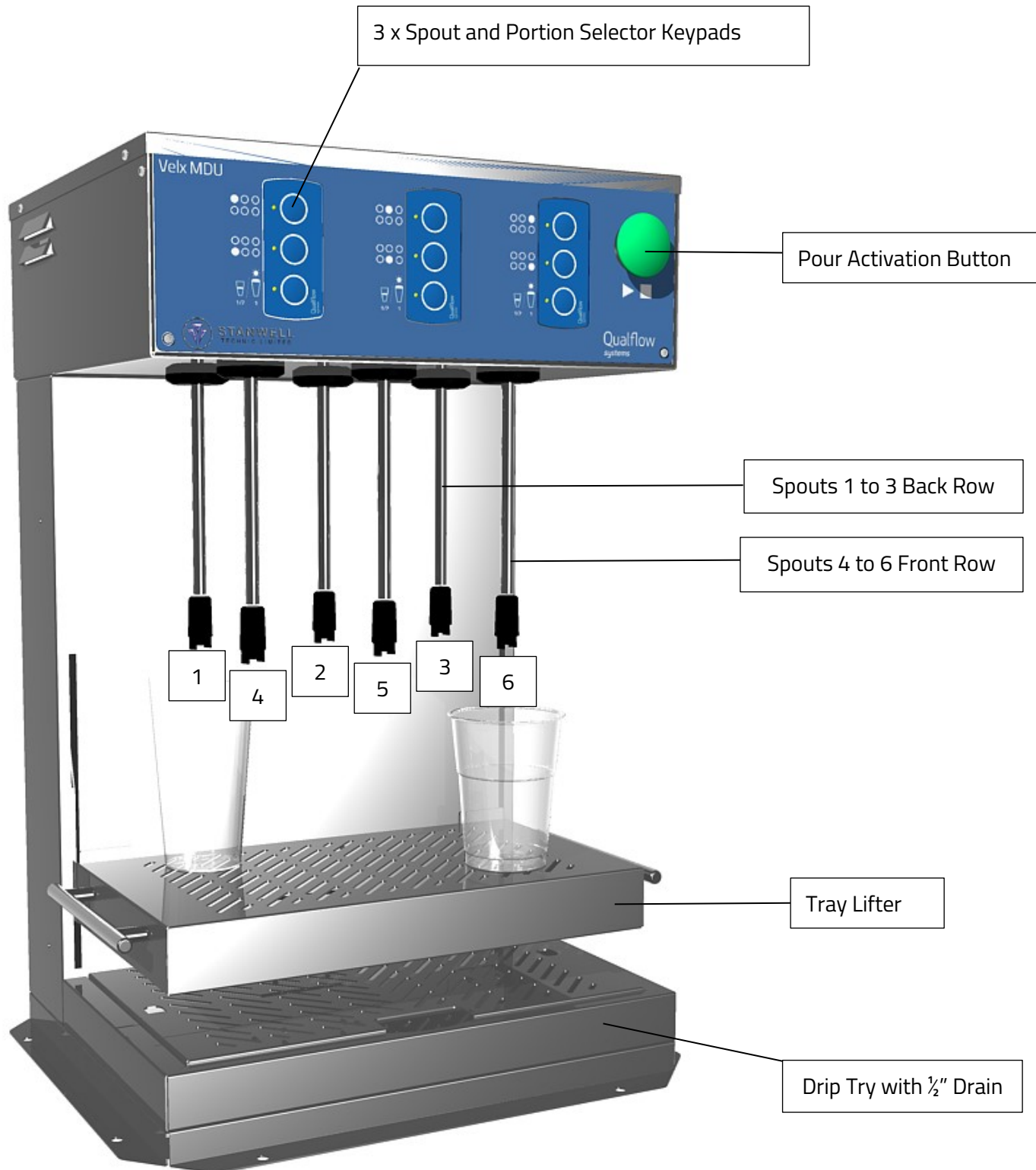


Velx MDU 6-Spout

Installation and Basic Service Manual





Safety Notes Regarding Dispense Equipment Installation

Caution: Read this manual before installing the Velx MDU. Failure to follow safety and installation instructions can result in serious injury and or damage to property.



- Failure to follow instructions can result in serious injury and or damage to property.
- Installation of the Velx MDU equipment requires the use of power and hand tools. Use correct PPE when operating these tools.
- Qualified personnel must isolate the Velx MDU unit from mains power before opening and servicing the unit.

Important Notes

- Beer dispense from the Velx MDU requires the use of Carbon Dioxide, Nitrogen or Mixed Gas which can be dangerous and can cause asphyxiation or serious injury.

Never enter a cellar, cold-room, or area where there is a gas leak. Ventilate the area and use CO² detector to ensure it is safe to enter.

- Electrical Connection: 3 Pin, 13-amp single phase switched and earthed mains socket that is protected by an RCD.
- The Velx MDU is powered using an external 24VDC or 30VDC power supply. This power supply provides electrical isolation from the mains voltage. Never connect the Velx MDU unit directly to a mains power outlet. Never operate the Velx MDU if the mains power lead or power supply is damaged.
- It is the responsibility of the user/installer to ensure that the Velx MDU beer dispense equipment is installed to comply with electrical regulation, local rules, standards, and codes of practice regarding the installation of mains powered electrical equipment and the use of beverage dispense gases.

Technical Specifications

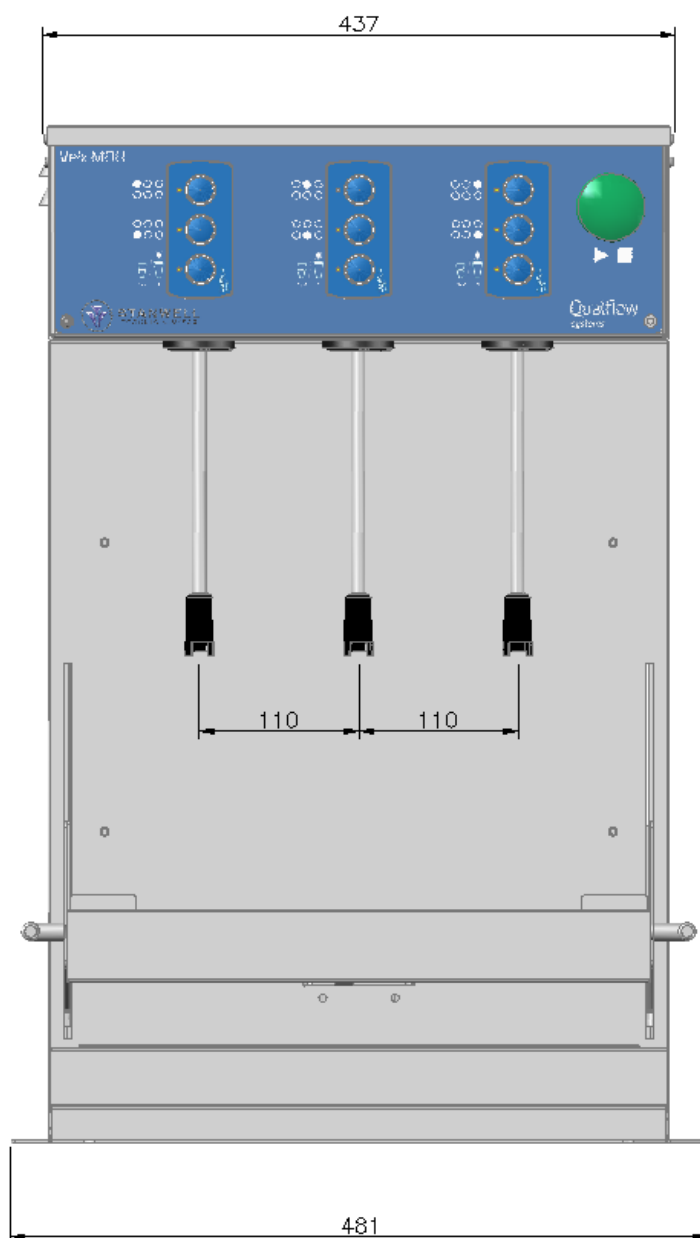
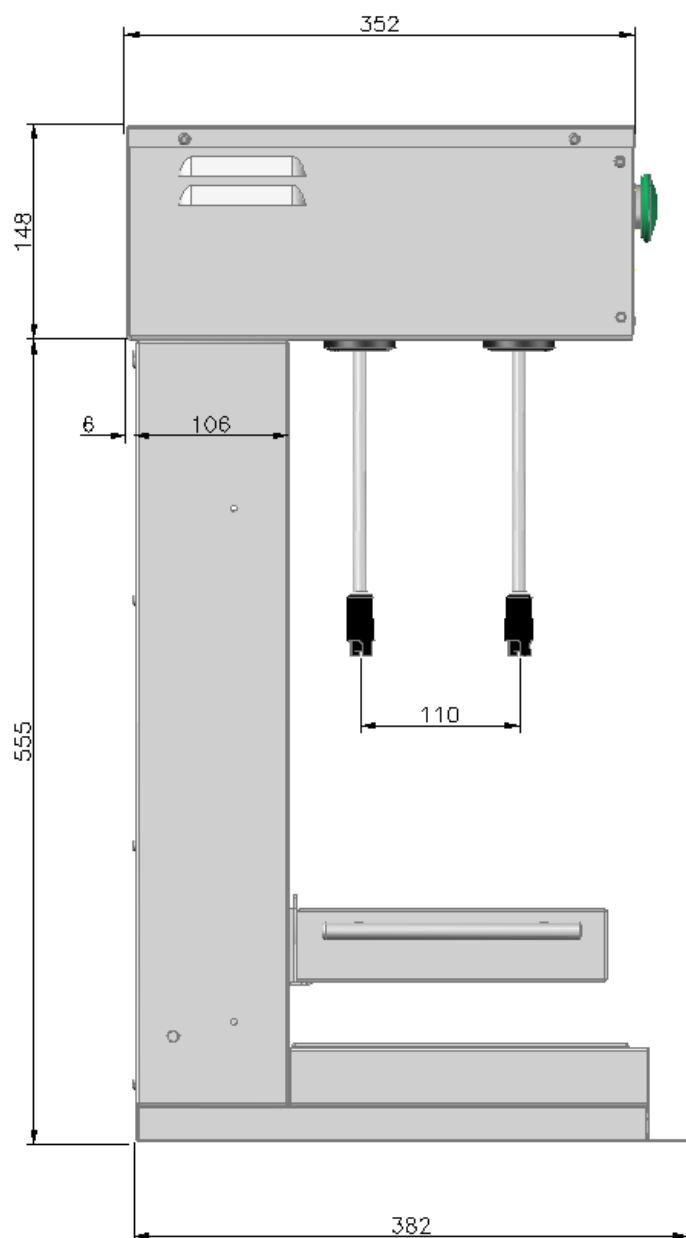
Dimensions:	~481x382x703mm (WxDxH)
Weight:	~28kg
Power Supply:	IP67 DCV Power Supply, Input: 110/240VAC - Output: 24VDC, 240W, 4.2A IP67
eFOB:	Input: 1x input per Spout. Works with Qualflow e-FOB models.
Beer In:	Six 3/8" Beer Line with Inline Beer Filter. Tails ~200mm Long.
Recirculation Cooling:	2x 3/8" In- Out Trace line cooling.
Dispense Gas:	Max Dispense Gas Pressure - 4 bar (for higher operating pressures - contact Qualflow).
Operation:	Dispense 6-Pints in circa 9-15 seconds (dependent on setup). Spout Selection & Portion size via Membrane Keypad. Single Activation Pour. Activates 1-6 Spouts depending on spouts selected. Spout Selection & Portion size via Membrane Keypad. Two Programmable Portion sizes. Secure Portion Calibration Key-Switch. Secure Clean Mode Key-Switch.
Meters:	0.1% repeatability. linearity 1% FSD for flow rates in the range 0.5 L/min to 10L/min.
Branding:	Contact Qualflow for options.
Options:	Can be used with the Qualflow Auto Keg-Changer.
Dispense Temperature:	For dispense speeds of 10-15 second per pint the dispense temperature must be below 2°C.
Keg Storage 6-8°C use:	1 x 15m coils per spout (ice bank). 1 x 7m coils chiller plate per spout (glycol). Inadequate cooling will result in excessive foam on beer.
Gas Pressure:	For best results use mixed gas. Use 30-70 or 25-75 (CO ₂ -N ₂) for stout products at 36-38psi. Use 50-50 or 60-40 (CO ₂ -N ₂) for lager at 36-38psi. For pure CO ₂ , gas pumps can be used to increase flow rate. Do-Not over-pressurise the beer or e-FOB (max operating pressure 4-bar). Excessive dispense gas-pressure will cause excessive foam on beer.

Operation with CO₂ in UK Keg Stores:

For pure CO₂ lager dispense use 20 to 26psi, for keg storage in the range 12C to 20C.
Use a high-Volume Primary Valve with secondary valve for each gas drop.
Use a ringed (looped) Gas feed.

Technical Specifications

Dimensions



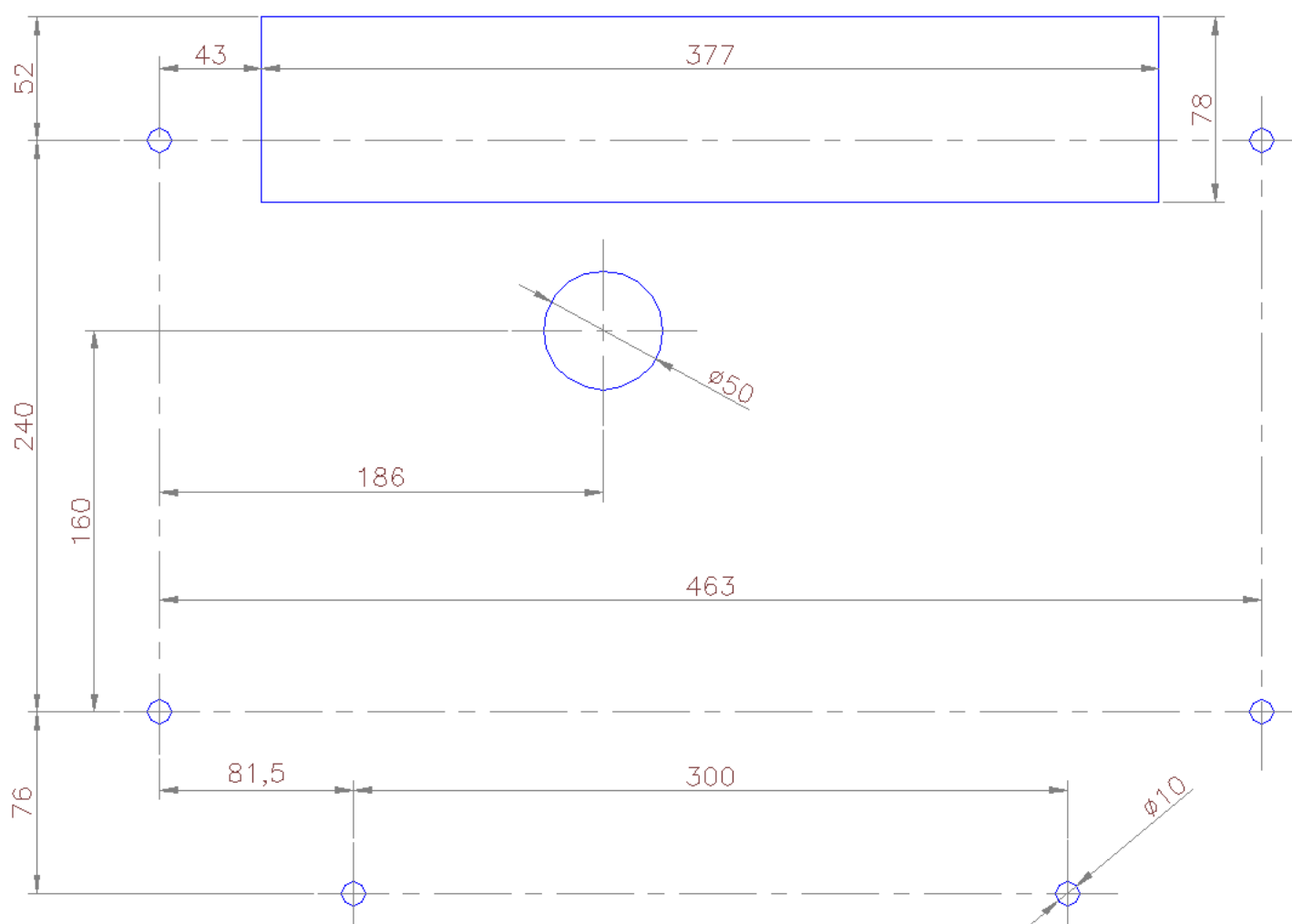
Dimensions – Countertop Cut-out Template

All dimensions in mm

The 6 off 10mm diameter holes are for mounting the MDU using M8 diameter fittings (fittings not supplied).

The 50mm diameter hole is to allow for the drip tray drain hose.

The 377x78mm cutout is to allow access for beer lines, trace cooling etc.

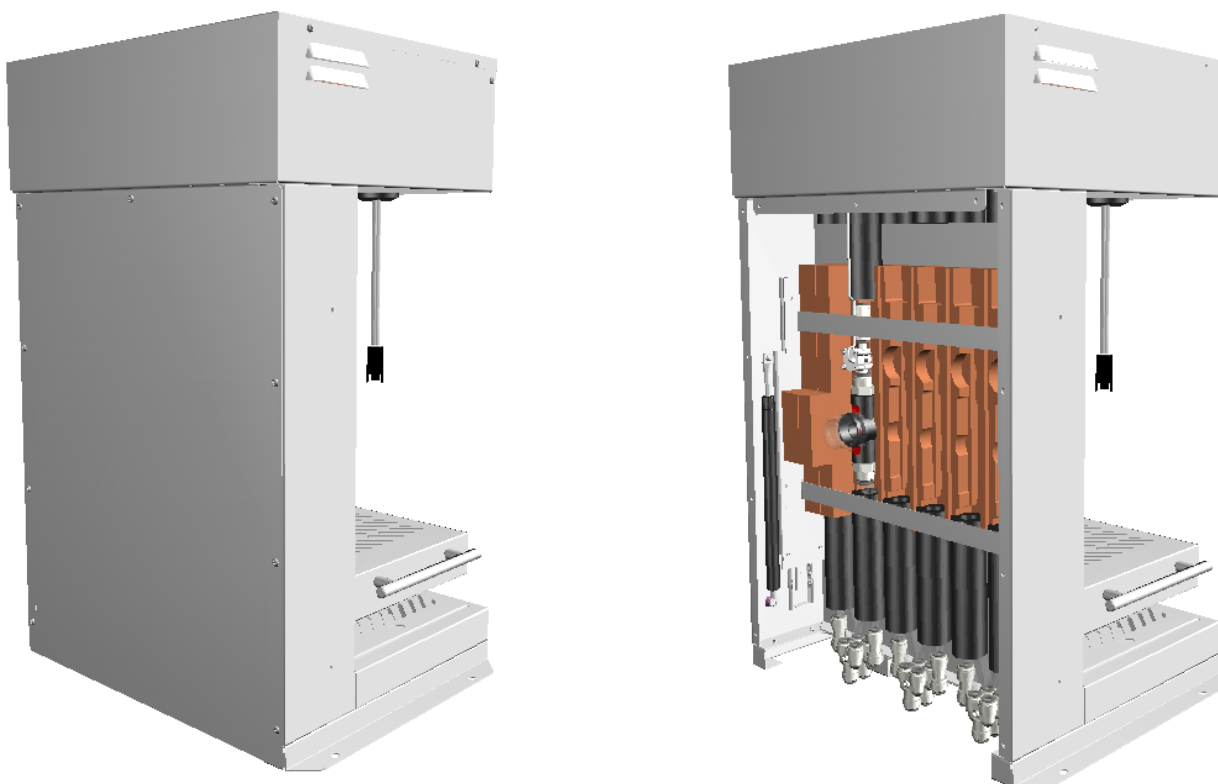


Connecting Beer & Cooling

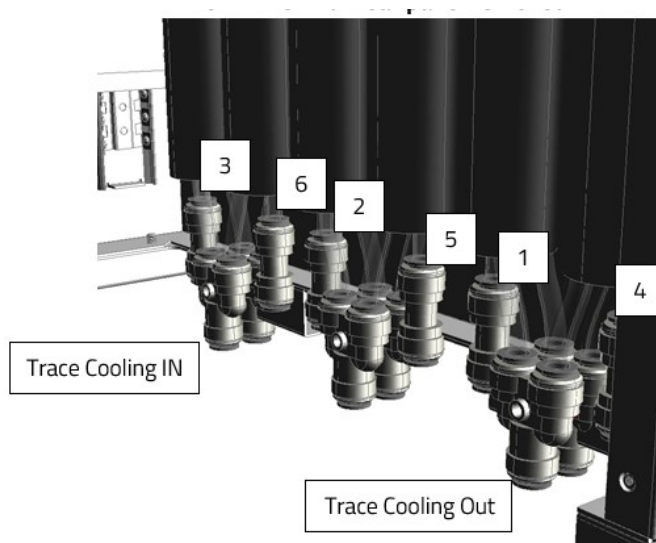
Fit the Velx MDU to the counter using suitable fasteners. Refer to page 6 for details.

Remove the back cover. Each spout has a 3/8" JG Push Fit flying lead. A single 3/8" in and out provides the trace cooling for the spouts. **TO AVOID DAMAGING THE VALVES YOU MUST TRACE COOL THE SPOUTS.**

Velx MDU rear view and with rear panel removed

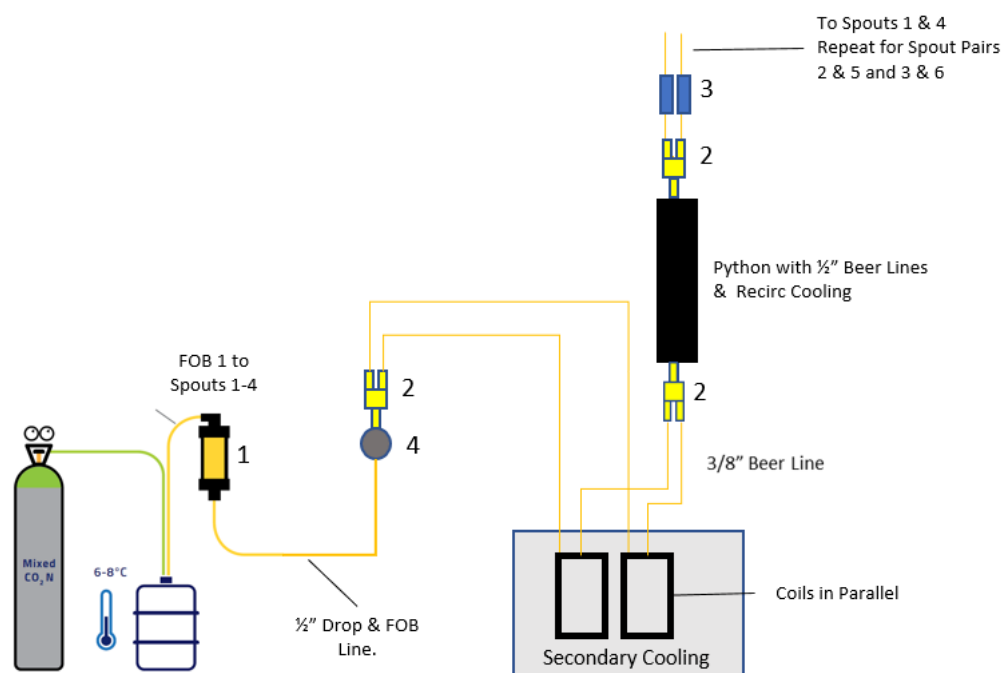


Detail showing spout numbers and trace cooling lines



Connecting Beer & Cooling

Configuration for Operation with 3 Kegs and 1/2" Beer Line



1) Qualflow E-FOB

2) JG 1/2" to 3/8" Y

3) Flow Controller

4) Qualflow Beer Filter

Cooling Requirements (Target Dispense Temp 2C or less)

For Lager Beer stored at 6-8°C use:

2 x 15m coils in parallel (ice bank).

2 x 7m coils chiller plate in parallel (glycol).

For Stout Beer stored at 6-8°C use:

2 x 7m coils in parallel (ice bank).

2 x 3m coils chiller plate in parallel (glycol)

Use arma flex foam and arma tubing to insulate any exposed beer and trace cooling lines.

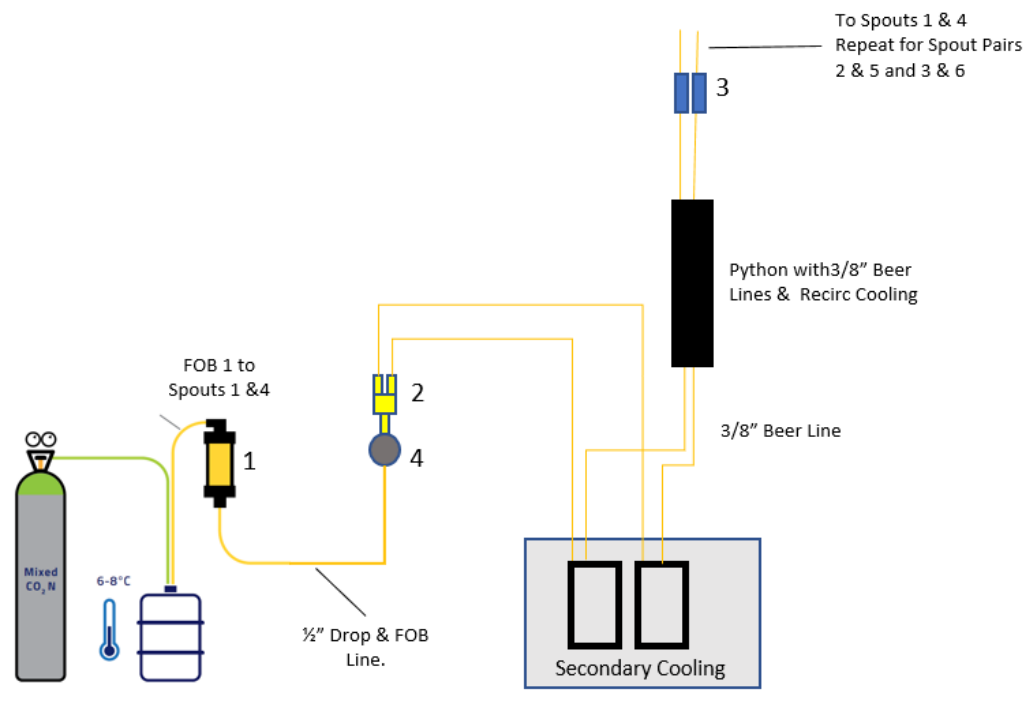
Leak test and pressure test installation before charging with beer. Note E-FOB max operating pressure 4-bar

Important:

When using half inch (1/2") beer line, always pour beer in spout pairs, 1-4, 2-5 or 3-6, the operators should not select single spout operation. Using single spout operation may cause the beer to foam due to the speed of pour.

Connecting Beer & Cooling

Configuration for Operation with 3 Kegs and 3/8" Beer Line



1) Qualflow E-FOB

2) JG 1/2" to 3/8" Y

3) Flow Controller

4) Qualflow1/2" Beer Line Filter

Cooling Requirements (Target Dispense Temp 2C or less)

For Lager Beer stored at 6-8°C use:

2 x 15m coils in parallel (ice bank).

2 x 7m coils chiller plate in parallel (glycol).

For Stout Beer stored at 6-8°C use:

2 x 7m coils in parallel (ice bank).

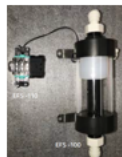
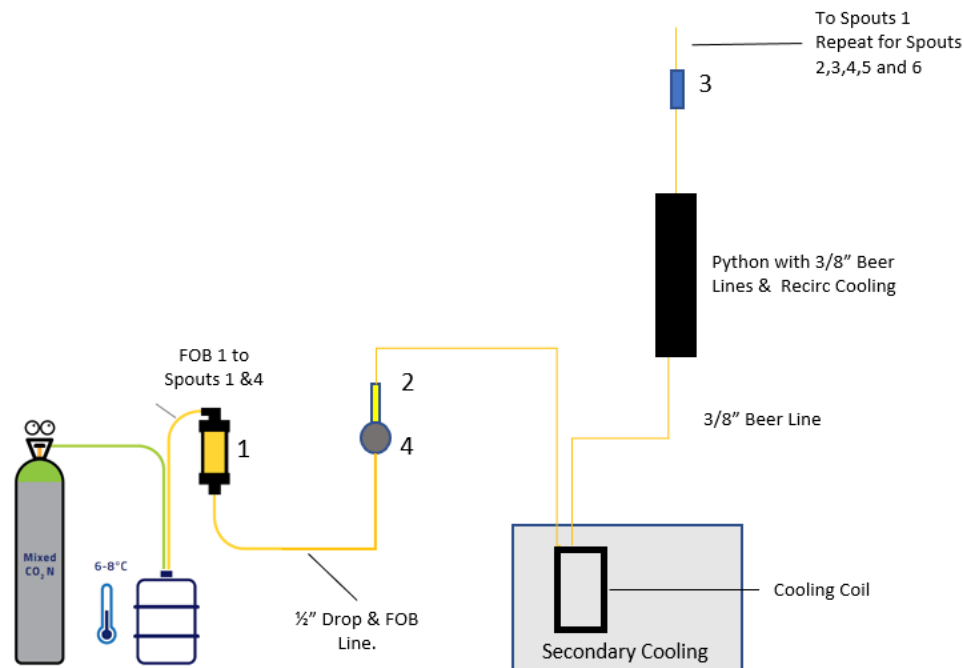
2 x 3m coils chiller plate in parallel (glycol)

Use arma flex foam arma tubing to insulate any exposed beer and trace cooling lines.

Leak test and pressure test installation before charging with beer. Note e-FOB max operating pressure 4-bar.

Connecting Beer & Cooling

Configuration for Operation with 6-Kegs and 3/8" Beer Line



1) Qualflow E-FOB



2) JG 1/2" to 3/8" Reducer



3) Flow Controller



4) Qualflow 1/2" Beer Line Filter

Cooling Requirements (Target Dispense Temp 2C or less)

For Lager Beer stored at 6-8°C use:

1 x 15m coils per spout (ice bank)

1 x 7m coils chiller plate (glycol).

For Stout Beer stored at 6-8°C use:

1 x 7m coils in parallel (ice bank).

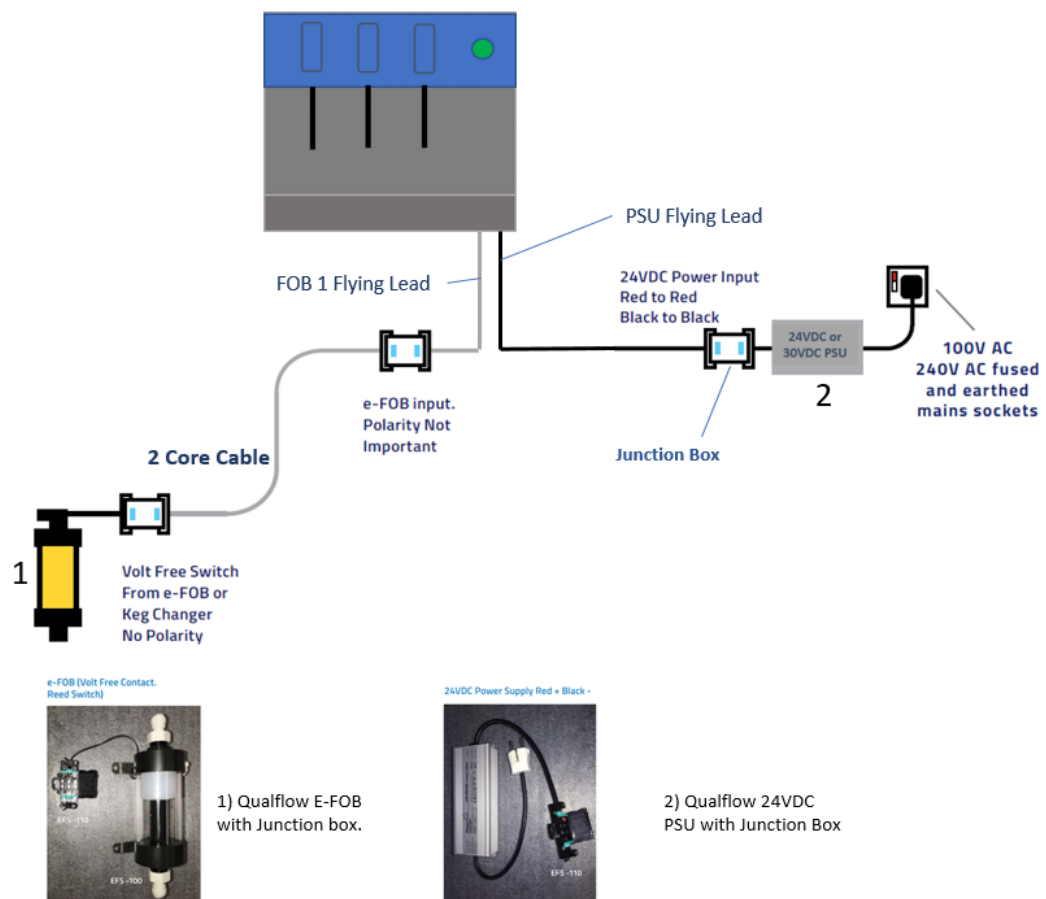
1 x 3m coils chiller plate in parallel (glycol)

Use arma flex foam arma tubing to insulate any exposed beer and trace cooling lines.

Leak test and pressure test installation before charging with beer. Note e-FOB max operating pressure 4-bar.

Connecting e-FOBs & Power

Configuration for Operation with 6 e-Fobs and 6 Kegs



Each Spout has a labelled e-FOB signal input flying lead and junction box.

The 24VDC power input is via a flying lead and junction box

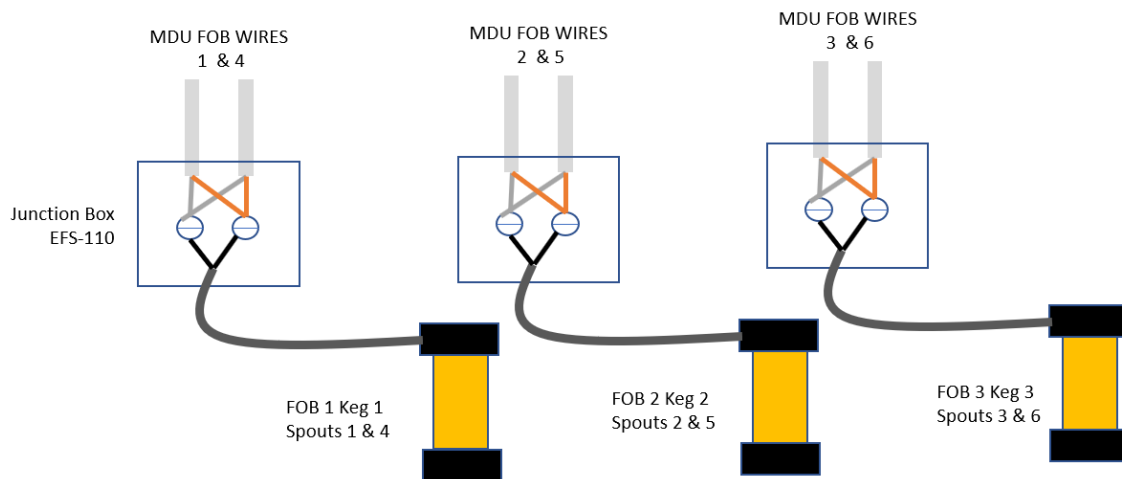
Remove the back panel to access the flying leads and junction boxes.

- 1) Use junction boxes (EFS-110) to connect the e-FOB Volt Free switch to the Velx MDU e-FOB input spout 1 input. Polarity is not important.
- 2) Connect the 24VDC power supply to the Velx MDU 24VDC input. **Important connect: - Red to Red and Black to Black.**
- 3) Connect the 24VDC Power Supply to an earthed switched mains input socket with RCD protection.
- 4) Repeat steps 2 and 3 for e-FOB inputs 2,3,4,5, and 6.

Use tie wraps and fasteners to secure wiring and junctions securely.

Connecting e-FOBs & Power

Configuration for Operation with 3 e-Fobs and 3 Kegs



For operation with three e-FOBs and three Kegs (i.e. when 2 spouts are supplied by each FOB/Keg) you must match wire colour (Brown to Brown – White to White) at the connections into the MDU and at the e-FOBs.

Use tie warp and fasteners to secure wiring and junctions securely.

Calibrating the Velx MDU

This section should be read in conjunction with the video Velx-MDU-1 Operator Instructions.

Connect power and beer to the Velx MDU.

- Turn the Calibrate key to the calibrate position.
- Place the correct size UKCA or CE Kitemarked beer cup under a nozzle. Make sure the nozzle touches the bottom of the cup and the cup is level.
- Press the selected spout button. Beer will flow. When the Beer is at the measure mark, press the spout button again to stop the pour.
- The selected spout is now calibrated for the selected volume. The video shows a pint glass.
- Repeat these steps for all spouts and for the half portion beer cup.

Pouring Beer using the Velx MDU

This section should be read in conjunction with the video Velx-MDU-1 Operator Instructions.

1. The large green pour button is pressed to activate the pour.
2. To start a pour:-
 - Place a tray with beer cups under the selected spouts. In this case, six cups for six selected spouts.
 - Press down to release the tray lifter catch
 - The tray rises and stops in the pour position.
 - When the tray stops, press the green pour button to activate the pour.
 - When the pour is finished. Push the lifter tray down until the lifter catch is engaged.
3. Slide the tray off the lifter and place on the counter for servers.

Topping Up a Pint

This section should be read in conjunction with the video Velx-MDU-1 Operator Instructions.

If required, use this method to top off pints or complete a pour when kegs empty. Always top off to the measure measure mark on the approved beer cup.

Place the beer cup under the spout. Press and hold the selected spout button. Keep the button pressed until the correct volume is reached, then release.

Empty Keg Signal

This section should be read in conjunction with the video Velx-MDU-1 Operator Instructions.

When a keg empties the spout LEDs on the relevant spouts flash slowly until a new keg is connected to the relevant spout or spouts.

Flow Fault Signal

This section should be read in conjunction with the video Velx-MDU-1 Operator Instructions.

A flow fault prevents the flow of beer to a spout or spouts. It is indicated by the LED of the spout with the fault flashing rapidly when you try to pour a beer.

Flow faults are caused by:

- No Keg connected
- No Dispense gas
- Lines freezing
- A kink in the line
- Dirt in the flow meter filter.
- A faulty flow meter.

You must identify and fix the fault to restore the flow of beer. See Basic Maintenance section for details on how to clean the flow meter filter and how to replace a flow meter

Taking Care of the Velx MDU

This section should be read in conjunction with the video Velx-MDU-1 Operator Instructions.

- At the end of service turn off the Velx MDU.
- When the Velx is turned off, spray down the spouts and unit with water from a spray bottle.
- With the lifter tray in the up position spray and clean the tray lifter latch.
- Dry the MDU with a lint free paper towel.

Do not use detergents to clean the MDU.

Cleaning the Velx MDU-Beer-Lines

This section should be read in conjunction with the video Velx-MDU-1 Operator Instructions.

1. Turn the Clean key to the clean position.
2. All the spout LEDs light and the portion button flashes.
3. With the tray lifter in the down position place a basin under the spouts.
4. Use the green button to start and stop the flow of rinse water or detergent.
5. Recharge the lines with the key in the clean position and use the green button to control the flow of beer

Basic Maintenance

Cleaning the Velx MDU-Flowmeter Filters

Dirt in the flowmeter filters can cause flow faults. To restore flow, you must clean the flowmeter filter.

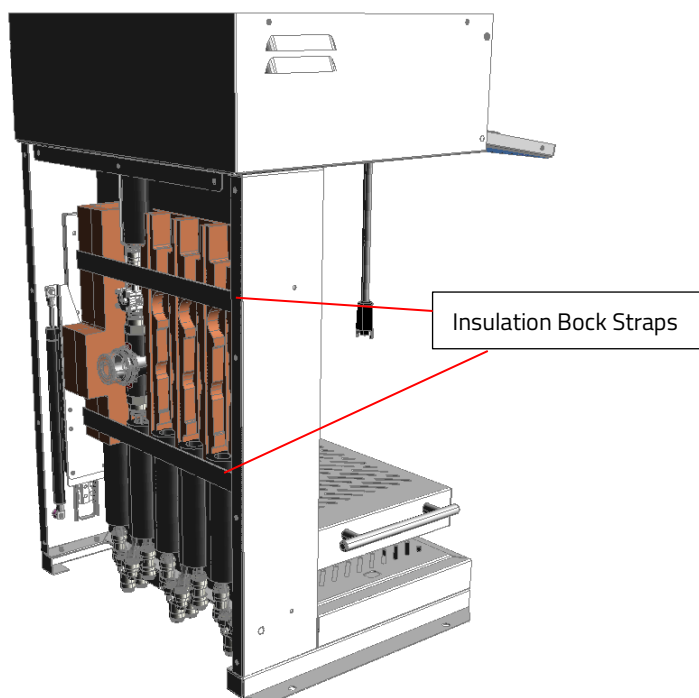
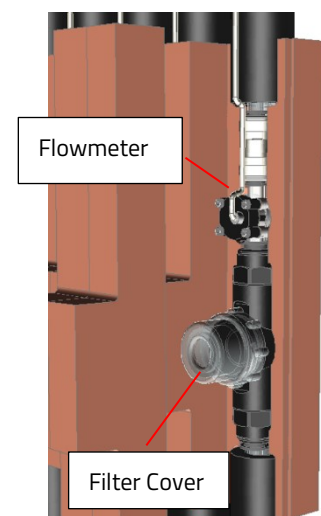


Figure showing the MDU back cover removed. Some Insulation blocks are removed for illustration purposes only.

- At the kegs disconnect beer from the MDU
- Turn off power at the mains socket (PSU Manis Supply)
- Remove the MDU back cover.
- Remove the insulation blocks straps
- Identify the contaminated filter.
- Unscrew the filter cover and remove the filter mesh.
- Wash out the mesh housing and clean the mesh under running water.
- Dry up any beer spills and wash down the insulation.
- Fit the mesh and secure the cover tightly.
- Test for leaks and fix if necessary.
- Fit the insulation blocks and refit the holding straps and back cover.



Replacing a Flowmeter Filters

You should replace flowmeters as part of a 3-year service plan. In rare cases you may need to replace a flow meter to correct flow faults.

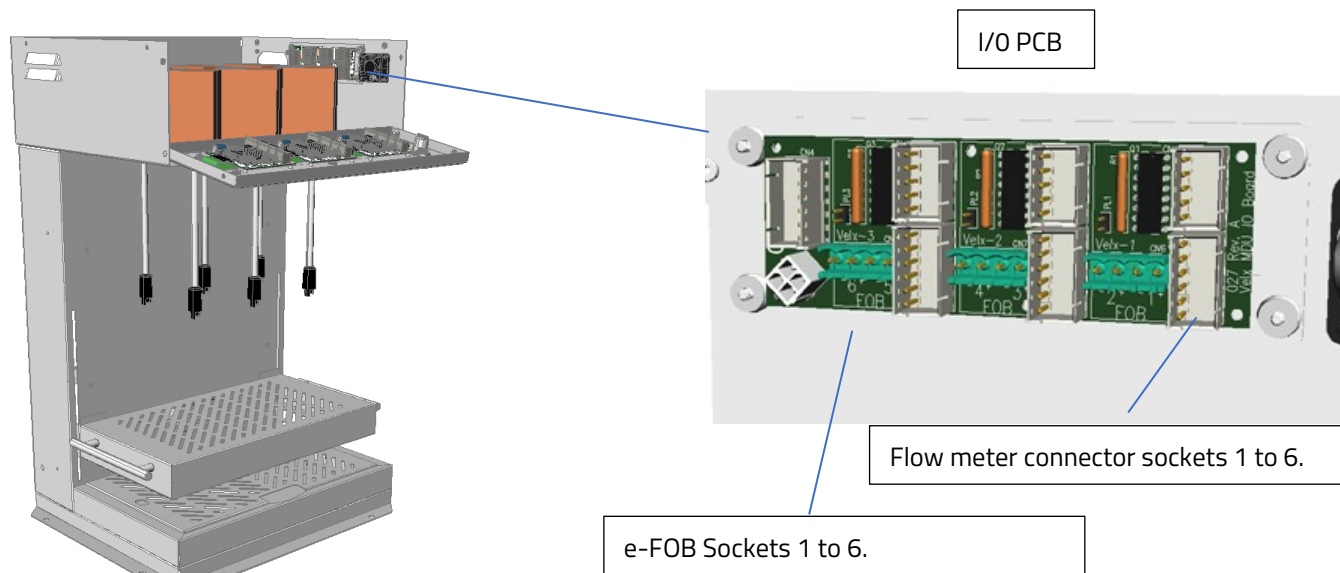
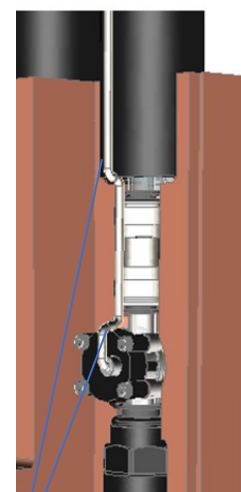


Figure showing the MDU top cover removed and front Panel Down and Detail of the I/O PCB.

The I/O Input Module is located on the right-hand side of the top section, is used to connect the six Flow Meters and e-FOB signals to the front panel controller PCB. The I/O PCB is protected from vibration by using Anti-Vibration Bushings.

- Turn off power at the mains socket (PSU Manis Supply)
- Remove the top section cover.
- Lower the front panel.
- Remove the back panel and insulation straps.
- Identify the flowmeter that need replacement.
- Remove the flow meter collet clips.
- Trace the flow meter signal cable to the I/O PCB and disconnect the plug.
- Insert new flow meter in the line and connect the plug to the correct socket.
- Close up the top section.
- Reconnect power and test for leaks.
- Filt the insulation blocks and holding straps.
- Test the position volumes and recalibrate if necessary.



Flow Meter and Signal Cable.