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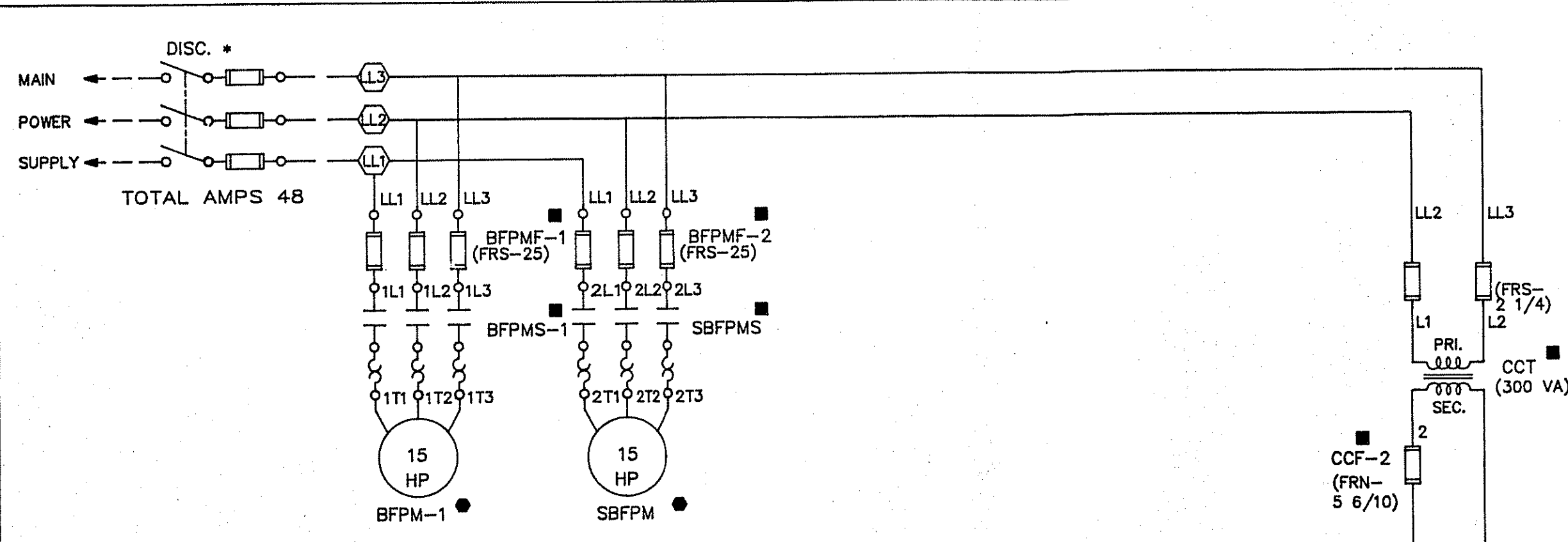
INDICATES CONNECTION

INDICATES NO CONNECTION

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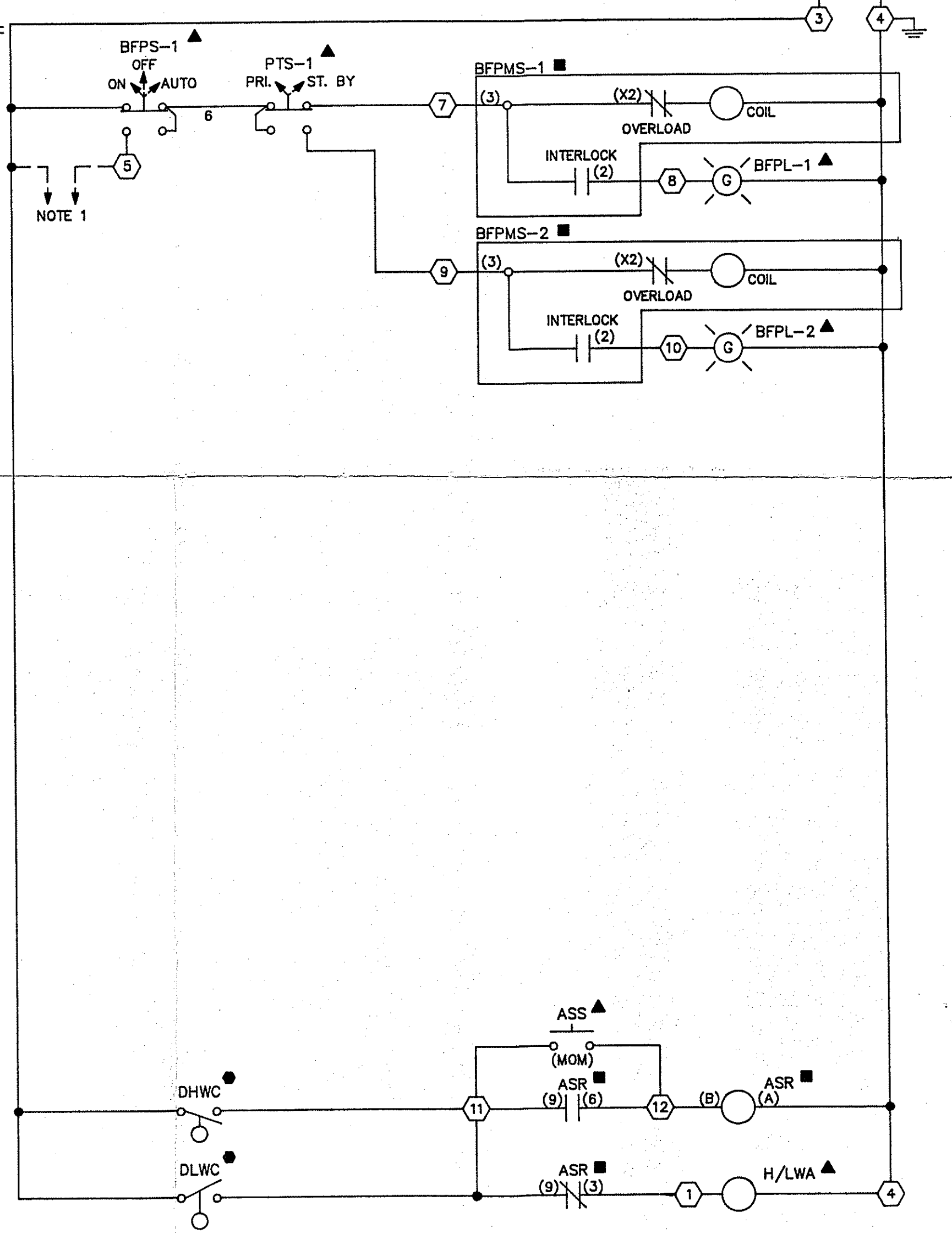
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DESCRIPTION OF MNEMONIC DESIGNATION OF ELECTRICAL DEVICES

- AB-ALARM BELL
- ASR-ALARM SILENCE RELAY
- ASS-ALARM SILENCE SWITCH
- BFPL-BOILER FEED PUMP LIGHT
- BFBPM-BOILER FEED PUMP MOTOR
- BFBPMS-BOILER FEED PUMP MOTOR CIRCUIT BREAKER
- BFBPMF-BOILER FEED PUMP MOTOR FUSES
- BFBPMS-BOILER FEED PUMP MOTOR STARTER
- BFBPS-BOILER FEED PUMP SWITCH
- CCCB-CIRCUIT BREAKER
- CCF-CONTROL CIRCUIT FUSES
- CCT-CONTROL CIRCUIT TRANSFORMER
- CR-CONTROL RELAY
- DHWC-DEAERATOR HIGH WATER CONTROL
- DHWL-DEAERATOR HIGH WATER LIGHT
- DHWR-DEAERATOR HIGH WATER RELAY
- DISC.-DISCONNECT
- DLWC-DEAERATOR LOW WATER CONTROL
- DLWL-DEAERATOR LOW WATER LIGHT
- DLWR-DEAERATOR LOW WATER RELAY
- H/LWA-HIGH LOW WATER ALARM (MOM)-MOMENTARY
- MLC-MODULATING LEVEL CONTROL
- MVA-MAKE-UP VALVE ACTUATOR
- PSS-PUMP-SELECTOR SWITCH
- PTS-PUMP TRANSFER SWITCH
- RAR-REMOTE ALARM RELAY
- SBFPL-STAND BY FEED PUMP LIGHT
- SBFBPM-STAND BY FEED PUMP MOTOR
- SBFBPMS-STAND BY FEED PUMP MOTOR CIRCUIT BREAKER
- SBFBPMF-STAND BY FEED PUMP MOTOR FUSES
- SBFBPMS-STAND BY FEED PUMP MOTOR STARTER
- STHWC-SURGE TANK HIGH WATER CONTROL
- STHWL-SURGE TANK HIGH WATER LIGHT
- STHWR-SURGE TANK HIGH WATER RELAY
- STLWC-SURGE TANK LOW WATER CONTROL
- STLWL-SURGE TANK LOW WATER LIGHT
- STLWR-SURGE TANK LOW WATER RELAY
- TPL-TRANSFER PUMP LIGHT
- TPM-TRANSFER PUMP MOTOR
- TPMCB-TRANSFER PUMP MOTOR CIRCUIT BREAKER
- TPMF-TRANSFER PUMP MOTOR FUSES
- TPMS-TRANSFER PUMP MOTOR STARTER
- TPS-TRANSFER PUMP SWITCH
- WLC-WATER LEVEL CONTROL

ADDITIONAL MNEMONICS



NOTE 1-CONNECTIONS TO BOILER FEED PUMP CONTROL CIRCUIT.

SCHEMATIC WIRING DIAGRAM SYMBOLS

- DENOTES MECHANICAL CONNECTIONS
- () DENOTES TERMINAL DESIGNATION ON DEVICE
- DENOTES EQUIPMENT MOUNTED INSIDE CONTROL PANEL
- ▲ DENOTES EQUIPMENT MOUNTED ON CONTROL PANEL
- DENOTES EQUIPMENT MOUNTED OUTSIDE CONTROL PANEL
- DENOTES CONTROL PANEL TERMINAL BLOCKS

CONTROL PANEL TERMINALS

LL1,LL2,LL3
1,3,4,4,5, 7,8,9,10,11,12

EXTERNAL CONNECTIONS

DEVICE	TERMINALS
MAIN POWER SUPPLY	LL1,LL2,LL3
NOTE 1	3,5

DRAWN: 12A 6S

CHECKED: 5-21-91

DATE: 5-21-91

CUSTOMER: SOFIX CORPORATION

MODEL: DEAERATOR CONTROL SYSTEM

ELECTRICAL CHARACTERISTICS: 460 VOLTS 3 PHASE 60 HERTZ 3 WIRE

CONTROL CIRCUIT CHARACTERISTICS: 115 V, 1 PH.

DRAWING NO. WD-DG62560

Cleaver Brooks
DIV. AQUA-CHEM INC.
MILWAUKEE, WISCONSIN

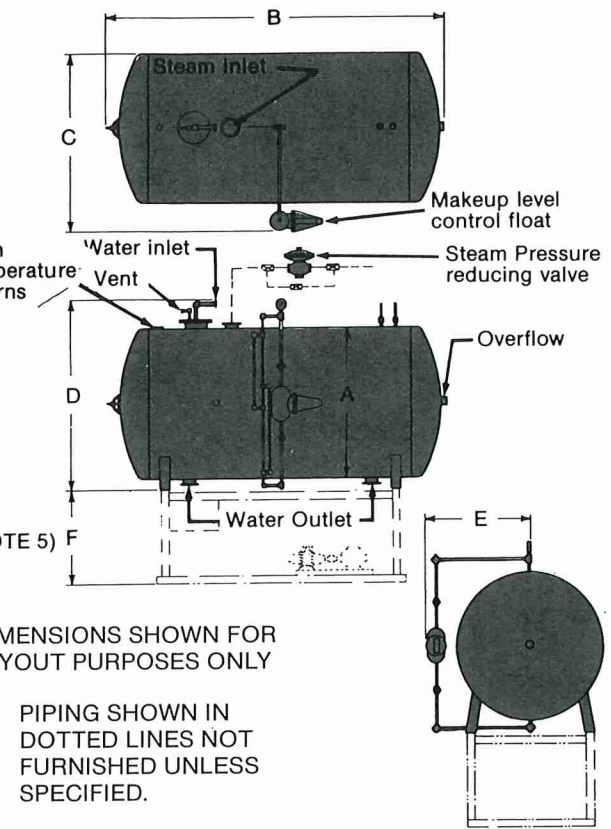
SALES ORDER NO. 91-00435

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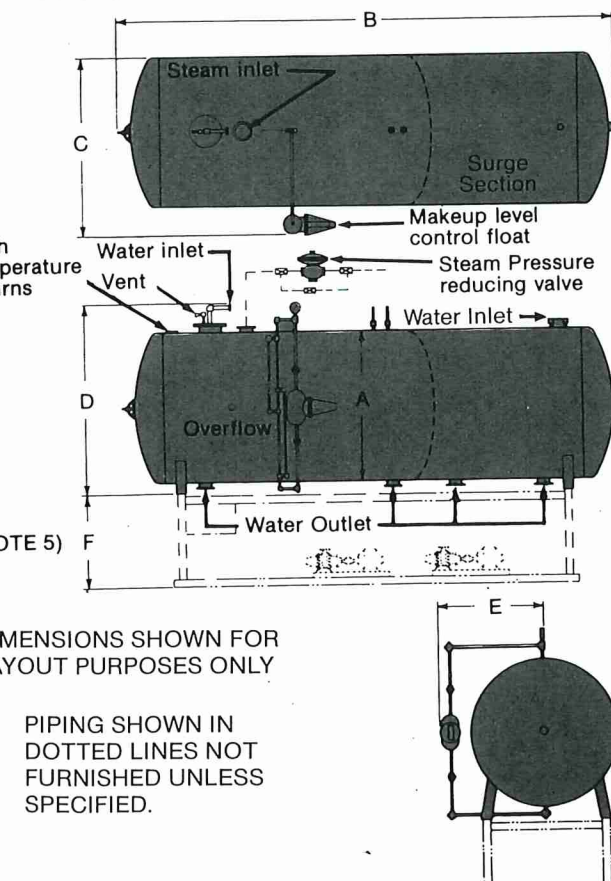
114468 DEAERATOR

Specifications

SINGLE TANK DEAERATOR



DUO-TANK DEAERATOR



MODEL NO. ¹	SM7	SM15	SM30	SM45	SM70	SM100	SM140	SM200 ²	SM280 ²
Ratings Lbs./Hr.	7000	15000	30000	45000	70000	100,000	140,000	200,000	280,000
Tank Size ³	36" x 6'1½"	48" x 8'½"	54" x 10'0"	60" x 11'1½"	66" x 14'10½"	72" x 16'6½"	84" x 15'4½"	96" x 15'8½"	108" x 16'7½"
Gallons to Overflow	230	300	600	900	1400	2000	2800	4000	5600
Storage Capacity (Minutes)	16	10	10	10	10	10	10	10	10
Tank Diameter—A	36"	48"	54"	60"	66"	72"	84"	96"	108"
Overall Length—B	6'6"	8'7"	10'6½"	11'8"	15'5½"	17'2½"	16'0"	16'1½"	17'½"
Overall Width—C ⁴	4'½"	5'5½"	6'0"	6'6"	7'0"	7'6"	8'6"	9'6"	10'6"
Overall Height—D	4'6"	5'6"	6'3"	6'8"	7'4"	8'0"	9'1"	10'0"	11'1"
Dimension—E	2'7"	3'6"	3'9"	4'0"	4'3"	4'6"	5'0"	5'6"	6'0"
Water Inlet	¾" NPT	1½"—150# FLG	2"—150# FLG	2"—150# FLG	2½"—150# FLG	3"—150# FLG	4"—150# FLG	2@3"—150# FLG	2@4"—150# FLG
Water Outlet (2)	3"	3"	3"	4"—150# FLG	4"—150# FLG	4"—150# FLG	4"—150# FLG	4"—150# FLG	4"—150# FLG
Steam Inlet	3"—150# FLG	6"—150# FLG	6"—150# FLG	6"—150# FLG	6"—150# FLG	6"—150# FLG	8"—150# FLG	2@6"—150# FLG	2@8"—150# FLG
Overflow	1¼" NPT	3" NPT	3" NPT	3" NPT	4"—150# FLG	4"—150# FLG	4"—150# FLG	6"—150# FLG	6"—150# FLG
Approx. Shipping Wt.—Lbs.	1015	1565	2120	2735	4300	5205	6010	8095	11,055
Approx. Operating Wt.—Lbs.	2960	4170	7110	10,455	15,590	21,705	29,460	43,730	51,680
Approx. Flooded Wt.—Lbs.	3380	7175	11,060	15,010	23,985	32,015	39,545	53,000	70,920

- 1. Add Suffix "P" to Model No. for packaged system (SM45-P).
- 2. Two internal sprays used. One shown—second on opposite end.
- 3. Standard Tanks available for 5 minutes storage (except SM7 & SM15), other capacities as required; consult factory.
- 4. Using Warren 377 float cage (except SM7 which uses MCD & M#51), dimension may change with other controls; consult factory.

- 5. "F" Dimension for packaged ("P") models depends on pump selection. Select proper stand height from selection tables to determine total deaerator height.
- 6. No interconnecting piping or wiring furnished on non-packages unless specified. Refer to pricing list for specific piping and wiring furnished on packaged assemblies.

- 7. Weights shown are without controls or packaging (see selection charts for additions).
- 8. Capacities other than shown as standard available by proper selection of controls; refer to selection tables. Capacities to 500,000 lbs./hr. available — consult factory.

MODEL NO. ¹	SM7D	SM15D	SM30D	SM45D	SM70D	SM100D	SM140D	SM200D ²	SM280D ²
Ratings Lbs./Hr.	7000	15000	30000	45000	70000	100,000	140,000	200,000	280,000
Tank Size ³	36" x 9'0"	48" x 11'6"	54" x 15'2"	60" x 17'4"	66" x 22'8"	72" x 26'½"	84" x 25'0"	96" x 25'10"	108" x 28'4"
Deaerator Gallons to Overflow	230	300	600	900	1400	2000	2800	4000	5600
Deaerator Storage Cap. (Min.)	16	10	10	10	10	10	10	10	10
Surge Gallons to Overflow	160	300	600	900	1400	2000	2800	4000	5600
Surge Storage Cap. (Min.)	11.5	10	10	10	10	10	10	10	10
Tank Dia.—A	36"	48"	54"	60"	66"	72"	84"	96"	108"
Overall Length—B	9'4½"	12'½"	15'9"	17'11½"	23'3½"	26'8"	25'8"	26'8"	28'9"
Overall Width—C	4'½"	5'6"	6'0"	6'6"	7'0"	7'6"	8'6"	9'6"	10'6"
Overall Height—D	4'6"	5'5½"	6'3"	6'8"	7'4"	8'0"	9'1"	10'0"	11'1"
Dimension—E	2'7"	3'6"	3'9"	4'0"	4'3"	4'6"	5'0"	5'6"	6'0"
Deaerator—Water Inlet	¾" NPT	1½"—150# FLG	2"—150# FLG	2"—150# FLG	2½"—150# FLG	3"—150# FLG	4"—150# FLG	2@3"—150# FLG	2@4"—150# FLG
Deaerator—Water Outlets (2)	3" NPT	3" NPT	3" NPT	4"—150# FLG	4"—150# FLG	4"—150# FLG	4"—150# FLG	4"—150# FLG	4"—150# FLG
Deaerator—Steam Inlet	3"—150# FLG	6"—150# FLG	6"—150# FLG	6"—150# FLG	6"—150# FLG	6"—150# FLG	8"—150# FLG	2@6"—150# FLG	2@8"—150# FLG
Deaerator—Overflow	1¼" NPT	3" NPT	3" NPT	3" NPT	4"—150# FLG	4"—150# FLG	4"—150# FLG	6"—150# FLG	6"—150# FLG
Surge—Water Inlet	2" NPT	2" NPT	2" NPT	2" NPT	2" NPT	2½" NPT	2½" NPT	3" NPT	3" NPT
Surge—Water Outlets (2)	2" NPT	2" NPT	2" NPT	3" NPT	3" NPT	4"—150# FLG	4"—150# FLG	4"—150# FLG	4"—150# FLG
Approx. Shipping Wt.—Lbs.	1510	2250	3330	4020	6525	8025	9370	13,075	18,305
Approx. Operating Wt.—Lbs.	4680	7515	13,310	19,210	29,070	40,900	55,445	81,045	111,590
Approx. Flooded Wt.—Lbs.	5280	10,500	17,265	23,765	37,465	51,205	65,630	90,320	123,650

- 1. Add suffix "P" to Model No. for Packaged System (SM45D-P).
- 2. Two internal sprays used. One shown—second on opposite end.
- 3. Standard tanks available for 5 minutes storage (except SM7 & SM15), other combinations of capacities as required—consult factory.
- 4. Using Warren 377 float cage (except SM7 which uses MCD & M#51), dimension may change with other controls—consult factory.

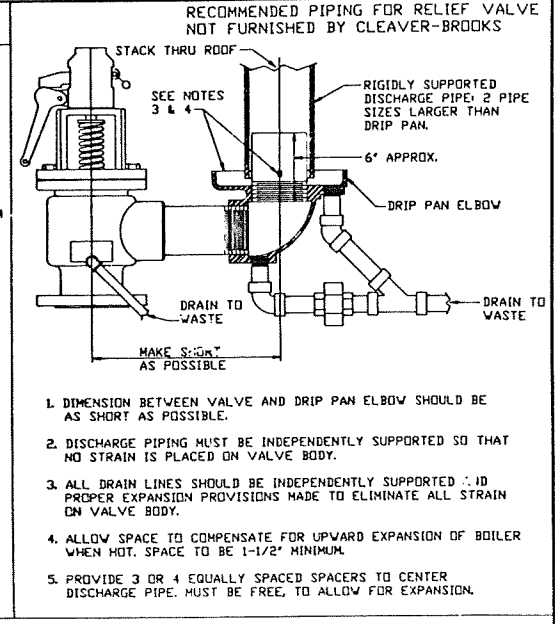
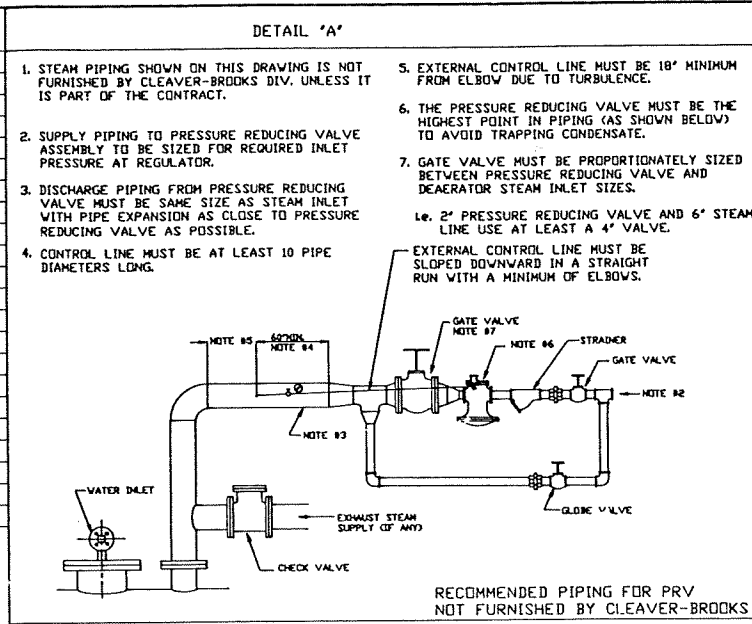
- 5. "F" Dimension for packaged ("P") models depends on pump selection. Select proper stand height from selection tables to determine total deaerator height.
- 6. No interconnecting piping or wiring furnished on non-packages unless specified; refer to pricing list for specific piping or wiring furnished on packaged assemblies.

- 7. Refer to dimension diagrams for complete tapping sizes and locations.
- 8. Weights shown are without controls or packaging (see selection charts for additions).
- 9. Capacities other than shown as standard available by proper selection of controls—refer to selection tables.

114468 DEARATOR

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MAJOR COMPONENTS * SHIPPED LOOSE		DEAERATOR SPECIFICATIONS		CUSTOMER CONNECTIONS	
1	RELIEF VALVE - SET @ 50 PSIG. 2" NPT.	STAMP UNIT: DG6256	A	STEAM INLET 6" 150# F.F. FLG.	
2	PRESSURE GAUGE	MODEL SM15P	B	HIGH TEMPERATURE RETURN 1-1/2" NPT.	
3	MAKE-UP VALVE, FISHER #171L, 1" NPT W/WARREN #377 FLOAT	CAPACITY: 15,000 LB/HR	C	WATER INLET 1-1/2" 150# R.F. FLG.	
4	OVERFLOW DRAINER - WARREN NO. 313 2" NPT.	TANK SIZE: 48" DIA. X 8'-1" LG.	D	FEED PUMP DISCHARGE CONN. 2" NPT.	
5	GAUGE GLASS ASSEMBLY	STAND HEIGHT: 4'-0"	E	OVERFLOW CONNECTION - 3" NPT.	
6	HIGH WATER ALARM, MFRCDID #123-2	CAPACITY 300 GALLONS TO OVERFLOW	F	OVERFLOW VALVE CONN. 2" NPT.	
7	LOW WATER ALARM, MERCOID #123-3	TOTAL WEIGHT DRY: 4,200 LBS	G	DRAIN CONNECTION - 2" NPT.	
8	THERMOMETER	TOTAL WEIGHT FLOODED: 9,800 LBS	H	RELIEF VALVE DISCHARGE CONN. 2-1/2" NPT.	
9	PRESSURE REDUCING VALVE, SARCO #25P 1" NPT.	DESIGN PRESSURE 50 PSIG	J	SAMPLE CONNECTION - 1/2" NPT. W/VALVE	
10	PUMP (2) MTH 262F, CAP. 44 GPM @ 377' TDH		K	CHEMICAL FEED CONN. 1/2" NPT. W/QUILL	
11	MOTOR (2) 15 HP 1750 RPM		L		
12	SUCTION PIPING INCLUDES STRAINER, GATE VALVE & FLEX. CPLG.	ELECTRICAL DATA 460 VOLTAGE 3 PHASE 60 HERTZ CONTROL CIRCUIT 120-1-60 PANEL CONTAINS ALL ELECTRICAL WIRING TO MOTORS AND CONTROLS. FOR COMPONENTS SEE WIRING DIAGRAM WD-DG6256 WIRING CONFORMS TO NATIONAL ELECTRICAL CODE.	M		
13	CONTROL PANEL		N		
14	MANWAY 11" X 15"		P		
15	RELIEF VALVE - SENTINEL SET @ 15 PSIG. 1/2" NPT.				
16					
17					
18					
19					
20					
21					
22					



NOTES:

LUGS ARE FOR LIFTING EMPTY TANK ONLY.

ITEMS AND PIPING SHOWN IN DASHED LINES NOT FURNISHED BY C-B DIV.

CUSTOMER TO PLUG ALL OPENINGS NOT USED.

START-UP TO BE IN ACCORDANCE WITH C-B INSTRUCTION MANUAL.

ALL BOILER FEED PUMP DISCHARGE PIPING TO BE FURNISHED BY CUSTOMER.

ALL DIMENSIONS SHOWN ARE IN INCHES.

ADD 9" TO HEIGHT DIMENSIONS TO ALLOW FOR REMOVAL OF WATER INLET NOZZLE.

FLOW THRU MANUAL VENT DRIFICES BASED ON 5 PSIG OPERATING PRESSURE.

CUSTOMER TO PROVIDE ADEQUATE DRAINS TO SEWER FROM ALL PUMP DRAIN FITTINGS.

RELIEF VALVE AND VENT VALVE MUST BE PIPED IN ACCORDANCE WITH THE APPLICABLE LOCAL CODES TO A POINT OF SAFE DISCHARGE.

OVERFLOW DRAINER MUST BE PIPED IN ACCORDANCE WITH THE APPLICABLE LOCAL CODES TO A POINT OF SAFE DISCHARGE.

UNIT IS KNOCKED DOWN AND MATCH MARKED FOR SHIPPING.

GENERAL DESIGN SPECS.

STORAGE TANK DESIGN PRESSURE 50 PSIG @ 650°F.

MATERIAL & CONSTRUCTION IN ACCORDANCE WITH ASME SECT. 8 DIV. 1 PRESSURE VESSEL CODE.

OPERATING PRESSURE 5 PSIG - TEMPERATURE 227°F.

ALL CONNECTIONS 3" AND UNDER 3000# FORGED STEEL COUPLINGS; OVER 3", 150# FLAT FACED FLANGES.

STAND POSTS 4" HEAVY SQUARE STEEL TUBING.

FLOOR PLATE 1/4" REINFORCED STEEL.

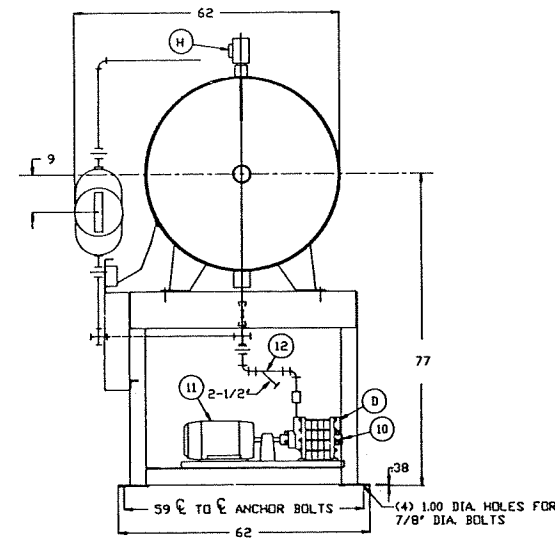
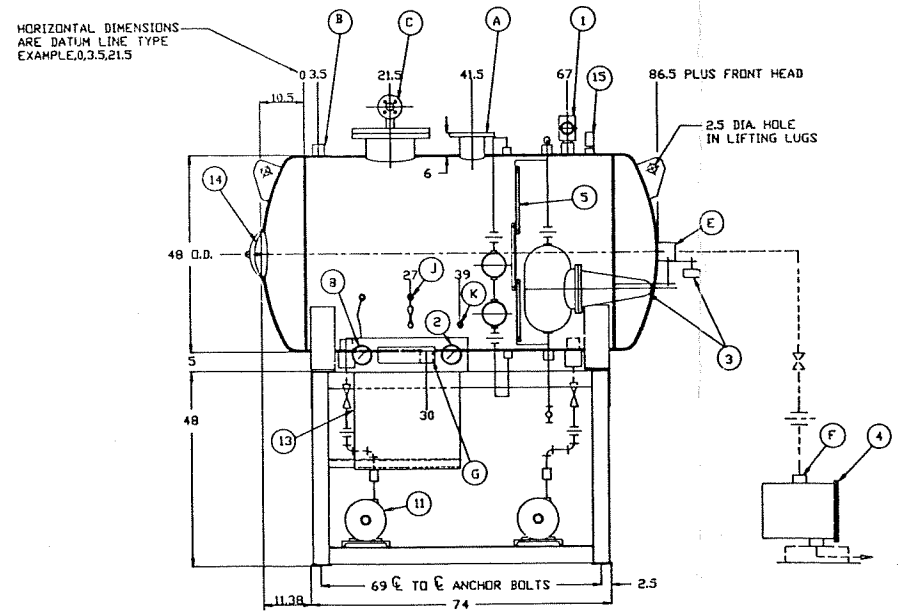
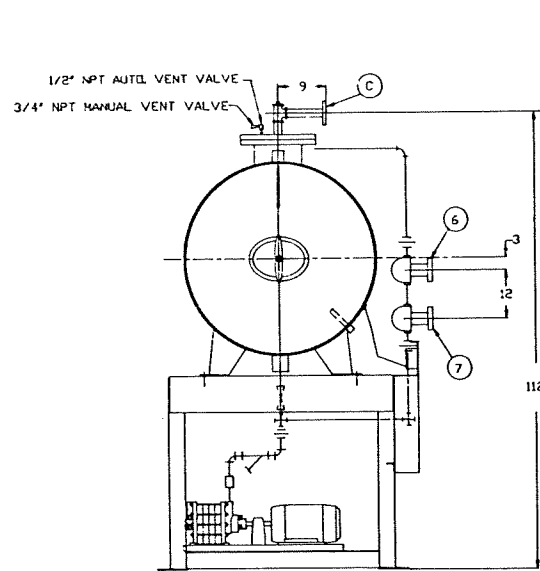
CONTROL PANEL MOUNTED ON 2" X 2" ANGLES.

GAUGES FLUSH MOUNTED ON HEAVY STEEL PLATE.

TANK LINED W/#3066 PLASITE LINING MAX. TEMP. NOT TO EXCEED 250°F.

PIPING CONTRACTOR NOTE:

FOR PRESSURE REDUCING VALVE PIPING SEE DETAIL 'A' OR OPERATING MANUAL.



REVISIONS	EN# 35777 5-10-91	JOB NAME SOFIX CORPORATION CHATTANOOGA, TN.	S.O.# 9100435	SCALE N.T.S.	Cleaver Brooks DIV. AQUA-CHEM INC.  HOLVANE, ILLINOIS	MODEL SM15P SPRAYMASTER DEAERATOR WITH STORAGE TANK 300 GAL. CAP.	UNIT NUMBER DG6256	0
				DATE 5-9-91				
				DRAWN PRC				
				CHECKED RCH				
				APPROVED JCH				

114468 DEAERATOR