
COX

Research and Technology, Inc.

SIMPLEX PUMP CONTROL PANEL

SPRINGFIELD TERRACE WATER SYSTEM

Cox Research and Technology, Inc.
14697 S. Harrells Ferry Road
Baton Rouge, LA. 70816
(225) 756-3271 Fax (225) 755-1030

CP-1937

VOLTAGE	277/480V	(480V, 277/480V, 240V, 120/240V, 208V, 120/208V)
PHASE/HZ	3/60	
NO. MOTORS	1	
HP	20	
FLA	27	
TYPE OF PUMP	Self Priming	(Self-Priming, Submersible)
MANUFACTURER		
CATALOG NUMBER		
CONTROL VOLTAGE	120V	(120V, Other)
ENCLOSURE	NEMA 3R	(NEMA 1, NEMA 3R, NEMA 4, NEMA 4X)
ENCLOSURE MATERIAL	Painted Steel	(Painted Steel, Stainless Steel, Fiberglass)
CONTROL SENSOR	Remote Contact	(Floats, Bubbler, Other)
CAPACITORS	No	(Yes, No)
CAPACITOR WIRING FIGURE	N/A	
THERM. & SEAL FAIL WIRING FIGURE		

OPTIONS:

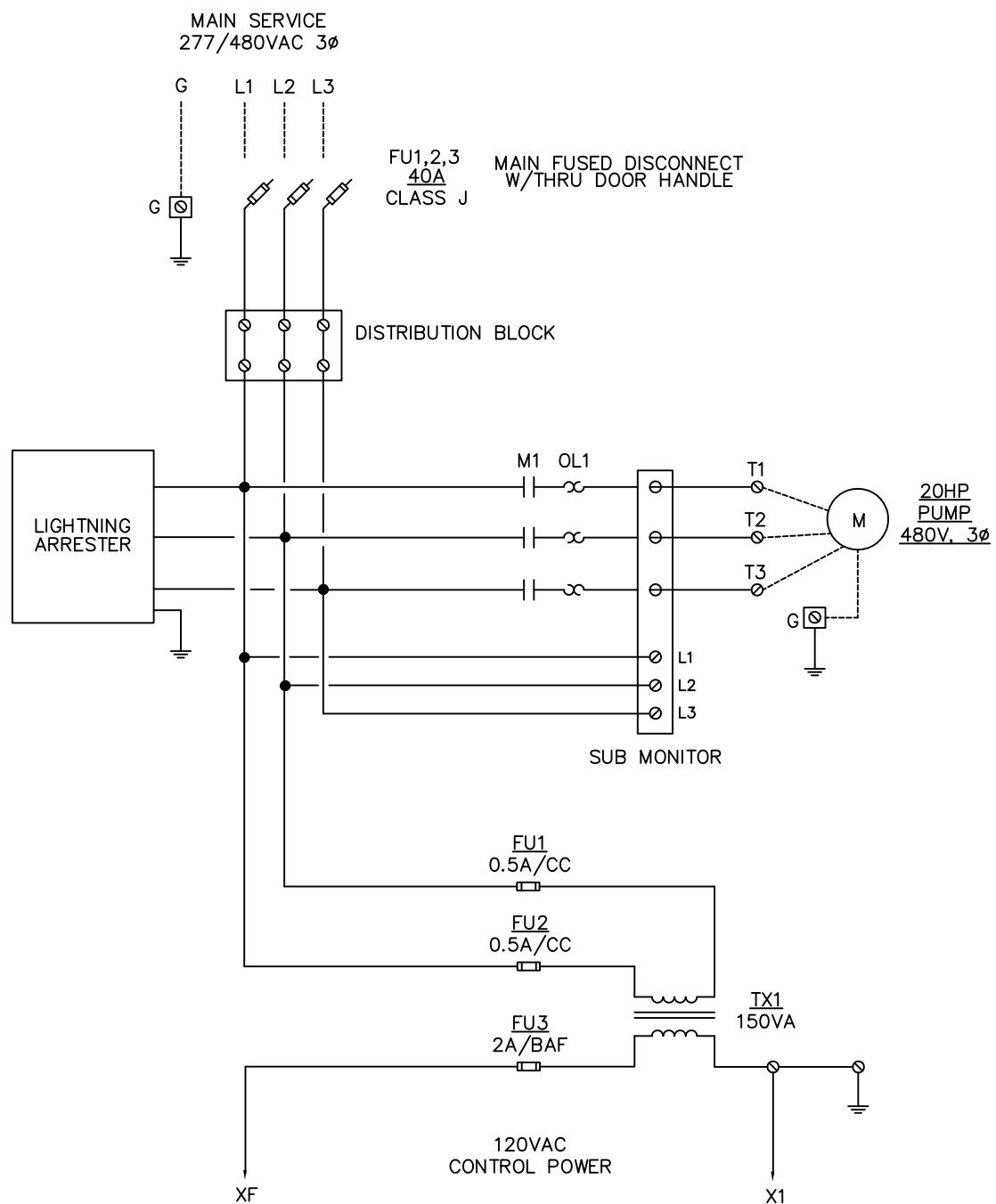
SEAL FAIL LIGHTS		(Submersible Only)
SEAL FAIL RELAYS		(Submersible Only)
SEAL FAIL PUMP SHUTDOWN		(Submersible Only)
HT PUMP SHUTDOWN	X	(Self-Primer, Submersible)
ALARM HORN		
ALARM LIGHT		
LIGHT PANEL MTD		
LIGHT REMOTE MTD		
LIGHT FLASHER		
LIGHTNING ARRESTER	X	
ELAPSED TIME METER		
PHASE MONITOR	X Sub Monitor	
NEMA RATED STARTERS		
GROUND FAULT RECPT.		
GREEN RUN LIGHTS VS. RED		
POLE, BOX, SEAL		
INTRINSICALLY SAFE RELAYS		
HIGH TEMP. LOCKOUT, MANUAL RESET		
ECONOMY VERSION		

SOLD TO: Armco Electric
 TAG : Springfield Terrace Water Plant

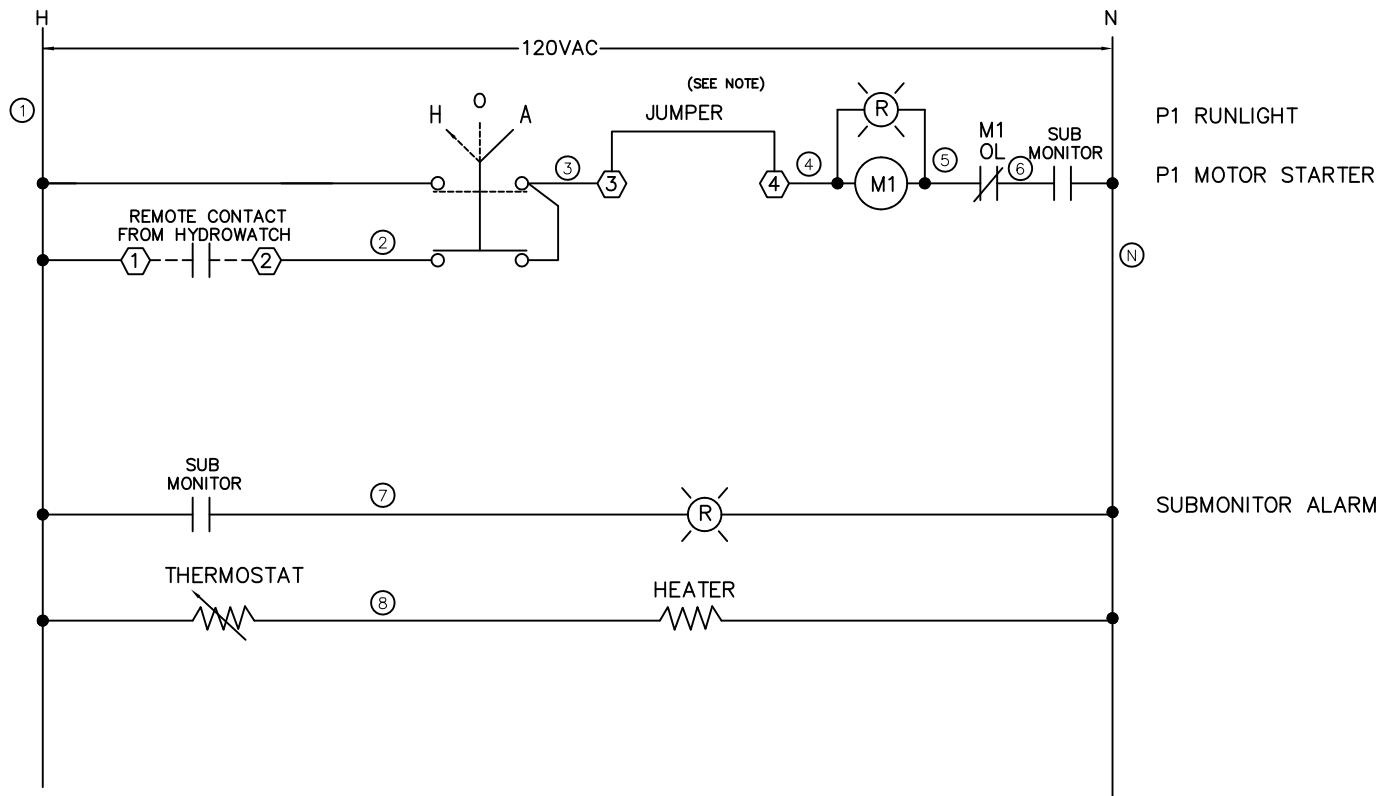
SHIP TO: Armco Electric

	Drawing Title								
	PANEL DESCRIPTION								
		REFERENCE DRAWING		NO.	REVISION-LOCATION		ECN	DATE	BY
		S/N	Sales Engineer	Application Engineer	DRAWN		APPROVED		
DATE 10/26/04			C.C.	R.C.	BY	C. RACHAL	BY	DATE	
	Project Title								
	SIMPLEX PUMP CONTROL PANEL	<hr/> <hr/> <hr/>		<hr/> <hr/> <hr/>		P.O. Box 77808 Baton Rouge, LA 70809		PURCHASE ORDER NUMBER	
		<hr/> <hr/> <hr/>		<hr/> <hr/> <hr/>		DRAWING NUMBER		CP-1937	
		<hr/> <hr/> <hr/>		<hr/> <hr/> <hr/>		SHEET NUMBER		1	

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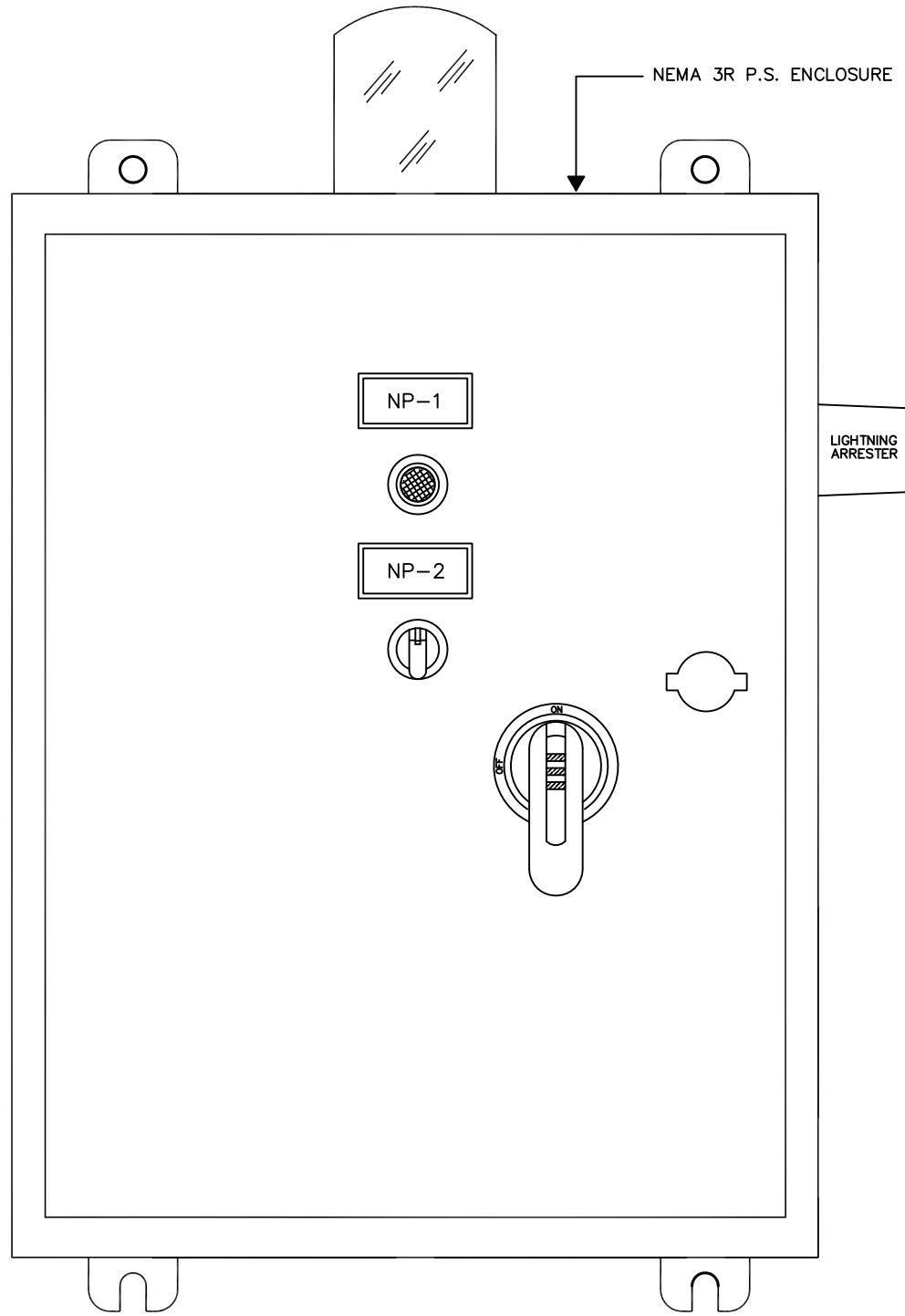
	Drawing Title					
	POWER DIAGRAM					
DATE 10/26/04	REFERENCE DRAWING S/N	NO. Sales Engineer C.C.	REVISION-LOCATION Application Engineer R.C.	ECN DRAWN BY C. RACHAL	DATE APPROVED BY DATE	BY
	Project Title					
	SIMPLEX PUMP CONTROL PANEL	COX Research and Technology, Inc.	P.O. Box 77808 Baton Rouge, LA 70809	PURCHASE ORDER NUMBER		
			Ph. (225)756-3271 Fax (225)756-1030	DRAWING NUMBER CP-1937		
				SHEET NUMBER 2		



NOTE:

REMOVE JUMPER AND INSTALL LOCKOUT DEVICES IF REQUIRED.

	Drawing Title CONTROL DIAGRAM					
		REFERENCE DRAWING S/N	NO. C.C.	REVISION-LOCATION DRAWN BY C. RACHAL	ECN	DATE APPROVED BY DATE
DATE 10/26/04		Sales Engineer	Application Engineer R.C.			
	Project Title SIMPLEX PUMP CONTROL PANEL	COX Research and Technology, Inc.	P.O. Box 77808 Baton Rouge, LA 70809 Ph. (225)756-3271 Fax (225)756-1030	PURCHASE ORDER NUMBER DRAWING NUMBER CP-1937 SHEET NUMBER 3		



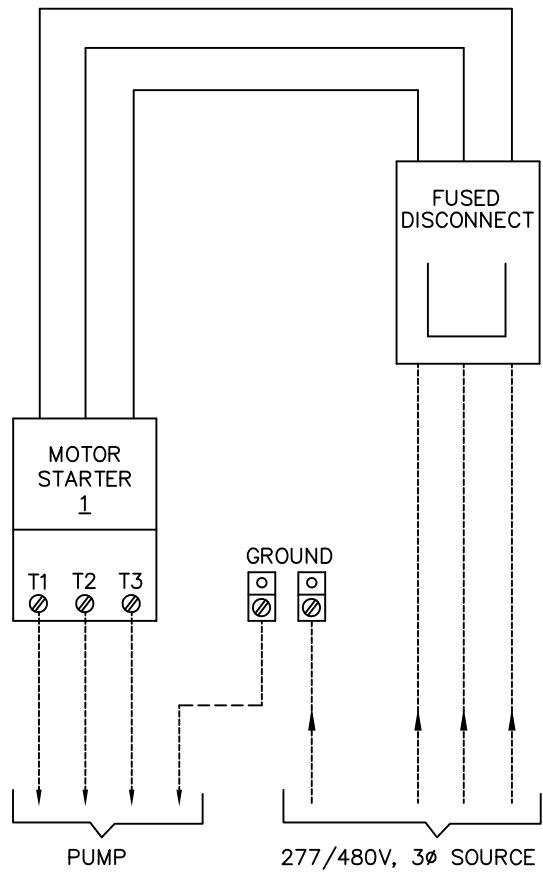
VIEW OF FRONT OF ENCLOSURE

NAMEPLATE SCHEDULE

NOTE:
SEWER GASES WILL DESTROY COMPONENTS IN PANEL.
PROPER SEALS MUST BE INSTALLED EXTERNAL TO THE
PANEL TO PREVENT ENTRY OF GASES.

NP-1	PUMP RUN
NP-2	HOA

	Drawing Title					
	ENCLOSURE					
DATE 10/26/04	REFERENCE DRAWING S/N	NO. C.C.	REVISION-LOCATION DRAWN BY C. RACHAL	ECN	DATE	BY
	Sales Engineer	Application Engineer R.C.			APPROVED	
				BY	DATE	
	Project Title	<hr/> <hr/> <hr/> COX <hr/> <hr/>	P.O. Box 77808 Baton Rouge, LA 70809	PURCHASE ORDER NUMBER		
	SIMPLEX PUMP CONTROL PANEL		Ph. (225)756-3271 Fax (225)756-1030	DRAWING NUMBER CP-1937		
				SHEET NUMBER 4		



	Drawing Title					
	EXTERNAL CONNECTIONS					
DATE 10/26/04	REFERENCE DRAWING S/N	NO. Sales Engineer C.C.	REVISION-LOCATION Application Engineer R.C.	ECN DRAWN BY C. RACHAL	DATE APPROVED BY DATE	BY
Project Title SIMPLEX PUMP CONTROL PANEL	COX Research and Technology, Inc.			P.O. Box 77808 Baton Rouge, LA 70809 Ph. (225)756-3271 Fax (225)756-1030	PURCHASE ORDER NUMBER DRAWING NUMBER CP-1937 SHEET NUMBER 5	

BILL OF MATERIAL

ITEM	QTY	MANUFACTURER	PART NO.	DESCRIPTION
1	1	EBE	242010REPL	ENCLOSURE
1a	1	EBE	A2420P	BACKPLATE
2	1	ABB	A40-30-10-84	MOTOR STARTER
3	1	ABB	TA42DU32	O.L. RELAY (22-32A)
4	1	ABB	OS60J12	FUSED DISCONNECT
5	1	ACI	JR22FR	RED PILOT LIGHT
6	1	ACI	JR22P3M20B	HOA SWITCH
7	1	ABB	T4150PSF1	TRANSFORMER
8	1	MARATHON	1323580	DISTRIBUTION BLOCK
9	1	ABB	OXP6X210	SHAFT
10	1	ABB	OH65J6	HANDLE
11	1	FRANKLIN ELECTRIC	SUB MONITOR	PUMP MONITOR
12	1	AC/DC	BL5-R-120	ALARM LIGHT
13	1	DAYTON	4BA54	HEATER
14	1	DELTA	LA603	LIGHTNING ARRESTER
15				
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24				
25				

	Drawing Title									
	BILL OF MATERIALS									
			REFERENCE DRAWING		NO.	REVISION-LOCATION		ECN	DATE	BY
DATE 10/26/04			S/N	Sales Engineer	Application Engineer	DRAWN		APPROVED		
			C.C.		R.C.	BY C.RACHAL	BY	DATE		
	Project Title		 COX <small>Research and Technology, Inc.</small>			P.O. Box 77808 Baton Rouge, LA 70809 Ph. (225)756-3271 Fax (225)756-1030			PURCHASE ORDER NUMBER	
	SIMPLEX PUMP CONTROL PANEL				DRAWING NUMBER					
					CP-1937					
					SHEET NUMBER		6			

SUB MONITOR FEATURES

- BUILT IN ADJUSTABLE TIME DELAY TO PREVENT RAPID CYCLING
- PROTECTION AGAINST PHASE LOSS AND PHASE REVERSAL
- UNDER CURRENT PROTECTION (COULD POSSIBLY SIGNIFY INADEQUATE WATER FLOW)
- OVER CURRENT PROTECTION TO PROTECT MOTOR ON HIGH AMPS
- OVER/UNDER VOLTAGE PROTECTION
- CURRENT UNBALANCE

SEQUENCE OF OPERATION

PLACING THE SWITCH IN THE HAND POSITION STARTS THE PUMP MANUALLY.

PLACING THE SWITCH IN THE OFF POSITION KEEPS THE PUMP FROM RUNNING.

IF THE SWITCH IS PLACED IN THE AUTO POSITION, THE PUMP WILL RUN

WHEN A SIGNAL IS RECEIVED FROM THE HYDROWATCH. THIS SIGNAL

WILL START AND STOP THE PUMP. SHOULD THE PUMP DRAW AN OVER

CURRENT, THE MOTOR OVERLOAD WILL TRIP AND STOP THE PUMP.

THE OVERLOAD WILL HAVE TO BE MANUALLY RESET ONCE THE CAUSE OF

THE OVER CURRENT IS RESOLVED.

THE SUB MONITOR FEATURES RAPID CYCLING PREVENTION, PROTECTION

AGAINST PHASE LOSS, PHASE REVERSAL, UNDER AND OVER CURRENT,

UNDER AND OVER VOLTAGE, AND CURRENT UNBALANCE. IF THE

SUB MONITOR SHOULD SENSE ANY OF THESE FAULTS, A CONTACT WILL

OPEN AND SHUT THE PUMP DOWN. AN INTERNAL TIME DELAY WILL RESTART

THE PUMP AFTER THE FAULT HAS CLEARED.