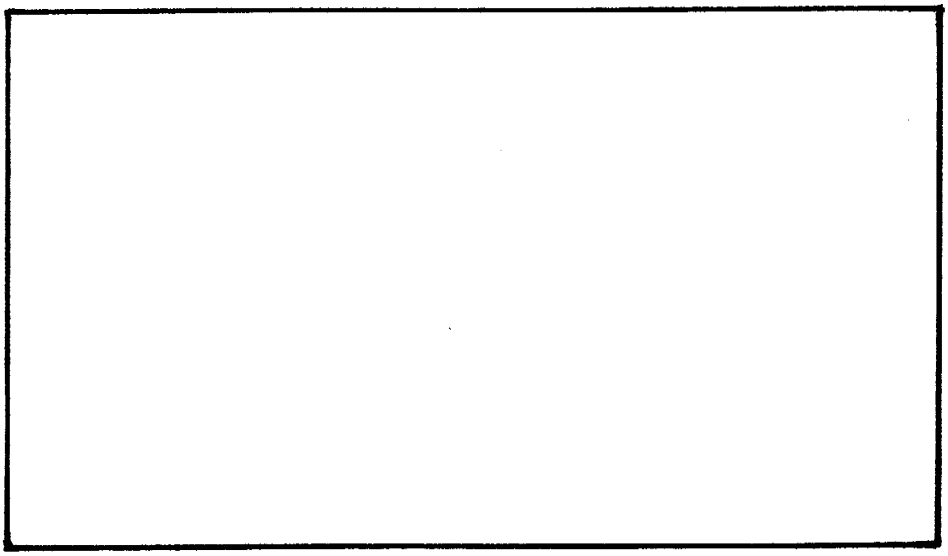
10RT DIRECT-EXPANSION LIQUID COOLERS

— FEATURES

— DIMENSIONAL PRINTS



Carrier Corporation • Syracuse, New York 13221

Book	2
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Form 10RT-1SB New Printed in U.S.A. 10-84 PC 111 Catalog No. 511-007

Date:	Supersedes:	**10RT DIRECT EXPANSION LIQUID COOLERS**	10RT	Rev.:

JOB NAME:	LOCATION:	
BUYER:	BUYER P.O.#	CARRIER #
UNIT NUMBER:	MODEL NUMBER:	
PERFORMANCE DATA CERTIFIED BY:		DATE:

DESCRIPTION

The 10RT Series is a direct expansion shell-and-tube cooler for built-up systems. With 10RT Series coolers, dimensional restrictions are no problem since selection can be made from a large assortment of shell diameters and lengths. The 10RT series coolers are constructed and tested in accordance with ASME Code Selection VIII for unfired pressure vessels.

FEATURES

Codes and Design Pressures — The refrigerant side is constructed in accordance with the latest edition of Section VIII, Division 1 of ASME Code for unfired pressure vessels and stamped accordingly. Tube side (refrigerant side) design pressure is 200 psig at 100 F. Shell side (fluid side) design pressure is 150 psig at 120 F.

Test Pressure — Both shell-and-tube sides of all 10RT coolers are pneumatically tested at 1-1/4 times the design working pressure to comply with ASME Code and assure safe, reliable service.

Shells — Steel pipe shells, ASME specification SA-53, Grade B. Shells are shot-blasted and cleaned before assembly.

Tubes — High performance seamless 3/4″ copper tube to ASME specifications. Tubes have internally and externally enhanced surfaces to ensure maximum heat transfer.

Baffles — Hot rolled steel, terne plated for added corrosion resistance.

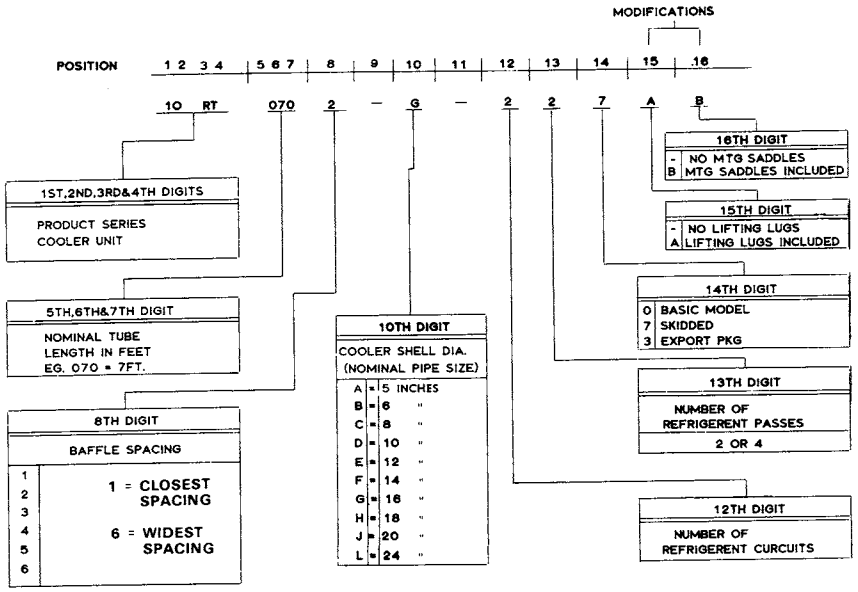
Heads — Fabricated ring and cover type steel heads.

Gaskets — Die-cut medium density elastomer in conformance with relevant specifications. Each vessel is tested for leaks with pneumatic gas and freon tests.

Connections — Fluid connections 3″ I.P.S. and smaller terminated as M.P.T. type. Fluid connections 4″ I.P.S. and larger terminate 150 lb ANSI raised-face steel flanges. Refrigerant connections are steel, welded to the head and bored to O.D.S. of copper tubing. Thermowell, vent and drain connections are provided with 3/4″ FPT type fitting.

Exterior — Head and fluid connections painted with grey enamel paint. Shell has a single layer of 3/4″ thick Armaflex insulation as standard. Double thickness available as an option.

DIRECT EXPANSION LIQUID COOLER MODEL NUMBER SIGNIFICANCE



NOTES:

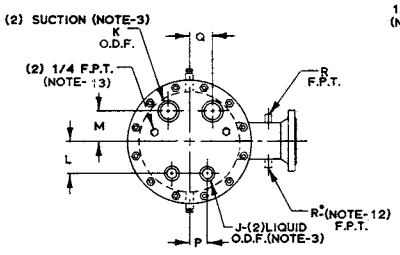
1. CONSTRUCTED AND TESTED IN ACCORDANCE WITH ASME CODE SECTION VIII FOR UNFIRED PRESSURE VESSELS.
2. MAXIWUM WORKING PRESSURES: 200PSI AT 100°F TUBE SIDE
   150PSI AT 120°F SHELL SIDE
3. CONNECTIONS "J AND "K ARE STEEL,WELDED TO HEAD AND BORED TO ODS OF COPPER TUBING
4. FLUID CONNECTIONS ARE M.P.T. THRU 3" CONNECTIONS LARGER THAN 3" TERMINATE IN 150LB. FLANGES.
5. SHELL BAFFLES: HOT ROLLED STEEL, TERNE PLATE.
6. HEADS: ASME SPECIFICATION SA-285 GRADE (C). OR CAST STEEL HEADS,ASME SPECIFICATION SA 216,GRADE WCA OR WCB.
7. TUBE SHEETS: FLANGE QUALITY CARBON STEEL ASME SPECIFICATION SA-285 GRADE (C).
8. SHELL: STEEL PIPE SHELL,ASME SPECIFICATION SA-53,GRADE A OR B .
9. TUBES:3/4" O.D. SEAMLESS COPPER TUBES PER ASME SPECIFICATIONS WITH INTERNAL AND EXTERNAL ENHANCED SURFACES.
10. ONE CIRCUIT STANDARD WITH 5"AND 6"PIPE SHELL (OPTIONAL FOR ALL OTHERS). TWO CIRCUITS STANDARD WITH 8" THROUGH 24"PIPE SHELLS.
11. **INSULATION: 3/4" ARMAFLEX,** STANDARD, DOUBLE LAYER OF ARMAFLEX AVAILABLE ON SPECIAL ORDER.
12. R * USED ONLY ON 3" MPT OR SMALLER FLUID CONNECTIONS.
13. EXTERNAL EQUALIZER CONNECTION.
14. ADD 1 1/2" TO DIMENSION (B);3/4" TO DIMENSION (F);AND 1 1/2" TO DIMENSION (S) TO TAKE INTO ACCOUNT THE STANDARD 3/4" ARMAFLEX INSULATION.
15. FINISH:GREY,ENAMEL PAINT.
16. 1/4 FPT FREEZE PROTECTION CONNECTION.
17. TUBE WALL THICKNESS;0.028" FINNED;0.056" PLAIN.

CIRCUIT AVAILABILITY

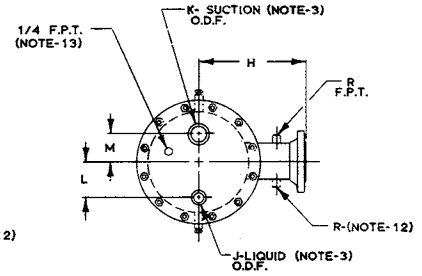
SHELL OD (in.)	NO. OF CIRCUITS			
	1	2	3	4
5	Std	NA	NA	NA
6	Std	NA	NA	NA
8	SO	Std	NA	NA
10	SO	Std	SO	NA
12	SO	Std	SO	SO
14	SO	Std	SO	SO
16	SO	Std	SO	SO
18	SO	Std	SO	SO
20	SO	Std	SO	SO
24	SO	Std	SO	SO

NA — Not Available
SO — Special Order
Std — Standard

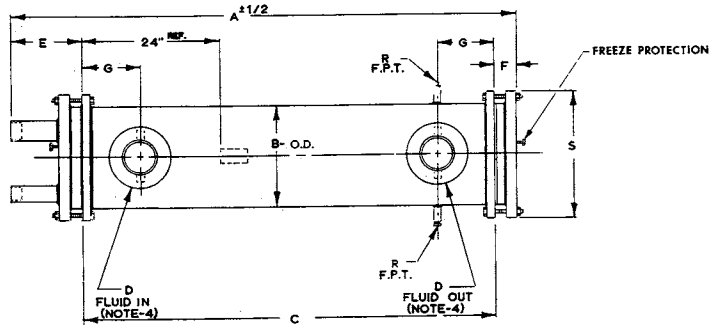
DIMENSIONAL PRINT



TWO CIRCUIT



SINGLE CIRCUIT



10RT-	A 2 PASS	A 4 PASS	B	C	D	E 2 PASS	E 4 PASS	F	G	H	J. O.D.F. 2 PASS	J. O.D.F. 4 PASS	K O.D.F. 2 PASS	K O.D.F. 4 PASS	L 2 PASS	L 4 PASS	M 2 PASS	M 4 PASS	P 2 PASS	P 4 PASS	Q 2 PASS	Q 4 PASS	R	S
0401-A-127--	55 3/4	—	5 9/16	47 5/8	2	6 13/16	—	1 5/16	3 3/16	8 5/8	7/8	—	1 3/8	—	1 1/4	—	1 3/8	—	—	—	—	—	3.4	8 1/2
0401-A-147--	—	56 3/8				—	7 7/16				—	5/8	—	1 1/8	—	1 3/4	—	1 3/4	—	—	—	—		
0501-A-127--	67 3/4	—		59 5/8		6 13/16	—				7/8	—	1 3/8	—	1 1/4	—	1 3/8	—	—	—	—	—		
0501-A-147--	—	68 3/8				—	7 7/16				—	5/8	—	1 1/8	—	1 3/4	—	1 3/4	—	—	—	—		
0501-B-127--	67 3/4	—	6 5/8		2 1/2	6 13/16	—		3 7/16	9 3/16	1 1/8	—	2 1/8	—	1 9/16	—	1 9/16	—	—	—	—	—		9 3/4
0501-B-147--	—	67 3/4				—	6 13/16				7/8	—	1 3/8	—	—	2 1/8	—	2 1/8	—	—	—	—		
0601-B-127--	79 3/4	—		71 5/8		6 13/16	—				1 1/8	—	2 1/8	—	1 9/16	—	1 9/16	—	—	—	—	—		
0601-B-147--	—	79 3/4				—	6 13/16				—	7/8	—	1 3/8	—	2 1/8	—	2 1/8	—	—	—	—		
0401-C-227--	56	—	8 5/8	47 5/8	3	6 15/16	—	1 7/16	3 7/8	10 3/16	1 3/8	—	2 1/8	—	2	—	1 5/8	—	1 1/2	—	1 3/4	—		11 3/4
0401-C-247--	—	56 5/8				—	7 9/16				—	1 1/8	—	1 3/8	—	3	—	3	—	1 25/64	—	1 25/64		
0501-C-227--	68	—		59 5/8		6 15/16	—				1 3/8	—	2 1/8	—	2	—	1 5/8	—	1 1/2	—	1 3/4	—		
0501-C-247--	—	68 5/8				—	7 9/16				—	1 1/8	—	1 3/8	—	3	—	3	—	1 25/64	—	1 25/64		
0602-C-227--	80	—		71 5/8		6 15/16	—				1 3/8	—	2 1/8	—	2	—	1 5/8	—	1 1/2	—	1 3/4	—		
0602-C-247--	—	80 5/8				—	7 9/16				—	1 1/8	—	1 3/8	—	3	—	3	—	1 25/64	—	1 25/64		
0702-C-227--	92	—		83 5/8		6 15/16	—				1 3/8	—	2 1/8	—	2	—	1 5/8	—	1 1/2	—	1 3/4	—		
0702-C-247--	—	92 5/8				—	7 9/16				—	1 1/8	—	1 3/8	—	3	—	3	—	1 25/64	—	1 25/64		
0503-D-227--	69	—	10 3/4	59 5/8	4	7 7/16	—	1 15/16	4 1/2	11 5/8	1 3/8	—	2 5/8	—	2 3/4	—	1 3/4	—	2	—	2 1/2	—		14 3/8
0503-D-247--	—	69				—	7 7/16				—	1 1/8	—	2 1/8	—	4 1/16	—	3	—	1 1/8	—	2		
0604-D-227--	81	—		71 5/8		7 7/16	—				1 3/8	—	2 5/8	—	2 3/4	—	1 3/4	—	2	—	2 1/2	—		
0604-D-247--	—	81				—	7 7/16				—	1 1/8	—	2 1/8	—	4 1/16	—	3	—	1 1/8	—	2		
0702-D-227--	93	—		83 5/8		7 7/16	—				1 3/8	—	2 5/8	—	2 3/4	—	1 3/4	—	2	—	2 1/2	—		
0702-D-247--	—	93				—	7 7/16				—	1 1/8	—	2 1/8	—	4 1/16	—	3	—	1 1/8	—	2		
0704-D-227--	93	—				7 7/16	—				1 3/8	—	2 5/8	—	2 3/4	—	1 3/4	—	2	—	2 1/2	—		
0704-D-247--	—	93				—	7 7/16				—	1 1/8	—	2 1/8	—	4 1/16	—	3	—	1 1/8	—	2		
0804-D-227--	105	—		95 5/8		7 7/16	—				1 3/8	—	2 5/8	—	2 3/4	—	1 3/4	—	2	—	2 1/2	—		
0804-D-247--	—	105				—	7 7/16				—	1 1/8	—	2 1/8	—	4 1/16	—	3	—	1 1/8	—	2		
0904-D-227--	117	—		107 5/8	5	7 7/16	—		5 1/16		1 3/8	—	2 5/8	—	2 3/4	—	1 3/4	—	2	—	2 1/2	—		
0904-D-247--	—	117				—	7 7/16				—	1 1/8	—	2 1/8	—	4 1/16	—	3	—	1 1/8	—	2		
0004-E-227--	105 1/2	—	12 3/4	95 5/8		7 11/16	—	2 3/16	5 3/4	12 5/8	1 5/8	—	2 5/8	—	3 1/4	—	1 3/4	—	2 1/2	—	2 3/4	—		16 3/8
0804-E-247--	—	105 1/2				—	7 11/16				—	1 3/8	—	2 1/8	—	4 3/8	—	3 1/2	—	2	—	2 1/2		
0806-E-227--	105 1/2	—			6	7 11/16	—				1 5/8	—	2 5/8	—	3 1/4	—	1 3/4	—	2 1/2	—	2 3/4	—		
0806-E-247--	—	105 1/2				—	7 11/16				—	1 3/8	—	2 1/8	—	4 3/8	—	3 1/2	—	2	—	2 1/2		
1004-F-227--	130 1/2	—	14	119 5/8		8 3/16	—	2 11/16		13 1/4	1 5/8	—	3 1/8	—	3 3/4	—	3	—	2 5/8	—	2 7/8	—		17 1/2
1004-F-247--	—	130 1/2				—	8 3/16				—	1 3/8	—	2 5/8	—	5	—	4 1/8	—	1 7/8	—	2 5/8		
1104-F-227--	142 1/2	—		131 5/8		8 3/16	—				1 5/8	—	3 1/8	—	3 3/4	—	3	—	2 5/8	—	2 7/8	—		
1104-F-247--	—	142 1/2				—	8 3/16				—	1 3/8	—	2 5/8	—	5	—	4 1/8	—	1 7/8	—	2 5/8		
1004-G-227--	131 1/2	—	16	119 5/8	8	8 11/16	—	3 3/16	7 1/16	14 1/4	2 1/8	—	3 1/8	—	4	—	3	—	3	—	3 1/4	—		19 1/2
1004-G-247--	—	131 1/2				—	8 11/16				—	1 5/8	—	2 5/8	—	6 1/4	—	3 7/8	—	1 5/8	—	3		
1104-G-227--	143 1/2	—		131 5/8		8 11/16	—				2 1/8	—	3 1/8	—	4	—	3	—	3	—	3 1/4	—		
1104-G-247--	—	143 1/2				—	8 11/16				—	1 5/8	—	2 5/8	—	6 1/4	—	3 7/8	—	1 5/8	—	3		
0903-H-227--	119 1/2	—	18	107 5/8		8 11/16	—			15 1/4	2 1/8	—	3 5/8	—	4 3/4	—	3 1/2	—	3 1/4	—	3 3/4	—		21 1/2
0903-H-247--	—	119 1/2				—	8 11/16				—	1 5/8	—	2 5/8	—	6 3/8	—	4 1/2	—	2 5/8	—	3 3/8		
1003-H-227--	131 1/2	—		119 5/8		8 11/16	—				2 1/8	—	3 5/8	—	4 3/4	—	3 1/2	—	3 1/4	—	3 3/4	—		
1003-H-247--	—	131 1/2				—	8 11/16				—	1 5/8	—	2 5/8	—	6 3/8	—	4 1/2	—	2 5/8	—	3 3/8		
1205-H-227--	155 1/2	—		143 5/8		8 11/16	—				2 1/8	—	3 5/8	—	4 3/4	—	3 1/2	—	3 1/4	—	3 3/4	—		
1205-H-247--	—	155 1/2				—	8 11/16				—	1 5/8	—	2 5/8	—	6 3/8	—	4 1/2	—	2 5/8	—	3 3/8		
1003-J-227--	132 1/2	—	20	119 5/8		9 3/16	—	3 11/16	8 3/8	16 1/4	2 1/8	—	3 5/8	—	5	—	4 1/4	—	3 1/2	—	4 3/8	—		23 1/2
1003-J-247--	—	132 1/2				—	9 3/16				—	1 5/8	—	3 1/8	—	7 1/4	—	5	—	3 5/16	—	4		
1104-J-227--	144 1/2	—		131 5/8	10	9 3/16	—				2 1/8	—	3 5/8	—	5	—	4 1/4	—	3 1/2	—	4 3/8	—		
1104-J-247--	—	144 1/2				—	9 3/16				—	1 5/8	—	3 1/8	—	7 1/4	—	5	—	3 5/16	—	4		
1204-J-227--	156 1/2	—		143 5/8		9 3/16	—				2 1/8	—	3 5/8	—	5	—	4 1/4	—	3 1/2	—	4 3/8	—		
1204-J-247--	—	156 1/2				—	9 3/16				—	1 5/8	—	3 1/8	—	7 1/4	—	5	—	3 5/16	—	4		
1206-J-227--	155 1/2	—		143 5/8		8 11/16	—	3 3/16			2 1/8	—	3 5/8	—	5	—	4 1/4	—	3 1/2	—	4 3/8	—		
1206-J-247--	—	155 1/2				—	8 11/16				—	1 5/8	—	3 1/8	—	7 1/4	—	5	—	3 5/16	—	4		
0902-L-227--	120 1/2	—	24	107 5/8		9 3/16	—	3 11/16	8 9/16	18 1/4	2 5/8	—	4 1/8	—	6 1/4	—	3 5/8	—	4 3/4	—	4 7/8	—		27 1/2
0902-L-247--	—	120 1/2				—	9 3/16				—	2 1/8	—	3 5/8	—	8 3/4	—	6 1/4	—	3 3/4	—	4 3/4		
1002-L-227--	132 1/2	—		119 5/8		9 3/16	—				2 5/8	—	4 1/8	—	6 1/4	—	3 5/8	—	4 3/4	—	4 7/8	—		
1002-L-247--	—	132 1/2				—	9 3/16				—	2 1/8	—	3 5/8	—	8 3/4	—	6 1/4	—	3 3/4	—	4 3/4		
1103-L-227--	144 1/2	—		131 5/8		9 3/16	—				2 5/8	—	4 1/8	—	6 1/4	—	3 5/8	—	4 3/4	—	4 7/8	—		
1103-L-247--	—	144 1/2				—	9 3/16				—	2 1/8	—	3 5/8	—	8 3/4	—	6 1/4	—	3 3/4	—	4 3/4		
1203-L-227--	156 1/2	—		143 5/8		9 3/16	—				2 5/8	—	4 1/8	—	6 1/4	—	3 5/8	—	4 3/4	—	4 7/8	—		
1203-L-247--	—	156 1/2				—	9 3/16				—	2 1/8	—	3 5/8	—	8 3/4	—	6 1/4	—	3 3/4	—	4 3/4		