WARNINGS AND IMPORTANT NOTES

- Medical gases may be considered a critical treatment and should be prescribed in accordance with current clinical recommendations. As oxygen is the most common medical gas, we recommend the British Thoracic Society guidelines; only appropriately trained practitioners should use the device to administer medical gas to patients; before administering medical gas to a patient, confirm the identity of the gas, check the expiry date and ensure adequate supplies are available to maintain the flow rate prescribed; the effectiveness of medical gases can only be determined by continuous monitoring by the user.
- Pressured gas from the medical gas pipeline system may cause personnel injury or property damage if the device is incorrectly operated or maintained.
- Medical gases are not flammable but an oxygen enriched atmosphere will increase the rate and severity of combustion. To avoid risk of fire or explosion do not use any form of oil / grease to lubricate connectors or any part of the device.
- Do not use near sources of ignition or near an excessive heat source likely to exceed 60°C. Always follow recommended procedures including the guidance give in HSE document 'Take Care with Oxygen'.
- Do not autoclave or submerge the device in any fluid and ensure that no fluid is allowed to enter the device.
- Do not subject the device to pressures greater than as identified in the specification section.
- Do not disassemble the device under pressure.
- Ensure all connections are tight and leak free. Testing prior to use is critical to ensure patient safety.
- Do not change the gas specific connectors on the device.
- Never set this device up so it can select between two different gases. It is intended to be used with one gas type only.
- Before use the user must ensure that sufficient medical gas is available for the device.
- If pressurised gas is stored in a storage compartment, the compartment must be ventilated.
- This device is designed to be part of a system complying with EN 1789 and HTM 2022 Supplement 2 "Piped medical gases in ambulance vehicles". Installers should ensure that any system components comply with the required standards.

INTRODUCTION

- This document provides instructions for the safe use and maintenance of the device.
- Read through this entire instruction guide before using.
- Personnel handling and operating the device must be authorised and appropriately trained.
- Do not use the device if you do not understand the information provided.
- Attempting to use the device without a thorough understanding may result in patient or user injury.
- Before use, verify the device is compatible with the devices connected, especially if supplied by different manufacturers.

INTENDED USE AND DESCRIPTION

- The device is intended to allow the switching between two input supply cylinders without significant interruption of the delivery of medical gas to the output pipeline system, terminal units and connected medical devices.
- It is the responsibility of the end user to ensure that the correct device with correct fittings has been selected. MEC Medical Limited accepts no responsibility for the selection of an incorrect device.

OPERATION INSTRUCTIONS

- The device can carry relatively high pressures and care should be taken to ensure that the device is sound and clean every time before use.
- The selection control allows selection of three positions:
  - Supply from Cylinder 1 (control fully rotated anti-clockwise – left)
  - Off (control with arrow in vertical position – upwards)
  - Supply from Cylinder 2 (control fully rotated clockwise – right)
- Check that there is a flow being delivered when the selection control is on an active cylinder.
- Undertake a performance function check of the equipment in accordance with the manufacturer's instructions to ensure the device is performing as required.
- A line pressure gauge indicates the pressure in the output supply to the pipeline system.
- A drop in indicated pressure below normal may indicate that the selected cylinder is nearly empty, the user should immediately check the cylinder contents and if required use the selection control to change the supply to the alternative full cylinder.
- When not in use locate the selection control in the off position and turn off the supply cylinders.

INSPECTION AND PREVENTATIVE MAINTENANCE

- Inspection and maintenance should be carried out in accordance with EN 1789 and 2022 Supplement 2.
- The user should inspect the device during normal operation for any signs of damage, audible leaks or stiffness in operation.
- The device is designed to operate with the minimum of maintenance but it is recommended that the entire device is visually inspected at regular intervals, at least every 6 months, to check for any signs of damage or wear and tear.
- Where the device is in environments where it could be damaged, for example by having heavy equipment knocked into them, a full examination of the device should be made every week.
- Any visible damage would necessitate the device being replaced.
- It is recommended that all Change Over Valves are replaced seven years' after the date of manufacture regardless of condition. A manufacture date is printed on the device label.

CLEANING AND DISINFECTION

- Clean the device using only a dry lint-free cloth, distilled water or detergent wipe.
- Where a detergent wipe proves insufficient an isopropyl alcohol wipe may be used.
- Do not use any solvents as this may cause damage to the device.
- It is not practical or economical to internally clean or disinfect due to the nature and complexity of the internal components.

DECONTAMINATION

- Decontamination of the device should be managed in accordance with national or local legislation, UK Department of Health Guideline HTM 01-01 Part A and/or other policies applicable to your organisation.
- Devices suspected of bio-contamination should be removed from service and destroyed by incineration according to proper medical and environmental protocols.

DISPOSAL

- To be disposed as per user's country disposal regulations and hospital/clinic protocol.

RETURN OF EQUIPMENT

- If for any reason it is necessary to return equipment to MEC Medical Limited, either directly or through a distributor, the equipment must be decontaminated first and a Decontamination Certificate signed by a Competent Person enclosed.

STORAGE:

- Storage temperature between -30ºC and 70ºC with operational temperatures between -10ºC and 40ºC
- Protect from contamination and deterioration, including protection from excessive heat or undue exposure to direct sunlight.
- Adequate precautions should be taken against spillage or breakage, attack by micro-organisms, contamination and cross-contamination.
- Store off the ground and suitably spaced to permit cleaning and inspection.
- Ensure that identification is not lost.
- Packaging should be maintained until used and stored with identification visible.
- Should not be stacked.

SPECIFICATIONS

Gas Compatibility	Oxygen (O_2) Oxygen/Nitrous Oxide (O_2/N_2O) Medical Air (Air-4)	**Intended range of use**	Maximum Tested Pressure gases: 1200 kPa Working Pressure gases: 400 kPa
Information	Height: 181mm (excluding connectors) Width: 135mm Depth: 92mm (including selection control) Weight: 1.5kg (approximate, varies with spec) Gauge Accuracy: 2.5% of reading	**Materials**	Valve Body: Brass Case: Flame Retardant & Anti-bacterial Polycarbonate Gauge Assembly: Brass/Copper Alloy Connector: Steel and Brass Base Plate: Aluminium Optional Pressure Sensor: Zinc plated steel & EPDM seal

REGULATORY

- This is a medical device built to comply with MDD 93/42/EEC, MDR 2017/745, UKMDR 2002/618, EN1789 and ISO7396-1.
- Any serious incident in relation to the device that might lead to death or serious deterioration in the health of a patient should be reported to the manufacturer and competent authority in the country.
- Is neither for single use, nor sterile.
- Does not incorporate medicinal substances, nor biological or animal tissues, nor human blood, nor phthalates.
- The biocompatibility risk assessment indicates that the likelihood of adverse effects from the device is considered low but the device is a conduit for the gas pathway and the devices upstream must consider the combined biocompatibility effect.

WARRANTY

- The medical device is guaranteed free from manufacturing defects for 12 months from the date of delivery. The replacement or repair of the parts covered by this warranty does not extend the validity of the warranty itself.

PRODUCT IDENTIFICATION

This IFU is applicable to the following stock series:

1130*	11620*	COVM#*	COVP#*			

SYMBOLS

CE 1639	UK CA 0120	EC REP				LOT	SN	REF	
CE mark with Notified Body number	UKCA mark with Approved Body number	Authorised representative in the EU	Manufacturer	Date of manufacture	Use-by date	Batch code	Serial Number	Catalogue number	Caution, consult accompanying documents

ILCOVR09/2023

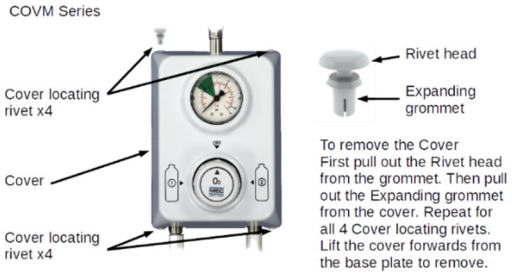
INSTRUCTIONS FOR USE (IFU) – CHANGE OVER VALVE

INSTALLATION NOTES

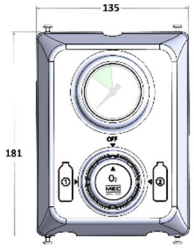
- The user should receive a fitted device from their supplier (e.g. Ambulance Builder, Medical Engineering Department).
- The fitted device should be equipped with medical gas supply hoses fitted to the input connecting to the supply system.
- Both supply cylinders must be for the same type of medical gas.
- The output tail should be connected to the correct medical gas supply hose leading to the pipeline system.
- The completed supply system should be certified to show that it has been inspected and pressure tested and the certificate show details of the organisation who carried out the work.
- Installation should be completed and tested in accordance with EN 1789 and HTM 2022 Supplement 2 “Piped medical gases in ambulance vehicles”.

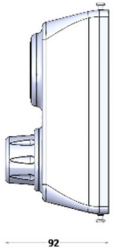
INSTALLATION INSTRUCTIONS

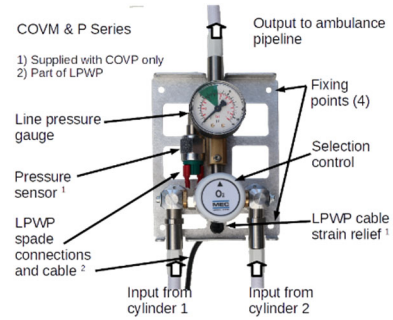
- Remove the device from the packaging and inspect for damage. If the device is damaged on receipt, do not use.
- The device is designed to be fitted to a flat surface. It must be securely attached using the four fixing points.
- To access the fixing points:
  - Retain all components for reassembly
  - Remove cover plastic locating rivets, pull head to remove centre section then remove body.
  - Remove cover. (Note: The selection control knob and gauge are not removed)
  - Fixing points are now accessible.
  - Mark fixing points and remove device before drilling
- Position the device so that
  - It can be easily seen (selection control position and gauge)
  - The selection control is easily operated
  - The two input hoses and the output hose are not kinked and have a radius of 80mm or greater
- The device is often situated in the same location as the medical gas cylinders. The location should be clean and free from solvents or hydrocarbons such as oil.
- Do not mount the device where it will be continuously exposed to direct sunlight.
- Do not mount the device where it may be subject to damage when the gas cylinders are changed.
- The COVM is a **C**hange **O**ver **V**alve **M**anual. The COVP is a **C**hange **O**ver **V**alve Manual with **P**ressure Sensor, for use with the Low Pressure Warning Panel (LPWP). Provision must be made for the wiring from the Low Pressure Warning Panel to the COVP. Details on the wiring are in the LPWP Information for Users. When connected to the LPWP via the Sensor Cable a strain relief cable bush is supplied to allow the cable to be fed through the metal backplate of the Change Over Valve. It is essential this is installed to prevent damage to the cable.

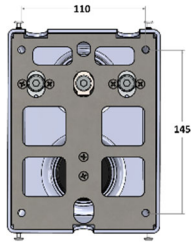


To remove the Cover First pull out the Rivet head from the grommet. Then pull out the Expanding grommet from the cover. Repeat for all 4 Cover locating rivets. Lift the cover forwards from the base plate to remove.









COMMISSIONING

- Commissioning ensures that all major components are serviceable and takes place in full after initial installation, after a major component change, and as part of planned preventative maintenance.
- Testing and commissioning should be completed by qualified personnel in accordance with EN 1789 and HTM 2022 Supplement 2 “Piped medical gases in ambulance vehicles”.
- The device is a component and the test procedures must test the complete supply system once installed.
- Commissioning typically consists of a visual check of labelling, marking, sleeving, support and performance tests for leakage and cross-connection, flow, pressure drop, mechanical function, correct identity and particulate contamination/odour/taste.
- Purging and testing the medical gas pipelines must be carried out with clean, oil-free, dry air or nitrogen, except for those tests where medical air or the specific working gas is prescribed e.g. gas identification, quality and purity check.

PERIODIC TESTING

- Periodic testing should be completed in accordance with HTM 2022 Supplement 2 “Piped medical gases in ambulance vehicles”.
- Testing should be completed a minimum of every 12 months or following any repair to the system.
- The test protocol is specified in the standard and should be followed.
- The device forms part of a supply system and is subject to the periodic testing.
- MEC recommend testing using a medical air cylinder (with a pin index or bullnose cylinder valve outlet) and MEC part number 116205 Vehicle Pressure and Flow Test Set.
- Apply a test pressure of 10.5 bar to the pipeline system and allow the volume of the system to stabilise (allowing the flexible hose time to expand). The medical air supply is turned off and over a 15 minute test period no visible pressure drop should be apparent on the analogue gauge of the test equipment. If a pressure drop is identified then the source of the leak must be identified and rectified.
- The flow at each terminal unit should then be tested with a supply pressure to the system of medical air at 4 bar. The test “gun” with a flow of 40 lpm should show a pressure of 3.8 bar or greater at the terminal unit. If a restricted flow is identified the cause should be identified and rectified.
- After test, purge the system using medical oxygen.

MAINTENANCE

- Maintenance engineers must fully understand the MEC Change Over Valve and be familiar with these instructions.
- Sub-standard or inappropriate parts and materials may damage the product and invalidate the warranty. Only use genuine MEC spare parts.
- All hand tools used must be clean, completely free of oil and grease and checked for serviceability before use.
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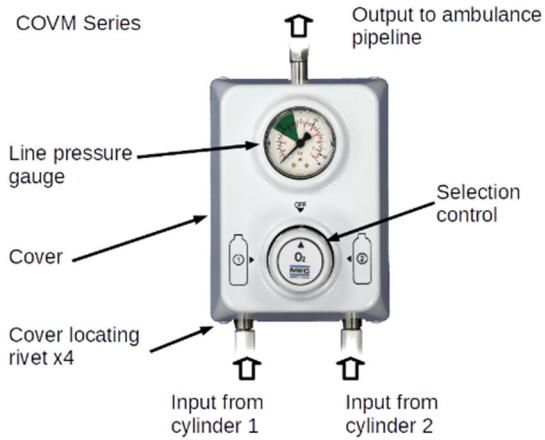

SPARES AND ACCESSORIES

- For all service spares and accessories please check the latest catalogue or contact MEC Medical.

Cover with cut outs for surface entry	113032SP
Cover Locating Rivets (pkt 40)	113036P
Selection Control (Knob)	113042
Selection Control Label O2	113051

Selection Control Label O2/N2O	113052
Selection Control Label Air-4	113055
Line Pressure Gauge	20054BE50
Pressure Sensor	113048
Strain Relief Cable Bush (pkt 10)	113911P

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ILCOVR09/2023

INSTRUCTIONS FOR USE (IFU) – CHANGE OVER VALVE

WARNINGS AND IMPORTANT NOTES

- Medical gases may be considered a critical treatment and should be prescribed in accordance with current clinical recommendations. As oxygen is the most common medical gas, we recommend the British Thoracic Society guidelines; only appropriately trained practitioners should use the device to administer medical gas to patients; before administering medical gas to a patient, confirm the identity of the gas, check the expiry date and ensure adequate supplies are available to maintain the flow rate prescribed; the effectiveness of medical gases can only be determined by continuous monitoring by the user.
- Pressured gas from the medical gas pipeline system may cause personnel injury or property damage if the device is incorrectly operated or maintained.
- Medical gases are not flammable but an oxygen enriched atmosphere will increase the rate and severity of combustion. To avoid risk of fire or explosion do not use any form of oil / grease to lubricate connectors or any part of the device.
- Do not use near sources of ignition or near an excessive heat source likely to exceed 60°C. Always follow recommended procedures including the guidance give in HSE document 'Take Care with Oxygen'.
- Do not autoclave or submerge the device in any fluid and ensure that no fluid is allowed to enter the device.
- Do not subject the device to pressures greater than as identified in the specification section.
- Do not disassemble the device under pressure.
- Ensure all connections are tight and leak free. Testing prior to use is critical to ensure patient safety.
- Do not change the gas specific connectors on the device.
- Never set this device up so it can select between two different gases. It is intended to be used with one gas type only.
- Before use the user must ensure that sufficient medical gas is available for the device.
- If pressurised gas is stored in a storage compartment, the compartment must be ventilated.
- This device is designed to be part of a system complying with EN 1789 and HTM 2022 Supplement 2 "Piped medical gases in ambulance vehicles". Installers should ensure that any system components comply with the required standards.

INTRODUCTION

- This document provides instructions for the safe use and maintenance of the device.
- Read through this entire instruction guide before using.
- Personnel handling and operating the device must be authorised and appropriately trained.
- Do not use the device if you do not understand the information provided.
- Attempting to use the device without a thorough understanding may result in patient or user injury.
- Before use, verify the device is compatible with the devices connected, especially if supplied by different manufacturers.

INTENDED USE AND DESCRIPTION

- The device is intended to allow the automatic switching between two input supply cylinders without significant interruption of the delivery of medical gas to the output pipeline system, terminal units and connected medical devices.
- The device monitors the pressure from supply cylinders and automatically switches as the cylinder approaches empty.
- The COVC variant connects to Pressure Transducer Regulators to monitor and display the cylinder contents.
- It is the responsibility of the end user to ensure that the correct device with correct fittings has been selected. MEC Medical Limited accepts no responsibility for the selection of an incorrect device.

OPERATION INSTRUCTIONS

- The device can carry relatively high pressures and care should be taken to ensure that the device is sound and clean every time before use.

Normal Operation

- In normal use the device will operate automatically once powered on.
- The device will normally default to use cylinder 1 (left input) if it detects sufficient line pressure is available.
- If the device last used the supply from cylinder 2 (right input) then it will continue to use it until reset or a switch is made.
- The active cylinder will be indicated by a green LED light showing.
- When low pressure is detected it will be indicated by a red LED light showing on the current cylinder. The device will switch to the alternative cylinder which is indicated by an audible bleep and the indication of a green LED light.
- If low pressure is detected on both cylinders then both cylinders are opened to provide all remaining gas. All LED lights will light and an audible alarm indicate the status. The audible warning can be temporarily muted by pressing the Mute button.

Change Cylinders

- The active cylinder can be manually selected by pressing the button 1 or 2 to select the chosen cylinder. A cylinder cannot be manually selected if it is identified as empty with the red LED light showing.
- Replacement of a used cylinder can be carried out without interrupting the gas supply. Once the cylinder is replaced a system reset will be required by pressing buttons 1 and 2 simultaneously and the device will default to use cylinder 1.
- To maximise the usage of cylinders, select the cylinder with the lowest pressure for usage. This can be achieved by connecting the full cylinder as cylinder 2 or by manually selecting the cylinder with the lowest pressure.

Remote Panel (optional)

- The remote panel mirrors the display of the COV and allows manual change over, mute and reset on the remote display.

Cylinder Pressure Display and Bar (optional)

- This function is only available for COVC variants and MEC regulators with pressure sensors. The transducer cables connect to the regulators with a screw securing jack plug. It is important that the correctly numbered transducer cable is connected to the matching cylinder. To check the correct transducer cable is in use, connect only one cylinder and the device should display a green LED and pressure reading, whilst the unconnected cylinder will display a red LED and zero reading.
- The cylinder pressure bar indicates the remaining contents of the cylinder reducing in 40 bar increments and shows full if over 120 bar. A full cylinder with a working pressure of 138 bar or 200 bar will show all 4 illuminated bars.
- If the supply voltage from the pressure sensor varies then the display may temporarily show EEE for a few seconds before returning to normal levels. This display is informational only and does not affect the operation of the device.

ERROR MESSAGES

- In the event of a fault being detected an error message will appear on the output pressure display.

E0	Overpressure.	E6	Cylinder 1 setup fault.
E1	Cylinder 1 not shutting.	E7	Cylinder 2 setup fault.
E2	Cylinder 2 not shutting.	EU	Insufficient pressure, low pressure at output.
E5	Stability fault, cylinder pressure excessively variable.	EC	Unrecoverable fault

- Resolve the cause of the fault where possible, then reset the device by pressing buttons 1 and 2 simultaneously.
- If an error persists, please contact your installer or MEC for technical support.

INSPECTION AND PREVENTATIVE MAINTENANCE

- Inspection and maintenance should be carried out in accordance with EN 1789 and 2022 Supplement 2.
- The user should inspect the device during normal operation for any signs of damage, audible leaks or issues in operation.
- The device is designed to operate with the minimum of maintenance but it is recommended that the entire device is visually inspected at regular intervals, at least every 6 months, to check for any signs of damage or wear and tear.
- Where the device is in environments where it could be damaged, for example by having heavy equipment knocked into them, a full examination of the device should be made every week. Any visible damage would necessitate the device being replaced.
- It is recommended that all COVs are replaced seven years' after the date of manufacture regardless of condition. A manufacture date is printed on the device label.

CLEANING AND DISINFECTION

- Clean the device using only a dry lint-free cloth, distilled water or detergent wipe.
- Where a detergent wipe proves insufficient an isopropyl alcohol wipe may be used.
- Do not use any solvents as this may cause damage to the device.
- Do not autoclave or submerge the device in any fluid and ensure that no fluid is allowed to enter the device
- It is not practical or economical to internally clean or disinfect due to the nature and complexity of the internal components.

SPECIFICATIONS

Gas Range	Oxygen (O_2) Oxygen/Nitrous Oxide (O_2/N_2O) Medical Air (Air-4)	**Working Range**	Maximum Tested Pressure gases: 1200 kPa Working Pressure gases: 350, 400 or 450 kPa Temperatures between -10ºC and 40ºC
Information	Dimensions: 210mm (l) x 80mm (w) x 150mm (h) Weight: 2.5kg (approximate, varies with spec) Voltage: 12V, Frequency: 50/60 Hz Class 1 Equipment	**Materials**	Valve Body: Brass and Aluminium Case: Flame Retardant & Anti-bacterial Polycarbonate Connector: Steel and Brass Base Plate: Aluminium

REGULATORY

- This is a medical device built to comply with MDD 93/42/EEC, MDR 2017/745, UKMDR 2002/618, EN1789 and ISO7396-1.
- Any serious incident in relation to the device that might lead to death or serious deterioration in the health of a patient should be reported to the manufacturer and competent authority in the country.
- Is neither for single use, nor sterile.
- Does not incorporate medicinal substances, nor biological or animal tissues, nor human blood, nor phthalates.
- The biocompatibility risk assessment indicates that the likelihood of adverse effects from the device is considered low but the device is a conduit for the gas pathway and the devices upstream must consider the combined biocompatibility effect.

WARRANTY

- The medical device is guaranteed free from manufacturing defects for 12 months from the date of delivery. The replacement or repair of the parts covered by this warranty does not extend the validity of the warranty itself.

PRODUCT IDENTIFICATION

This IFU is applicable to the following stock series:	COVA	COVC	COVS

SYMBOLS

CE 1639	UK CA 0120	EC REP				LOT	SN	REF			
CE mark with Notified Body number	UKCA mark with Approved Body number	Authorised representative in the EU	Manufacturer	Date of manufacture	Use-by date	Batch code	Serial Number	Catalogue number	Caution, consult accompanying documents	Direct Current	Operating Instructions

ILCOVAR03/2023
INSTRUCTIONS FOR USE (IFU) – AUTOMATIC CHANGE OVER VALVE (COV)

INSTALLATION NOTES

- The user should receive a fitted device from their supplier (e.g. Ambulance Builder, Medical Engineering Department).
- The fitted device should be equipped with medical gas supply hoses fitted to the input connecting to the supply system.
- Both supply cylinders must be for the same type of medical gas.
- The output tail should be connected to the correct medical gas supply hose leading to the pipeline system.
- The completed supply system should be certified to show that it has been inspected and pressure tested and the certificate show details of the organisation who carried out the work.
- Installation in ambulances should be completed and tested in accordance with EN 1789 and HTM 2022 Supplement 2 “Piped medical gases in ambulance vehicles” or in premises in accordance with HTM02-01.

INSTALLATION INSTRUCTIONS

- Remove the device from the packaging and inspect for damage. If the device is damaged on receipt, do not use.
- The device is designed to be fitted to a flat surface. It must be securely attached to the surface using the four fixing points.
- To access the fixing points:
  - Retain all components for reassembly.
  - Remove cover plastic locating rivets, pull head to remove centre section then remove body.
  - Gently Remove cover **(Take care as the switch membrane attached to the circuit board must be disconnected).**
  - Open the ZIF connector on the circuit board by sliding the lock outwards and gently remove the ribbon. The Cover can now be placed to one side.
  - Fixing points are now accessible.
  - Mark fixing points and remove device before drilling.

ZIF Connector Closed *ZIF Connector Open*

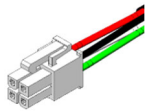
- Position the device so that:
  - It can be easily seen (selection control position).
  - The selection control is easily operated.
  - The two input hoses and the output hose are not kinked and have a radius of 80mm or greater.
- Reassemble the device by reconnecting the ZIF connector, putting the cover back on and securing with the plastic rivets.
- After installation test the COV operates according to the user guide. This requires the use of medical gas cylinders to pressurise the system. Before use a system reset may be required by pressing buttons 1 and 2 simultaneously.
- The device is often situated in the same location as the medical gas cylinders. The location should be clean and free from solvents or hydrocarbons such as oil.
- Do not mount the device where it will be continuously exposed to direct sunlight.
- Do not mount the device where it may be subject to damage when the gas cylinders are changed.

ELECTRICAL INSTALLATION

Strain Relief Bush

- Provision must be made for the wiring to the COV. The device is supplied with all cabling routed through the strain relief cable bush in the metal backplate of the COV. If any wiring is removed during installation then it is essential the strain relief and cable bush is used to prevent damage to the cable.

12v Power Supply Cable

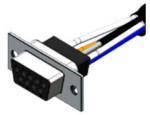


- Requires attaching to a fused supply. If the COV requires a separate on/off switch this should be provided by the installer. The supplied cable also has the signals for the Ambulance Information System. The cable is connected via a socket to the circuit board. The cable colours are as follows:
  - Red: Positive 12v vehicle supply.
  - Black: Negative.
  - Green: “Cylinder Change Over” to Ambulance information system. Normal high, on activation voltage goes low
  - White: “Oxygen Not Available” to Ambulance Information System. Normal high, on activation voltage goes low.

Power Supply Cable from 12V Plug in Power Supply (optional)

- The 12v power supply cable from 12V plug in power supply is fitted with a screw securing jack plug. This should be inserted into the Jack socket on the bottom surface of the COV. It is suggested this is inserted after the COV has been secured to the wall and the cover replaced. The screw securing ensures the jack plug is not accidentally removed.

Remote Panel Cable (optional)



- The remote panel cable attaches to the COV and remote panel with a D sub 9 pin connector on each end. This cable carries both the power and information to the Remote Panel.
- The D Sub 9 Pin Plugs are pre-connected to the cable. P clips are fixed to the rear of the remote panel to secure the cable and act as strain relief.

Pressure Transducer Cables from Cylinder (optional)

- The transducer cables connect to the regulators with a screw securing jack plug. This function is only available for COVC variants and MEC regulators with pressure sensors (optional).

COMMISSIONING

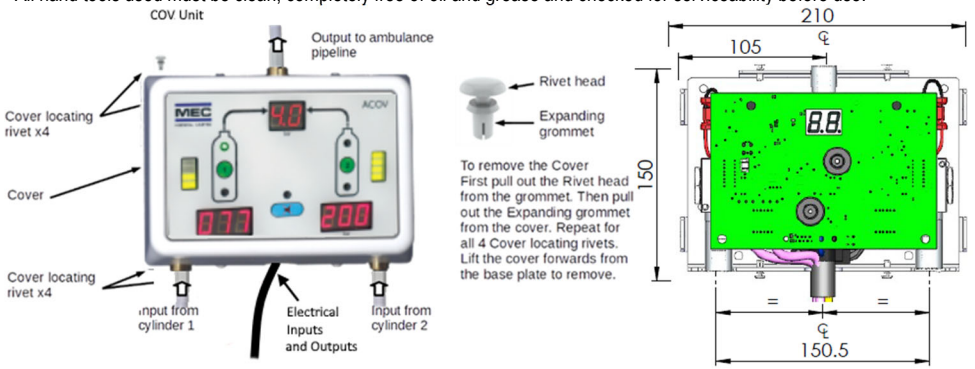
- Commissioning ensures that all major components are serviceable and takes place in full after initial installation, after a major component change, and as part of planned preventative maintenance.
- Testing and commissioning in ambulances should be completed by qualified personnel in accordance with EN 1789 and HTM 2022 Supplement 2 “Piped medical gases in ambulance vehicles” or in premises in accordance with HTM02-01.
- The device is a component and the test procedures must test the complete supply system once installed.
- Commissioning typically consists of a visual check of labelling, marking, sleeving, support and performance tests for leakage and cross-connection, flow, pressure drop, mechanical function, correct identity and particulate contamination/odour/taste.
- Purging and testing the medical gas pipelines must be carried out with clean, oil-free, dry air or nitrogen, except for those tests where medical air or the specific working gas is prescribed e.g. gas identification, quality and purity check.

PERIODIC TESTING

- Periodic testing should be completed in accordance with EN 1789 and HTM 2022 Supplement 2 “Piped medical gases in ambulance vehicles” or in premises in accordance with HTM02-01.
- Testing should be completed a minimum of every 12 months or following any repair to the system.
- The test protocol is specified in the standards and should be followed.
- The device forms part of a supply system and is subject to the periodic testing.
- MEC recommend testing using a medical air cylinder (with a pin index or bullnose cylinder valve outlet) and MEC part number 116205 Vehicle Pressure and Flow Test Set.
- Apply a test pressure of 10.5 bar to the pipeline system and allow the volume of the system to stabilise (allowing the flexible hose time to expand). The medical air supply is turned off and over a 15 minute test period no visible pressure drop should be apparent on the analogue gauge of the test equipment. If a pressure drop is identified then the source of the leak must be identified and rectified.
- After a pressure test the device must be recalibrated. Ensure there is no pressure in the output line and then press buttons 1 and Mute simultaneously for 10 seconds or until the display changes to C1. The display cycles through C1, C2, C3 and CC as the calibration is completed. Once complete press buttons 1 and 2 simultaneously to reset the device.
- The flow at each terminal unit should then be tested with a supply pressure to the system of medical air at 4 bar. The test “gun” with a flow of 40 lpm should show a pressure of 3.8 bar or greater at the terminal unit. If a restricted flow is identified the cause should be identified and rectified.
- After test, purge the system using medical oxygen.

MAINTENANCE

- Maintenance engineers must fully understand the COV and be familiar with these instructions.
- Sub-standard or inappropriate parts and materials may damage the product and invalidate the warranty. Only use genuine MEC spare parts.
- All hand tools used must be clean, completely free of oil and grease and checked for serviceability before use.



SPARES AND ACCESSORIES

- For all service spares and accessories please check the latest catalogue or contact MEC Medical.

Cover with cut outs for surface entry	150018	Strain Relief Cable Bush (pkt 10)	113911P
Membrane Integral COVA	150023	Canbus Cable Assembly 3m	150061
Membrane Bullnose COVC	150022	Power Cable 3m	150050/3
Cover Locating Rivets (pkt 40)	113036P	Transducer Cable 1m	150055/1

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INSTRUCTIONS FOR USE (IFU) – AUTOMATIC CHANGE OVER VALVE (COV)