

reliably **RATERMANN**



1500L

| Specifications | 1500 Liter |
|---|---------------|
| Height (inches) | 88.60 |
| Foot Print (L x W) (inches) | 63.00 x 63.00 |
| Pallet base (L x W) (inches) | 59.00 x 59.00 |
| Empty Weight with pallet (pounds) | 2,976 |
| CAPACITY | |
| Liquid (Liters) Gross | 1,500 |
| Liquid (Liters) Net | 1,290 |
| Liquid (Gallons) Gross | 396 |
| Liquid (Gallons) Net | 341 |
| Gas capacity (ft³) Nitrogen | 29,470 |
| Gas capacity (ft³) Oxygen | 36,338 |
| Gas capacity (ft³) Argon | 35,561 |
| Gas capacity (ft³) Carbon Dioxide (CO ₂) *(1) | 25,550 |
| Capacity (Lbs) Carbon Dioxide (CO ₂) *(1) | 2,923 |
| PERFORMANCE | |
| NER (% /day LN ₂) | ≤0.8% |
| NER (Lb/day) Carbon Dioxide (CO ₂) | ≤2.8 |
| Gas Flow (scfh) N ₂ , O ₂ , Ar | 2,471 |
| Gas Flow (scfh) Carbon Dioxide (CO ₂) *(1) | 927 |
| Gas Flow (Lb/hr) Carbon Dioxide (CO ₂) *(1) | 113 |
| PRESSURE RATINGS | |
| Max. Pressure relief setting (psig) | 500 |
| Operating Pressure (psig) | 450 |
| Design Specification | 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.



2000L

| Specifications | 2000 Liter |
|---|---------------|
| Height (inches) | 115.00 |
| Foot Print (L x W) (inches) | 63.00 x 63.00 |
| Pallet base (L x W) (inches) | 59.00 x 59.00 |
| Empty Weight with pallet (pounds) | 3,401 |
| CAPACITY | |
| Liquid (Liters) Gross | 2,080 |
| Liquid (Liters) Net | 1,830 |
| Liquid (Gallons) Gross | 550 |
| Liquid (Gallons) Net | 483 |
| Gas capacity (ft³) Nitrogen | 41,806 |
| Gas capacity (ft³) Oxygen | 51,549 |
| Gas capacity (ft³) Argon | 50,447 |
| Gas capacity (ft³) Carbon Dioxide (CO ₂) *(1) | 36,245 |
| Capacity (Lbs) Carbon Dioxide (CO ₂) *(1) | 4,416 |
| PERFORMANCE | |
| NER (% /day LN ₂) | ≤0.8% |
| NER (Lb/day) Carbon Dioxide (CO ₂) | ≤3.8 |
| Gas Flow (scfh) N ₂ , O ₂ , Ar | 2,825 |
| Gas Flow (scfh) Carbon Dioxide (CO ₂) *(1) | 1,060 |
| Gas Flow (Lb/hr) Carbon Dioxide (CO ₂) *(1) | 130 |
| PRESSURE RATINGS | |
| Max. Pressure relief setting (psig) | 500 |
| Operating Pressure (psig) | 450 |
| Design Specification | ASME VIII-1 |

*(1) Bulk (CO $_2$) Package Required: Package includes bulk CO $_2$ flange and bulk CO $_2$ CGA inlet, Orange Research gauge with Buna seals



3000L

| Specifications | 3000 Liter |
|---|---------------|
| Height (inches) | 121.00 |
| Foot Print (L x W) (inches) | 75.00 x 75.00 |
| Pallet base (L x W) (inches) | 66.00 x 66.00 |
| Empty Weight with pallet (pounds) | 4,404 |
| CAPACITY | |
| Liquid (Liters) Gross | 3,000 |
| Liquid (Liters) Net | 2,580 |
| Liquid (Gallons) Gross | 793 |
| Liquid (Gallons) Net | 682 |
| Gas capacity (ft³) Nitrogen | 58,940 |
| Gas capacity (ft³) Oxygen | 72,677 |
| Gas capacity (ft³) Argon | 71,123 |
| Gas capacity (ft³) Carbon Dioxide (CO2) *(1) | 51,099 |
| Capacity (Lbs) Carbon Dioxide (CO ₂) *(1) | 5,846 |
| PERFORMANCE | |
| NER (% /day LN ₂) | ≤0.8% |
| NER (Lb/day) Carbon Dioxide (CO ₂) | ≤4.0 |
| Gas Flow (scfh) N ₂ , O ₂ , Ar | 2,825 |
| Gas Flow (scfh) Carbon Dioxide (CO ₂) *(1) | 1,060 |
| Gas Flow (Lb/hr) Carbon Dioxide (CO ₂) *(1) | 130 |
| PRESSURE RATINGS | |
| Max. Pressure relief setting (psig) | 500 |
| Operating Pressure (psig) | 450 |
| Design Specification | ASME VIII-1 |

*(1) Bulk (CO $_2$) Package Required: Package includes bulk CO $_2$ flange and bulk CO $_2$ CGA inlet, Orange Research gauge with Buna seals

All specifications are subject to change without prior notice.

All dimensions are measured from the floor to the top of the tank.



6000L

| Specifications | 6000 Liter |
|---|-----------------|
| Height (inches) | 130.00 |
| Foot Print (L x W) (inches) | 112.00 x 112.00 |
| Pallet base (L x W) (inches) | 94.50 x 94.50 |
| Empty Weight with pallet (pounds) | 9,480 |
| CAPACITY | |
| Liquid (Liters) Gross | 6,000 |
| Liquid (Liters) Net | 5,400 |
| Liquid (Gallons) Gross | 1,585 |
| Liquid (Gallons) Net | 1,426 |
| Gas capacity (ft³) Nitrogen | 123,362 |
| Gas capacity (ft³) Oxygen | 152,112 |
| Gas capacity (ft³) Argon | 148,860 |
| Gas capacity (ft³) Carbon Dioxide (CO₂) *(1) | 106,953 |
| Capacity (Lbs) Carbon Dioxide (CO ₂) *(1) | 12,236 |
| PERFORMANCE | |
| NER (% /day LN ₂) | ≤0.45% |
| NER (Lb/day) Carbon Dioxide (CO ₂) | ≤5.6 |
| Gas Flow (scfh) N ₂ , O ₂ , Ar | 3,531 |
| Gas Flow (scfh) Carbon Dioxide (CO ₂) *(1) | 1,900 |
| Gas Flow (Lb/hr) Carbon Dioxide (CO ₂) *(1) | 218 |
| PRESSURE RATINGS | |
| Max. Pressure relief setting (psig) | 500 |
| Operating Pressure (psig) | 450 |
| Design Specification | ASME VIII-1 |

ARCTIC FOX® TANK FEATURES

ALL STAINLESS STEEL, MIRROR FINISH CONSTRUCTION.



Stainless Steel. Mirror Finish



DV6R Vacuum ProbeEasily check the tanks vacuum.



Built In Vaporizer Robust gas use vaporizer



Pressure Building Vaporizer



Top & Bottom FillTop and bottom fill capabilities



Content GaugesEasy to read gauges, isolation valves, includes convenient mounting plate.



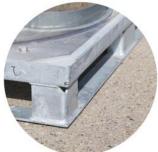
Herose Divertor Valve
With redundant 1/2" ASME relief
valves with pipeaway and burst
disc.



Lifting Lugs



1" Auxiliary Liquid Port



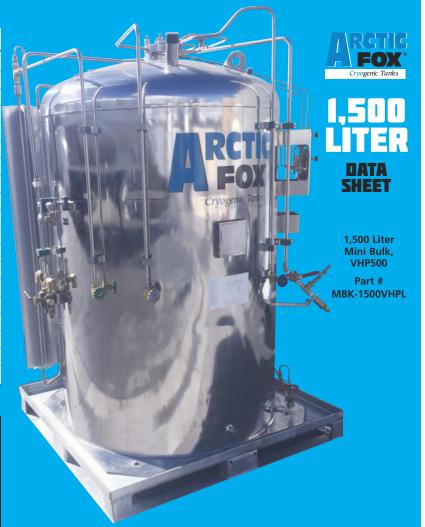
Galvanized Pallet Tank
Tank Base designed with built in
forking slots, access holes for
bolting tank down, galvanized for
long life and protection from rust.

ARCTIC FOX® TOP & BOTTOM FILL TANK FEATURES

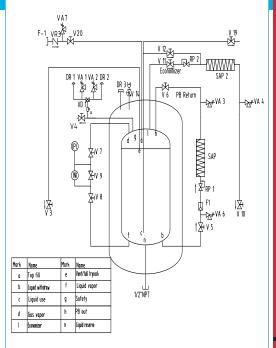


| Features of the 1,500 Liter Series Arctic Fox ^o | 1500 Liter |
|--|---------------|
| DV6R Vacuum Probe | V |
| Top fill capability with Micro bulk CGA connection | V |
| Top/Bottom bulk fill connection w/inline checks & oversized plumbing for rapid fill times. | |
| High gas output capacity | V |
| Excellent NER and product retention | V |
| External Pressure building system for rapid recovery | V |
| Vaporizer with high volume gas output capability included | V |
| Isolation valves for all components for field repairs with minimal product loss. | V |
| 2" Pressure gauge and 3 1/2" easy to read Liquid level gauge | V |
| Port for testing annular vacuum levels | V |
| VHP (500 psi) gas service with other service pressures available | V |
| Strainer protected PB Regulator | V |
| Liquid withdraw options | V |
| Mounting provisions for your telemetry unit | V |
| Dual vent lines for rapid blow down capability | V |
| Dual ½" x 1" safeties with Heavy Duty divertor valve | V |
| Small footprint galvanized skid included | V |
| 5 Year warranty on the vacuum | V |
| 1 year parts and labor | V |

| Specifications | 1500 Liter |
|---|---------------|
| Height (inches) | 88.60 |
| Foot Print (L x W) (inches) | 63.00 x 63.00 |
| Pallet base (L x W) (inches) | 59.00 x 59.00 |
| Empty Weight with pallet (pounds) | 2,976 |
| CAPACITY | |
| Liquid (Liters) Gross | 1,500 |
| Liquid (Liters) Net | 1,290 |
| Liquid (Gallons) Gross | 396 |
| Liquid (Gallons) Net | 341 |
| Gas capacity (ft³) Nitrogen | 29,470 |
| Gas capacity (ft³) Oxygen | 36,338 |
| Gas capacity (ft³) Argon | 35,561 |
| Gas capacity (ft³) Carbon Dioxide (CO₂) *(1) | 25,550 |
| Capacity (Lbs) Carbon Dioxide (CO ₂) *(1) | 2,923 |
| PERFORMANCE | |
| NER (% /day LN ₂) | ≤0.8% |
| NER (Lb/day) Carbon Dioxide (CO ₂) | ≤2.8 |
| Gas Flow (scfh) N ₂ , O ₂ , Ar | 2,471 |
| Gas Flow (scfh) Carbon Dioxide (CO ₂) *(1) | 927 |
| Gas Flow (Lb/hr) Carbon Dioxide (CO ₂) *(1) | 113 |
| PRESSURE RATINGS | |
| Max. Pressure relief setting (psig) | 500 |
| Operating Pressure (psig) | 450 |
| Design Specification | ASME VIII-1 |



1,500L VHP Flow Chart



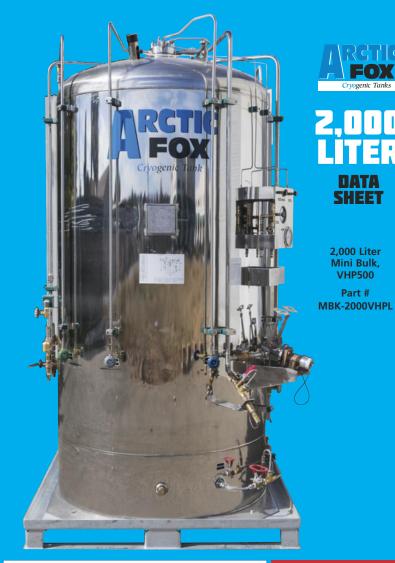
- Certification for medical Oxygen is available as an added option.
- CO2
 packages
 are available
 as an added
 option.

Please contact Ratermann Mfg., Inc. for additional information.

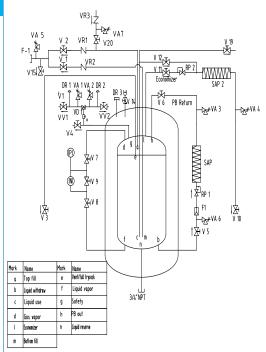
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| Features of the 2,000 Liter Series Arctic Fox° | 2000 Liter |
|--|---------------|
| DV6R Vacuum Probe | ✓ |
| Top fill capability with Micro bulk CGA connection | V |
| Top/Bottom bulk fill connection w/inline checks & oversized plumbing for rapid fill times. | V |
| High gas output capacity | V |
| Excellent NER and product retention | V |
| External Pressure building system for rapid recovery | ✓ |
| Vaporizer with high volume gas output capability included | ✓ |
| Isolation valves for all components for field repairs with minimal product loss. | V |
| 2" Pressure gauge and 3 1/2" easy to read Liquid level gauge | V |
| Port for testing annular vacuum levels | ✓ |
| VHP (500 psi) gas service with other service pressures available | V |
| Strainer protected PB Regulator | V |
| Liquid withdraw options | V |
| Mounting provisions for your telemetry unit | V |
| Dual vent lines for rapid blow down capability | ✓ |
| Dual ½" x 1" safeties with Heavy Duty divertor valve | V |
| Small footprint galvanized skid included | V |
| 5 Year warranty on the vacuum | V |
| 1 year parts and labor | V |

| | 2000 |
|---|---------------|
| Specifications | 2000 Liter |
| Height (inches) | 115.00 |
| Foot Print (L x W) (inches) | 63.00 x 63.00 |
| Pallet base (L x W) (inches) | 59.00 x 59.00 |
| Empty Weight with pallet (pounds) | 3,401 |
| CAPACITY | |
| Liquid (Liters) Gross | 2,080 |
| Liquid (Liters) Net | 1,830 |
| Liquid (Gallons) Gross | 550 |
| Liquid (Gallons) Net | 483 |
| Gas capacity (ft³) Nitrogen | 41,806 |
| Gas capacity (ft³) Oxygen | 51,549 |
| Gas capacity (ft³) Argon | 50,447 |
| Gas capacity (ft³) Carbon Dioxide (CO₂) *(1) | 36,245 |
| Capacity (Lbs) Carbon Dioxide (CO ₂) *(1) | 4,416 |
| PERFORMANCE | |
| NER (% /day LN ₂) | ≤0.8% |
| NER (Lb/day) Carbon Dioxide (CO ₂) | ≤3.8 |
| Gas Flow (scfh) N ₂ , O ₂ , Ar | 2,825 |
| Gas Flow (scfh) Carbon Dioxide (CO ₂) *(1) | 1,060 |
| Gas Flow (Lb/hr) Carbon Dioxide (CO ₂) *(1) | 130 |
| PRESSURE RATINGS | |
| Max. Pressure relief setting (psig) | 500 |
| Operating Pressure (psig) | 450 |
| Design Specification | ASME VIII-1 |



2,000L VHP Flow Chart



 Certification for medical Oxygen is available as an added option.

2,000 Liter Mini Bulk, VHP500 Part #

• CO2 packages are available as an added option.

Please contact Ratermann Mfg., Inc. for additional information.

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| Features of the 3,000 Liter Series Arctic Fox° | 3000 Liter |
|--|---------------|
| DV6R Vacuum Probe | V |
| Top fill capability with Micro bulk CGA connection | V |
| Top/Bottom bulk fill connection w/inline checks & oversized plumbing for rapid fill times. | V |
| High gas output capacity | V |
| Excellent NER and product retention | V |
| External Pressure building system for rapid recovery | V |
| Vaporizer with high volume gas output capability included | V |
| Isolation valves for all components for field repairs with minimal product loss. | V |
| 2" Pressure gauge and 3 1/2" easy to read Liquid level gauge | V |
| Port for testing annular vacuum levels | V |
| VHP (500 psi) gas service with other service pressures available | V |
| Strainer protected PB Regulator | V |
| Liquid withdraw options | V |
| Mounting provisions for your telemetry unit | V |
| Dual vent lines for rapid blow down capability | V |
| Dual ½" x 1" safeties with Heavy Duty divertor valve | V |
| Small footprint galvanized skid included | V |
| 5 Year warranty on the vacuum | V |
| 1 year parts and labor | V |

| ations 3000 Lite |) r |
|--|---------------------|
| hes) 121.00 | 0 |
| L x W) (inches) 75.00 x 7 | 5.00 |
| (L x W) (inches) 66.00 x 6 | 6.00 |
| ght with pallet (pounds) 4,404 | 1 |
| Y | |
| rs) Gross 3,000 |) |
| rs) Net 2,580 |) |
| lons) Gross 793 | |
| lons) Net 682 | |
| ty (ft³) Nitrogen 58,94 | 0 |
| ty (ft³) Oxygen 72,67 | 7 |
| ty (ft³) Argon 71,12 | 3 |
| ty (ft³) Carbon Dioxide (CO ₂) *(1) 51,09 | 9 |
| bs) Carbon Dioxide (CO ₂) *(1) 5,846 | 5 |
| MANCE | |
| ay LN ₂) ≤0.8% | % |
| y) Carbon Dioxide (CO_2) ≤ 4.0 |) |
| scfh) N ₂ , O ₂ , Ar 2,825 | 5 |
| scfh) Carbon Dioxide (CO ₂) *(1) 1,060 |) |
| Lb/hr) Carbon Dioxide (CO ₂) *(1) 130 | |
| RE RATINGS | |
| ure relief setting (psig) 500 | |
| Pressure (psig) 450 | |
| cification ASME VI | III-1 |
| cification CO ₂) Package Required: Package includes bulk CO CO ₂ CGA inlet, Orange Research gauge with Buna | ₂ flange |





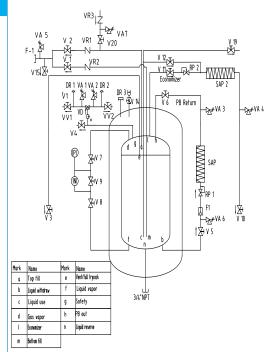
3,000 LITER

DATA

3,000 Liter Mini Bulk, VHP500

Part # MBK-3000VHPL

3,000L VHP Flow Chart



- Certification for medical Oxygen is available as an added option.
- CO2
 packages
 are available
 as an added
 option.

Please contact Ratermann Mfg., Inc. for additional information.

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| Specifications | 6000 Liter |
|---|----------------|
| Height (inches) | 130.00 |
| Foot Print (L x W) (inches) | 112.00 x 112.0 |
| Pallet base (L x W) (inches) | 94.50 x 94.50 |
| Empty Weight with pallet (pounds) | 9,480 |
| CAPACITY | |
| Liquid (Liters) Gross | 6,000 |
| Liquid (Liters) Net | 5,400 |
| Liquid (Gallons) Gross | 1,585 |
| Liquid (Gallons) Net | 1,426 |
| Gas capacity (ft³) Nitrogen | 123,362 |
| Gas capacity (ft³) Oxygen | 152,112 |
| Gas capacity (ft³) Argon | 148,860 |
| Gas capacity (ft³) Carbon Dioxide (CO₂) *(1) | 106,953 |
| Capacity (Lbs) Carbon Dioxide (CO ₂) *(1) | 12,236 |
| PERFORMANCE | |
| NER (% /day LN ₂) | ≤0.45% |
| NER (Lb/day) Carbon Dioxide (CO ₂) | ≤5.6 |
| Gas Flow (scfh) N ₂ , O ₂ , Ar | 3,531 |
| Gas Flow (scfh) Carbon Dioxide (CO ₂) *(1) | 1,900 |
| Gas Flow (Lb/hr) Carbon Dioxide (CO ₂) *(1) | 218 |
| PRESSURE RATINGS | |
| Max. Pressure relief setting (psig) | 500 |
| Operating Pressure (psig) | 450 |
| Design Specification | ASME VIII-1 |

Features of the 6,000 Liter Series Arctic Fox®

DV6R Vacuum Probe

High gas output capacity

Excellent NER and product retention

Port for testing annular vacuum levels

Mounting provisions for your telemetry unit

Small footprint galvanized skid included

5 Year warranty on the vacuum

1 year parts and labor

Dual vent lines for rapid blow down capability

Dual ½" x 1" safeties with Heavy Duty divertor valve

Strainer protected PB Regulator

Liquid withdraw options

Top fill capability with Micro bulk CGA connection

External Pressure building system for rapid recovery

Vaporizer with high volume gas output capability included

2" Pressure gauge and 3 1/2" easy to read Liquid level gauge

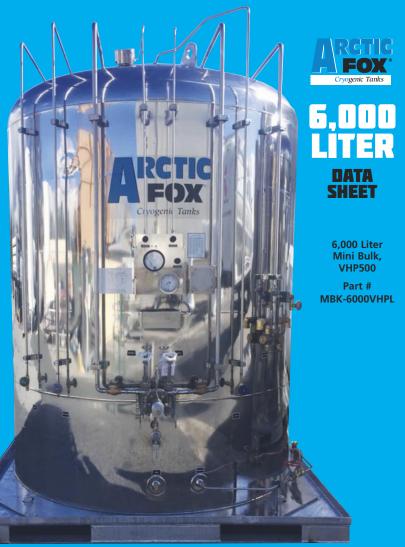
VHP (500 psi) gas service with other service pressures available

Isolation valves for all components for field repairs with minimal product loss.

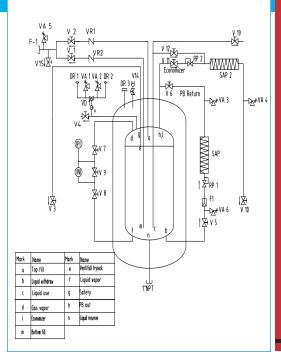
*(1) Bulk (CO₂) Package Required: Package includes bulk CO₂ flange and bulk CO₂ CGA inlet, Orange Research gauge with Buna seals

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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6,000L VHP Flow Chart



- Certification for medical Oxygen is available as an added option.
- CO2 packages are available as an added option.

Please contact Ratermann Mfg., Inc. for additional information.

TOP OR BOTTOM FILL? WHAT'S THE DIFFERENCE?



Ratermann Arctic Fox 6000L Top & Bottom Fill Tank

➤ One of Ratermann Manufacturing's Arctic Fox® tank, a highly functional

Arctic Fox® tank, a highly functional micro-bulk tank that holds cryogenic gases such as liquid nitrogen. The Arctic Fox tank comes in 2,000, 3,000, and 6.000 liter sizes and is built to Ratermann Manufacturing's specification. Key features include a heavy duty galvanized pallet base, safe and easy access control valves, lifting lugs, content gauges, complete valve isolation package, and a high-quality mirror finish. The most unique feature is the top and bottom fill. This distinctive feature allows operators with a large cryogenic transport trailer to fill the Arctic Fox tank without stopping production, saving money and increasing efficiency. Numerous companies rely on Ratermann Manufacturing

Arctic Fox tanks to keep their business running smoothly.

- Pcryogenic tanks are typically filled from the top using the blow down method. The blow down method is when the pressure of the tank is reduced by blowing out the head pressure of the tank in order to fill it. Blowing down a tank wastes product and in turn costs money. Top filling also requires taking the tank offline or to not be used while it is being filled because the tank cant keep pressure, which causes the customer using the tank to shut down and stop their operation during filling.
- ► However, the Arctic Fox tank enables the user to simultaneously fill from the top and bottom, eliminating
- the need to use the less efficient blow down method. The bottom fill method keeps the pressure up, allowing the user to keep their equipment online and keeping their operation running since the Arctic Fox maintains the required pressure to keep operating. The top and bottom filling method does not require a tank to be blown down and therefore prevents loss of product during the filling process.
- ▶ For customers such as laser cutting facilities that use nitrogen gas in their machines to cut metal products, the Arctic Fox tank is invaluable as it permits operations and production to flow smoothly throughout the entire filling process. Because the top and bottom fill capability maintains the necessary pressure levels during the

WHY TOP FILL?

Top filling a tank requires the pressure of the tank to be reduced. In order to reduce the pressure in a tank the head pressure must be blown down or released from the tank. This wastes product. A tank must be taken off line and not in use while filling. This is the fastest way to fill but requires loss of product and stopping production of the equipment using the gas.











WHEN TO USE BOTH

Top and bottom filling at the same time combines the benefits from top filling and bottom filling. By filling top and bottom, the tank fills faster without needing to waste product by blowing down the head pressure and doesn't require the tank to go offline so machines using the gas can keep operating during filling.



bulk filling hose

Bottom filling does not require you to reduce the pressure of the tank. The tank can keep operating while being filled keeping equipment up and running. Bottom filling takes longer than top filling.

filling process, the user can continue production without halting the use of the gas. This ensures a seamless filling period for the customer unlike the process required by other tanks that rely on the top fill method.

- ▶ Additionally, the Arctic Fox tank features different hookup options. This flexibility allows multiple types of trucks to connect to fill the tank, including conventional micro bulk trucks with a standard cryogenic hose and those with an inch and a half bulk hose. This way, users aren't limited in what kind of trucks they can use to fill their tanks.
- ▶ Throughout the entire process, the operator has complete control over the pressure of the Arctic Fox tank. With top and bottom filling capability, filling is much faster than any other method. And users can complete rapid tank fills without the use of specialized proprietary pumping equipment. The Arctic Fox tank was designed for filling to be a seamless and efficient process.
- ► With the Ratermann Manufacturing Arctic Fox tank you will be able to maximize both production and

efficiency while minimizing costs to your customer's company. The Arctic Fox tank's top and bottom fill feature and duel blow down vents ushers in a smarter, faster and overall more efficient way to fill tanks allowing companies to fill tanks faster and make more deliveries per day.

► Contact Ratermann Manufacturing today to see how the Arctic Fox tank can set you apart from the competition and take your business to the next level.



ARCTIC FOX The Arctic Fox Tank is functionally and aesthetically designed and suited to serve virtually any cryogenic application, from Semi-conductor fabrication to Metal fabrication. The Arctic Fox Tank has many advanced features designed in a compact attractive package.

Tank Sizes: 1500L / 2000L/ 3000L/ 6000L

See all the features at rmimfg.com/cryogenic-equipment

