

Refrigerant Heat Exchangers

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Refrigerant Heat Exchangers are designed to transfer heat from the liquid refrigerant entering the evaporator to the refrigerant vapor returning back to the compressor. This process may be desirable for the following reasons:

- (a) To subcool the liquid to prevent flash gas entering the TXV.
- (b) To evaporate any remaining liquid in the suction line.

MAXIMUM CAPACITIES - MBH (X 1000 BTUH)

HEAT EXCH. MODEL	SATURATED SUCTION TEMPERATURE					
	-40° F		-20° F		+10° F	
	R-404A/R-22	R-404A/R-22	R-404A	R-22	R-404A	R-22
RXH 25	2.6	3.4	6.0	4.3	6.8	5.1
RXH 50	4.5	6.0	11.9	9.4	13.6	11.0
RXH 75	7.0	9.4	17.8	13.6	21.3	16.2
RXH 100	9.6	12.8	24.7	18.7	28.1	22.1
RXH 150	14.0	18.7	36.6	27.2	42.5	32.3
RXH 250	23.0	30.6	59.5	45.9	69.7	54.4
RXH 350	34.4	45.9	90.1	68.0	102.0	81.6
RXH 500	47.2	62.9	120.7	91.8	141.1	108.8
LRXH 15	70.1	93.5	182.8	136.0	204.0	161.5
LRXH 20	92.4	123.3	238.0	174.3	272.0	212.5
LRXH 25	108.4	144.5	289.0	221.0	348.5	255.0
LRXH 30	140.3	187.0	348.5	272.0	399.5	323.0

SELECTION PROCEDURE:

1. Determine the refrigeration system capacity in MBH (X1000 BTUH).
2. From the capacity table, go to the appropriate column for refrigerant type and saturated suction temperature. From this column, select the Heat Exchanger model based on the system requirements.
DO NOT UNDER SIZE HEAT EXCHANGER!
If the system requirements exceed the rating of the Heat Exchanger, use the next larger size.
3. For multiple evaporator systems, see the following example.
4. For suction temperatures not listed, interpolate ratings.

EXAMPLE 1:	System Model DCD6L44 - AE46-164(2); 6 H.P., R-404A, -20 Sat. Suct. Temp., 31,100 BTUH, 2 Unit Coolers.
SOLUTION:	Divide the system capacity by the number of unit coolers. $31,100 / 2 = 15,550 \text{ BTUH} = 15.55 \text{ MBH}$ each Unit Cooler. Select 2 Heat Exchangers based on 15.55 MBH each. Selection - 2 each RXH 150 from R-404A column.
EXAMPLE 2:	System Model DCD5H22 - UAH2-433; 5 H.P., R-22 +25 Sat. Suct. Temp., 51,700 BTUH, 1 Unit Cooler.
SOLUTION:	$51,700 \text{ BTUH} = 51.7 \text{ MBH}$. Select RXH 250 from R-22 column.