

Notes:

1. MAIN DISCONNECT PROVIDED BY OTHER.
2. FIELD WIRING TO BE COPPER RATED FOR 75°C MINIMUM.
3. --- --- --- INDICATES FIELD WIRING OUTSIDE OF CABINET.
4. THE AMPACITY OF CONDUCTORS SUPPLYING THE CONTROL PANEL TO BE ROUNDED UP TO THE NEXT SIZE LARGER STANDARD WIRE GAUGE.
5. MOP VALUES TO BE ROUNDED DOWN TO THE NEAREST STANDARD RATING OF THE OVERCURRENT PROTECTION DEVICE.
6. SHORT CIRCUIT CURRENT RATING (SCCR): 65 kA
7. POWER TO TERMINAL BLOCKS 32 & 33 OPENS ISOLATION VALVE 1  
POWER TO TERMINAL BLOCKS 34 & 35 CLOSES ISOLATION VALVE 1

OPERATION:

DURING NORMAL OPERATION, THE HOA SWITCH SHOULD BE IN THE AUTO POSITION. THE PLC WILL SIGNAL THE PUMP TO START WHEN VS-1 CLOSES WITH FALLING VACUUM LEVEL. WHEN VS-1 OPENS, THE PLC WILL MOVE TO PURGE OPERATION UNTIL VS-1 CLOSES AND NORMAL OPERATION CONTINUES. AFTER THE PUMP RUN TIMER EXPIRES (FACTORY SET TO 10 HOURS), THE PUMP WILL ENTER PURGE MODE AND THEN TURN OFF.

HAND OPERATION; (EMERGENCY/TROUBLE SHOOTING MODE ONLY)

WITH THE HOA SWITCH IN THE HAND POSITION THE PUMP WILL START AND RUN CONTINUOUSLY.

PURGE OPERATION: DURING PURGE OPERATION, THE PUMP ISOLATION VALVE WILL CLOSE AND THE PURGE VALVE WILL OPEN. WHEN THE MINIMUM PURGE TIME HAS EXPIRED, THE PURGE VALVE WILL CLOSE, THE ISOLATION VALVE WILL REMAIN CLOSED AND THE PUMP WILL TURN OFF.

MINIMUM CIRCUIT AMPACITY (MCA)

SYSTEM HP	208 V	230 V	380 V	460 V
1.5 HP	9.1 AMPS	8.3 AMPS	4.8 AMPS	4.3 AMPS
2 HP	10.3 AMPS	9.3 AMPS	6.0 AMPS	4.8 AMPS
3 HP	14.1 AMPS	12.8 AMPS	8.3 AMPS	6.5 AMPS
5 HP	21.8 AMPS	19.8 AMPS	12.8 AMPS	10.0 AMPS

MAXIMUM OVERCURRENT PROTECTION (MOP)

SYSTEM HP	208 V	230 V	380 V	460 V
1.5 HP	14.9 AMPS	13.5 AMPS	7.4 AMPS	6.8 AMPS
2 HP	16.9 AMPS	15.3 AMPS	9.7 AMPS	7.7 AMPS
3 HP	23.9 AMPS	21.6 AMPS	13.7 AMPS	10.8 AMPS
5 HP	37.6 AMPS	34.2 AMPS	21.8 AMPS	17.1 AMPS

SIMPLEX SYSTEM FULL LOAD AMPERES

SYSTEM HP	208 V	230 V	380V/50Hz	460 V
1.5 HP	5.9 AMPS	5.0 AMPS	3.0 AMPS	2.6 AMPS
2 HP	7.1 AMPS	6.0 AMPS	3.6 AMPS	3.1 AMPS
3 HP	9.7 AMPS	8.4 AMPS	5.1 AMPS	4.3 AMPS
5 HP	14.5 AMPS	13.8 AMPS	7.8 AMPS	7.0 AMPS

INDIVIDUAL FULL LOAD AMPERES

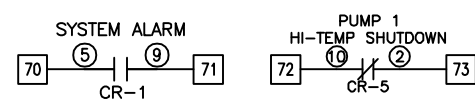
SYSTEM HP	208 V	230 V	380V/50Hz	460 V
1.5 HP	5.2 AMPS	4.4 AMPS	2.5 AMPS	2.2 AMPS
2 HP	6.4 AMPS	5.4 AMPS	3.1 AMPS	2.7 AMPS
3 HP	9.0 AMPS	7.8 AMPS	4.6 AMPS	3.9 AMPS
5 HP	13.8 AMPS	13.2 AMPS	7.3 AMPS	6.6 AMPS

FUSE SELECTION CHART (MAX FUSE SIZES SHOWN)

SYSTEM HP	FUSES	208 V	230 V	380 V	460 V
ALL	F1/F2	6.0 AMPS	6.0 AMPS	6.0 AMPS	6.0 AMPS
	F3	---	---	6.0 AMPS	6.0 AMPS
	F9	4.0 AMPS	4.0 AMPS	4.0 AMPS	4.0 AMPS

F1-F3 ARE LITTELFUSE KLDR 600V TYPE  
F9 IS LITTELFUSE 2AG 250V TYPE

AUXILIARY CONTACTS



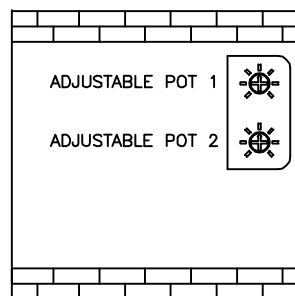
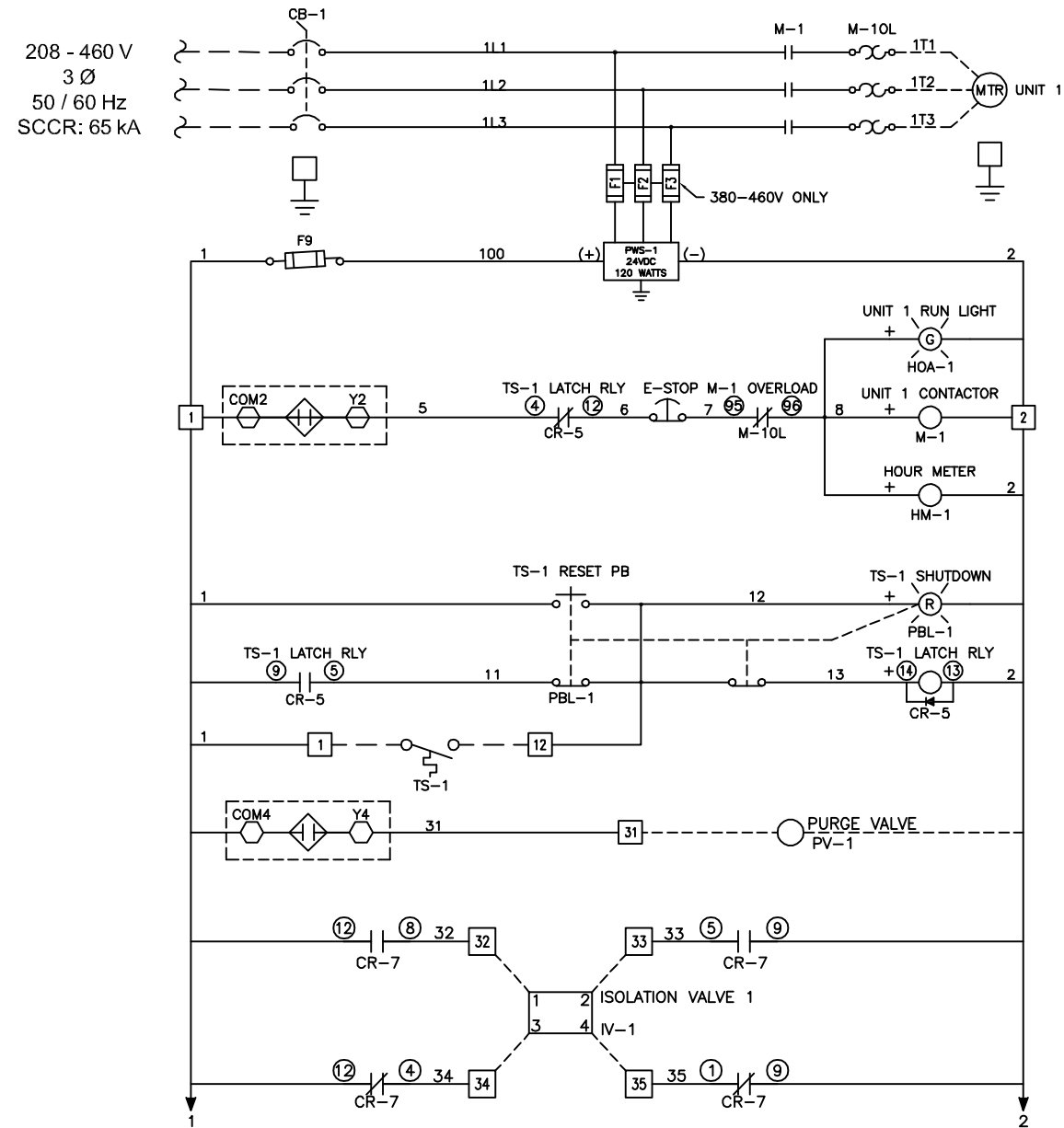
NOTE:  
AUXILIARY CONTACTS 70-73 ARE "CLASS 1 CONTROL CIRCUITS."  
USE CLASS 1 CONDUCTORS."

AUX CONTACTS ARE RATED  
10A @ 120VAC UNLESS OTHERWISE NOTED.

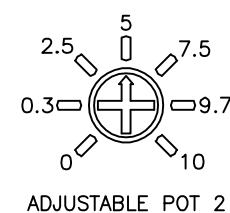
AUX CONTACTS CLOSED DURING NORMAL OPERATION.

VACUUM SWITCH SETTINGS

ALTITUDE	VS-1
0-3000'	20"-25"Hg
3001'-4000'	19"-24"Hg
4001'-5000'	18"-23"Hg
5001'-6000'	17"-22"Hg
6001'-7000'	17"-21"Hg
7001'-8000'	16"-20"Hg
8001'-9000'	16"-19"Hg
9001'-10000'	16"-18"Hg



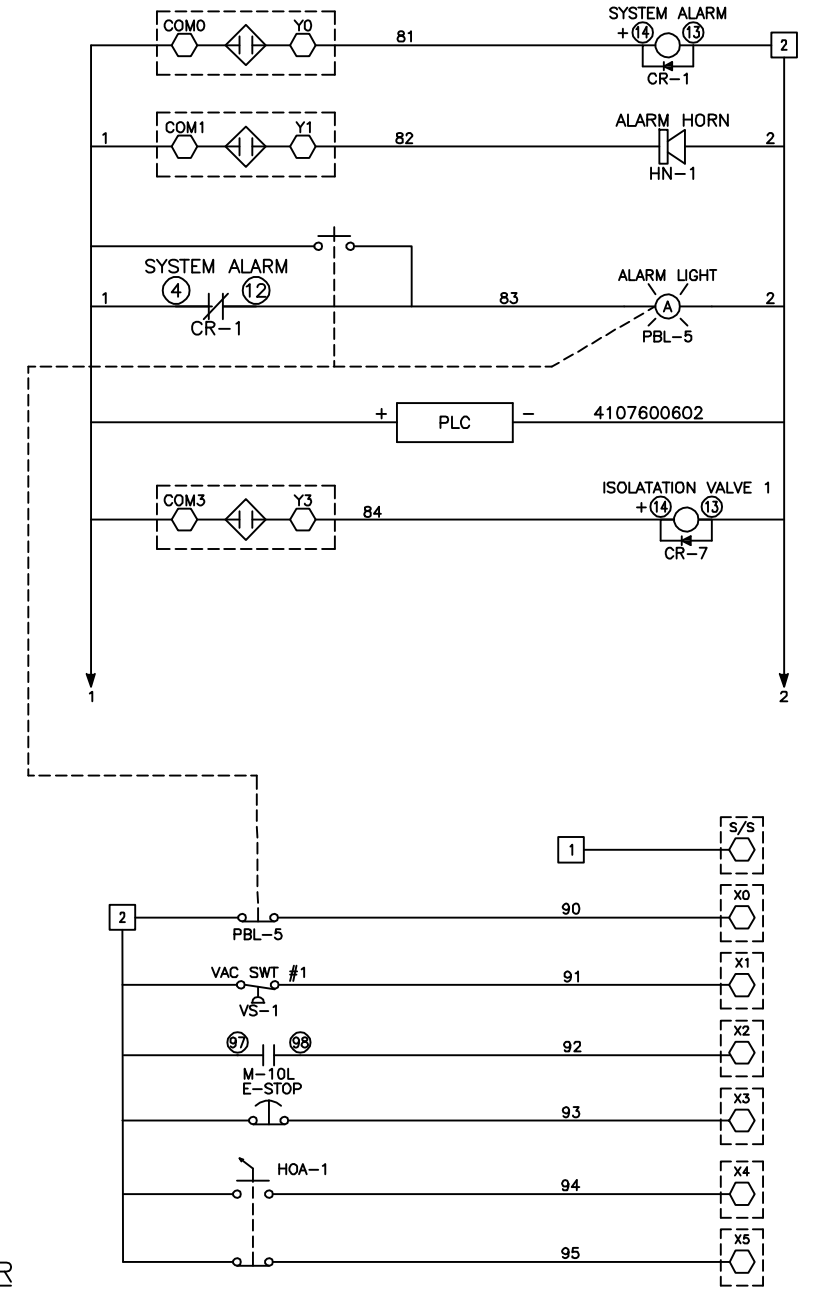
PLC WITH COVER REMOVED



ADJUSTABLE POT 2

\*ADJUSTABLE POT 1 NOT USED

PURGE RUN TIMER	
RANGE	SETTING
0-15 MIN	5



Revised:	Date:	Drawn:	TAR	Date:	12/29/18
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Description: DWG WIRING CONTROL SX LAB LUBE 1.5-5HP BASIC 208-460/3/50-60, 65kA		Part Number: 4107 8568 63		Scale: NTS	
DNE HOP 180863		Rev: 00		Sheet 1 of 1 DO NOT SCALE THIS DOCUMENT	