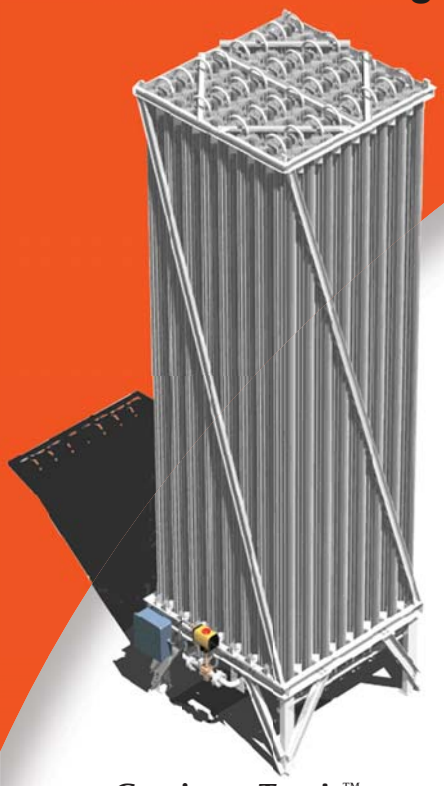
Thermax Inc. PRODUCT DATASHEET 3.10

CAPRICORN TROPIC™ AMBIENT AIR

Propane Ambient Air Vaporizers with Higher Capacity and Wider Use Range can Eliminate Electric Vaporizers



Capricorn Tropic™
Model CMF 7218-HF
Dual Circuit, Continuous (Switching)
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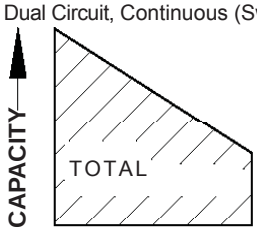
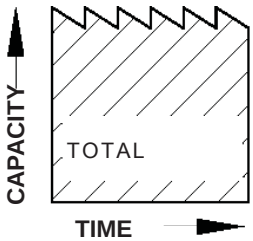


Traditional
performance characteristic
non-switching



Capricorn-Tropic™
performance characteristic
with switching modules

To meet the challenge of a more compact, continuous service ambient air vaporizer for tropical/ subtropical climates,
Thermax has developed an all new Capricorn-Tropic™ Series of Ambient Air Vaporizer Modules.

These units outperform all other ambient air vaporizers used in the Cryogenic/ Industrial Gas Industry.

We get over 100% more capacity in a given unit - continuously when compared with other 8 hr. - 24 hr. Designs/ratings. If you switch your present units on 4-8 hour cycles (as recommended by competing manufacturers) both pad area and money are wasted.

Thermax has designed the Capricorn-Tropic™ Series vaporizer modules to operate in non-freezing climates, generally between the Tropic of Capricorn, south of the equator and the Tropic of Cancer, north of the equator.

If your installation is in a warm - no freeze climate,
Install Capricorn-Tropic™ vaporizers. NO GUESS WORK - NO RATING TABLES - NO TIME-ICE CHARTS.
Thermax ratings are guaranteed for continuous operation.

A Capricorn Tropic™ array consists of A & B modules installed with one inlet connection and one outlet connection. An auto-switching valve kit alternates flow between the A&B modules. The array is self-tending using the Thermax standard S430 Series Switch Kit on your

CO_2 Ambient Air Vaporizers

PROPANE 1-2 Day Rating-SCFH*												
	Vaporizer ΔT=Air Temperature (Chart 2) Minus Vaporizing Temperature (Chart 1)											
MODULE	ΔT°F	90	80	70	60	50	40	30	20	10	Std. Conn. NPT	Length x Width x Height
	Rating Factor	1.8	1.6	1.4	1.25	1	0.8	0.6	0.2	0.1		
MF128A-HF		3,035	2,700	2,362	2,112	1,690	1,350	1,012	337	169	3/4”	29x39x120
MF1610A-HF		4,906	4,238	3,711	3,306	2,652	2,127	1,585	526	270	3/4”	39x39x144
MF2010A-HF		5,958	5,297	4,622	4,136	3,306	2,652	1,990	675	337	1”	40x49x144
MF2415A-HF		11,470	10,164	8,907	7,971	6,369	5,102	3,821	1,265	632	1”	40x58x168
MF3612A-HF		13,732	12,234	10,695	9,548	7,645	6,109	4,588	1,518	762	1-1/2”	58x58x168
MF4812A-HF		18,375	16,330	14,292	12,754	10,210	8,165	6,113	2,044	1,012	2”	58x77x168
MF6412A-HF		24,481	21,762	19.029	17,005	13,597	10,861	8,142	2,719	1,370	2”	77x77x168
MF6420A-HF		40,788	36,256	12,992	28,367	22,663	18,127	13,592	4,535	2,267	2”	77x77x246
MF7220A-HF		45,887	40,783	35,707	31,862	25,490	20,391	15,294	5,097	2,549	2”	77x86x246
MF7225A-HF		57,358	50,981	41,230	39,833	31,870	25,527	19,117	6,377	3,188	2”	77x86x330

***For 2-5 day rating (50-150 hr. between defrost) use 2/3 rating shown. Note: SCFH X 0.115 = lb/hr**

Note: MF-HF Units are all aluminum welded construction, manufactured to ASME-B31-B. Advise for 304 Stainless Steel Lined, Thermax MF-SS Modules units reduces ratings.

Application: Customer location: Kansas City, MO
Flow rate: 1,200 lbs/hr for 8 hr/day, 40 hr/week
Line pressure: 140 PSIG to process

Step 1: From Chart 1 at 140 PSIG the liquid regulator setting gives a vaporizer temperature of -35°F
Step 2: From temperature map, Kansas City, MO is in zone 6 and has the average annual low temperature of -5°F.
Step 3: Subtract -35 from -5°F for a ΔT of 30°F
Step 4: From Chart 2, the module-rating factor is 0.6.
Step 5: Divide use rate 1,200 lbs/hr by 0.6 for module rating of 2,000 at 1 factor for;
ΔT 50 base rating, or omit this step and go directly to precalculated
ΔT 30 column in table for 1,200 lbs/hr = MF6412A-HF at 1,210 lbs/hr.
Step 6: Using base ΔT 50 column locate module base minimum 2,000, which is module MF6420AHF with a base of 2,015 lbs/hr
Step 7: Use liquid downstream press regulator to provide 150 PSIG in vaporizer
Step 8: Check local codes, install liquid breakthrough sensor/shut-off control to avoid over draw.
Note: This selection covers operation up to 150 hours between defrost. For longer-term operation, call Thermax for assistance and/or 2-module auto switching kits.

Mega-Fin™
Ambient Air Vaporizer

We also offer Thermacast™ and side arm Electric Vaporizers/Trim heaters for CO_2, Propane and related liquid gases.

Ask for Product Datasheet 3.9 for Thermax vaporizers capable of continuous operating cycles beyond 50-200 hours and for freeze zone switching systems. For Side-Arm vapor return to tank/ pressure build models see product datasheets 2.2 and 2.4

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.

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DS 3.10 REVISION 10/14