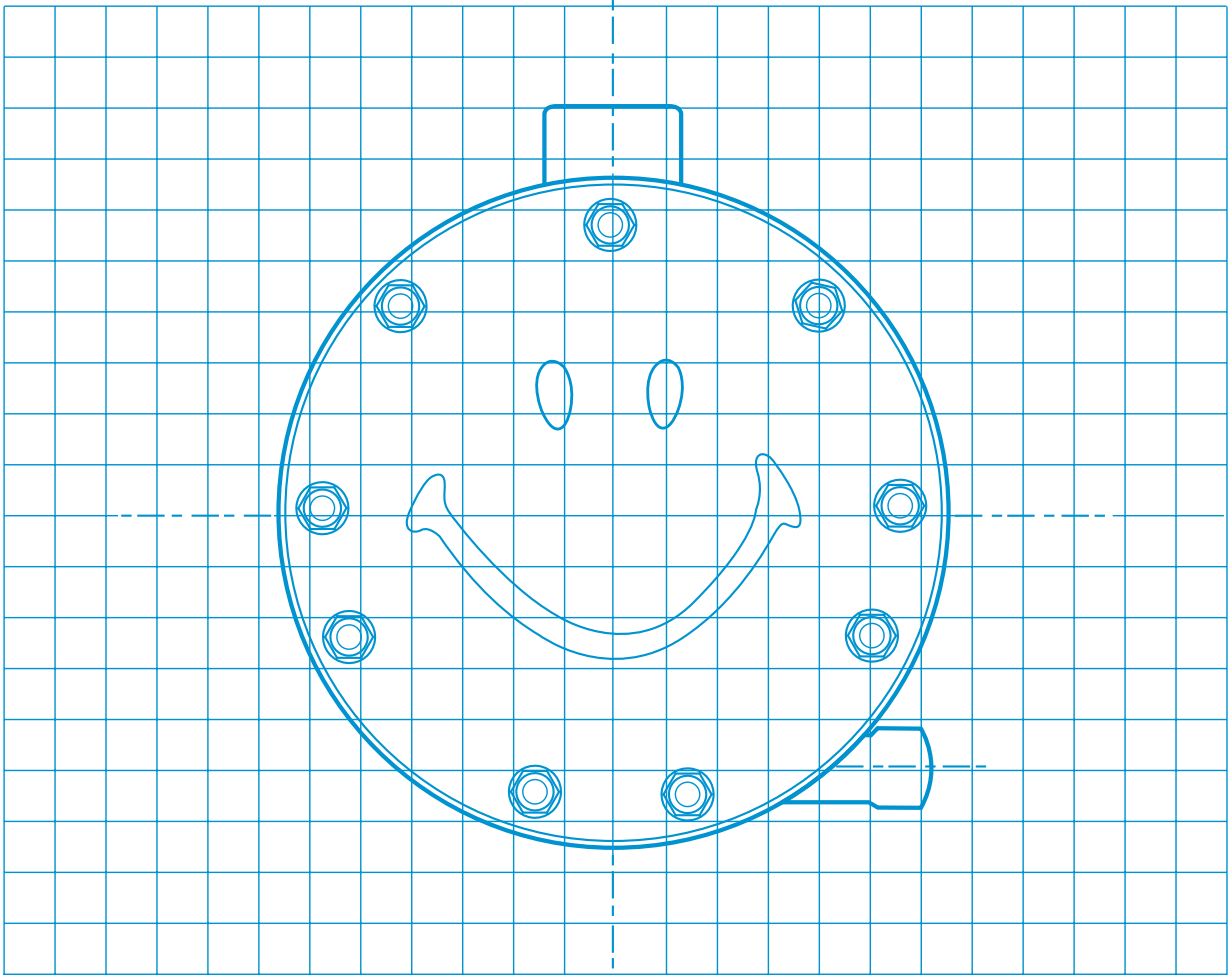
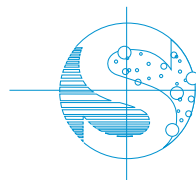




Selection Guide



EVAPORATORS



Standard
Refrigeration Company

selecting the right evaporator

Sizing

Sizing by Nominal Tons

There are three basic selection methods you can use to size a chiller. The first and easiest is to size by nominal systems tons. The second method is to use compressor capacity. The third and recommended method is sizing by range, flow and approach.

Sizing by nominal tons is done according to ARI standards. Chillers can be selected on a nominal system tons basis, as shown in the catalog, or reflected in the model name. For example, an TXC-50-2 is a nominal 50 ton dual-circuit barrel.

Nominal ton ratings are based on the conditions of ARI Standard 480 utilizing R-22, which are:

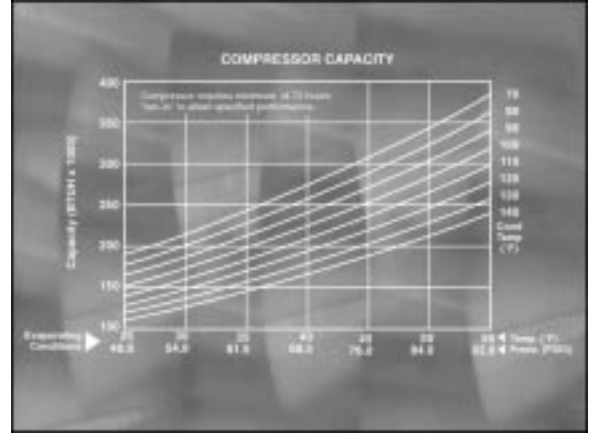
- 54° F water in
- 44° F water out
- 35° F refrigerant temperature
- 7° superheat
- 0.0001 additive fouling factor
- 100° F liquid refrigerant entering the flow control

This method is reasonably accurate for sizing air-conditioning systems. However, it is not recommended for evaporating temperature below 34° F, or when the fluids used are other than water and R-22.

ARI standard

- 54°F water inlet
- 44°F water outlet
- 35°F refrigerant
- 7° superheat
- 0.0001 additive fouling
- 100°F liquid refrigerant

Sizing by Compressor Capacity



You may also size by compressor capacity. Compressor manufacturer performance curves of compressor Btu per hour data can be used to select chiller barrels for a given system. By reading the performance curve for the compressor at the conditions that you require, you can determine the maximum capacity of the chiller barrel you will need.

Sizing by Range and Flow

The most precise way to size a chiller barrel when water is used is by range and flow, as seen in this formula.

$$\text{Btu/hr capacity} = \text{Range} \times \text{gpm} \times 500$$

$$\text{Btu/hr capacity} = \text{Range} \times \text{gpm} \times 500$$

To obtain the Btu per hour capacity, just multiply the Range or Temperature Drop by gpm flow, and convert to pounds of water per hour by multiplying by 500. The Btus can then be divided by 12,000 to yield the tons of load.

For example—

With an incoming water temperature of 55° F., outgoing water temperature of 45° F., and a 479 gpm water flow. Btu capacity can be calculated like this:

$$(55^\circ - 45^\circ) \times 479 \text{ gpm} \times 500 = 2,395,000 \text{ Btu/hr}$$

$$2,395,000 \text{ Btu/hr} \div 12,000 \text{ Btu/ton} = 199.5 \text{ tons}$$

Standard's sales catalog is designed to make your selection job easy after you have determined the cooling load. Once fluid range has been determined, locate the table for that range. If no table exists, use the next lowest range.

Next, locate an acceptable approach at the top of the table and read down the tons column to the capacity that is adequate for the job.

The water pressure drop in psi is listed to the right. To determine gpm multiply tons by the gpm factor at the bottom of each range chart.

In this case, an FSX-150 will provide the duty at a 10° range and 11° approach with a 34° suction.

In cases where the fluid being cooled is other than water, capacity can be determined by adding the specific heat and specific gravity into the equation:

$$\text{Btu/hr} = \text{Range} \times \text{gpm} \times 500 \times \text{Sp Heat} \times \text{Sp Gravity}$$

This equation will give you the capacity required, but chiller selection should be made by your factory representative since the fluid is not water.

All of Standard's rating data is based on ARI standards, a suction temperature of thirty-five degrees, using water as the fluid. Contact your local Standard representative for special fluid conditions.

All heat exchangers have capacity limits. Careless sizing of chiller barrels leads to needless performance problems.

Undersizing can lead to insufficient cooling and inefficient compressor operation.

Oversizing can lead to control valve hunting, poor performance, oil logging, and refrigerant slugging.

Range

The desired temperature drop of the fluid measured as the difference between incoming and outgoing fluid temperatures.

Approach

The desired temperature difference between outgoing fluid and the refrigerant evaporating temperature.

Pressure Drop

Acceptable level of fluid pressure drop through the chiller barrel at computed gallons per minute (gpm) flow rate.

Limitations

1. For cooling water applications a minimum evaporating temperature of 32°F. should be maintained in the evaporator to prevent freezing.
2. Maximum water entering temperature of 70°F.
3. Minimum outgoing water temperature of 36°F.
4. Minimum approach 5° (for approaches 6° or less, system should be designed to insure proper oil return).

Note: For brine, low temperature and special design applications, please consult factory.

Note: Do not exceed maximum stated flow rate.

TX capacities R-22 & water

6° Range

0.0001 additive fouling

- TX2
- TX3
- TX5
- TX6
- TX7½
- TX10
- TX12
- TX15*
- TX20*
- TX25
- TXB30
- TXB40
- TXB50
- TXB60
- TXB75
- TXC30
- TXC40
- TXC50
- TXC60
- TXC75
- TXC100
- TXC120
- TXC150
- TXC175
- TXC200
- TXC250
- TXC275
- TXC300
- TXC400
- TXC500

APPROACH TEMPERATURE °F															
5		6		7		8		9		10		11		12	
tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi
0.4	0.4	0.8	1.5	1.5	4.8										
0.5	0.4	1.0	1.3	1.9	4.3										
0.9	0.6	3.4	8.2												
1.3	0.6														
1.7	0.8	5.5	6.9	6.5	9.4										
		7.0	11.6												
		9.3	4.9												
3.5	0.8	11.7	8.1												
		14.0	9.0	16.5	12.3										
		15.9	8.5	18.8	11.6										
7.6	1.3	14.9	4.7	19.0	7.3										
13.8	2.9	20.2	5.8	25.5	9.1										
17.2	2.6	25.2	5.3	31.8	8.2										
20.3	2.7	29.9	5.5	38.0	8.7										
25.8	2.5	38.0	5.3	48.2	8.3										
13.0	3.0	19.2	6.2	23.8	9.3	27.4	12.1								
17.3	2.6	25.6	5.4	31.7	8.1	36.5	10.5	40.3	12.8						
23.1	3.1	32.6	5.8	39.8	8.5	45.7	11.1								
25.7	2.4	38.8	5.2	48.1	7.8	55.4	10.2								
33.2	2.7	48.3	5.4	59.5	8.0	68.5	10.4								
43.0	2.8	63.7	5.9	78.7	8.8	90.6	11.5								
51.1	2.7	76.7	5.8	95.2	8.7	109.6	11.4								
69.3	4.1	98.1	7.9	119.9	11.6										
77.8	3.1	114.6	6.4	141.5	9.5										
		127.7	5.5	158.6	8.3	182.8	10.9								
119.7	5.3	165.4	9.8												
136.0	6.0	184.3	10.6												
145.8	5.2	200.5	9.4												
194.4	5.2	268.9	9.5												
240.0	4.9	332.8	9.2												

to determine GPM multiply tons by 4.0

*Consult factory for TX15-3 and TX20-4 performance data.

TX capacities R-22 & water

8° Range

0.0001 additive fouling

- TX2
- TX3
- TX5
- TX6
- TX7½
- TX10
- TX12
- TX15*
- TX20*
- TX25
- TXB30
- TXB40
- TXB50
- TXB60
- TXB75
- TXC30
- TXC40
- TXC50
- TXC60
- TXC75
- TXC100
- TXC120
- TXC150
- TXC175
- TXC200
- TXC250
- TXC275
- TXC300
- TXC400
- TXC500

APPROACH TEMPERATURE °F															
5		6		7		8		9		10		11		12	
tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi
0.5	0.3	0.9	1.1	1.5	3.0										
0.6	0.3	1.2	1.0	2.0	2.7	2.9	5.4								
		3.5	5.0	4.1	6.7	4.7	8.7								
4.3	3.8	5.2	5.3	6.0	7.0										
		5.7	4.2	6.6	5.7	7.6	7.4	8.6	9.4						
		7.1	7.0	8.3	9.4	9.6	12.3								
5.8	1.2			11.0	3.9	12.7	5.1								
8.7	2.7	12.0	5.0	14.0	6.6	16.1	8.6								
		14.3	5.4	16.7	7.3	19.3	9.5	21.9	12.1						
		16.1	5.1	18.9	6.9	21.8	9.0	24.8	11.5	28.0	14.4				
11.0	1.5	15.4	2.9	19.2	4.4	22.4	5.8								
15.0	1.9	20.9	3.6	25.9	5.4	30.2	7.2								
18.7	1.8	26.0	3.3	32.3	4.9	37.6	6.5								
22.0	1.8	30.9	3.4	38.5	5.2	44.9	6.9								
27.9	1.7	39.2	3.3	48.9	4.9	57.0	6.6								
13.8	1.9	19.4	3.7	23.8	5.4	27.2	7.0	30.1	8.5	32.6	9.8	34.7	11.0	36.2	12.0
		25.8	3.2	31.7	4.7	36.3	6.1	40.1	7.3	43.5	8.5	46.2	9.6	48.2	10.4
		33.0	3.5	39.9	5.0	45.6	6.4	50.0	7.6	54.0	8.8	57.2	9.9	59.4	10.6
27.4	1.6	39.0	3.1	48.0	4.5	55.1	5.9	61.1	7.1	66.2	8.3	70.5	9.3	73.6	10.2
35.3	1.7	48.8	3.2	59.5	4.7	68.2	6.0	75.2	7.2	81.3	8.4	86.4	9.4	90.0	10.2
45.8	1.8	64.2	3.5	78.6	5.1	90.1	6.6	99.6	8.0	107.8	9.3	114.7	10.4	119.7	11.3
54.3	1.8	77.3	3.4	95.0	5.1	109.0	6.6	120.8	8.0	130.9	9.3	139.4	10.4	145.6	11.3
73.3	2.7	99.3	4.7	120.1	6.7	137.5	8.7	150.7	10.4	162.8	12.0				
82.8	2.0	115.6	3.8	141.4	5.5	162.1	7.1	179.0	8.6	193.8	10.0	206.1	11.2	214.8	12.2
89.6	1.6	128.4	3.2	157.9	4.8	181.5	6.2	201.6	7.6	218.4	8.8	232.8	10.0	243.4	10.9
127.0	3.5	168.1	5.9	201.5	8.3	229.8	10.6	250.9	12.6						
144.8	3.9	187.7	6.4	223.3	8.9	253.5	11.3								
154.9	3.4	203.8	5.7	243.8	7.9	277.8	10.1	303.2	12.0						
206.3	3.4	273.1	5.7	327.5	8.0	373.7	10.3	408.0	12.2						
254.7	3.2	337.9	5.5	405.6	7.8	463.0	10.0	505.6	11.8						

to determine GPM multiply tons by 3.0

*Consult factory for TX15-3 and TX20-4 performance data.

TX capacities R-22 & water

10° Range

0.0001 additive fouling

- TX2
- TX3
- TX5
- TX6
- TX7-1/2
- TX10
- TX12
- TX15
- TX20
- TX25
- TXB30
- TXB40
- TXB50
- TXB60
- TXB75
- TXC30
- TXC40
- TXC50
- TXC60
- TXC75
- TXC100
- TXC120
- TXC150
- TXC175
- TXC200
- TXC250
- TXC275
- TXC300
- TXC400
- TXC500

APPROACH TEMPERATURE °F															
5		6		7		8		9		10		11		12	
tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi
0.6	0.3	1.0	0.9	1.6	2.2	2.1	3.6	2.5	4.9						
0.7	0.3	1.3	0.8	2.1	1.9	2.9	3.6	3.4	4.8	3.9	6.4				
3.1	2.6	3.6	3.5	4.2	4.6	4.8	6.0	5.5	7.5	6.1	9.2				
4.5	2.7	5.3	3.7	6.2	4.8	7.0	6.2	7.9	7.8						
4.6	1.9	5.8	2.9	6.7	3.9	7.7	5.0	8.7	6.3	9.7	7.7	10.8	9.3		
4.6	2.0	7.2	4.7	8.5	6.3	9.7	8.2	11.0	10.4	12.3	12.7				
6.8	1.1	9.6	2.0	11.2	2.7	12.9	3.5	14.5	4.4	16.2	5.4				
10.0	2.3	12.3	3.4	14.3	4.5	16.4	5.9	18.5	7.4	20.7	9.0				
9.9	1.8	14.6	3.7	17.0	4.9	19.5	6.4	22.0	8.1	24.6	9.9	27.2	12.0	29.9	14.3
9.3	1.2	16.3	3.4	19.1	4.6	21.9	6.0	24.8	7.6	27.8	9.3	30.8	11.3	33.8	13.5
11.8	1.1	15.9	2.0	19.6	3.0	22.7	3.9	30.0	6.6	34.4	8.6				
16.1	1.5	21.6	2.5	26.4	3.7	30.6	4.9	40.7	8.4						
20.1	1.3	26.9	2.3	32.9	3.3	38.1	4.4	50.7	7.6						
23.6	1.4	31.9	2.4	39.2	3.5	45.4	4.6	60.1	7.9	68.9	10.2				
30.0	1.3	40.5	2.3	49.7	3.3	57.7	4.4	76.4	7.5	87.4	9.7				
14.6	1.4	19.7	2.5	23.9	3.6	27.3	4.6	30.0	5.5	32.4	6.4	34.4	7.1	36.0	7.8
19.4	1.2	26.2	2.2	31.8	3.1	36.3	4.0	40.0	4.8	43.1	5.5	45.8	6.2	47.9	6.7
25.8	1.4	33.6	2.4	40.2	3.3	45.8	4.3	50.0	5.0	53.7	5.7	56.9	6.4	59.1	6.9
28.9	1.1	39.5	2.1	48.1	3.0	55.0	3.8	60.8	4.7	65.6	5.4	69.8	6.0	73.2	6.6
37.1	1.3	49.5	2.2	59.8	3.1	68.3	4.0	75.0	4.7	80.8	5.5	85.8	6.1	89.5	6.6
48.3	1.3	65.0	2.4	78.9	3.4	90.1	4.4	99.4	5.2	107.1	6.0	113.8	6.8	118.9	7.3
57.4	1.3	78.2	2.3	95.3	3.3	108.9	4.3	120.4	5.2	129.8	6.0	138.1	6.7	144.7	7.4
77.3	1.9	101.0	3.2	120.9	4.5	138.0	5.8	150.7	6.8	162.1	7.8	171.6	8.7	178.4	9.4
87.1	1.5	117.2	2.5	141.9	3.7	162.2	4.7	178.6	5.6	192.5	6.5	204.4	7.3	213.6	7.9
94.7	1.2	129.9	2.2	158.4	3.2	181.3	4.1	200.8	5.0	216.7	5.7	230.6	6.4	241.8	7.0
133.9	2.5	171.3	4.0	203.2	5.5	230.8	7.0	251.2	8.3	269.5	9.4	285.0	10.5	295.2	11.2
150.5	2.8	191.5	4.4	225.7	5.9	254.9	7.5	277.1	8.8	296.7	10.0	312.7	11.0	323.6	11.7
162.7	2.4	207.8	3.9	246.1	5.3	279.0	6.7	303.7	7.9	325.6	9.0	344.0	10.0	356.2	10.7
217.6	2.4	278.5	3.9	330.4	5.4	375.2	6.8	408.4	8.0	438.2	9.2	463.4	10.2	480.0	10.9
268.9	2.3	344.5	3.7	409.0	5.2	464.8	6.6	506.1	7.7	543.1	8.8	574.4	9.8	595.2	10.5

to determine GPM multiply tons by 2.4

*Consult factory for TX15-3 and TX20-4 performance data.

TX Btu/hr capacities R-22 & water

12° Range

0.0001 additive fouling

- TX2
- TX3
- TX5
- TX6
- TX7-1/2
- TX10
- TX12
- TX15
- TX20
- TX25
- TXB30
- TXB40
- TXB50
- TXB60
- TXB75
- TXC30
- TXC40
- TXC50
- TXC60
- TXC75
- TXC100
- TXC120
- TXC150
- TXC175
- TXC200
- TXC250
- TXC275
- TXC300
- TXC400
- TXC500

APPROACH TEMPERATURE °F															
5		6		7		8		9		10		11		12	
tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi
0.7	0.3	1.1	0.8	1.7	1.6	2.1	2.6	2.5	3.4	2.8	4.4				
0.8	0.2	1.4	0.7	2.1	1.4	2.9	2.5	3.3	3.4	3.8	4.4	4.4	5.6	4.8	6.8
3.2	1.9	3.7	2.6	4.3	3.4	4.9	4.3	5.5	5.4	6.1	6.5	6.7	7.9	7.3	9.3
4.6	2.0	5.5	2.7	6.3	3.6	7.1	4.5	8.0	5.6	8.9	6.8	9.8	8.2		
5.0	1.6	5.9	2.2	6.9	2.8	7.8	3.6	8.8	4.5	9.7	5.5	10.7	6.6	11.7	7.8
5.2	1.8	7.4	3.5	8.6	4.6	9.7	5.9	10.9	7.3	12.2	9.0	13.5	10.8	14.8	12.8
7.6	0.9	9.8	1.5	11.4	2.0	12.9	2.5	14.5	3.1	16.2	3.8	17.8	4.6	19.6	5.4
10.7	1.9	12.6	2.5	14.6	3.3	16.6	4.2	18.6	5.3	20.6	6.4	22.8	7.7	24.9	9.1
11.2	1.6	14.9	2.7	17.2	3.6	19.6	4.6	22.0	5.7	24.5	7.0	27.0	8.4	29.6	10.0
10.8	1.1	16.6	2.5	19.3	3.3	21.9	4.3	24.7	5.3	27.5	6.5	30.4	7.9	33.4	9.4
12.5	0.9	16.4	1.5	19.9	2.2	22.8	2.8	29.8	4.6	34.1	6.0				
17.3	1.2	22.3	1.9	26.8	2.7	30.8	3.5	40.5	5.9	46.0	7.5				
21.5	1.1	27.8	1.7	33.4	2.4	38.4	3.2	50.4	5.3	57.2	6.8				
25.2	1.1	32.9	1.8	39.8	2.6	45.7	3.3	59.7	5.5	68.2	7.1				
32.0	1.0	41.8	1.7	50.5	2.4	58.0	3.2	75.8	5.3	86.6	6.8				
15.2	1.1	20.0	1.8	24.0	2.6	27.2	3.2	29.9	3.9	32.2	4.5	34.2	5.0	35.8	5.5
20.3	1.0	26.6	1.6	31.9	2.2	36.2	2.8	39.8	3.4	42.8	3.9	45.5	4.3	47.7	4.7
27.0	1.1	34.2	1.7	40.4	2.4	45.8	3.0	49.8	3.5	53.5	4.0	56.6	4.5	58.9	4.8
30.2	0.9	40.0	1.5	48.3	2.1	54.8	2.7	60.5	3.3	65.1	3.8	69.3	4.2	72.8	4.6
38.9	1.0	50.3	1.6	60.1	2.2	68.2	2.8	74.7	3.3	80.3	3.8	85.2	4.3	89.1	4.6
50.5	1.0	66.1	1.7	79.3	2.4	89.9	3.1	98.8	3.7	106.4	4.2	113.0	4.7	118.3	5.2
60.0	1.0	79.3	1.7	95.6	2.4	108.5	3.0	119.6	3.6	128.9	4.2	137.1	4.7	143.9	5.2
81.1	1.5	102.9	2.4	121.8	3.2	137.9	4.1	150.1	4.8	161.3	5.5	170.7	6.1	177.7	6.6
91.2	1.1	119.0	1.9	142.6	2.6	161.7	3.3	177.6	4.0	191.2	4.5	203.1	5.1	212.5	5.6
99.1	0.9	131.7	1.6	159.1	2.3	180.6	2.9	199.4	3.5	215.0	4.0	228.9	4.5	240.4	4.9
138.5	1.9	174.7	3.0	205.0	4.0	231.0	5.0	250.6	5.8	268.6	6.7	283.8	7.4	294.2	7.9
156.1	2.1	195.5	3.2	228.0	4.3	255.4	5.3	276.7	6.2	295.9	7.0	312.0	7.8	322.7	8.3
168.4	1.8	212.0	2.8	248.4	3.8	279.4	4.8	303.0	5.6	324.5	6.3	342.8	7.0	355.1	7.5
225.1	1.9	283.8	2.9	333.3	3.9	375.5	4.9	407.3	5.7	436.7	6.5	461.5	7.2	478.4	7.7
278.2	1.8	351.1	2.8	412.5	3.7	465.1	4.7	504.7	5.5	541.2	6.2	571.9	6.9	593.2	7.4

to determine GPM multiply tons by 2.0

*Consult factory for TX15-3 and TX20-4 performance data.

TX

Btu/hr capacities R-22 & water

15° Range

0.0001 additive fouling

- TX2
- TX3
- TX5
- TX6
- TX7½
- TX10
- TX12
- TX15*
- TX20*
- TX25
- TXB30
- TXB40
- TXB50
- TXB60
- TXB75
- TXC30
- TXC40
- TXC50
- TXC60
- TXC75
- TXC100
- TXC120
- TXC150
- TXC175
- TXC200
- TXC250
- TXC275
- TXC300
- TXC400
- TXC500

APPROACH TEMPERATURE °F															
5		6		7		8		9		10		11		12	
tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi
0.8	0.3	1.2	0.6	1.7	1.1	2.1	1.7	2.4	2.2						
		1.5	0.5	2.2	1.0	2.8	1.6	3.3	2.2						
3.3	1.4	3.9	1.8	4.4	2.3	5.0	2.9	5.5	3.6						
4.8	1.4	5.6	1.9	6.4	2.5	7.2	3.1	8.1	3.8						
5.2	1.1	6.1	1.5	7.0	1.9	7.9	2.4	8.8	3.0						
5.8	1.5	7.5	2.4	8.6	3.1	9.8	3.9	10.9	4.8						
8.4	0.7	10.0	1.0	11.5	1.3	13.0	1.7	14.5	2.0						
11.1	1.3	12.9	1.8	14.8	2.3	16.7	2.8	18.7	3.5						
12.4	1.3	15.1	1.9	17.4	2.4	19.6	3.1	22.0	3.8						
12.1	0.9	16.8	1.7	19.3	2.2	21.9	2.8	24.6	3.5						
13.4	0.7	16.9	1.1	20.1	1.5	22.9	1.9	29.5	3.0						
18.5	0.9	23.0	1.3	27.2	1.8	31.0	2.3	40.2	3.8						
23.1	0.8	28.7	1.2	33.8	1.7	38.6	2.1	50.1	3.5						
27.0	0.8	33.8	1.3	40.2	1.7	45.9	2.2	59.2	3.6						
34.3	0.8	43.0	1.2	51.1	1.6	58.3	2.1	75.3	3.4						
16.0	0.8	20.2	1.2	23.9	1.7	27.0	2.1	29.7	2.5						
		26.9	1.1	31.9	1.5	36.0	1.8	39.5	2.2						
28.0	0.8	34.7	1.2	40.5	1.6	45.7	2.0	49.6	2.3						
		40.4	1.0	48.2	1.4	54.4	1.8	60.0	2.1						
40.8	0.7	51.0	1.1	60.1	1.5	67.8	1.8	74.2	2.2						
53.0	0.8	66.8	1.2	79.2	1.6	89.4	2.0	98.1	2.4						
62.9	0.7	80.1	1.1	95.4	1.6	107.8	2.0	118.7	2.4						
84.0	1.1	104.3	1.6	122.0	2.1	137.5	2.7	149.4	3.1						
95.7	0.8	120.3	1.3	142.5	1.7	160.9	2.2	176.4	2.6						
		132.9	1.1	158.6	1.5	179.3	1.9	197.9	2.3						
144.0	1.4	177.4	2.0	205.8	2.7	230.9	3.3	249.9	3.8						
162.6	1.5	199.0	2.2	229.3	2.9	255.7	3.5	276.3	4.1						
175.2	1.3	215.4	1.9	249.5	2.5	279.4	3.1	302.2	3.6						
233.9	1.3	288.3	1.9	334.6	2.6	375.3	3.2	406.2	3.7						
289.0	1.3	356.6	1.9	414.0	2.5	464.8	3.1	503.2	3.6						

to determine GPM multiply tons by 1.6

*Consult factory for TX15-3 and TX20-4 performance data.

FSX Btu/hr capacities R-22 & water

8° Range

0.0001 additive fouling

FSX5
FSX10*
FSX15*
FSX20
FSX25
FSX30
FSX40
FSX50
FSX60
FSX75
FSX100
FSX120
FSX150
FSX200
FSX250
FSX300
FSX350
FSX500
FSX600
FSX800

APPROACH TEMPERATURE °F											
7		8		9		10		11		12	
tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi
2.2	0.8	3.8	2.2	4.6	3.2	5.6	4.6	6.6	6.3	7.4	7.8
6.9	2.8	8.1	3.8	9.3	5.1	10.7	6.5	12.0	8.1	13.4	10.0
10.8	4.2	12.7	5.7	14.7	7.5	16.7	9.6	18.8	12.0		
9.3	2.0	14.6	4.8	20.5	9.1	23.8	12.1				
14.0	3.1	17.9	4.9	22.5	7.7	27.9	11.5				
		27.5	9.1	31.0	11.4	34.5	14.0				
21.5	2.7	27.4	4.2	34.5	6.6	42.7	9.8	51.4	14.0		
				48.2	10.0	53.8	12.4	59.5	14.9		
33.0	3.0	42.3	4.8	53.2	7.5	66.0	11.2				
		64.9	8.9	73.1	11.1	81.5	13.7				
41.4	1.8	66.2	4.4	93.6	8.5	114.5	12.4				
47.8	1.7	76.6	4.2	108.3	8.2	132.8	12.0				
62.0	1.4	100.0	3.6	141.9	7.0	177.4	10.6	202.2	13.6		
82.1	1.2	133.1	3.0	189.2	5.9	239.0	9.2	272.4	11.8	308.4	14.9
71.7	0.6	148.0	2.5	222.8	5.5	289.5	9.1	329.3	11.6	370.7	14.6
184.5	4.0	236.0	6.4	297.1	9.9	368.1	14.9				
158.6	1.4	245.3	3.7	364.6	7.9	452.5	12.0				
260.5	0.3	406.0	3.2	561.8	5.9	645.8	7.7	736.5	9.9		
393.1	2.3	504.0	3.7	636.0	5.8	789.3	8.7				
648.3	4.2	818.1	6.5								

to determine GPM multiply tons by 3.0

10° Range

0.0001 additive fouling

FSX5
FSX10*
FSX15*
FSX20
FSX25
FSX30
FSX40
FSX50
FSX60
FSX75
FSX100
FSX120
FSX150
FSX200
FSX250
FSX300
FSX350
FSX500
FSX600
FSX800

APPROACH TEMPERATURE °F											
7		8		9		10		11		12	
tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi
2.3	0.6	3.8	1.4	4.6	2.1	5.5	2.9	6.4	3.9	7.2	4.9
7.1	1.9	8.3	2.6	9.5	3.4	10.8	4.3	12.1	5.4	13.4	6.6
11.3	3.0	13.1	4.0	15.1	5.2	17.1	6.6	19.1	8.1		
10.3	1.6	15.2	3.4	20.6	6.1	23.7	7.9	26.9	10.1	30.3	12.6
14.4	2.2	18.2	3.4	22.6	5.1	27.7	7.5	32.7	10.2	35.7	12.1
		27.5	5.9	30.9	7.4	34.3	9.1	37.8	10.9	41.4	13.0
22.2	1.9	27.9	2.9	34.6	4.3	42.3	6.4	50.9	9.0	55.7	10.7
		42.7	5.2	48.0	6.5	53.4	8.0	58.9	9.6	64.5	11.4
34.2	2.1	43.1	3.3	53.6	5.0	65.6	7.3	77.2	9.9	84.3	11.7
		64.9	5.8	72.9	7.3	81.1	8.9	89.4	10.7	97.8	12.7
45.9	1.4	68.6	3.1	93.9	5.6	113.8	8.1	129.1	10.2	145.6	12.9
53.0	1.4	79.4	3.0	108.6	5.4	131.9	7.8	149.7	9.9	168.8	12.5
68.8	1.2	103.6	2.5	142.1	4.6	176.0	6.9	199.7	8.7	225.1	11.0
93.3	1.0	137.9	2.1	189.4	3.9	236.9	5.9	268.8	7.5	303.0	9.5
93.3	0.7	159.5	1.9	224.1	3.7	284.9	5.8	321.5	7.3	360.3	9.1
190.8	2.8	240.8	4.4	298.3	6.5	362.2	9.5	427.9	13.0		
159.1	1.1	264.0	2.8	367.4	5.3	446.7	7.7	504.2	9.6	565.0	12.0
284.1	1.1	418.3	2.2	560.6	3.9	631.7	4.9	719.7	6.2	806.7	7.7
405.8	1.6	513.0	2.5	636.4	3.8	773.6	5.5	889.7	7.2	966.5	8.4
668.2	2.9	818.0	4.3	916.8	5.3	1013.8	6.4				

to determine GPM multiply tons by 2.4

* for dual circuit FSX10-2 and FSX15-2 multiply capacity by .92

FSX Btu/hr capacities R-22 & water

12° Range

0.0001 additive fouling

FSX5
FSX10*
FSX15*
FSX20
FSX25
FSX30
FSX40
FSX50
FSX60
FSX75
FSX100
FSX120
FSX150
FSX200
FSX250
FSX300
FSX350
FSX500
FSX600
FSX800

APPROACH TEMPERATURE °F											
7		8		9		10		11		12	
tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi
3.2	0.8	4.0	1.1	4.7	1.6	5.6	2.2	6.5	2.9	7.3	3.6
7.5	1.5	8.7	2.0	9.9	2.6	11.2	3.3	12.5	4.1	13.9	5.0
12.1	2.4	14.0	3.2	16.0	4.1	18.0	5.1	20.1	6.3		
11.3	1.4	16.0	2.7	21.0	4.5	24.0	5.7	27.1	7.2	30.5	9.0
15.1	1.7	18.9	2.5	23.2	3.8	28.1	5.4	32.8	7.3	35.8	8.6
		27.8	4.3	31.1	5.3	34.5	6.5	38.0	7.8	41.5	9.2
23.2	1.4	28.9	2.2	35.4	3.2	42.9	4.6	51.1	6.4	55.7	7.6
		43.1	3.8	48.3	4.7	53.7	5.7	59.0	6.8	64.5	8.1
35.8	1.6	44.7	2.5	55.0	3.7	66.6	5.3	77.5	7.1	84.5	8.3
		65.7	4.2	73.6	5.2	81.6	6.3	89.7	7.6	98.0	9.0
50.8	1.2	72.6	2.4	96.5	4.2	114.7	5.8	129.7	7.3	145.7	9.1
58.7	1.2	83.9	2.3	111.7	4.0	133.0	5.6	150.4	7.1	168.9	8.8
76.3	1.0	109.5	2.0	146.1	3.4	177.2	4.9	200.3	6.2	225.0	7.7
101.3	0.8	145.7	1.7	194.6	2.9	238.4	4.2	269.5	5.3	302.7	6.7
114.1	0.7	171.8	1.6	231.7	2.8	286.8	4.1	322.4	5.2	360.1	6.4
197.1	2.2	249.5	3.3	306.0	4.8	368.2	6.9	429.6	9.2	466.4	10.8
199.1	1.1	283.7	2.3	380.3	4.0	450.8	5.5	507.0	6.9	566.2	8.5
322.8	1.0	454.4	1.8	518.8	2.9	659.4	3.7	745.8	4.7	836.3	5.8
433.9	1.3	543.2	2.0	669.3	3.0	812.2	4.3	912.7	5.3	992.0	6.2
739.0	2.5	839.5	3.2	938.7	3.9	1039.2	4.7	1141.1	5.6	1242.2	6.6

to determine GPM multiply tons by 2.0

15° Range

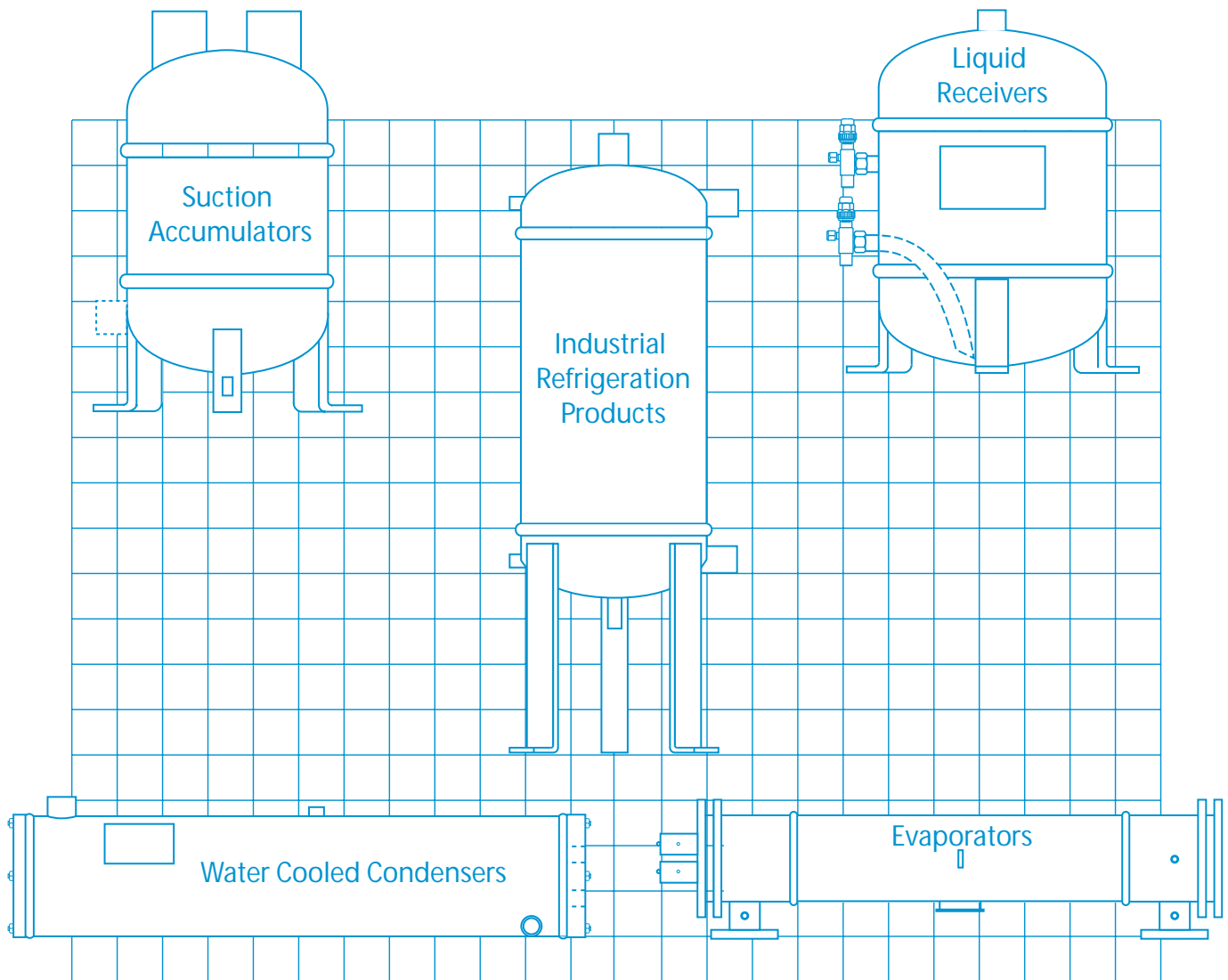
0.0001 additive fouling

FSX5
FSX10*
FSX15*
FSX20
FSX25
FSX30
FSX40
FSX50
FSX60
FSX75
FSX100
FSX120
FSX150
FSX200
FSX250
FSX300
FSX350
FSX500
FSX600
FSX800

APPROACH TEMPERATURE °F											
7		8		9		10		11		12	
tons	psi	tons	psi	tons	psi	tons	psi	tons	psi	tons	psi
3.5	0.6	4.2	0.8	5.0	1.1	5.9	1.5	6.7	2.0	7.4	2.4
8.2	1.2	9.4	1.5	10.6	2.0	11.9	2.4	13.3	3.0	14.6	3.6
13.4	1.9	15.4	2.5	17.4	3.1	19.5	3.9				
12.9	1.1	17.4	2.0	21.7	3.1	24.5	3.9	27.6	4.9	30.9	6.0
16.2	1.2	20.0	1.8	24.2	2.7	29.0	3.8	33.2	4.9	36.1	5.7
23.8	2.1	28.4	2.9	31.7	3.6	35.1	4.4	38.4	5.2	41.9	6.1
24.7	1.1	30.4	1.6	36.9	2.3	44.2	3.2	51.6	4.3	56.1	5.0
		44.0	2.5	49.1	3.1	54.4	3.8	59.7	4.5	65.0	5.3
38.4	1.2	47.3	1.8	57.4	2.6	68.8	3.7	78.5	4.7	85.3	5.5
56.9	2.1	67.2	2.9	75.0	3.5	82.9	4.3	90.8	5.1	98.9	6.0
57.7	1.0	78.6	1.8	101.4	3.0	116.9	3.9	131.6	4.9	147.1	6.0
66.7	1.0	90.9	1.8	117.3	2.9	135.6	3.8	152.5	4.7	170.6	5.9
86.8	0.8	118.6	1.5	153.3	2.4	180.4	3.3	202.9	4.1	226.9	5.1
115.3	0.7	157.7	1.3	204.1	2.1	242.5	2.9	272.8	3.6	305.0	4.4
135.2	0.6	188.2	1.2	244.4	2.0	291.7	2.8	326.5	3.5	363.1	4.2
213.8	1.6	263.7	2.4	319.5	3.4	380.0	4.8	434.8	6.2	470.8	7.2
224.9	1.0	310.6	1.8	401.5	2.9	460.1	3.7	515.0	4.6	572.8	5.7
365.8	0.8	492.5	1.4	596.8	2.0	676.4	2.5	761.4	3.2	850.0	3.9
466.9	1.0	576.8	1.5	701.6	2.1	841.0	3.0	926.1	3.6	1004.1	4.2
765.0	1.7	861.9	2.2	959.8	2.7	1058.8	3.2	1159.1	3.8	1258.4	4.4

to determine GPM multiply tons by 1.6

* for dual circuit FSX10-2 and FSX15-2 multiply capacity by .92



Engineering specifications in this catalog are current as of the printing date, but are subject to future design changes. Consult factory for latest specification data before ordering.

Product performance is based on ARI standards and nominal operating conditions. Standard Refrigeration Company is not responsible for product failure in nonconforming applications. For assistance, please consult the factory.