

Installation, Operation and Maintenance Instructions



Chemetype Outlets

4107 9002 65

Revision 00

20 October 2010

Previous Edition 20 April 2010



BEACONMEDÆS®

Part of the Atlas Copco Group

Table of Contents

Introduction	1
Limitations on Use	3
Installation	4
Part Numbers	6
Inspection, Maintenance and Repair Procedure	8
Parts explosions	11

Introduction

BeaconMedæ's Chemetype Medical gas outlets and vacuum inlets are designed to be 100% parts compatible with Chemetron® 400 and 500 latch index and 460 and 560 Diameter Index Safety System (DISS) medical gas outlets.

These instructions apply to Chemetype outlet stations in Latch key and DISS variants.

Limitations on Use

Chemetype latch key medical gas outlets are intended for use at standard medical gas pressures of 50-60 psig (345-450 kPa) and should not be used at higher pressures. Rough in's with test caps in place are capable of withstanding the 150 psig (1,035 kPa) test pressure required under NFPA 99. Chemetype latch key Medical Vacuum and WAGD inlets are designed for operation under vacuum to 29.9 inHgV (760 mmHgV) at sea level.

Chemetype DISS medical gas outlets are intended for use at standard medical gas pressures of 50-60 psig (345-450 kPa) and may be used up to 200 psig (1,380 kPa). Use at pressures in excess of 200 psig (1,380 kPa) is not recommended. Rough in's with test caps in place are capable of withstanding the 150 psig (1,035 kPa) test pressure required under NFPA 99. Chemetype DISS Medical Vacuum and WAGD inlets are designed for operation under vacuum to 29.9 inHgV (760 mmHgV) at sea level.

Chemetype outlets and inlets are tested for compliance with NFPA 99 flow rate requirements if installed correctly.

As medical gas outlets and inlets, Chemetype is intended only for the designated gases and for use as part of a medical gas system otherwise compliant with NFPA 99, CSA Z-7396, ISO 7396 (or other standards deriving from these). Chemetype should not be used for gases or vacuum applications not consistent with their designated gas, nor should they be used for non-medical purposes.

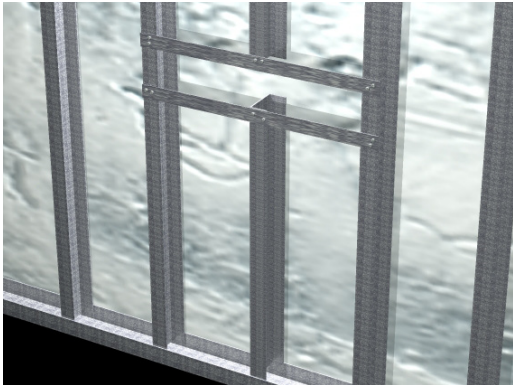
Construction of the Chemetype outlets includes limited numbers of steel components. Use in proximity to Magnetic Resonance Imaging (MRI) magnets should be preapproved by your MRI installer.

Chemetron is a registered trademark of Allied Healthcare Products, Inc. St. Louis, MO.

The controlling standard for the DISS system is the CGA V-5, Published by the Compressed Gas Association, Inc., 4221 Walney Road, 5th Floor, Chantilly, VA 20151

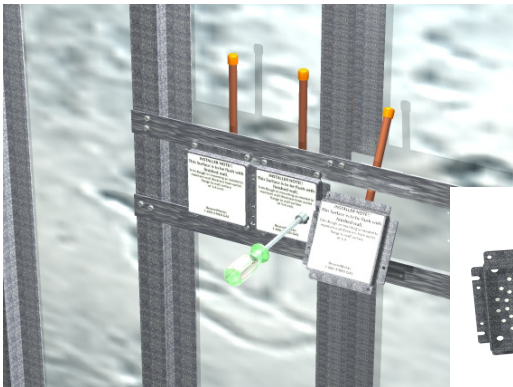
Installation

Installation of a Chemetype outlet is similar to any other modern medical gas outlet.

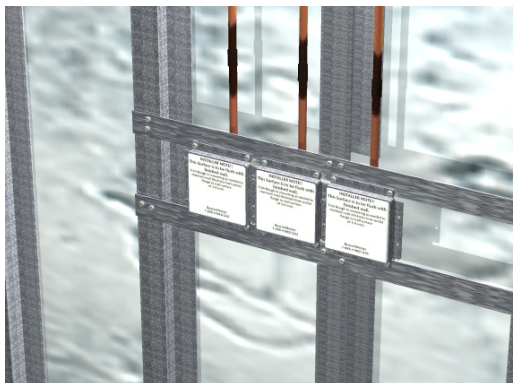


Typical Drywall Installation

Frame the outlet location using studs



Place the outlets. When multiple outlets are to be placed together, use the ganging feature to align one rough in with the others. This will ensure the finish plates have a tight finished appearance. Attach the outlets to the structure top and bottom (4 places)



Complete the brazing process. When brazing, always protect the outlet from excess heat using a wet towel or other heat sink. Perform the Initial Pressure Test at this time (see NFPA 99 2005 5.1.12.2.3)

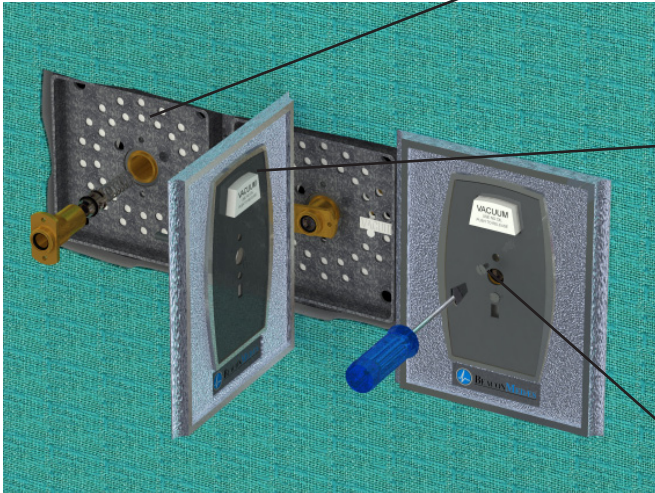


Complete the wall, cutting the wall material to fit closely to the flange on the outlet group: top, bottom and at each end. It is not necessary to fill the space between the ganged outlets, as the dress plates will abut one another and close that gap. The wall thickness (Outlet base to finished wall surface) should not exceed 3/4 inch (19mm) unless an extended valve body is used (see page 8)

Installation (Continued)

Remove the pressure test plug.

Install the valve body, inserting the poppet into the valve body and the spring into the rough in.



Using a straight edge (the finish works well) ensure the valve body is flush to the finished wall. Screw the valve body in or out of the outlet to adjust. (If the valve body cannot be made flush, you may require an extended valve body - see below)

Turn the valve body until it is up and down, and then install the finish using the two mounting screws (provided). The finish should be tight against the wall and should not rotate easily. If there is a gap between the wall and the finish, the valve body should be screwed into the wall further. If tightening the screws distorts the finish, the valve body should be screwed out.

Installation in other construction types will use similar techniques.

PRIOR TO USE have the outlet verified by a verifier qualified to ASSE 6030 (use of verifiers with MGPHO Credentialed Medical Gas Verifier (CMGV) credentials is recommended) and DO NOT USE the outlet until all verification tests are performed and attested.

Part Numbers

Complete Outlet Part Numbers

<i>Description</i>	<i>Chemetron Part Number</i>	<i>BeaconMedaes Part Number</i>
Complete Wall Outlet, Latch Key, Oxy	64-01-5001P	4107210159
Complete Wall Outlet, Latch Key, Vac	64-01-5002P	4107210161
Complete Wall Outlet, Latch Key, Vac ISO	64-01-5052P	Call
Complete Wall Outlet, Latch Key, N ₂ O	64-01-5004P	4107210162
Complete Wall Outlet, Latch Key, MAir	64-01-5003P	4107210160
Complete Wall Outlet, Latch Key, MAir ISO	64-04-5053P	Call
Complete Wall Outlet, Latch Key, CO ₂	64-04-5007P	4107210163
Complete Wall Outlet, Latch Key, WAGD	64-04-5006P	4107210164
Complete Wall Outlet, DISS, Oxy	64-04-5601P	4107210166
Complete Wall Outlet, DISS, Vac	64-04-5602P	4107210168
Complete Wall Outlet, DISS, Vac ISO	64-04-5652P	Call
Complete Wall Outlet, DISS, N ₂ O	64-04-5604P	4107210169
Complete Wall Outlet, DISS, MAir	64-04-5603P	4107210167
Complete Wall Outlet, DISS, MAir ISO	64-04-5653P	Call
Complete Wall Outlet, DISS, CO ₂	64-04-5607P	4107210170
Complete Wall Outlet, DISS, I Air		4107210173
Complete Wall Outlet, DISS, N ₂	64-04-5605P	4107210172
Complete Wall Outlet, DISS, WAGD	64-04-5606P	4107210171
Complete Vacuum Slide	64-06-0001P	4107210165
Complete Console Outlet, Latch Key, Oxy	64-20-0001	4107210190
Complete Console Outlet, Latch Key, Vac	64-20-0005	4107210192
Complete Console Outlet, Latch Key, Vac ISO		
Complete Console Outlet, Latch Key, N ₂ O	64-20-0006	4107210193
Complete Console Outlet, Latch Key, MAir	64-20-0002	4107210191
Complete Console Outlet, Latch Key, MAir ISO		
Complete Console Outlet, Latch Key, CO ₂	64-20-0004	4107210194
Complete Console Outlet, Latch Key, WAGD	64-20-0008	4107210195
Complete Console Outlet, DISS, Oxy	64-35-0001	4107210197
Complete Console Outlet, DISS, Vac	64-35-0004	4107210199
Complete Console Outlet, DISS, Vac ISO		
Complete Console Outlet, DISS, N ₂ O	64-35-0005	4107210200
Complete Console Outlet, DISS, MAir	64-35-0002	4107210198
Complete Console Outlet, DISS, MAir ISO		
Complete Console Outlet, DISS, CO ₂	64-35-0003	4107210201
Complete Console Outlet, DISS, I Air	64-35-0001	4107210204
Complete Console Outlet, DISS, N ₂	64-35-0010	4107210203
Complete Wall Outlet, DISS, WAGD	64-35-0009	4107210202

Finish Assembly Part Numbers

<i>Description</i>	<i>Chemetron Part Number</i>	<i>BeaconMedaes Part Number</i>
Wall Finish, Latch Key, Oxy	64-91-1501	4107210174
Wall Finish, Latch Key, Vac	64-91-1502	4107210176
Wall Finish, Latch Key, Vac ISO	64-91-1552	Call
Wall Finish, Latch Key, N ₂ O	64-91-1504	4107210177
Wall Finish, Latch Key, MAir	64-91-1503	4107210175
Wall Finish, Latch Key, MAir ISO	64-91-1553	Call
Wall Finish, Latch Key, CO ₂	64-91-1507	4107210178
Wall Finish, Latch Key, WAGD	64-91-1506	4107210179
Wall Finish, DISS, Oxy	64-90-0631 & 64-90-1561	4107210182
Wall Finish, DISS, Vac	64-90-0632 & 64-91-1562	4107210184
Wall Finish, DISS, Vac ISO	64-90-0632 & 64-91-1572	Call
Wall Finish, DISS, N ₂ O	64-90-0633 & 64-91-1564	4107210185
Wall Finish, DISS, MAir	64-90-0634 & 64-91-1563	4107210183
Wall Finish, DISS, MAir ISO	64-90-0634 & 64-91-1573	Call
Wall Finish, DISS, CO ₂	64-90-0635 & 64-91-1567	4107210186
Wall Finish, DISS, I Air		4107210189
Wall Finish, DISS, N ₂	64-90-0636 & 64-91-1565	4107210188
Wall Finish, DISS, WAGD	64-90-0638 & 64-91-1566	4107210187
Wall Finish, Slide		4107210180
Console Finish, Latch Key, Oxy		4107210213
Console Finish, Latch Key, Vac		4107210215
Console Finish, Latch Key, Vac ISO		Call
Console Finish, Latch Key, N ₂ O		4107210216
Console Finish, Latch Key, MAir		4107210214
Console Finish, Latch Key, MAir ISO		Call
Console Finish, Latch Key, CO ₂		4107210217
Console Finish, Latch Key, WAGD		4107210218
Console Finish, DISS, Oxy		4107210219
Console Finish, DISS, Vac		4107210221
Console Finish, DISS, Vac ISO		Call
Console Finish, DISS, N ₂ O		4107210222
Console Finish, DISS, MAir		4107210220
Console Finish, DISS, MAir ISO		Call
Console Finish, DISS, CO ₂		4107210223
Console Finish, DISS, I Air		4107210225
Console Finish, DISS, N ₂		4107210224
Console Finish, DISS, WAGD		Call

Accessories and Tools

Specialty Items

<i>Description</i>	<i>Chemetron Part Number</i>	<i>BeaconMedaes Part Number</i>
Blank Finish, Wall Style		4107210181
Extention kit (Barrel), 500 Series pressure outlets		4107400078
Extention kit (Barrel and Spring), 500 Series vacuum and WAGD outlets		4107400080
Extention kit (Barrel), 400 Series pressure outlets		4107400079
Extention kit (Barrel and Spring), 400 Series vacuum and WAGD outlets		4107400081

Accessories and Tools

<i>Description</i>	<i>Chemetron Part Number</i>	<i>BeaconMedaes Part Number</i>
Secondary check service tool	64-90-2050	4107400077
O ring lubricant		GRS01-007
Test plug (kit of 10)	64-90-0652	Call

Parts Kits, Wall Outlets

See Parts Diagrams page 11-14

The outlets require very little maintenance if properly installed and used.



Always follow good safety practice when working around medical gas equipment and use personal protective equipment. Outlets may be under pressure, may accumulate

biohazardous matter, and edges may be sharp.



Vacuum inlets in particular are subject to the accumulation of matter which may be biohazardous. Persons working with vacuum inlets should be trained on the hazards and provided with appropriate personal protective equipment including at least masks, gloves and eye protection.

Routinely, clean the exterior of the outlets using a damp cloth. Inspect for damage or distortion of the faceplates.

Outlets should be periodically tested for flow and pressure drop as per NFPA 99 2005 5.1.12.3.10 and for leakage using an ultrasonic leak detector or other leak detection method safe with oxygen.

Where an outlet is found to be damaged, to leak or because of occlusion does not meet flow requirements, the outlet should be disassembled and serviced as follows:

1. Remove the face plate. The face plate includes the latching mechanism and should be replaced if damaged or distorted. Generally, if the latch moves freely and the latch returns to place when released, the plate is OK. If the latch sticks or is difficult to move, the plate may need to be replaced.
2. If the latch moves freely but does not return to place, the latch springs may need to be replaced.
3. Unscrew the valve body, remove the poppet and spring and clear any occlusions (materials blocking the outlet flow). Clean the interior of the outlet if required.
4. Examine each component and replace any which are damaged or worn.
5. Clean the valve body and poppet. (treatment with a disinfectant is recommended prior to handling any vacuum parts)

Maintenance

6. Replace the o-rings on the poppet, inside the valve body and in the housing. Lubricate the O-rings very lightly with the oxygen safe lubricant specified in the parts list (they need only to be slightly wetted with lubricant - do not apply a large amount of lubricant and do not apply the lubricant to any parts other than the o-rings.)

7. Reassemble the outlet (see page 5)

8. Retest for flow and leakage.

If the outlet does not flow adequately when reassembled, it may be necessary to disassemble or replace the secondary check following the directions below.

1. Turn off the supply of gas or vacuum, following all facility procedures for patient and staff safety. NEVER DISCONNECT OR TURN OFF ANY MEDICAL GAS SUPPLY WITHOUT TWO CONFIRMATIONS OF PATIENT AND STAFF READINESS, AT LEAST ONE OF WHICH SHOULD BE DIRECTLY FROM THE MEDICAL STAFF.

2. Bleed out all pressure from the line by inserting an adapter into one of the outlets until all pressure is relieved.

3. Disassemble the outlet as above.

4. For Wall Outlets: Using the special secondary check tool, remove the secondary check from the outlet body.

4. For Console Outlets: Remove the secondary check housing using a 3/4 inch (19mm) socket.

5. Remove all components from the block, and clear any occlusions. Clean the interior of the outlet if required.

6. Prior to full reassembly, it is advisable to test the outlet. This is difficult for one person to do alone, and should not be attempted unless one person can manipulate the valve while the other tests the outlet. Testing requires the outlet be reassembled without the secondary check. The flowmeter is inserted in the outlet. The valve is then opened and the outlet flow tested. When the test is complete, the valve is closed and the pressure relieved through the flow meter. This test will confirm that the pipe is not occluded prior to reassembling the outlet.

6. (Since it is unusual to remove the secondary check and very difficult to arrange a service interruption, it

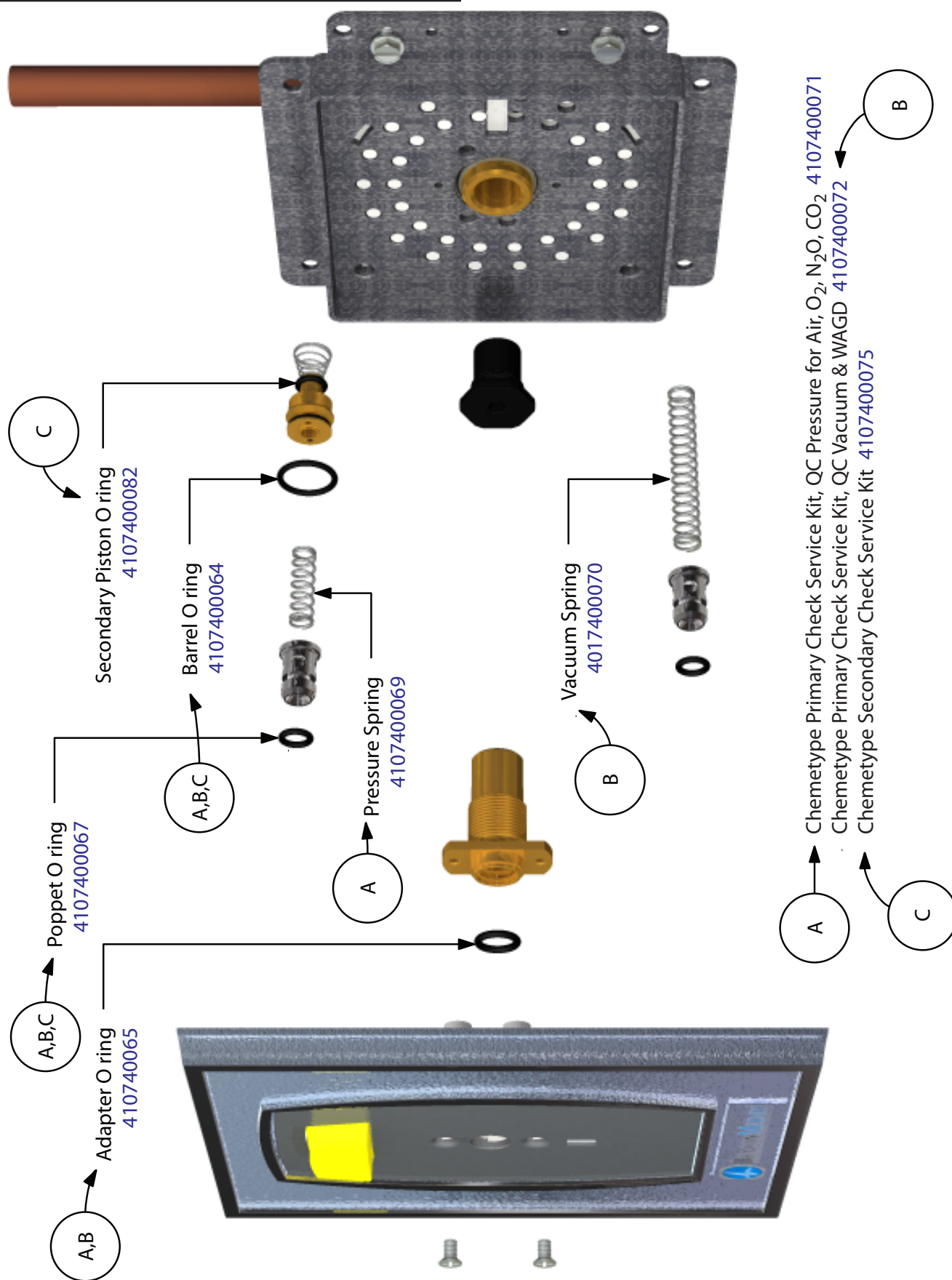
is recommended that for wall outlets the secondary check parts be replaced outright and not rebuilt. Console outlets can usually be rebuilt if the parts are clean and in good condition) Replace all seals, lubricate the O rings lightly, and replace the secondary check in the outlet.

7. When the secondary check is in place and firmly seated, S-L-O-W-L-Y pressurize the line. Examine the secondary check for leakage.

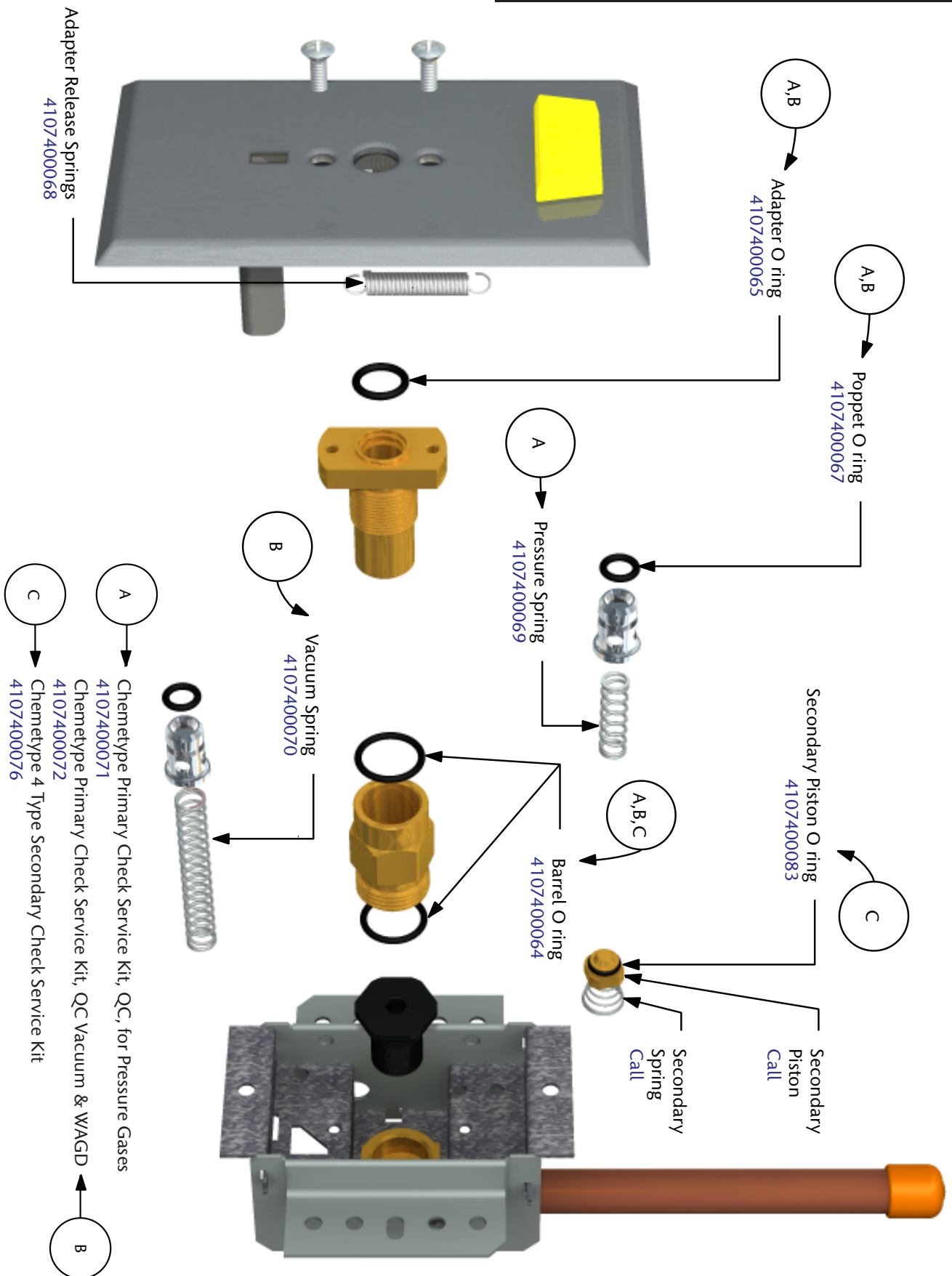
8. Reassemble the outlet (see page 5)

9. Retest for flow and leakage.

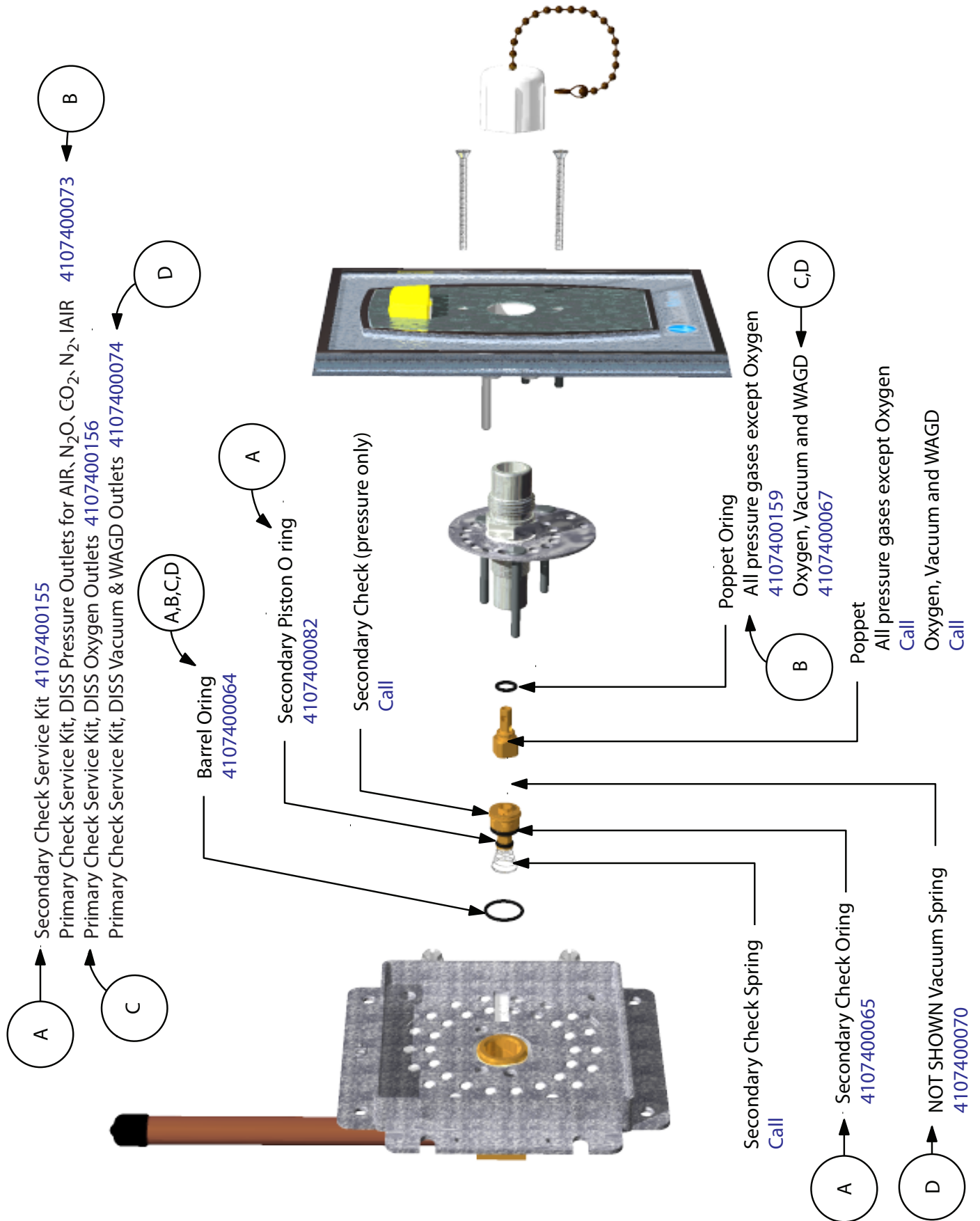
Parts (Wall QC Versions)



Parts (Console QC Versions)



Parts (Wall DISS Versions)



Parts (Console DISS Versions)

