


IXC-150 DATA SHEET

No.	By	Chk	App	Date	Description	Doc. No.: DS-1813-00	Rev.: 1
1	CH	CS	TB	6/13/19	Incorporated Design Changes for 100%	Project Name: TSCR Project Number: 18-13 Location: Richland, WA Tag: POR655-WP-IX-400A/B/C	

DESIGN / OPERATING REQUIREMENTS

1	Service :	Pressure Vessel, Code Stamped	Process Contents & Operating Parameters :	Salt Waste, See Note 2, HVAC Conditioned Environment
2	Design Press. @ Temp. - Internal (at top):	400 psig @ 180 °F	ΔP Across Internals:	3 psi
3	Design Press. @ Temp. - External:	Full Vacuum psig @ 180 °F	S. G of Process Fluid:	1.27
4	Min. Design Metal Temperature (MDMT):	-20 °F @ 450 psig	Design Liquid Level:	100%
5	Operating Pressure - Internal:	120 psig @ 77 °F	Head Joint Efficiency:	0.7
6	Min. Operating Temperature:	60 °F @ 77 psig	Shell Joint Efficiency:	0.7
7	MAWP Basis:	450 psi in RPP-CALC-62465		
8	Corrosion Allowance: No, See Note 3	Shell and Heads: 0 In.	Nozzles: 0 In.	Internals: 0 In.
9	Cyclic Service: Yes, See Note 1	Lethal Service: N/A	Code Case(s):	2732-1
10	Construction Code: ASME B&PV Section VIII, Div. 1, 2017 Edition	Design Life: 50 years	Stamping:	Yes
11	National Board Registration :	Yes	Lethal Stamp:	N/A
12	Capacity (Cavity Volume):	Full: 162.6 gallons	Operating:	162.6 gallons
13	Cavity Height: 94" Cavity Diameter: 23" Cooling Core Diameter: 4-1/2"	Cooling Core Height: 94" Bed Height: 92"	Bed Diameter:	23"
14	Bed Volume: 159.1 gallons	Internal Piping Volume: 1.6 gallons	Actual Media Volume: 157.5 gallons	Resin Contents: Refer to DS-1813-06
15	Wind: N/A	Exposure: N/A	Basic Wind Speed: N/A	Importance Factor: N/A
16	Seismic: SDC-2, LS-C	Importance Factor: 1.5	Soil Profile Type:	Site Class D

INSPECTION AND TESTING

17	Radiography:	RPP-SPEC-61910	Ultrasonic:	RPP-SPEC-61910
18	Magnetic Particle:	N/A	Charpy Impact:	Per ASME Code at -20 °F
19	Liquid Penetrant:	RPP-SPEC-61910	Hardness:	RPP-SPEC-61910
20	Hydrotest:	585 psi @ 1 Hour	Future Field Test:	N/A
21	Min. Hydrotest Temperature:	32 °F		

APPLICABLE SPECIFICATIONS AND STANDARDS

22	Specifications:	RPP-SPEC-61910
23	Safety Class:	Safety Significant
24	Standards:	ASME B&PV Section VIII, Div. 1, 2017 Edition & ASTM B29 for Lead Shielding Acceptance Testing
25	Drawings:	H-14-111250, H-14-111255

MATERIALS

	Pressure Parts	Non-Pressure Parts	
		External	Internal
26	Plate: SA240 316/316L	SA240 304/304L	SA240 316/316L
27	Forgings: SA182 F316/316L, SA403 WP316/316L	SA182 F316/316L, SA403 WP316/316L	SA182 F316/316L, SA403 WP316/316L
28	Pipe & Tube: SA312 TP316/316L	SA312 TP316/316L	SA312 TP316/316L
29	Bolts & Studs: SA193 GRADE B8 or B8M CLASS 1	ASTM F593	N/A
30	Nuts: N/A	N/A	N/A
31	Rod & Bar: SA276 316/316L	SA276 316/316L	SA276 316/316L
32	Weld Fittings: SA182 F316/316L, SA403 WP316/316L	SA182 F316/316L, SA403 WP316/316L	SA182 F316/316L, SA403 WP316/316L
33	Structural Shapes: SA240 316/316L, SA276 316/316L	SA240 316/316L, SA276 316/316L	SA240 316/316L, SA276 316/316L
34	Shielding: N/A	Cast Lead for Side and Top Shielding, ASTM B29	N/A


FABRICATION

35	Weld Pressure Joint Requirements:	RPP-SPEC-61910	Seal Weld Internal Parts to Pressure Boundary:	Yes
36	Post Weld Heat Treatment:	RPP-SPEC-61910	PWHT Basis:	Per ASME Code
37	Internal Coating:	N/A		
38	Surface Preparation:	RPP-SPEC-61910		
39	External Coating:	RPP-SPEC-61910		

APPURTENANCES

40	Lifting Lugs:	See H-14-111250, H-14-111255	Tailing Lug:	N/A	Vessel Davit:	N/A
41	Ladder and Platforms:	N/A	Pipe Supports / Guides:	RPP-SPEC-61910	Grounding Lugs:	N/A
42	Insulation:	N/A	Thk:	N/A	Density:	N/A
43	Fireproofing:	N/A	Thk:	N/A	Density:	N/A

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PRELIMINARY LOADS (TO BE CONFIRMED BY SELLER)						
44	Weights (lbs):	Shipping: 25,000	Erection: 24,346	Empty: 24,346	Operating: 26,790	Field Test: 24,346
45	Wind:	Shear at Base =	N/A	Moment at Base =	N/A	
46	Seismic:	Shear at Base =	14,199 lbs	Moment at Base =	148,511 ft-lbs	

Notes:

1. Cyclic Loading of IX Column

	Min	Max	Frequency / Design Life
Design Pressure	0 psig	400 psig	5
Operating Pressure	0 psig	100 psig	198
Operating Temperature	60 F	120 F	198
Contents Specific Gravity	1.0	1.35	-

2. Operating Parameters:

- Design Pressure: 400 psi @ 180 F
- Nominal Waste Feed Flowrate: 5 gpm Waste Feed
- Nominal Superficial Velocity: 1.8 gpm/ft² (4.41 m³/(h•m²))
- Nominal Waste Displacement Flowrate: Approx. 7 gpm 0.1M NaOH
- Nominal Rinse Flowrate: Approx. 7 gpm Soft Water
- Nominal Drying Flowrate: 30 cfm Compressed Air

3. Corrosion Allowance is 0 in. The IXC-150 is only in service for a short time period and therefore any corrosion associated with the vessel is considered negligible.