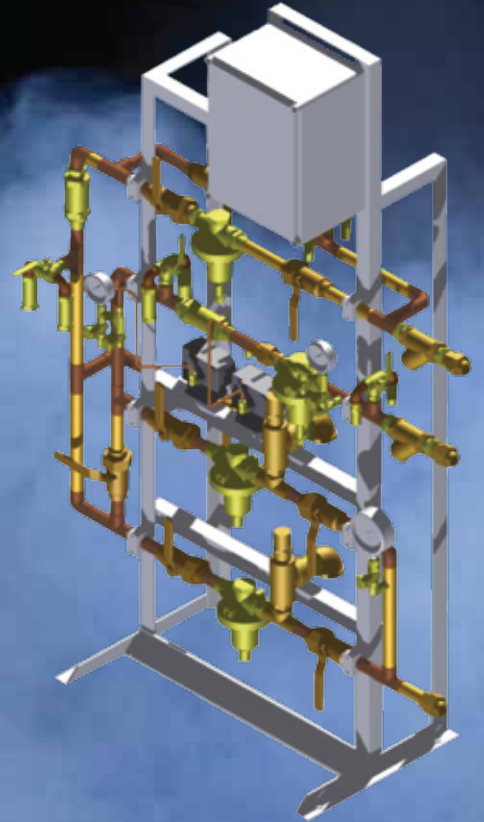


THE MOST TRUSTED MEDICAL EQUIPMENT IN NORTH AMERICA

MEDICAL EQUIPMENT CATALOG

- Total Components Including Bulk Oxygen Supply, Back up and Delivery Equipment
- Designs for High Pressure, Liquid or Bulk Applications
- Certified Installation and Maintenance Services



ACME COMPLETE MEDICAL GAS DELIVERY SYSTEMS



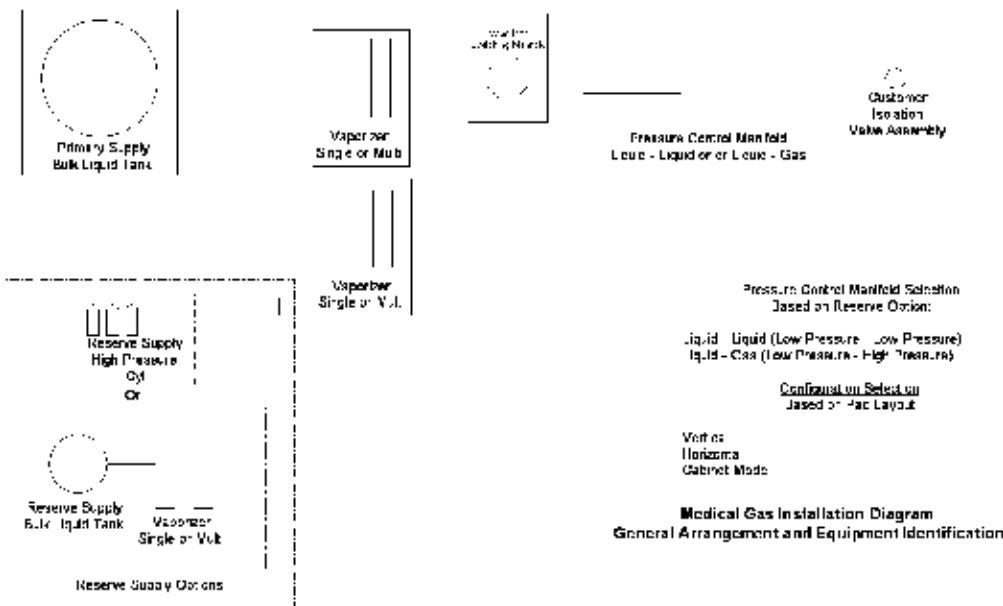
Acme Cryogenics offers fully configured systems designed, installed and certified to meet today's medical gas requirements. Our experts will work with you to configure the best system to meet your needs.

- Total Components Including Bulk Oxygen Supply, Back up and Delivery Equipment
- Designs for High Pressure, Liquid or Bulk Applications
- Certified Installation and Maintenance Services

Our equipment and systems are NFPA 99 2005 compliant.

Acme's certified medical gas technicians can install, repair And/or maintain your medical gas system to ensure it remains fully in compliance for years to come.

BULK MEDICAL GAS INSTALLATION DIAGRAM (Shown with multiple reserve configuration options)



Acme Offers

We offer components and configurations for the following supply sources:

- High Pressure Cylinder Gas Delivery Systems for high pressure cylinder supply
- Liquid Cylinders (Dewar) Gas Delivery Systems for configurations using liquid cylinders as the primary and secondary supply with high pressure gas cylinders as the reserve supply.
- Bulk Liquid Tank Gas Delivery Systems for bulk liquid tanks with liquid or high pressure cylinder reserves.

MEDICAL SOURCE EQUIPMENT

ACME HOSPITAL CONTROL MANIFOLDS

Acme Hospital Pressure Control Manifolds are available for liquid x liquid or liquid x gas supply systems. They are available in one-half inch and one inch configurations.

Ordering Information

<u>Description</u>	<u>Supply Configuration</u>	<u>Part Number</u>
1/2"	Liquid x Liquid	274-822616
1/2"	Liquid x Gas	274-818615
1"	Liquid x Liquid	274-822042
1"	Liquid x Gas	274-822120



Acme's Hospital Pressure Control Manifolds are available in one half and one inch designs for liquid x liquid or liquid x gas medical gas supply.

HOSPITAL PRESSURE MANIFOLD IN CABINET

Acme Cryogenics' Hospital Pressure Control Manifolds are now available in a stainless steel cabinet. Your manifold is protected from accidental damage, weather, and other environmental dangers by the fully lockable, brushed stainless steel cabinet.

The cabinet is an option available when ordering.



Features

- Fully Lockable
- Weather resistant stainless steel
- Available with most 1" manifolds

Ordering Information

<u>Description</u>	<u>Supply Configuration</u>	<u>Part Number</u>
1"	Liquid x Liquid	274-823268
1"	Liquid x Gas	274-823521

MEDICAL SOURCE EQUIPMENT

ACME MEDICAL RESERVE MANIFOLDS

Acme Medical Reserve Manifolds connect reserve cylinders to deliver product as needed. They are available with stands or brackets for floor or wall mounting. When teamed with the Acme SLIQ, it provides continuous product delivery, as automatic switchover from the primary to secondary supply is achieved when primary dewars drop to a preset level.

Features

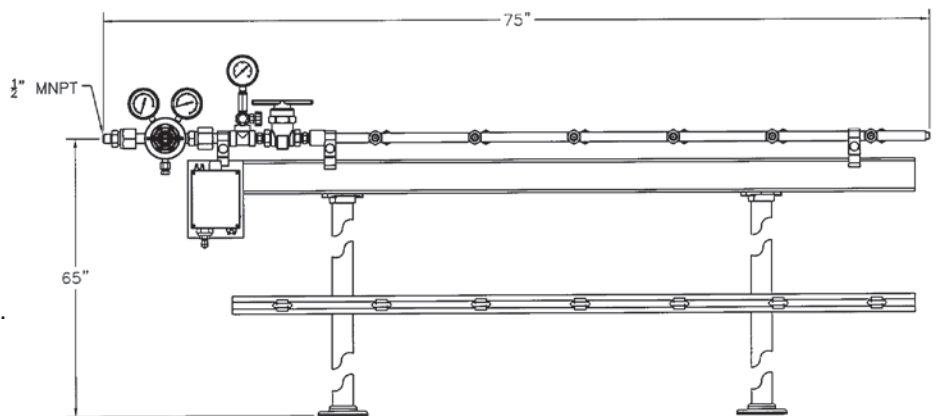
- Available in single or doubled sided configurations
- Designs to accommodate 3 to 24 cylinders
- Includes individual cylinder supports per NFPA99 2002



Ordering Information

<u>Size</u>	<u>Part Number</u>
12 Cylinder	272-822612
16 Cylinder	274-823170

Contact Acme for additional configuration options.



VAPORIZER SWITCHOVER MANIFOLD

Acme's vaporizer switchover manifold provides automatic switching from vaporizer that has become inefficient (due to frost build-up) to a vaporizer that has been warmed by ambient air and is ready for peak performance.

Because health care installations are required to maintain a constant, consistent supply of product, vaporizer switchover manifolds can eliminate frosting issues that can affect performance and possibly limit service.

Automatic switchover vaporizer manifolds can be set to take the current vaporizer off-line and bring another one on-line at pre-determined intervals, allowing both units to work at optimum levels. Because the change between vaporizers is automatic, switchover requires minimal user involvement.



Ordering Information

<u>Size</u>	<u>Part Number</u>
1"	271-821731
1½"	271-821732



LOCAL SIGNAL PANELS

Acme also offers Local Signal Panels for use with your medical bulk oxygen supply system. 24 and 120 volt models are available to meet your system requirements. Models are available for use with liquid x liquid or liquid x gas supply configurations.

Ordering Information

Voltage	Description	Part Number
120	Liquid x Liquid	284-010704-1
120	Liquid x Gas	284-010704-2
24	Liquid x Liquid	284-060504-1
24	Liquid x Gas	284-060504-2



To ensure compliance with current NFPA requirements, Acme's Local Signal Panels provide a visual indication of an alarm condition.



Local Signal Panel Stand

The Local Signal Panel Stand is an optional accessory available with the Local Signal Panel. The 6ft tall, aluminum stand can be attached to the floor using four bolts. For pre-drilled holes align with the screw-holes on the Local Signal Panel, allowing easy set up.

Ask about this stand when ordering.

Ordering Information

Part Number
279-823295

MEDICAL SOURCE EQUIPMENT

ACME FIXED END ASSEMBLIES

Specifications

Pressure Rating0-350 PSIG

Connections

Inlet 1 1/2" CGA

Outlet 1 1/2" Type K Copper Tube

Materials of Construction

Assembly Brass/Bronze/Copper

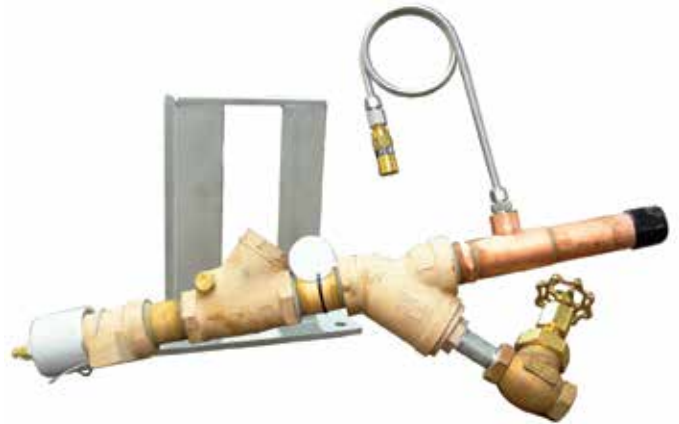
Strainer..... Brass/Bronze/Copper

Check Valve Brass/Bronze/Copper

Safety Relief Valve Brass/Bronze/Copper

Stand Stainless Steel

Dimensions 14 1/8" to Center Line



Fixed end assemblies are used for liquid filling from tanks and trailers.

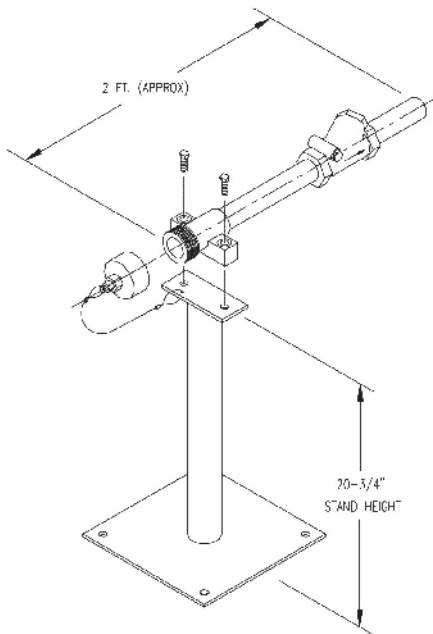
Ordering Information

(strainer, check valve, stand and safety relief valve, pictured above)

<u>Gas Service</u>	<u>Part Number</u>
Argon	281-LX2509
Oxygen	281-LX2510
Nitrogen	281-LX2511

Stands

<u>Description</u>	<u>Part Number</u>
30" Customer Stations	275-701229B
36" Customer Stations	275-817642H
Stand, Fill Connection	289-LX-1150



Fixed End and Check Valve Assembly

Ordering Information

<u>Gas Service</u>	<u>Part Number</u>	<u>With or Without Stand</u>
Oxygen	274-415467	without stand
Nitrogen	274-415468	without stand
Argon	274-415469	without stand
Oxygen	274-415450	with stand
Nitrogen	274-415452	with stand
Argon	274-415451	with stand

ACME BULK INSTALLATION KITS

Acme Bulk Installation Kits contain pre-assembled collection of key components required in a give bulk installation. They are available for a variety of installation types and configurations. A typical kit provides 95% of all components required for a given installation.

By offering these components together, rather than separately, customers' engineering, purchasing and service staff will save time and money. The package option allows for ease of ordering, eliminates time spent researching specifications, and allows for standardization of components across multiple applications, making upgrades maintenance and repairs faster and more cost-effective.

Features

- All materials are Oxygen compatible
- All parts are cleaned to Acme's Validated Oxygen Cleaning Specification (QA-114 & QA 115)
- Parts and equipment are engineered and selected to meet customer requirements
- Parts and equipment meet or exceed NFPA and JACHO requirements for compliant medical systems (where applicable)



Ordering Information

<u>Description</u>	<u>Part Number</u>
Liquid x Gas Kit 1" for 1,500 Gallon or Smaller	KIT-ACME-MED-LG
Liquid x Liquid Kit 1" for 1,500 Gallon or Smaller	KIT-ACME-MED-1

Designs are available for large vessel and multiple vessel installations. Kits can also be customized to meet special application requirements. Contact Acme for more information.

Typical Kit Components

- 1" pre-insulated pipe, 10' long
- 1" pre-insulated 90° elbow
- 1" pre-insulated tee
- 1" pre-insulated field joint kit
- 30" pipe support
- End cap - aluminum
- Pipe clamps, 3" for insulated pipe
- Pipe clamp 1 1/8" O.D.
- Pipe clamp 1 5/8" O.D.
- Bolt anchor, 1/2" x 3' LG
- 1" copper tee
- 1" copper elbow, long radius
- 1" copper coupling
- 1" copper tubing
- 1 1/2" copper tee
- 1 1/2" copper elbow, long radius
- 1 1/2" copper coupling
- 1 1/2" copper tubing
- Flange spool kit, 1" male
- Courtesy/purge valve assembly

MEDICAL GAS EQUIPMENT

ACME MODEL SLIQ MEDICAL GAS LIQUID CYLINDER MANIFOLD

The Acme Model SLIQ provides continuous gas delivery from two banks of cryogenics liquid gas cylinders without interruption.



Specifications

Flow Capacity

One Cylinder	0-325 SCFH
Two Cylinders	0-400 SCFH
Three Cylinders	0-600 SCFH

Maximum Inlet Pressure 350 PSIG

Maximum Outlet Pressure 100 PSIG

Materials of Construction

Components	Brass, Stainless Steel
Housing	Fiberglass

Connections

Inlet	1/4" MNPT
Outlet.....	1/2" MNPT

Dimensions 12" W x 14"H x 6"D

Power Supply..... 110 VAC

Transfer Hoses..... 6ft length with reverse flow check valve, 1/4" MNPT connection included

Features

Automatic Changeover

When one bank of cylinders is depleted, the manifold automatically switches to the second bank. Green or red signal lights indicate when the manifold is drawing from the primary or reserve side, respectively. After the depleted cylinders are replaced, a selector valve at the bottom of the manifold is reset in accordance with operating instructions.

Gas Saver Feature

As integral "Gas Saver" circuit is the SLIQ manifold prevents the accumulated gas pressure in the reserve liquid cylinder from being discharged to the atmosphere and wasted. During shutdown periods both banks will be vented to the atmosphere. Adequate ventilation must be provided to remove or disperse these gas discharges safely.

Supply and Delivery Pressure Ranges

Users must be sure to utilize the correct cylinder and pressure necessary for their applications. SLIQ manifolds will not operate properly unless the correct liquid is used.

Ordering Information

See next page for ordering specifications and NFPA requirements.

Optional Equipment

- Acme Model S300 Remote Alarm Box
- Floor Stand with Base

MEDICAL CYLINDER GAS EQUIPMENT

ACME COMPLETE SUPPLY SYSTEMS FOR LIQUID CYLINDER INSTALLATIONS IN MEDICAL GAS APPLICATIONS

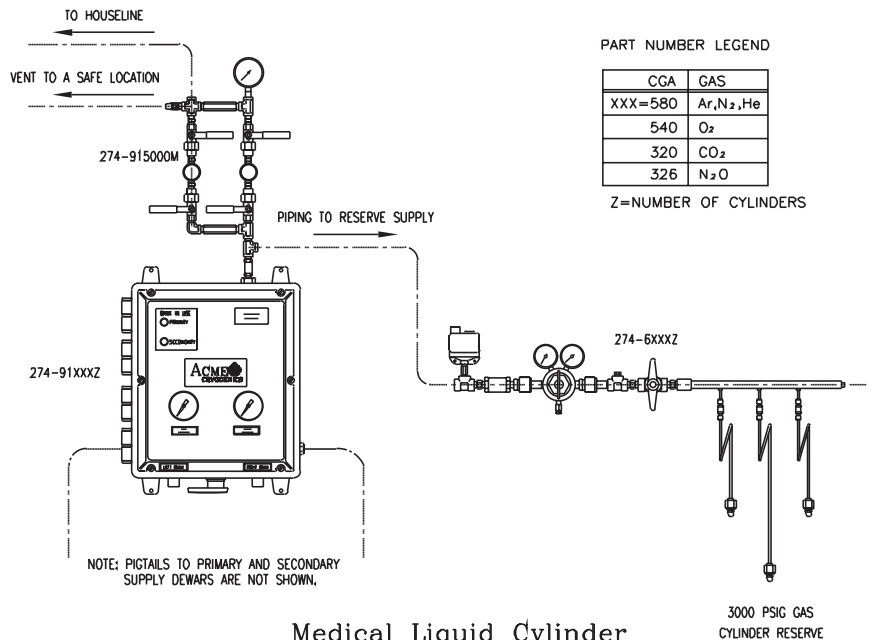
Complete System Components

A complete system for this application consists of one each of the following components.

Please refer to NFPA 99, 2002 edition, 5.1.3.4.10 (a) and (b) to determine the number of cylinders and cylinder reserves you require.

(1) High Pressure Cylinder Reserve with Auto Switchover (0-3000 PSIG)

# of Cylinders	Part Number*
3	274-6540ZM
5	274-6540ZM
7	274-6540ZM
9	274-6540ZM



Medical Liquid Cylinder Supply System With High Pressure Cylinder Reserve
NFPA99 5.1.3.4.10

(1) Dual Houseline Regulator Tree

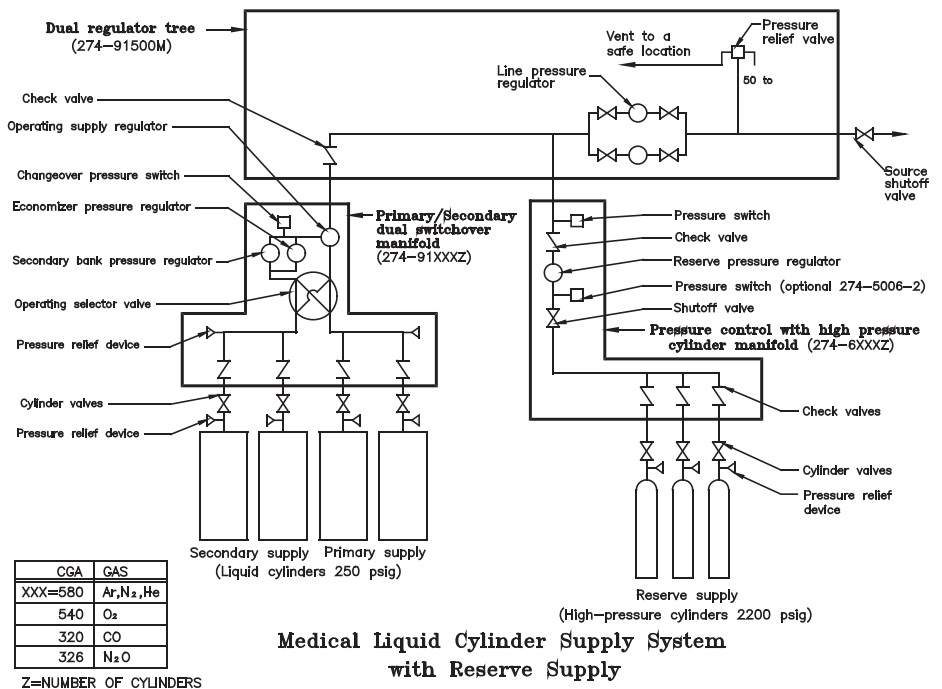
Gas Service	Part Number
All Medical	274-91500M

The SLIQ is the central control of an Acme liquid cylinder supply system. It provides automatic switchover from the primary supply to the secondary when gas in the primary dewars drops to a preset level.

SLIQ Liquid Cylinder Manifold

Number of Cylinders (primary x secondary)	Part Number
2 (1x1)	274-91XXX2M
3 (1x2)	274-91XXX3M
4 (2x2)	274-91XXX4M
5 (2X3)	274-91XXX5M
6 (3x3)	274-91XXX6M

*When configuring part numbers, replace XXX with appropriate CGA number.



Medical Liquid Cylinder Supply System with Reserve Supply

NFPA99 5.1.3.4.10

MEDICAL CYLINDER GAS EQUIPMENT

ACME HIGH PRESSURE GAS SYSTEMS WITHOUT RESERVE

High pressure cylinders should be used in facilities that have low or intermittent requirements for medical gas. These systems are not affected by the warming of liquid cylinder and therefore do not require economizer circuits and liquid cylinder maintenance.

The system shown is comprised of a 3, 5, 7 or 9 cylinder manifold on each side of the control section which automatically switches from the primary supply to the secondary supply when the pressure in the primary cylinders drops below a preset pressure.

A pressure switch is provided to send a signal to an alarm panel that indicates when the reserve cylinder bank is in use. Both cylinder banks feed the house line through a dual regulator manifold as described in the liquid cylinder system.

Specifications

Flow Capacity 0-4,000 SCFH

Inlet Pressure 0-3,000 PSIG

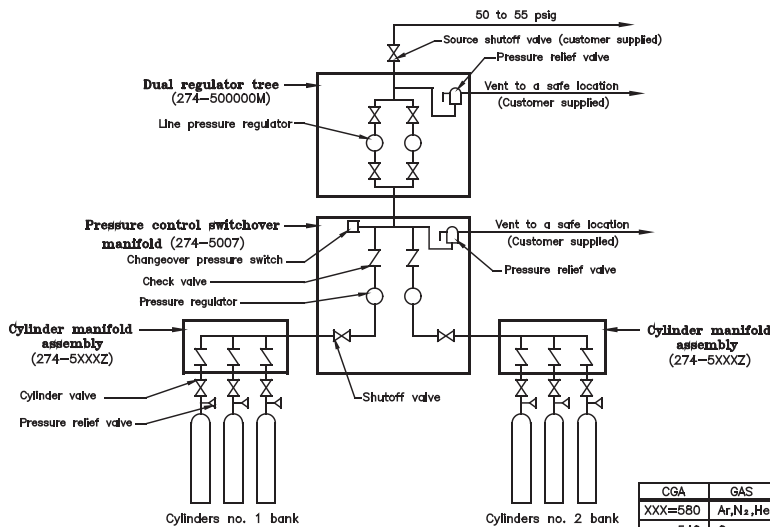
Outlet Pressure 0-55 PSIG

Connections

Inlet..... CGA

Outlet 1/4" FNPT

Material of Construction.....Brass

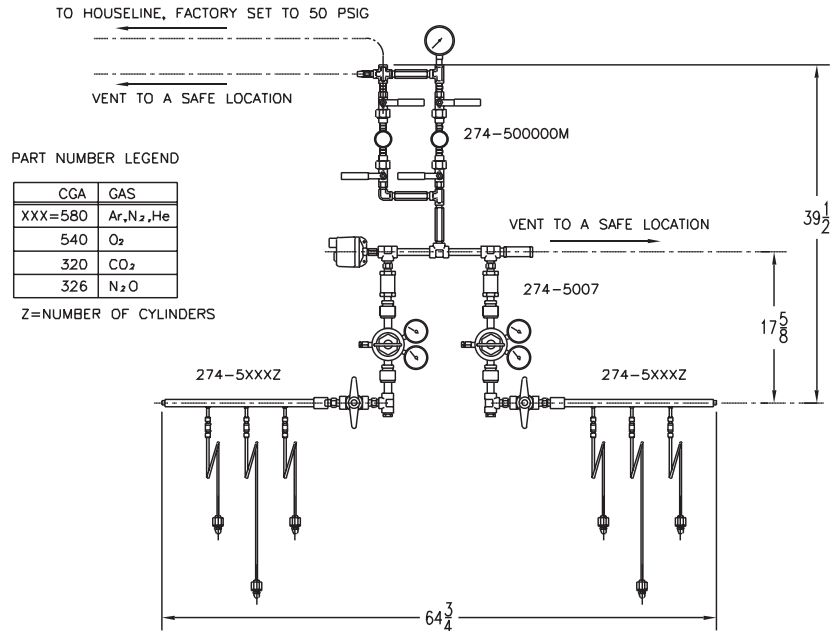


Medical Gas Cylinder Supply System Without Reserve Supply

NFPA99 5.1.3.4.9

CGA	GAS
XXX=580	Ar,N ₂ ,He
540	O ₂
320	CO ₂
326	N ₂ O

Z=NUMBER OF CYLINDERS



Medical Gas Cylinder Supply System Without Reserve Supply

NFPA 5.1.3.4.9

Ordering Information, Required Components

Item	Part Number
(1) Dual Houseline Regulator Tree (all gases)	274-500000M
(1) Pressure Control/Switchover Manifold (all gases)	274-5007
(2) Primary and Secondary Cylinder Header	274-5XXXZ*

*XXX = CGA Number
 Oxygen: 540
 Nitrogen, Argon, Helium: 580
 Carbon Dioxide: 320
 Nitrous Oxide: 326

*Z = Number of cylinders per header (3, 5, 7, 9)
 Typically, primary and secondary headers have the same number of headers.

Ordering Example

Primary and Secondary Cylinder Header
 27455807 = 7-Cylinder Header for Inert Service

EMERGENCY OXYGEN INLET BOXES

ACME EMERGENCY OXYGEN INLET BOXES

The Acme Emergency Oxygen Inlet Box is used with bulk outdoor installations to connect a temporary, auxiliary source of supply in the event of an emergency or maintenance situation.

It features a 1" safety relief valve to ensure adequate pipeline protection. It also offers a flexible universal outlet configuration, which allows for reduced installation time.

The inlet is housed in a weather tight surface mount enclosure box which can accommodate a padlock to allow entry only by authorized personnel.



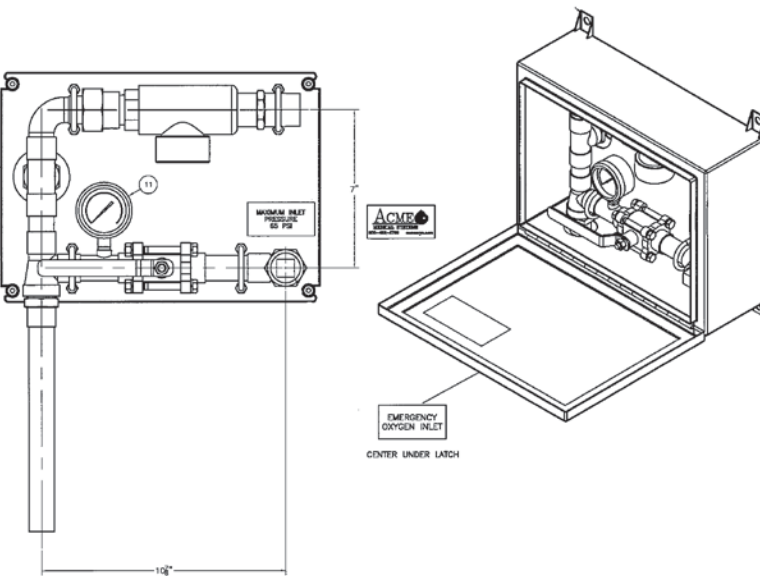
Specifications

Inlet Pressure..... 75 psi

Materials of Construction

Enclosure..... NEMA4
 Valve Body..... Bronze
 Piping Copper

Connections 1" FNPT
 Dimensions 16" w x 12"h x 6"d



Features

- Inlet 1" FNPT connection for high flow
- Lockable weather resistant (NEMA 4) enclosure for exterior mounting
- Gauge for display of supply pressure
- Integrated 1", 75 psi ASME safety relief valve
- NFPA 99C Compliant
- Available surface or flush mount
- UL Listed Enclosure
- Cleaned, capped and certified for Oxygen USP Service
- Check valves with tube ends available

Ordering Information

Description	Part Number
Inlet Box, Surface Mount	400-823001
Inlet Box, Flush Mount	400-823098

Required Parts for Complete Installation

1" check valve with factory brazed copper extensions, oxygen cleaned	400-823187
1 1/2" check valve with factory brazed copper extensions, oxygen cleaned	400-823188
2" check valve with factory brazed copper extensions, oxygen cleaned	400-823189
1" replacement relief valve, 75 psi, ASME relief valve	279-823139

EMERGENCY OXYGEN INLET BOXES

CHECK VALVES WITH BRAZED COPPER EXTENSIONS



Acme offers check valves with brazed copper extensions for use in a built system installation. Because the valves come factory-ready complete with 12 inch brazed copper extensions, they can significantly reduce installation time by eliminating the need for field assembly.



Features

- Conbraco High Flow Straight-through Design Check Valve
- 12" Factory Brazed Copper Extensions
- Cleaned, Capped and Certified for Oxygen USP Service
- Individually Bagged
- Spring Fully Shielded from Flow
- Available in 1", 1 ½" and 2" sizes

Ordering Information

<u>Size</u>	<u>Part Number</u>
1"	400-823187
1½"	400-823188
2"	400-823189

ACME 
CRYOGENICS
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