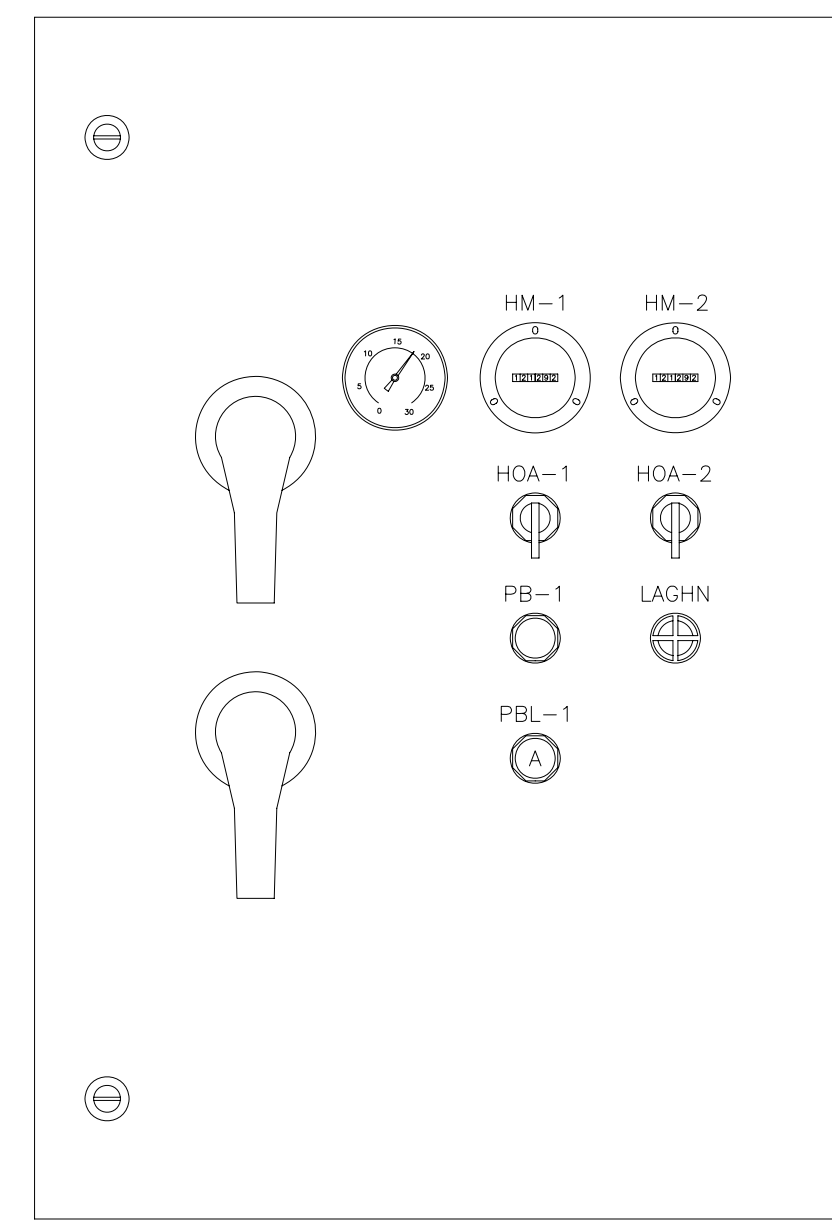


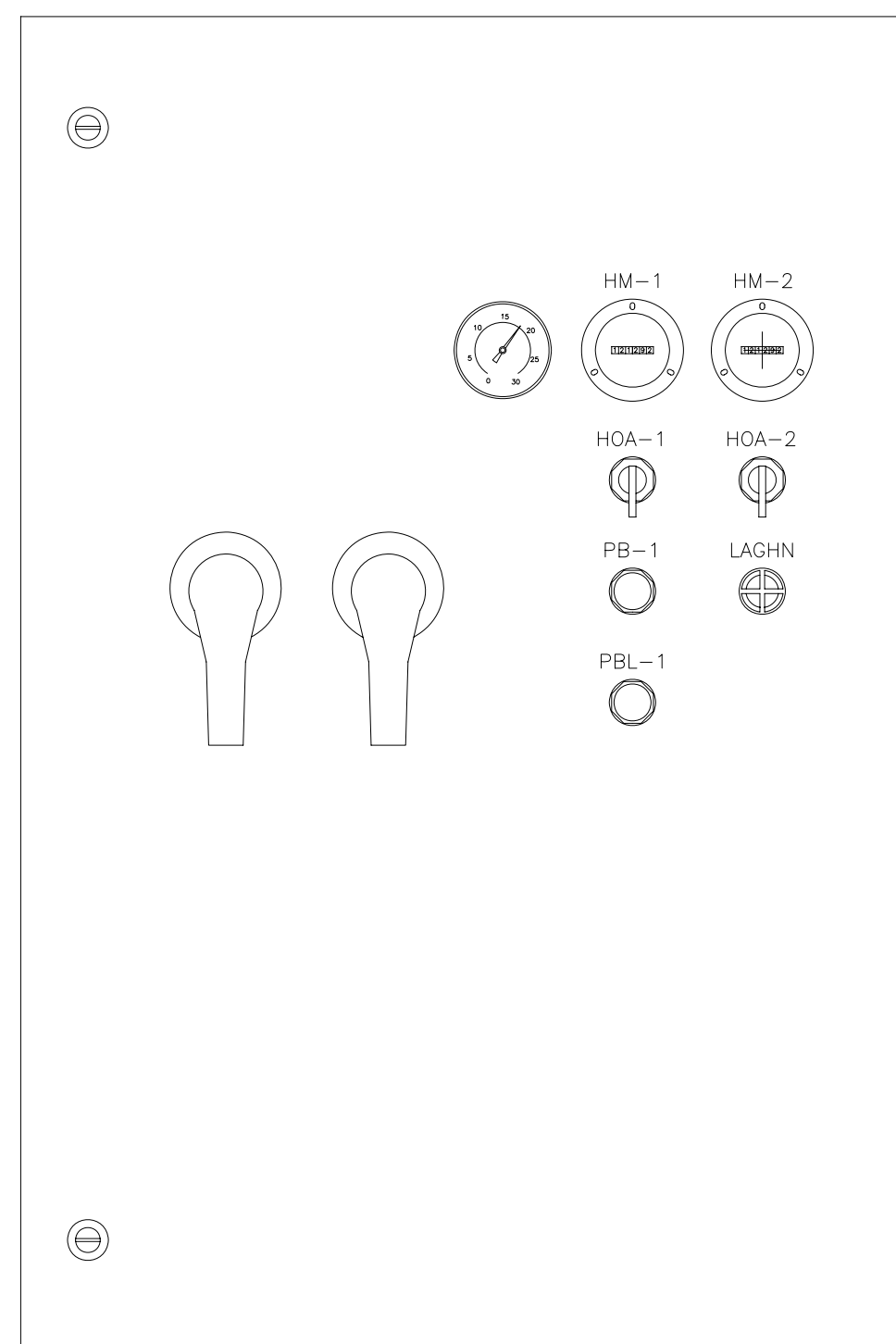
--- INDICATES FIELD WIRING OUTSIDE OF BOX

FIELD WIRING TO BE COPPER WIRE RATED FOR 75° C MINIMUM

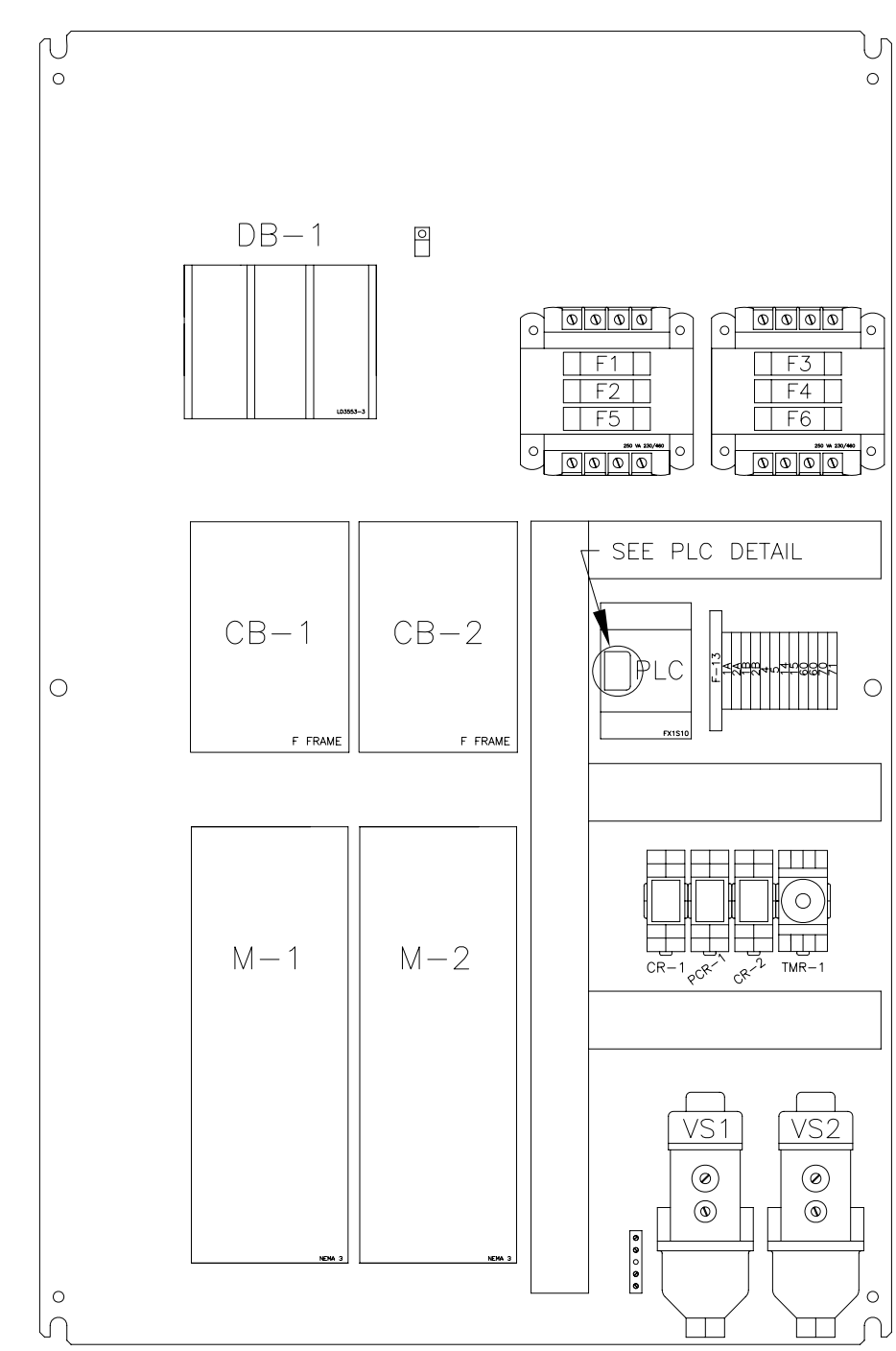
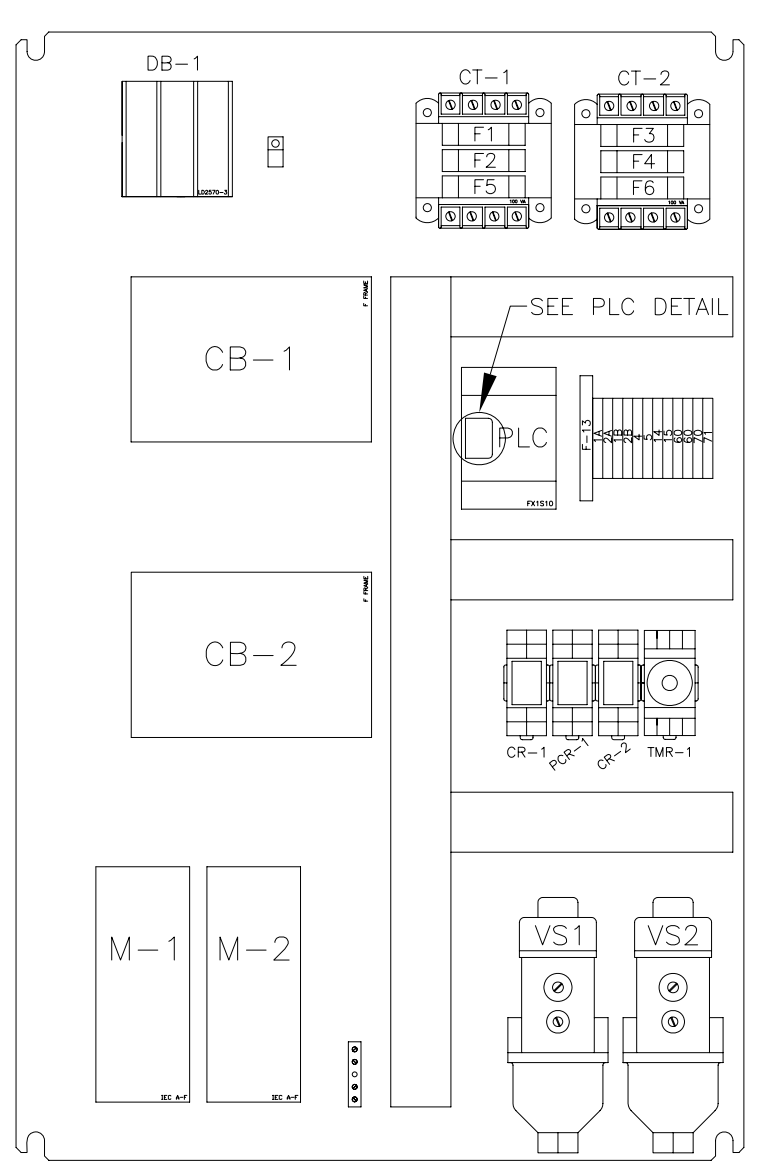
15 HP 208-575 VOLT  
20 HP 460-575 VOLT



20 HP 208-230 VOLTS  
25 HP 208-460 VOLTS  
30 HP 230-575 VOLTS  
40 HP 460-575 VOLTS  
50 HP 460-575 VOLTS

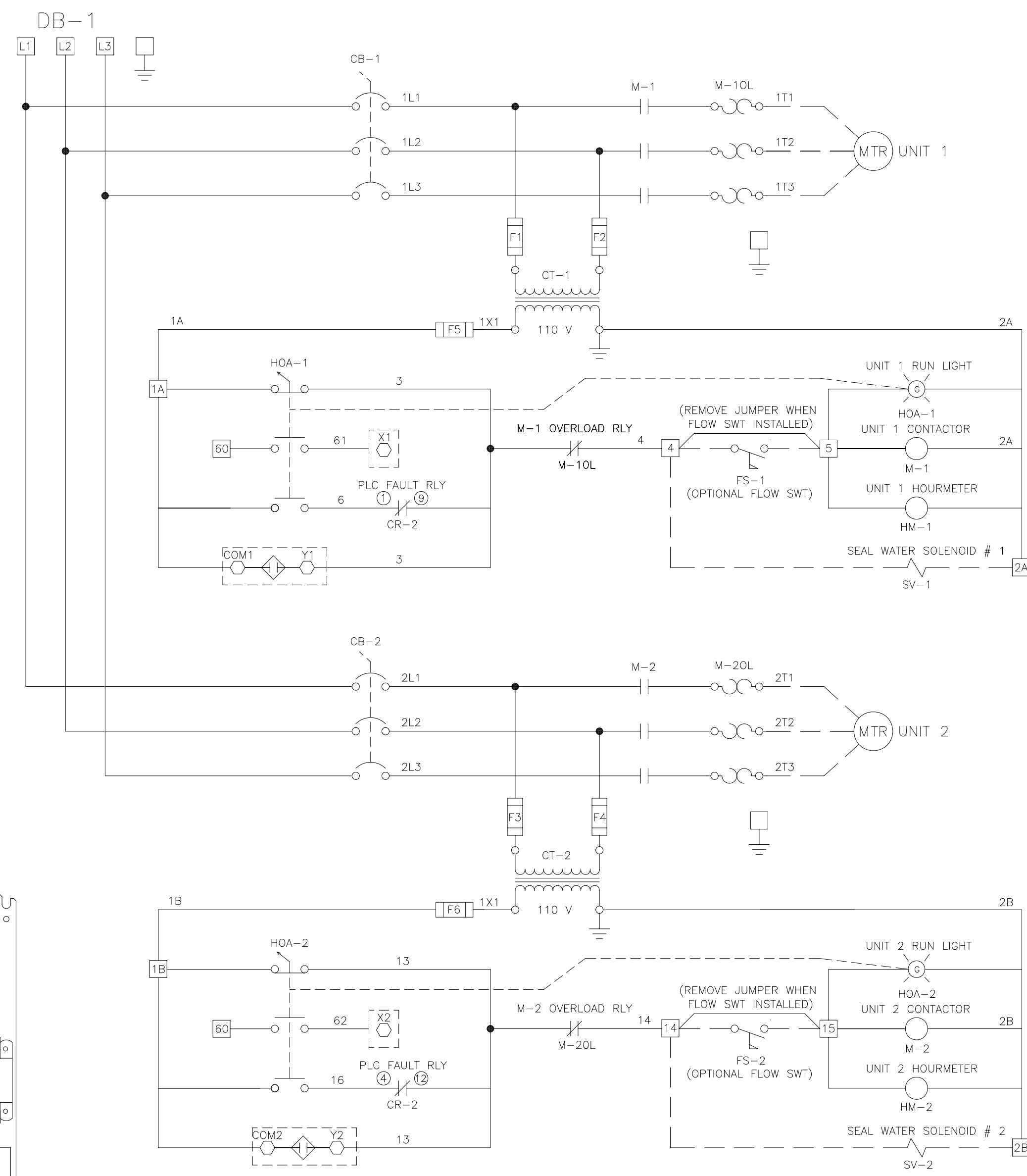


NOTE: 30 HP 208V, AND 40 HP 208-230V  
ENCLOSURE LAYOUT NOT SHOWN



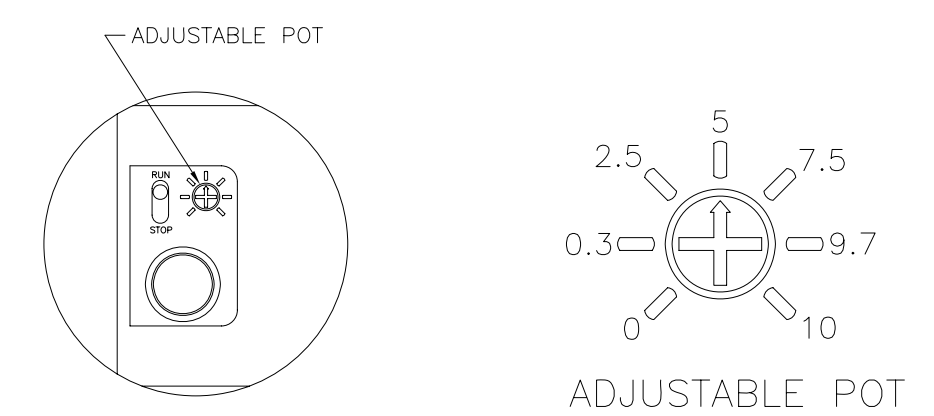
208-575V  
3Ø  
60 Hz

MAIN DISCONNECT  
PROVIDED BY OTHER



PLC DETAIL

NOTE:  
ADJUSTABLE MINIMUM RUN TIMER IS PROVIDED IN PLC PROGRAM. SEE CHART FOR ADJUSTING POT TO CORRECT SETTING.



PLC DETAIL W/LID OPEN

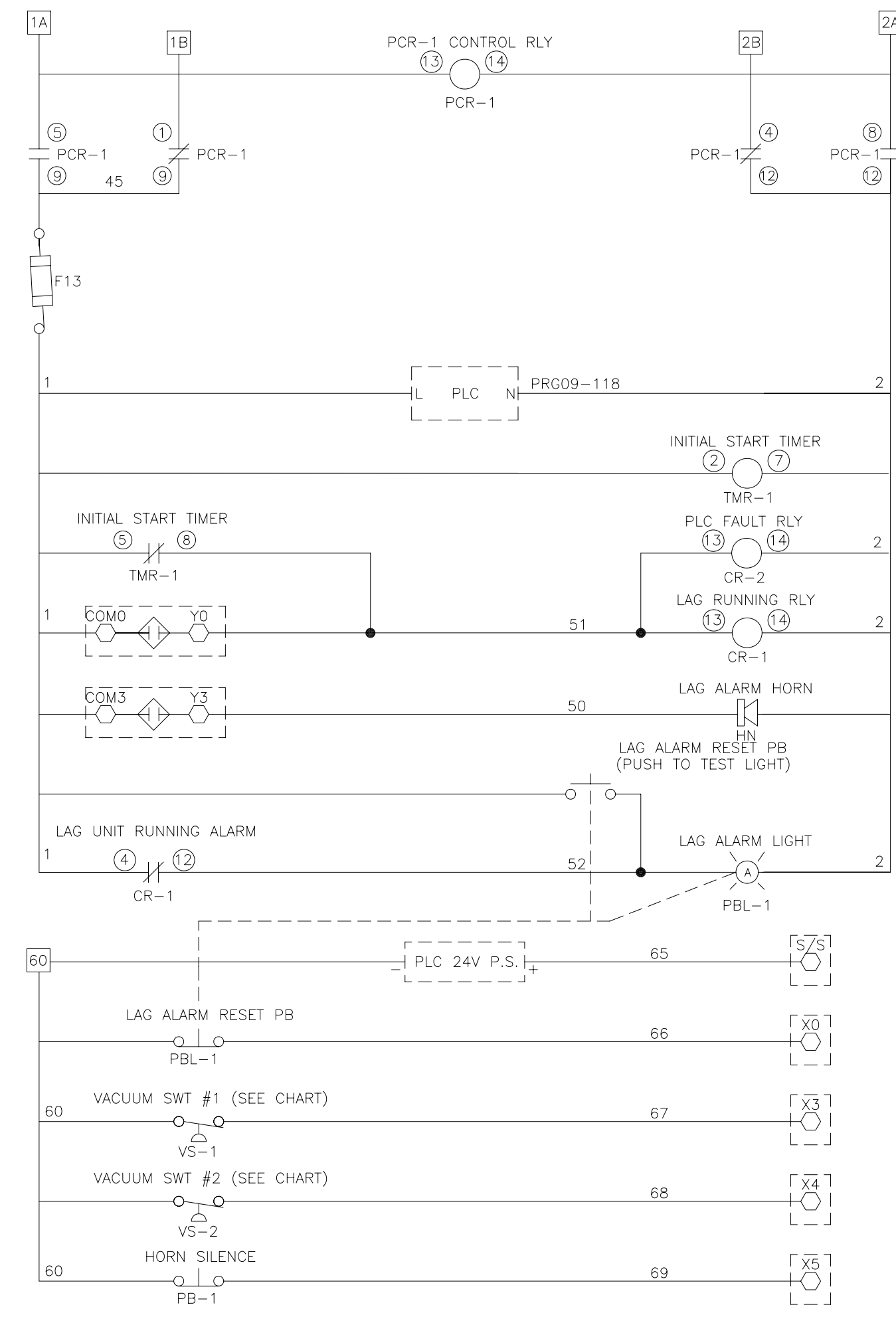
MINIMUM RUN TIMER SETTINGS

HP	SETTING
15-30	5
40-50	6

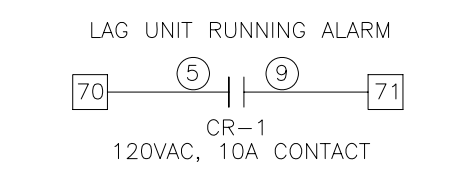
OPERATION:  
DURING NORMAL OPERATION THE HOA SWITCHES SHOULD BE IN THE AUTO POSITION. THE PLC WILL SIGNAL THE LEAD PUMP TO START WHEN VS-1 CLOSURES WITH FALLING VACUUM LEVEL. AFTER VS-1 OPENS AND THE ADJUSTABLE MINIMUM RUN TIMER (SEE NOTE) HAS EXPIRED THE PUMP THAT IS RUNNING WILL TURN OFF. WHEN VS-1 CLOSURES AGAIN THE PLC WILL SEQUENCE THE LEAD ROLE TO THE NEXT PUMP. IF DURING OPERATION THE SECOND PUMP IS REQUIRED TO COME ON, THE PLC WILL TURN ON THE "LAG ALARM".

HAND OPERATION (EMERGENCY/TROUBLE SHOOTING MODE ONLY):  
PUMPS WITH THE HOA SWITCH IN THE HAND POSITION WILL START AND RUN CONTINUOUSLY.

PLC FAULT:  
IF A PLC FAULT OCCURS, VACUUM PUMPS IN THE AUTO POSITION WILL START AND RUN CONTINUOUSLY. PUMPS CAN OPERATE IN THIS CONDITION UNTIL PLC FAULT IS REPAIRED.



AUXILIARY CONTACTS



(LAG CONTACTS CR-1 CLOSED DURING NORMAL OPERATION)

NOTE:  
AUXILIARY CONTACTS 70-71 ARE "CLASS 1 CONTROL CIRCUITS, USE CLASS 1 CONDUCTORS"  
ALL OTHERS ARE "CLASS 2 CONTROL CIRCUITS, USE CLASS 2 CONDUCTORS"

DUPLEX SYSTEM FULL LOAD AMPERES

SYSTEM HP	208 V	230 V	460 V	575 V
15 HP	100 AMPS	87 AMPS	44 AMPS	35 AMPS
20 HP	126 AMPS	110 AMPS	55 AMPS	45 AMPS
25 HP	160 AMPS	136 AMPS	68 AMPS	55 AMPS
30 HP	184 AMPS	160 AMPS	80 AMPS	64 AMPS
40 HP	240 AMPS	210 AMPS	104 AMPS	84 AMPS
50 HP	-	256 AMPS	128 AMPS	-

INDIVIDUAL MOTOR FULL LOAD AMPERES

SYSTEM HP	208 V	230 V	460 V	575 V
15 HP	47.6 AMPS	41.4 AMPS	20.7 AMPS	16.5 AMPS
20 HP	60.7 AMPS	52.8 AMPS	26.4 AMPS	21.1 AMPS
25 HP	75.4 AMPS	65.6 AMPS	32.8 AMPS	26.2 AMPS
30 HP	90.6 AMPS	78.8 AMPS	39.4 AMPS	31.5 AMPS
40 HP	116 AMPS	101 AMPS	50.4 AMPS	40.3 AMPS
50 HP	-	124 AMPS	62 AMPS	-

TRANSFORMER SIZING CHART

HP	208 V	230 V	460 V	575 V
15 HP	150 VA	150 VA	150 VA	150 VA
20 HP	150 VA	150 VA	150 VA	150 VA
25 HP	250 VA	150 VA	150 VA	150 VA
30 HP	250 VA	250 VA	250 VA	250 VA
40 HP	250 VA	250 VA	250 VA	250 VA
50 HP	-	500 VA	250 VA	-

TMR-1 SETTINGS (GE1A-C10M)  
RANGE SEL. S  
RANGE SEL. x10  
SET DIAL ON 1 (10 SECONDS)

FUSE SELECTION CHART (MAX FUSE SIZES SHOWN)

HP	FUSE	208 V	230 V	460 V	575 V
15-20	F1/F2	2 AMPS	2 AMPS	1 AMP	.8 AMP
	F3/F4	2 AMPS	2 AMPS	1 AMP	.8 AMP
	F5/F6	2 AMPS	2 AMPS	2 AMPS	2 AMPS
25	F1/F2	3.5 AMPS	2 AMPS	1 AMP	.8 AMP
	F3/F4	3.5 AMPS	2 AMPS	1 AMP	.8 AMP
	F5/F6	3.5 AMPS	2 AMPS	2 AMPS	2 AMPS
30-50	F1/F2	3.5 AMPS	3.5 AMPS	1.6 AMPS	1.25 AMPS
	F3/F4	3.5 AMPS	3.5 AMPS	1.6 AMPS	1.25 AMPS
	F5/F6	3.5 AMPS	3.5 AMPS	3.5 AMPS	3.5 AMPS
15-50	F13	0.7 AMPS	0.7 AMPS	0.7 AMPS	0.7 AMPS

F1/F2/F3/F4 ARE LITTELFUSE KLDL 600V TYPE  
F5/F6 ARE LITTELFUSE FLM 250V TYPE  
F13 ARE LITTELFUSE 2AG 250V TYPE

VACUUM SWITCH SETTINGS

ALTITUDE	VS-1	VS-2	RELIEF VALVE SETTING
0-3000	20-23"hg	17-21"hg	25"hg
3001-4000	19-22"hg	17-20"hg	24"hg
4001-5000	18-21"hg	16-19"hg	23"hg
5001-6000	17-20"hg	15-18"hg	22"hg



TITLE  
DUPLEX LIQUID RING VACUUM BASEMOUNT  
15-50 HP 208/230/460/575 VOLTS

DRAWN BY	DATE	REVISION	DATE	REVISION
H. BURNS	10/6/00			
J. HOLLAND	11/20/08			

SCALE: NTS D DIA 02 414

REV. M