ThermaPhase® Sizing Instructions

To size a ThemaPhase unit, you must know the volume of air being compressed, the relative humidity of the air and the inlet temperature. Table 1 is a chart showing the SCF/M of compressed air required to produce one gallon per hour of condensate at various inlet temperatures and relative humidities.

Step 1
Locate on Table 1 the SCF/M of air factor using the inlet temperature and relative humidity of the application.

Step 2
Divide the SCF /M of air required by the application by the SCF /M of air factor obtained from Table 1. This number is the gallons of condensate per hour required to be processed by the ThermaPhase.

Step 3
Select a ThermaPhase unit with capacity to handle the condensate from Table 2.

EXAMPLE
500 SCF /M Compressor
Air Temperature - 70° F - Relative Humidity - 70%

Step 1
Referring to Table 1 for an air temperature of 70° F and a relative humidity of 70%, we find an air factor of 174.3.

Step 2
Dividing our compressor capacity of 500 SCF /M by the air factor:

$$\frac{500 \text{ SCF/M}}{174.3 \text{ SCF/M/Gal/Hr}} = 2.87 \text{ Gallons Per Hour}$$

Step 3
Referring to Table 2, we find it takes a **ThermaPhase TP-12** to handle this application.

Table 1

SCF/M Air Per Gallon of Water Per Hour

Relative Humidity	Temperature 40°F	50°F	60°F	70°F	80°F	90°F	100°F
40%	923.5	628.9	436.5	307.3	219.1	158.1	115.5
50%	737.3	502.8	348.9	245.1	174.6	125.9	91.8
60%	613.5	418.8	290.0	203.8	145.0	104.4	76.0
70%	525.4	358.1	248.2	174.3	123.8	89.1	64.7
80%	459.4	313.3	216.6	152.1	108.0	77.5	56.2
90%	408.1	278.1	192.2	134.8	90.8	68.6	49.6
100%	367.1	250.0	172.7	121.0	85.8	61.4	44.4

SCF/M of air required to produce one gallon of water per hour assuming 95% water removed.

Table 2

Evaporation Rate - Gallons Per Hour

Unit	Gals. Per/Hr	Unit	Gals. Per/Hr
TP-6	1.9	TP-36	12.5
TP-12	4.1	TP-54	18.8
TP-18	6.2	TP-72	25.1
TP-24	8.3		

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