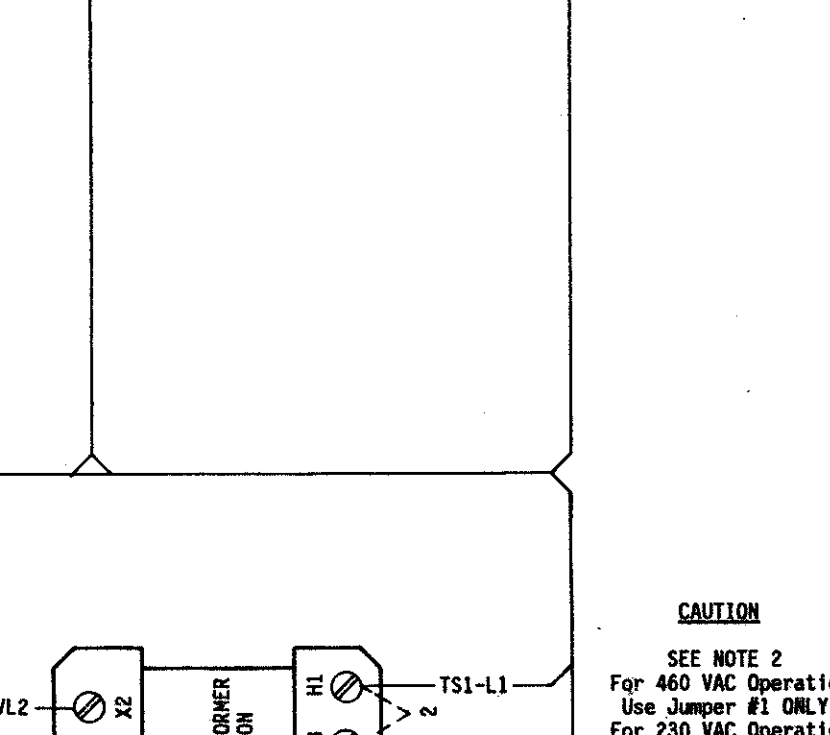
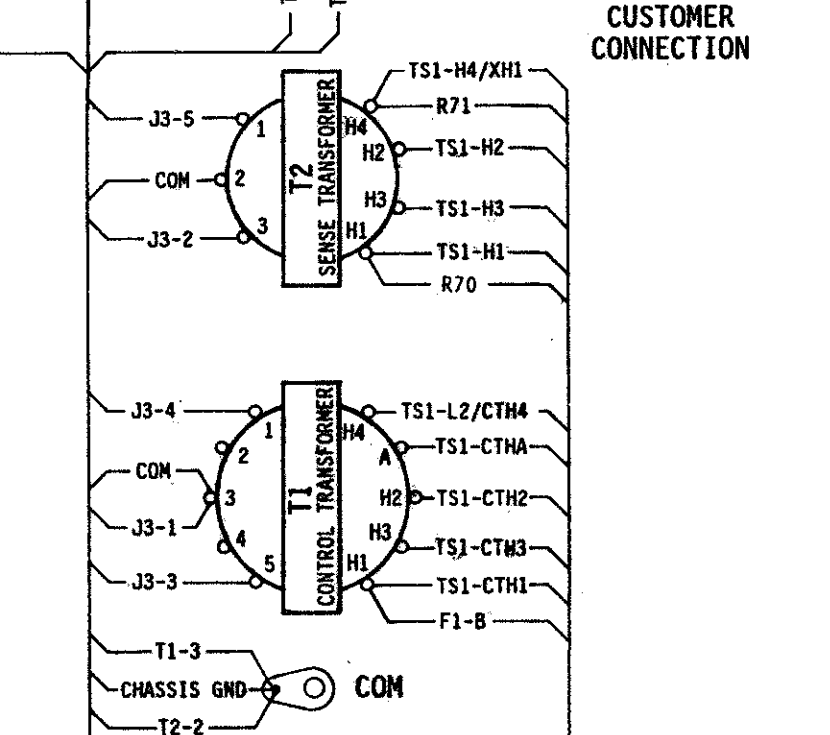
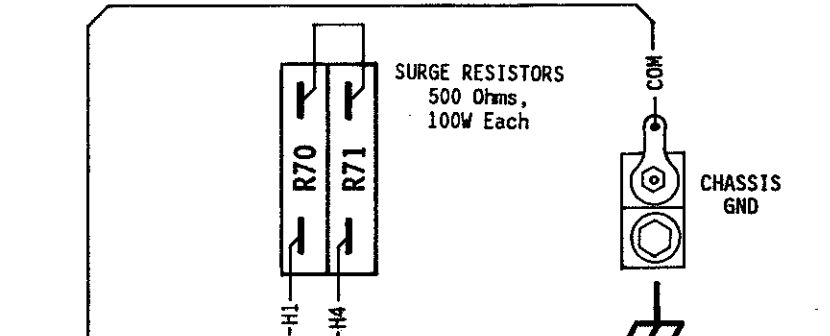


WARNING: HIGH VOLTAGE
 VOLTAGES PRESENT IN THIS CONTROL CAN CAUSE SEVERE OR FATAL INJURIES.
 NOTE: EVEN THOUGH SUPPLY POWER TO THIS UNIT HAS BEEN DISCONNECTED, THERE MAY BE VOLTAGES IN THIS CONTROL ORIGINATING FROM OTHER SOURCES.
 FOR ALL VOLTAGE POTENTIAL TO BE REMOVED FROM THIS CONTROL, POWER MUST BE REMOVED FROM ALL EXTERNAL CONTROL CIRCUITS CONNECTED TO TERMINALS IN THIS CABINET.

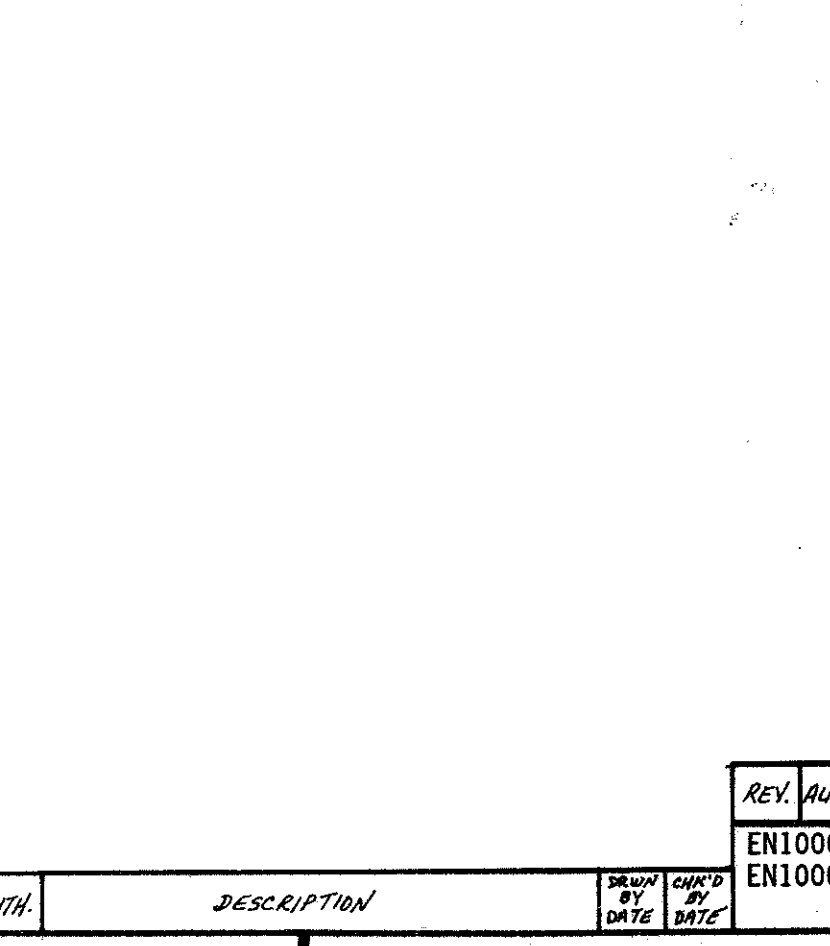
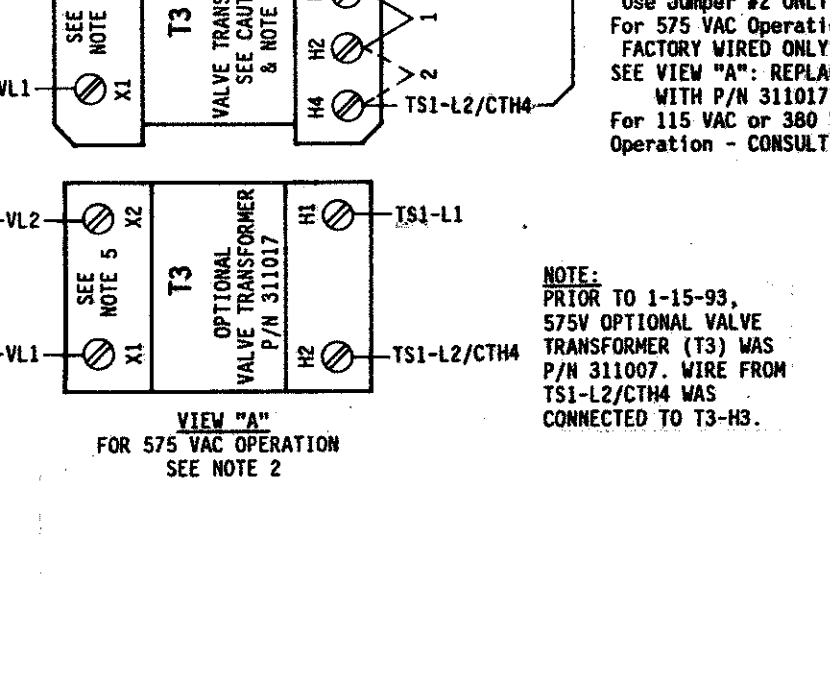
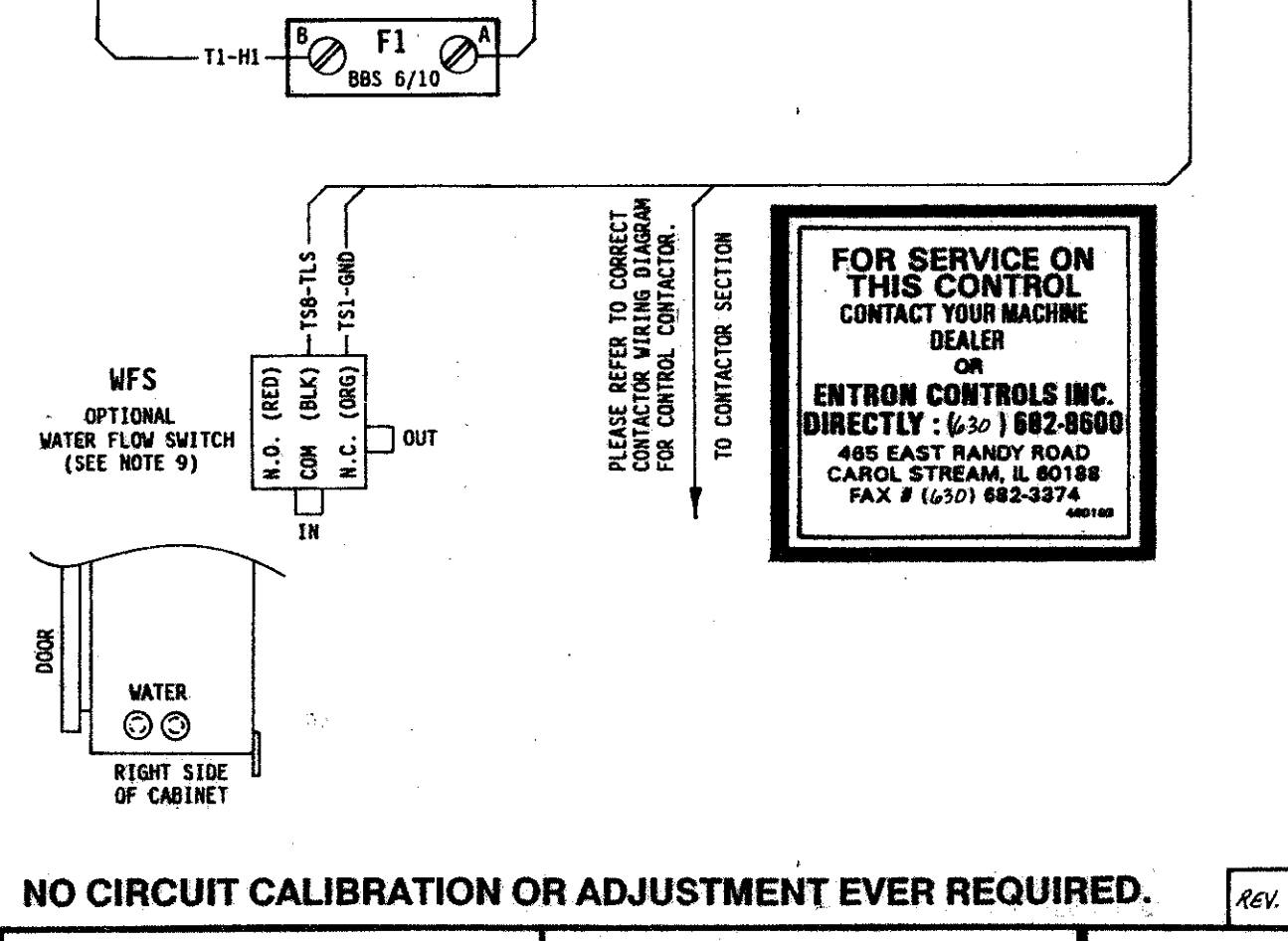
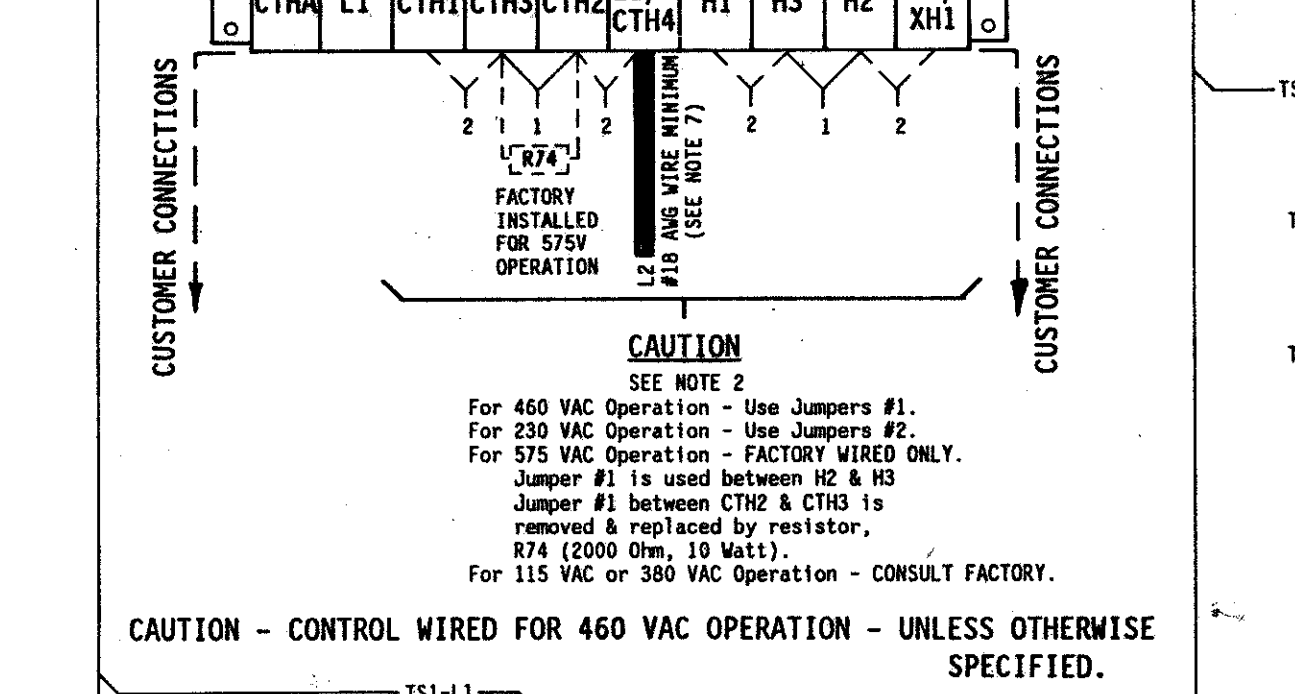
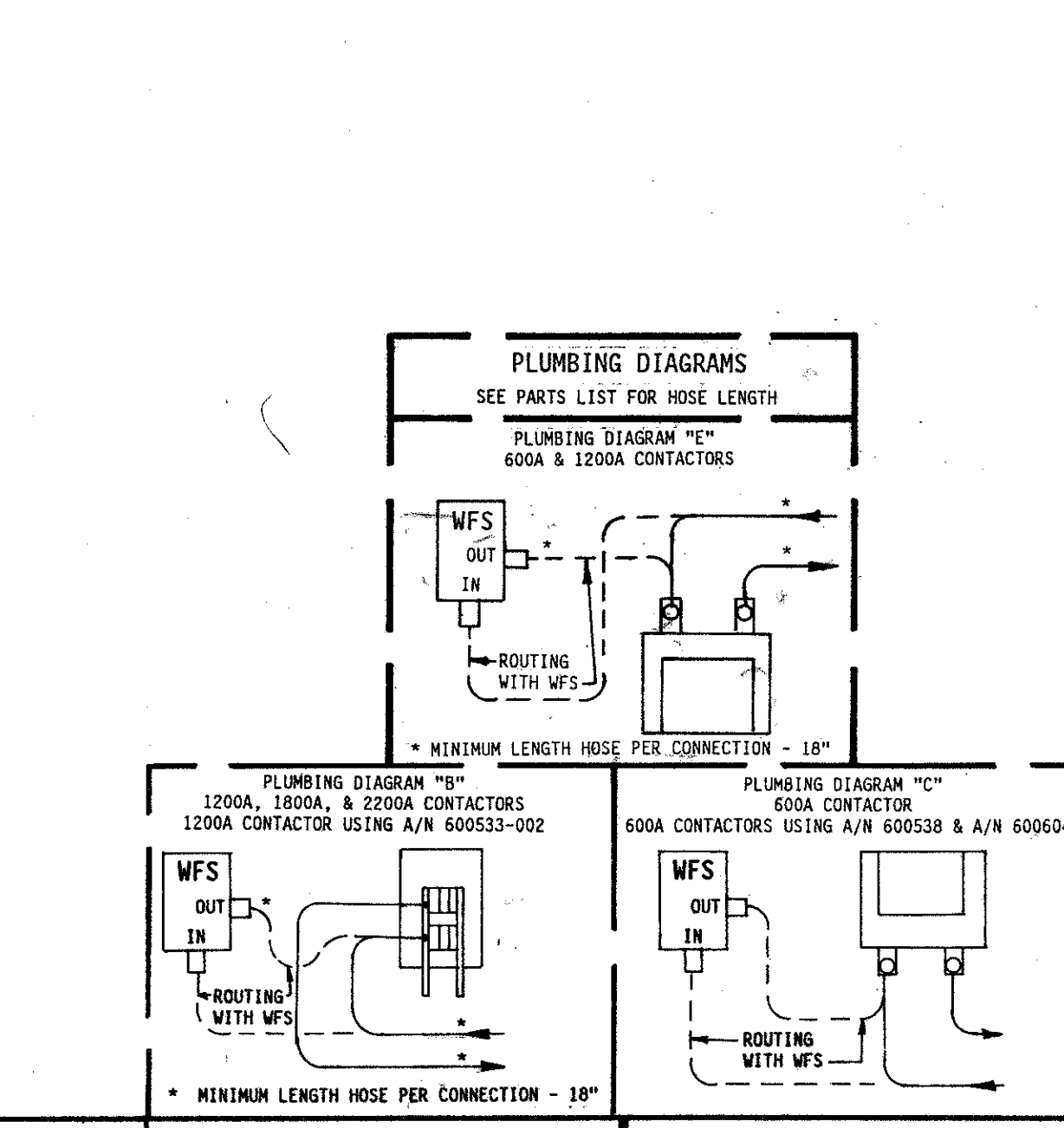
CAUTION
 DO NOT OPERATE WITHOUT WATER ON
 POWER ON WITHOUT WATER FLOW MAY CAUSE DAMAGE TO CONTROL.
 TURN POWER OFF WHEN CONTROL IS NOT IN USE.

CAUTION
 Control Shipped Wired for 460 VAC. Unless otherwise specified - See Note 2.



- 13. To convert the Control Panel from side mounted cabinet control to door mounted or door mounted cabinet control to side mounted. Remove Cover Plate and Control Panel Dial Plate Assembly. Position spiral wrap around all harness wiring to prevent interference of wiring with the closing of cabinet door. When mounting Control Panel on side of cabinet, use clamp to secure J3 harness wires. CAUTION: When changing the position of the Control Panel, be sure harness wires do NOT interfere with the closing of the cabinet door. Wires may pinch in between door & cabinet and cause damage to wiring.
- 14. See Wiring Diagram #421180-003 for EN1000/1/2-Series, "S" Cabinet. See Wiring Diagram #421212-003 for EN1000/1/2-Series, "E" Cabinet.

- It is recommended that control wiring (i.e.: initiation, pressure switch, etc.) be physically separated from the high voltage wiring (115 volts or higher).
- For 460 VAC Operation - Use Jumper #1 on T3 & T51. As shipped unless otherwise specified.
 For 230 VAC Operation - Use Jumper #2 on T3 & T51.
 For 575 VAC Operation - FACTORY WIRED ONLY. SEE VIEW "A".
 Replace T3 with P/N 311017. Wire per View "A". Use Jumper #1 between H2 & H3 on T51. Use Resistor R74 (2000 Ohm, 10 Watt) in place of Jumper #1 between CTH2 & CTH3 on T51.
 For 115 VAC or 380 VAC Operation - CONSULT FACTORY.
- For Single Stage Pilot Operation - Connect pilot switch to T51-F53 & T51-GND. No jumpers required across T51-F51 & T51-GND.
 For Two Stage Pilot Operation - Connect 1st stage pilot switch to T51-F51 & T51-GND. Connect 2nd stage pilot switch to T51-F53 & T51-GND.
 For DUAL COUNT/DUAL CURRENT (Dual Weld/Dual Heat) or TRIPLE COUNT/TRIPLE CURRENT (Triple Weld/Triple Heat) or External Schedule Selection, SEE MANUAL.
- EN1000-SERIES "D"/"LS"/"LF" Cabinet:
 ENTRON supplies Temperature Limit Switch (TLS) P/N 300020 and provides connections to T51-TLS1/AUX1 & T51-GND. Jumper not required between T51-TLS1/AUX1 & T51-GND. NOTE: TLS SCR will open at temperatures greater than or equal to 150°F.
 When external valve power is supplied to the control. Remove and insulate leads T51-VL1 & T51-VL2 on the Terminal Strip Board (PCB2). (From T3-X1 & T3-X2). Connect external AC power supply (24-240 VAC) to T51-VL1 & T51-SV2/SV4/VL2. CAUTION: Do not overtighten T51.
- VALVE USAGE:
 T51-SV1 & T51-SV2/SV4/VL2 can ONLY be used for Solenoid Valve. Valve 2 and 3 are used to Disable SCR1 & SCR2 for 1/2 Cycle Operation. See Application Note 700114 for more information.
- Connect T51-L2/CTH4 to L2/H2 side of Welding Transformer Primary. (Factory wired on controls supplied with Circuit Isolation Device).
- When Optional Program Lockout is specified by customer. Dial Plate A/N 603528-001 replaces A/N 600528. Add Switch P/N 600531-001 and remove Note Plug P/N 565003.
- When TLS and WFS are used together, add WFS P/N 600297 & Terminal Strip T38 P/N 335017. Wire as shown below. Jumper not required between T51-TLS1/AUX1 & T51-GND. WFS will open with flows less than .75 GPM.
- When Optional Circuit Isolation Device is required list P/N and size of Circuit Isolation Device, and note appropriate cabinet A/N.



NO CIRCUIT CALIBRATION OR ADJUSTMENT EVER REQUIRED.

421210-010 A

QTY.	DESIG.	PART NO.	DESCRIPTION
1	9	600528	Assem., Dial Plate, w/Sw. Assem., EN1000, Consisting of: Assem., Dial Plate, w/Sw. Assem. & Keypad, EN1000, Consisting of:
1	1	600541	Assem., Switch, Sequence Control & Display Board
1	1	540251	Assem., Switch, Keypad, Momentary, SPST
1	1	515104	Panel, Display Window, Red Filter, EN1000
1	1	565003	Hole Plug, 3/4" Diam., Black
1	1	305001	Lamp, Neon, Red, 230V
1	1	305002	Lamp, Neon, Clear, 230V
1	1	322326	Assem., Harness, Ctrl Bd. to Term. Bd.
1	1	322325	Assem., Harness, Power, EN1000

PARTS LIST - CONTACTOR SECTION

QTY.	DESIG.	PART NO.	DESCRIPTION
1	1	T51	Terminal Strip, 10 Pin, (Part of J3 Harness)
1	1	T57	Terminal Strip, 2 Pin
1	1	T58	Terminal Strip, 2 Pin, (Part of 1200/1800/2200A Cont. Assem.)
1	1	T11	Transformer, Control, (Part of J3 Harness)
1	1	T2	Transformer, Sense, (Part of J3 Harness)
1	1	T3	Transformer, Valve, 150VA
1	1	T3	Transformer, Valve, 150VA, 575V
2	2	R74	Resistor, Power, Surge, 500 Ohm, 10W
2	2	R74	Assem., Resistor, Power, 2000 Ohm, 10W, (For 575V)
1	1	F1	Fuseholder, 1 Pole, Mini, 600V
1	1	F1	Fuse, Control, 6/10A, BBS 6/10
1	1	F6(PCB2)	Fuse, 1 Amp, Slow Blow, 2AG, (Part of 410319-004)
1	1	T2	Assem., Wire, Surge Resistor, 18 Ga., Black
2	2	T3	Assem., Wire, Valve Transformer, 22 Ga., Black
1	1	600520	Assem., Contactor, Thyristor, Air, 300A, 460/575V, w/TLS
1	1	600610	Assem., Contactor, Thyristor, Water, 600A, 460/575V
1	1	600598	Assem., Contactor, Thyristor, Water, 1200A, 460/575V, w/TLS
1	1	600533-005	Assem., Contactor, 575V, Water, 1800A, 460/575V, w/TLS
1	1	600533-003	Assem., Contactor, 380V, Water, 2200A, 460/575V, w/TLS
1	1	346004	Lug, Screw, Chassis GND, 2/0 Wire
1	1	410319-004	Assem., PCB, Terminal Strip Board, EN1000/1/2
1	1	510236	Plate, Mounting, Terminal Strip Board
1	1	525136	Bracket, Mounting, 300A Thyristor Contactor
1	1	530821	Plate, Mounting, 1800/2200A Contactors
1	1	300020	Switch, Temperature Limit, (W.C.), (Part of 300A Contactor Switch, Temperature Limit, (W.C.), (Part of 300A Contactor Assem.'s)
1	1	900045	Hose, 3/8" I.D.
1	1	565010	Hose Clamp, 3/8" Hose
1	1	600179	Assem., Water Fitting, 3/8" Hose
1	1	600297	Assem., Water Flow Switch, 3/8" Hose
1	1	550014	Valve Closing Door Mechanism, "D"/"LS"/"LF" Cabinet
1	1	510247	Cabinet, Control, Style "D"/"T"
1	1	510248	Door, Cabinet, Control, Style "D"/"T"
1	1	510103	Cabinet, Control, Style "LS"/"LF", w/PCB
1	1	510247-005	Cabinet, Control, Style "D"/"T", w/PCB, Modified for 300A Cont. Circuit Breaker, Pole Amp, V, (See Note 12)
1	1	700114	Application Note, EN1000/1/2 Control
1	1	700105	Manual, EN1000
1	1	421183	Logic Diagram, EN1000 Control
1	1	421210-010	Wiring Diagram, EN1000/1/2-Series, "D"/"LS"/"LF" Cabinet

CAUTION - CONTROL WIRED FOR 460 VAC OPERATION - UNLESS OTHERWISE SPECIFIED.

SEE NOTE 2
 For 460 VAC Operation - Use Jumper #1.
 For 230 VAC Operation - Use Jumper #2.
 For 575 VAC Operation - FACTORY WIRED ONLY.
 Jumper #1 is used between H2 & H3.
 Jumper #2 is used between CTH2 & CTH3.
 Resistor R74 (2000 Ohm, 10 Watt) replaces Jumper #1.
 For 115 VAC or 380 VAC Operation - CONSULT FACTORY.

MANUFACTURING INSTRUCTIONS:
 See Drawings #440365, #515112, #515114, & #600552 for Mechanical Assembly Instructions of EN1000 "LS"/"LF" Cabinet.
 See Drawing #440390-001 for Mechanical Layout of "LS"/"LF" Cabinet Rear Panel.
 See Drawing #440393 for Crating Instructions of "LS"/"LF" Cabinet.
 See Drawing #600562 for Mechanical Assembly of EN1000 "D"/"T" Cabinet.
 See Drawing #440386 Inner Pack & Use Carton #550018 for "D"/"T" Cabinet Packing Instructions.
 See Drawing #440437 for Circuit Breaker to Contactor L1 Cable Connection.
 See Drawing #600526 for Layout/Assem. of Front Panel.

REV	AUTH	DESCRIPTION	DATE	CHK BY	DATE
1		ORIGINAL RELEASE			

SCALE DATE DRAWN BY CHK'D BY APPROVED BY
 1/10/95 RHL 10-27-95
 TOLERANCE UNLESS SPECIFIED REVISED
 ANGLES: ± 1/2° REV LTR APPROVED BY
 DECIMALS: ± .010 A
 FRACTIONS: 1/64 DATE RHL 7/1/96

WIRING DIAGRAM, EN1000/1/2-SERIES, "D", "T", "LS", or "LF" CABINET

REV	AUTH	DESCRIPTION	DATE	CHK BY	DATE
1		EN1000/1/2-300D,T,LS,LF			
2		EN1000/1/2-1200D,T,LS,LF			
3		EN1000/1/2-600D,T,LS,LF			
4		EN1000/1/2-2200D,T,LS,LF			

NEXT ASSM/USED ON DRAWING NUMBER REV

FOR SERVICE ON THIS CONTROL CONTACT YOUR MACHINE DEALER OR ENTRON CONTROLS INC. DIRECTLY: (630) 682-9800
 466 EAST WANDA ROAD
 CAROL STREAM, IL 60188
 FAX # (630) 682-3974