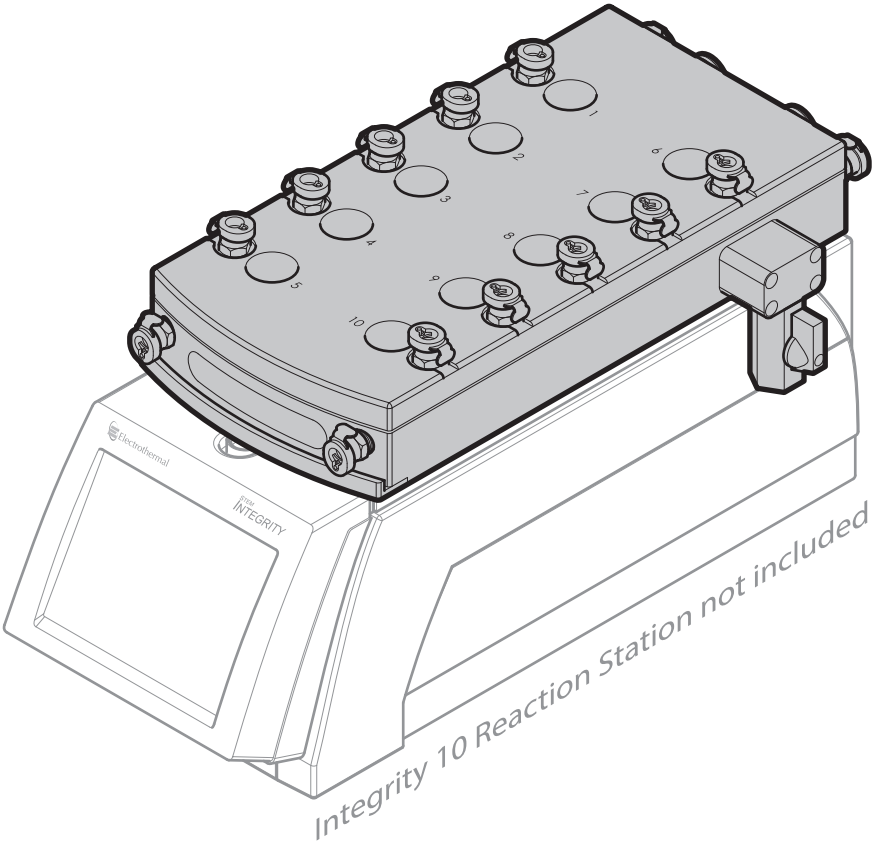
Electrothermal

Reflux and Inerting Manifold ATS20100



Instruction Manual

ET0004 / Version 1.1

Cole-Parmer®

Introduction

Thank you for purchasing this Electrothermal product. To get the best performance from the equipment, and for your own safety, please read these instructions carefully before use.

If the equipment is not used in the manner described in this manual and with accessories other than those recommended by the manufacturer, the protection provided may be impaired.

Use these instructions with the Integrity 10 Operation Manual (M8024). You can download a copy from www.electrothermal.com

General Description

The Electrothermal Reflux & Inerting Manifold has been specially designed to provide a comprehensive answer to refluxing and inerting fluids in test tubes inserted into the Integrity 10 Reaction Station. It cools the upper portion of the vessels for refluxing conditions using a flow of coolant through the block. Fed by the gas fittings on the front and rear of the unit, inerting gas can be supplied into the vessels via PTFE Inerting Caps (Part Numbers ATS20002 or ATS20003) connected to the fittings on the top side.

Important Safety Advice

This product is designed for laboratory use only. Always follow good laboratory practice.
Users should be aware of the following safety advice:

- **DO NOT** use the gas or liquid connections to lift or carry the instrument. The Manifold has front and rear grab recesses for transporatation.
- **SHOCK HAZARDS OR UNSAFE PRACTICES ARE DANGEROUS** as they can cause severe personal injury, fire or death.
- **DO NOT** use combustible substances near hot objects.
- **DO NOT** use the equipment in hazardous atmospheres.
- **DO NOT** immerse the equipment in water.
- **DO NOT** operate or handle any part of the product with wet hands or use on surfaces that may become flooded.
- **NEVER** move the product while still connected to the power supply.
- **HIGH TEMPERATURES ARE DANGEROUS** as they can cause serious burns to operators and ignite combustible material.
- **USE CARE AND WEAR PROTECTIVE GLOVES TO PROTECT HANDS**.
- **NEVER** lift or carry the instrument during operation.
- **NEVER** use the tap to lift or carry the instrument.
- **DO NOT** position the unit so that it is difficult to disconnect from the mains supply using the mains plug.
- The mains outlet socket used should be located close to the equipment and readily identifiable and accessible to users.
- **DO NOT** leave equipment switched on and it is not recommended to leave any heating apparatus unattended during operation.
- The unit should be carried using both hands.

Symbols Defined


WARNING


HOT SURFACE

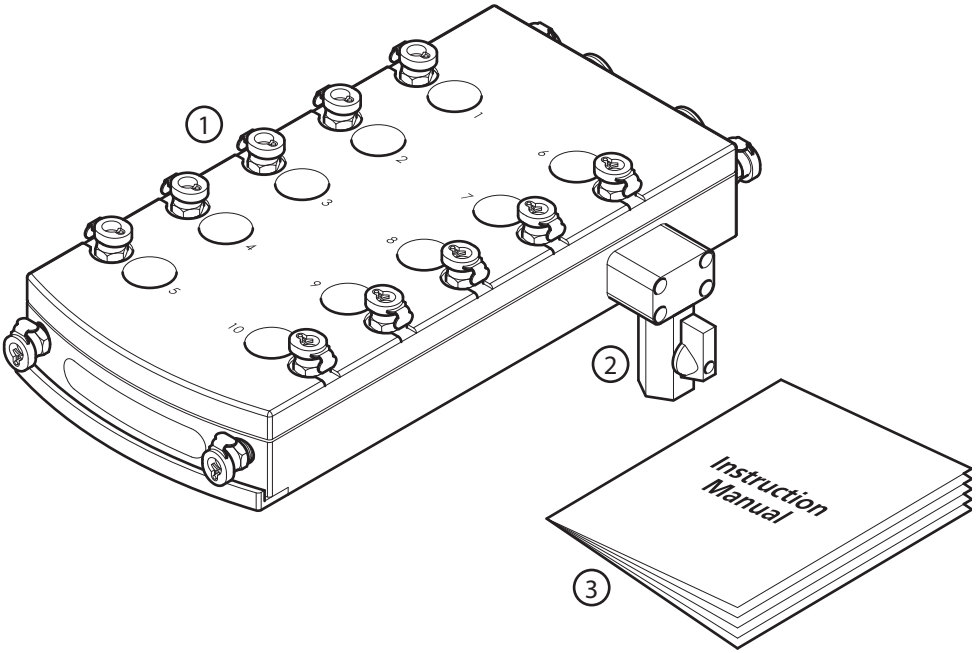

RISK OF ELECTRIC SHOCK


BIOHAZARD

Installation

Unpacking

Before discarding the packaging check that all parts are present and correct.



(1) Manifold ATS20100

(2) x1 Gas Management Module

(3) Instruction manual

(4) x4 Inline Gas Male Pushfit Connector (not pictured)

Installation Conditions

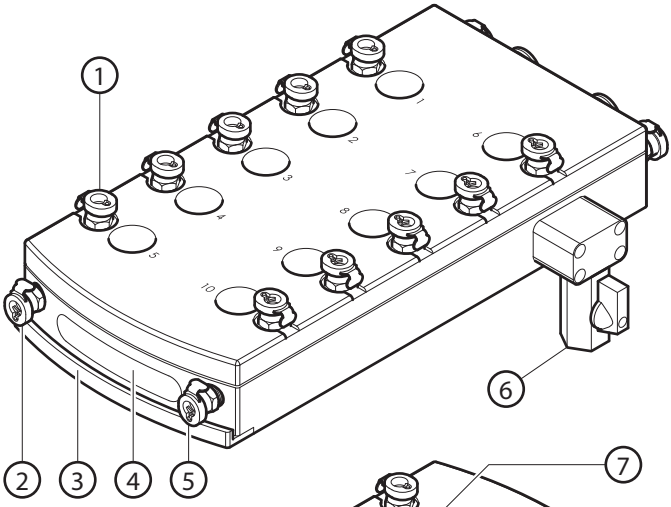
This equipment is designed to operate under the following conditions:

- For indoor use only
- Use in a well ventilated area
- Ambient temperature range 5°C to 40°C (41°F to 104°F)
- Altitude to 2000 m (6500 ft)
- Relative humidity not exceeding 80% (temperature 31ºC) decreasing to 50% (temperature 40ºC)
- Mains supply fluctuations not exceeding 10% of nominal
- Overvoltage category II IEC60364-4-443
- Pollution degree 2 IEC664
- Use with a minimum distance all round of 300 mm (12 in.) from walls or other items

Overview

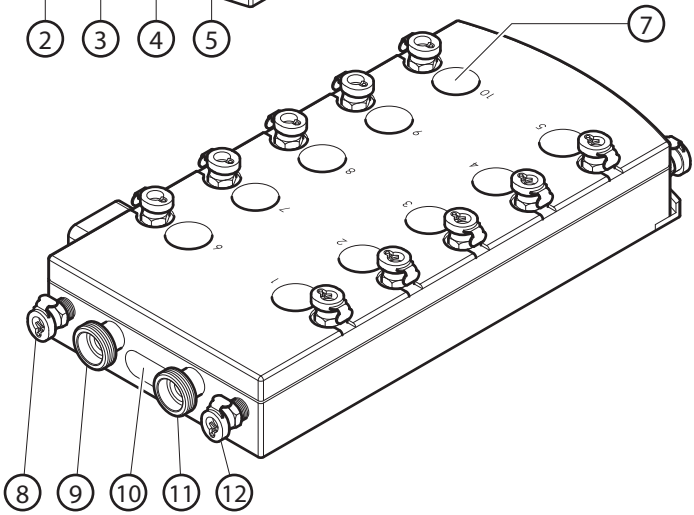
Front View

1. Inerting Cap coupling
2. Gas inlet / outlet
3. Drip channel
4. Grab recess
5. Gas inlet / outlet
6. Gas exit



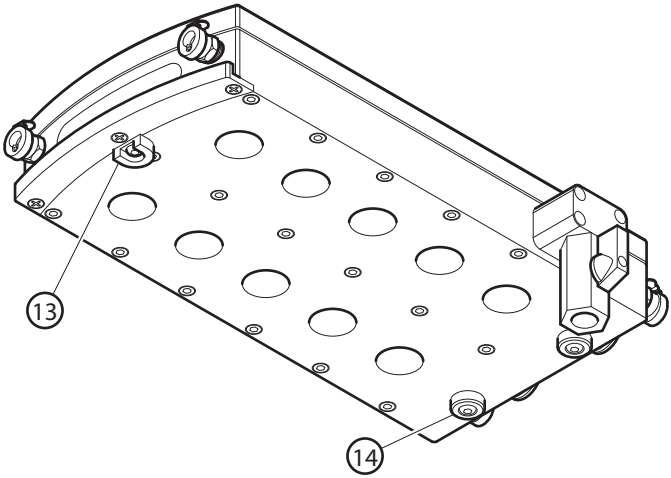
Rear View

7. Well position
8. Gas inlet / outlet
9. Coolant in
10. Grab recess
11. Coolant out
12. Gas inlet / outlet



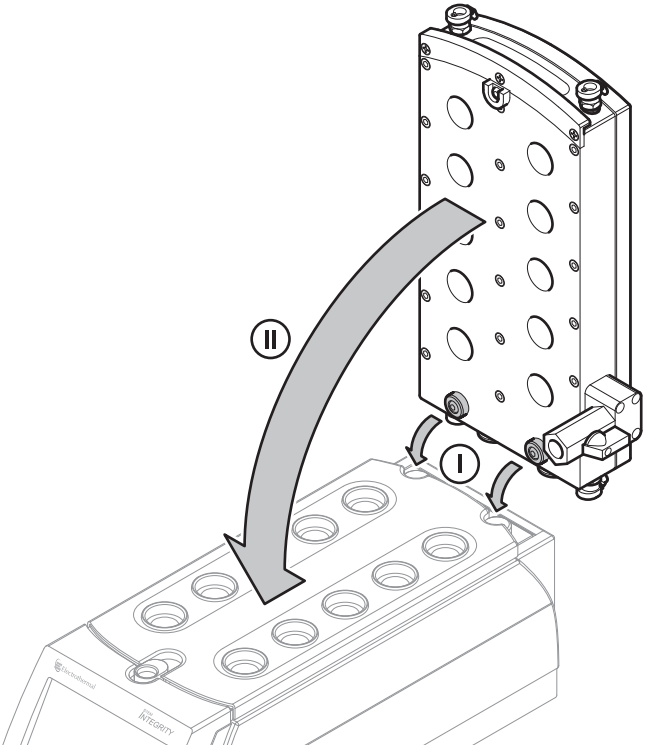
Base View

13. Front foot
14. Rear feet



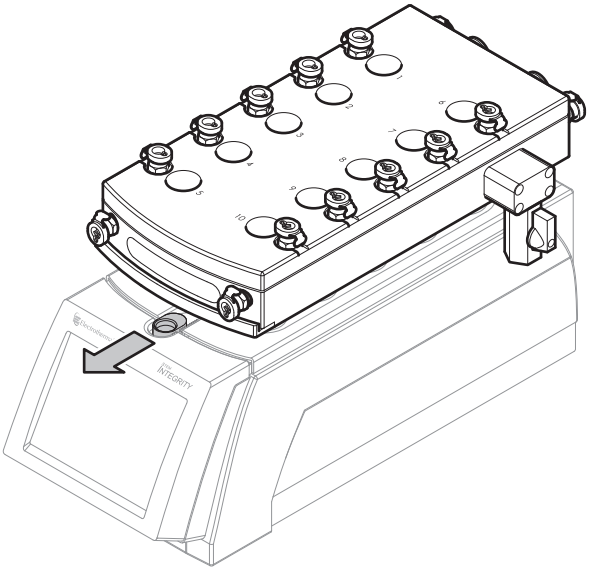
Step 1

Ⓘ Align the rear feet on the Manifold with the Integrity as shown. Ⓘⓘ Carefully lower into position.



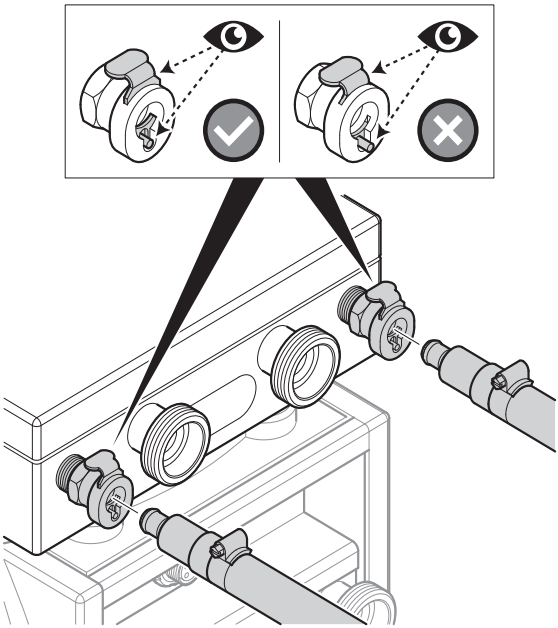
Step 2

Lock the Manifold in position by pulling the latch on the Integrity to engage the front foot.



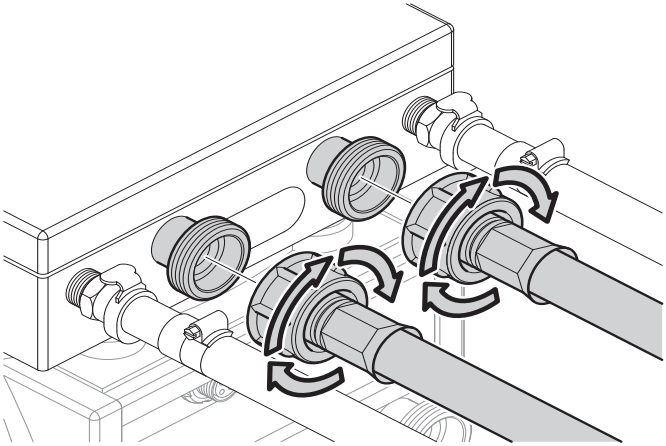
Step 3

Connect the gas feeds to left and/or right hand gas inlets on the rear of the Manifold as required. Ensure the release button is in the UP position, if the release button is in the DOWN position press the release button. To use a single gas feed, connect the gas supply to the left hand inlet on the rear of the unit and link the left hand outlet on the front to the right hand inlet on the front. The gas will then exit via the gas management module on the right hand side of the unit.



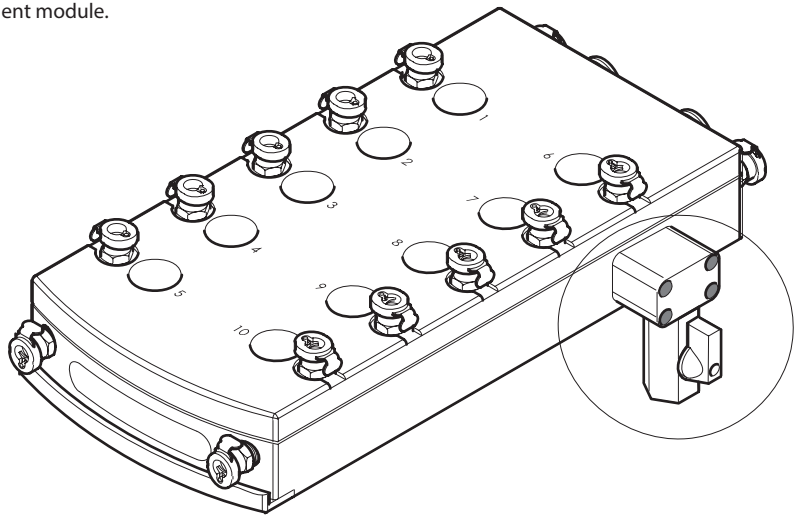
Step 4

Connect the coolant feeds. Although Coolant connections are labelled 'in' and 'out' the direction of flow is not important. Ensure that the connections are leak free before proceeding.



Step 5

Screw a gas bubbler into the gas exit situated on the right hand side of the Manifold. The bottom chamber of the bubbler and trap needs to be filled with mineral oil and will prevent over-pressurisation of the reactor and aid quantitative transfer of liquids. Adjust the gas flow through the Manifold using the flow controller 'M' of the gas management module.

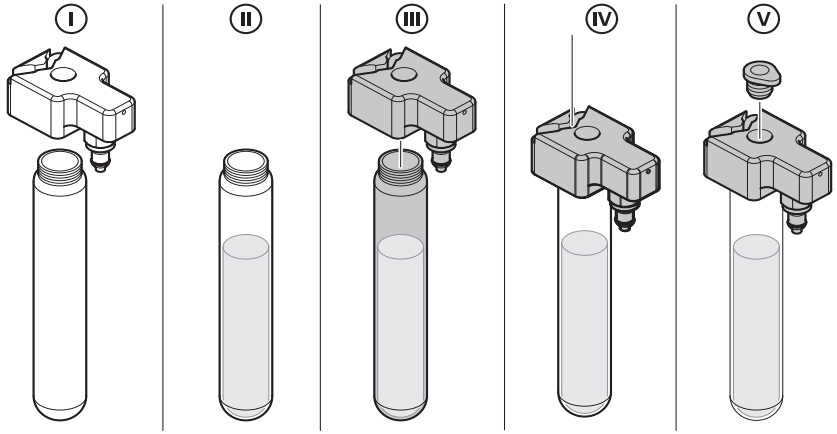


Step 6

Ⓘ Inspect the O-ring situated on the underside of the PTFE reactor heads and replace if necessary.
ⒾⒾ Charge the vessels with the reaction mixture.
ⒾⒾⒾ Screw into the PTFE reactor cap.
ⒾⅤ The PTFE head includes an access port for a PT100 temperature sensor (to be used with the Multitemp module). If a sensor is not being used this port needs to be fitted with a blanking pin (AZS-AC-BP-PTFE) to prevent solvent loss.

Ⅴ The PTFE head also includes an access port for an IR probe (to be used with the Multi-IR module). If a probe is not being used this port needs to be fitted with a septa to prevent solvent loss.

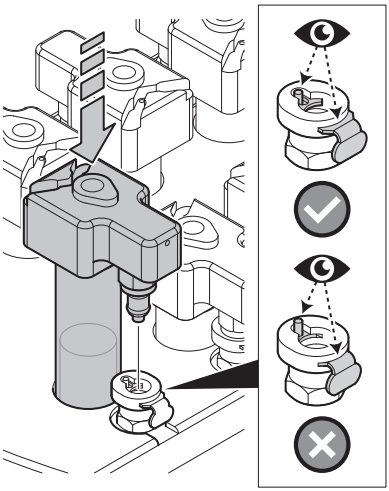
A 'pump and fill' regime can be implemented using the Gas Management Module if required to ensure complete removal of atmospheric oxygen and water prior to starting your reaction.



Step 7

Position the tube/cap assembly in the appropriate well and push down until the fitting clicks to engage the gas supply.

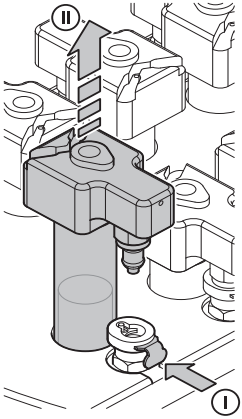
NOTE: If you are having trouble connecting the reactor cap to the Manifold, please check that the release button on the coupling is in the UP position. Each coupling is independent and so it is not necessary to connect all ten vessels for the inerting to function.



Step 8

Ⓘ Remove the vessel by pushing the release button on the fitting attached to the manifold. Ⓘ The tube and PTFE inerting cap will be ejected and can be pulled clear of the block. All fittings include check valves so the gas supply from the manifold is shut off and the reaction vessel contents are retained.

Unscrew the tube from the head when required and inspect the head for any signs of contamination.



Maintenance, Servicing and Cleaning

WARNING: Before attempting any maintenance, servicing or cleaning, ensure that the unit is cool.

WARNING: Do not touch any electrical contacts or open any closure plates.
RISK OF ELECTRIC SHOCK.

WARNING: Ensure the unit is disconnected from the power supply before attempting any maintenance, servicing or cleaning.

The unit is made from hard anodised aluminium and will be impervious to most solvents. Spillages on the unit should be wiped up as soon as possible using an appropriate solvent followed by an aqueous wash down. To decontaminate the gas routes, remove the main gas fittings and rinse out the line in the block using an appropriate solvent followed by aqueous wash and thorough drying.

NOTE: **DO NOT** use scouring pads, de-scaling agents or solvents to clean any parts of this equipment.

Preventative maintenance should include keeping the product clean by protecting it from spillage, contamination or corrosive environments. If in doubt, please confirm that any intended method of decontamination will not damage the equipment by contacting Cole-Parmer.

In Case of Contamination

WARNING: THE FOLLOWING PROCEDURE IS INTENDED AS A GUIDE. SHOULD SPILLAGE OF A TOXIC OR HAZARDOUS FLUID OCCUR, THEN ADDITIONAL SPECIAL PRECAUTIONS MAY BE NECESSARY.

If the equipment has been exposed to contamination, the Responsible Body is responsible for carrying out appropriate decontamination. If hazardous material has been spilt on or inside the equipment, decontamination should only be undertaken under the control of the Responsible Body with due recognition of possible hazards. Before using any cleaning or decontamination method, the Responsible Body should check with the manufacturer that the proposed method will not damage the equipment. Prior to further use, the Responsible Body shall check the electrical safety of the unit. Only if all safety requirements are met can the unit be used again.

NOTE: In the event of this equipment or any part of the unit becoming damaged or requiring service, the item(s) should be returned to the manufacturer for repair accompanied by a decontamination certificate. Copies of the Certificate are available from the Distributor/Manufacturer.

At the end of its service life, the product must be accompanied by a Decontamination Certificate.

Repairs and Support

Any repairs or replacement of parts MUST be undertaken by suitably qualified personnel. Only spare parts supplied or specified by Cole-Parmer or its agents should be used. Fitting of non-approved parts may affect the performance and safety features designed into the instrument. For a comprehensive list of parts required by service engineers conducting internal repairs please contact the service department quoting the model and serial number:

Email: cpservice@coleparmer.com
Tel: +44 (0)1785 810475

For any other technical enquiries please contact the Technical Support Department at:
Email: cptechsupport@coleparmer.com
Tel: +44 (0)1785 810433

Warranty

Cole-Parmer Ltd. warrants this instrument to be free from defects in material and workmanship, when used under normal laboratory conditions, for a period of 1 year. In the event of a justified claim Cole-Parmer will replace any defective component or replace the unit free of charge. This warranty does NOT apply if damage is caused by fire, accident, misuse, neglect, incorrect adjustment or repair, damage caused by incorrect installation, adaptation, modification, fitting of non-approved parts or repair by unauthorised personnel.

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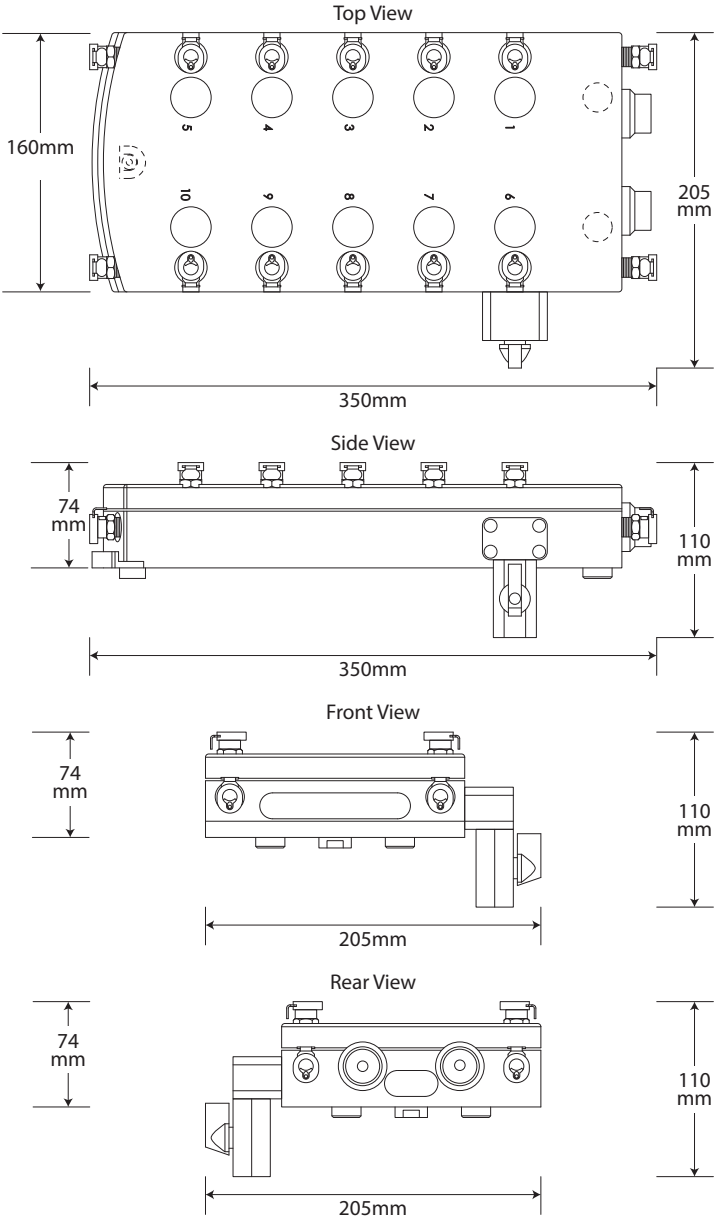
Spares and Accessories

Please contact your local sales specialist or email cpenquiries@coleparmer.com to enquire about available accessories.

Weights and Dimensions

Weight 7.14kg



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