



**air-x-changers**

a harsco company

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**JOB NO. 024557**

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Purchaser	STARTEC REFRIGERATION LTD	Ultimate User	PANCANADIAN
Inquiry/PO#	WO-00688 / PO-43241	Destination	ALBERTA
No. Units	1	Model:	144EH-104-22
Reference		Reference	
Assembly:	PACKAGED	Draft:	FORCED
Overall Size (WxL), ft:		Est. Wt., lb:	24,650

**PERFORMANCE**

Service	** EJW	E-101A	E-101B
Flow	37.5GPM	55358#/HR	14661#/HR
Fluid	50%GLY	20.17MW	62.32MW
Temp. In / Out, f	176.6 / 185.0	167.0 / 110.0	167.0 / 110.0
Pressure, psia		1,316.0	1,316.0
Pressure Drop, psi	1.7	4.2	2.7
Heat Load, btu/hr	200,000	2,822,114	559,994
True LMTD	47.5	20.7	24.4
Overall Rate, U	160.3	109.2	87.7
Fouling Factor	0.0005	0.0010	0.0020
Surface, Baro / Extended, sq.ft.	28 / 609	1238 / 18453	265 / 3945
Sections, No./Connected	(1) SINGLY	(1) SINGLY	(1) SINGLY
Design Temp. (Max / Min), f	300/-20	300/-40	300/-40
Design / Test Press., psig	*14 / 65	1440 / 1872	1440 / 1872
Pass Arrangement	CROSSFLOW	CROSSFLOW	CROSSFLOW
No. Tube Rows	1	4	3
No. Tube Passes	1	3	4
Tubes, OD x BWG	1X16(.060MIN)	3/4X16(.060MIN)	3/4X16(.060MIN)
Material	SA214	SA179 STEEL	SA179 STEEL
No. Per Section / Length, ft	5 / 22	290 / 22	62 / 22
Retarders			
Accelerators			
Fins, Type	L-TENSION / WHEEL	L-TENSION / WHEEL	L-TENSION / WHEEL
Material	ALUMINUM	ALUMINUM	ALUMINUM
Nozzles, Rating/Type	150 RF	900 RTJ	900 RTJ
Material / Bore	SA105 / SCH-80	SA350 LF2 / SCH-160	SA350 LF2 / SCH-160
(No. Inlets) / Size, in	(1) / 2IN	(1) / 6IN	(1) / 3IN
(No. Outlets) / Size, in	(1) / 2IN	(1) / 6IN	(1) / 3IN
Headers, Type	BOX W/PLUGS	BOX W/PLUGS	BOX W/PLUGS
Material	SA516 70	SA516 70(N)	SA516 70(N)
Corrosion Allow., in		0.1250	0.1250
Grooved Tubesheet		DOUBLE	DOUBLE
Plugs, Type	SHOULDER	SHOULDER	SHOULDER
Plugs Material	SA105	SA350 LF2	SA350 LF2
Industry Specifications	AXC-STD	AXC-STD	AXC-STD
ASME Code Stamp / N.B.		YES	YES
Canadian Registration #		YES	YES
PWHT		YES	YES
NACE			

**44 Inspection/NDT** UB UB  
 F= 100% R.T. of all header seam & nozzle butt welds PLUS 100% U.T. of all attachment welds. S= Spot R.T. of 1 long seam & 1 end closure, per header  
 U = 100% UT of all header seam, attachment & nozzle butt welds. B= 100% R.T. of all nozzle butt welds.  
 SB= S PLUS B as each are described above. UB= U PLUS B as each are described above.

AIR-SIDE PERFORMANCE		FAN DATA		DRIVER DATA		REDUCER DATA	
Ambient Air Temp., in, f	100	No. Fans / Make	1 / MOORE-CL10K	Type	ENGINE DRIVE	Type	REDUCER BY OTHERS
Elevation, ft	3055	Blade Material	ALUMINUM				
Air Flow, SCFM	175,866	HP@RPM	47.92 @ 240				
Air Temp., Out, f	118.3	Dia., in / No. Blades	144 / 10				
Min. Ambient, f	-40	Blade Angle, Deg	20.2 @ Clevelis				
		Series/Blade Adj.	60-EDVT/Manual				
		Fan Hub Bushing	Taper				

\* Actually built to standard 50# design. Designated 14# to eliminate necessity of Provincial registration.

\*\* EJW section is located in front of the E-101B section.

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