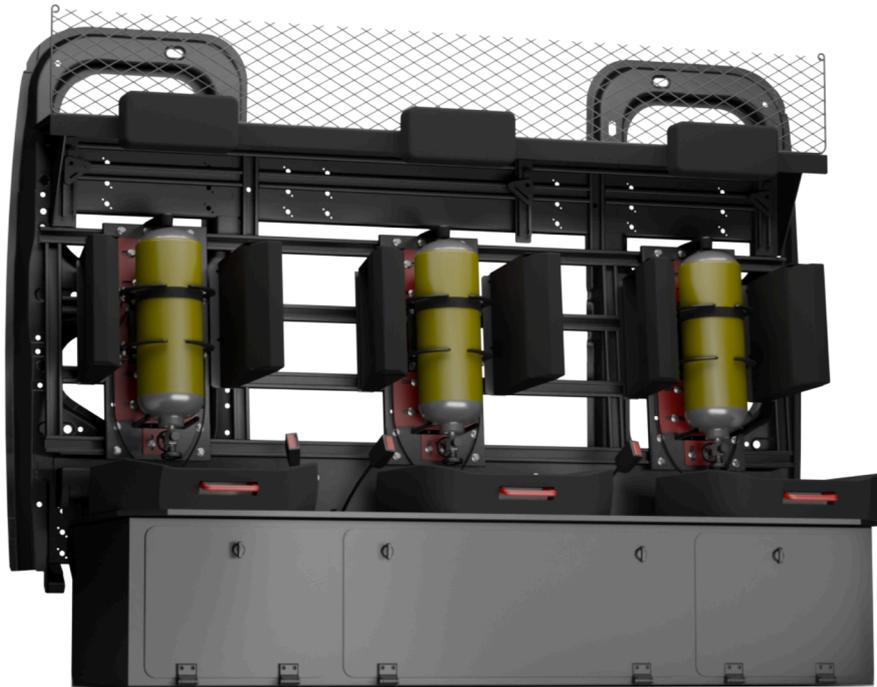


**Emergency one**

MP1

# Operational Guide

Breathing Apparatus Stowage



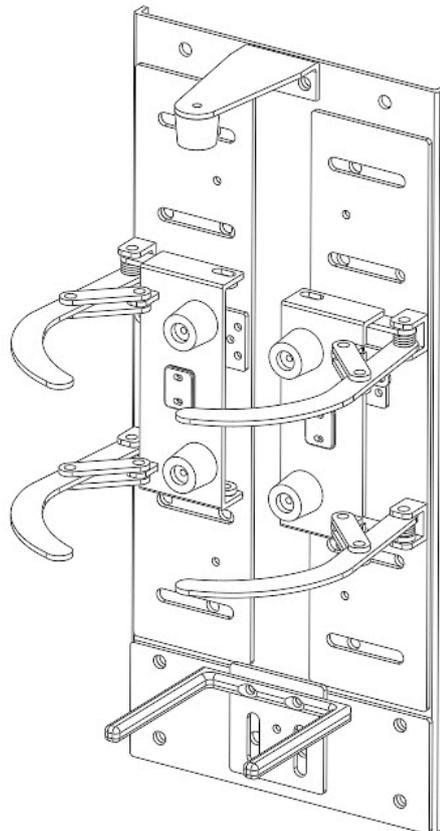
Group 12 - Industrial Group Project

Callum Devlin, David Docherty, Kai Dias-Smith and Robbie Mcann

# Contents

Overview and Safety.....	3
Set up & Installation.....	4
Operation.....	5
Maintenance & Troubleshooting.....	7
Technical Data.....	8

This operational manual provides instructions on set-up and installation, operation, maintenance and disposal. Following these guidelines will ensure the safety, reliability and life span of the product.



# Overview & Safety

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## Product Overview

- Product Name: MP1 (Modular Pack 1)
  - Application: SCBA Bottle Storage
  - Materials: Mild Steel Frame with Rubber Dampers and Heavy-Duty Latches
  - Dimensions: 583 mm (W) × 260 mm (H) × 230 mm (D)
  - Clamping Width Range: 150 mm – 250 mm
  - Clamping Height Range: 450 mm – 500 mm
  - Maximum Supported Load: 35 kg
  - The MP1 features an automatic clamping system that engages when the bottle is inserted and a manual override toggle for fail-safe release.
- 

## Important Safety Warnings:

- Always check that adjustment bolts are fully tightened before operation.
  - Only trained personnel should perform installation and adjustments.
  - Warning Strong Springs, Do not remove.
  - Ensure a minimum of four bolts are securing each slide plate before use.
  - Do not exceed the maximum bottle weight of 35 kg.
  - Inspect regularly for loose bolts, damaged components, or signs of fatigue.
  - Only mount the MP1 to certified seat structures using all eight mounting points provided.
  - In case of clamping mechanism failure, use the manual release toggle to safely free the SCBA bottle.
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# Set Up & Instalation

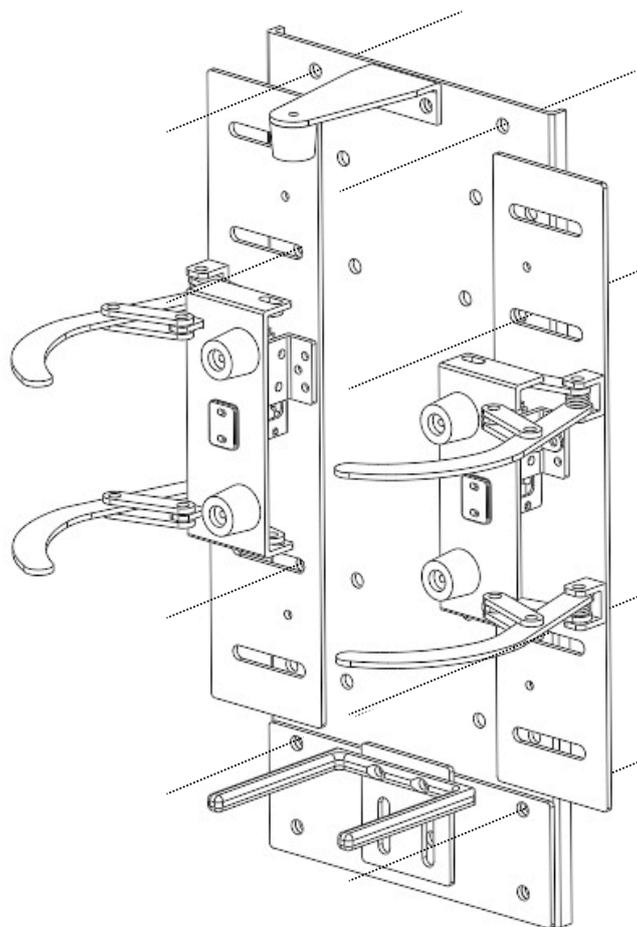
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## Pre-Installation Setup

1. Adjust slide plates to suit the required bottle width before mounting:
  2. Loosen the 4 × 17mm bolts securing each slide plate.
  3. Position slide plates to desired width (between 150–250 mm).
  4. Retighten bolts securely using a 17mm spanner/socket and wrench (ensure nuts are locked).
  5. Check that the side plates are symmetrical and parallel.
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## Mounting to Seat Frame

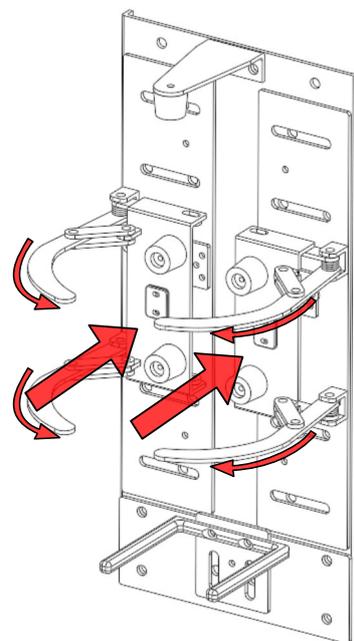
1. Align the MP1 with designated mounting holes on the seat assembly.
2. Fix using 8x M10 bolts (minimum grade 8.8) through the mounting slots.
3. Torque bolts to manufacturer's seat-frame specifications.
4. Ensure the MP1 is rigidly secured with no movement before first use.



# Operation

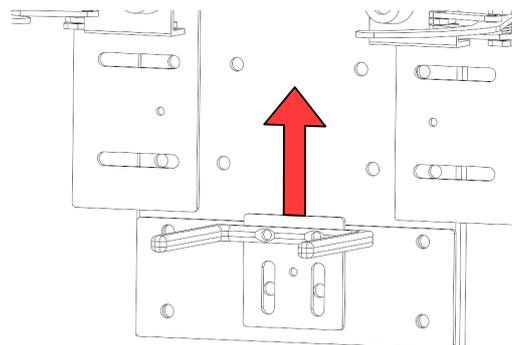
## Inserting the SCBA Bottle

1. Check that the clamping mechanism is in the open (ready) position.
2. Insert the SCBA bottle downward into the spigot.
3. Push the bottle backward against the backplate, the clamping mechanism will automatically engage around the bottle.



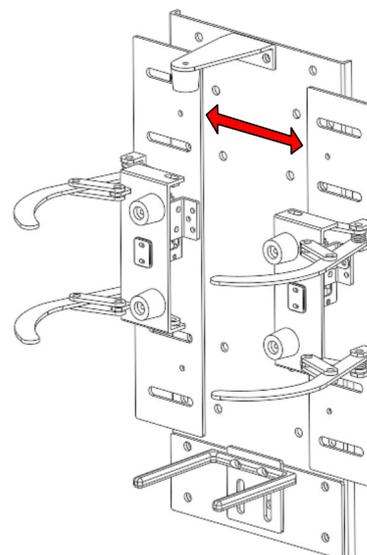
## Adjusting Height

1. Locate the spigot bracket fixing bolts (2 × 17mm bolts).
2. Loosen bolts using a 17mm spanner and adjust the bracket to desired height (450–500 mm).
3. Retighten bolts securely to prevent movement during use.



## Adjusting Width

1. Loosen the slide plate bolts (4 per side, 17mm).
2. Move plates inward or outward to fit bottle diameter.
3. Ensure plates are even and re-tighten all bolts securely.
4. Remember: At least 4 bolts must be engaged per plate.



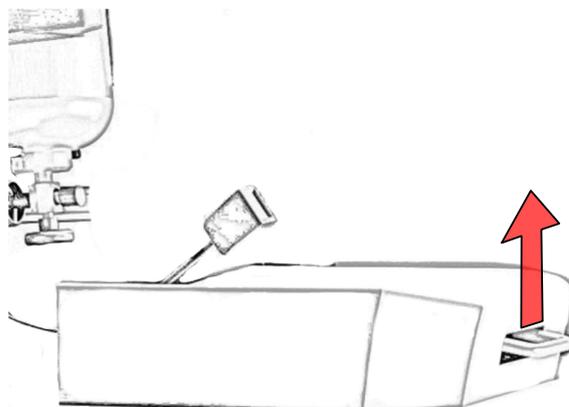
# Operation

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## Releasing the SCBA Bottle

Pull the front handle upward to disengage the clamp.

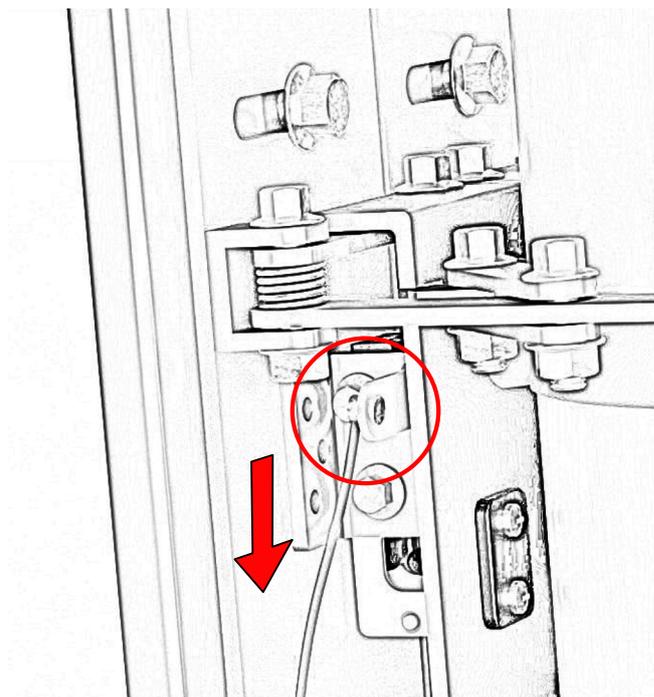
Remove the SCBA bottle forward and upward.



## Fail-Safe Feature

If the primary release handle fails:

1. Reach behind the side of the clamping mechanism.
2. Pull the manual release toggle downward firmly.
3. This will mechanically disengage the clamp and allow safe bottle removal.



# Maintenance & Troubleshooting

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## Maintenance

### Regular Checks (Monthly):

- Inspect all bolts for tightness.
- Check rubber stoppers and dampers for wear or cracking.
- Lubricate moving parts (latch pivots, springs) lightly with silicone spray.
- Inspect for corrosion, cracks, or weld fatigue on the frame.

### After Incident Inspection:

- If subjected to crash forces or heavy impacts, remove from service and conduct a full visual and mechanical inspection.
- 

## Troubleshooting

Problem	Possible Cause	Solution
Clamp does not engage	Obstruction or debris in mechanism	Clean mechanism, inspect for damage
Clamp does not release	Handle or latch linkage failure	Use manual release toggle; service mechanism immediately
Bottle not stable after clamping	Incorrect width adjustment	Re-adjust slide plates and retighten bolts
Excessive rattle	Loose bolts	Tighten all fasteners to spec
Not un-clamping after handle pulled	Bad torsion springs	Service mechanism and take MP1 to get springs replaced immediately
Adjustment plates keep moving	Adjustment size not set	Drill out pilot hole and insert bolt through it and tighten

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# Technical Data

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## Technical Data

- Overall Width: 583 mm
  - Overall Height: 260 mm
  - Overall Depth: 230 mm
  - Max Bottle Weight: 35 kg
  - Width Adjustment Range: 150–250 mm
  - Height Adjustment Range: 450–500 mm
  - Construction Material: Mild Steel (4 mm thickness)
  - Finish: Matte Finish Powder Coating
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## Warranty Information

This product is covered by a 12-month warranty against manufacturing defects.

Warranty does not cover misuse, improper installation, or normal wear and tear.

For service inquiries, please contact your supplier or Emergency One support.

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