



OUR LINE OF HIGH & LOW PRESSURE IS THE PERFECT FIT FOR OPERATIONS REQUIRING THE CONVERSION OF CRYOGENIC LIQUIDS TO GAS

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MANY VAPORIZERS IN STOCK READY TO SHIP THE SAME DAY





We can assist you with large and small vaporizer applications across the United States, Canada and Mexico.

CALL US
TO WORK WITH
YOU TO DESIGN
AND ENGINEER
THE RIGHT VAPORIZING
EQUIPMENT FOR YOU.

Let us help you
design and
engineer the
installation of the
right vaporizing
equipment for your
application and
temperature zone.



Popular
sizes
"in stock"
ready for
delivery!



Whether you are looking
for an engineered special
application vaporizer or
one from our stock

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IS THE
BEST SOURCE FOR
YOUR VAPORIZER.



HOW TO SIZE A VAPORIZER FOR FLOW RATE ON A LIQUID CYLINDER



When Do You Need a Vaporizer?

If the demand of gas needed (also known as flow rate) is higher than the output of a liquid cylinder the pressure and flow rate will drop. Adding a vaporizer to the liquid cylinder increases the flow rate of the liquid cylinder while keeping the same pressure. Meaning the flow rate and pressure stays constant.

For a Longer explanation: A typical 160 liter cryogenic liquid container with a medium pressure has an output of about 350 standard cubic feet per hour of liquid nitrogen. After the first hour of operating, the output of the dewar starts to slow because the container becomes cold. Warm air allows the container to convert the liquid into gas quickly.

The lack of warm air drops the output of the tank after the 1st hour of use. If more than 350 standard cubic feet of liquid nitrogen is needed per hour, the dewar would be unable to keep up with the demand. The tank would start to over draw the vaporization. A scenario such as this is when you would use a vaporizer. A vaporizer allows you to continue to convert liquid into gas for long periods of time as oppose to being limited to a liquid cylinders standard output. If customers need a higher flow rate, a vaporizer can be attached to the liquid container and will generate a higher flow rate for a longer period of time.



RATERMANN CRYOGENIC VAPORIZERS

Let us help you design and engineer the installation of the right vaporizing equipment for your application and temperature zone.



**Many Vaporizers
IN STOCK
Ready to Ship
the Same Day.**

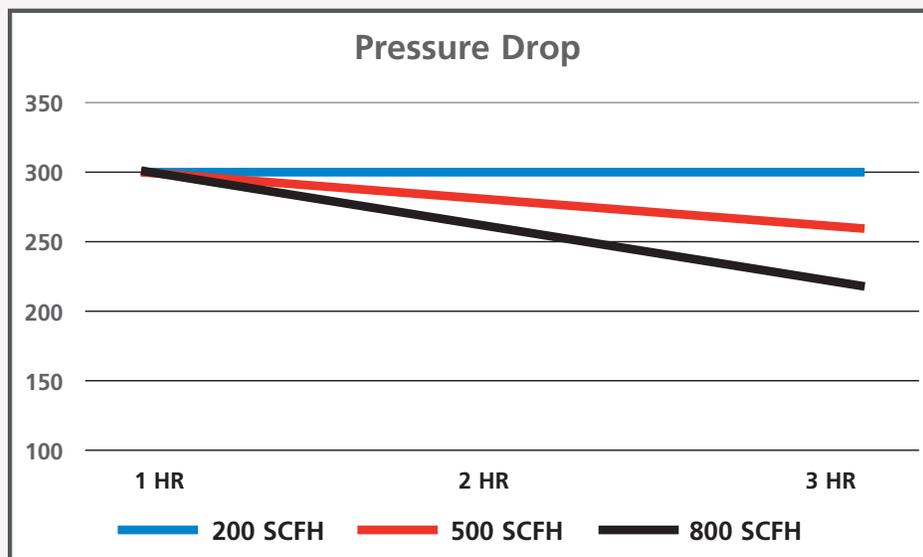
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Flow Rates Using a Liquid Cylinder



Flow Rate Using Liquid Cylinders Built in Vaporizing Coil

Graph demonstrates pressure drop of liquid cylinder not using a vaporizer but instead using built in pressure builder of liquid cylinder.



A liquid cylinder converting liquid into gas uses the vaporizer built into the liquid cylinder also known as the vaporizing coil and pressure building coil. The regulator is hooked up to the gas outlet. The pressure and flow rate drops when the demand exceeds the output capability of the vaporizing coil.

Flow Rate Using a Liquid Cylinder with an External Ambient Intermittent Air Vaporizer

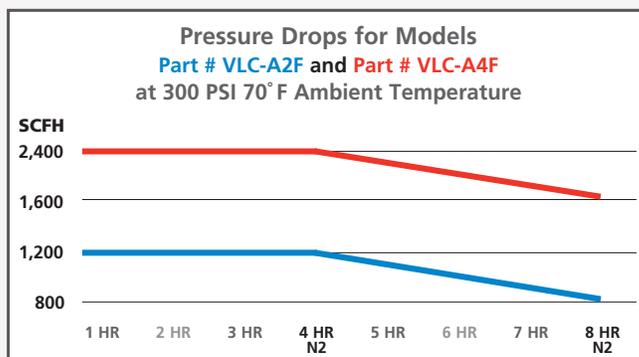
Graph shows the flow rate of liquid cylinders using an ambient intermittent air vaporizer in 4 & 8 hour time periods of continuous use at ambient air temperature of 70° Fahrenheit. (SCFH = Standard Cubic Feet Per Hour)

4 & 8 Hour Pressure Drops for Ambient Intermittent Vaporizer

Part Number	4 Hour N2 Capacity (SCFH) 300 PSI 70° F	8 Hour N2 Capacity (SCFH) 300 PSI 70° F
VLC-A2F	1,200	800
VLC-A4F	2,400	1,600

A liquid cylinder using an ambient vaporizer is connected through the liquid use valve of the cylinder into the vaporizer. The vaporizer is hooked up to the regulator which supplies the gas. The drop in pressure through the vaporizer is typically 1%. For example, if the liquid going into the vaporizer is around 300 PSI the gas would be at 297 PSI output.

*** hose connections & regulators available separately**



If using for 24 or 48 Continuous Hours at 300psi 70° F:

Part Number	24 Hour N2 Capacity (SCFH)	48 Hour N2 Capacity (SCFH)
VLC-A2F	640	510
VLC-A4F	1,280	1,020

The numbers shown in the graphs above are average values. The conditions of the liquids and/or the ambient conditions (outside temperature) may cause the values to differ.



Shown here is a Taylor-Wharton XL-50 Liquid Cylinder with attached vaporizer**, part number VLC-A2F.

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Liquid Cylinder Ambient Vaporizers Options

LIQUID CYLINDER AMBIENT VAPORIZERS OPTIONS

Liquid Cylinder Ambient Intermittent Vaporizers Increase Vapor Withdrawal Rates for Any Type of Cryogenic Liquid Cylinder.

Our Vaporizers attach directly to the liquid withdrawal connection to economically boost withdrawal ratings.

STANDARD FEATURES

- Each Unit is cleaned, sealed and tagged for Oxygen service.
- 600 PSIG MAWP standard.
- Compliant with ASME B31.3
- Free Standing or hangs on your cylinder.
- Ships fully assembled, tested and ready to use.
- **In stock and ready to ship**

OPTIONS

- Cryogenic Flex Hose
- Pre-installed relief Valve with set points from 100 to 600 PSIG
- Stainless Steel lined
- EU/PED code compliance

Our Liquid Cylinder Vaporizer Installs in Minutes.



Part # VLC-A4F

Shown here is a Taylor-Wharton XL-50 Liquid Cylinder with attached vaporizer, part number VLC-A4F, plus optional pressure relief assembly.

Intermittent Ambient Air Vaporizers for Liquid Cylinders

RMI Part Number	Connections	MAWP (PSI)	Flow Rate SCFH (N2)	Weight (lbs)
VLC-A2F	1/2 FNPT	600	1200	53
VLC-A4F	1/2 FNPT	600	2400	96

Accessories

Part #	Description
FPAM12C440CH48	Oxygen Cryo Hose, Armored, 4 feet, CGA 440 x 1/2 Male NPT
FPAM12C295CH48	Inert Cryo Hose, Armored, 4 feet, CGA 295 x 1/2 Male NPT
VAP-PR100	Pressure Relief Assembly, 100PSI
VAP-PR150	Pressure Relief Assembly, 150PSI
VAP-PR200	Pressure Relief Assembly, 200PSI
VAP-PR300	Pressure Relief Assembly, 300PSI
VAP-PR400	Pressure Relief Assembly, 400PSI
VAP-PR500	Pressure Relief Assembly, 500PSI
VAP-PR600	Pressure Relief Assembly, 600PSI

Rev: 10/1/20

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Standard LOW PRESSURE Aluminum Ambient Vaporizers

When delivering your cryogenic products, our vaporizers provide you the safety, economy and efficiency you expect!

Designed to function with cryogenic tanks, our line of high and low-pressure vaporizers is the perfect fit for operations requiring the conversion of cryogenic liquids to gas. We offer a full range of models with, but not limited to, over 20 different sizes to suit your various needs as well as custom applications. Our vaporizers are manufactured with economy and efficiency in mind. Our low-pressure, ambient, cryogenic vaporizer line is designed for a maximum pressure of 600 PSI. Our standard high-pressure line is built with a stainless steel lining and is designed for a maximum allowable pressure of 6,000 PSI. Monel lined models are also available. The pressure-building vaporizers are designed for a 600 PSI maximum.



LOW PRESSURE VAPORIZERS - 600 PSI

Standard LOW PRESSURE Aluminum Ambient Vaporizers

LOW PRESSURE VAPORIZERS - 600 PSI

reliably

RATERMANN

IS ON THE MOVE AS THE BEST SOURCE FOR ALL YOUR VAPORIZER NEEDS.



LOW PRESSURE VAPORIZERS - 600 PSI Standard Low Pressure Aluminum Ambient Vaporizers

FEATURES

- Low & High-Pressure and Pressure-Building Models
- Fins Designed for Maximum Surface Area
- Wide-Gap Design for Superior Air Flow
- Customized Models Available for Special Applications
- Simple Assembly
- No Welding Required
- Expandable, Modular Design
- Stackable with No Crating Required
- Custom Accessories Available

Most Common

Low Pressure Aluminum Ambient Vaporizers, 600 PSI

RMI Part Number	Connections	MAWP (PSI)	Flow Rate SCFH (N2)	Dimensions
VP-LP02-1MNPT	1" MNPT	600	2,000	20 7/16 L x 21 1/2 W x 152 1/16 Tall
VP-LP03-1MNPT	1" MNPT	600	3,200	32 5/8 L x 21 1/2 W x 152 1/16 Tall
VP-LP07-1MNPT	1" MNPT	600	7,000	44 11/16 L x 33 5/8 W x 152.0625 Tall
VP-LP10-1MNPT	1" MNPT	600	10,000	
VP-LP15-1.5FLG	1.5" Mueller	600	15,000	2'-3 1/4" W x 6'-4 9/16" L

Low Pressure Aluminum Ambient Vaporizers, 600 PSI

RMI Part Number	Connections	MAWP (PSI)	Flow Rate SCFH (N2)	Dimensions
VP-LP0.75-1MNPT	1" MNPT	600	750	
VP-LP05-1MNPT	1" MNPT	600	5,000	44 11/16 L x 21 1/2 W x 152.0625 Tall
VP-LP20-1.5FLG	1.5" Mueller	600	20,000	4'-3 7/8" W x 5'-4 3/4" L
VP-LP25-1.5FLG	1.5" Mueller	600	25,000	3'-5 5/8" W x 3'-10 7/8" L
VP-LP30-1.5FLG	1.5" Mueller	600	30,000	3'5 5/8" W x 4'11" L
VP-LP40-2FLG	2" Mueller	600	40,000	
VP-LP50-2FLG	2" Mueller	600	50,000	

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Rev: 10/20/20, 1/24/20

HIGH PRESSURE Vaporizers, Automatic Switching Systems

HIGH PRESSURE VAPORIZERS – 4,500 PSI

High Pressure Stainless Steel and Monel Ambient Vaporizers / Pressure Building Models

Many different sizes to suit your various needs as well as custom applications.



HIGH PRESSURE VAPORIZERS – 4,500 PSI

HIGH Pressure Stainless Steel Ambient Vaporizers 4,500 PSI

RMI Part Number	Connections	MAWP (PSI)	Flow Rate SCFH (N2)
VP-HP09-12FNPT	1/2" FNPT	4500	9260
VP-HP13-12FNPT	1/2" FNPT	4500	13800
VP-HP18-12FNPT	1/2" FNPT	4500	18200
VP-HP23-12FNPT	1/2" FNPT	4500	23300
VP-HP28-12FNPT	1/2" FNPT	4500	28500
VP-HP32-12FNPT	1/2" FNPT	4500	32000

HIGH Pressure Monel Ambient Vaporizers 4,500 PSI

RMI Part Number	Connections	MAWP (PSI)	Flow Rate SCFH (N2)
VP-HPM09-12FNPT	1/2" FNPT	4500	9260
VP-HPM13-12FNPT	1/2" FNPT	4500	13800
VP-HPM18-12FNPT	1/2" FNPT	4500	18200
VP-HPM23-12FNPT	1/2" FNPT	4500	23300
VP-HPM28-12FNPT	1/2" FNPT	4500	28500
VP-HPM32-12FNPT	1/2" FNPT	4500	32000

Pressure Building Models

RMI Part Number	Description	Connections	MAWP (PSI)	Cryo Vessel Design Size	Weight (lbs)	Dimensions inches (L,W,H)
VP-PB1500-1MNPT	Pressure Building Vaporizer for 1,500 Gal size Cryo Vessel	1" MNPT	600	1,500 Gal	7	36 x 20 x 8
VP-PB3000-1MNPT	Pressure Building Vaporizer for 3,000 Gal size Cryo Vessel	1" MNPT	600	3,000 Gal	10	48 x 20 x 8
VP-PB6000-1MNPT	Pressure Building Vaporizer for 6,000 Gal size Cryo Vessel	1" MNPT	600	6,000 Gal	14	36 x 44 x 8
VP-PB9000-1MNPT	Pressure Building Vaporizer for 9,000-11,000 Gal size Cryo Vessel	1" MNPT	600	9,000-11,000 Gal	34	72 x 44 x 8

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Vaporizer Automatic Switching Systems

The system allows automatic switch-over from a vaporizer that has become inefficient (due to frost build-up) to an alternate frost free vaporizer that is ready for peak performance. By using this, the customer requires fewer vaporizers, thus reducing cost and space requirements.

This system features two Worcester Controls cryogenic ball valves (Model C4416PMSE with Series 75 electrical actuator model 1075W). Maximum flows (considering liquid oxygen at 75 PSI inlet) are: 1" valve-21.0 GPM and 1-1/2" valve-53.2 GPM.

Also featured is a 10" x 12" NEMA-4 electrical control panel with weather-proof enclosure, one system-ready indicator light, and an adjustable interval timing relay, with a range from minutes to hours. A low temperature switch on the downstream gas side of the system is optional.

Vaporizer Single Switching Station

Part Number	Description
FB-F42-13732	Vaporizer Single Switching Station with 1-1/2" Electrically Activated Divertor Valve



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**YOU'LL NEVER
SEE A TANK
THE SAME
WAY.**

**ARCTIC
FOX**[®]
Cryogenic Tanks

**STAINLESS STEEL
MIRROR FINISH**

See Section 30A



2021
NEW
PRODUCTS
coming
soon

Electric Vaporizers – Pressure Build

No frost build-up around heater terminals

ADVANTAGES

- Extremely low pressure drop
- Minimal heat input when unit non-operational
- Heater casting replaceable without breaking into fluid passages
- U.L. listed components
- No frost build-up around heater terminals

STANDARD FEATURES

- Complete separation of electrical and plumbing systems
- Minimal heat input when unit non-operational
- Accurate temperature control
- Silicone rubber-sealed heater terminals
- Circuit breaker disconnect with door interlock
- High-temperature limit protection on each heater segment
- Capacities to 90 KW in a single cabinet
- NEMA 4 electrical enclosure
- Pilot light indicators
- Pressure switch
- Solenoid valve or pneumatic actuated ball valve

OPTIONS

- NEMA 3R electrical enclosure
- Inlet strainer
- Connection for blow down valve
- Solid state relay (SSR) heater drive with digital PID controller
- Dry contact terminals for indication and remote switching
- Custom inlet and outlet connections or fittings
- Temperature indicating controller
- Alarms to indicate low pressure or temperature
- Special temperature controls from -305°F to +600°F
- Special non-standard voltages & frequencies up to 575V
- UL-508 electrical cabinets, CL1, DIV 2 explosion proof purge systems
- International compliance capability



SPECIFICATIONS –

ELECTRIC VAPORIZERS – PRESSURE BUILD

Model	Kilowatts	N2, O2, Ar SCFH	CO2 LBS / Hour
CX-MPBU-6	8-10	3000	to 170
CX-PBU240/480C-15-.5	15	3500	200
CX-PBU240/480C-15-.5-XX-DC	15	7000	400
CX-PBU240/480C-30-.5	30	14000	800
CX-PBU240/480C-45-.5	45	21000	1200
CX-PBU240/480C-60-.5	60	28000	1600
CX-PBU240/480C-75-.8	75	35000	2000
CX-PBU240/480C-90-.5	90	42000	2400

Electric Vaporizers – Direct to Process

Direct to Process Vaporizer

ADVANTAGES

- Minimal heat input when unit non-operational
- Heater casting replaceable without breaking into fluid passages
- U.L. listed components
- No frost build-up around heater terminals

STANDARD FEATURES

- Heater casting replaceable without breaking into fluid passages
- NEMA 4 electrical enclosure
- Complete separation of electrical and plumbing systems
- Accurate temperature control
- Silicone rubber-sealed heater terminals
- Circuit breaker disconnect with door interlock
- High-temperature limit protection on each heater segment
- Capacities to 180 KW in a single cabinet

OPTIONS

- NEMA 3R electrical enclosure
- Low outlet gas temperature cut-off / bypass systems with electric solenoid valves
- Low pressure cut-off system with electric solenoid valves
- Solid state relay (SSR) heater drive with digital PID controller
- Dry contact terminals for indication and remote switching
- Custom inlet and outlet connections or fittings
- Temperature indicating controller
- Alarms to indicate low pressure or temperature
- Special temperature controls from -305°F to +600°F
- Special non-standard voltages & frequencies up to 575V
- UL-508 electrical cabinets, CL1, DIV 2 explosion proof purge systems
- International compliance capability



SPECIFICATIONS –

DIRECT TO PROCESS ELECTRIC VAPORIZERS

Model No (240 / 480 volts)	Kilowatts	He SCFH	N2, O2, Ar SCFH	CO2 lbs./hr
CX-MV-6	8-10	to 2,800	to 1,300	to 150
CX-240/480C-15-.5-CO2	15	7,150	3,450	375
CX-240/480C-30-.5-CO2	30	14,300	6,900	750
CX-240/480C-45-.5-CO2	45	21,450	10,350	1,125
CX-240/480C-60-.5-CO2	60	28,600	13,800	1,500
CX-240/480C-75-.5-CO2	75	35,750	17,250	1,875
CX-240/480C-90-.5-CO2	90	42,900	20,700	2,250
CX-480C-105-.5-CO2	105	50,050	24,150	2,625
CX-480C-120-.5-CO2	120	57,200	27,600	3,000
CX-480C-135-.5-CO2	135	64,350	31,050	3,375
CX-480C-150-.5-CO2	150	71,500	34,500	3,750
CX-480C-165-.5-CO2	165	78,650	37,950	4,125
CX-480C-180-.5-CO2	180	85,800	41,400	4,500

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Electric Vaporizers – Mini Series

Ideal for small flow applications

ADVANTAGES

- Minimal heat input when unit non-operational
- Designed for cryogenic applications where minimal power is required
- U.L. listed components
- No frost build-up around heater terminals
- Compatible with all cryogenic fluids
- Three types — Pressure Builder, Vaporizer, Gas Heater
- Ideal for small flow applications
- Available in 120V to 575V configurations with power ratings from 2kW to 15 kW

STANDARD FEATURES

- Standard design pressure 500 PSIG
- Complete separation of electrical and plumbing systems
- Accurate temperature control
- Silicone rubber-sealed heater terminals
- High-temperature limit protection on each heater segment
- Pilot light indicators
- Fluid path type 304 stainless steel
- NEMA 4 electrical enclosure
- Adjustable temperature ranges from 0°F to +110°F (higher temperature ranges available up to 400°F)

OPTIONS

- NEMA 3R electrical enclosure
- Explosion proof housings
- Low outlet gas temperature cut-off / bypass systems with electric solenoid valves
- Low pressure cut-off system with electric solenoid valves
- Solid state relay (SSR) heater drive with digital PID controller
- Temperature indicating controllers
- High pressure applications to 10,000 PSI
- High purity applications



SPECIFICATIONS –

ELECTRIC VAPORIZERS – MINI SERIES

Model	Kilowatts	CO2 lbs/hr	Connections NPT
CX-MV-6	2-15	to 150 lbs / hr	1/2"
CX-MPBU-6	2-15	to 170 lbs / hr	1/2" x 3/4"
CX-MGH-6	2-15	to 750 lbs / hr	1"
CX-MGH-6-DT	2-15	to 1500 lbs / hr	1"

Electric Vaporizers – Electric Trim Heaters

FOR AMBIENT & FORCED CONVECTION VAPORIZERS

STANDARD FEATURES

- Spare heating elements with single pour castings
- NEMA 4 electrical enclosure
- Accurate temperature control
- Silicone rubber-sealed heater terminals
- Circuit breaker disconnect with door interlock
- High-temperature limit protection on each heater segment
- Fluid path type 304 stainless steel
- Adjustable temperature ranges from 0°F to +110°F (higher temperature ranges available up to 400°F)
- Pilot light indicators



OPTIONS

- NEMA 3R electrical enclosure
- UL-508 electrical cabinets, CL1, DIV 2 explosion proof purge systems
- Solid state relay (SSR) heater drive with digital PID controller
- High pressure applications to 10,000 PSI
- High purity applications
- Custom inlet and outlet connections or fittings
- Temperature indicating controller
- Special temp controls from -360°F to +600°F
- Replaceable heating elements
- Special non-standard voltages & frequencies up to 575V
- International compliance capability

SPECIFICATIONS –

ELECTRIC VAPORIZERS – ELECTRIC TRIM HEATERS

Model No	Kilowatts	He SCFH	N2, O2, Ar SCFH	CO2 lbs./hr	Voltage
CX-HBA-ETH	0.5-3	5,000	3,500	to 250	120 - 240
CX-MGH-6 (ETH 240/480C-6-.5)	2-10	15,500	10,000	to 750	120 - 480
CX-MGH-6-DT	2-10	41,000	25,000	to 2000	120 - 480
CX-ETH 240/480C-10-.5	10	35,000	23,000	1,680	240 - 480
CX-ETH 240/480C-12-.5	12	41,000	25,000	2,000	240 - 480
CX-ETH 240/480C-15-.5	15	51,000	34,000	2,500	240 - 480
CX-ETH 240/480C-18-.5	18	60,000	40,500	2,950	240 - 480
CX-ETH 240/480C-20-.5	20	72,000	48,000	3,500	240 - 480
CX-ETH 240/480C-30-.5	30	103,000	68,500	5,000	240 - 480
CX-ETH 240/480C-42-.5	42	145,000	96,000	7,000	240 - 480

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2021
NEW
PRODUCTS
coming
soon



2021
NEW
PRODUCTS
coming
soon



2021
NEW
PRODUCTS
coming
soon

For Industrial Environments

Electric Gas Heater for Argon, Carbon Dioxide, Nitrogen, Nitrous Oxide and Oxygen

Adjustable temperature range for Heated Gas 5-200° for outgoing Gas. 3/8" Tube Connections is standard, requiring compression fittings*.

Our Electric Gas Heater is an excellent alternative to the throw away styles that have been used on CO2 high pressure bottle for years. When needing service, these heaters are able to be repaired, versus simply throwing the heater away and buying new.

Flow	up to 20,000 scfh
MAWP	4000 psig
Fluid	Gaseous Nitrogen / CO ₂ / Argon / Oxygen
Rise in Temp	up to 200°F
Operating Press	300 psig
Pressure Drop	3 to 5 psig at 3000 psig and full rated flow
Fluid Passages	304 Stainless Steel
Power Required	120 vac, single phase, 9 amps, 60 hertz
Watts	500 or 1,000
Inlet Conn.	3/8" tube
Outlet Conn.	3/8" tube
Dimensions	30 tall x 12" wide x 6" deep
Weight	~ 30 lbs.

* Unit available with optional Pipe Thread Connections



The unit generally includes the following:

- NEMA 4 Electrical Enclosure
- Aluminum heater assembly with replaceable heater element
- Outlet Gas Temperature Switch – range of -50 to +1200F
- Control circuit fuse

Electric Gas Heater

Part #	Description
EGH-1-500	500 Watt Version
EGH-1-1000	1,000 Watt Version

FOR INDUSTRIAL ENVIRONMENTS

Gas Cylinder Warmers

Specifications

- Heat and Insulates
- Self-Regulating Grounded Heating Element
- Maintains Bottom between 90° - 130° F
- Maintains Top between 80° - 120 F° F
- Moisture and Oil Resistant
- Ability to Fit Most Gas Cylinders
- Available in 120 or 240 volts
- Up to 150 Watts
- Model for Outdoor Use Available
- Available for Hazardous Locations (Class I Division I Groups C & D)

Available for Non-Hazardous & Hazardous Gas Applications



Electric Cylinder Warmers

Part #	Description
CYL-WM15X43-120V	Gas Cylinder Warmers, Basic 15" Diameter x 43" Height 120 Volts
CYL-WM15X43-240V	Gas Cylinder Warmers, Basic 15" Diameter x 43" Height 240 Volts
CYL-WM8X48-120V	Gas Cylinder Warmers, Basic 8" Diameter x 48" Height 120 Volts
CYL-WM8X48-240V	Gas Cylinder Warmers, Basic 8" Diameter x 48" Height 240 Volts
CYL-WM9X51-120V	Gas Cylinder Warmers, Basic 9" Diameter x 51" Height 120 Volts
CYL-WM9X51-240V	Gas Cylinder Warmers, Basic 9" Diameter x 51" Height 240 Volts
CYL-WMCSA10X47-120V	Cyl Warmers CSA Approved Haz Loc Class1 Div1 Grp C&D 10" Dia. 47" Ht. 120 Volts
CYL-WMCSA10X47-240V	Cyl Warmers CSA Approved Haz Loc Class1 Div1 Grp C&D 10" Dia. 47" Ht. 240 Volts
CYL-WMCSA15X43-120V	Cyl Warmers CSA Approved Haz Loc Class1 Div1 Grp C&D 15" Dia. 43" Ht. 120 Volts
CYL-WMCSA15X43-240V	Cyl Warmers CSA Approved Haz Loc Class1 Div1 Grp C&D 15" Dia. 43" Ht. 240 Volts
CYL-WMCSA8X48-120V	Cyl Warmers CSA Approved Haz Loc Class1 Div1 Grp C&D 8" Dia. 48" Ht. 120 Volts
CYL-WMCSA8X48-240V	Cyl Warmers CSA Approved Haz Loc Class1 Div1 Grp C&D 8" Dia. 48" Ht. 240 Volts
CYL-WMCSA9X51-120V	Cyl Warmers CSA Approved Haz Loc Class1 Div1 Grp C&D 9" Dia. 51" Ht. 120 Volts
CYL-WMCSA9X51-240V	Cyl Warmers CSA Approved Haz Loc Class1 Div1 Grp C&D 9" Dia. 51" Ht. 240 Volts

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SF Cylinder Heater

Ordinary Areas – 120 Vac

The SF Cylinder Heater provides a clean, simple and quick method for applying heat to cylinders containing SF6. A 130°F (54°C) cut-out thermostat is designed into each heater to prevent overheating. Heater efficiency is improved through the use of a custom designed cylinder blanket.



Part #
CYL-SFHEATER

Product Features

- Operates at less than 2.0 w/in 2 (3100 w/m²) allowing for even heat distribution and maintenance of a stable temperature over the entire surface.

Flexible Inert Cryogenic Liquid Cylinder Hoses

FLEXIBLE INERT CRYO LIQUID CYLINDER HOSES



Transfer Hose for Nitrogen and Argon

1/2" inner diameter standard duty stainless steel hose to provide a dependable, high pressure hose for your cryogenic transfer applications. Machine flare ends and stainless steel hex nuts are standard of these hoses. Stamped with 1330 PSIG MAWP, and month/year of manufacturer.

* Not cleaned for Oxygen Service



Without Armor Casing

Hose Length	Part #
48"	FPCGA295CH48
72"	FPCGA295CH72
10'	FPCGA295CH120
12'	FPCGA295CH144
20'	FPCGA295CH240



With Armor Casing

Hose Length	Part #
48"	FPACGA295CH48
72"	FPACGA295CH72
10'	FPACGA295CH120
12'	FPACGA295CH144
20'	FPACGA295CH240



Without Armor Casing

Hose Length	Part #
48"	FPM38C295CH48
72"	FPM38C295CH72
10'	FPM38C295CH120
12'	FPM38C295CH144
20'	FPM38C295CH240

With Armor Casing

Hose Length	Part #
48"	FPAM38C295CH48
72"	FPAM38C295CH72
10'	FPAM38C295CH120
12'	FPAM38C295CH144
20'	FPAM38C295CH240



Without Armor Casing

Hose Length	Part #
48"	FPM12C295CH48
72"	FPM12C295CH72
10'	FPM12C295CH120

With Armor Casing

Hose Length	Part #
48"	FPAM12C295CH48
72"	FPAM12C295CH72
10'	FPAM12C295CH120

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Inert Brass Fittings

► **MOST COMMON**

CGA 295 x 3/8" NPT Argon & Nitrogen Liquid & Vent



O.D. of Hex 7/8" Inch

Part # CGA-295DC

Part #	Description
► CGA-29538	Inert Vent & Liquid 3/8" NPT
CGA-29538-PK10	Pk. of 10 - Inert Vent & Liquid 3/8" NPT
CGA-29514	Inert Vent & Liquid 1/4" NPT
CGA-29512	Inert Vent & Liquid 1/2" NPT

Part #	Dust Cap for Inert
CGA-295DC	Dust Cap for Inert Vent and Liquid

CGA 580 x 3/8" NPT Gas



O.D. of Hex 1 1/8" Inches



Part #	Description
► CGA-58038	Inert Gas 3/8" NPT
CGA-58014	Inert Gas 1/4" NPT
CGA-58012	Inert Gas 1/2" NPT

Part #	Dust Cap for Inert
CGA-580DC	Dust Cap for Inert Gas Use CGA 580

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Candy Cane Relief

Pressure Relief Candy Cane & T

Use T and "Candy Cane" between connection where liquid can get trapped and build pressure.

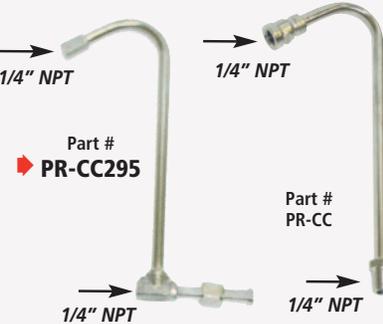
Choose the Pressure Relief you need to ensure not to over pressurize line or system.

Inert CGA 295 Part # PR-NCCT



* Hose and Pressure Relief purchased separately. T is 3/8" NPT female

► **MOST COMMON**



Pressure Relief

To Order - 1/4" NPT 22 - 500 Psig



Pressure Setting	Pt # each	Pt # Package of 10
22 PSI	LPR-22	LPR-22-PK10
35 PSI	LPR-35	N/A
50 PSI	LPR-50	N/A
75 PSI	LPR-75	N/A
100 PSI	LPR-100	N/A
125 PSI	LPR-125	N/A
150 PSI	LPR-150	N/A
175 PSI	LPR-175	N/A
200 PSI	LPR-200	N/A
230 PSI	LPR-230	LPR-230-PK10
235 PSI	LPR-235	LPR-235-PK10
350 PSI	LPR-350	LPR-350-PK10
375 PSI	LPR-375	N/A
400 PSI	LPR-400	N/A
425 PSI	LPR-425	N/A
450 PSI	LPR-450	N/A
500 PSI	LPR-500	N/A

Part #	Description
► *PR-CC295	For Nitrogen Candy Cane & T Pressure Relief Kit 1/4" NPT Female CGA 295
*PR-CC440	For Oxygen Candy Cane & T Pressure Relief Kit 1/4" NPT Female CGA 440
PR-CC	Candy Cane with 1/4" NPT Female for Pressure Relief
PR-CCT	Candy Cane & T for Pressure Relief without CGA Hookup 3/8" NPT Female
FIT-M38M14	Adapter to 1/4" NPT
FIT-M38M38	Adapter to 3/8" NPT
FIT-M38M12	Adapter to 1/2" NPT

* Pressure Reliefs - Need to order desired Pressure Reliefs Separately. Not included with Candy Cane or T.

Flexible **OXYGEN** Cryogenic Liquid Cylinder Hoses



FLEXIBLE **OXYGEN** CRYO LIQUID CYLINDER HOSES



Oxygen Transfer Hose

1/2" inner diameter standard duty stainless steel hose to provide a dependable, high pressure hose for your cryogenic transfer applications. Machine flare ends and stainless steel hex nuts are standard on these hoses. Stamped with 1330 PSIG MAWP, and month/year of manufacturer.

(Oxygen hoses are cleaned, capped, bagged, and certified clean for oxygen service per CGA G-4.1.)



Without Armor Casing

Hose Length	Part #
48"	FPCGA440CH48
72"	FPCGA440CH72
10'	FPCGA440CH120
12'	FPCGA440CH144
20'	FPCGA440CH240



With Armor Casing

Hose Length	Part #
48"	FPACGA440CH48
72"	FPACGA440CH72
10'	FPACGA440CH120
12'	FPACGA440CH144
20'	FPACGA440CH240

INLET

OUTLET



CGA 440

CGA 440

INLET

OUTLET



CGA 440

3/8" NPT Male

Without Armor Casing

Hose Length	Part #
48"	FPM38C440CH48
72"	FPM38C440CH72
10'	FPM38C440CH120
12'	FPM38C440CH144
20'	FPM38C440CH240

With Armor Casing

Hose Length	Part #
48"	FPAM38C440CH48
72"	FPAM38C440CH72
10'	FPAM38C440CH120
12'	FPAM38C440CH144
20'	FPAM38C440CH240

INLET

OUTLET



CGA 440

1/2" NPT Male

Without Armor Casing

Hose Length	Part #
48"	FPM12C440CH48
72"	FPM12C440CH72
10'	FPM12C440CH120

With Armor Casing

Hose Length	Part #
48"	FPAM12C440CH48
72"	FPAM12C440CH72
10'	FPAM12C440CH120

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Oxygen Brass Fittings

▶ **MOST COMMON**

Part # CGA-440DC

O.D. of Hex 1" Inch

CGA 440 x 3/8" NPT Oxygen Liquid & Vent

Part #	Description
▶ CGA-44038	Oxygen Dewar 3/8" NPT
CGA-44038-PK10	Pk. of 10 – Oxygen Dewar 3/8" NPT
CGA-44014	Oxygen Dewar 1/4" NPT
CGA-44012	Oxygen Dewar 1/2" NPT

Part #	Dust Cap for Oxygen
CGA-440DC	Dust Cap for Oxygen Vent & Liquid

CGA 540 x 3/8" NPT Gas

Part # CGA-540DC

O.D. of Hex 1" Inch

Part #	Description
▶ CGA-54038	Oxygen Gas 3/8" NPT
CGA-54014	Oxygen Gas 1/4" NPT
CGA-54012	Oxygen Gas 1/2" NPT

Part #	Dust Cap for Oxygen
CGA-540DC	Dust Cap for Oxygen Gas Use

Candy Cane Relief

Pressure Relief Candy Cane & T

Use T and "Candy Cane" between connection where liquid can get trapped and build pressure.

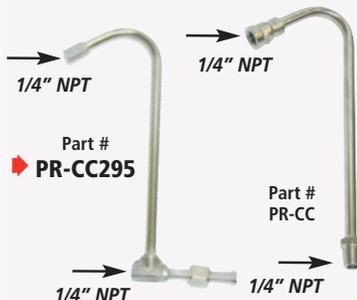
Choose the Pressure Relief you need to ensure not to over pressurize line or system.

Inert CGA 295 Part # PR-NCCT



* Hose and Pressure Relief purchased separately. T is 3/8" NPT female

▶ **MOST COMMON**



Part # PR-CC295

Part # PR-CC

Pressure Relief

To Order – 1/4" NPT 22 - 500 Psig

Pressure Setting	Pt # each	Pt # Package of 10
22 PSI	LPR-22	LPR-22-PK10
35 PSI	LPR-35	N/A
50 PSI	LPR-50	N/A
75 PSI	LPR-75	N/A
100 PSI	LPR-100	N/A
125 PSI	LPR-125	N/A
150 PSI	LPR-150	N/A
175 PSI	LPR-175	N/A
200 PSI	LPR-200	N/A
230 PSI	LPR-230	LPR-230-PK10
235 PSI	LPR-235	LPR-235-PK10
350 PSI	LPR-350	LPR-350-PK10
375 PSI	LPR-375	N/A
400 PSI	LPR-400	N/A
425 PSI	LPR-425	N/A
450 PSI	LPR-450	N/A
500 PSI	LPR-500	N/A

Part #	Description
▶ *PR-CC295	For Nitrogen Candy Cane & T Pressure Relief Kit 1/4" NPT Female CGA 295
*PR-CC440	For Oxygen Candy Cane & T Pressure Relief Kit 1/4" NPT Female CGA 440
PR-CC	Candy Cane with 1/4" NPT Female for Pressure Relief
PR-CCT	Candy Cane & T for Pressure Relief without CGA Hookup 3/8" NPT Female
FIT-M38M14	Adapter to 1/4" NPT
FIT-M38M38	Adapter to 3/8" NPT
FIT-M38M12	Adapter to 1/2" NPT

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* Pressure Reliefs – Need to order desired Pressure Reliefs Separately. Not included with Candy Cane or T.

Bulk Tank Products

BULK TANK PRODUCTS



HUGE INVENTORY

Find Cryogenics Valves in Our **Ratermann Cryogenics Digital Catalog**

www.rmicyro.com/catalog

Cryogenic Check Valve

Bronze Check Valves

Cryogenic Bronze Check Valve

Part #	Description
05413.0400.0006	1/2" FNPT
05413.0600.0006	3/4" FNPT



WARNING: Cancer and Reproductive Harm – www.P65Warnings.ca.gov
For further information on Proposition 65, please go to www.oehha.ca.gov/proposition-65

Liquid Cylinder Regulator

Liquid cylinder regulator allows for gaseous withdrawal from oxygen, carbon dioxide, argon and nitrogen liquid cylinders.

- 2-3/4" stainless steel diaphragm
- PTFE seals
- One-piece encapsulated seat design with an internal filter and a PTFE seat
- Tamper proof, self seating internal H.P. safety valve
- Forged brass body and bonnet
- Designed specifically to operate on liquid cylinders but can be used on high pressure cylinders without damage
- 2-1/2 dual scale gauges
- Conforms to CGA E-4



Liquid Cylinder Regulator

Part #	Gas	Maximum Inlet PSIG	Delivery Pressure Range PSIG	Delivery Pressure Gauge PSIG	Inlet Connection	Outlet Connection
LCR-320-125-916	Carbon Dioxide	3000	0-125	200	CGA 320	9/16"-18
LCR-320-350-916	Carbon Dioxide	3000	0-350	500	CGA 320	9/16"-18
LCR-320-500-14	Carbon Dioxide	3000	0-500	600	CGA 320	1/4"-NPT
LCR-540-125-916	Oxygen	3000	0-125	200	CGA 540	9/16"-18
LCR-540-350-916	Oxygen	3000	0-350	500	CGA 540	9/16"-18
LCR-540-500-14	Oxygen	3000	0-500	600	CGA 540	1/4"-NPT
LCR-580-125-916	Argon / Nitrogen	3000	0-125	200	CGA 580	9/16"-18
LCR-580-350-916	Argon / Nitrogen	3000	0-350	500	CGA 580	9/16"-18
LCR-580-500-14	Argon / Nitrogen	3000	0-500	600	CGA 580	1/4"-NPT

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Bulk Tank Products

Noise Reducing Vent

Part # WV-FP

The Noise Reducing Vent can be mounted on the ground, at the top of a tank or on a wall behind the tank.

You are able to have conversations at the tank while it is venting. Eliminates noise complaints – "Be a good neighbor."

Reduces the effect of noise to the human ear by 1000 times!

Features

- No ear protection needed
- Does not violate noise ordinances

Typical Application: Cylinder Fill Plants

Decibel Reduction: 30Db

Product Use: Clean for Oxygen. Suitable for Inert and Flammable gases

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ELIMINATE NOISE COMPLAINTS



*The configuration of the Bulk Tanks and Liquid Cylinder Vents are different than the image shown.

Contact Customer Service for configuration and layout of the Bulk Tank and Liquid Cylinder Vents.

Fill Plant Vent

Part #	Description
WV-FP	Cylinder Fill Plant Vent

Bulk Tank & Liquid Cylinder Vents also Available*

Part #	Noise Reducing Vents for . . .
WV-BT-T	for Bulk Tanks
WV-LC	for Liquid Cylinders

Dual Vaporizer Switch Over

Typical use - High flow requirements to help prevent excessive ice build up at locations with multiple vaporizers.

Features

- 1" and 1 1/2"
- Worcester Diverter valve 110V
- Manual extended stem isolation valves
- Time control diverter
- UL listed, NEMA 4 enclosure, pre-wired to diverter
- Aluminum floor mount stand
- Test certs and oxygen clean certs provided

See page 13A-4

Part #	Description
VAP-DSO-1	1"
VAP-DSO-112	1 1/2"

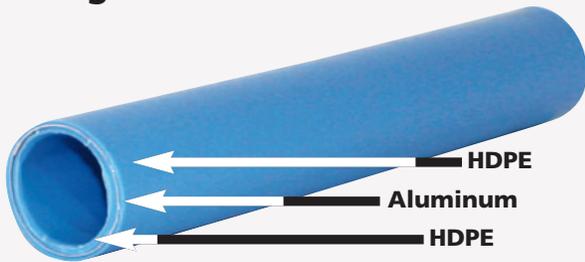


NOTE: Dual vaporizer switch over is a NFPA 99 Requirement for hospital installations.

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Gas Piping for Easy Gas Piping to Application

Composite Pipe for Nitrogen, Argon and CO2 Gas Working Pressure 200 PSI



COMPOSITE PIPE IS FOR DISBURSEMENT AND DELIVERY AFTER VAPORIZED THE LIQUEFIED GAS.

Material Description – Pipe

Duratec pipe meets the stringent requirements of ANSI/ASTM F1282 as well as CSA B137.9. This unique pipe design provides high strength and pressure ratings, while offering the benefits of a pipe that bends easily and stays bent. Large inside diameters provide excellent flow rates.

Duratec pipe is constructed of an inner and outer layer of high density polyethylene and a center core of aluminum. The high density polyethylene contributes approximately 30% to the overall strength of the Duratec pipe. The remaining 70% comes from the aluminum. Together the two materials, HDPE and aluminum, provide the end user with all of the advantages of plastic and metal, in a revolutionary composite air-line pipe.

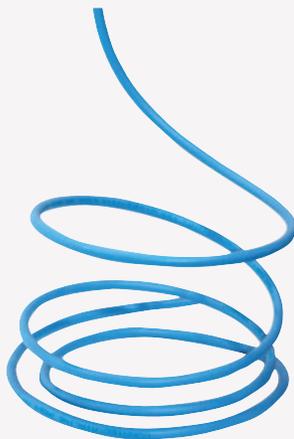
Some of the advantages include:

HDPE

- Corrosion proof
- Flexibility
- Ease of installation
- Improved air/gas quality
- No scaling
- All weather installation
- Condensation resistance

ALUMINUM

- Rigidity
- No memory – “stays where it lays”
- High mechanical strength
- High temperature capability
- High pressure capability
- Permanent permeation barrier
- Low expansion and contraction



The HDPE used in the manufacture of Duratec is a member of the polyolefin group. It is a tough and flexible material even at cold temperatures. Duratec HDPE is formulated with a UV-inhibited blue pigment designed to screen out ultra-violet radiation.

The aluminum material used in Duratec has a minimum elongation of 20% and ultimate tensile strength of 14,600 psi (100 mPa) when tested in accordance with ASTM E8.

For Composite Pipe
Compressed Gases
1" I.D. see page 22A-4
3/4" I.D. see page 22A-5
1/2" I.D. see page 22A-6

Material Description – Fittings

The Duratec system uses a unique and cost effective D1 nickel plated brass inert fitting for easy connections. All Duratec fittings are protected with a corrosion resistant, industrial strength nickel plating.

These fittings are easily attached to Duratec pipe using a split ring and locking nut mechanism. A full range of male, female thread and tubing adapters are available as well as tees, couplings and valves.

Duratec fittings are manufactured in accordance with ASTM F1974 which details specific requirements for brass alloys, o-ring materials, fitting dimensions and performance requirements.

Duratec also has male adapters manufactured in 316 stainless steel for easy conversion to threaded stainless steel fittings for systems where nickel plated brass is not acceptable.

Fewer Fittings

Duratec pipe comes in convenient 100 ft. and 300 ft. coils eliminating several joints and the need for threading, fusing, or solvent cementing.

Easy to Install

Quick Installation in 4 Fast Steps



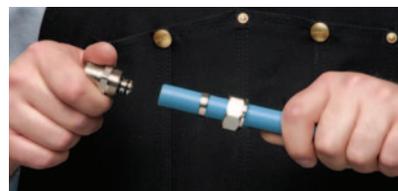
Cutting and joining Duratec is fast and simple.

1. Cut pipe square using plastic pipe cutter.



2. Slide nut and split ring over pipe and bevel the inside of the pipe by inserting then rotating the beveling tool.

3. Push the fitting into the pipe.



4. Turn the nut finger tight plus one full turn with a wrench.



Duratec Installation Tools

- Plastic Pipe Cutter
- 5 in 1 Beveling Tool



See page
39A-24

Piping Meets
National CRN – 0A02020.2 CCSA B51, B137.9
ANSI/ASTM F1282 ASME B31.3, B31.9
Certified to OSHA Safety Regulations

Duratec Valves

DURATEC VALVES

Ball Valves for Composite Pipe



Ball Valves

Part #	Description
CMP-BV12	1/2" Ball Valves for Composite Pipe
CMP-BV34	3/4" Ball Valves for Composite Pipe
CMP-BV01	1" Ball Valves for Composite Pipe



Plastic Pipe Cutter
Part # CMP-PPC

Duratec Valves & Accessories



Plastic Pipe Cutter

Part #	Description
CMP-PPC	Plastic Pipe Cutter



5 in 1 Beveling Tool

Part #	Description
CMP-BT38-1	Beveling Tool 5-in-1, 3/8" to 1"

Composite Pipe Bending Springs

for 1", 3/4", and 1/2" Duratec Composite Pipe



Part #	Description
CMP-BS12	Bending Spring for 1/2" Duratec Composite Pipe
CMP-BS34	Bending Spring for 3/4" Duratec Composite Pipe
CMP-BS01	Bending Spring for 1" Duratec Composite Pipe

Easy Install Pipe Drops for Flowmeter or Regulator Hookup

Flowmeters

Precision flow control for MIG & TIG gas welding operations, laboratory use and many industrial applications.

Use fittings **Pt # WST-AW-14A** and **Pt # WST-AW-3** to attach the flowmeters listed below to station drops.

Part #	Description
WST-RWS-2-7	Nitrogen Flowmeter
WST-RWS-2-13	Argon/Carbon Dioxide Flowmeter
WST-AW-14A	Attaches Flowmeter to Station Drop
WST-AW-3	Attaches Flowmeter to Station Drop



Station Drops

Station drops are equipped with an in-line shut-off valve, drip leg, ball valve and outlet cap and chain. All drops are labeled for the indicated gas service.

Part #	Description
WST-WSO-3-5	Argon 1/2" x 25" Single Outlet
WST-WSO-3-6	Argon 3/4" x 25" Single Outlet
WST-WSO-7-7	Nitrogen 1/2" x 35" Double Outlet
WST-WSO-7-8	Nitrogen 3/4" x 35" Double Outlet
WST-WSO-9-5	Oxygen 1/2" x 25" Single Outlet
WST-WSO-9-7	Oxygen 1/2" x 35" Double Outlet



Installing Piping to Station Drops



Part # CMP-MTA1212



Part # CMP-MTA3434

To install the Duratec Composite Piping to the Station Drops, all you need is to thread one of the corresponding Duratec Pipe Adapters above (part numbers **CMP-MTA3434** or **CMP-MTA1212**) to the top of the Station Valve where the Ball Valve is located. Then the Composite Piping fits into the pipe end of the Adapter.

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Composite Pipe for Compressed Gases 3/4" I.D.

For Nitrogen, Argon and CO2 Gas WORKING PRESSURE 200 PSI

For Additional
1" I.D. Size
See page
22A-4



Duratec pipe meets the stringent requirements of ANSI/ASTM F1282 as well as CSA B137.9. This unique pipe design provides high strength and pressure ratings, while offering the benefits of a pipe that bends easily and stays bent. Large inside diameters provide excellent flow rates.

Working Pressure 200 PSI

Duratec Gas Composite Piping

Part #	Description
CMP-34-100	Composite Pipe 3/4" x 100 Foot Coil
CMP-34-300	Composite Pipe 3/4" x 300 Foot Coil

General Pipe Sizing Recommendation for 3/4 Inch Duratec Pipe at 200 PSI

	Flow Range Cu. Ft. per Minute	Pressure Drop per 100 Foot Length
Optimum Performance	up to 30 cu. ft. per minute	.3 PSI per 100 ft. length
Not Recommended to go Above due to Velocity	50 cu. ft. per minute	1. PSI per 100 ft. length

This reference chart is to be used for rough estimation for pipe sizing. Detailed graph is available along with formulas to calculate accurate flow rates based on velocity to pressure drop.

Duratec Gas Line Pipe End x Male NPT Adapters

Composite Pipe End x Male Thread Adapter

Part #	Description
CMP-MTA3434	Male Thread Adapter 3/4" Pipe x 3/4" MPT

Composite Pipe End x Male Thread Adapter Stainless Steel

Part #	Description
CMP-MTASS3434	S.S. Male Thread Adapter 3/4" Pipe x 3/4" MPT



Duratec Gas Line Pipe End x Female NPT Adapters

Composite Pipe End x Female Thread Adapter

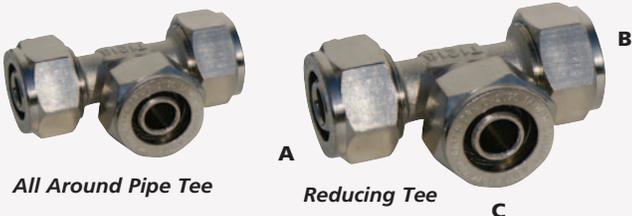
Part #	Description
CMP-FTA3434	Female Thread Adapter 3/4" Pipe x 3/4" FNPT



Duratec Gas Line Elbows and Tees

90 Degree Pipe Elbow

Part #	Description
CMP-90E34	Composite Pipe 90° Elbow 3/4" Pipe x 3/4" Pipe



All Around Pipe Tee

Part #	Description
CMP-TEE34	Composite Pipe Tee 3/4" x 3/4" x 3/4"

Reducing Tee

Part #	Description	A	B	C
CMP-RT341212	Composite Pipe Reducing Tee	3/4" x 1/2"	1/2" x 1/2"	1/2"
CMP-RT343412	Composite Pipe Reducing Tee	3/4" x 3/4"	3/4" x 1/2"	1/2"
CMP-RT341234	Composite Pipe Reducing Tee	3/4" x 1/2"	1/2" x 3/4"	3/4"

Composite Pipe with Female Thread Tee

Part #	Description
CMP-TDP34F12	3/4" Pipe x 3/4" Pipe x 1/2" FNPT

Duratec Gas Line Couplings and Caps

Coupling

Part #	Description
CMP-C34	Composite Pipe Coupling 3/4"

Reducing Coupling

Part #	Description
CMP-RC3412	Composite Pipe Reducing Coupling 3/4" x 1/2"

Caps

Part #	Description
CMP-CAP34	Duratec Cap 3/4"



Looking for



- Station Drops
- Flowmeters

See page
39A-24

Duratec Accessories

Pipe Clips

Part #	Description
CMP-PC34	Duratec Pipe Clip 3/4"

Protective 4" Heat Shrink Sleeves for Duratec Pipe Fittings

Part #	Description
CMP-4HC3401	4" Heat Shrink Sleeve for 3/4" & 1" Pipe Fittings

O-Rings and Split O-Rings

Part #	Description
CMP-OR34	Duratec Replacement O-Ring 3/4"
CMP-SOR34	Duratec Replacement Split O-Ring 3/4"

Wall Bracket Multiport

Part #	Description
CMP-MWBM34F12	Composite Pipe Wall Bracket 3/4" MPT Inlet x 1/2" FPT Outlet



WARNING: Products in this catalog can expose you to chemicals including lead which is known to the State of California to cause cancer, birth defects or reproductive harm. For more information, go to <https://www.p65warnings.ca.gov>

COMPOSITE PIPE FOR COMPRESSED GASES 3/4" I.D.

Composite Pipe for Compressed Gases 1/2" I.D.

COMPOSITE PIPE FOR COMPRESSED GASES 1/2" I.D.

For Nitrogen, Argon and CO2 Gas WORKING PRESSURE 200 PSI



Working Pressure 200 PSI

Duratec Gas Composite Piping

Part #	Description
CMP-12-100	Composite Pipe 1/2" x 100 Foot Coil
CMP-12-300	Composite Pipe 1/2" x 300 Foot Coil

Duratec pipe meets the stringent requirements of ANSI/ASTM F1282 as well as CSA B137.9. This unique pipe design provides high strength and pressure ratings, while offering the benefits of a pipe that bends easily and stays bent. Large inside diameters provide excellent flow rates.

General Pipe Sizing Recommendation for 1/2 Inch Duratec Pipe at 200 PSI

	Flow Range Cu. Ft. per Minute	Pressure Drop per 100 Foot Length
Optimum Performance	up to 11 cu. ft. per minute	.6 PSI per 100 ft. length
Not Recommended to go Above due to Velocity	20 cu. ft. per minute	2. PSI per 100 ft. length

This reference chart is to be used for rough estimation for pipe sizing. Detailed graph is available along with formulas to calculate accurate flow rates based on velocity to pressure drop.

Duratec Gas Line Pipe End x Male NPT Adapters

Composite Pipe End x Male Thread Adapter

Part #	Description
CMP-MTA1212	Male Thread Adapter 1/2" Pipe x 1/2" MPT



Composite Pipe End x Male Thread Adapter Stainless Steel

Part #	Description
CMP-MTASS1212	S.S. Male Thread Adapter 1/2" Pipe x 1/2" MPT

Duratec Gas Line Pipe End x Female NPT Adapters

Composite Pipe End x Female Thread Adapter

Part #	Description
CMP-FTA1212	Female Thread Adapter 1/2" Pipe x 1/2" FNPT



Duratec Gas Line Elbows and Tees

90 Degree Pipe Elbow

Part #	Description
CMP-90E12	Composite Pipe 90° Elbow 1/2" Pipe x 1/2" Pipe



All Around Pipe Tee

Part #	Description
CMP-TEE12	Composite Pipe Tee 1/2" x 1/2" x 1/2"



Reducing Tee

Part #	Description	A	B	C
CMP-RT121238	Composite Pipe Reducing Tee	1/2" x	1/2" x	3/8"

Composite Pipe with Female Thread Tee

Part #	Description
CMP-TDP12F12	1/2" Pipe x 1/2" Pipe x 1/2" FNPT

Pipe End x Female Thread Wing Back 90° Elbow

Part #	Description
CMP-90EFTWB1212	Composite Pipe 90 Degree Wing Back Elbow 1/2" Pipe x 1/2" FNPT



Wing Back 90° Elbow

Duratec Gas Line Couplings and Caps

Coupling

Part #	Description
CMP-C12	Composite Pipe Coupling 1/2"



Reducing Coupling

Part #	Description
CMP-RC1238	Composite Pipe Reducing Coupling 1/2" x 3/8"

Caps

Part #	Description
CMP-CAP12	Duratec Cap 1/2"

Looking for



- Station Drops
- Flowmeters

See page 39A-24

Duratec Accessories

Pipe Clips

Part #	Description
CMP-PC12	Duratec Pipe Clip 1/2"



O-Rings and Split O-Rings

Part #	Description
CMP-OR12	Duratec Replacement O-Ring 1/2"
CMP-SOR12	Duratec Replacement Split O-Ring 1/2"

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BEVERAGE, BREW & CARBON DIOXIDE

RATERMANN BEVERAGE Products & Parts



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IDEAL FOR DISPENSING CARBONATED SOFT DRINKS, BEERS, LAGERS AND OTHER BEVERAGES.

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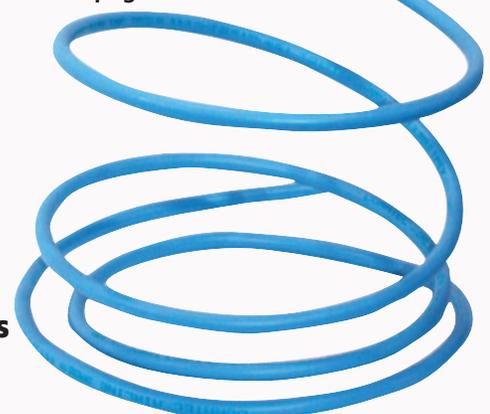
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THE PERFORMANCE OF PLASTIC WITH THE STRENGTH OF METAL



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