

**NOTES**

- 1) ALL DIMENSIONS ARE GIVEN IN INCHES UNLESS OTHERWISE SPECIFIED.
- 2) DESIGN CONDITIONS:  
883 GPM @ 100 PSI  
MAX TEMP 140 °F  
FLOODED SUCTION REQUIRED
- 3) BACKWASH FLOWRATE: 660-883 GPM
- 4) REQUIRED AIR PRESSURE: 80-100 PSI
- 5) APPROXIMATE MASS:  
SYSTEM: 6370 LBS  
OPERATING: 29298 LBS

#	COMPONENT
1	NEMA 4X, UL, 460V/3PH/60Hz CONTROL PANEL
2	MEDIA TANK: 90" EPOXY COATED CARBON STEEL
3	PUMP: 15HP 1800RPM, 460/3/60, 883 GPM @ 50' TDH
4	INLET/OUTLET PRESSURE GAUGES: 2.5" 0-100 PSI, LIQ FILLED
5	MEDIA: UNIGRAN #50 (X200), UNIGRAN #475 (X136)
6	UNDERDRAIN/OVERDRAIN: SLOTTED PVC/ SCH 80 PVC
7	AIR RELIEF VALVE: BARAK 2"NPT
8	PNEUMATIC VALVE ACTUATOR: BRAY S93-210
9	FILTER VALVES: BRAY S-31, BUTTERFLY, EPDM SEATS
10	BASE: EPOXY COATED CARBON STEEL I-BEAM
11	FACE PIPE: 6" PVC SCH 80

**amiad**<sup>®</sup> WATER SYSTEMS  
 120-J TALBERT ROAD  
 MOORESVILLE, NC 28117  
 PH: (704) 662-3133  
 FAX: (704) 662-3155

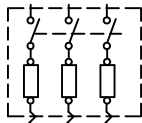
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DRAWING DATE: 7/28/2016	DRAWING TITLE: BMF-90 CS TANK WITH FACE PIPING AND PUMP
SCALE: 1:52	DRAWING NUMBER: <b>210490-000007</b>
SHEET 1 OF 2	CAT NUMBER: 210490-000007
DRAWN BY: MAV	REV. NO. 0
CHECKED BY: SAL	GENERAL TOLERANCES (EXCEPT AS NOTED)
APPROVED BY: _____	ANGULAR ± 1° FRACTIONAL ± 1/8" Dec: 2 PL ± 0.05', 3 PL ± 0.010"

NO.	REVISION NOTES	DATE	BY

460V/3 $\phi$ /60 Hz

L1 L2 L3

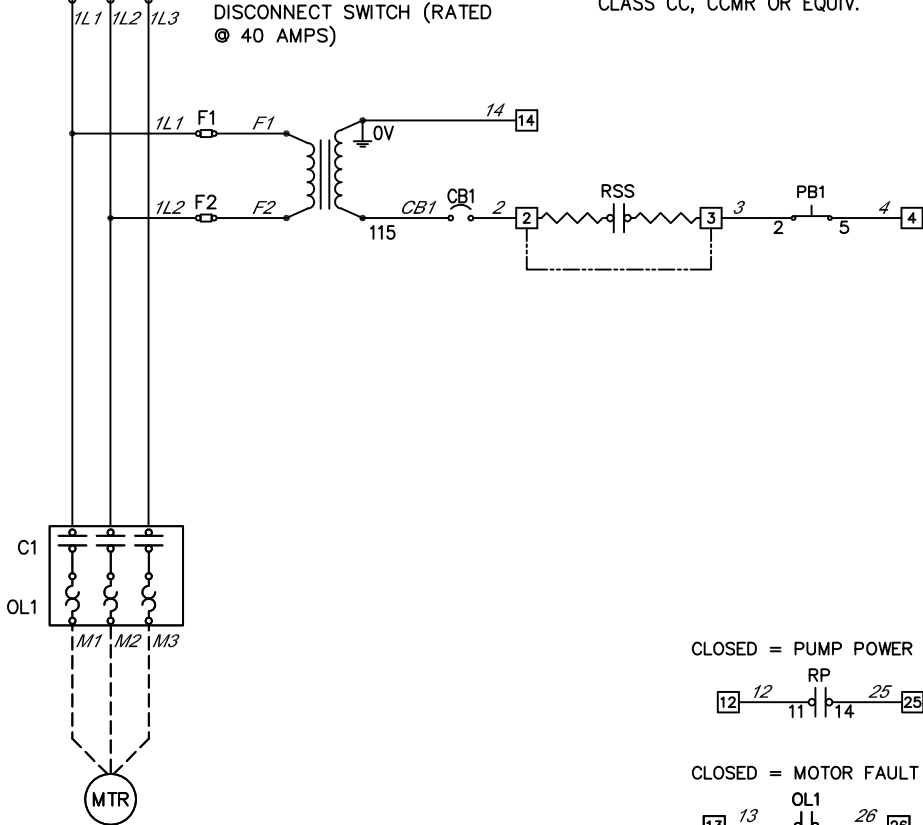


MAIN DISCONNECT AND BRANCH CIRCUIT PROTECTION PROVIDED BY OTHERS (MAXIMUM OF 70A DUAL TIME DELAY FUSE OR 100A INVERSE TIME BREAKER RECOMMENDED)

150VA TRANSFORMER		
Voltage	Fuse	Location
460	1A	H1-H4
230	2A	H2-H4
208	2A	H3-H4

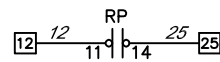
LOCKABLE NON-FUSED DISCONNECT SWITCH (RATED @ 40 AMPS)

ALL PRIMARY FUSING TO BE LITTELFUSE CLASS CC, CCMR OR EQUIV.

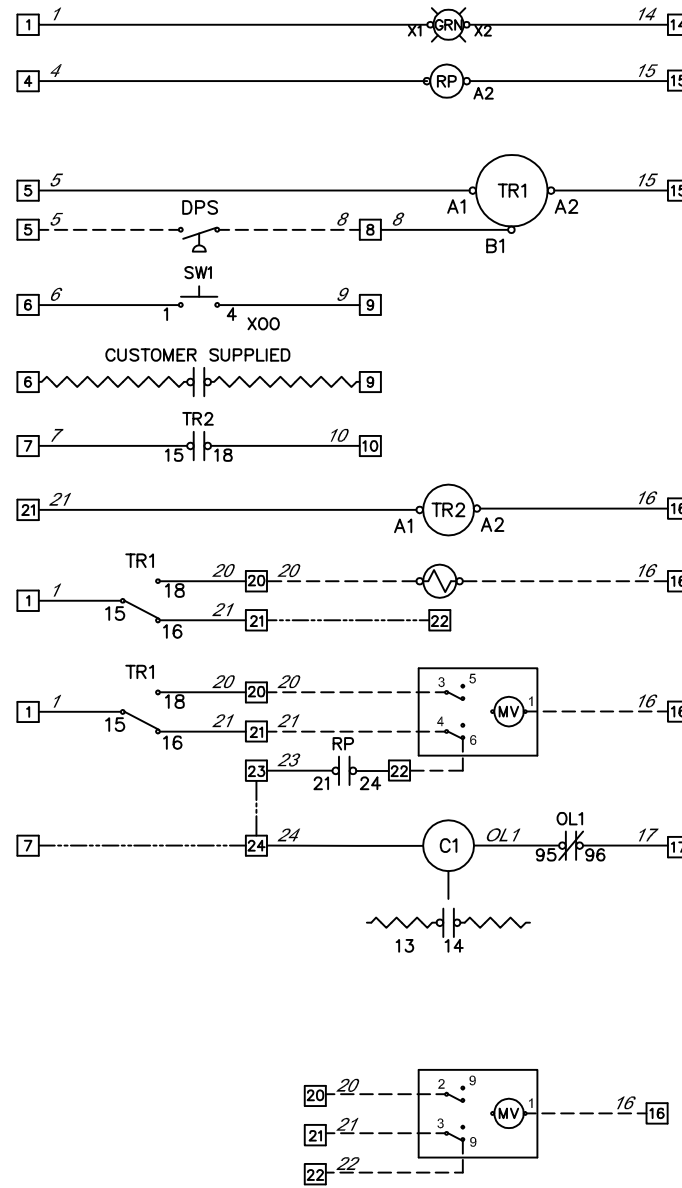
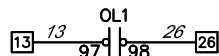


MAX. VOLTAGE: 600V  
MAX. AMPERES: 39.00A

CLOSED = PUMP POWER ON



CLOSED = MOTOR FAULT



POWER ON LIGHT

PUMP POWER ON

FLUSH DURATION (2 MIN)  
DIFFERENTIAL PRESSURE

LOCAL FLUSH START

REMOTE FLUSH START

CYCLE TIMER

CYCLE TIMER  
(0.05S-60HRS)  
FLUSH VALVE OPTIONS  
(SHOP TO ADD JUMPER  
FROM TB21 TO TB22 IF  
SOLENOID FLUSH VALVE  
IS USED)

SYSTEM PUMP (REMOVE  
JUMPER FROM TB7 TO  
TB24 FOR EXTERNAL  
SOURCE FLUSH; REMOVE  
MECHANICAL JUMPER  
FROM TB23 TO TB24 FOR  
SYSTEM FLUSH)

MOTOR ON DRY CONTACTS

OPTIONAL BRAY ACTUATOR

POWER	POWER	460V/3~ /60HZ
	TOTAL FLA	40 AMPS
	SCCR	5 kA RMS SYMMETRICAL, 600V MAX.
	LARGEST MTR.	35 HP

ENCLOSURE	STANDARD	UL 508A
	SIZE	12"L x 10"W x 6"D
	UL RATING	TYPE 4X
	MATERIAL	POLYCARBONATE

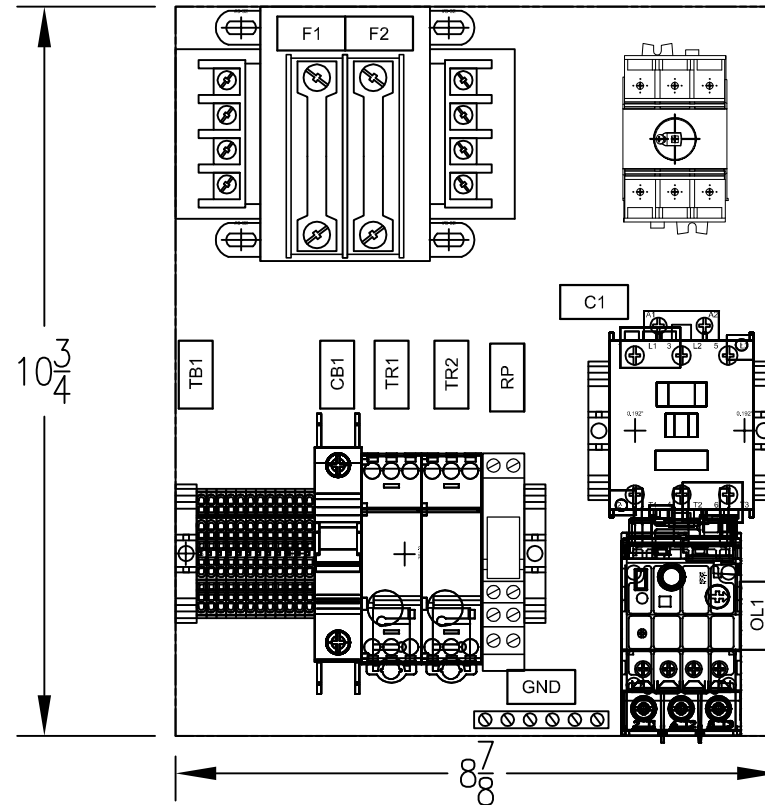
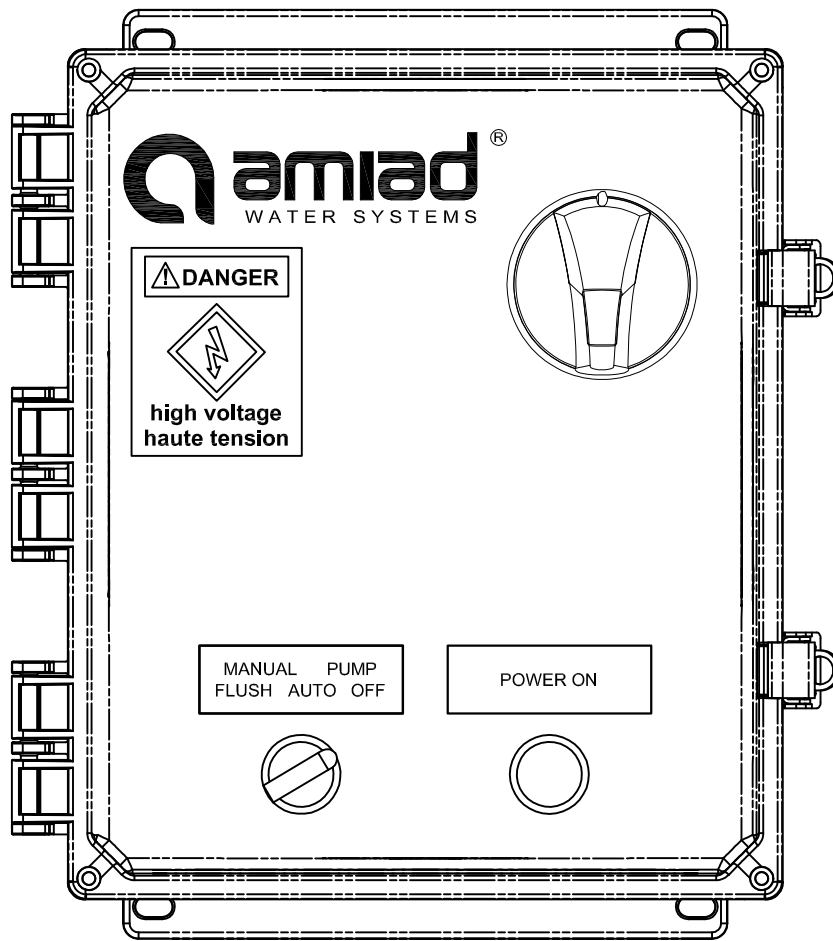
- GROUND PER 2011 NATIONAL ELECTRICAL CODE ARTICLE 250.
- PANEL WIRING:  
SHOP/FIELD WIRING: \_\_\_\_\_  
CUSTOMER'S WIRING: \_\_\_\_\_  
FACTORY INSTALLED JUMPER: \_\_\_\_\_
- USE COPPER WIRE RATED 60°C MINIMUM UNLESS OTHERWISE SPECIFIED.
- DISCONNECT SWITCH TORQUE REQUIREMENTS: 35 LB IN. CONTACTOR/OVERLOAD TORQUE REQUIREMENTS: 7-10 LB IN.
- SIZE THE MAIN DISCONNECT AND BRANCH CIRCUIT PROTECTION PER 2011 NATIONAL ELECTRICAL CODE ARTICLE 430.

- CONDUIT HUBS AND FITTINGS MUST HAVE THE SAME UL ENVIRONMENTAL RATING AS THE CONTROL PANEL ENCLOSURE.
- WIRE COLORS ARE AS FOLLOWS-LINE=BLACK, AC=RED, NEUTRAL=WHITE, DC+=BLUE, DC-=WHITE/BLUE, GROUND=GREEN/YELLOW, EXTERNAL SOURCE=YELLOW.
- SET MOTOR OVERLOADS ACCORDING FLA ON MOTOR DATA PLATE
- ALL MOTOR WIRING TO BE AT LEAST CU, 75° RATED.
- TB1= [5] TBA= (1) TBB= (1)

**Amiad** WATER SYSTEMS 120-J TALBERT ROAD MOORESVILLE, NC 28117 USA (704) 662-3133 FAX (704) 662-3155

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5	10/5/2017	DELETE COUNTER	RAM	DRAWING DATE:	05/09/2014	DRAWING TITLE:	1F 460V/3~ UNI/SOL PEP 16.01-40A WIRING DIAGRAM
4	08/31/2016	ADD COUNTER, FIX PUMP "SOURCE" POWER	RAM	SCALE:	1" = 1"	DRAWING NUMBER:	720102-002093-ELC
3	07/27/2015	ADD OPTIONAL BRAY ACTUATOR	RAM	SHT.	1 of 2	REV. NO.	5
2	07/10/2014	MOTOR CONTROL	CEH	DRAWN BY:	JTE	CATALOG NUMBER:	720102-002093
1	06/03/2014	WIRE LABELS	JTE	CHKD BY:	---	GENERAL TOLERANCES	(EXCEPT AS NOTED)
NO.	DATE	NOTES	BY	APP. BY:	---	ANGULAR	±1°
GENERAL REVISIONS						FRACTIONAL	± 1/8"
						DEC:	2PL±0.05", 3PL±0.010"



UPPER LEVEL

1	2	3	4	5	6	7	8	9	10	11	12	13
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LOWER LEVEL

14	15	16	17	18	19	20	21	22	23	24	25	26
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**NOTE**

1. ALL HARDWARE WILL INCLUDE ONE MECHANICAL LOCK AND A FLAT WASHER.
2. THE ONLY EXCEPTION IS IF THE MECHANICAL SCREW IS A SELF-THREADING SCREW.
3. IF BOLT/SCREW NEEDS TO GO THROUGH A THROUGH-HOLE, THE BOLT/SCREW WILL NEED A FLAT WASHER ON BOTH SIDES OF THE MATERIAL AND MECHANICAL LOCK BEFORE THE NUT.
4. ALL HARDWARE HAS TO THREAD AT LEAST TWO COMPLETE TURNS THROUGH THE NUT/THREADED HOLE
5. IF VISIBLE, NO HARDWARE WILL EXTEND PAST THREE THREADS OUT OF THE NUT/THREADED HOLE.
6. BACKPLANE AND DEAD FRONT IF REQUIRED ARE TO BE GROUNDED ACCORDING NEC 70E.
7. UNLESS OTHERWISE NOTED, ALL CONTACTORS WILL BE AB 100-C, OVERLOADS AB 193 E-1, CONTROL RELAYS AB 700-HLT, AND CIRCUIT BREAKERS AB 1489.

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DRAWING DATE: 05/09/2014	DRAWING TITLE: 1F 460V/3~ UNI/SOL PEP 16.01-40A WIRING DIAGRAM				
SCALE: 1" = 3"	DRAWING NUMBER: 720102-002093-ELC				
SHT. 2 of 2	REV. NO. 5				
DRAWN BY: JTE	CATALOG NUMBER: 720102-002093				
NO. DATE	NOTES	BY	CHKD BY: ---	GENERAL TOLERANCES (EXCEPT AS NOTED)	ANGULAR ±1° FRACTIONAL ± 1/8" DEC: 2PL±0.05", 3PL±0.010"
GENERAL REVISIONS					
APP. BY: ---					