Ambient Vaporizers – High Pressure

Spec Sheet

Manufactured by CryoVation

CryoVation manufactures many types, sizes and shape of ambient vaporizers as well as Waterbath® electric vaporizers.

Manufactured in our New Jersey facility, we take pride in keeping the manufacturing process located where the engineering team is. Because of that, anything you would need custom or fast, we can deliver! Sold all over the world, CryoVation vaporizers are rated to a higher duty cycle in the coldest of temps.

Available oxygen cleaned in our industry approved cleaning room along with many different options for tubing and pressures.

Tubing & Connections:

- **Stainless Steel**
  - 1/2" x 0.065 wall with ½" FPT connection (4000 PSI Rating)
  - 5/8" x 0.065 wall with ½" FPT connection (4000 PSI Rating)
- **Admiralty Brass**
  - 5/8" x 0.095 wall with ½" FPT connection (3600 PSI Rating)
  - 5/8" x 0.120 wall with ½" FPT connection (4000 PSI Rating)

6000 PSI available

Material Options:

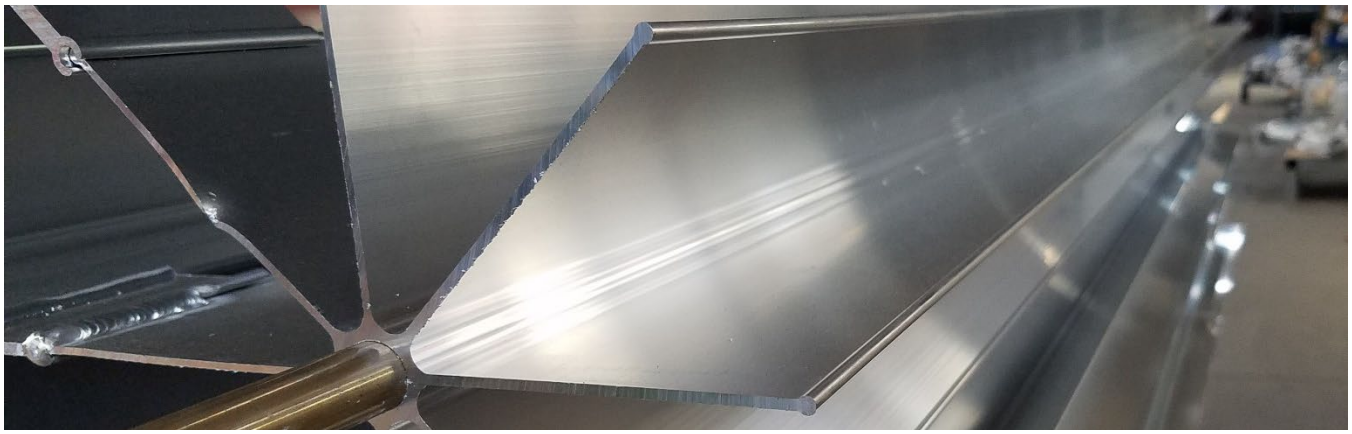
- Aluminum (6061)
- Stainless Steel (304)
- Monel®
- Brass (Admiralty)

Model				Height	Width	Depth	Weight*
1.5K	1,500	SCFH	1x2	12'4"	9	19	120
03K	3,000	SCFH	2x2	12'4"	19	19	225
04K	4,000	SCFH	2x3	12'4"	19	29	280
05K	5,000	SCFH	2x4	12'4"	19	38	365
06K	6,000	SCFH	2x5	12'4"	19	47	410
08K	8,000	SCFH	3x4	12'4"	29	38	500
10K	10,000	SCFH	4x4	12'4"	38	38	635
12K	12,000	SCFH	4x5	12'4"	38	47	775
15K	15,000	SCFH	4x6	12'4"	47	56	915
18K	18,000	SCFH	5x6	12'4"	47	56	1,115

* Weights (Lb.) are an approximate value and may vary with tube material

Ambient Vaporizers – Low Pressure

Spec Sheet



When you do not need the pressure rating, try our options with lower pressures in various materials. Available with oxygen cleaning.

Tubing & Connections:

- **Aluminum**
  - 1" x 0.083 wall with 3/4" MPT connection (600 PSI Rating)
- **Stainless Steel**
  - 1/2" x 0.065 wall with ½" FPT connection (4000 PSI Rating)

Material Options:

- Aluminum (6061)
- Stainless Steel (304)
- Monel®
- Brass (Admiralty)

To double your SCFH, try our **Ambient Fan**! Increases your vaporizer by 2X

AMBIENT FAN

Model				Height	Width	Depth	Weight*
1.5K	1,500	SCFH	1x2	12'4"	9	19	120
03K	3,000	SCFH	2x2	12'4"	19	19	225
04K	4,000	SCFH	2x3	12'4"	19	29	280
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* Weights (Lb.) are an approximate value and may vary with tube material

Ambient Vaporizers – SOS Series Low Pressure

Spec Sheet

A NEW, higher capacity gas-use vaporizer for liquid cylinders! The model SOS-500 & 1000, working in parallel with the liquid cylinder's internal gas use line, is capable of a total output of 500 or 1000 scfh in LOX/LIN/LAR service. CO2 service extends the liquid cylinder an additional 500 SCFH above the liquid cylinder rating.

The SOS-500 & 1000 are still very light and compact while providing a maximum working pressure of 500 PSI. Available for use in oxygen, inert and CO2 services and comes complete with all necessary fittings.

Tubing & Connections:

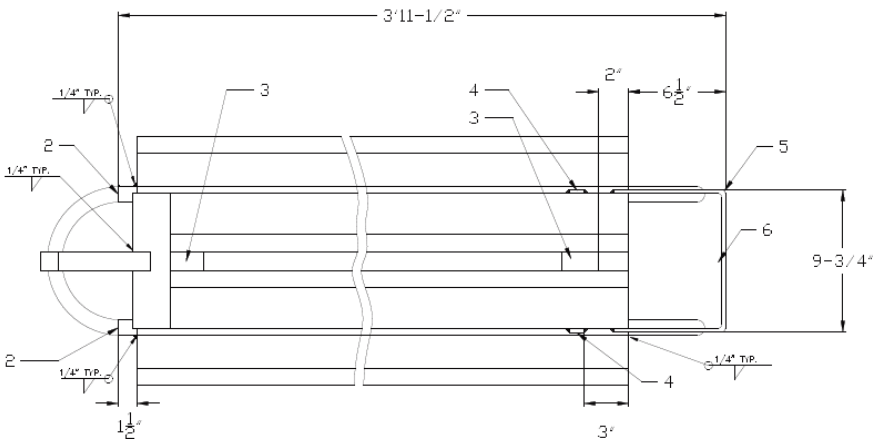
- **Aluminum**
  - 1" x 0.083 wall with 1/2" MPT connection (500 PSI Rating)

Material Options:

- Aluminum (6061)

Simple Operations:

1. Hook vaporizer onto top protection ring of liquid container
2. Connect largest hose to liquid withdrawal connection.
3. Connect smaller hose to gas use connection
4. Connect customer supplied regulator or hose to vaporizer outlet Tee. The vaporizer is now installed in parallel with the liquid container internal vaporizer



Comes with: Safety (350 psi), Liquid Hose with 1/2" Flared Ends, Cross w/ CGA adapter and Teflon Pigtail for Gas Use connection.

Ambient Vaporizers – VD1000 & 1500 Low Pressure

Spec Sheet

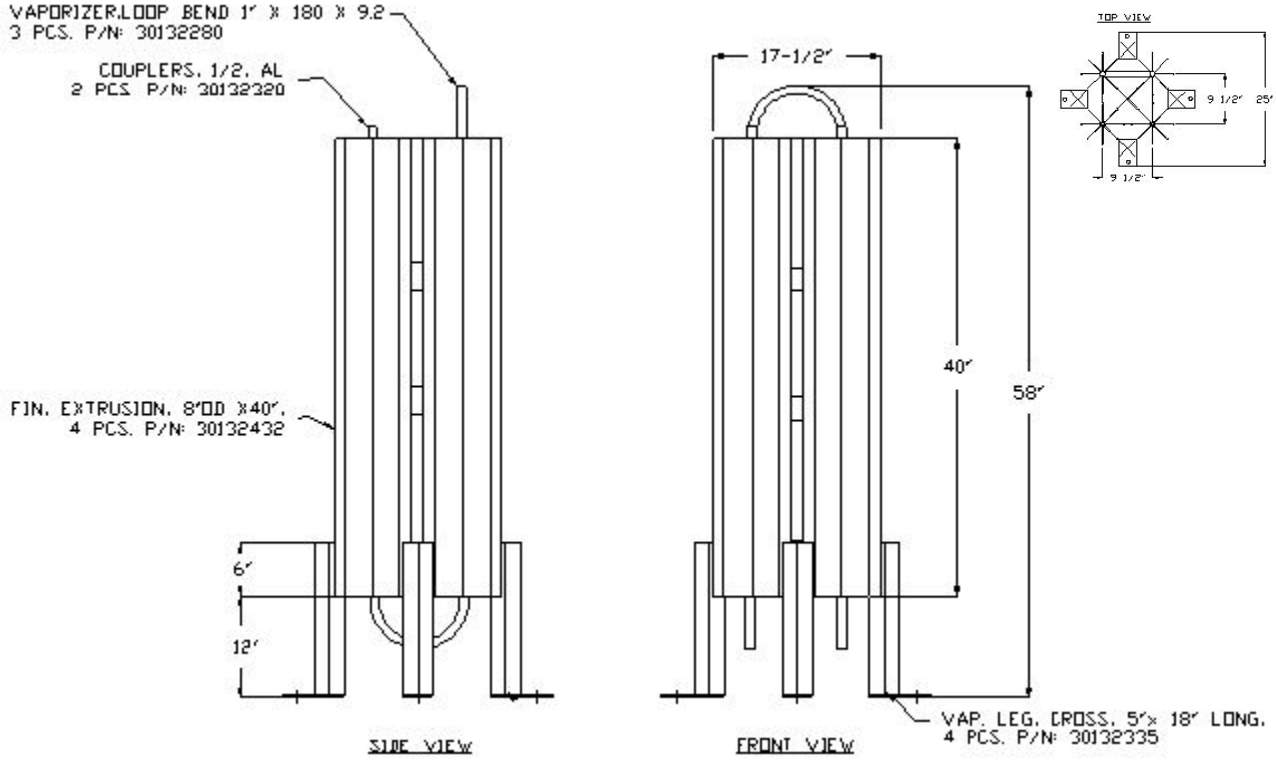
Less than 6 feet-tall, this stand-alone vaporizer adds approximately 1000 scfh capacity to your application. All aluminum construction makes this light-weight vaporizer easy to move and install. Inlet and outlet are generally ½" FPT and are located on top of the vaporizer, allowing for closer proximity to a VGL or portable liquid source. This vaporizer is designed for LIN/LAR/LOX/LCO2 services. Please specify if using in oxygen service.

Tubing & Connections:

- **Aluminum**
  - 1" x 0.083 wall with 1/2" MPT connection (600 PSI Rating)
- **Stainless Steel**
  - 1/2" x 0.065 wall with ½" FPT connection (4000 PSI Rating)

Material Options:

- Aluminum (6061)
- Stainless Steel (304)



Ambient Vaporizers – Proper Sizing

Spec Sheet

When purchasing any vaporizer, the application, location and several other variables need to be thought of and used in calculating the proper size. CryoVation vaporizers, unless otherwise stated, Nitrogen service at 72˚ F ambient temperature. There are several other factors also, like pressure, humidity, sunlight and the flow of air the vaporizer will see.

Duty cycle also is a major factor, CryoVation vaporizers are rated for 8 hours of continuous use, but if it is in the middle of winter, your outdoor vaporizer is not going to give you the same efficiency that it would if it was 76˚ F and sunny.

Here are some factors for estimating your ambient vaporizer:

Vaporizers: Making the right choice

An introduction, from CryoVation (May 2015 Gasworld)

Spec Sheet

Although cryogenic liquid-to-gas vaporizers might be seen as a rather mundane component of the industrial gas use process, they are nevertheless a critical and mandatory sub-system. The variety of vaporizer options available suggests careful evaluation when selecting the appropriate type and model, whether for a cylinder fill plant or end-user application.

Selection involves the consideration of flow rate, outlet gas temperature required, duty cycle (hours per day), space available for installation, power available at site, ambient climate, and material compatibility for the liquid/gas intended. The most common vaporizer types include:

Ambient Air – Extruded aluminum 'fins' allow ambient heat to be conducted into the cryogenic liquid stream to provide vaporization. This is the **most common type** due to its relative low cost to produce and operate. Ambient air vaporizers may be properly sized for the application by increasing the size of the unit in length, width and height.

Ambient vaporizer models allow selection of the process tubing through the unit to comply with the maximum working pressure and type of liquid/gas for which the vaporizer is intended. Tube materials normally include aluminum (low pressure applications to 600 PSI/34 Bar), stainless steel, Monel® and brass (higher pressures ranging from 3000 PSI/200 Bar to 10,000 PSI/680 Bar).

Advantage: Price, zero operating cost.
Disadvantage: Space required, water run-off during defrosting, outlet temperature dependent upon ambient air temperature.

Fan Ambient Air – The Fan Ambient Vaporizer is the same as the above ambient vaporizer but includes a top-mounted fan to force draft the air across the fins. **The efficiency of the vaporizer is roughly doubled, allowing for a smaller sized vaporizer per required flow rate**. The fan motors, ranging from approximately 1 to 10 horsepower, require electrical controls and power for operation. With fan ambient vaporizers it is possible to mount the vaporizer horizontally and still maintain good efficiency due to the force drafting. This is advantageous in low ceiling areas or where municipalities require zero visibility of the system, such as in hospitals, for example.

Advantage: Size considering flow rate, price, low operating cost.
Disadvantage: Space required, noise, water run-off during defrosting, outlet temperature dependent upon ambient air temperature