

**Alr-X-Changers****Harsco****PO BOX 1804
TULSA, OK 74101-1804
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Date 10/31/2013

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Purchaser	Ultimate User	
Inquiry	NEW BUILD	
No. Units	1	Model: 168-2Z
Assembly:	PACKAGED	Draft: FORCED
Reference		G3612-LE - KBZ/4 @ 3461 BHP
Overall Size (WxLxH),		~15.00x47.00x11.42
Est. Wt., lbs:		47,950

PERFORMANCE

Service	EJW	AUX-W	IC1	IC2	AC
Flow	575GPM	500GPM	18.3MMSCFD	18.3MMSCFD	25.5MMSCFD
Fluid	50%GLY	50%GLY	0.65SPGR	0.65SPGR	0.6485SPGR
Temp. In / Out, f	190.0 / 180.2	147.1 / 130.0	278.0 / 120.0	251.0 / 120.0	232.0 / 120.0
Pressure, psia			259.7	582.6	1,277.4
Pressure Drop, psi	11.1	13.7	3.2	5.9	5.8
Heat Load, btu/hr	2,638,020	3,826,196	3,473,648	2,976,003	3,878,520
True LMTD, f	35.9	22.3	54.4	45.7	38.9
Overall Rate, U, btu/hr ft ² f	156.8	166.6	83.4	105.2	123.7
Fouling Factor, ft ² hr f / btu	0.0005	0.0005	0.0010	0.0010	0.0010
Surface, Bare / Extended, sq.ft.	611 / 11423	1030 / 22043	791 / 16917	629 / 9369	808 / 12855
Sections, No./Connected	(1) COMBINED w/2	(1) COMBINED w/1	(1) SINGLY	(1) SINGLY	(1) SINGLY
Design Temp. (Max / Min), f	300/-20	300/-20	350/-20	350/-20	350/-20
Design / Test Press., psig	150 / 195	150 / 195	645 / 839	1287 / 1674	1700 / 2210
Pass Arrangement	CROSSFLOW	CROSSFLOW	CROSSFLOW	CROSSFLOW	CROSSFLOW
No. Tube Rows/Tube Passes	4 / 2	4 / 2	4 / 1	4 / 1	5 / 1
Section Weight, lbs	10700	Combined w/1	6500	5100	6150
Tubes, OD x BWG	1-1/2X16(.060MIN)	1X16(.060MIN)	1X16(.060MIN)	3/4X16(.060MIN)	5/8X16(.060MIN)
Material	SA214	SA214	SA214	SA214	SA214
No. Per Section / Length, ft	34 / 46	86 / 46	66 / 46	70 / 46	108 / 46
Retarders					
Accelerators					

Fins, Type	L-TENSION / WHEEL	L-TENSION / WHEEL	L-TENSION / WHEEL	L-TENSION / WHEEL	L-TENSION / WHEEL
Material	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM
Nozzles, Rating/Type	150 RF	150 RF	300 RF	600 RF	900 RF
Material	SA105	SA105	SA105	SA105	SA105
(No. Inlets) / Size, in	(1) / 6IN	(1) / 6IN	(1) / 8IN	(1) / 6IN	(1) / 6IN
(No. Outlets) / Size, in	(1) / 6IN	(1) / 6IN	(1) / 8IN	(1) / 6IN	(1) / 6IN
Headers, Type	ASME TUBE-10.2	ASME TUBE-10.2	BOX W/PLUGS	BOX W/PLUGS	BOX W/PLUGS
Material	SA106 GR.C	SA106 GR.C	SA516 70	SA516 70	SA516 70
Corrosion Allow., in					
Grooved Tubesheet			YES	YES	YES
Plugs, Type	SHOULDER	SHOULDER	SHOULDER	SHOULDER	SHOULDER
Plugs Material	SA105	SA105	SA105	SA105	SA105
Industry Specifications	AXC-STD	AXC-STD	AXC-STD	AXC-STD	AXC-STD
ASME Code Stamp / N.B.			YES	YES	YES
Canadian Registration #					
PWHT					
NACE					

Inspection/NDT					
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	2 / MOORE-CL10K-HD	Type	ELECTRIC MOTOR	Type	V-BELTS/SHEAVES
Elevation, ft	50	Blade Material	ALUMINUM	Make	AXC STANDARD		
Air Flow, SCFM	404,984	HP@RPM	40.48 @ 245	HP / SF	50 / 1.15		
Air Temp., Out, f	137.7	Dia., in / No. Blades	168 / 8	RPM	1800		
Min. Ambient, f	-20	Blade Angle, Deg	6.4 @ Clevis	Enclosure	TEFC CHEM DUTY		
		Series/Blade Adj.	60-HDVT/Manual	Volt/Ph/Hz	230/460-3-60		
		Fan Hub Bushing	TAPER	Speed	L-SPD(VFD Compatible)		