



1. COILS OF 2 1/2" 3.4, 5.7 THRU 15.7 THRU 23 & 25 THRU 32.
2. MATERIAL TO STAINLESS STEEL, TYPE 304.
3. FLANGE FACE (17) TO BE PERPENDICULAR TO FACE OF PRESSURIZER.
4. AFTER FAB OF TEST CAP (17) TO IT 3. PAINT TO FINISH SPEC 234D AS FOLLOWS: PAINT ENTIRE INSIDE OF TEST CAP, THUS, AND THRU HOLE OF PIPE TAP ALSO THE INSIDE OF TEST CAP, THUS, AND THRU HOLE OF PIPE TAP.
5. REMOVE LIFTING LUGS TO SPRING AND SUBJECT AREA ON VESSEL WHERE LUGS HAVE BEEN REMOVED TO M.T. (R.S. 60015).
6. THE FOLLOWING NOTE IS TO BE CHECKED ON THE VESSEL WITH CONTRASTING COLOR PAINT IN SEVERAL PROPOSED LOCATIONS:
- DO NOT BURN, WELD, OR CUT OR ALLOW ARC STRIKE ON THIS VESSEL.
7. AFTER FINAL STRESS RELIEF, ROLL TUBE FULL LENGTH LESS 1/4" AT EACH END TO PLUS 3/4" MIN WALL REDUCTION.
8. CARE TO BE TAKEN WHEN WELDING IT TO HEATER WELL SO THAT HEATER COUPLING TEMPERATURE DOES NOT EXCEED 800°F TO PREVENT DAMAGING THE HEATER INTERFACES.
9. ROLL IT IN AND SPRAY NOZZLE AS SHOWN TO PLUS 2 1/4" MIN WALL REDUCTION. ROLL AFTER FINAL STRESS RELIEF AND AFTER MACHINING OF NOZZLE.
10. ALL CARBON STEEL SURFACES NOT MACHINED ARE TO BE PAINTED WITH HIGH TEMP ALUMINUM PAINT IN ACCORD WITH FINISH SPEC 234D.
11. ALL CLAD SURFACES NOT MACHINED ARE TO HAVE A FINISH: 3M007K.
12. AFTER FINAL ASSY. & PRIOR TO MACHINING NOZZLE WELD PREP HYDRO TEST VESSEL TO 3106 PSI. USING SPEC. N.P. 1-001 & HOLD FOR THREE (3) HRS. MIN. PRESSURIZING TEMP. TO BE 70°F.
13. VESSEL TO BE SHIPPED WITH TEST GASKET IN PLACE.
14. TORQUE VALUES: (A) MAINWAY BOLTS TO BE 1100 FT. LBS. (B) TORQUE VALUES: (C) MAINWAY BOLTS TO BE 368 FT. LBS.
15. PAINT TO FINISH SPEC 234D.
16. PROC SPEC 60014, 60015, 60016, 60017, 60018, 60019, 60020, 60021, 60022, 60023, 60024, 60025, 60026, 60027, 60028, 60029, 60030, 60031, 60032, 60033, 60034, 60035, 60036, 60037, 60038, 60039, 60040, 60041, 60042, 60043, 60044, 60045, 60046, 60047, 60048, 60049, 60050, 60051, 60052, 60053, 60054, 60055, 60056, 60057, 60058, 60059, 60060, 60061, 60062, 60063, 60064, 60065, 60066, 60067, 60068, 60069, 60070, 60071, 60072, 60073, 60074, 60075, 60076, 60077, 60078, 60079, 60080, 60081, 60082, 60083, 60084, 60085, 60086, 60087, 60088, 60089, 60090, 60091, 60092, 60093, 60094, 60095, 60096, 60097, 60098, 60099, 60100.
17. LOCAL STRESS RELIEF IS REQUIRED AFTER FAB OF NOZZLES EXTREME CARE IS TO BE EXERCISED TO INSURE THAT NO NOZZLE OF HEATER SLEEVE TEMP EXCEEDS 800°F.
18. SPRAY NOZZLE 1/4" O.D. X 1/4" I.D. X 1/4" L. SPRAY ENGINEERING CO. 100 CAMBRIDGE ST. BURLINGTON, MASS. (MATERIAL: STAINLESS STEEL TYPE 316).
19. AFTER HYDROTEST, ALL WELD SURFACES INCLUDING THOSE OF WELDS USED TO REPAIR WELD AND THE OUTER SURFACES OF THE LOWER AND UPPER HEATER SLEEVE ARE TO BE INSPECTED BY MAGNETIC PARTICLE TEST IN ACCORDANCE TO UP-100.
20. THE LETTER 'L' TO THE LEFT OF OR ABOVE ITEMS TO BE SHIPPED SEPARATELY WITH MAIN UNIT.
21. AFTER FINAL MACHINING, REEDED THE DIMS REQUIRED BY THE VESSEL SHALL BE CLEANED TO UP-100.
22. THE TRANSFER ASSY. (17) (WHICH INCLUDES BOLTS) ARE THE PROPERTY OF WESTINGHOUSE ELECTRIC CORP. HEAT TRANSFER SECTION AND ARE TO BE RETURNED AS SOON AS THE CUSTOMER IS FINISHED USING THEM.
23. THOROUGHLY LUBRICATE THE BEARING SURFACE OF THE MAINWAY COVER BOLTS INCLUDING THE BEARING SURFACES OF THE MAINWAY COVER BOLTS. AFTER TIGHTENING THE BOLTS TO THE NOZZLES GIVEN IN NOTE 14, EACH BOLT SHALL BE REMOVED, CLEANED, THOROUGHLY LUBRICATED AS DETAILED ABOVE, AND RETIGHTENED.
24. GRIND 4 WELD SPOTS OUTS 1/4" TO FIT .000 MAX CLEARANCE ON DIA.
25. NO STAMPING IS PERMITTED ON ANY SURFACE OF THE VESSEL EXCEPT ON FACE PROVIDED.
26. THIS VESSEL TO BE BUILT TO SUB III, ASME CODE, DESIGN PRESSURE TABS 25.4, DESIGN TEMPERATURE 600°F.
27. THE CONCENTRICITY & WALL THICKNESS OF NOZZLES IS MORE IMPORTANT THAN THE LOCATING DIMS. BUT ANY OUTAGES OF LOCATING DIMS, IN EXCESS OF 1/4" SHOULD BE REPORTED PRIOR TO MACHINING NOZZLES.
28. INSULATION RING (17) (20) MUST BE BOLTED TIGHT AROUND O.D. OF SHELL TO PREVENT SWELLING. (SEE 3-D).

BILL OF MATERIAL		ASSY		REQ FOR 1 UNIT	
ITEM NO.	DESCRIPTION, MATERIAL, DIMENSIONS AND/OR PATTERN NO. AND/OR STYLE NO.	DRAWING	MTL. SPEC.	QTY.	UNIT
1	GENERAL ASSY (FINAL MACHINING) (NOTE 1)	3THD 30		1	
2	LOWER HEAD ASSY	GE1 5814 232		1	
3	SUPPLIER HEAD ASSY	GE1 5814 232		1	
4	SHELL BARREL	GE1 5814 232		1	
5	HEATER ASSY	345A 101		1	
6	HEATER SUPPORT RAYS	4411 014		1	
7	HEATER SUPPORT RATE	4411 014		1	
8	HEATER SUPPORT RATE	4411 014		1	
9	BRACKET ASSY	GE1 5814 232		1	
10	BRACKET ASSY	GE1 5814 232		1	
11	THERMAL SLEEVE (SURGE NOZZLE)	4411 014		1	
12	THERMAL SLEEVE (SURGE NOZZLE)	4411 014		1	
13	PIPE SUB ASSY (R.D.G. 456B 2420) GE1	571C 560		1	
14	NAME RATE (BRACKET)	GE1 5814 232		1	
15	BRACKET RATE (BRACKET)	GE1 5814 232		1	
16	SPRAY NOZZLE (NOTE 10)	571C 560		1	
17	INSULATION ANGLE (NOTE 31)	GE1 5814 232		1	
18	TEST CAP - FR 1/4" DIA. 37 THY	571C 560		1	
19	PIPE PLUG - 1/4" DIA. 37 THY	571C 560		1	
20	PIPE PLUG - 1/4" DIA. 37 THY	571C 560		1	
21	BOLT - 3/4" X 2 1/4" LG. SHIP 20M TP. 304	571C 560		1	
22	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
23	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
24	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
25	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
26	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
27	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
28	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
29	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
30	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
31	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
32	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
33	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
34	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
35	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
36	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
37	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
38	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
39	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
40	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
41	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
42	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
43	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
44	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
45	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
46	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
47	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
48	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
49	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
50	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
51	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
52	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
53	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
54	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
55	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
56	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
57	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
58	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
59	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
60	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
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62	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
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64	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
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66	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
67	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
68	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
69	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
70	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
71	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
72	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
73	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
74	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
75	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
76	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
77	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
78	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
79	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
80	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
81	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
82	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
83	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
84	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
85	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
86	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
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98	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	
99	NUT - 3/4" X 1 1/4" LG. SHIP 20M TP. 304	571C 560		1	
100	WASHER - 1 1/4" O.D. X 1 1/4" I.D. X 1/4" THY	571C 560		1	

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Attachment to IPN-02-024  
RR 3-16, Rev. 1  
D-4