

Mega-Fin™ Ambient Air Vaporizers for Carbon Dioxide, Propane and Liquefied Gases

Thermax MEGA-FIN™ Ambient Vaporizers have been designed specifically for Carbon Dioxide, Propane and other High Boiling Point Compressed Liquefied Gases. The units are fully tested by Thermax and are delivered with a performance-rating guarantee. In addition to external surface enhancement, a Thermax Press-Trol™ regulator can be used to increase vaporizing capacity. Traditional electrical vaporization can be reduced or eliminated to reduce both costs and service problems.



MEGA-FIN™ packs more surface area into each foot of the innovative 16 fin extrusion and yet provides a generous gap for frost growth, allowing 1-5 days continuous operation between defrost in freezing climates.

These units require no additional external power, energy sources or utilities. Set and Forget it

APPLICATIONS:

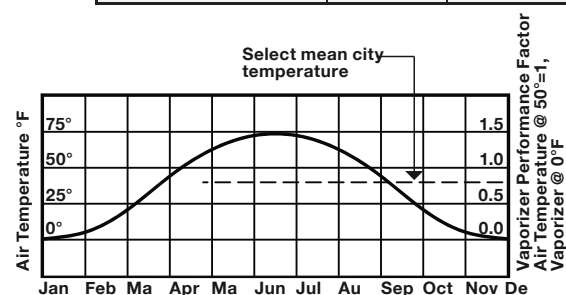
Since CARBON DIOXIDE is usually stored as a liquid at 250 to 300 PSIG with corresponding boiling range of between -30°F and 0°F, extracting the heat of vaporization from the ambient air requires that the ambient air be warmer than the CO₂. The warmer the air, the higher the vaporizer performance ratings. The colder the air, the lower the performance. The annual air temperature chart (below) illustrates the annual performance variations. To select the performance factor, determine air design temperature and use performance table or performance factor (50°F air is used for a factor of 1). For propane applications see Product Datasheet 3.9B. For CO₂ pressure regulation to increase capacity at low air design temperatures, see Product Datasheet 3.9A

Air Temperature Performance Factor	
80°F	1.6
70°F	1.4
60°F	1.25
50°F	1
40°F	0.8
30°F	0.6
20°F	0.2
10°F	0.1

City	Mean Max. Air Temp.	Mean Min. Air Temp.
Houston, TX	70°F	25°F
Jacksonville, FL	70°F	25°F
Ft. Worth, TX	65°F	15°F
Atlanta, GA	65°F	15°F
Raleigh, NC	60°F	10°F
Oklahoma City, KS	60°F	10°F
Kansas City, KS	55°F	0°F
Chicago, IL	50°F	-5°F
Pittsburg, PA	50°F	-10°F
Green Bay, MI	45°F	-15°F
Duluth, MN	40°F	-25°F
Montreal, QC	50°F	5°F
Edmonton, AB	45°F	-5°F

MODULE	Module 8-24 hr rating selected air temperatures rated CO ₂ lb/h 8-24 hr			Standard Conn. (MNPT)	Dimensions	DRY WT. LBS.
	75° F	50° F	25° F			
MF128A-HF	378	250	110	3/4	29 x 39 x 120	680
MF1610A-HF	588	392	168	3/4	39 x 39 x 144	1045
MF2010A-HF	733	490	210	1	40 x 49 x 144	1705
MF2412A-HF	1128	755	322	1	40 x 58 x 168	2045
MF3612A-HF	1680	1132	488	1 1/2	58 x 58 x 168	2915
MF4812A-HF	2268	1513	645	2	58 x 77 x 168	3870
MF6412A-HF	3025	2015	862	2	77 x 77 x 168	5115
MF6418A-HF	4538	3023	1295	2	77 x 77 x 246	5620
MF7218A-HF	5105	3400	1455	2	77 x 86 x 246	8515
MF7225A-HF	7000	4723	2025	2	77 x 86 x 330	11800

Other models are available—contact Thermax, std. Pressure drops



Mega-Fin™ Ambient Air Vaporizer

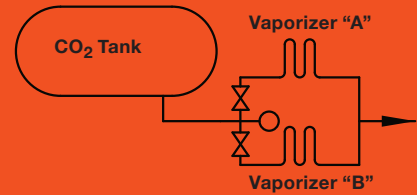
Mega-Fin™ Ambient Air Vaporizers

APPLICATION #1- Continuous Service

For applications where annual climatic temperature variations are favorable for MEGA-FIN™ CO₂ air vaporizers and when gas is in use continuously for 24 hours/day, 7 days per week, a Thermax switching vaporizer system is employed. The switching system allows one unit to defrost while the other unit is vaporizing on line. Site freeze period is determined to establish proper performance factor. Call Thermax for freeze period assistance.

EXAMPLE:

Miami FL 75°F mean temperature, design minimum: 50°F.
 Install (2) MF4812AHF Vaporizers with a S430 valve/timer switching unit Vaporizer Installed cost \$45,000
 Power saved, 65 kW @ \$.153/kW-hr: \$48,400. annually
 operating 24hr/day, 7 days/week
 Payback: 9 months



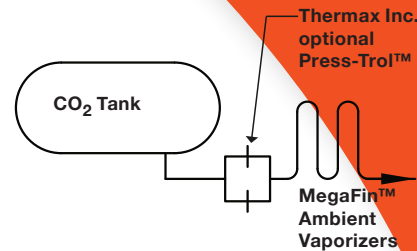
Application #1 Switching Mega-Fin™ ambient vaporizers for Continuous Service.

APPLICATION #2- Intermittent operations

Stand alone ambient vaporization intermittent operation. Moderate climate or indoors. Where ambient air temperatures remain high enough throughout the year, (above +15°F) MEGA-FIN™ units can fully replace the existing electric vaporizers.

EXAMPLE:

Performance Factor 40% for 25°F air
 Install one MF3612AHF Mega-Fin™ Vaporizers
 Vaporizer installed cost \$15,000.
 Power saved, 20kW @ \$.153 kW-hr: \$17,800. annually
 operating 16 hrs/day, 7 days/week
 Payback: 10 months



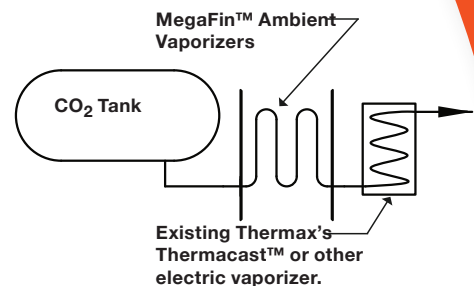
Application #2 Stand alone Mega-Fin™ ambient vaporizers for Intermittent Service.

APPLICATION #3- Money Saver

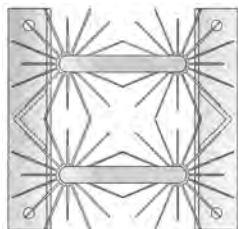
If the site has a temperature profile with a winter performance factor approaching zero, use a Thermax MEGA-FIN™ vaporizer with a traditional electric vaporizer such as Therma-cast™ electric vaporizers. The MEGA-FIN™ delivers CO₂ vaporization via the ambient air in warmer weather and partially at other times. The reduced energy consumption provides a positive return on investment while still providing 100% electric vaporization backup and reducing service calls.

EXAMPLE:

Chicago; 40°F mean temperature. 16 hour daily operation - 5 day week.
 Present electric vaporizer - 50 kW rated unit producing 1,150 lb./hr.
 Present power cost \$.153/kW-hr \$31,824 annually.
 Install one MF4812AHF Mega-Fin™ Vaporizer rated at 1,150 lb/hr @ 40°F with a continuously 6 month operation.
 Vaporizer installed cost \$20,000.
 Power saved, 50 kW @ \$.153/kW-hr: \$15,910 annually.
 Payback: 13 months.



Application #3 Mega-Fin™ ambient vaporizers for power reduction.



All tables shown on this Datasheet are intended as a guide that reflect our experience on these models. Actual performance may vary. Please call Thermax Inc. for specific applications. This product and/or data was designed and/or developed by Thermax Inc. and shall not be used in any way injurious to the interests of Thermax Inc.

