

# air-x-limited

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E-mail: [jcurley@airxlimited.com](mailto:jcurley@airxlimited.com)

<b>Purchaser:</b> CNRL	<b>From:</b> JOHN CURLEY
<b>To:</b>	<b>Date:</b> January 18, 2022
<b>Inquiry #:</b> DUPLICATE 137961	<b>End User:</b>
<b>Proposal #:</b> 227977	<b>Destination:</b> FERRIER REGN
<b>No. Pages:</b> 3	<b>Reference:</b>

## PROPOSAL

In response to subject inquiry, we propose the following design in accordance with specification sheet: **227977**  
Dated: **1/18/2022**  
Comments: *Designed in accordance with AXH Air-Coolers Design & Manufacturing Standards unless specifically stated herein. Exception is taken to all other specifications.*

**(1) Model:** 42-2ZF-R **Est. Overall Size, Ft** **SEE DRAWING**  
V-BELT DRIVE BY (2) 5HP, 1800RPM, 460/60/3, TEFC, VFD COMP. MOTOR (CSA) IEEE  
IMI 640B01 vibration xmitters  
Extended bearing lube lines  
Integral Hail Guard

### Gas Services -

SA179 Tubes  
1/16" Corrosion Allowance  
1" Coupling opposite gas outlet  
100% UT / X-Ray of nozzle butt welds  
PWHT  
Low temperature material: -49F MDMT  
CRN Registration: AB, BC

Galvanized structure and side frames with painted headers

Soft removable bugscreens

Code heating coil under gas service

Sub-structure

Motor removal beams

Warm air recirc with auto top, roll and end-intake shutters by actuators only, manual side

Caged ladder and walkway - one end

**Fan(s):** (2) MOORE-10K S18VT **Tip speed (fpm):** 8,202  
**Dia, In / # Blades:** 42 / 3 **Est. Noise Data:** 77 dBA @1m, 55 dBA @ 15m

**Net unit price\* (USD):** FOB Claremore, OK **Based on an order of** 1 units

**Est. Shipment\* is:** 14-16 weeks

*\*Shipment is based not only on receipt of order but also on approval and a release to build. Due to the current level of activity, the above shipment is subject to change within a short period of time and therefore should be confirmed at time of order. The quoted price is valid for 30 days.*

*Prices are fixed & firm for a period of 30 days. Prices are good for our currently quoted shipment schedule of 14 weeks + 4 weeks. For shipments beyond 18 weeks please contact us for extended pricing.*



**AXH air-coolers**  
air-x-limited

401 E. Lowry Road Phone (918) 283-9200  
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**Proposal / Job No.** 227977  
**Date** 1/18/2022  
**Page** 1 of 1

1	<b>Purchaser</b>	CNRL	<b>Ultimate User</b>	CNRL
2	<b>Inquiry / PO#</b>		<b>Destination</b>	FERRIER
3	<b># Units</b>	1	<b>Model</b>	42-2ZF
4	<b>Assembly</b>	PACKAGED	<b>Draft</b>	FORCED
			<b>Overall Size, Ft</b>	5.5' X 10'
			<b>Est Wt</b>	14000 LB

**THERMAL & MECHANICAL DESIGN**

5	<b>Service</b>	AC	HC
6	<b>Flow</b>	3.85MMSCFD	
7	<b>Fluid</b>	.68SPGR	
8	<b>Temp. In / Out, °F</b>	520.0 / 109.4	
9	<b>Pressure, PSI</b>	905PSIG	
10	<b>Pressure Drop, PSI</b>	3.2	
11	<b>Heat Load, BTU/HR</b>	2198900	
12	<b>True LMTD</b>	90.5	
13	<b>Overall Rate, U</b>	93.5	
14	<b>Fouling Factor</b>	.001	
15	<b>Surface, Tube / Total, Sq Ft</b>	260 / 5572	

16	<b>Sections, #</b>	1	
17	<b>Design Temp, °F Max / Min</b>	600 / -49	250 / -49
18	<b>MWP / Test Press, PSIG</b>	1095 / 1468	245 / 318
19	<b>Pass Arrangement</b>	CROSSFLOW	CROSSFLOW
20	<b># Tube Rows</b>	4	1
21	<b># Tube Passes</b>	8	2
22	<b>Tubes, OD x BWG</b>	1X14	1X16
23	<b>Material</b>	SA179 STEEL	SA214 STEEL
24	<b># Per Section / Length, Ft</b>	102 / 10	10 / 10

25	<b>Turbulators</b>		
26	<b>Accelerators</b>		
27	<b>Fins, Type</b>	EMB-WHL	
28	<b>Material</b>	AL	AL
29	<b>Nozzles, Rating / Type</b>	600RF	300RF
30	<b>Material</b>	SA350-LF2	SA350-LF2
31	<b>#-Inlets / Size In</b>	(1) 3	(1) 2
32	<b>#-Outlets / Size In</b>	(1) 3	(1) 2
33	<b>Headers, Type</b>	BOX	PIPE
34	<b>Material</b>	SA516-70N	SA333GR6
35	<b>Corrosion Allow, In</b>	.0625	
36	<b>Grooved Tubesheet</b>	DBL	SGL
37	<b>Plugs, Type</b>	SHOULDER	SHOULDER
38	<b>Plugs Material</b>	SA350-LF2	SA350-LF2
39	<b>PWHT</b>		
40	<b>ASME Code &amp; Nat'l Board</b>	YES	YES
41	<b>CRN</b>	AB,BC	AB,BC

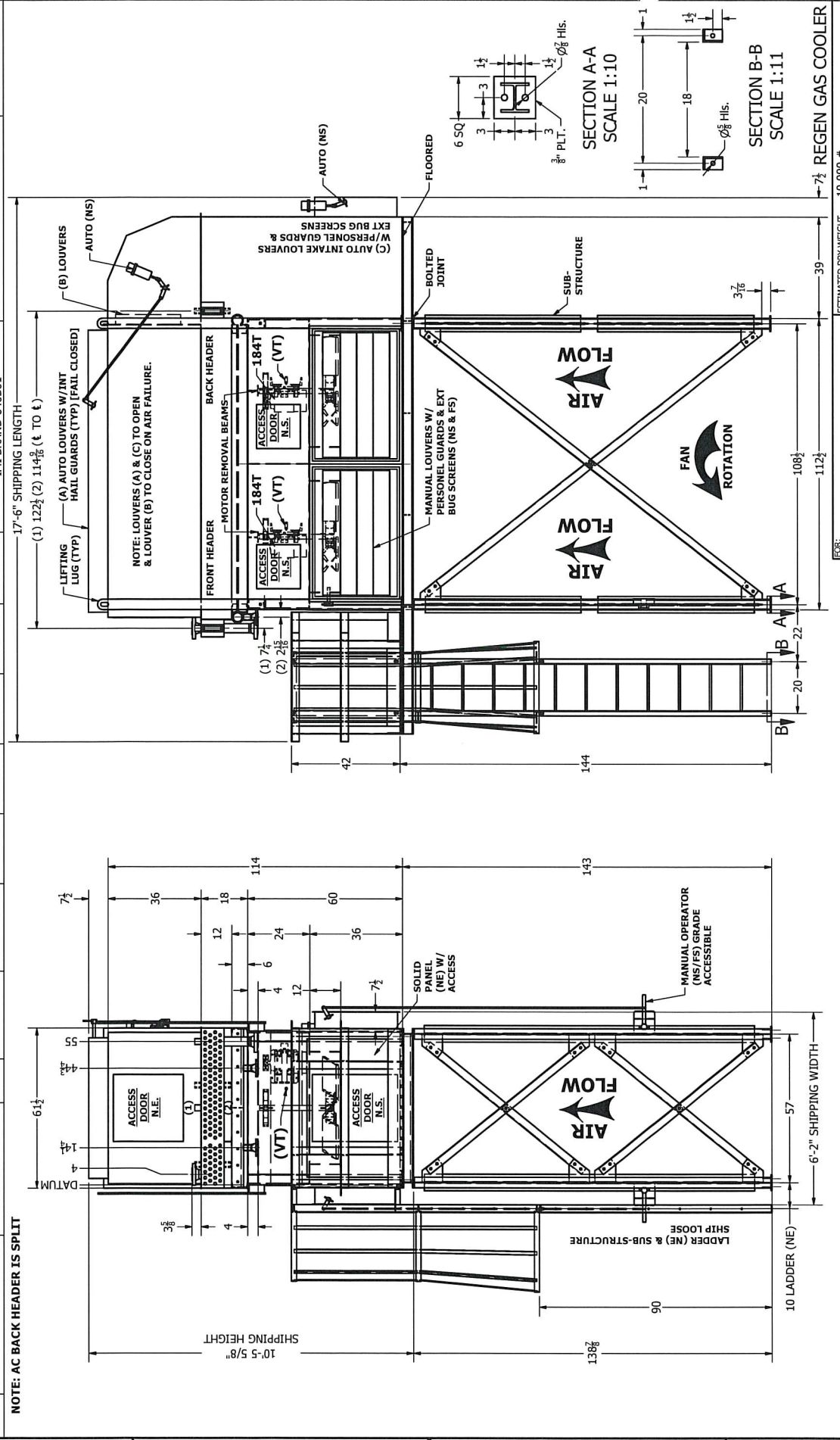
42	<b>Add'l Specs &amp; Options</b>		
43	<b>API</b>	661*	
44	<b>Louvers</b>		
45	<b>Hail Screen</b>		

46	<b>Inspection / NDT</b>	BX/UT	
	<b>AIR-SIDE PERFORMANCE</b>	<b>FAN DATA</b>	<b>DRIVER DATA</b>
47	<b>Ambient Air Temp, In °F</b>	95	<b>Fan(s)</b> (2) MOORE-10K VT S18
48	<b>Elevation, Ft</b>	3363	<b>Blade Material</b> ALUMINUM
49	<b>Air Flow, SCFM</b>	27701	<b>HP / Fan</b> 3.4
50	<b>Outlet Air Temp, °F</b>	164.8	<b>Dia, In / # Blades</b> 42 / 3
51	<b>Min Air Temp, °F</b>	-49	<b>RPM</b> 746
52			<b>Tip speed, FPM</b> 8202
53	<b>Est. Noise Data:</b>	78.6 dBA @ 1m, 56.8 dBA @ 15m	<b>Pitch, Deg</b> 16.6
			IMI 640B71 VIB SENSORS

54	<b>Additional Info.</b>	* Per AXH's standard clarifications and exceptions	
55		DUPLICATES JOB137961	
56			
57			
58			
59			

<b>NDT Legend</b>	FX= 100% X-Ray of all header seam & nozzle butt welds with UT of attachment welds.	BX= 100% X-Ray of all nozzle butt welds.
	SX= Spot X-Ray of 1 long seam & 1 end closure, per header.	H = Hardness testing.
	UT = 100% UT of all header seam and nozzle attachment welds.	

ITEM	SERVICE	MAWP	CODE	INLET	OUTLET	V/D/TEMP	DIM B	DIM C	LOUVERS	BUG SCREEN	DRIVE	FAN	FINISH
1	AC (5:21 CU.FT.)	1095 PSI @ 600/-49° F	ASME	3"-600 RFWN	3"-600 RFWN	(6) 1-6000	-	-	-	YES (SOFT)	ELECTRIC MOTOR DRIVE SHEAVES, BELTS, & GUARDS (2) 5HP, 1800RPM, 575/60/3 TEFC, VFD COMP. JEEEB841 MOTOR (CSA)	42" Ø (2) MOORE-10K S18 VT HD 3- BLADE 16° PA, LH ROTATION 750 RPM @ 2.7 HP REQ'D Ø1.4375" BORE W/375 X 1.1875 KWY.	STRUCTURE SIDE FRAMES FAN GUARDS GALVANIZED  HEADERS METALIZED
2	HTG-COIL (2.5 CU.FT.)	245 PSI @ 250/-49° F	ASME	2"-300 RFWN	2"-300 RFWN	-	-	-	-	-	(2) (VT) VIB. TRANSMITTER IMI BRAND 640B01		



REV	DESCRIPTION	BY	CK	DATE
3	ADDED NOTE ABOVE TITLE BLOCK PER CUSTOMER REQUEST	JJ	MB	6/11/2014
2	REMOVED LOUVERS OVER SECTION, MOVED LADDER TO OPPOSITE SIDE PER CUSTOMER REQUEST & RELEASED	JJ	JS	10/15/2013
1	MOVE AC INLET TO TOP OF HEADER, LOWER RECIRC ACCESS DOOR TO PLATFORM END OF UNIT, REPLACE HTG CPLG'S WITH 2"-300 RFWN'S, ADD FLOOR, SUB-STRUCTURE, PLATFORM, & LADDER TO UNIT & ABILITY TO OPERATE MANUAL LOUVERS FROM GRADE.	JJ	JS	9/27/2013

DR: THERMO DESIGN ENGINEERING LTD.	ESTIMATED DRY WEIGHT	10,000 #
P.O.#: 049049		
REV: 003-E-03-1017		
USER: DEVON		
DESIGNER: J. FERLIER, ALBERTA		
SUB.#: 137961		
DR: Joel Jones		
DATE: 8/15/2013		
SCALE: FULL	DATE: 8/15/2013	SHEET 1 OF 1

**RELEASED**

FABRICATION OF THIS ORDER HAS BEGUN

Please be aware that if any changes are made they may result in additional manufacturing and engineering costs and may also adversely impact the current scheduled shipping date.

\*NOTE\*

**AXH air-coolers**

CERTIFIED DRAWING FOR: MODEL 42-2ZF-R QUANTITY: 1  
DWG NO: 137961-CRT REV: 3