

SPX HEAT TRANSFER INC

2121 N. 161 E., Ave, Tulsa OK 74116

PHONE (918) 234-6000

FAX (918) 234-3345

WWW.SPX.COM

FEEDWATER HEATER SPECIFICATION SHEET

AS-SOLD

DESIGN GUARANTEE CONDITION: SUMMER

700.110493-1AB-SPC

CUSTOMER:	OPPD	DATE:	08/17/2011, REV. 2
		CUST.INQ.NO:	RFP 3416
ADDRESS:		CUSTOMER ORDER NO:	159609
PLANT LOCATION:	FT. CALHOUN STATION, UNIT-1	PROP. NO.:	QH-6896-10
		JOB NO:	WUH/700.110493-1AB
SERVICE OF UNIT:	LOW PRESSURE FEEDWATER HEATERS 4A/4B	ITEM:	FW-14A/B
SIZE:	44-574 TYPE: U-TUBE	ENGR:	AK
SURFACE PER SHELL (SQ. FT)	EFFECTIVE: 10,761	GROSS:	11,085
NO.OF SHELLS PER UNIT:	2	NO. OF UNITS:	1
		POSITION:	HORIZONTAL

PERFORMANCE OF ONE SHELL

			SHELL SIDE			TUBE SIDE	
5	FLUID CIRCULATED		STEAM		DRAINS		FEEDWATER
6	TOTAL FLUID ENTERING LB/HR		374,700		363,889		2,888,482
7	INLET ENTHALPY BTU/LB		1108.6		358.4		253.3
8	OUTLET ENTHALPY BTU/LB		356.1				351.3
9	INLET TEMPERATURE °F		382.8 (382.8 SAT)				283.3
10	OUTLET TEMPERATURE °F		382.3				377.6
11	OPERATING PRESSURE PSIA		202.3				410
12							
13	NUMBER OF PASSES		CONDENSING				2
14	VELOCITY FT/SEC						9.0 @ SG =1
15	PRESSURE DROP PSI		DESUP ----- SUBCL -----				18.0
		HEAT TRANSFERRED BTU/HR	SURFACE SQ.FT	LMTD °F	HT TRANS.RATE BTU/HR/ SQ. FT / °F	BAFFLE PITCH	REF TEMPERATURE DIFFERENCE
16	DESUPERHEATING	-----					°F
17	CONDENSING	283,248,000	10,761	31.9	826		TTD 5.2
18	DRAIN COOLING	-----					DCA 99.0

CONSTRUCTION--EACH SHELL

	SHELLSIDE				TUBESIDE	
19	DESIGN PRESSURE	PSIG	250 & FULL VAC			700
20	TEST PRESSURE	PSIG	325			910
21	DESIGN TEMPERATURE	°F	SHELL 420	SKIRT 420	420	
22	MINIMUM DESIGN METAL TEMP. (°F)		SHELLSIDE 60.0	TUBESIDE 60.0		
23	TUBES SA-688-TP304L	NO.U's 579	OD 3/4"	.035" Avg	LENGTH 47'- 10" STR	
24	SHELL ALLOY STEEL	ID: 44	TUBE PITCH:	15/16"	TRIANGULAR	
25	SHELL COVER ALLOY STEEL--WELDED TO SHELL		SHELL SKIRT		ALLOY STEEL	
26	CHANNEL (SR)	STEEL	CHANNEL COVER		STEEL	
27	TUBE SHEET	STEEL + SST OVERLAY	IMPINGEMENT PLATE		3/8", STAINLESS STEEL	
28	SUPPORT PLATES	ALLOY STEEL [6]	ZONE BAFFLES		-----	
29	SHROUDS-DSH	-----	SUBCOOLER		-----	
30	TYPE JOINTS-SHELLSIDE WELDED		TUBE SIDE		BOLTED	
31	GASKETS-SHELL	-----	CHANNEL		SPIRAL WOUND	
32	CONNECTIONS: STEAM INLET	18" W.E.[5]	DRAINS INLET		10" W.E.[5]	
33	DRAINS OUTLET	20" W.E.[5]	EMERGENCY DRN		-----	
34	FEEDWATER INLET	16" W.E.	OUTLET		16" W.E.	
35	CODE REQUIREMENTS ASME 2010 SECTION VIII, DIVISION 1					
36	WEIGHTS (LB) SHELL AND BUNDLE 40,700		BUNDLE 28,100	FULL OF WATER		77,400
37	SHELL SAFETY VALVE BY SPXHT (PILOT OPERATED) TUBE SIDE RELIEF VALVE					BY SPXHT
38	SHELL GAUGE GLASS BY PURCHASER					

REMARKS:	[1] TUBES SEAL WELDED AND ROLLED (FULL-DEPTH) INTO TUBESHEET
	[2] SHELL ROLLER SUPPORTS PROVIDED [3] STAINLESS STEEL SPACERS PROVIDED
	[4] 12 INSTALLED SPARE TUBES INCLUDED, NOT COUNTED AS EFFECTIVE SURFACE
	[5] ALL SHELL SIDE NOZZLES ARE OF ALLOY STEEL [6] SEMI-SUPPORTS
	[7] CORROSION ALLOWANCE: 1/8" FOR CARBON STEEL COMPONENTS (CHANNEL, TUBESHEET)
	[8] CORROSION ALLOWANCE: 1/16" FOR ALLOY STEEL COMPONENTS (SHELL, SKIRT)

EC ISSUE			
EC 43211			
ISSUE	A		
ISSUED FOR	FINAL DESIGN		
CHKD			
ENG			
DEPT			
C.M.			
DATE			

OPPD File No. 64535

FINAL DESIGN ISSUE A