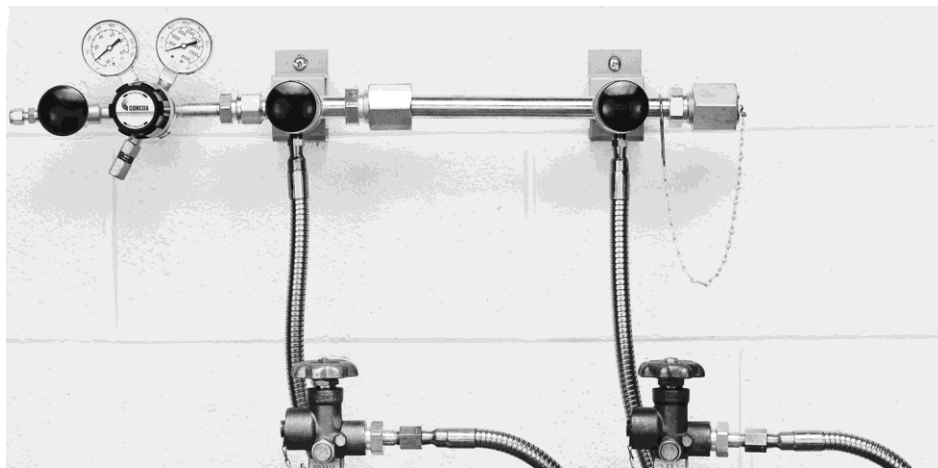




ADI 3172-E

628 Series Maniflex System



INSTALLATION AND OPERATING INSTRUCTIONS

Before Installing or Operating, Read and Comply with These Instructions

Controls Corporation of America
1501 Harpers Road Virginia Beach, VA 23454
Telephone 1-800-225-0473 or 757-422-8330 • Fax 757-422-3125
www.concoa.com

April 2023
Revision E

USER RESPONSIBILITY

This equipment will perform in conformity with the description contained in this manual and accompanying labels and/or inserts when installed, operated, maintained, and repaired in accordance with the instructions provided. This equipment must be checked periodically. Improperly working equipment should not be used. Parts that are broken, missing, worn, or distorted should be replaced immediately. CONCOA recommends that a telephone or written request for service advice be made to CONCOA Customer Service in Virginia Beach, Virginia, PHONE: 1-800-225-0473, FAX: 1-757-422-3125, or E-MAIL: e-mail@concoa.com.

This equipment or any of its parts should not be altered without prior written approval by CONCOA. The user of this equipment shall have the sole responsibility for any malfunction that results from improper use, faulty maintenance, damage, improper repair, or alteration by anyone other than CONCOA or a service facility designated by CONCOA.

CUSTOMER ASSISTANCE

In the event of equipment failure, call the CONCOA Customer Assistance Line: 1-800-225-0473. Please be prepared to provide the model number and serial number of the equipment involved in addition to some details regarding its application. This would include inlet and outlet pressures, flow rate, environmental conditions, and gas service.

Things to consider before removing the system from the box....

1. Know the properties and special handling requirements of the gas being used. Many specialty gases are quite dangerous (flammable, toxic, corrosive, simple asphyxiant, or oxidizers). Equipment failure or misuse may lead to the sudden release of service gas into the surrounding area. Proper safety measures should be established to handle component failures.
2. Be sure that the assembly purchased is suitable for the gas and type of service intended. The label provides the following information:
 - a. Model number
 - b. Serial number
3. Be sure that the equipment received conforms to the order specifications. The user is responsible for selecting equipment compatible with the gas in use and conditions of pressure, temperature, flow, etc. Selection information can be found in CONCOA technical data sheets. In addition, CONCOA representatives are trained to aid in the selection process.
4. Inspect the assembly upon receipt to be sure that there is no damage or contamination. Pay particular attention to connecting threads. While CONCOA assembles system components to exacting leak-tight standards, the customer should also inspect for any loosening of parts that may occur in shipping or installation. Loose parts may be dangerously propelled from an assembly. If there are adverse signs (leakage or other malfunction), return the assembly to the supplier. While it is advised that soiled regulators be returned for cleaning, simple external dust or grease may be removed by a clean cloth and, if required, with aqueous detergent suitable for the application. If there are signs of internal contamination, return to the supplier.
5. Before system startup, it is recommended that all systems be pressure tested, leak tested, and purged with an inert gas such as nitrogen. To accomplish this with connections other than a CGA 580, it will be necessary to use an adapter. The recommended use of an adapter is for temporary use for start-up and system checks only. Adapters should never be used on a permanent basis.

Comply with precautions listed in C.G.A. Pamphlet P-1, Safe Handling of Compressed Gases in Containers.

GENERAL SAFETY PRACTICES

Consult the cylinder distributor for the proper use of cylinders and for any restrictions on their use (such as flow rate and temperature requirements).

Store cylinders with valve caps screwed on and cylinders chained to a supporting wall or column.

Handle cylinders carefully and only with valve caps screwed on. The cap will reduce the chance that the cylinder valve will break off if the cylinder is accidentally dropped or falls over. The cap also protects the cylinder valve from damage to screw threads which could cause leaky connections.

All manifolds used with flammable gases should be provided with approved flashback arrestors to stop any burning gas in the pipeline from getting back to the manifold or cylinders.

No smoking should be permitted near oxygen, nitrous oxide, any other oxidizer, flammable gases, or flammable mixtures, or in areas where cylinders are stored.

Where oxygen or nitrous oxide is used, the manifold and cylinders must be kept clean. No oil, grease, or combustible substances should come in contact with oxygen or nitrous oxide storage or handling equipment. Such materials in contact with oxygen or nitrous oxide are readily ignitable and, when ignited, will burn intensely.

- Never use an open flame when leak testing.
- Always open valves slowly when high-pressure gases are being used.
- Always be sure that a cylinder contains the correct gas before connecting it to any manifold.
- Always leak-test any manifold or distribution pipeline before using.
- Always be sure that the gas in a pipeline is the correct gas for the intended use.
- Always close all cylinder valves before disconnecting cylinders from a manifold.
- Always remove all empty cylinders from a manifold before connecting full cylinders.
- Always test cylinders to be sure the cylinders are full before connecting to a manifold.

All gas distribution piping systems must meet the appropriate industrial standards for the intended service and must be thoroughly cleaned before using. For the United States, some applicable safety rules and precautions are listed below:

1. American National Standards Institute standard Z49.1, Safety in Welding and Cutting, American Welding Society, 2501 NW Seventh Street, Miami, Florida 33125
2. N.F.P.A. Standard 51, Oxygen-Fuel Gas systems for Welding and Cutting, N.F.P.A., 470 Atlantic Avenue, Boston, Massachusetts 02210
3. N.F.P.A. Standard 51B, Cutting and Welding Processes (same address as #2).
4. CONCOA publication ADE 872, Safety Precautions in Welding and Cutting.
5. Local Ordinances
6. O.S.H.A. Standard 29 CFR
7. C.G.A. Pamphlet C-4, American National Standard Method of Marking Portable Compressed Gas Containers to Identify the Material Contained.
8. C.G.A. Pamphlet G-4, Oxygen – Information on the properties, manufacture, transportation, storage, handling, and use of oxygen.
9. C.G.A. Pamphlet G-4.1, Equipment Cleaned for oxygen service.
10. C.G.A. Pamphlet G-4.4, Industrial Practices for Gaseous Oxygen Transmission and Distribution Piping Systems.
11. C.G.A. Pamphlet G-5, Hydrogen – Information on the properties, manufacture, transportation, storage, handling, and use of hydrogen.
12. C.G.A. Pamphlet G-6, Carbon Dioxide – Information on the properties, manufacture, transportation, storage, handling, and use of carbon dioxide.
13. C.G.A. Pamphlet G-6.1, Standard for Low Pressure Carbon Dioxide Systems at Consumer Sites.
14. C.G.A. Pamphlet P-1, Safe Handling of Compressed Gases in Containers.
15. C.G.A. Safety Bulletin SB-2, Oxygen Deficient Atmospheres.

*C.G.A. pamphlets can be obtained from the Compressed Gas Association, 1235 Jefferson Davis Highway, Arlington, VA 22202-3239, (703) 979-0900. Publications: (703) 979-4341. Fax: (703) 979-0134.

LOCATION

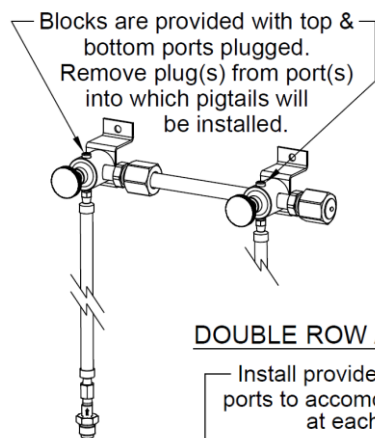
Keep all cylinders and manifolds away from any source of high temperature over 120°F(50°C) or possible fire hazards. High-pressure gas contained in a closed cylinder becomes increasingly dangerous when exposed to high temperature because pressure increases and the strength of the cylinder decreases. Manifolds installed in open locations should be protected from weather conditions. During winter, protect the manifold from ice and snow. In summer, shade the manifold and cylinders from continuous exposure to direct sunlight. Always leave access to the manifold for cylinder replacement.

The site chosen for the manifold installation shall be level, well ventilated, and at a safe distance from sources of flames, sparks, and excessive heat. The manifold should not be placed in an area that may subject the manifold to damage from passing trucks, cranes, or other heavy machines. Oxygen manifolds must not be installed under shafting, belting, or other places where oil can drip on them. For other location guidelines, see NFPA standard 51.

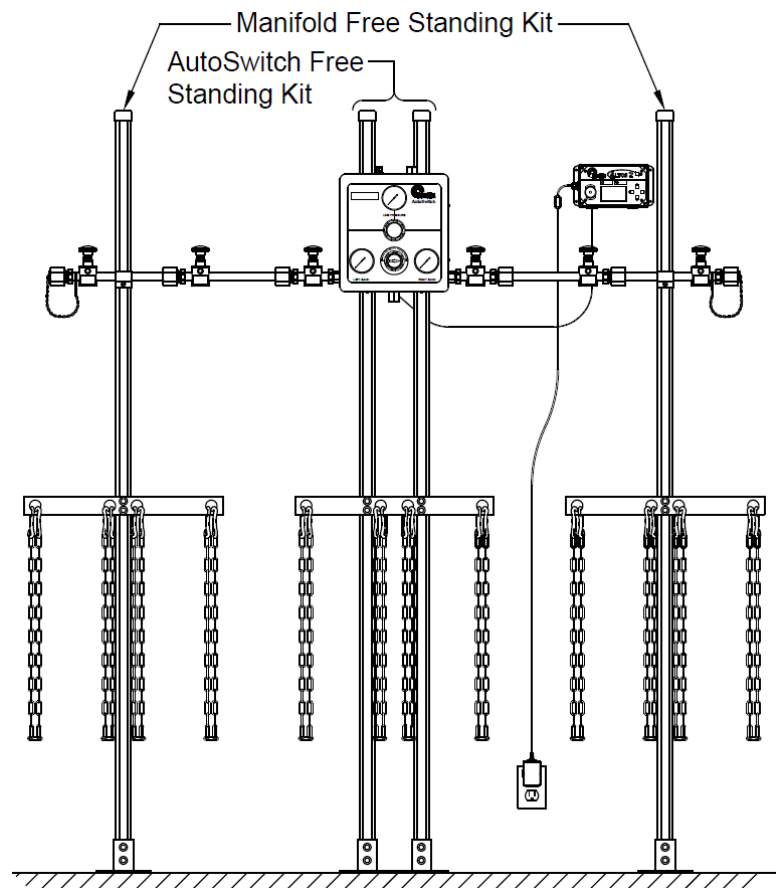
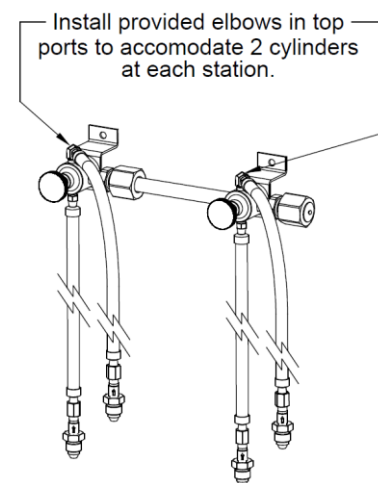
PRODUCT DESCRIPTION

The 628 Series Maniflex is a modular gas distribution system that can be connected to many CONCOA products including regulators, dual regulator switchovers, AutoSwitches, and IntelliSwitches. The 628 Series Maniflex allows the user to size the inlet capacity of a system so that the need for cylinder changes will be infrequent. Systems are available with either 12" (305 mm) standard station spacing or with 6" (153 mm) compact station spacing, and also with either the single row or double row arrangement. With single row systems, one cylinder may be connected at each Maniflex station. With double row systems, two cylinders may be connected to each Maniflex station. Brackets are included for wall mounting. Systems may be floor mounted using CONCOA's Manifold Free Standing Kit #8307437 and AutoSwitch Free Standing Kit #8307439 (see instructions document 99063239 [ADI 3239]). When using the free standing kits, the wall mount brackets are not used, and the station valve knobs may be pointed up. See illustrations below.

SINGLE ROW ARRANGEMENT

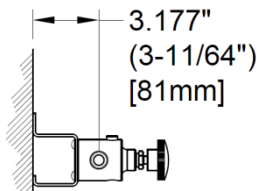


DOUBLE ROW ARRANGEMENT



MANIFLEX DIMENSIONS

OFF-THE-WALL

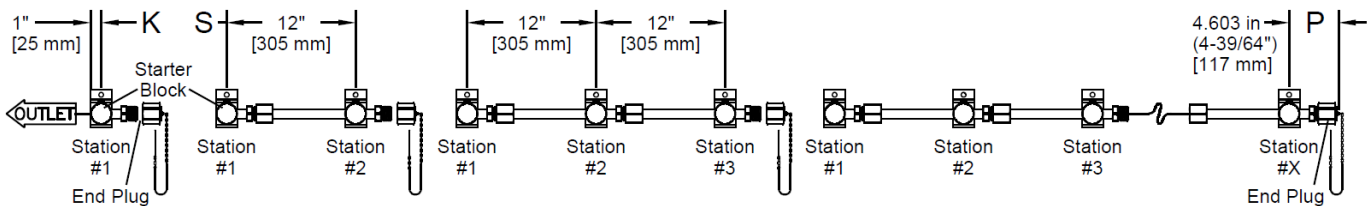


CALCULATING THE OVERALL MANIFLEX LENGTH:

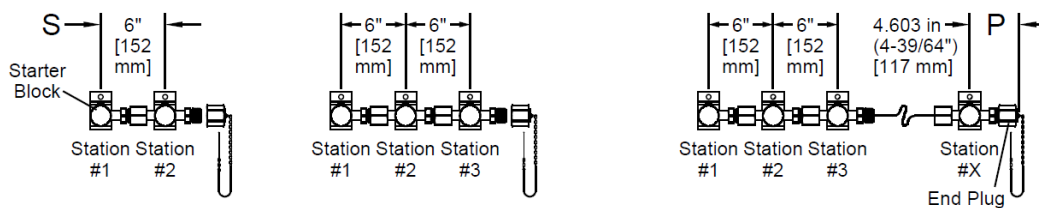
$$\begin{aligned} \text{Maniflex Overall Length} = & \text{Maniflex Connector Length } L \\ & + \text{Starter Block Distance } K \\ & + (\text{Total No. of Stations Minus } 1) \times \text{Station Spacing } S \\ & + \text{End Plug Distance } P \\ = & L + 1" + [(X - 1) \times S] + 4\text{-}39/64" \end{aligned}$$

* The connector length L for U-Bend Connectors will vary if the Maniflex outlet is not in-line with the inlet of the system to which it is being connected.

STANDARD 12" STATION SPACING

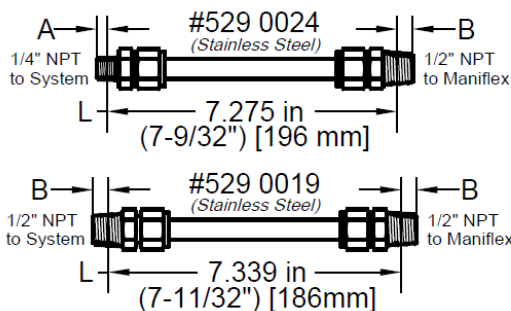


COMPACT 6" STATION SPACING

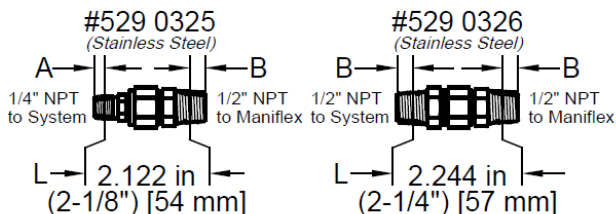


MANIFLEX CONNECTOR OPTIONS

Standard Maniflex Connectors

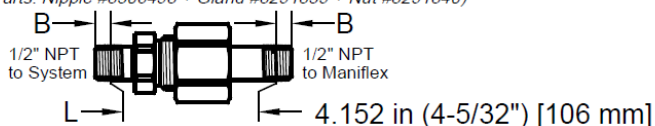


Compact ("Mini") Maniflex Connectors

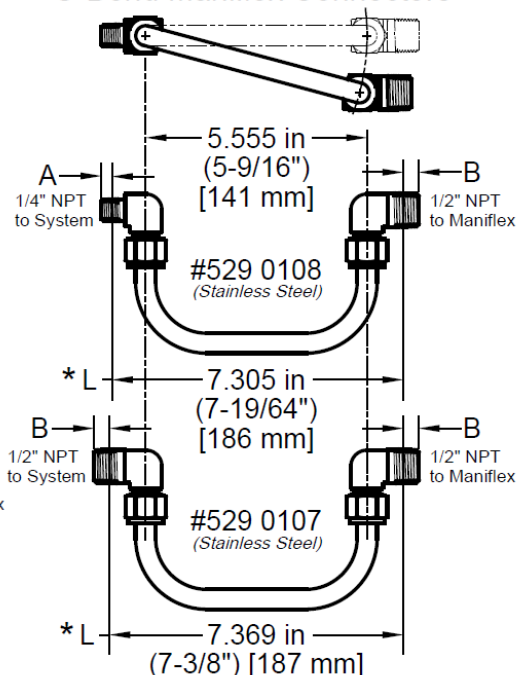


Union Connection Parts

(Brass Parts: Nipple #8306498 + Gland #8291839 + Nut #8291840)



U-Bend Maniflex Connectors



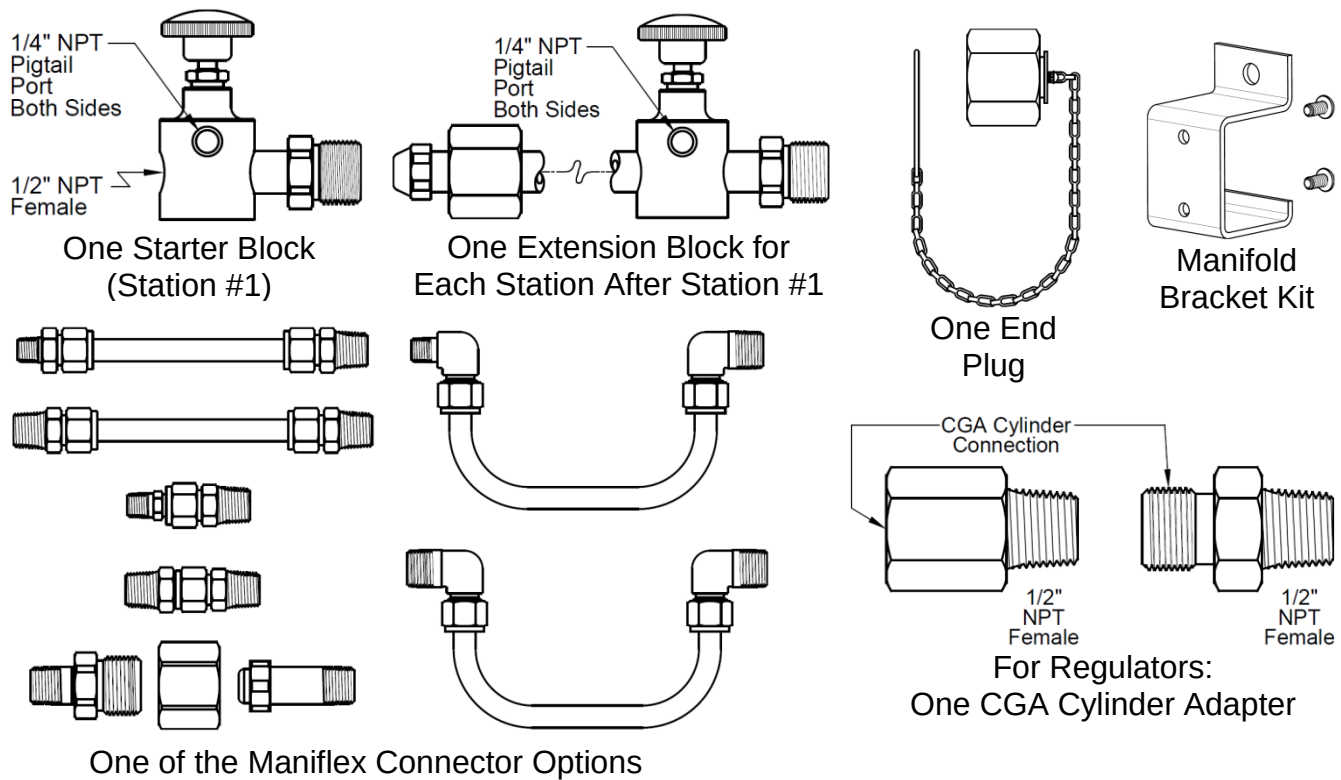
Note:
Some of these options can be ordered included with the part no. of the CONCOA system to which the Maniflex is being connected. Contact CONCOA customer service for details.

Nominal Depth of Male NPT Thread Sink

1/4" NPT: A = .267 in (17/64") [7 mm]

1/2" NPT: B = .393 in (25/64") [10 mm]

SYSTEM MAIN COMPONENTS



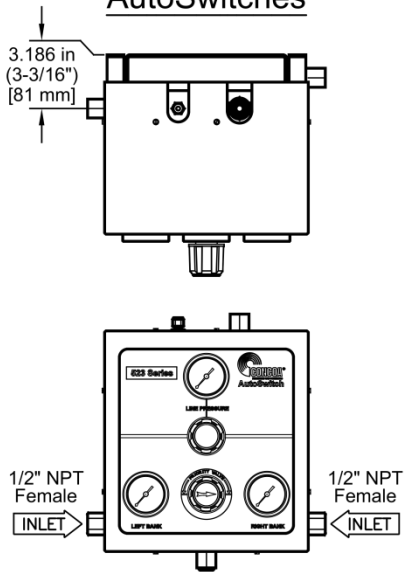
COMPATIBLE CONCOA SYSTEMS

The CONCOA Maniflex is compatible with the CONCOA systems shown in the table below and in the illustrations on the following pages. Refer to the CONCOA instruction documents listed in the table or included with your product for instructions on how to mount your system to the wall or for other installation arrangements.

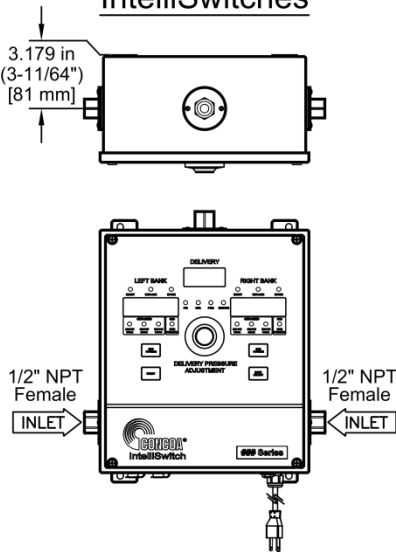
Series	Description	Instructions Document
AutoSwitches		
522	Brass Switchover System for (2) High Pressure Cylinder Banks, With or Without Remote Alarm Outputs	99063196 [ADI 3196]
635	High Flow Brass Switchover System for (2) High Pressure Cylinder Banks, Without Remote Alarm Outputs	99063206 [ADI 3206]
636	High Flow Brass Switchover System for (2) High Pressure Cylinder Banks, With Remote Alarm Outputs	
637	High Flow Brass Switchover System for (1) Left Hand Liquid Cylinder Bank + (1) Right Hand High Pressure Cylinder Bank, With Remote Alarm Outputs	99063208 [ADI 3208]
Dual Regulator Switchovers		
526	Brass Switchover System, Without Remote Alarm Outputs or With Pressure Switch Gauges	99063166 [ADI 3166]
	Brass Switchover System, With Transducer Remote Alarm Outputs	99060526 [ADI 0526]
High Flow Backup Systems		
542	High Flow Gas Generator Backup System	99069519 [ADI 9519]
CONCOA Regulators		
Many Series and Instruction Documents. Refer to the CONCOA Web Site or contact Customer Service.		

Series	Description	Instructions Document
IntelliSwitches		
539	Electronic Switchover, Arrangements for High Purity Applications	99069501 [ADI 9501]
640	Electronic Switchover, Arrangements for Industrial Applications	
IntelliSwitch IIs		
538	Electronic Switchover, Arrangements for High Purity Applications	99069515 [ADI 9515]
642	Electronic Switchover, Arrangements for Industrial Applications	
544	Electronic Bank Switching Valve (No Pressure Reduction)	99069527 [ADI 9527]
Various		
632	Pressure Differential Switchover	99063223 [ADI 3223]
631	Single Regulator Simplex High Flow Manifold	This Document + 99061608 [ADI 1608]
633	Single Regulator Duplex High Flow Manifold	
634	Semiautomatic Dual Regulator High Flow Switchover	

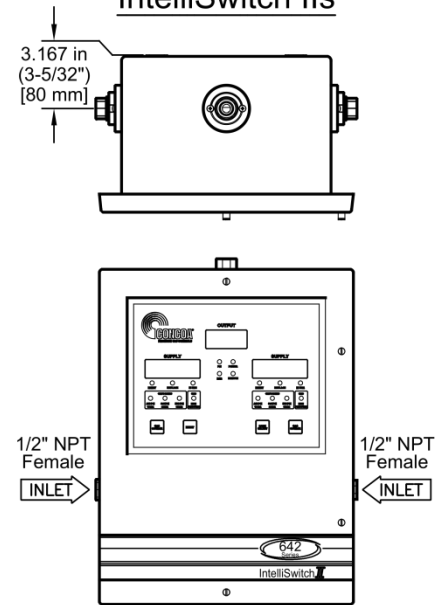
AutoSwitches



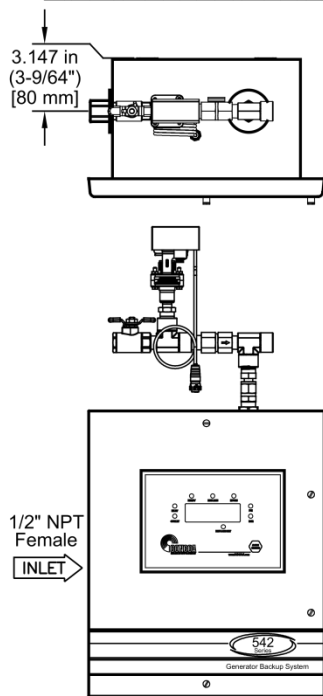
IntelliSwitches



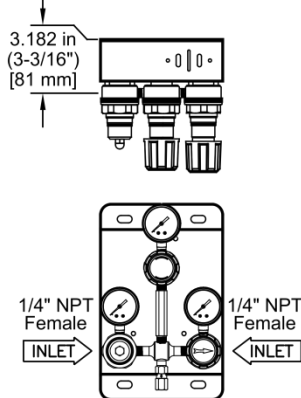
IntelliSwitch IIs



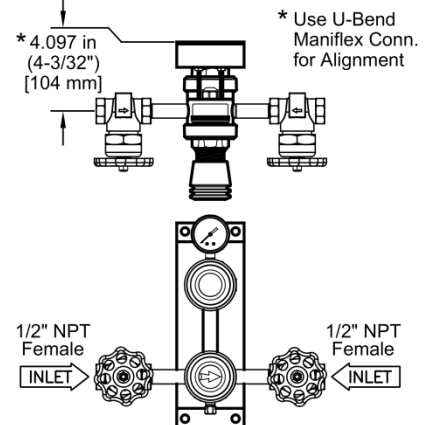
542 Series High Flow Backup Systems



Dual Regulator Switchovers

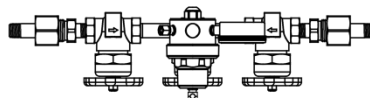


632 Series Pressure Differential Switchovers

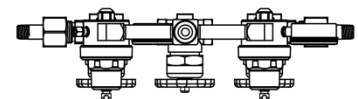


CONCOA
Regulators

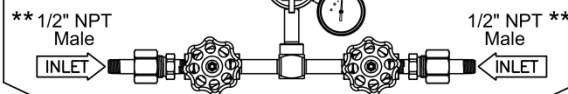
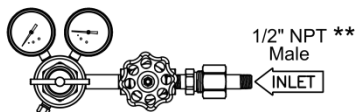
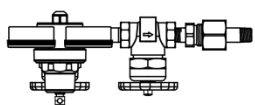
633 Series Duplex High Flow Manifold



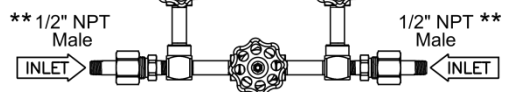
634 Series Semi-Auto High Flow Switchover



631 Series Simplex High Flow Manifold



**The 631, 633, and 634 Series all come with Union Connection swivel Maniflex connectors.



INSTALLATION

INSTALLING INLET AND OUTLET CONNECTIONS:

When installing the system: a. Be sure to consider all factors when selecting materials.

b. Do not use oil or grease on fittings.

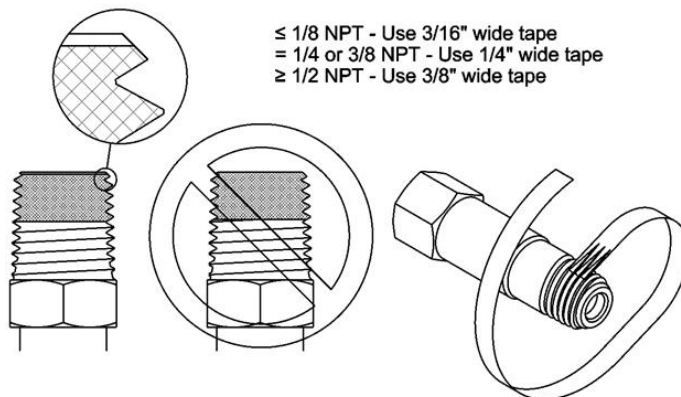
c. Be sure all fittings are secure & leak tight. PTFE tape must be used on pipe threads.

Use an open-end wrench, not a pipe wrench, to install accessories to the system.

PTFE TAPING PROCEDURE:

Be sure that all fittings are secure and leak tight. PTFE tape must be used on NPT threads to ensure a gas-tight seal. Avoid impinging on the gas stream. On stainless steel connections, PTFE tape also helps to prevent the connections from galling together when tightening or loosening. Follow the following rules when using PTFE tape:

- Before applying PTFE tape, inspect the NPT threads, and, if necessary, clean the fitting to remove any dirt or thread sealant that remains on the threads.
- Start the PTFE tape on the first thread leaving a slight section of the chamfer exposed as shown in the detail. Make sure the tape does not overlap the end of the fitting.
- As the tape is wrapped in the direction of the thread spiral, pull tightly on the end of the tape so that the tape conforms to the threads.
- Apply at least 2 but no more than 3 layers of tape to the threads.
- Cut off excess tape, and press the end firmly into the threads.



MANIFLEX WALL MOUNTING INSTRUCTIONS:

- Align your Maniflex with the inlet connection(s) on your compatible system. Systems are typically mounted on the wall with their inlets 65" to 73" (1.65 m to 1.85 m) above the floor.
- Prepare your Maniflex connector option as follows:
 - Standard Maniflex Connector: Disassemble the tube connection on the end to be installed into the Maniflex starter block;
 - Compact Maniflex Connector: Disassemble the 2-piece connector;
 - Union Connection Connector: Disassemble into three separate pieces;
 - U-Bend Maniflex Connector: Disassemble both tube connections from the connector.
- Wrap both NPT ends of the connector with PTFE tape as described in the PTFE taping procedure, and assemble as follows:
 - For standard Maniflex connectors, install the factory assembled tube connection with tube with into the compatible system inlet port;
 - For compact Maniflex connectors, install the end without the nut into the compatible system inlet port;
 - For union connection connectors, install the male x male nipple into the compatible system inlet port;
 - For U-bend connectors, install either end that mates into the compatible system inlet port.If the compatible system has a bulkhead inlet fitting, ALWAYS hold the bulkhead fitting with a wrench when installing the Maniflex connector. Do not allow the bulkhead fitting to turn; otherwise, connections inside the box may be loosened. Assemble the other PTFE taped NPT end of the connector into the starter block 1/2" NPT port.
- Assemble the mounting bracket to the starter block. Connect the starter block to the compatible system. For u-bend connectors, the u-tube will have to be swung to the correct angle. Tighten the tube or union connection joints that were disassembled. Ensure that the starter block is level, and mark the wall at the mounting bracket hole. Using appropriate hardware, secure the starter block assembly to the wall.
- Assemble the mounting brackets to the remaining extension blocks. Loosely assemble each extension block one at a time to the preceding Maniflex station (no PTFE tape is required). Level and secure the mounting brackets to the wall. Tighten each extension connection before installing the next extension.
- With the extensions completely installed, tighten the end plug to the open end of the final extension block.
- Make sure that all connections are tightened.
- Remove the pipe plug(s) located on each block where pigtails will be installed. Apply PTFE tape to the male 1/4" NPT thread of each pigtail as described in the PTFE taping procedure, and assemble into the blocks as shown in the product description. For standard single row arrangements, the proper orientation for all pigtails is vertically down from the Maniflex header.

9. Refer to “Connecting a Cylinder” for directions on connecting the pigtail(s) to the cylinder(s).

CONNECTING TO A CYLINDER:

1. Before removing the cylinder cap, move the cylinder of gas to the work site:
 - a. Secure cylinder to the floor, wall, stand, or bench with appropriate chain, strap, or stand to prevent toppling.
 - b. Remove the cylinder cap.
 - c. Be sure the cylinder valve is tightly closed (clockwise)
 - d. Remove the cylinder valve plug, if any.
 - e. Inspect the cylinder valve and threads for damage or contamination.
2. Secure the cylinder connection to the cylinder in the following manner:
 - a. Threading the nut onto the cylinder connection should be easy. Do not force. If it does not fit, the connection may be wrong for the type of gas being used.
 - b. Left-hand threads are used on some cylinder connections. A notch in the middle of the hex nut typically indicates a left-hand thread.
 - c. Gaskets are used on some inlet connections. Be sure the gasket is in good shape. Do not over-tighten to avoid squashing the gasket into the gas line. Keep extra gaskets on hand.

WARNING: Never use oil or grease on regulator or cylinder fittings, as it may contaminate pure gases, or create a fire hazard.

PRESSURE TESTING THE SYSTEM:

Before system startup, it is recommended that all systems be pressure tested, leak tested, and purged with an inert gas such as nitrogen. To accomplish this with connections other than a CGA 580, it will be necessary to use an adapter. The recommended use of an adapter is for temporary use only for system start up and checks. Adapters should never be used on a permanent basis.

1. Wear safety glasses and gloves.
2. Connect a nitrogen cylinder to the last pigtail on the Maniflex. Connect the appropriate gas cylinders to the remaining pigtails. Do not open any of the cylinder valves yet.
3. Be sure that both ends of all hoses or pigtails are secured before pressurizing. Turn OFF (clockwise) all Maniflex header valves with the exception of the header valve for the nitrogen cylinder. Turn the compatible system's delivery regulator knob counterclockwise until it stops turning (compatible system delivery pressure OFF).

WARNING: If the attached compatible system is a preset regulator or a dual regulator switchover without the optional line regulator, gas will escape from the delivery side of the system during testing.
4. When first pressurizing, do not stand in front of or contact any regulator or switchover systems. Slowly open the nitrogen cylinder valve. Observe the high pressure gauge on the compatible system to which the Maniflex is connected, and watch for a rise in pressure up to full cylinder pressure.
5. Keep the hand wheel or wrench on the open cylinder valve at all times to allow prompt emergency shut-off.
6. One at a time, open the other manifold header valves (slowly) to pressurize the pigtails (not the cylinder valves).
7. Inspect all connections for leaks and fix any leaks. A leak detection solution may be applied to the connections (if compatible with the application) which indicates leaks by bubbling. To further check for leaks or if the leak detection solution cannot be used, close the cylinder valve for a period of time (recommended 24 hours), and observe the high pressure gauge for a drop in pressure. If so indicated, recheck the CGA connection and all other high-pressure port connections. Never attempt to fix a leak under pressure. If leaks are detected, depressurize the system and retighten the connection. Begin again at step 3.
8. Turn the compatible system's delivery regulator knob clockwise to increase the pressure on the delivery side of the system. Check the delivery side for leaks as described in the steps above.
9. When all leaks are fixed, turn off the nitrogen cylinder valve and manifold header valve. Disconnect nitrogen cylinder and remove adapter. Connect the appropriate gas cylinders to the manifold.

OPERATION

Follow the instructions supplied with the compatible system when operating these devices. When removing a cylinder from the manifold, the manifold header valve must be closed first.

MAINTENANCE

At regular intervals, the Maniflex system should be checked for leaks and proper function (see troubleshooting). Each pigtail check valve should also be checked for leaks when a depleted cylinder is removed.

Note: the system inlet and pigtail should be pressurized when checking for leaks. Any leaks in the system should be corrected immediately.

TROUBLESHOOTING

Typical symptoms listed below indicate Maniflex system malfunctions needing repair. Immediately clean, repair, and test the system, or replace it with a new system.

1. Gas leakage from any joint.
2. Manifold header valve when closed does not cut off the gas supply to the compatible system.
3. The system makes a noise or hums.

SERVICE

A unit that is not functioning properly should not be used. It is recommended that all servicing be done by a service facility authorized by CONCOA. Contact CONCOA Customer Service in Virginia Beach, Virginia for systems still covered by the warranty. For items not covered by the warranty, contact the nearest CONCOA District Sales Office for assistance. If so advised, the unit should be sent to a service facility authorized by CONCOA. Do the following before shipping:

1. Adequately package the system. If possible, package it in the original shipping container.
2. Ship prepaid.
3. Include a statement of the observed deficiency.
4. Indicate the gas service that the equipment was used on.
5. Purge all equipment before shipment to protect the transporter and service personnel. The purging is especially important if the equipment has been in hazardous or corrosive gas service.

Return trip transportation charges are to be paid by the Buyer. In all cases where the warranty has expired, repairs will be made at current list price for the replacement part(s), plus a reasonable labor charge.

WARRANTY INFORMATION

This equipment is sold by CONTROLS CORPORATION OF AMERICA under the warranties set forth in the following paragraphs. Such warranties are extended only with respect to the purchase of this equipment directly from CONTROLS CORPORATION OF AMERICA or its Authorized Distributors as new merchandise and are extended to the first Buyer thereof other than for the purpose of resale.

For a period of one (1) year from the date of original delivery (90 days in corrosive service) to Buyer or to Buyer's order, this equipment is warrantied to be free from functional defects in materials and workmanship and to conform to the description of this equipment contained in this manual and any accompanying labels and/or inserts, provided that the same is properly operated under conditions of normal use and that regular periodic maintenance and service is performed or replacements made in accordance with the instructions provided. The foregoing warranties shall not apply if the equipment has been repaired: other than by CONTROLS CORPORATION OF AMERICA or a designated service facility in accordance with written instructions provided by CONTROLS CORPORATION OF AMERICA; or altered by anyone other than CONTROLS CORPORATION OF AMERICA; or if the equipment has been operated under improper conditions or outside published specifications; or if the equipment has been damaged or does not function due to improper installation, improper supply of required utilities, accident, abuse, misuse, natural disaster, insufficient or excessive electrical supply, abnormal mechanical or environmental conditions, or debris or particles in the gas or liquid source of supply.

CONTROLS CORPORATION OF AMERICA's sole and exclusive obligation and Buyer's sole and exclusive remedy under the above warranties is limited to repairing using new or reconditioned parts or replacing, free of charge except for labor if permanently installed for the continuous supply of gas by other than a technician certified by CONTROLS CORPORATION OF AMERICA specifically to do so, at CONTROLS CORPORATION OF AMERICA's option, the equipment or part, which is either (1) reported to its Authorized Distributor from whom purchased, and which if so advised, is returned with a statement of the observed deficiency, and proof of purchase of equipment or part not later than seven (7) days after the expiration date of the applicable warranty, to the nearest designated service facility during normal business hours, transportation charges prepaid, and which upon examination, is found not to comply with the above warranties with return trip transportation charges for the equipment or part paid by Buyer or (2) in the case of designated equipment permanently installed for the continuous supply of gas, reported to an Authorized Service Center with proof of initial installation no later than seven (7) days after the expiration date of the applicable warranty, and which is evaluated for compliance with the above warranties by technician certified by CONTROLS CORPORATION OF AMERICA, and which is determined by CONTROLS CORPORATION OF AMERICA based on said evaluation to be non-compliant.

CONTROLS CORPORATION OF AMERICA SHALL NOT BE OTHERWISE LIABLE FOR ANY DAMAGES INCLUDING BUT NOT LIMITED TO: INCIDENTAL DAMAGES, CONSEQUENTIAL DAMAGES, OR SPECIAL DAMAGES, WHETHER SUCH DAMAGES RESULT FROM NEGLIGENCE, BREACH OF WARRANTY OR OTHERWISE.

THERE ARE NO EXPRESS OR IMPLIED WARRANTIES WHICH EXTEND BEYOND THE WARRANTIES HEREINABOVE SET FORTH. CONTROLS CORPORATION OF AMERICA MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE EQUIPMENT OR PARTS THEREOF.



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