Service & Maintenance Instructions Manual

Series-B Premium DISS Medical Outlets

Part number 4107 9030 92.00
Revision 00
August 1st, 2024

BEACONMEDÆS®
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Service and Maintenance Instructions Manual

Series-B Premium - Front Load DISS Medical Outlets

This unit is purchased from: _____

Date purchased: _____

Model number: _____

Part number: _____

Option(s) included: _____

Any information, service or spare parts requests should be directed to:

BeaconMedæs
1059 Paragon Way
Rock Hill, SC 29730
Telephone: (888) 463-3427
Fax: (803) 817-5750

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1.0 General Information

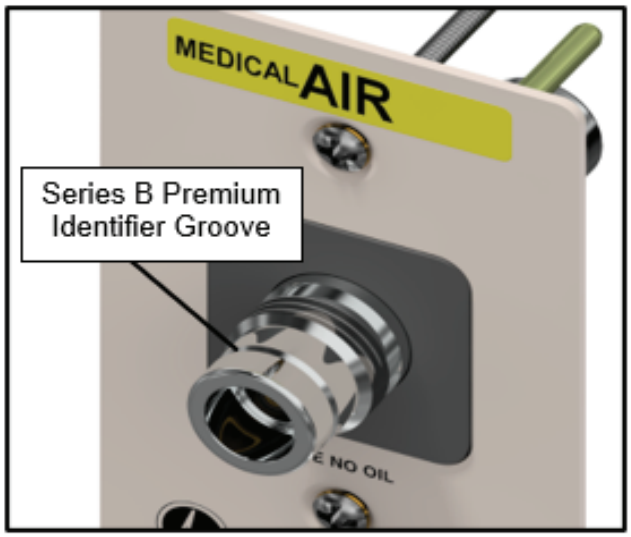
1.1 Component Description

The Series B medical outlet is one of the most common medical outlets in use today. The Series B is a captured valve design available in (4) distinct keying styles:

- DISS (Diameter Index Safety System)
- Pin Index
- Latch Index
- Geometric

The Series B Premium DISS is a medical outlet family with serviceable internal check valve components. Using a Series B Premium specific service tool, the primary check valve can be removed and replaced when needed/required by appropriate service personnel. A permanently installed secondary check valve will become active when the primary is removed, preventing the flow of gas into the patient environment during maintenance/replacement.

The Series B Premium (Front Load DISS) outlet can be identified by a groove that is recessed on the barrel of the medical outlet. A standard (non-serviceable) medical outlet will not have this identifier groove on the barrel.



NOTE:
Service to medical outlets should always be performed by properly trained maintenance personnel only. The secondary check valve (denoted with a Torx head) should never be removed.

1.2 Definitions

Check Valve (Primary)
When referring to a Series B Premium outlet, the primary check valve is the serviceable portion that is applied and released (allows/stops gas flow) when the user mates a DISS connector to the medical outlet.

Check Valve (Secondary)
When referring to a Series B Premium outlet, the secondary check valve is the non-serviceable portion that is normally open but will close (prevent gas flow) when the Primary Check Valve is removed for service.

DISS
Acronym that stands for Diameter Index Safety System that uses gas specific threaded connections to fit equipment to medical outlets.

Index Pin
Metal dowel pin uniquely placed on medical outlets to prevent accidental connection of gas specific medical outlet to the wrong rough-in assembly.

Latch Valve Assembly
A term synonymous with 'medical outlet'

Rough-In Assembly
Fixed in place assembly that joins the Latch Valve (medical outlet) to the medical gas piping system.

Series B Premium
A medical outlet from the DISS connection style family which differs from a standard Series B DISS outlet by having an internal serviceable check valve.

Trim Plate
Often a diecast, epoxy coated or plastic cover that surrounds the medical outlet. Can incorporate a hook to hang medical equipment that is connected to the outlet from.

1.3 Definition of Statments

Statements in this manual preceded by the following words are of special significance.

WARNING: Means there is a possibility of injury or death to yourself or others

CAUTION: Means there is a possibility of damage to unit or other property

NOTE: Indicates points of particular interest for more efficient and convenient operation

2.0 Installation & Service

2.1 Overview

Series B medical outlets incorporate a gas specific indexing pin to ensure installation with the proper mating gas specific rough-in assembly; ultimately avoiding accidental cross connection. Permanent, color-coded gas service identification is also clearly indicated on each cover plate built onto each latch valve assembly (medical outlet).

Connection to each Series B Premium medical outlet is made using gas specific, CGA compliant DISS connectors.

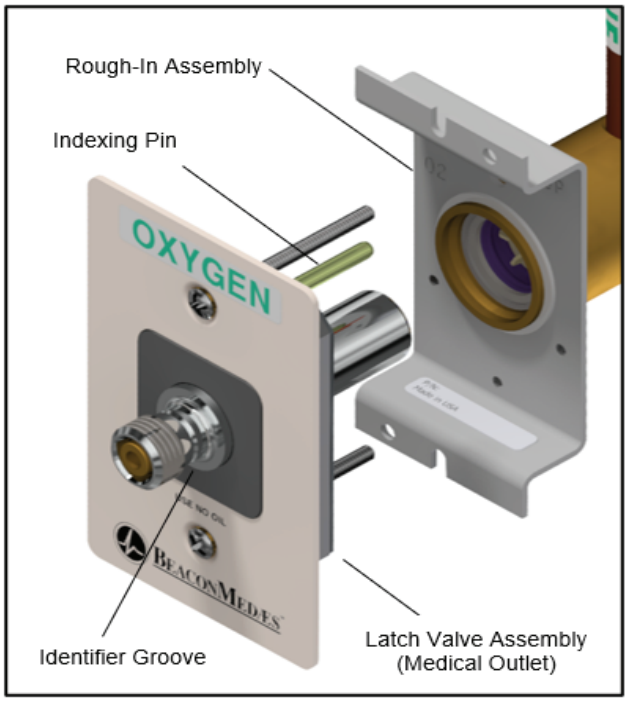


Figure 1: Latch Valve / Rough-in Representation

Either a die cast, epoxy powder-coated trim plate or a smaller plastic trim plate can be provided to trim each outlet. A hook plate with a retractable arm can also be provided to trim each outlet. The die cast plate and hook plate are designed to specifically fill the space between adjacent outlets. The finish of the hook plate is treated with Biomaster, an additive that has been shown to reduce bacteria and mold growth. All trim plates allow latch valves to be individually removed for servicing.

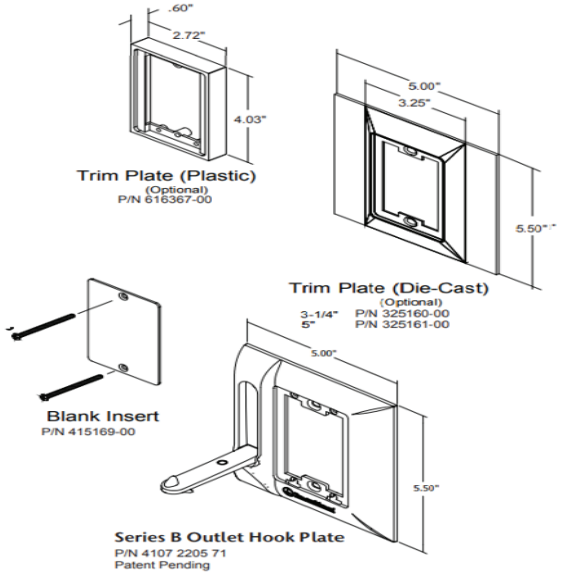


Figure 2: Series B Trip Options for Latch Valves

2.2 Serviceable Components

All medical outlets should be tested and installed by properly trained and certified personnel as required and in accordance with the recommendations in the latest version of NFPA 99.

The internal components of the Series B Premium medical outlets contain a cartridge assembly that serve as the primary check valve during coupling/uncoupling of the DISS connector. This cartridge assembly can be replaced as needed/required using a Series B Premium service tool. The cartridge is threaded into place and can be removed by inserting the service tool and rotating until the tool engages the mating part of the cartridge. Insertion of the cartridge is similar in that the right-handed threads should be tightened until the service personnel feels the cartridge 'bottom out', and/or finger tight. Excessive torque is not required for proper installation (Do Not exceed ~3 in-lbs of torque).

⚠ CAUTION :
Excessive torque is NOT required to properly seat the serviceable cartridge. Finger tight is appropriate. Any over torquing of the service cartridge will lead to bending/fracture of the prongs on the service tool or damage to the serviceable cartridge assembly.

The secondary check valve inside of the medical outlet should never be removed as it is not a serviceable component. This check valve can be identified by the Torx style head and is visible only after removing the cartridge assembly.

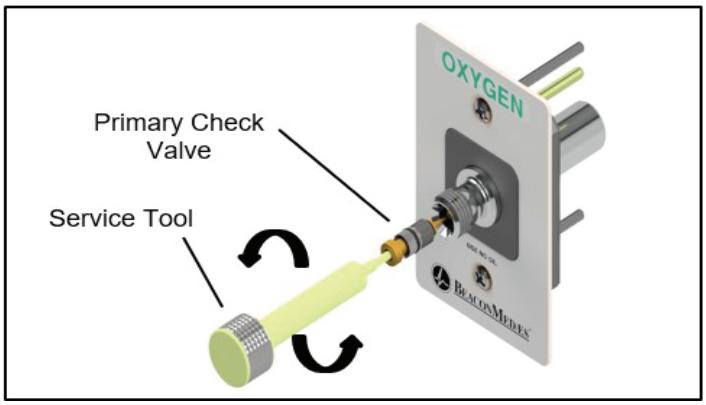


Figure 3: Servicing of Internal Check Valve Cartridge

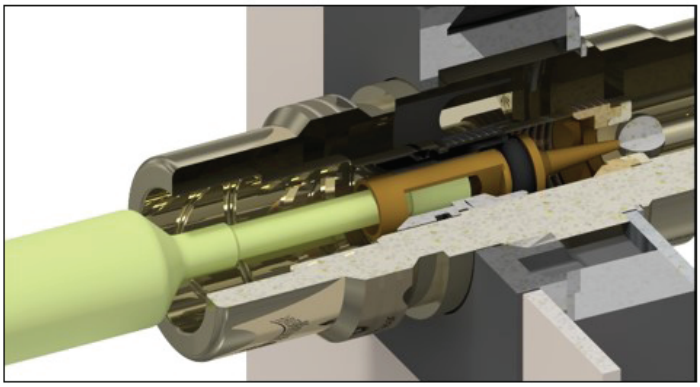


Figure 4: Service Tool Close Up Internals

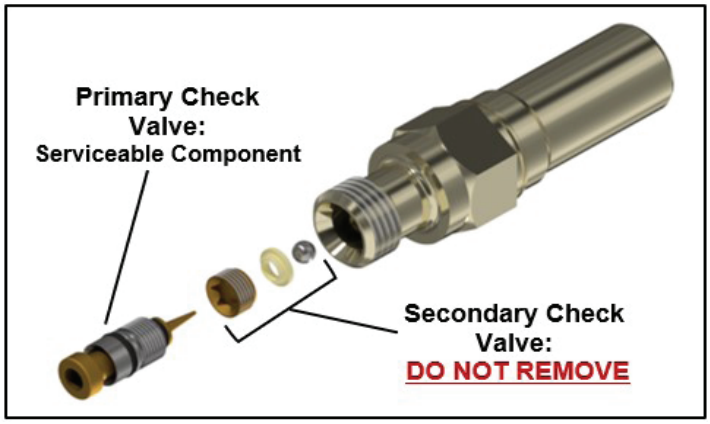


Figure 5: Reference Image Depicting Internal Components

Series B Premium Full-Service Kit - P/N 4107 4021 60		
Gas Service	**QTY in Kit**	**Primary Check Valve Assy. P/N**
Oxygen/IAIR	(10) Cartridges	4107 7933 83
Nitrous Oxide Medical Air Nitrogen Carbon Dioxide	(20) Cartridges	4107 7933 84
Vacuum	(5) Cartridges	4107 7933 85
WAGD	(5) Cartridges	4107 7933 86
Used on All	(1) Service Tool	4107 6569 14

Each Series B Premium Full-Service Kit (P/N 4107 4021 60) includes (10) Oxygen/IAIR, (5) Vacuum, (5) WAGD, (20) Common Gases service cartridges and (1) service tool. There are (4) different primary valve assemblies in each kit, which are packaged and identified with the part number and description printed on (4) bags. Service kits exist for gas specific cartridges only if needed as shown below:

Series B Prem O2/IAIR Kit - P/N 4107 4021 61		
Gas Service	**QTY in Kit**	**Primary Check Valve Assy. P/N**
Oxygen/IAIR	(10) Cartridges	4107 7933 83
Used on All	(1) Service Tool	4107 6569 14

Series B Prem Common Gases Kit - P/N 4107 4021 62		
Gas Service	**QTY in Kit**	**Primary Check Valve Assy. P/N**
Nitrous Oxide Medical Air Nitrogen Carbon Dioxide	(10) Cartridges	4107 7933 84
Used on All	(1) Service Tool	4107 6569 14

Series B Prem Vacuum Kit - P/N 4107 4021 63		
Gas Service	**QTY in Kit**	**Primary Check Valve Assy. P/N**
Vacuum	(10) Cartridges	4107 7933 85
Used on All	(1) Service Tool	4107 6569 14

Series B Prem WAGD Kit - P/N 4107 4021 64		
Gas Service	**QTY in Kit**	**Primary Check Valve Assy. P/N**
WAGD	(10) Cartridges	4107 7933 86
Used on All	(1) Service Tool	4107 6569 14

Series B Prem Service Tool Kit - P/N 4107 4021 70		
Gas Service	**QTY in Kit**	**Primary Check Valve Assy. P/N**
Used on All	(2) Service Tools	4107 6569 14

Service intervals can widely vary based on the frequency of use of the medical outlet. Each primary check valve can be replaced on an established maintenance schedule determined by the end user of choice or when needed due to O-ring sealing degradation.

⚠ WARNING :
The user should **never** force a DISS connector or attempt to circumvent the DISS system. Always use the proper and corresponding DISS connector for each medical outlet.

2.3 Post Service Verification

Once the primary check valve has been serviced, always verify proper operation of the medical outlet by connecting and disconnecting the correct DISS connector. The service technician or other properly qualified individual should observe the normal flow and cease of flow of gas when the correct DISS connector is connected and disconnected.

Always follow recommendations, required procedures and established guidelines as detailed in the latest version of NFPA 99 Health Care Facilities Code regarding verifying the acceptable working condition and qualification of safe use of the medical gas pipeline.

Testing the serviced outlet for proper flow, absence of leaks and other NFPA 99 require-

ments are strongly recommended after servicing the outlet and surrounding area. Always follow local laws and industry guidelines and ensure the properly trained personnel (if applicable an ASSE Installer 6010, ASSE 6020 Inspector and/or ASSE 6030 Verifier) are utilized for the process.

2.4 Competitor Outlet Compatibility

Beacon Medaes Front Load DISS outlets are compatible with certain combinations of competitor parts to allow for use of leftover competitor service parts you may have in stock. Please follow the cross-reference chart below to better understand which part numbers to use in certain applications:

⚠ CAUTION :
Incorrect cartridge use can result in degraded performance or damage to the medical outlet.

Beacon Medaes FL DISS Outlet	Competitor Service Cartridge Part Number
Oxygen	F1024ARC
Medical Air	F1004RC
Nitrogen	F1004RC
Nitrous Oxide	F1004RC
Carbon Dioxide	F1004RC
Vacuum	F1022RC
WAGD	F1032RC
IAIR	F1024ARC

NOTE:
For optimum and best performance, use BeaconMedaes latch valves and parts only in outlets manufactured by BeaconMedaes.

3.0 Troubleshooting

Symptom	Possible Cause	Corrective Action
Medical Gas suspected to be leaking to the patient environment	Leak past primary check valve.	Replace check valve using appropriate service kit & selecting the correct check valve assembly for the desired gas.
	Sealing issue between the outlet & rough-in assembly.	Report issue to trained maintenance personnel for repair.
Unexpected gas flow/weak gas flow when attaching DISS connector	Incorrect Primary Check Valve serviceable assembly was used during maintenance.	Double check the correct Primary Check Valve service component is used for the selected gas.
Constant High Pressure gas leak through valve body	Accidental removal of the secondary check valve (identified by Torx style head).	Follow established safety protocol related for the associated gas leak. Medical outlet must be replaced.
	Component fracture/damage to the primary check valve cartridge.	Attempt to remove/replace the primary check valve component if able. If not and/or service tool spins in place; replace outlet.
Serviceable Primary Check Valve cartridge assembly will not tighten and spins freely	Primary check valve was overtightened, and the assembly is now damaged.	A new Primary Check Valve assembly must be used. If damaged component cannot be removed from outlet, medical outlet must be replaced.
	Primary check valve O-ring is hung up on valve body.	This sometimes can occur as a result of the gas pressure not able to overcome the friction of the O-Ring. Use the edge of the service tool to hook the cartridge and help pull it out.
Medical Outlet will not assemble to rough-in assembly due to index pin interference	Medical outlet is the incorrect outlet for the rough-in assembly and the gas types do not match.	Ensure the proper medical outlet is being installed on the rough-in assembly. Consult properly trained personnel.
DISS connector/adapter will not assemble into the valve body of the medical outlet	DISS connector/adapter is the incorrect piece for the medical outlet in question.	Ensure the proper DISS connector is being used on the medical outlet. Consult properly trained personnel.
	If using a competitor service cartridge, verify that the competitor cartridge is correct per the cross-reference table	Check the service part cross reference table if using a competitor service cartridge to ensure you are using the correct part number.
Cartridge Pin Tip appears to stand proud (Common on Oxygen Gas)	Pressure stabilization will sometimes push the sealing O-ring down into the cartridge assembly sealing cavity	No service action is needed. Pushing the pin tip forward with either a DISS Connector or a finger will reset this O-ring. The assembly remains sealed in either position.

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1059 Paragon Way Rock Hill, SC 29730
(888) 4-MEDGAS (888) 463-3427
Fax (803) 817-5750
www.beaconmedaes.com