

# Installation and Maintenance Manual

## Compact Medical Gas Outlets



**Amico**

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# Product Description

The Amico Compact Medical Gas outlet is composed of two separate modules: the “Rough-in Assembly” and the “Latch Valve Assembly”. The “Rough-in Assembly” is the same for both DISS and Ohmeda type, while the “Latch Valve Assembly” determines what type of adaptor the outlet will accept.

The “Rough-in Assembly” consists of a brass machined body that incorporates a spring loaded check assembly. A 1/2” [12.7 mm] OD copper pipe is silver brazed into the body for external pipeline connections. The brass body and pipe assembly are inserted into a gas specific plate. The wall outlets can be ganged together at 5” [127 mm] centers (see page 5). This makes for a finished assembly that looks like one complete panel of outlets. The “Rough-in Assembly” has a color coded label on the copper pipe, so that the installer can easily identify the gas that the copper pipe should be connected to. The “Rough-in Assembly” incorporates a check valve that allows the “Latch Valve Assembly” to be removed for service, without requiring the pipeline to be shut down. The “Rough-in Assembly” has a single pin gas specific indexing arrangement to prevent the wrong “Latch Valve Assembly” from being plugged into the “Rough-in Assembly”.

The Compact “Latch Valve Assembly” is manufactured in 2 different models; DISS and Quick Connect Ohmeda Compatible. The DISS “Latch Valve Assembly” is permanently riveted together so that the gas specific components cannot be taken apart, to ensure they remain gas specific. All the servicing on the outlet is done inside the connector. On the Quick Connect Ohmeda Compatible model, the connector plate can be removed for additional O-Ring servicing but is still gas specific since the gas specific parts are permanently riveted together. The “Latch Valve Assembly” consists of a connector with an integral check valve, a color coded block complete with indexing pin and an optional trim plate.



**CAUTION:** DO NOT overtighten the Latch Valve Mounting screws! Distortion of the Latch Valve can occur.

The quick connect model is compatible with the Ohmeda Diamond adaptor. The DISS outlet conforms to the CGA Pamphlet V-5 standards. Since the “Rough-in Assembly” is the same for both models of “Latch Valve Assemblies”, the outlet can easily be converted from one type to another by simply replacing the “Latch Valve Assembly”.

## **NOTE:**

For ceiling applications, only DISS outlets are recommended.

# Cleaning and Lubricating

The Amico Outlets are factory cleaned for oxygen service. Exposed surfaces of the outlet may be cleaned with a mild detergent solution or wiped with a disinfectant commonly used in patient rooms, that is compatible with plastics. Lubricate elastomer seals sparingly with a silicone lubricant that is oxygen compatible. DO NOT USE OIL.

# Inspection and Testing

Medical Gas Outlets should be inspected periodically or at least once a year. The tests should be in accordance with NFPA 99 "Gas and Vacuum systems" and/or ISO 9170 "Terminal Units for Medical Gas Pipeline Systems".

**Test for Leaks:**

Ensure that no leaks exists, with or without the adapter inserted.

**Test for Indexing:**

Only a mating gas specific adapter should insert smoothly into the outlet, latch and be retained.

**Test for Flow:**

Refer to appropriate standards for the proper way of performing the flow test.

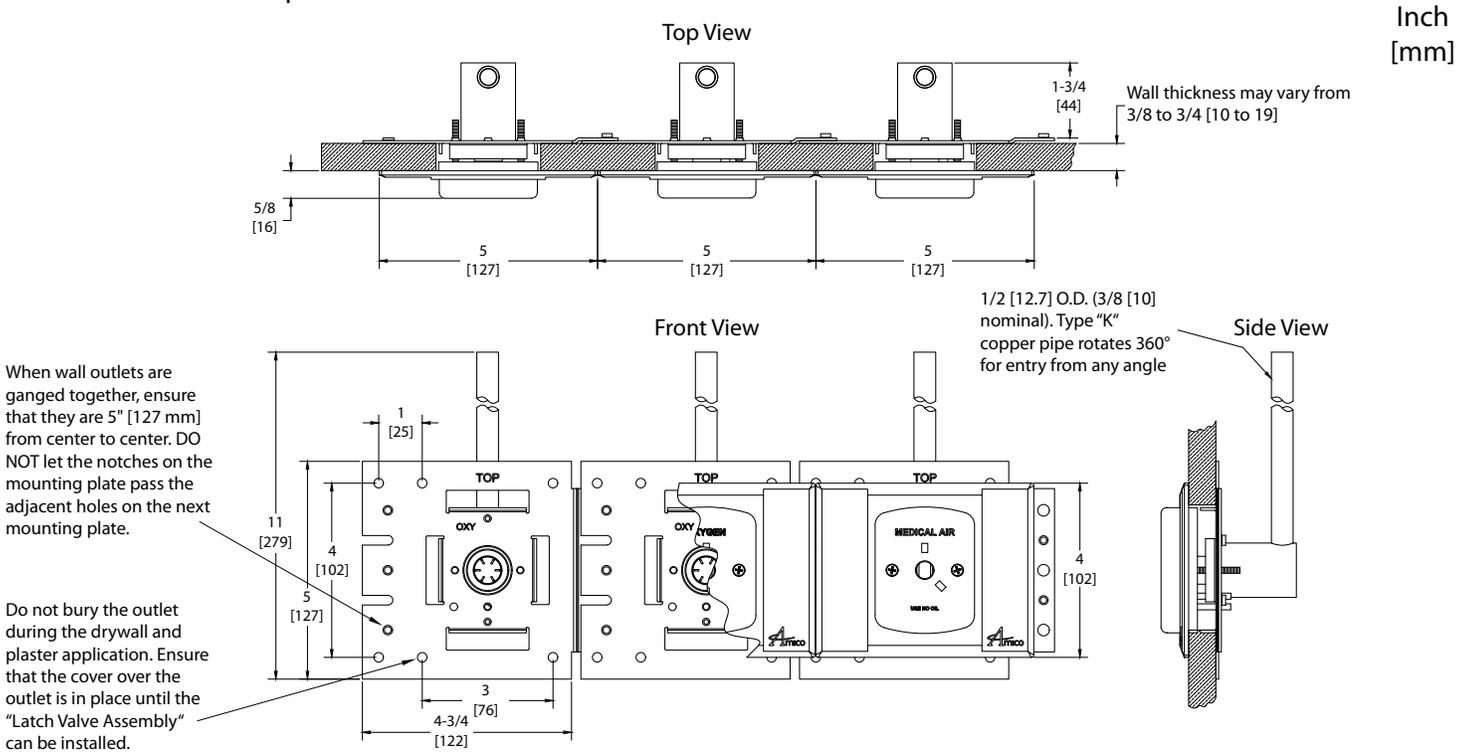
**Note:**

The Amico Medical Gas Outlets meet and exceed the requirements at the time of manufacture. However, piping source capacity, sizing and restrictions may prevent outlets from attaining these values.

# Installation and Dimensions

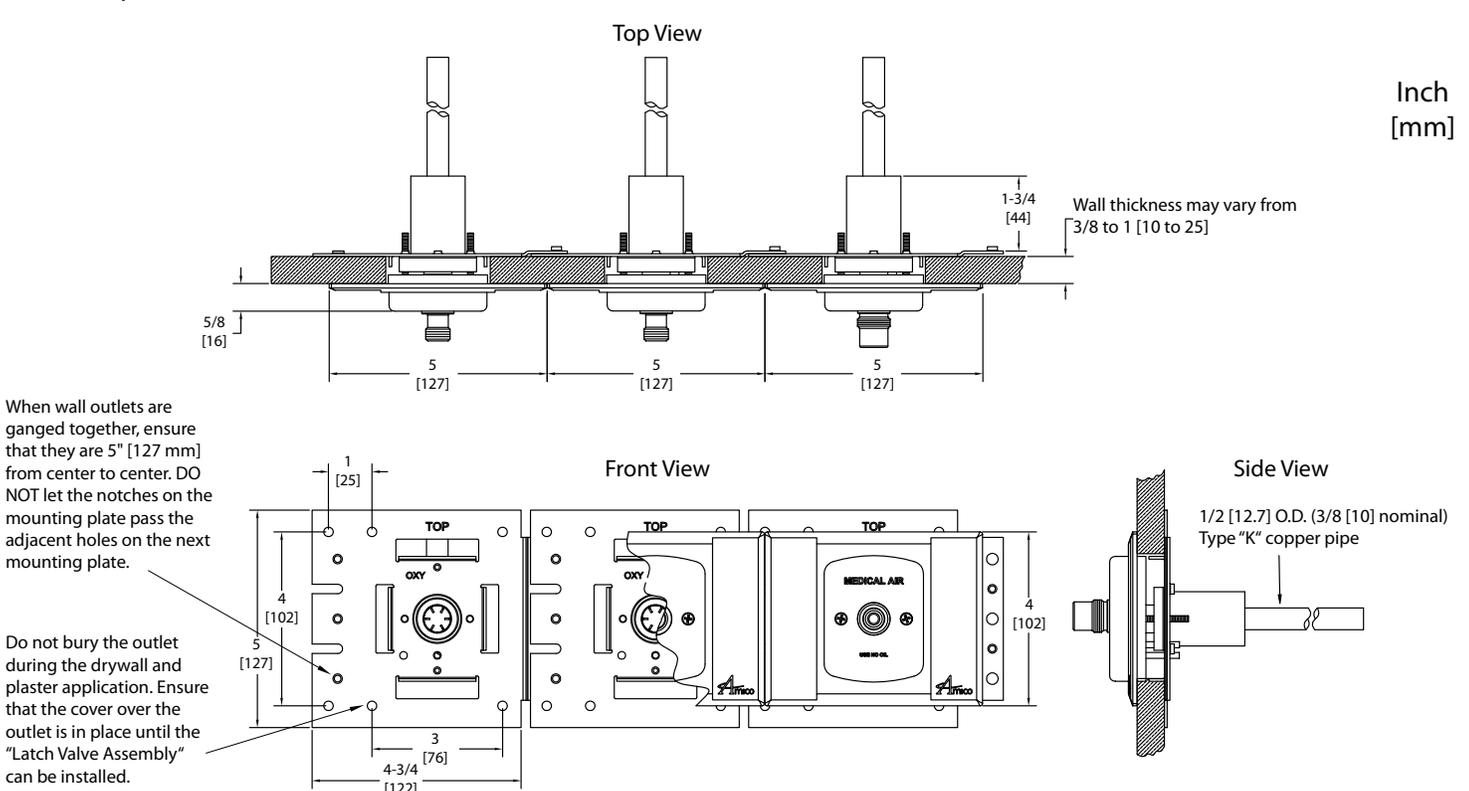
## Compact Wall Outlets

DISS and Ohmeda compatible.



## Compact Ceiling Outlets

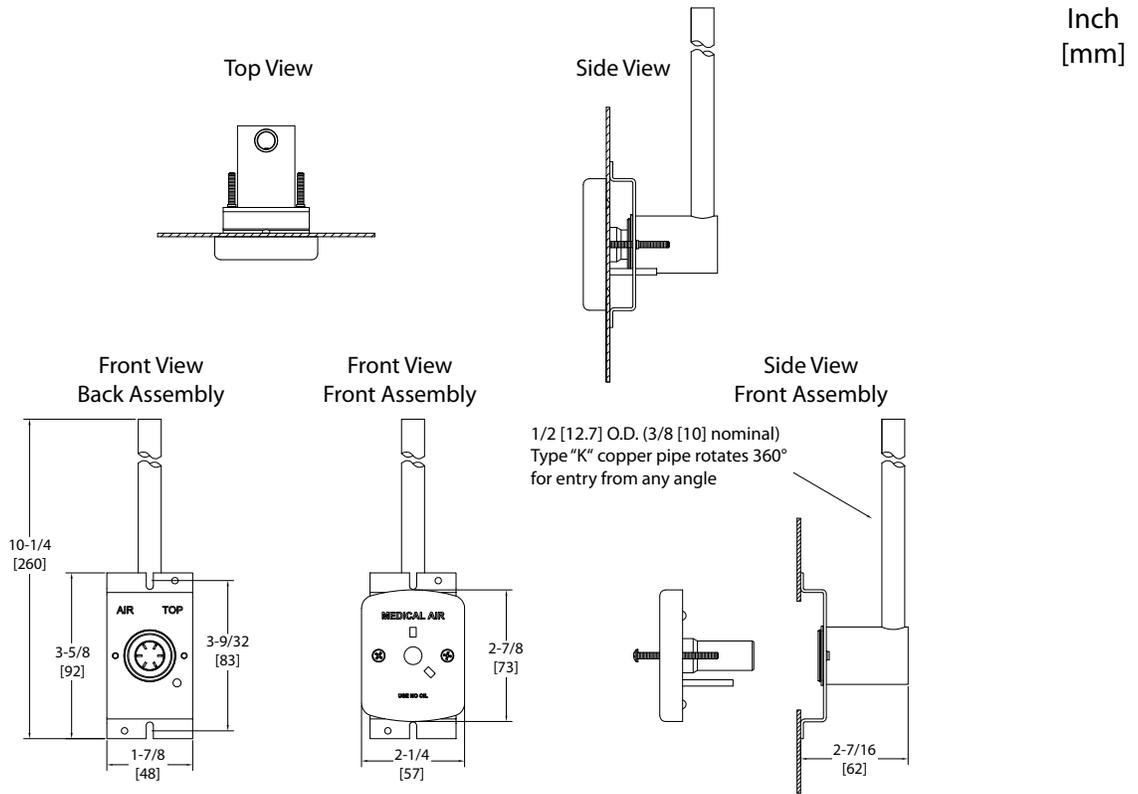
DISS compatible.



# Installation and Dimensions

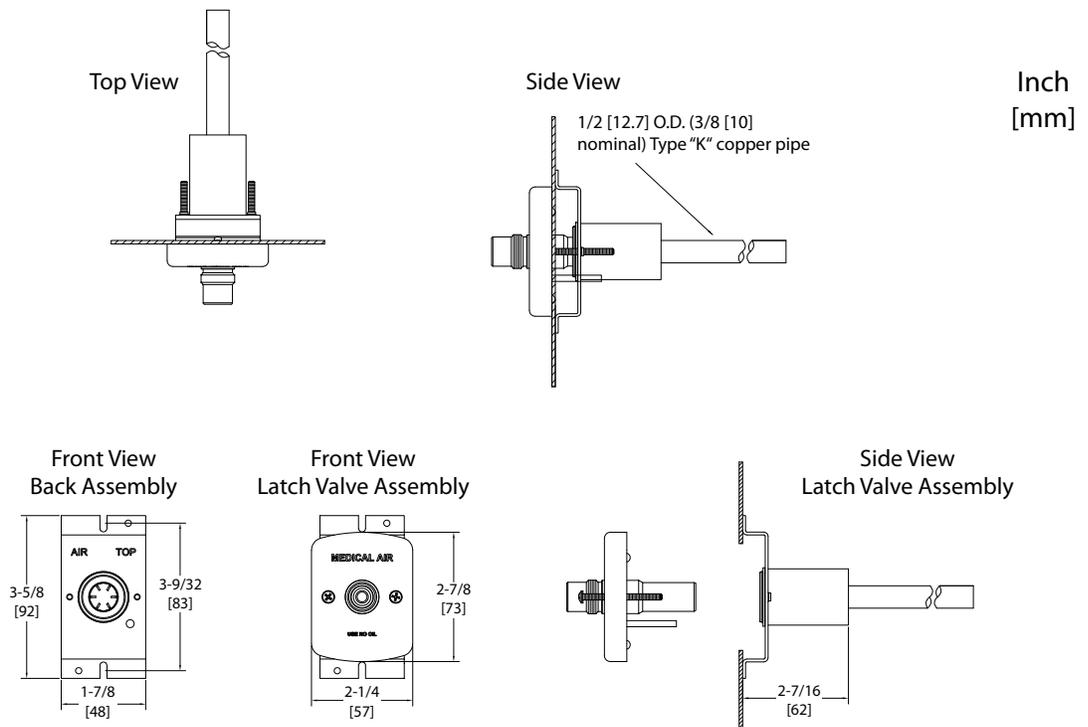
## Compact Console Outlets

DISS and Ohmeda compatible.

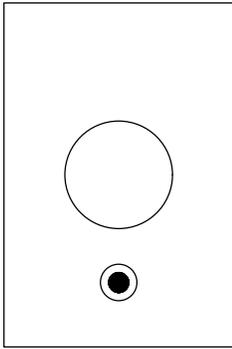


## Compact Ceiling Column Outlets

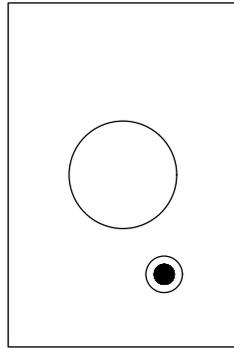
DISS and Ohmeda compatible.



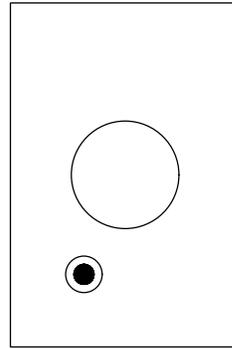
# Compact Outlet Indexing



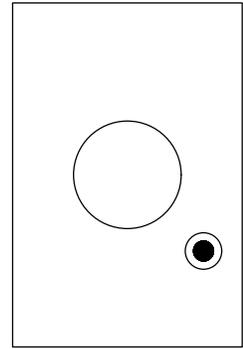
*OXYGEN*



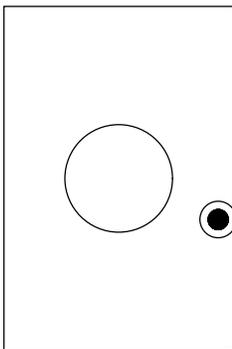
*VACUUM*



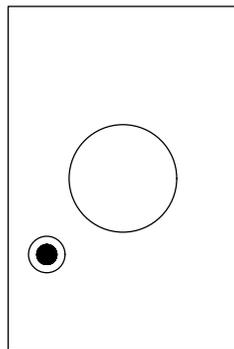
*N2O*



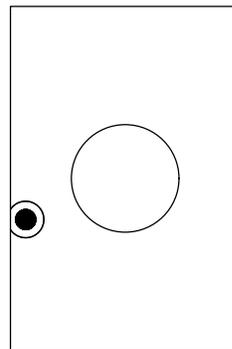
*MEDICAL AIR*



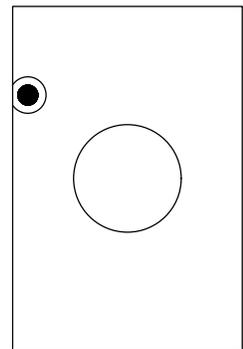
*NITROGEN*



*WAGD/AGSS*



*CO2*

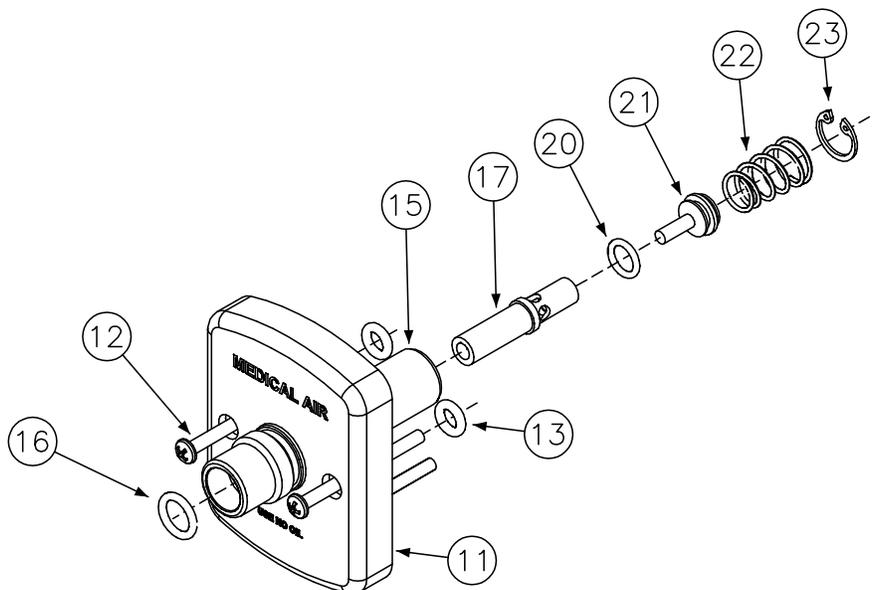


*INSTRUMENT AIR*

# Service

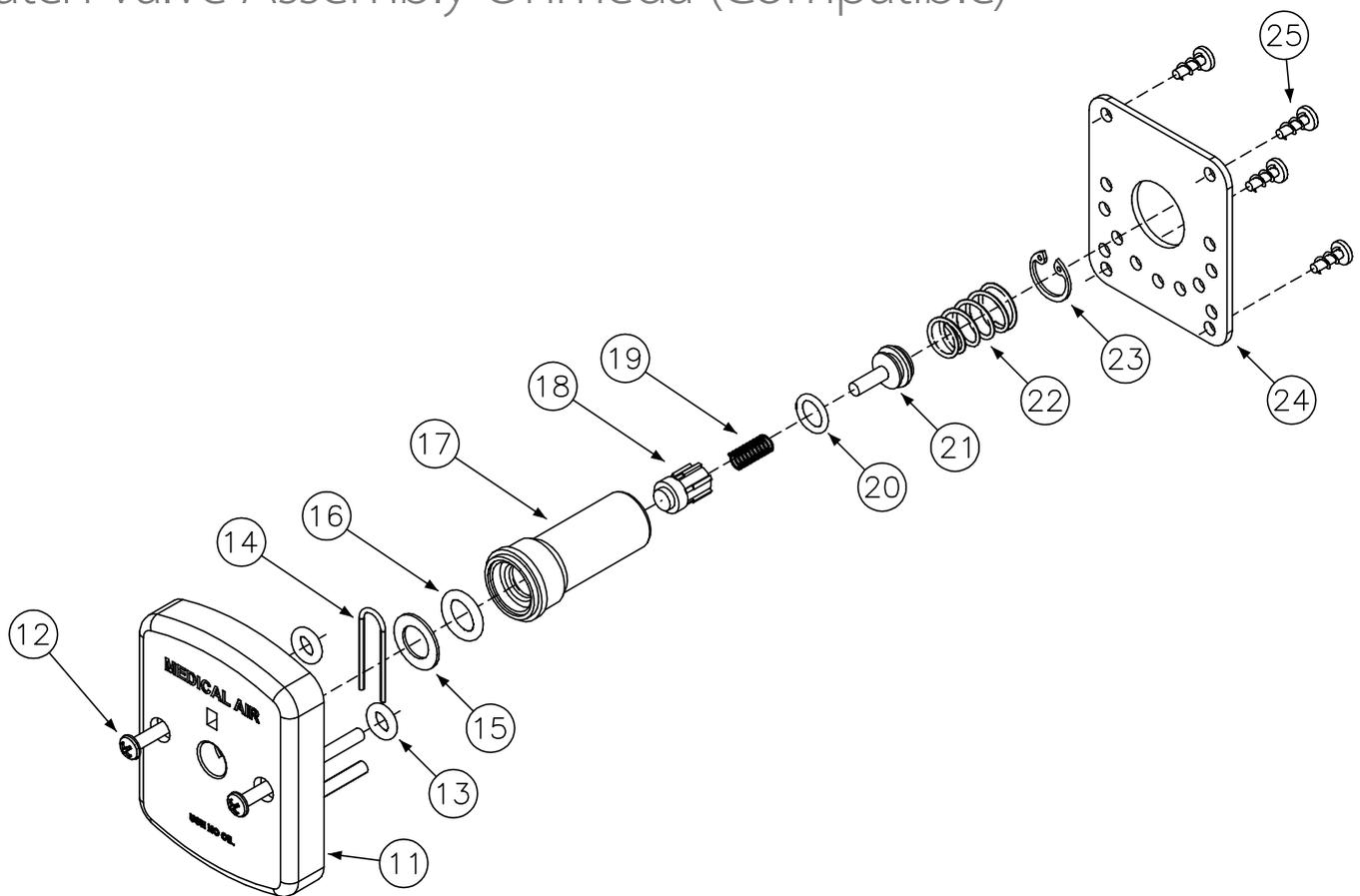
Before performing any maintenance on the Outlet, the appropriate hospital maintenance or engineering personnel should be notified. The "Latch Valve Assembly" can be removed without interrupting the service, but when servicing the "Rough-in Assembly" the supply pressure has to be shut off.

## Latch Valve Assembly DISS



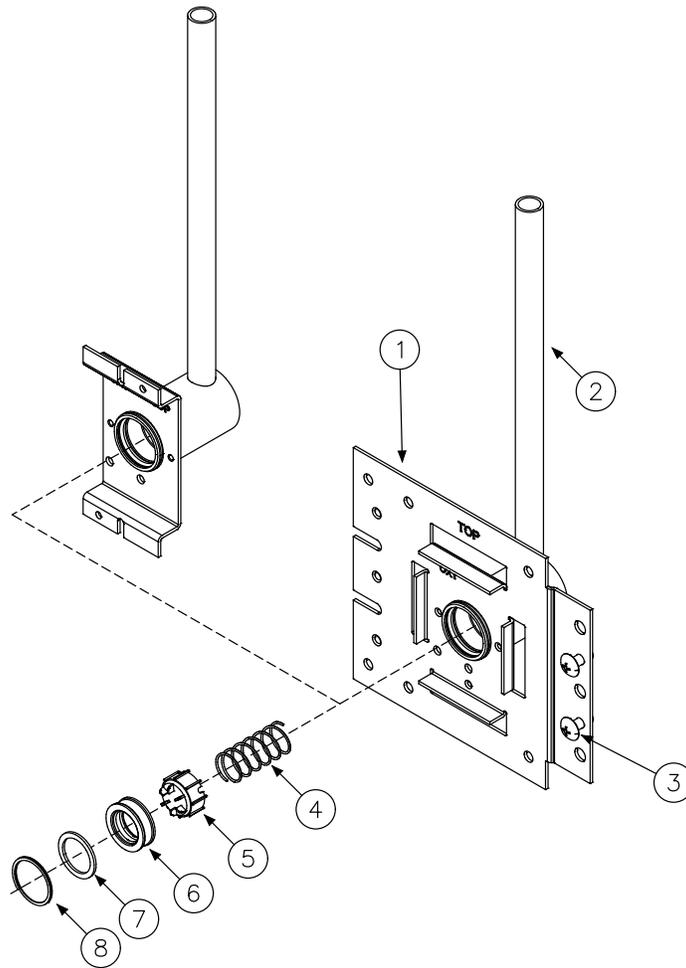
1. Unscrew the two retaining screws (12) until the Latch Valve Assembly (11) can be removed from the outlet.
2. Remove the O-Ring seal (16) from the front and replace (NOTE: There is no O-Ring for Oxygen, Medical Air and Carbon Dioxide).
3. Remove the retaining ring (23) using appropriate pliers. Remove the valve stem (17), O-Ring seal (20), primary check valve (21) and spring (22). Inspect the items for wear or damage and replace if needed. Replace the O-Ring (20).
4. Re-install all internal components and lock in place with the retaining ring (23).
5. Re-install the Latch Valve Assembly into the outlet. Coat the connector (15) with a thin coat of oxygen compatible silicone lubricant to aid insertion. Tighten down the retaining screws (12), DO NOT over tighten, as this could damage the Latch Valve.
6. Connect a gas specific adapter to the outlet. The connection should be smooth and hand tightening of the nut should be sufficient to allow the gas to flow without leakage. If not, replace the entire Latch Valve Assembly (11).

# Latch Valve Assembly Ohmeda (Compatible)



1. Unscrew the two retaining screws (12) until the Latch Valve Assembly (11) can be removed from the outlet.
2. Remove the four screws (25) holding the connector retaining plate (24) in place. Remove the plate.
3. Remove the connector (17) from the valve assembly.
4. Remove the U-spring (14), inspect for wear or damage, re-install the U-spring.
5. Remove the flat washer (15) and connector O-Ring (16) from the front of the connector. Inspect the items for wear or damage and replace the O-Ring seal (16).
6. Remove the retaining ring (23) using appropriate pliers. Remove the dust cap (18), dust cap spring (19), O-Ring seal (20), primary check valve (21) and spring (22). Inspect the items for wear or damage and replace if needed. Replace the O-Ring (20).
7. Re-install all internal components and lock in place with retaining ring (23). Insert the Connector (17) into the gas specific body. Check that the U-Spring (14), flat washer (15) and O-Ring (16) are in place. Re-install the connector retaining plate (24) and secure with four screws (25), do not overtighten.
8. Re-install the Latch Valve Assembly into the outlet. Coat the connector (17) with a thin coat of oxygen compatible silicone lubricant to aid insertion. Tighten down the retaining screws (12), DO NOT over tighten, as this could damage the Latch Valve.
9. Connect a gas specific adapter into the outlet. The connection should be smooth and the adapter should lock and remain in place allowing gas to flow. If not replace the entire Latch Valve Assembly (11).

# Rough-in Assembly

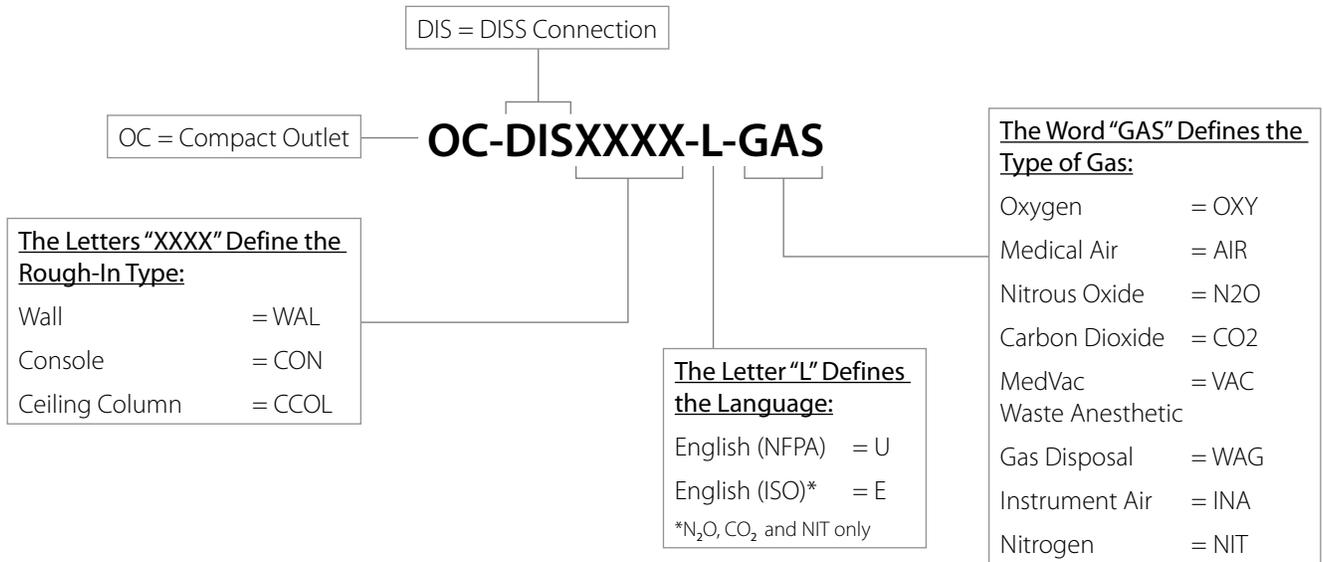


**CAUTION:** Ensure that the supply pressure is shut off before performing service. Inside the “Rough-in Assembly” is a secondary check valve whose function is to shut off gas flow when the “Latch Valve Assembly” is removed. This seat/seal also prevents leakage around the latch valve connector. As the secondary seal is only a static seal, it will rarely need replacement. However, if the seat/seal does need replacement, follow the following procedure:

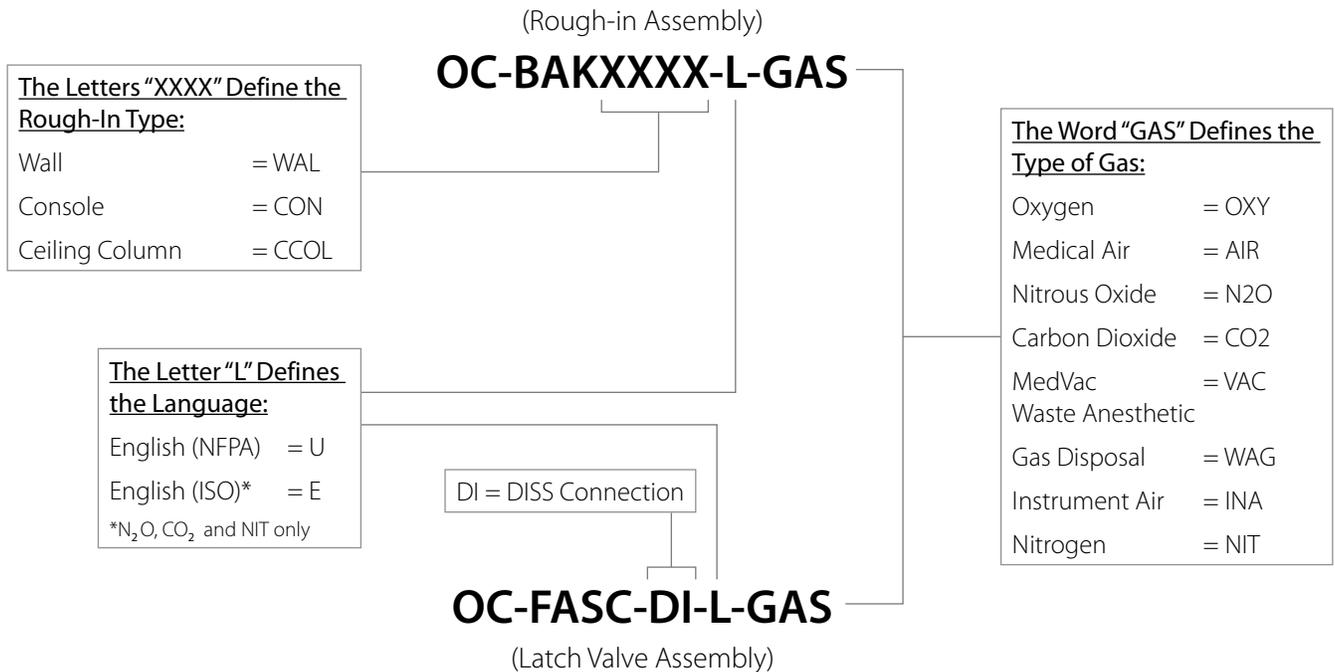
1. Ensure that no pressure exists in the line by depressing the secondary check valve (5).
2. Remove the retaining ring (8) from the inside of the outlet body. Use a small screwdriver to pull the end of the ring towards the center and then pull the ring up and out.
3. Remove the washer (7), seat/seal (6), secondary check valve (5) and secondary check valve spring (4). Inspect items for wear or damage and replace the seat/seal (6).
4. Re-install the spring (4), secondary check valve (5), seat/seal (6) and the washer (7). Insert the retaining ring (8) into the slot and ensure that the whole ring is seated properly.
5. Turn on the pressure and check for leaks. Re-install the “Latch Valve Assembly” and perform the inspection and test on page 4.

# Model Numbers

## DISS Compact Outlets - Complete Outlet

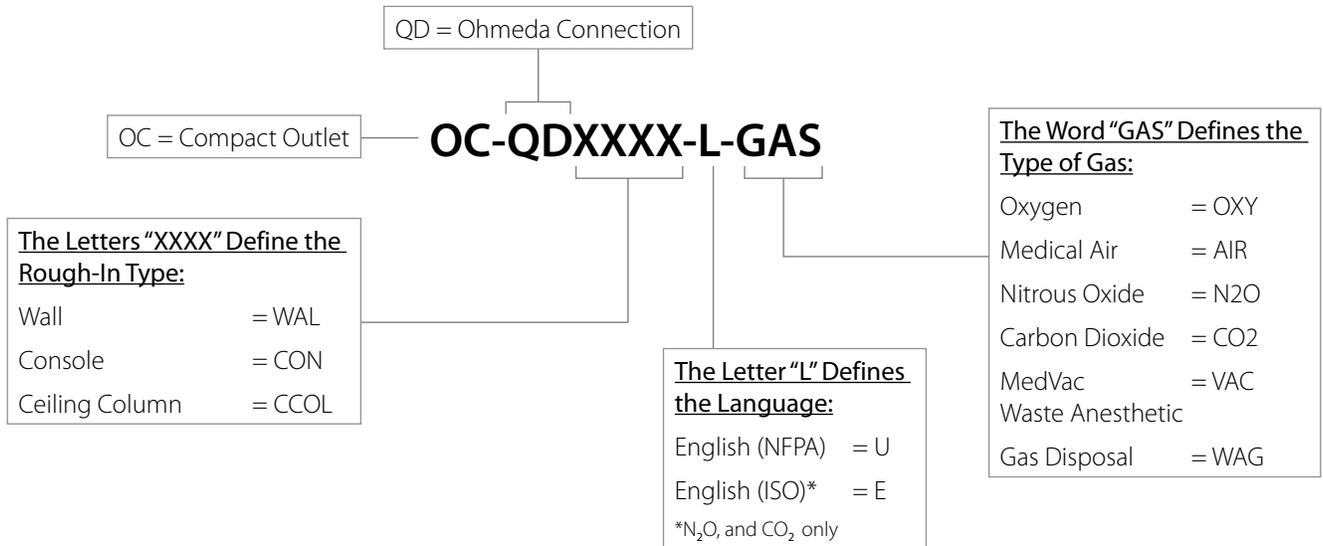


## DISS Compact Outlets - Rough-in and Latch Valve Assemblies

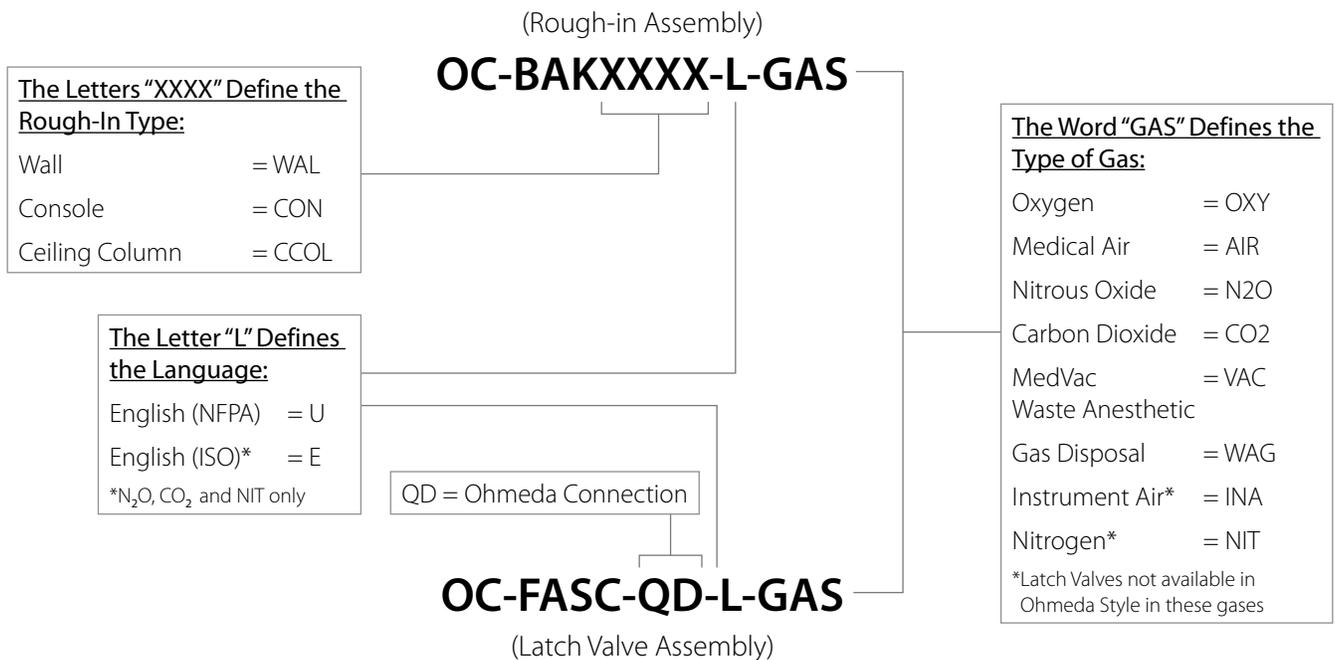


# Model Numbers

## Ohmeda (Compatible) Compact Outlets - Complete Outlet

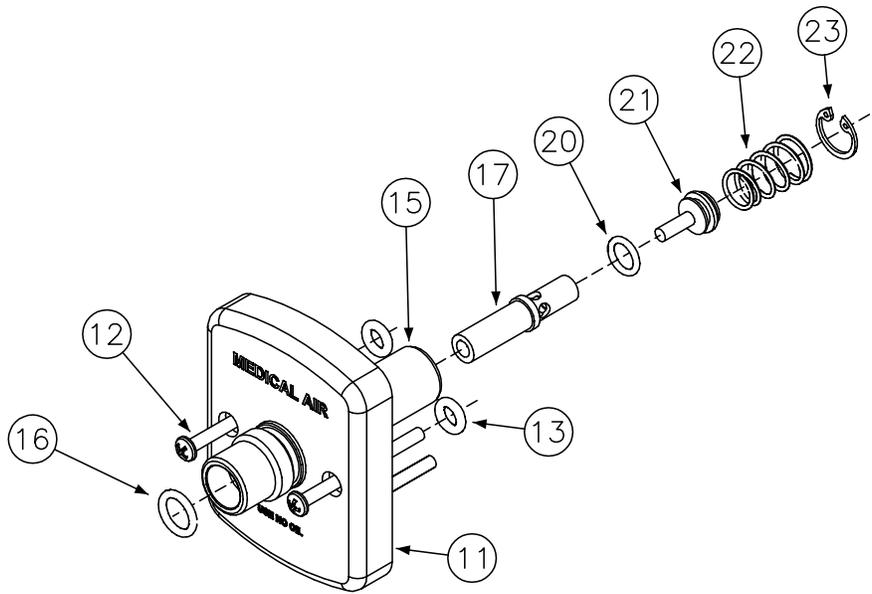


## Ohmeda (Compatible) Compact Outlets - Rough-in and Latch Valve Assemblies



# Replacement Components

## Latch Valve Assembly - DISS

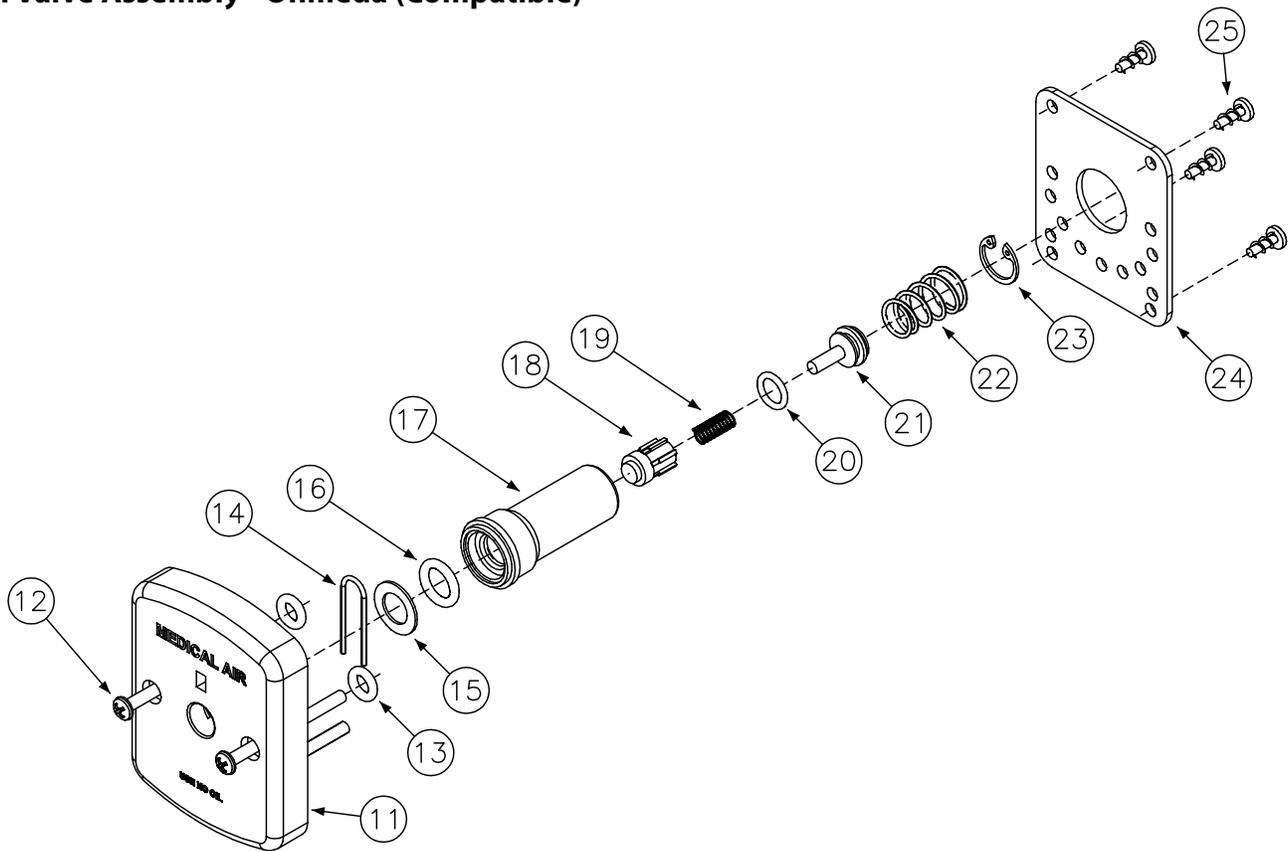


Item	Description
11	Compact DISS Latch Valve
12	Mounting Screw (2 Required)
13	Mounting Screw O-Rings (2 Required)
15	DISS Body (Gas specific)
16	Adaptor O-Ring (Nit, Vac, N2O)*
17	Valve Stem (Gas Specific)
20	Primary Check Valve O-Ring*
21	Primary Check Valve*
22	Primary Check Valve Spring*
23	C-Clip*

Above parts with \* are found in repair kit O-RK-LVA-DIS, not sold individually.

# Replacement Components

## Latch Valve Assembly - Ohmeda (Compatible)

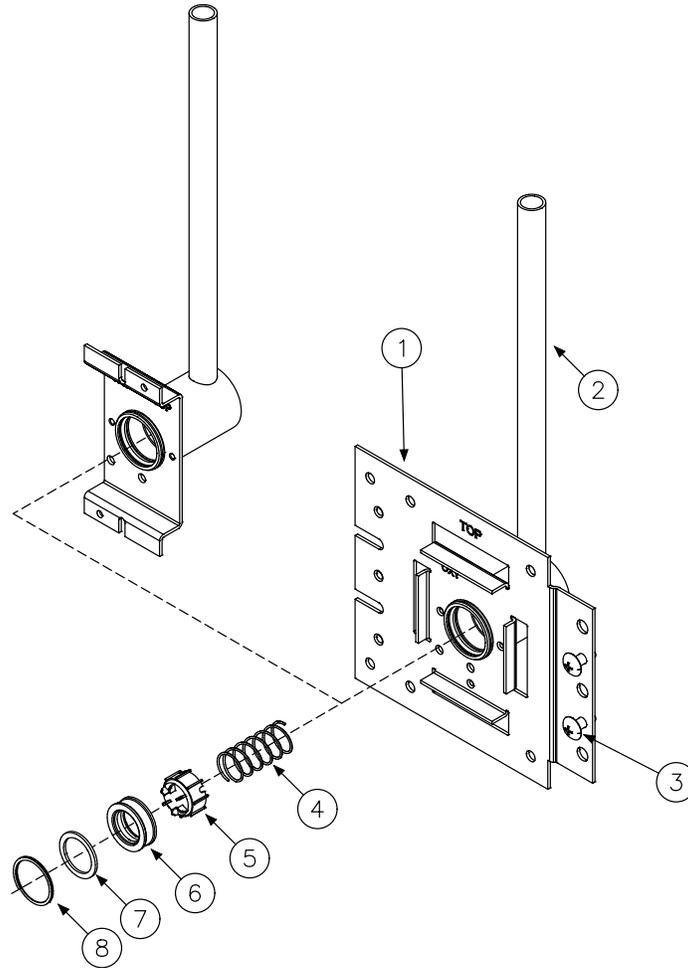


Item	Description
11	Compact Ohmeda Latch Valve
12	Mounting Screw (2 Required)
13	Mounting Screw O-Rings (2 Required)
14	Gas Connector U-Spring*
15	Flat Washer
16	Gas Connector O-Ring*
17	Gas Connector
18	Primary Dust Cap*
19	Primary Dust Cap Spring (Gas,Vac)*
20	Primary Check Valve O-Ring*
21	Primary Check Valve*
22	Primary Check Valve Spring*
23	C-Clip*
24	Connector Retaining Plate
25	Retaining Plate Screws

Above parts with \* are found in repair kit: O-RK-LVA-QD, not sold individually.

# Replacement Components

## Rough-in Assembly



Item	Description
1	Rough-in Assembly
2	Rough-in Pipe
3	Ganging Screws (2 Required)
4	Secondary Check Valve Spring*
5	Secondary Check Valve *
6	Seat/Seal*
7	Washer*
8	Retaining Ring*

Above parts with \* are found in repair kit O-RK-BAK, not sold individually.

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