIAL ELECTRIC HEATER

(OPERATOR MUST RETAIN FOR FUTURE REFERENCE)



Suitable for indoor installation Only / Unvented / Unattended Type



26 Benfield Drive, St.Catharines, Ontario Canada L2S 3V5  
(P) 905-685-4243 - (F) 905-685-0113

## FLE-60RC OPERATING INSTRUCTIONS MANUAL

### **GENERAL HAZARD WARNING:**

**FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS HEATER, CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION BURN ASPHYXIATION, OR ELECTRICAL SHOCK**

**ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS HEATER.**

**IF YOU NEED ASSISTANCE OR HEATER INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABEL, ETC. CONTACT THE MANUFACTURER**

**WARNING: FIRE, BURN, INHALATION AND EXPLOSION HAZARD, KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER, OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE HEATER AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE HEATER IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS**

**WARNING: NOT FOR HOME OR RECREATIONAL VEHICLE USE**

### **IMPORTANT:**

**A LOCAL FIELD EVALUATION MAY BE REQUIRED. LOCAL AUTHORIZES MAY NEED TO FIELD EVALUATE THIS HEATER BASED ON LOCAL LAWS.**

## **Introduction**

You have just received an FLE-60RC 60kW Electric Construction Heater manufactured by Flagro Industries.

**Use:** The FLE-60RC Electric Construction Heater is designed for temporary heat only.

**The heater may be installed indoors ONLY and re-circulate building air.**

The FLE-60RC is designed to heat large spaces, buildings and machines without worrying about on site fuel.

**Quality:** The FLE-60RC is built with the highest quality of components giving our customers the confidence they deserve in a Flagro product.

**Convenience:** The FLE-60RC gives our customers the flexibility of a 20kW/40kW/60kW heat setting.

The heater is equipped with a fan speed inverter control that provides optimum temperature rise by adjusting blower output at each heat setting. Colour coded Cam Locks power connections for easy installation. Remote thermostat option available.

### **Inlet/Outlet Duct Adapter**

The FLE-60RC includes a permanent 20" inlet duct adapter

**A maximum of 25ft of ducting can be used on the outlet and inlet of the heater  
ONLY 20 INCH DIA DUCTING CAN BE USED ON THIS HEATER**

### **Safety**

Always verify that you have proper voltage supply. (575V) It is important to check the wiring connections inside the heater before plugging in the Cam Locks.

Use a meter to measure volt supply to each cam lock.

Work on the internal systems should only be attempted by a certified electrician and only when power has been disconnected and can not be reconnected to the heater.

### **Grounding**

The heater is supplied with a cam lock system with a grounding connection and is indicated with a "G" on the cam lock panel. The heater is also supplied with a grounding nuts found on all panels.

It is very important to double check that all grounding connections are properly secure.

### **Clearance from Combustibles**

The discharge temperature of these units may reach very high temperatures. Maintain minimum distance from combustible materials as follows:

Top: 6 Inches

Bottom: 6 Inches

Sides: 6 Inches

Discharge: 15 FT

## **MAINTENANCE**

- 1** Every heater should be inspected before each use, and at least annually by a qualified service person
- 2** The appliance must be kept clear and free from combustible materials, gasoline and other flammable vapors and liquids
- 3** The flow of ventilation air must not be obstructed.  
Be sure to check the fan assembly and ensure the motor and blade are operating properly.
- 4** Compressed air may be used to keep components free of dust and dirt build up.

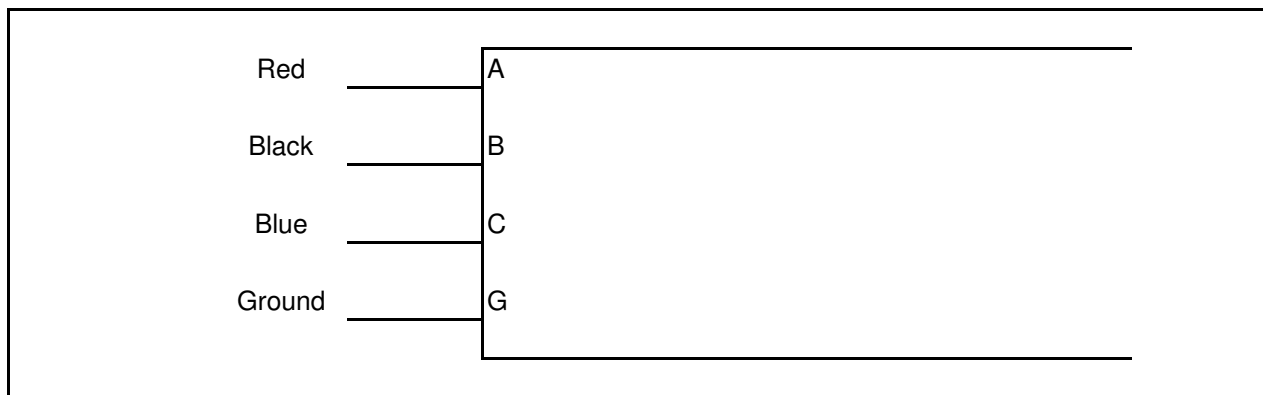
## **Pre-Start Checklist**

- 1** Heater must be level and lockable wheels must be in the lock position
- 2** Make sure blower switch and both heat switches are in the "OFF" positions
- 3** Make sure the air intake is free from any obstruction(s)
- 4** Make sure the heater outlet is free from any obstruction(s)
- 5** Make sure the heater is properly grounded
- 6** Check power supply voltage and ampacity

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## START UP INSTRUCTIONS

- 1 Determine power source - 575V (confirm power source is correct)
- 2 Remove top cover and inspect all wiring  
(once complete, secure top cover to heater using the same hardware)
- 3 Connect Flanged Camlocks to female camlocks ( colour coded)  
Connect camlocks as follows:



### **3 PHASE UNIT CONNECTION**

- 4 Turn on power supply
- 5 Pull "Master" button to the out position
- 6 Determine "Manual" or Remote Thermostat (if remote, set desired temperature)
- 7 Turn Blower on/off switch to the "ON" position  
(The blower will start and the green air flow light will come on)
- 8 Turn on heater settings as desired  
( 60kW= 20kW & 40kW combined)  
Failure to have proper air flow will cause unit to overheat and shut down  
The green light should come on and air should be pushed through the outlet port  
Check to see that only the green light is on.  
**Caution: Heater body panels will get very hot**

**Notes:**

Speed inverter is pre-set for optimum air flow/temperature rise.  
Based on kW selection, blower will adjust speed. See Chart below

HEAT SETTING	BTUH	CFM	TEMP. RISE	NOISE RATING
60 kW	205,000	3300	110DEG F/43DEG C	67 DB
40 kW	164,000	2800	85DEG F/30DEG C	63 DB
20kW	82,000	2450	50DEG F/10DEG C	63DB
FAN ONLY		3900		71DB

**SHUTDOWN**

- 1 Move all heater setting controls to the "OFF" position
- 2 Leave Fan in the "ON" position for 3-5 minutes
- 3 Turn Fan OFF  
( blower is preset to run for 30 seconds before coming to a complete stop)
- 4 Push Master button "IN"
- 5 Shut off all power source
- 6 Disconnect all power sources
- 7 Store heater



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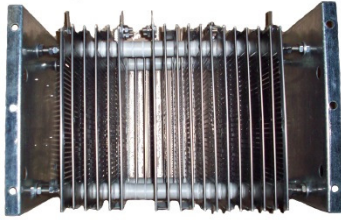


## HEATER SPECIFICATIONS

MODEL	FLE-60RC		
Power Requirements	575V		
MAXIMUM INPUT (KW)	205,000 btu		
BLOWER	1 1/2 H.P.		
TEMPERATURE RISE <small>(above ambient)</small>	20KW	50 DEG F	
	40KW	85 DEG F	
	60 KW	110 DEG F	
AMP DRAW	MOTOR	3900CFM	2 AMPS
	20KW	2450 CFM	24 AMPS
	40KW	2800 CFM	40 AMPS
	60KW	3300 CFM	64 AMPS
	TOTAL AMP	69AMPS	
DB (noise level)	FAN ONLY	71DB	
	20KW	63DB	
	40KW	63DB	
	60KW	67 DB	
INLET/OUTLET SIZE	20" ADAPTERS		
DIMENSIONS <small>H X L X W (IN.)</small>	32 X 48 X 25 1/2		
WEIGHT	290 LBS. (unboxed)		

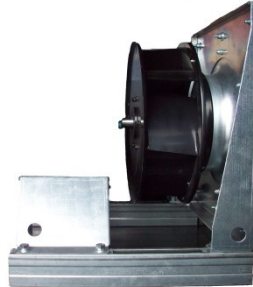
## FLE-60RC (575V)– PARTS LIST

**60KW RESISTOR ELEMENT**



**FLE-601A**

**FAN BLADE ASSEMBLY  
& VENTURI**



**FLE-644/FLE-644A**

**1.5 HP MOTOR**



**FLE-603A**

**VARIABLE SPEED DRIVE**



**FLE-604A**

**RELAY**



**FLE-626  
(2 PER UNIT)**

**HIGH LIMIT**



**FLE-623 (200F)**

**FUSES**



- FLE-628** – 60 amp class T
- FLE-629** – 30amp class T
- FLE-630** – 5 amp class CC
- FLE-631** – 1/2amp class CC
- FLE-632A**– 1 ½ amp AGC - glass

**TRANSFORMER**



**FLE-627A – 575V**

**GROUNDING BLOCK**

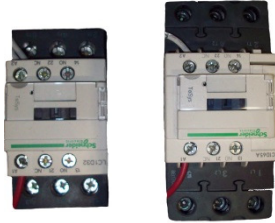


**FLE-621**



## FLE-60 PARTS LIST

### CONTACTORS



FLE-625 – 32A 3P  
FLE-624 – 65A 3P

### SAIL SWITCH



FLE-641

### 2 POSITION SWITCH



FLE-633  
20KW  
40KW  
THERMOSTAT/MANUAL  
BLOWER ON/OFF

### EMERGENCY STOP BUTTON



FLE-634

### GREEN AIR PROVEN LIGHT



FLE-636

### HIGH LIMIT/AIR PROVEN LIGHT



FLE-635

### THERMOSTAT



FV-414B

# FLE-60 PARTS LIST

## N/C CONTACT BLOCK



FLE-639A  
(3 PER UNIT)

## N/O CONTACT BLOCK



FLE-640A  
(7 PER UNIT)

## CAM-LOCK DETACHABLE



FLE-615 – BLUE  
FLE-616 – BLACK  
FLE-617 – GREEN  
FLE-618 - RED

## CAM-LOCK - PANEL



FLE-611 – BLUE  
FLE-612 – BLACK  
FLE-613 – GREEN  
FLE-614 - RED

## SNAP COVERS - PANEL



FLE-611A – BLUE  
FLE-612A – BLACK  
FLE-613A – GREEN  
FLE-614A - RED

## WHEELS



FLE-609 – 6" LOCKABLE  
FLE-610 – 6" RIGID

## BODY PANELS



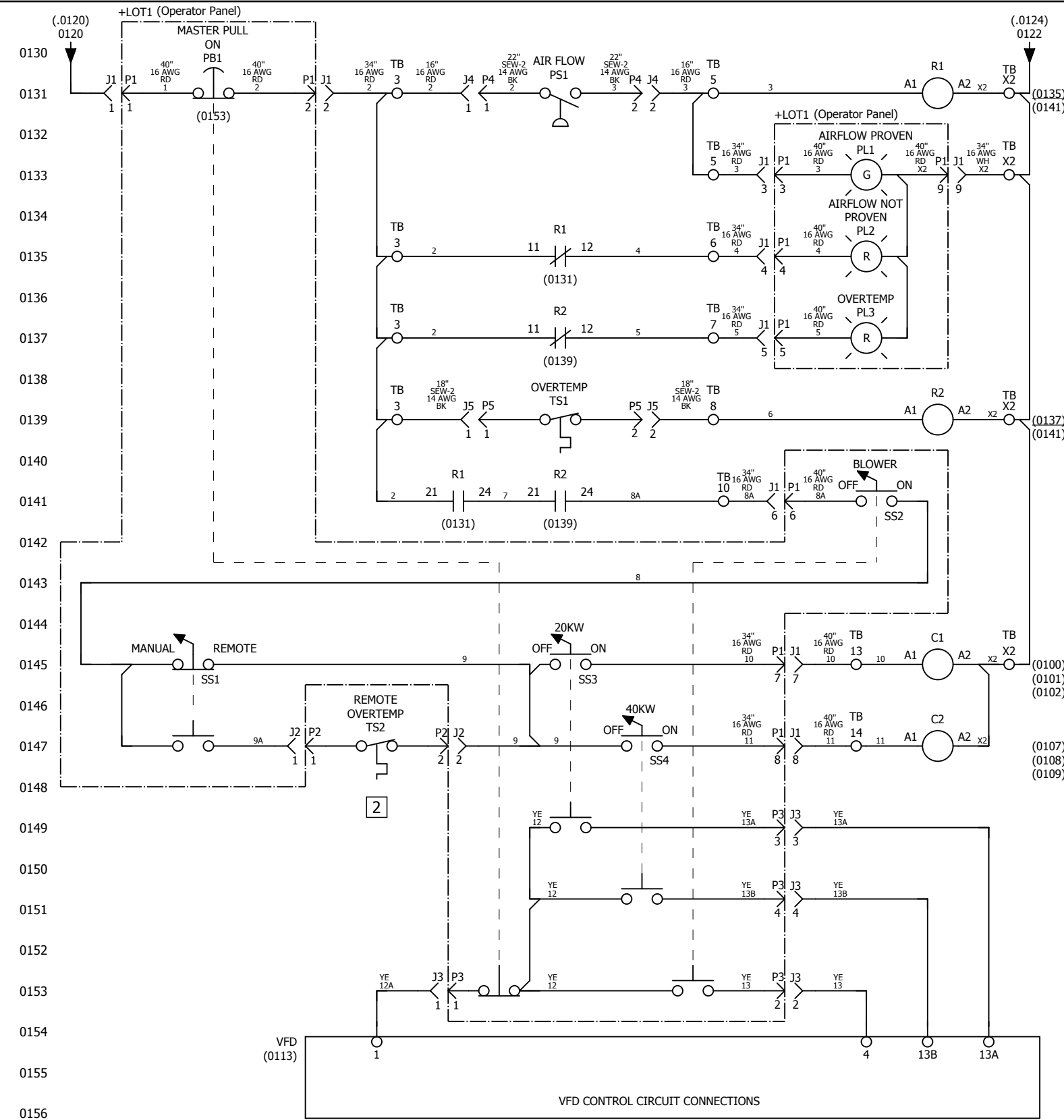
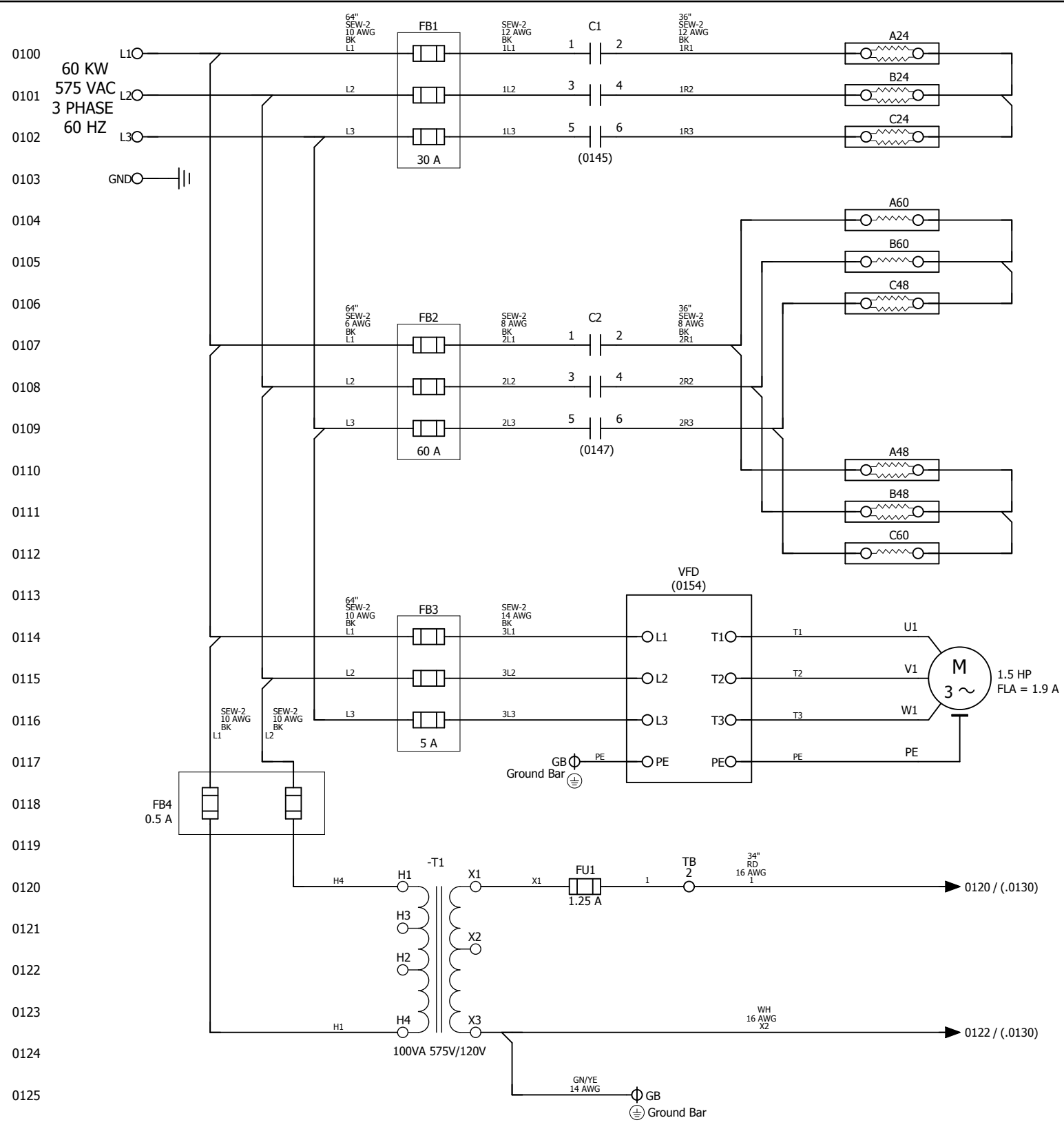
<u>P/N</u>	<u>DESCRIPTION</u>
FEH-60FR	OUTER FRAME
FEH-616	TOP PANEL
FEH-611C	LEFT SIDE PANEL
FEH-610C	RIGHT SIDE PANEL
FEH-612C	FRONT PANEL
FEH-614	REAR SIDE PANEL
FLE-170	CONTROL PANEL RAIN GUARD

## PARTS LIST FOR FLE-60RC (575V)

Part Number	Part Description
FLE-601A	60KW RESISTOR ELEMENT (575V)
FLE-602A	FAN BLADE ASSEMBLY (575V) - PRIOR TO 2018
FV-644	18" BC IMPELLER
FV-644A	18" BC IMPELLER VENTURI
FLE-603A	1-1/2 HP MOTOR (575 VOLT)
FLE-604A	VARIABLE SPEED DRIVE FOR FLE-60 (575 VOLT)
FLE-605A	WIRED CONTROL/OPERATOR PANELS (575 VOLT)
FLE-606	ADJUSTABLE MOTOR BASE - PRIOR TO 2018
FLE-607	7" FAN PULLEY - PRIOR TO 2018
FLE-608	3.25" MOTOR PULLEY - PRIOR TO 2018
FLE-609	6" LOCKABLE SWIVEL CASTER (TWO REQUIRED)
FLE-610	6" RIGID CASTER (TWO REQUIRED)
FLE-611	BLUE MALE PANEL CAM-LOCK
FLE-611A	BLUE SNAP COVER
FLE-612	BLACK MALE PANEL CAM-LOCK
FLE-612A	BLACK SNAP COVER
FLE-613	GREEN MALE PANEL CAM-LOCK
FLE-613A	GREEN SNAP COVER
FLE-614	RED MALE PANEL CAM-LOCK
FLE-614A	RED SNAP COVER
FLE-615	BLUE FEMALE DETACHABLE CAM-LOCK
FLE-616	BLACK FEMALE DETACHABLE CAM-LOCK
FLE-617	GREEN FEMALE DETACHABLE CAM-LOCK
FLE-618	RED FEMALE DETACHABLE CAM-LOCK
FLE-619	LIFTING LATCH (FOUR REQUIRED)
FLE-621	GROUNDING BLOCK
FLE-622	DISTRIBUTION BLOCK
FLE-623	OUTLET HIGH LIMIT - 200 F

FLE-624	CONTACTOR - 65A 3P
FLE-625	CONTACTOR - 32A 3P
FLE-626	DAYTON CUBE RELAY (TWO REQUIRED)
FLE-627A	575 VOLT TRANSFORMER
FLE-628	60 AMP CLASS T FUSE (THREE REQUIRED)
FLE-629	30 AMP CLASS T FUSE (THREE REQUIRED)
FLE-630	5 AMP CLASS CC TIME DELAY (THREE REQUIRED)
FLE-631	1/2 AMP CLASS CC TIME DELAY (TWO REQUIRED)
FLE-632A	1 1/4 AMP AGC GLASS FUSE
FLE-633	TWO POSITION SWITCH (FOUR PER HEATER)
FLE-634	EMERGENCY STOP BUTTON
FLE-635	RED HIGH LIMIT/NON-PROVEN AIR LIGHT (LENS ONLY)
FLE-635A	RED HIGH LIMIT/NON-PROVEN AIR LIGHT (MODULE ONLY) -LED
FLE-635B	RED HIGH LIMIT/NON-PROVEN AIR LIGHT LED (COMPLETE)
FLE-636	GREEN AIR PROVEN LIGHT (LENS ONLY)
FLE-636A	GREEN AIR PROVEN LIGHT (MODULE ONLY)-LED
FLE-636B	GREEN AIR PROVEN LIGHT LED (COMPLETE)
FLE-637	BULBS FOR FLE-635 & FLE-636
FLE-639A	N/C CONTACT BLOCK (DUST RESISTANT) (THREE PER HEATER)
FLE-640A	N/O CONTACT BLOCK (DUST RESISTANT) (SEVEN PER HEATER)
FLE-641	SAIL SWITCH (COMPLETE)
FLE-643	FUSE HOLDER 5AMP-FLE60 / 10AMP-FLE150
FV-414B	THERMOSTAT CONNECTION
FLE-DA60F20	OUTLET DUCT ADAPTER FOR FLE-60 (20") - PRIOR TO 2018
FLE-DA60S20	INLET DUCT ADAPTER FOR FLE-60 (20") - PRIOR TO 2018
FLE-DF20	20" INLET DUCT FILTER (EA) COMPLETE WITH HOUSING PRIOR TO 2018

<b>Part Number</b>	<b>Part Description</b>
FLE-HDG20	20" X 25FT HITEX OUTLET DUCTING FOR FLE SERIES HEATERS
FLE-HDV20	20" X 25FT VENTFLEX INLET DUCTING FOR FLE SERIES HEATERS
FV-THB	REMOTE THERMOSTAT C/W 25FT CORD
FV-THB (15M)	REMOTE THERMOSTAT C/W 50 FT CORD



NOTE: #16 AWG CONTROL WIRING TO BE TEW BC

Rev.	Modification	Date	Name

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Creator	KE	Date	2016/09/06
Checked	DG	Date	2016/01/19
Approved	DM	Date	2016/01/19

Description		FLE-605A HEATER CONTROL PANEL	
Job Number	253XXX	Designation	MPNL
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