

RATERMANN

NO SMOKING
OR
OPEN FLAMES ALLOWED

FEBRUARY 2017

RMICRYO.COM
A specialized
division to better
serve you.

350 Draft Beers
World Record Beer Garden

Cryotherapy
What you need to know.

SB-26
Requirements & Recommendations

On the cover: Lance Looper of Ratermann Cryogenics



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rmi.rmimfg.com/ratermann-blog

ON THE COVER & IN THIS ISSUE



X-18 (cover)

Cryotherapy

Learn how cryotherapy works, the benefits, & how you can better serve this market.

X-24

Arctic Fox® Mini Bulk Tank

Take a look at our feature packed mini bulk line.

X-22

Cryogenic Hoses

See our full line of custom hoses & the benefits of using a vacuum jacketed hose for your applications.

X-3 (cover)

SB-26 Requirements

Learn about the SB-26 & the requirements needed for your cryogenic dewars.

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What's New at Ratermann

Taylor-Wharton Partnership

X-11 (cover)

World Record Beer Garden

With 350 taps the Raleigh Beer Garden holds the Guinness World Record for most draft beers.

X-12

Reliably Beverage

Ratermann's Beverage Division is excited to announce some of our new product offerings.

X-27

VariQuik Quick Connects

Hear from Conroe Welding Supply on how they use VariQuik to speed up their filling process.

X-31 (cover)

Ratermann Cryogenics

Lance Looper, National Sales Manager for Cryogenics, discusses his top product picks.



PREVENTING GAS MIX UPS: RATERMANN MFG'S GUIDE TO SB-26

The Compressed gas association became aware of several incidences where CGA outlet connections on DOT-4L containers had been switched to connect to a cylinder containing a different product than what the liquid container was filled for. You can imagine how awful this would be if a medical patient were in need of oxygen and instead received nitrogen. After the CGA had reviewed the cases, they found that in each instance the cylinder outlet connection was changed on a filled liquid cylinder that was properly labeled and ready for use. The CGA created the SB-26 guideline to prevent tampering with outlet connections.. and if a connection had been tampered with it is easy to identify.

MEDICAL

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REQUIRED

Required: Tamper Proof Restraint

Medical portable cryogenic containers must have tamper-proof restraints on the outlet valve such as a TPG-540

* a TPG-540 is easily installed using an allen wrench, the only way to remove the TPG is to saw it off, rendering it unusable which makes the TPG tamper proof.

See Ratermann's TPG here: bit.ly/tamperproof



TPG restraints can only be removed by sawing off

Required: 360 Tape

Dewar 360 tape that identifies the gas is required by the CGA to be present on all DOT-4L medical containers.

In addition to the 360 identification tape, a statement should be added to the cylinder that warns against changing the connection such as a Dewar body label. We have designed our 360 tape to include a warning against tampering with the connection.

See Ratermann's 360 tape here: bit.ly/360tape



Our 360 tape allows the contents in the container to be identified from all sides of the tank.

Required: Label

In accordance with the CGA-C7 guideline of labeling and marking compressed gas containers all DOT-4L medical containers must have a label that includes the company name, city, state, zip, and phone number of the company such as a dewar body label. Ratermann Dewar body labels are offered with this option

See Ratermann's labels here: bit.ly/dewarlabels

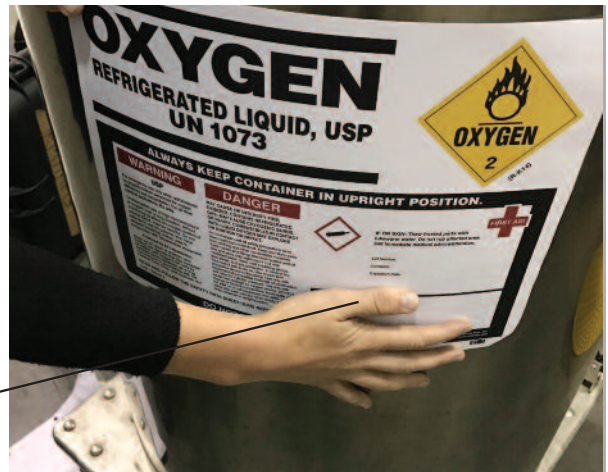
is back flow
Use only with
risk of contamination
Use only with
service. DO NOT
in front of face. Do
not touch. Close
immediately. Always
off.

FORE USE.

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COMPANY NAME HERE**

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1-800-000-1234 • www.company.com



Optional sizes and styles available. Shown above is our most popular option which allows the most space for branding your company.

(Ratermann offers custom-imprint of your logo. If your logo includes your full company name you can use your logo as your company name.)

Required: Tamper Proof Restraint

CGA 540
Generant
Tamper
Proof Device
Pt # TPG-540



Easy
Installation



**Silver
Brazing**
Tamper
Proof Device

GENERANT

GENERANT

for DOT-4LC
and TC-4LM
Liquid Cylinders

Per SB-26-2014, Industrial DOT-4L/TC-4LM Liquid Cylinders, the outlet connection of a medical liquid cylinder valve shall be a threaded or socket connection, brazed (lead-free solder), welded, or attached by other tamper-resistant methods to the valve body in a manner that prevents removal or would render the connection or valve body outlet unusable if removal was attempted or accomplished.

Generant Series TPG Installation

(This should be performed by a qualified technician.)

INSTALLATION

Note: Series TPG Connection Systems are supplied cleaned and packaged for use in Oxygen Systems. When utilized in an Oxygen application, proper procedures should be maintained to ensure that the complete installation is safe for Oxygen service.



The Generant Series TPG connection system is supplied ready for installation into the 3/8" port on the outlet valve of a liquid cylinder. The system is a one-piece assembly consisting of a CGA fitting and clutch mechanism installed into a Stainless Steel-locking bracket. The 3/8" NPT thread is supplied with PTFE tape already applied. To install the fitting, use the following procedure.

1. Ensure threaded end of valve body is clean and free of any debris.
2. Place end of locking bracket over end of outlet valve.
3. Tighten the CGA fitting finger tight. The formed square section of the locking bracket must be guided to slide over the valve body.
4. Insert an Allen wrench into the center of the CGA fitting and tighten the connection into the valve body thereby pulling the locking bracket over the valve body.
5. The connection is installed and ready for safe use.
6. If desired, pressurize connection and spray a liquid leak detector into the sight windows and look for leaks.

Generant Tamper Proof Devices

Part # Pkg. of 5	Description	Per Dewar Head	Part # for Single Item
TPG-540-PK5	CGA 540 (Gas use) – Oxygen	1	(Pt # TPG-540)
TPG-540CV-PK5	CGA 540 (Gas use) – Oxygen with Check Valve	1	(Pt # TPG-540CV)

Required: 360° Tape

Medical DOT-4L Labels for GHS & CGA SB-26 Requirements



3 1/2" Medical
Oxygen Dewar
360° Gas Tape
Pt # DG-MEDO

Requirement of SB-26
Medical 3 1/2" Dewar 360° Gas Tape

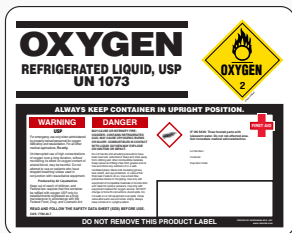
Part #	Description	Roll Length
DG-MEDO	3 1/2" Medical Oxygen	250' Roll
DG-MEDN	3 1/2" Medical Nitrogen	250' Roll
DG-MEDNO	3 1/2" Medical Nitrous Oxide	250' Roll

Medical Tape also available in French and Spanish, please call for part number.



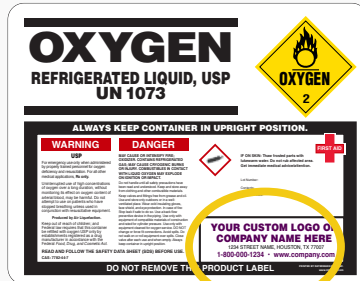
Required: Label

GHS Compliant DOT-4L Dewar Body Labels



Oxygen USP
Pt # DBG-USP

Medical
Dewar Body
Labels with
Custom
Imprinted
Label
14" x 11"
Available in
Packs
of 10, 25
or 100



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Optional
sizes and
styles
available.
Dewar
body labels
are our
most
popular
option
which
allows the
most space
for
branding
your
company.

Custom Medical Dewar Body Labels

Part #	Description
DBG-NNF-CIL	Nitrogen NF Dewar Body Label
DBG-USP-CIL	Oxygen USP Dewar Body Label

* This guide was made by Ratermann Mfg. not the CGA. Products shown are Ratermann Manufacturing's recommendations, the CGA does not recommend or endorse any specific products.

INDUSTRIAL

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REQUIRED

Required: Tamper Evident Restraint

Industrial portable cryogenic containers must have tamper-proof or tamper-evident restraints on the outlet valve such as a: TPG & CGP fitting restraint, CGP-PS1. Tamper evident restraints such as a CGP can be clipped off with scissors which shows the restraint has been tampered with, making the CGP's tamper evident but not tamper proof like the TPG.

See Ratermann's CGP here: bit.ly/cpgrestraint



Tamper evident restraints can be removed by using wire cutters

Required: Label

In accordance with the CGA-C7 guideline of labeling and marking compressed gas containers all DOT-4L containers must have a label that includes the company name, city, state, zip and phone number of the company such as a dewar body label.\]

See Ratermann's labels here: bit.ly/dewarlabels

a back flow
Use only with
type of construction
Use only with
service: DO NOT
Avoid spills. Do
not smoke. Close
cap. Always
on.
FORE USE.

**YOUR CUSTOM LOGO OR
COMPANY NAME HERE**

1234 STREET NAME, HOUSTON, TX 77007
1-800-000-1234 • www.company.com

(Ratermann offers custom-imprint of your logo. If your logo includes your full company name you can use your logo as your company name.)



Optional sizes and styles available. Shown above is our most popular option which allows the most space for branding your company

Recommended: 360 Tape

Dewar 360 tape is recommended but not required by the CGA on industrial cryogenic containers in accordance with CGA-C7 guide of labeling and marking compressed gas containers. In addition to the 360 identification tape, a statement should be added to the cylinder that warns against changing the connection such as a Dewar body label. We have designed our 360 tape to include a warning against tampering with the connection it is also included on our shoulder labels.

See Ratermann's 360 tape here: bit.ly/360tape



Our 360 tape allows the contents in the container to be identified from all sides of the tank.

Required: Tamper Evident Restraint

Restraints for Industrial Gas & Liquid Cylinder Fittings

Per SB-26-2014, on Industrial DOT-4L/TC-4LM liquid cylinders, the outlet connection of an industrial liquid cylinder valve shall be a threaded connection with a device that deters removal of the fitting and provides indication that removal was attempted or accomplished.

For additional details see page 32C-2 in our printed or online catalog



COMPLETE BOTTLE 3-VALVE RETROFIT KIT for INERT GAS – NITROGEN & ARGON
(liquid, gas, & vent valve)

Part Number	Description
CGP-13PK1	Package contains one kit
CGP-13PK5	Package contains five kits

COMPLETE BOTTLE 3-VALVE (CGA 540, 440, 326, 320) RETROFIT KIT for OXYGEN, CO² (CGA 320) & NITROUS OXIDE (CGA 326)
(liquid, gas, & vent valve)

Part Number	Description
CGP-23PK1	Package contains one kit
CGP-23PK5	Package contains five kits

Required: Label

GHS Compliant DOT-4L Dewar Body Industrial Labels

Meets Industrial Requirements

Ship to you with your company information – Company, Street Address, City, State, Zip Code and Phone Number.



Industrial Dewar Body Labels with Custom Imprinted Laminate Label 14" x 11"

Available in Pack of 25 or 50

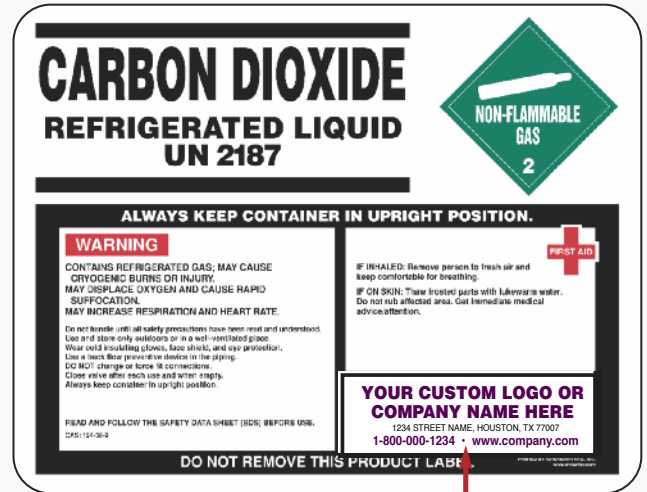
Optional sizes and styles available. Dewar body labels are our most popular option which allows the most space for branding your company.

Industrial Dewar Body Labels

Part #	Description
DBG-A-CIL	Argon
DBG-CO2-CIL	Carbon Dioxide
DBG-H-CIL	Helium
DBG-N-CIL	Nitrogen
DBG-NO-CIL	Nitrous Oxide
DBG-NOUSP-CIL	Nitrous Oxide, USP
DBG-O-CIL	Oxygen



Pt # DBG-O-CIL



Pt # DBG-CO2-CIL

Custom Imprinted Laminate Label Here

Recommended: 360° Tape

Your Industrial Cryogenic DOT-4L 360° Tape per Recommendation of CGA C-7 2014, Appendix F

Promote Your Brand.

Quickly See Tank that Belongs to Your Company!



CUSTOM PRINT** – Industrial 3" Dewar 360° Gas Tape

Part #	Description	Roll Length
DGC-TA-XXXX	Argon	250' Roll
DGC-TC-XXXX	Carbon Dioxide	250' Roll
DGC-TH-XXXX	Helium	250' Roll
DGC-TN-XXXX	Nitrogen	250' Roll
DGC-TO-XXXX	Oxygen	250' Roll

** One time plate charge. Roll minimum applies.



Pt # DG-TC



Pt # DG-TA



Pt # DG-TO

PRE-PRINTED – Industrial 3" Dewar 360° Gas Tape

Part #	Description	Roll Length
DG-TC	3" Carbon Dioxide Dewar 360° Gas Tape	250' Roll
DG-TO	3" Oxygen Dewar 360° Gas Tape	250' Roll
DG-TN	3" Nitrogen Dewar 360° Gas Tape	250' Roll
DG-TA	3" Argon Dewar 360° Gas Tape	250' Roll
DG-TH	3" Helium Dewar 360° Gas Tape	250' Roll

* This guide was made by Ratermann Mfg. not the CGA. Products shown are Ratermann Manufacturing's recommendations, the CGA does not recommend or endorse any specific products.

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your specialist for branding & label compliance

Build your brand with a range of custom printed labels. Include your logo, phone number, address, and website all in full color. These CGA compliant labels allow you to brand where your customer's will see it most.



status tags



shoulder labels



speciality gas labels



gas cert pouches



the complete branding package

Let's work together to build your brand

Give us a call to go over your branding program and GHS requirements. No matter your application, Ratermann offers an extensive range of custom labels. Brand your industrial cylinders with status tags, custom shoulder labels, specialty gas labels, and pouches. Add custom, full-color side labels to your medical cylinders. Stay CGA compliant with your liquid cryogenic tanks with custom 360 tape, and side labels. Finally, add the finishing touch with a logo decal to maximize your branding efforts.

For more information on your branding options, please give us a call at **1-800-264-7793**.

Want a free custom mock up with your logo?
Go to rmi.rmimfg.com/customlabels.



reliable people.



reliable solutions.



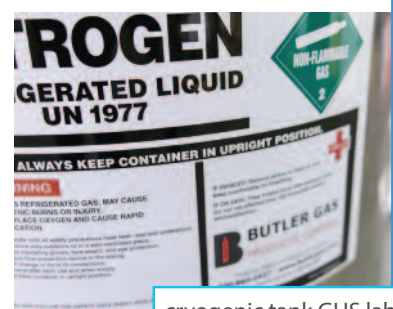
reliable delivery.



medical side labels



360 ID tape



cryogenic tank GHS labels



custom logo decals

"THE
NITROGEN
GENERATORS
CREATE A
PERFECT POUR
EVERYTIME!"

- Raleigh Beer Garden



CROST
SUMMER SA
W/ SALMON &
CHICKEN LIVER
W/ CRISP CRUST &
CRISPI MUSH
W/ ENGLISH PEAS &

PIZZAS
CHEESE PIZZA W/
WILD MUSHROOM &
SUMMER SQUASH &
SPICY SAUSAGE & B
PANCETTA & HONEY
SLOW ROASTED PULL

SALADS
KALE & ROMAINE CAES
ARUGULA & SPINACH SA
GREEK INSPIRED CHOPPI
HOUSE

SANDWICHES
CRISPY BUTTERMILK FRIED
SERVED W/ FRIES
BEER GARDEN BURGER* W/ A
TOMATO & SECRET SAUCE SERVED W
CLASSIC PRESSED CUBAN SANDWICH
SERVED W/ FRIES

PL



image source: travelandleisure.com

WORLD RECORD HOLDER **RALEIGH BEER GARDEN**

With 350 taps the Raleigh beer garden holds the world record for most beer on draft. Managing 350 taps, kegs and draft lines to consistently give a reliable pour is a challenge.

Patrons of the Raleigh beer garden expect a perfect pour from any of the 350 taps which requires a constant supply of nitrogen and CO₂, to keep up with the demand the Raleigh beer garden uses a Nitrogen Generator.

What is a Nitrogen Generator?

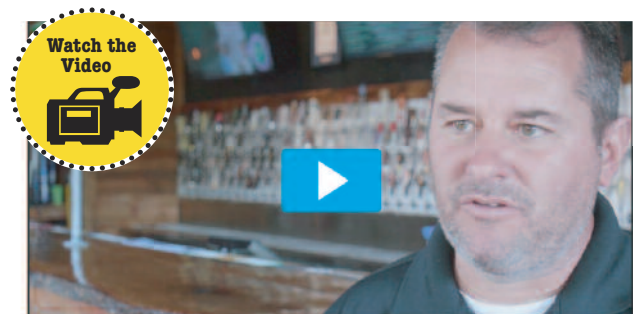
The nitrogen generator is used to push beer from keg to tap. The generator produces nitrogen from the air on demand and puts it into the beer system for a seamless process. Another commonly used method for pushing beer is with straight CO₂. Although, CO₂ is an actual ingredient in the beer which can cause a foaming effect and lead to a great deal of beer waste. The nitrogen generator makes the pushing gas a blended gas of CO₂ and nitrogen which allows the beer to be pushed by an inert gas which doesn't create over-foaming. In the end, the nitrogen generator causes less waste and allows for more usable beer in the keg.



Nitrogen generator at the Raleigh Beer Garden

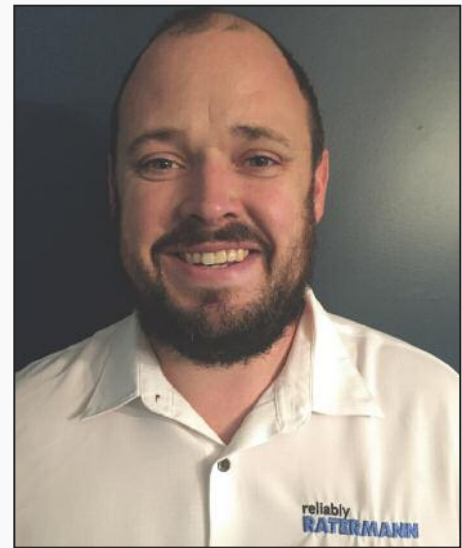


Watch the full video at rmi.rmimfg.com/beverage-gas-supplies



reliably **RATERMANN** BEVERAGE SOLUTIONS

Ratermann's beverage division will assist in creating new or additional cost saving opportunities by educating and working directly with customers to properly size and install Beverage Carbonation systems, including, but not limited to, tanks, generators and installation recommendations.



MICHAEL ERVIN
National Product Specialist



Our proven line of on demand nitrogen generators utilizes heavy duty compressors with a 5 year warranty and advanced filtration systems that provide users with both the convenience and cost savings of three years between filter changes!

**Call Us at 800-264-7793
for more information.**

Our Nitrogen Generator at a glance

Doesn't need a climate controlled environment:

Our nitrogen generator is not temp sensitive, because our nitrogen generator isn't reliant on the climate, the nitrogen generator can be installed in either a climate-controlled or non climate controlled environment such as a basement.

Average nitrogen generator: 65-85 degrees

Our nitrogen generator: operates between 35-115 degrees fahrenheit

Life time of the compressor:

Compressors are an expensive asset of the nitrogen generator. Our industrial grade compressor expands the lifetime of the average nitrogen generator compressor.

Our nitrogen generator: 19+ years average life time (able to be used over and over)

Average nitrogen generator compressor: 5-7 years

Long lasting filter:

Average life time of our nitrogen generator filter: 2 years

Average life time of other nitrogen generator filter: 6 months

Avoids altitude limits:

Our nitrogen generator: Because of the membrane system, our nitrogen generator pulls in air from outside allowing it to work in any elevation

PSA system nitrogen generators: don't work above 1,000 ft elevation

Space saving:

The compressor of our nitrogen generator can be installed up to 100 feet from the nitrogen generator unit which allows the nitrogen generator to fit almost anywhere.

Noise of the compressor:

The compressor can be installed up to 100 feet away from the generator. If the nitrogen generator needs to be close to a dining room in a restaurant the compressor can be moved to avoid noise pollution.

Automatic shut off:

Our nitrogen generator has an automatic shut off after 6 hours of no-use or if there is a leak in the cooler.



Taylor-Wharton
Since 1742

BEVERAGE CARBONATION SYSTEMS

EasyCarb Dewar Tanks Specifications

Redefining Performance with EasyCarb



Part Number	Description
TWBC-300	easyCARB 300 lb.
TWBC-300-VF	easyCARB 300 lb. with Vent Fill
TWBC-300LE	easyCARB 300 lb. with Legs
TWBC-300LE-VF	easyCARB 300 lb. with Vent Fill and Legs
TWBC-450	easyCARB 450 lb.
TWBC-450-VF	easyCARB 450 lb. with Vent Fill
TWBC-450LE	easyCARB 450 lb. with Legs
TWBC-450LE-VF	easyCARB 450 lb. with Vent Fill and Legs
TWBC-550	easyCARB 550 lb.
TWBC-550-VF	easyCARB 550 lb. with Vent Fill
TWBC-550LE	easyCARB 550 lb. with Legs
TWBC-550LE-VF	easyCARB 550 lb. with Vent Fill and Legs
TWBC-600	easyCARB 600 lb.
TWBC-600-VF	easyCARB 600 lb. with Vent Fill
TWBC-600LE	easyCARB 600 lb. with Legs
TWBC-600LE-VF	easyCARB 600 lb. with Vent Fill and Legs
TWBC-750	easyCARB 750 lb.
TWBC-750-HTR	easyCARB 750 lb. with Heater
TWBC-750-VF	easyCARB 750 lb. with Vent Fill
TWBC-750LE	easyCARB 750 lb. with Legs
TWBC-750LE-HTR	easyCARB 750 lb. with Heater and Legs
TWBC-750LE-VF	easyCARB 750 lb. with Vent Fill and Legs

OPTIONS FOR easyCARB 600

TWBC-600-HTR	easyCARB 600 lb. with Heater
TWBC-600LE-HTR	easyCARB 600 lb. with Heater and Legs

MODEL NO.	EasyCarb-300	EasyCarb-450	EasyCarb-550	EasyCarb-600	EasyCarb-600 120 VAC	EasyCarb-750	EasyCarb-750 120 VAC
Dimensions							
Diameter in. (mm)	20 (508)	20 (508)	22 (559)	22 (559)	22 (559)	26 (660)	26 (660)
Height in. (mm)	49.4 (1255)	64.6 (1641)	67.7 (1720)	70.0 (1778)	70.0 (1778)	70.0 (1778)	70.0 (1778)
Weight							
Empty lb. (kg) (Nominal)	200 (91)	260 (118)	410 (186)	355 (161)	355 (161)	348 (158)	348 (158)
Capacity, CO2 Saturated @ 125 psig (8.6 bar)							
Liquid lb. (kg)	301 (137)	447 (203)	574 (260)	594 (269)	594 (269)	789 (358)	789 (358)
Gaseous cu.ft. *cu. m) @ NTP (STP)	2628 (69)	3906 (103)	5020 (141)	5195 (136)	5195 (136)	6897 (182)	6897 (182)
Flow Rates							
Peak Demand lb./hr. (kg/hr.)	7.0 (3.2)	12.0 (5.4)	20.0 (9.0)	20.0 (9.0)	40.0 (18.0)**	20 (9)	40.0 (18.0)
Continuous lb./hr. (kg./hr.)	5.0 (2.3)	7.0 (3.2)	10.0 (4.5)	10.0 (4.5)	20.0 (6.0)**	10.0 (4.5)	20.0 (6.0)
Minimum Usage (no venting)							
Liquid lb./day (kg./day)	2.5 (1.13)	2.7 (1.22)	2.9 (1.32)	2.9 (1.32)	2.9 (1.32)	3.0 (1.4)	3.0 (1.4)
Pressure Building System							
Standard Operating Pressure	125 psig (8.6 bar)	125 psig (8.6 bar)	125 psig (8.6 bar)	125 psig (8.6 bar)	125 psig (8.6 bar)	125 psig (8.6 bar)	125 psig (8.6 bar)
Safety Device Settings							
Primary Relief Valve	300 psig (20.7 bar)	300 psig (20.7 bar)	300 psig (20.7 bar)	300 psig (20.7 bar)	300 psig (20.7 bar)	300 psig (20.7 bar)	300 psig (20.7 bar)
Secondary Relief Valve	330 psig (20.7 bar)	330 psig (20.7 bar)	330 psig (20.7 bar)	330 psig (20.7 bar)	330 psig (20.7 bar)	330 psig (20.7 bar)	330 psig (20.7 bar)
Fill line Relief Valve	400 psig (31.0 bar)	400 psig (31.0 bar)	400 psig (31.0 bar)	400 psig (31.0 bar)	400 psig (31.0 bar)	400 psig (31.0 bar)	400 psig (31.0 bar)

** Flow rate using 120 VAC power. Using 240 CAV power, flow rate is 40 lb./hr. (18.0 kg./hr.) peak and 30 lb./hr. (9.0 kg./hr.) continuous.
The EasyCarb-600 is also available in 240 volt. (EasyCarb-600 240 VAC)

Tamper Evident Solutions

for **BEVERAGE CO2**



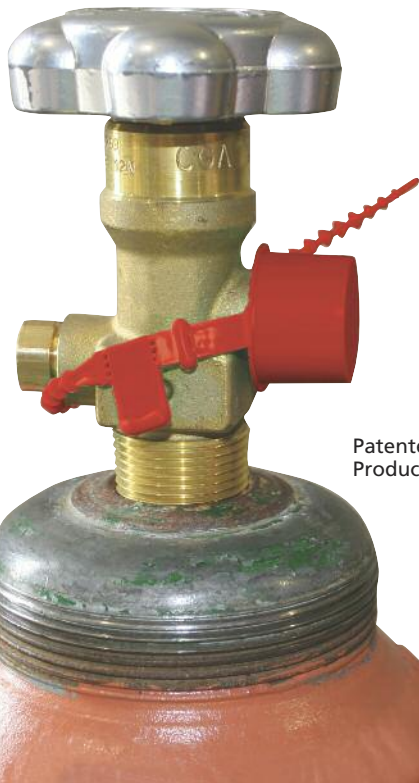
Beverage Grade CO2
Valve Wrap – Imprint
White Material



Food Grade CO2
Valve Wrap – Imprint
White Material



TAMPER EVIDENT CGA-320 DUST COVER



Patented
Product



Tightening the strap down



Breaking tamper evident
seal – removing dust cover

Tamper Evident CGA-320 Dust Cover

Part #	Description
HP-WQP320PK100	Tamper Evident CGA-320 Dust Cover, Red - Pack of 100
HP-WQP320PK1000	Tamper Evident CGA-320 Dust Cover, Red - Pack of 1,000

RATERMANN BEVERAGE CATALOG



Beverage, Brew & Carb Products & Parts Catalog
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Or visit rmi.rmimfg.com/beverage-gas-supplies to download your catalog now



George Ratermann

Ratermann Manufacturing and Taylor-Wharton's Commitment to Quality

Ratermann Manufacturing and Taylor-Wharton's partnership ensures quality of both products and service. George Ratermann, President of Ratermann Manufacturing, excitedly speaks on the strengths of the partnership, "The first thing we consider before entering into any partnership is whether or not it will give us the ability to provide a product that will either meet, or hopefully exceed, the quality and delivery expectations of our customers. I can say with confidence that this has indeed been the case during our partnership with Taylor-Wharton. We are very excited about the continuation of our partnership and the quality product offerings that we will be able to provide for our valued customers in the future." Eric Rottier, Chairman & CEO of Taylor-Wharton, commented, "The expansion of our partnership with the Ratermann team for Beverage EasyCarb, and Cryogenic Dewars for North America will provide improved customer service, simplified order processing, and industry-leading fulfillment. The Ratermann team has done an outstanding job representing us and we look forward to jointly supporting the Gas Distributors."



TAYLOR INDUSTRIAL



Taylor-Wharton LIQUID CYLINDERS



**Upgrade to
Build Your Brand**



CUSTOM PRINT* – Industrial 3" Dewar 360° Gas Tape

Part #	Description	Roll Length
DGC-TA-XXXX	Argon	250' Roll
DGC-TC-XXXX	Carbon Dioxide	250' Roll
DGC-TH-XXXX	Helium	250' Roll
DGC-TN-XXXX	Nitrogen	250' Roll
DGC-TO-XXXX	Oxygen	250' Roll

* One time plate charge – Roll minimum applies.

360° Tape Designed to Identify the Gas Type and Promote Your Brand.

Quickly See Tank that Belongs to *Your Company!*



Your Industrial Cryogenic DOT-4L 360° Tape per Recommendation of CGA C-7 2014, Appendix F

Requirement of 58-26 Medical 3 1/2" Dewar 360° Gas Tape

Part #	Description	Roll Length
DGC-MEDCO2-XXXX	Carbon Dioxide	250' Roll
DGC-MEDN-XXXX	Nitrogen	250' Roll
DGC-MEDO-XXXX	Oxygen	250' Roll

Dewar Operation Label



Dewar Operation Labels - Operation Safety Common Questions
Pt # DL-14

Pressure I.D. Disks

Color-coded pressure relief I.D. disks are imprinted with the appropriate pressure of safety relief valve.



Dewar Safety Disk
22 PSI -Yellow
Pack of 50
Pt # DS-22PK50
Pack of 10
Pt # DS-22PK10

Part #	Description	Color
DS-22PK50	22 PSI	Yellow
DS-35PK50	35 PSI	Green
DS-50PK50	50 PSI	White w/Black Text
DS-75PK50	75 PSI	Tan
DS-100PK50	100 PSI	Lt. Blue
DS-230PK50	230 PSI	Blue
DS-235PK50	235 PSI	Blue
DS-350PK50	350 PSI	Orange
DS-350CPK50	350 PSI CO2	Red
DS-500PK50	500 PSI	White w/ Red Text

**IN STOCK AT RATERMANN'S
DISTRIBUTION CENTERS**

CRYO THERAPY

A new industry trend has emerged & the benefits are worth looking into.

If you have ever used an ice-pack or have taken an ice-bath you have experienced a form of cryotherapy. Whole body cryotherapy is simply an extreme version to give maximum benefits. At negative 165 to negative 240 degrees Fahrenheit, a person stands with their hands by their side and their head above the sauna wearing nothing but gloves, socks and booties (to protect extremities from the temperature) in what looks like a vertical tanning bed for up to 3 minutes.

How it works on your body: During the 3 minutes of extreme temperatures the body goes into survival mode. Survival mode triggers the fight or flight reaction in your body which pushes all of the blood to the bodies vital organs. While the human body is in the fight or flight mode organs release enriched nutrients, anti-inflammatory chemicals and endorphins. Once a person finishes the 3 minutes of extreme cold and steps back out into room temperature, the blood that is now enriched with nutrients moves from the organs and back into the extremities, naturally targeting areas with problems such as inflammation or muscle soreness with the enhanced blood.

Marie Ratermann gets ready to try cryotherapy for the first time.



Ratermann MFG tries out local cryotherapy spot Redux in Alameda, CA

Where did it start: Cryotherapy started in Japan in 1978 for patients with rheumatoid arthritis. After several studies scientist and doctors found that cryotherapy had other benefits. Cryotherapy then emerged into the European market. For over 20 years now cryotherapy has been backed by the European Union as a medical treatment and is covered by health insurance. Although, cryotherapy is just now emerging into the US market and has yet to be backed by the FDA.

Who uses it: Celebrities and professional athletes started the “trend” of cryotherapy here in the USA. Health and cosmetic benefits such as faster workout recovery, decreased joint inflammation, boost of energy and immune system, improved sleep behavior, wrinkle reduction, accelerated metabolism and more, are appealing outcomes to celebrities and athletes. Along with celebrities, people with severe pain from conditions such as rheumatoid arthritis or cancer have seen a great deal of pain relief and healing from cryotherapy. Cryotherapy has also emerged to the traditional market of people with busy lives who want to feel better and sleep better.



“Cryotherapy puts your body into a fight or flight mode which allows your body to release enriched nutrients, anti-inflammatory chemicals, and endorphins.”

**- Noel Redux
Cryotherapy**

Noel of Redux Cryotherapy switches tanks between sessions.



How the machine works: Noel with Redux Cryotherapy based in Alameda, CA explains how the cryotherapy sauna works, "Liquid nitrogen is pumped from a cryogenic tank, through a vacuum jacketed hose and into the cryotherapy sauna. Once the liquid nitrogen reaches the sauna the liquid nitrogen is turned into nitrogen gas, at no point does liquid nitrogen ever touch a patient's body." Noel continues, "The air around the patient feels cool but never does a patient feel cold and wet like you would in an ice-bath, which is what makes cryotherapy tolerable."

What does this mean for distributors:

Speaking about the demand cryotherapy requires, Noel elaborates on how much nitrogen is needed to operate his business, "on average the cryotherapy sauna takes about 10L every time I administer a cryotherapy session, I can do about 25- 26 sessions before I run out of liquid nitrogen." Typically, a cryotherapy clinic administers about 25-30 treat-

ments a day. When asked if there was anything specific that a cryogenic tank needed to do Noel replied, "All cryotherapy saunas need to operate between 18 and 28 PSI depending on the brand of the cryosauna. For the cryosauna brand we use at Redux Cryotherapy, if the PSI is below 22 or above 25 I cannot administer the treatment because the sauna won't work. From my experience, the two most important features on a tank are it's ability to keep the correct pressure and to have a gauge that I can accurately read."



To learn more about cryotherapy watch our videos at rmi.rmimfg.com/cryogenic-equipment



Customers can use anywhere from a 240L dewar up to a 2000L-6000L Arctic Fox® mini bulk tank.

CRYOTHERAPY & SAFETY

“Whole body Cryotherapy is a safe form of recovery from physical activity or injury.”

-Alamo Cryotherapy



Safety features of Cryosaunas:

Oxygen-Monitors:

In the Cryotherapy facilities Ratermann Mfg. visited, all of the facilities were mandated to have proper air ventilation and had an oxygen monitor/alarm present in every room. Oxygen monitors and ventilation is required by the NFPA (National Fire Protection Association)-55 Compressed Gases and Cryogenic Fluids Codes.

Regulated environments for safety:

Cryosauna facilities must meet certain requirements such as; door size, ventilation, oxygen detector and size of room. These requirements are mandated by the NFPA-55 code. The NFPA-55 addresses fundamental safeguards for the installation, storage, use, and handling of compressed gases and cryogenic fluids in portable and stationary cylinders, containers, and tanks.

What do you wear?

During Cryotherapy a patient will wear wool socks, slippers and gloves to protect the ligaments of the body from frost bite. Men wear briefs and women can choose to wear underwear and/or a bra. Hair can be left down and make up and lotion are fine. Although, lotion should not be applied within an hour of the treatment to avoid moisture on the skin. All jewelry from the neck down must be removed. Cryotherapy facilities have changing rooms and robes for privacy.

The body never touches liquid Nitrogen:

The Cryosauna chamber is cooled with nitrogen gas but never does liquid nitrogen enter the chamber. A trained technician must always be present in the room during cryotherapy sessions. Only the air around the patient feels cold but the patient will never come in contact with liquid nitrogen. On hot days a patient will be asked to dry their skin before entering the cryosauna to avoid sweat from freezing on the patient's skin.

Immediate Client Exit:

The door to the cryosauna does not lock so that the client can exit the cryosauna at any time.

Prevention of self-administered treatments:

The IMPACT cryosauna brand has developed Smart Sauna Software with the "Engage" safety feature. The "Engage" feature was designed to prevent unattended use. On the display screen of the IMPACT cryosauna, the "Engage" feature prompts the cryotherapy operator to "press to continue" every 31 seconds during the session. This technology keeps the technician who is operating the sauna engaged and doesn't allow the cryosauna to run alone under any circumstances. IMPACT cryosaunas have an automatic shut off after 3 minutes of operating.

Head outside of the cryosauna:

The head of the patient must always be above the cryosauna. Some brands of cryosaunas have automatic electric lifts that lift a patients head above the cryosauna based on their height and weight. Others are lifted manually by the cryosauna technician.

Automatic Shut-Off:

All of the cryo-sauna brands Ratermann Mfg. encountered (IMPACT, JUKA & Criomed) had automatic shut-offs after 3 minutes. 3 minutes is the maximum amount of time that a person is allowed in a cryosauna for safety of the core body temperature.

Can You Get Hypothermia?

The body's core temperature is 98.6 degrees. In order to be considered to have very mild hypothermia, the core temperature of the body would need to drop to 95 degrees. Gordon Gesibercht a Professor at University of Manitoba studies hypothermia and cold stress and explained that spending 3 minutes (the maximum amount of time someone is allowed in a cryosauna) in negative 200 degrees was not nearly enough time for the body's core temperature to drop enough to be considered hypothermia. Pawel, Zalewski, a sports medicine researcher at Nicolaus Copernicus University studied the affect of cryotherapy on the body's core temperature and found that there was a slight drop in the core temperature about 40 minutes after a session which he hypothesizes to be the cooler blood from the extremities of the body retuning to the core of the body. Yet still, not enough of a drop in the core temperature to be considered hypothermia.

Is it Painful?

Employees and President, George Ratermann at Ratermann Manufacturing tried Cryotherapy for our own knowledge. Everyone from Ratermann Mfg that tried cryotherapy agreed on the following: It is cold, not as cold as expected, it wasn't painful & it felt more tolerable than an ice bath. Everyone also agreed: they felt more energized, they slept better that night and felt they had more endurance than normal during a workout conducted later that day.

Who shouldn't use cryotherapy?

Anyone under the age of 14 should not use cryotherapy. People with the following conditions shouldn't use cryotherapy: high blood pressure, have had or have seizures, have a severe case of Raynaud's syndrome, are pregnant, have existing heart issues, have had or have any major vascular issues, have clots or have had a brain aneurism, have severe reactions to the cold or have had a stroke. Other limitations exist but are presented to each patient before treatment is ever administered.

Trained Technicians:

A trained technician will ask about prior and current health conditions before any treatment is administered. Certified technicians that run the cryotherapy sessions are fully trained on safety and operational protocols and they stay with you during the length of your treatment. The cryo-sauna can be turned off by the technician at any point and the door to the chamber does not have a lock so a patient can step out at anytime. Cryochambers have a 3-minute automatic shutoff timer to prevent overexposure. A manufacturer of cryosaunas explained to us one of the ways they validate safety with training, "Safety of the cryotherapy operators and their clients is of utmost importance at IMPACT. To ensure that our equipment is used with the safest and best-practices, IMPACT provides a two-day training course complimentary to the purchase of our cryosaunas. During the safety course, cryotherapy operators receive hands on training and cover a detailed safe use program with emphasis on safety features, precautions and tips to allow for the safest cryotherapy environment."

- IMPACT Cryotherapy

FOR DISTRIBUTORS

Things To Know:

- Tank must maintain a constant pressure of 18-25 PSI. Depending on the brand.
 - One 240L dewar can administer about 22-25 sessions.
 - Each cryotherapy session uses about 6-10L of liquid nitrogen (including cool down time of the cryosauna).
- * Please call us for the exact pressure settings of the different cryosauna brands. 800-264-7793

Machine Types: There are different manufacturers of cryosaunas. Each brand carries its own specifications. Ratermann is working directly with each manufacturer so we can provide you with the most current requirements for each cryosauna. Please give us a call and we can send you the specifications.

Tank Designed For the Following Cryosaunas

Impact Brand

Part # TWD-LPI240RD (240L Round Base)
Part # TWD-LPI240SQ (240L Square Base)

Juka Brand

Part# TWD-LPJ240RD (240L Round Base)
Part# TWD-LPJ240SQ (240L Square Base)

240L Dewar Designed for Cryotherapy:

Ratermann has designed a specific Taylor-Wharton 240L dewar to maintain a constant pressure for your cryotherapy applications.

Arctic Fox® Mini Bulk Tanks: With top and bottom fill capabilities the Arctic Fox Tank allow you to fill without needing to drop head pressure, so your customers can continue with their appointments.

Vacuum Jacketed Hoses: Allows for quicker cool down times and does not produce condensation so you are not left with a puddle of water.

Article Sources:

Source: "NFPA 55: Compressed Gases and Cryogenic Fluids Code." NFPA 55: Compressed Gases and Cryogenic Fluids Code. NFPA, n.d. Web. 14 Feb. 2017.

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"Whole Body Cryotherapy (WBC): A "Cool" Trend That Lacks Evidence, Poses Risks." FDA, 07 June 2016. Web. 29 Aug. 2016.

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Tanks available in square or round base*

CRYOGENIC HOSES

Vacuum Jacketed Insulated Flexible Cryogenic Hoses



ARCTIC FOX

Cryogenic Tanks

Hose Specifications – Length 3’ through 25’ (Other Custom configurations available)

Vacuum Insulated Flexible Hoses – 3 Feet through 25 Feet 3/8” I.D. CGA 295 x CGA 295 and 1/2” I.D. CGA 295 x CGA 295

Features

- Reduced evaporation and the elimination of frost and condensation during transfers
- Vacuum jackets and super insulation for an optimally efficient flexible transfer line
- Can be used with ALL liquid cryogenics from LNG to liquid helium (LHe) depending on the end fittings
- A full line of bayonets, pipe threads, compression and custom end fittings are available
- Hose assemblies can be fabricated with full length ARMOR casing or cuffs

I.D. Inner (IN.)	O.D. Outer (IN.)	Inner MAWP* (PSI)		Minimum Bend Radius (IN.)	Heat Leak @ 80K	
		Non-braided (PSI)	Braided (PSI)		W/M	BTU/HR/FT
3/8"	1.5"	159	3712	5.0"	.74	.77
1/2"	2.2"	N/A	883	7.0"	1.38	1.44

* Pressure ratings based on hose material, end fitting choice may lower MAWP rating.



Vacuum Jacketed Hoses – 3/8”

3/8” I.D. CGA 295 x CGA 295



Size	Part Number	Description	
3'	VS-38ID36CGA295	3 foot Vacuum Jacketed Hose	
➤ 4'	VS-38ID48CGA295	4 foot Vacuum Jacketed Hose	MOST COMMON
5'	VS-38ID60CGA295	5 foot Vacuum Jacketed Hose	
➤ 6'	VS-38ID72CGA295	6 foot Vacuum Jacketed Hose	MOST COMMON
10'	VS-38ID120CGA295	10 foot Vacuum Jacketed Hose	

Vacuum Jacketed Hoses – 1/2”

1/2” I.D. CGA 295 x CGA 295



Size	Part Number	Description	
3'	VS-12ID36CGA295	3 foot Vacuum Jacketed Hose	
4'	VS-12ID48CGA295	4 foot Vacuum Jacketed Hose	
5'	VS-12ID60CGA295	5 foot Vacuum Jacketed Hose	
➤ 6'	VS-12ID72CGA295	6 foot Vacuum Jacketed Hose	MOST COMMON
8'	VS-12ID96CGA295	8 foot Vacuum Jacketed Hose	
10'	VS-12ID120CGA295	10 foot Vacuum Jacketed Hose	
➤ 12'	VS-12ID144CGA295	12 foot Vacuum Jacketed Hose	MOST COMMON
➤ 15'	VS-12ID180CGA295	15 foot Vacuum Jacketed Hose	MOST COMMON
➤ 18'	VS-12ID216CGA295	18 foot Vacuum Jacketed Hose	MOST COMMON

Eliminate hose condensation and dripping

Shown below is a traditional cryo hose that doesn't prevent condensation. Unlike a traditional hose the vacuum jacketed prevents condensation making it great for indoor use.

“A vacuum jacketed hose is something you should consider mandatory. When using a standard cryogenic hose the shell is all ice which creates a puddle inside of our building. Similarly, when the hose is iced, you lose pressure, the flow from the tank to the chamber isn't as good as it should be. The vacuum jacketed hose prevents ice from accumulating on the shell of the hose.”

– Relief Express Cryotherapy



Example of frost from moisture in the air.

ARCTIC FOX®

Bulk Cryogenic Hose

Bulk Liquid Transfer Armored Cuffs / Full Armor / Non-Armored Hoses



- All Stainless Steel
- 516 to 571 PSIG MAWP Rated – SS FNTP End Fittings

This is an all-stainless steel corrugated hose with stainless steel over braid. It is ideal for cryogenic liquid bulk transfer. Light weight and flexible at cryogenic temperatures. Standard assembly has 18" long stainless steel armor casing cuffs to act as bend restrictors. Prices include 1" assemblies, normally used in micro-bulk applications. 100% leak tested.



Image shown is of a Non-Armored Bulk Hose

Style Specifications

1 & 1 1/2 Inch • 100% Leak Tested

Liner: Corrugated 321 SS standard pitch

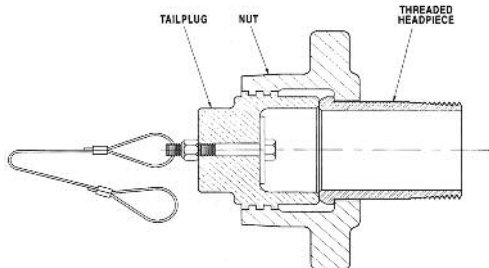
Reinforcement: Stainless steel braid

Temperature: Cryogenic to + 1500° F

Branding: Manufacturer, pressure rating, date.

Threaded Hose End Assembly

Note: All assembly numbers are for bronze nuts and naval brass headpieces. For stainless steel, order as individual items.



Part Number	Liquid Service	Fitting Size	Hose Size	Hose End Type	CGA Designation
BHEA-NI-T-150-150	Nitrogen	1 1/2"	1 1/2"	Threaded	NI-150
BHEA-AR-T-150-150	Argon	1 1/2"	1 1/2"	Threaded	AR-150
BHEA-OX-T-150-150	Oxygen	1 1/2"	1 1/2"	Threaded	OX-150

**For Different Bulk Hose CGA
See Online Catalog Section 19B**

Bulk Hose with FNPT X FNPT Ends

**Standard Built
with 18"
Armored Cuffs**

*Full
Armor*

**Non-
Armored**

1" I.D. – 571 PSI, 1" FNPT x 1" FNPT

Hose Length	Part #
14'	BH-A18-11D-168F1
15'	BH-A18-11D-180F1
16'	BH-A18-11D-192F1
20'	BH-A18-11D-240F1

Hose Length	Part #
14'	BHA-11D-168F1
15'	BHA-11D-180F1
16'	BHA-11D-192F1
20'	BHA-11D-240F1

Hose Length	Part #
14'	BH-11D-168F1
15'	BH-11D-180F1
16'	BH-11D-192F1
20'	BH-11D-240F1

1 1/2" I.D. – 472 PSI, 1 1/2" FNPT x 1 1/2" FNPT

Hose Length	Part #
14'	BH-A18-112ID-168F112
15'	BH-A18-112ID-180F112
16'	BH-A18-112ID-192F112
20'	BH-A18-112ID-240F112

Hose Length	Part #
14'	BHA-112ID-168F112
15'	BHA-112ID-180F112
16'	BHA-112ID-192F112
20'	BHA-112ID-240F112

Hose Length	Part #
14'	BH-112ID-168F112
15'	BH-112ID-180F112
16'	BH-112ID-192F112
20'	BH-112ID-240F112

Bulk Hose with FNPT X MNPT Ends

**Standard Built
with 18"
Armored Cuffs**

*Full
Armor*

**Non-
Armored**

1" I.D. – 571 PSI, 1" FNPT x 1" MNPT

Hose Length	Part #
14'	BH-A18-11D-168F1M1
15'	BH-A18-11D-180F1M1
16'	BH-A18-11D-192F1M1
20'	BH-A18-11D-240F1M1

Hose Length	Part #
14'	BHA-11D-168F1M1
15'	BHA-11D-180F1M1
16'	BHA-11D-192F1M1
20'	BHA-11D-240F1M1

Hose Length	Part #
14'	BH-11D-168F1M1
15'	BH-11D-180F1M1
16'	BH-11D-192F1M1
20'	BH-11D-240F1M1

1 1/2" I.D. – 472 PSI, 1 1/2" FNPT x 1 1/2" MNPT

Hose Length	Part #
14'	BH-A18-112ID-168F112M112
15'	BH-A18-112ID-180F112M112
16'	BH-A18-112ID-192F112M112
20'	BH-A18-112ID-240F112M112

Hose Length	Part #
14'	BHA-112ID-168F112M112
15'	BHA-112ID-180F112M112
16'	BHA-112ID-192F112M112
20'	BHA-112ID-240F112M112

Hose Length	Part #
14'	BH-112ID-168F112M112
15'	BH-112ID-180F112M112
16'	BH-112ID-192F112M112
20'	BH-112ID-240F112M112

ARCTIC FOX® MINI BULK

Data Sheet for 1,500 Liter, 3,000 Liter and 6,000 Liter



Features of the Arctic Fox® Series of Mini Bulk Tanks

	1500 Liter	3000 Liter	6000 Liter
Top fill capability with Micro bulk CGA connection	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Top/Bottom bulk fill connection w/inline checks & oversized plumbing for rapid fill times.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
High gas output capacity	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Excellent NER and product retention	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
External Pressure building system for rapid recovery	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Vaporizer with high volume gas output capability included	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Isolation valves for all components for field repairs with minimal product loss.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2" Pressure gauge and 3 1/2" easy to read Liquid level gauge	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Port for testing annular vacuum levels	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
VHP (500 psi) gas service with other service pressures available	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Strainer protected PB Regulator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Liquid withdraw options	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mounting provisions for your telemetry unit	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dual vent lines for rapid blow down capability	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dual 1/2" x 1" safeties with Heavy Duty divertor valve	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Small footprint galvanized skid included	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5 Year warranty on the vacuum	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1 year parts and labor	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



ARCTIC FOX® 1500L
1500 Liter Mini Bulk, VHP500
Part # MBK-1500VHPL



ARCTIC FOX® 3000L
3000 Liter Mini Bulk, VHP500
Part # MBK-3000VHPL



ARCTIC FOX® 6000L
6000 Liter Mini Bulk, VHP500
Part # MBK-6000VHPL

Specifications

	1500 Liter	3000 Liter	6000 Liter
Height (inches)	88.60	121.00	130.00
Foot Print (L x W) (inches)	63.00 x 63.00	75.00 x 75.00	112.00 x 112.00
Pallet base (L x W) (inches)	59.00 x 59.00	66.00 x 66.00	94.50 x 94.50
Empty Weight with pallet (pounds)	2,976	4,404	9,480

CAPACITY

	1500 Liter	3000 Liter	6000 Liter
Liquid (Liters) Gross	1,500	3,000	6,000
Liquid (Liters) Net	1,290	2,580	5,400
Liquid (Gallons) Gross	396	793	1,585
Liquid (Gallons) Net	341	682	1,426
Gas capacity (ft³) Nitrogen	29,470	58,940	123,362
Gas capacity (ft³) Oxygen	36,338	72,677	152,112
Gas capacity (ft³) Argon	35,561	71,123	148,860
Gas capacity (ft³) Carbon Dioxide (CO ₂)	25,550	51,099	106,953
Capacity (Lbs) Carbon Dioxide (CO ₂)	2,923	5,846	12,236

PERFORMANCE

	1500 Liter	3000 Liter	6000 Liter
NER (% /day LN ₂)	≤0.8%	≤0.8%	≤0.45%
NER (Lb/day) Carbon Dioxide (CO ₂)	≤2.8	≤4.0	≤5.6
Gas Flow (scfh) N ₂ , O ₂ , Ar	2,471	2,825	3,531
Gas Flow (scfh) Carbon Dioxide (CO ₂)	927	1,060	1,900
Gas Flow (Lb/hr) Carbon Dioxide (CO ₂)	113	130	218

PRESSURE RATINGS

	1500 Liter	3000 Liter	6000 Liter
Max. Pressure relief setting (psig)	500	500	500
Operating Pressure (psig)	450	450	450
Design Specification	ASME VIII-1	ASME VIII-1	ASME VIII-1

All specifications are subject to change without prior notice. All dimensions are measured from the floor to the top of the tank.

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MINI BULK TANKS

1,500L 3,000L 6,000L



6000 Liter Arctic Fox® Top and Bottom Filling Tank

The Arctic Fox 6000L tank comes equipped standard with top and bottom fill valves:

The benefits of a tank with top and bottom fill valves is that the customer does not have to be taken offline to have the tank refilled. Designed for applications in medical and laser cutting where a large drop in downstream pressure would cause problems. The driver can now maintain the filling pressure by opening the top and bottom fill valves simultaneously to keep the pressure up while not allowing any interruptions to the gas supply.

Mirror Finish
No Painting Ever Needed

Easy to read
full/empty pressure
differential gauge.

TELEMETRY READY
PLUMBING
Convenient removable
mounting plate is
also provided

EQUIPPED WITH
BOTTOM FILL –
Keep pressure up while
allowing no interruption
to gas supply

TOP FILL –
To help drop head
pressure when filling

FILL CONNECTOR –
Includes Bulk Connection

Galvanized Skid

½" NPT Bottom
Port For Liquid
Withdrawal

Auxiliary Blow
Down Vent Valve

DIVERTOR VALVE –
Herose divortor
valve with
redundant ASME
1/2" x 1"
pressure reliefs.

Heavy duty pressure
building regulator



For more information and videos go to
rmi.rmimfg.com/arctic-fox-tanks

Easy MPS-2DM
Finger Pull Tab



Push-On MPS-MCDM
Fast & Easy



MEDICAL DUST COVERS

The popular tamper evident dust covers that are a fill plant favorite to push on and a customers dream to take off.

Part #	Description
Pt # MPS-2DM	Easy Finger Pull Tab Dust Cover w/out Seal Holder
Pt # MPS-MCDM-G	Green Seal Push-On Medical Dust Cover
Pt # MPS-MCDM	Gray Seal Push-On Medical Dust Cover

CALL OR EMAIL FOR SAMPLE
1-800-264-7793 / sales@rmimfg.com

Fill Plant Favorite

- Fast & easy to push on
- Time saving pre-loaded seal (optional)
- Universal for use on medical oxygen, nitrous oxide, and carbon dioxide

Customer favorite

- Easiest to take off
- Seal does not fall out
- Great for patients with arthritis or limited dexterity

What are VariQuik Quick Connects?



VariQuik connectors add versatility in your filling system. The VariQuik couplings system by FasTest allow pumpers to quickly switch between traditional 540 yolk style connectors to 870 connectors within seconds.

Chris Singleton, Conroe Welding Supply –

How has the VariQuik System helped your business?

“The VariQuik Quick Connects system saves us on fuel expenses. Without the VariQuik system we would need to transport the cylinders to another facility to get them filled. Using the VariQuik connectors saves us on driver time and of course pumper time. The VariQuik connectors allow us to switch out our connections quickly and we’re off and running filling our customers cylinders.”

Was there a learning curve?

“There wasn’t much of a learning curve, its just so easy, you take off one connection, put on another one and you’re going, its that easy.”

What if you don’t have a full rack of cylinders?

“If you don’t have a full rack of cylinders you leave those connections off which stops any kind of air flow so you can do whatever else you need to do.”

What change have you noticed most after switching to VariQuiks?

“We are now able to fill a lot more cylinders than before. Before using the VariQuik’s our pumper would of had to fill a certain amount of cylinders one day and another batch a different day because our pumper would have had to switch out the connections.”

VariQuik Quick Connects



Connecting CGA 870 to fill



Connecting CGA 540 to fill

VariQuik – Quick Connect



VariQuik Quick Connects allow pumpers to quickly switch between traditional 540 yolk connections to 870 connections.

Another option to increase productivity:

Medical Oxygen Post Valve Quick Fill



The medical oxygen post valve quick fills save your pumper time. Great for filling large batches of e-cylinders.



10 Year Exemption

10 Year Exemption on Many of the 6 & 12 Pack Models. Big Benefit – Due to the design you have a 10 year exemption for inspection. Cradles ship fully assembled, comes stamped with a serial number, and is designed with open sight to the cylinder bottoms for the 5 and 10 year inspections. Select cradles come with PE stamps and load-test certification to meet vigorous off-shore requirements.

Choose your color and brand your name into your cradle!

Build Your Brand into 6, 12 or 16 Packs
Call Ratermann Manufacturing for more information: 1-800-264-7793.

CRADLES & MANIFOLDS

Quality Construction with durable powder coated paint & galvanized options. Drain at the bottom for lasting quality in any weather. 7 gauge steel top protects while providing a sturdy lift point.



Image of 6 pack manifold



download our
replacement manifold catalog
at rmi.rmimfg.com/manifold

Air tools/
O-rings



Casters



Valves



Fill
Connectors



Cryo
Pumps



Vacuum
Pump Oils



100% OXYGEN COMPATIBLE

KRYTOX™ LUBRICANTS FOR ALL YOUR OIL, GREASE AND CLEANER NEEDS

Krytox™ greases deliver superior lubrication and much more.

Greases from Krytox™ Performance Lubricants deliver long-lasting lubricity and viscosity performance that no hydrocarbon-based grease can match. These advanced lubricants deliver measurable value, reducing maintenance costs for re-lubrication, component failure and downtime. When compared to conventional lubricants, Krytox™ grease provides less friction and wear, with longer service life for your critical components.



**Non-Flammable Non-Migrating
BAM Tested**

- Seals & Gaskets
- O-Rings
- Regulators
- Cryogenic Pumps
- Quick Connect Fill Tools • Casters
- Cylinder Valve Stems • Vacuum Pump Oils

Key product benefits of Krytox™ greases include:

- White, pure, nontoxic, non-reactive, non-flammable, long-lasting, fluorinated synthetic greases
- Safe for chemical and oxygen service; provides radiation resistance

Precision cleaning of metals removes heavy oil, grease, wax, vacuum pump oils.

Dupont Vertrel™ cleaning solvents are used for a wide variety of cleaning Oxygen service parts, applications including light and heavy soil removal, Oxygen systems cleaning and vacuum pump oil flush out. **Flammability and toxicity:** Vertrel™ MCA specialty fluid exhibits no closed-cup or open-cup flash point, and is not classified as a flammable liquid by NFPA or DOT. In addition, the product has no vapor flammability limits in air.

**Call or email us to get the right product for your application!
1-800-264-7793 / sales@rmimfg.com**



RATERMANN CRYOGENICS

Lance Loper, National Sales Manager
of Ratermann Cryogenics.

RMICRYO.COM

Lance Loper is National Sales Manager of Ratermann Cryogenics. Lance has nearly 20 years of experience in the CO2 and Cryogenic Marketplace. He has both vast technical knowledge of all cryogenic systems and applications, as well as true hands on experience that will help answer your cryogenic questions and provide you with solutions. Ratermann Cryogenics objective is to provide our customers with a full product offering to service Cryogenic and LNG Bulk tank and trailer manufacturers, installers, and refurbishers. We also offer a wide array of products to service and build air separation plants across North America and beyond. This will provide our customers with one point of contact for all of their product and application requirements. Ratermann Cryogenics has a full line of products to help manage any cryogenic application and a team of technical experts to help you with your systems while also providing the reliable delivery service that our customers require.

**For any Cryogenic questions please email
sales@rmicryo.com or give us a call (844) 341-3433**

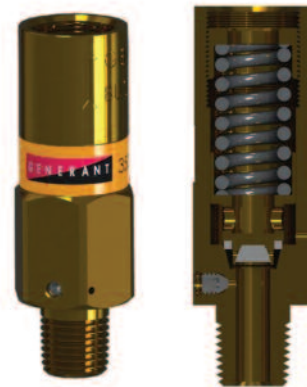


Shown above: Ratermann's range of high-performing valve packages have been developed to meet the changing needs of the industry.

Lance's Picks

(1) Generant CRB Relief Valve: Safety, Safety, Safety

If your company is looking for a great safety record in 2017 you should consider a new product we offer called the Generant CRB. This device is ideally suited for use as a "Blocked Line Safety" in cryogenic systems and on your bulk tanks. This valve is different from other pressure relief valves in the industry due to a unique bleed valve built into the valve. The bleed valve's porting configuration vents system pressure away from the operator so your techs can remove/install these SAFELY. If you're looking to change out your safety valves and want to put an end to the out dated removal style of block line safeties, use the Generant CRB "New" safe approach! These valves come in 1/4" - 1/2" sizes for all your application needs. Give us a call to try them out for yourself and see how happy you make your installers.



(2) Generant GDR Regulator: Balance the Pressure

Think about if you have ever got a call from a customer telling you their low or high pressure alarms are going off? Let us help put a stop to that with the Generant GDR regulator. The regulator balanced design helps with pressure fluctuation on the downstream side of your regulator due to pressure spikes on the inlet side. The Generant GDR regulator will keep your techs from having to make unnecessary service calls when pressure alarms go off. You can rest assured the regulator will keep running during most spikes your customer may see due to low tank pressures or those freezing temperatures some of us bundle up for in the winter. Don't let your techs use any regulator, when they can install Generant's GDR regulator that will decrease the phone calls to you and increase your customer's productivity.



(3) Herose Stainless Globe Valve: Look Good & Cut Down on Repairs

Have you ever looked at your bulk tank after 5 years and thought to yourself "Wow, it sure has aged?" If you notice, customers do too. This may even prompt them to think about switching suppliers. The way to fix that is by having your tanks equipped with the Herose 01341 all stainless globe valves. The Herose valves will give a nice face lift to all your bulk tanks and trailers. This globe valve is being used all around the world and helps preserve the piping structure of the tank. Once the tank has been in service for years, down time for tanks needing repairs can be cut in half with easy to install Herose parts. Herose's stainless valves will keep your tanks looking new and your customer's believing they have the best equipment in town.



Click here to request additional information

reliably **RATERMANN** Giving Our Customers Solutions

Our Claims & Why They Matter



reliable people.

What's most gratifying for me is that our claims are not something we had to create. We're very fortunate that we did not have to sit down and ask ourselves "How do we come up with a brand identity?"

This new branding represents a culmination of how our company has developed over the last 20 years and our identity was created by simply listening to our customers and being committed to servicing their needs.

Brent Lockhart - Vice President



reliable solutions.

Throughout the years we've had many conversations about what we stand for at Ratermann and it always comes back to a couple of basic principles. First and foremost it's our people and how we all treat our customers to make sure they have a great buying experience. We always say "It's not just about what we sell, but how we sell it." At Ratermann, we don't just sell products for our own benefit, we give our customers solutions.

George Ratermann - President



reliable delivery.

For more information about what Ratermann Mfg. stands for check out rmi.rmimfg.com/videos.

