

Hoja de Datos
Intercambiadores de Calor

Nº units required:	2
Item Nº:	EG-E02-A/B
Service:	Heat Exchanger for Components System Cooling Service

GRAL.	Size (shell dia. x tube length): (See Note 1) mm	Type: AEL
	Hor./Ver.: Horizontal	Connected in (Parallel / Series):
	Surface/Unit (m ²)	Shells/Unit: 1

PERFORMANCE OF ONE UNIT	DESIGN SCENARIOS (See Note 2)		LOCA		NORMAL SHUTDOWN		NORMAL OPERATION	
	Fluid Allocation		SHELL SIDE	TUBE SIDE	SHELL SIDE	TUBE SIDE	SHELL SIDE	TUBE SIDE
	Fluid Name		Demineralized Water	Cooling Water (Industrial grade)	Demineralized Water	Cooling Water (Industrial grade)	Demineralized Water	Cooling Water (Industrial grade)
	Design Flow Rate	gpm (m ³ /h)	10400 (2362)	13737 (3120)	14360 (3261.5)	15322 (3480)	13390 (3041.2)	15322 (3480)
	Inlet Temperature	°F (°C)		95.0 (35.0)		95.0 (35.0)		82.0 (27.8)
	Outlet Temperat. (See Note 3)	°F (°C)	< 120 (< 48.9)		< 120 (< 48.9)		< 95 (< 35)	
	Density	kg/m ³						
	Viscosity, Liquid	Cp						
	Specific Heat	J/kg°C						
	Thermal Conductivity	W/m°C						
	Latent Heat	J/kg@°C						
	Inlet Pressure	kg/cm ² -g	9.5		9.5		9.5	
	Velocity	m/s						
	Pressure Drop Allow. (Note 4)	kg/cm ²	< 0.8		< 1.32		< 1.25	
	Fouling Resistance (Min.) (See Note 5)	ft ² °F/Btu (m ² °C/W)	0.0005	0.001	0.0005	0.001	0.0005	0.001
Heat Exchanged	MW	42.00		43.52		23.66		
MTD (corrected)	°C							
Transfer Rate, Service / Clean	W/m ² °C							

CONSTRUCTION DATA (per shell)	GRAL.	SHELL SIDE				TUBE SIDE					
		Design / Test Pressure	kg/cm ² -g	14	Acc./ ASME	10.5	Acc./ ASME				
		Design Temp. Max / Min	°C	93				93			
		No. Passes per Shell		1				1			
	Corrosion Allowance	mm	3.175				3.175 (1 mm for INOX option)				
	CONNECT. Size & Rating	Service	Pos	No.	Nom. Size	Rating	Pos	No.	Nom. Size	Rating	
		In	A	1	24"	150#	C	1	28"	150#	
		Out	B	1	24"	150#	D	1	28"	150#	
		Relief valve	R1	1	2"	150#	R2	1	2"	150#	
		Vent	V1	1	2"	150#	V2,V3	2	2"	150#	
Drain		D1	1	2"	150#	D2,D3	2	2"	150#		
Tube No.:	OD: Min ¾" mm	Thk.: Min. 18 BWG mm	Length: mm	Pitch: mm							
Tube Type:	Material: SA-179 (Note 6)										
Shell: SA-516 Gr70	ID: mm	OD: mm	Shell Cover: ---	Integr. <input type="checkbox"/>	Remov. <input type="checkbox"/>						
Channel or Bonnet: SA-516 Gr70 (Note 6)	Channel Cover: SA-516 Gr70 (Note 6)										
Tubesheet-Stationary: SA-516 Gr70 (Note 6)	Tubesheet-Floating: ---										
Floating Head Cover: ---	Impingement Protection: To be checked by Supplier										
Baffles-Cross: Type: %Cut (Dia/Area): Spacing: c/c: Inlet: mm											
Baffles-Long: --- Seal Type:											
Supports-Tube: U-Bend: Type:											
Bypass Seal Arrangement: --- Tube to Tubesheet Joint:											
Expansion Joint: To be checked by Supplier Type:											
pv ² - Inlet Nozzle: Bundle Entrance: Bundle Exit:											
Gaskets Shell Side: Tube Side:											
Floating Head: ---											

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Code Requirements: <i>ASME, Section III, Class 3 (2001 + addenda 2003)</i>		TEMA Class: <i>R</i>	
Weight	Shell:	Bundle:	TOTAL: kg
	Filled with Water: kg		

ENVIRONMENTAL & SECURITY DATA	Location:	<i>Indoors</i>	Active / Passive Security:	<i>Passive</i>
	Temperature:	<i>From +15 to +40°C</i>	Quality Group (RG 1.26):	<i>C</i>
	Relative Humidity:	<i>From 20 to 80%</i>	Security Class:	<i>3</i>
	Special Conditions:	<i>Heat Exchanger is not insulated</i>	Seismic Category (RG 1.29):	<i>1</i>
	Accumulated Radiation:	<u>Accidental</u> <i>4500 rad</i> <u>40 years dose</u> <i>880 rad</i>	Required Input Motion (RIM):	<i>See seismic curves</i>

TESTS	Ultrasounds / X-rays	<i>Acc./ ASME, Section III, Class 3 (2001 + addenda 2003)</i>
	Penetrant liquids / Magnetic particles	
	Hydrostatic / Eddy Current	

Notes:

- (1) The equipment must fit into an area of 15.0 m x 3.0 m. All the nozzles will be at the vertical axis; the maximum length of the nozzles will be 450 mm for A,B, C & D, and of 200 mm for the rest of nozzles. All the nozzles flanges will be RF (raised face).
- (2) The supplier must guarantee that the heat exchanger is able to ensure the heat duty for the 3 scenarios with the minimum water flow rate within tube side.
- (3) The supplier must minimize shell side outlet temperature and guarantee that it never rises above the specified value for none of the 3 scenarios.
- (4) The supplier must minimize pressure drop and it must be guaranteed that shell side pressure drop never rises above the specified value for none of the 3 scenarios.
- (5) The values of the fouling resistance specified are the minimum to be considered by the supplier on each scenario.
- (6) The supplier must consider SA AISI 316L as an option for tube side materials.
- (7) Vendor to provide quotations for alternate materials/design in addition to base requirements if advantageous.