



ADI 1955-B
830-4200 830-4199
831-4138 830-4146

CERTIFIED ISO 9001

October 1999
Supersedes October 1996

REVERSE FLOW CHECK VALVES

Before installing, operating or servicing, read and comply with these instructions.

USER RESPONSIBILITY

This equipment will perform in conformity with the description thereof contained in this manual and accompanying labels and/or inserts when installed, operated, and maintained in accordance with the instructions provided. This equipment must be checked periodically. Defective equipment should not be used. Parts that are missing, plainly worn, distorted or contaminated, should be replaced immediately. Should such repair or replacement become necessary, CONCOA recommends that a telephone or written request for service advice be made to CONCOA Customer Service in Virginia Beach, Virginia, PHONE: 1-757-422-8330 or Toll Free in the U.S. and Canada 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 of CONCOA. The user of this equipment shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, damage, improper repair or alteration by anyone other than CONCOA or a designated CONCOA service facility.

INTRODUCTION

CONCOA check valves reduce the possibility of gas backflow into hoses, regulators and cylinders. One check valve is used in the oxygen line and one in the fuel line. CONCOA offers models which install at either the torch or the regulator end of the hose. Installation at the torch end is preferred for most effective backflow protection, but the check valve is more subject to fouling and may require more frequent replacement.

Check valves are an accessory which helps prevent equipment damage and possible injury when proper torch operating practices are not followed. Backflow of one gas into the opposite line can result in mixtures which may be combustible or explosive.

CAUTION

Check valves are an aid to safe torch operation but not a substitute for proper operating practices. Check valves must be kept clean and in good working order, or they will not perform their function. Check valves not in proper working order may be less safe than no check valve at all. Check valves should be tested at least every six months, in the manner described below, and replaced immediately if not satisfactory.

Reverse flow check valves are not designed to act as fire stops and must not be used as substitutes for flash arrestors.

INSTALLATION

Torch check valves are attached to the torch inlet connections. Screw them on, tighten securely with a wrench, attach hoses and check for leaks.

Regulator check valves replace the 1/4" NPT to 9/16" "B" size outlet fittings found on most regulators. Remove the outlet fitting. Apply a single turn of Teflon® tape to the pipe thread end of the check valve. Screw the taped end into the regulator outlet and make a gas-tight connection; check for leaks.

TEST PROCEDURES FOR PROPER CHECK VALVE OPERATION

A. Reverse Flow Test

1. Torch check valves

- Remove check valve from torch.
- Attach check valve directly to the regulator outlet of the same gas service. Note: Gas flow will be opposite of normal direction.
- Turn regulator pressure adjusting screw all the way out (for single stage regulators, slightly engage screw); open the cylinder or manifold valve. Adjust regulator to 10 PSIG delivery pressure.
- Apply a thin film of leak test solution suitable for oxygen service across the open end of the valve. If bubbles appear, valve is defective and should be replaced.
- Back off regulator adjusting screw and remove check valve.

2. Regulator check valves

- Close cylinder or station valve and remove regulator.
- Turn the adjusting screw of the disconnected regulator to fully engaged position. Apply 10 PSIG of the same gas to the check valve (regulator outlet).
- Apply a thin film of leak test solution suitable for oxygen service across the normal inlet connection of regulator. If bubbles appear, the check valve is defective and should be replaced.

If the check valve is satisfactory, reattach regulator to cylinder or station.

If the check valve is satisfactory, reattach regulator to station.



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- Apply a thin film of leak test solution suitable for oxygen service across the open end of the valve. If bubbles appear, valve is defective and should be replaced.
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- Turn the adjusting screw of the disconnected regulator to fully engaged position. Apply 10 PSIG of the same gas to the check valve (regulator outlet).
- Apply a thin film of leak test solution suitable for oxygen service across the normal inlet connection of regulator. If bubbles appear, the check valve is defective and should be replaced.

If the check valve is satisfactory, reattach regulator to cylinder or station.

If the check valve is satisfactory, reattach regulator to station.

B. Normal Flow Test

Properly operating check valves should not restrict gas flow or require regulator pressure to be unduly increased to obtain adequate flow. If torch performance suggests that flow is being restricted, a defective check valve should be suspected and replaced immediately.

1. Torch check valves

- a. Install a torch pressure test gauge between the check valve and the torch.
- b. Apply the desired delivery pressure, e.g. 15 PSIG for acetylene.
- c. If a pressure drop of greater than 10% is shown on the test gauge, then the flow is restricted and the check valve is defective. Replace immediately.

CUSTOMER ASSISTANCE

In the event of equipment failure, call the CONCOA Customer Assistance Line: 1-800-225-0473 (U.S. and Canada) or 1-757-422-8330. Please be prepared to provide the model number and serial number of the equipment involved, in addition to details regarding its application.

For information on flssback arrestors, call CONCOA Customer Service and request ADI

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 warranted 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 or 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 subject to abuse, misuse, negligence or accident.

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