

# Product Range



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|  <p><b>BioMAT 1</b><br/>Microbiological Safety Cabinets<br/>Operator protection cabinets to the requirements of EN 12469:2000</p> |  <p><b>BioMAT 2</b><br/>Microbiological Safety Cabinets<br/>Operator and product protection cabinets to the requirements of EN 12469:2000</p> |  <p><b>BioMAT 3</b><br/>Microbiological Safety Cabinets<br/>Full barrier high hazard protection cabinets to the requirements of EN 12469:2000</p> |
|  <p><b>H-MAT</b><br/>Clean Air Workstations<br/>To the requirements of BSEN 14644</p>   |  <p><b>CAS Robotics</b><br/>Enclosures<br/>Class 1 or 2 controlled environments to house robotic instruments for automated processes</p>    |  <p><b>CAS Tables</b><br/>Ventilated Tables<br/>Available in a variety of sizes &amp; materials as required</p>                                  |
| <p><b>CAS Laminar Flow Cabinets</b></p>  | <p><b>CAS Powder Control Booths</b></p>  | <p><b>CAS Containment Booths</b></p>   |



**About Us**  
Contained Air Solutions is the largest domestic supplier of Microbiological Safety Cabinets and associated clean air equipment in the United Kingdom. We provide a large variety of standard and engineered product solutions to meet the precise needs of laboratory users. All products are installed and commissioned by our own staff, with comprehensive service and support to ensure maximum operational safety, performance and reliability.



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# TriMAT®

Class 1, 2 and 3 Microbiological Safety Cabinets  
Unique Safety Cabinet solutions to EN12469:2000 for Containment Laboratories

Patent Pending

# TriMAT®

## Unique Microbiological Safety Cabinets

The new range of TriMAT constant exhaust Microbiological Safety Cabinets have been developed to provide even greater functional simplicity and operational safety to designers and users of Containment Laboratories. The TriMAT system can be fitted to the full range of CAS Microbiological Safety Cabinets and provide as standard:-

- Constant exhaust volume irrespective of cabinet being ON, OFF or undergoing fumigation, which greatly assists stability of negative pressure air regimes within the containment facility.
- Emergency recirculation function via a double HEPA exhaust filter in the event of remote fan failure, allowing the safe conclusion of work, under containment.
- The ability to handle additional room air extract volume, simplifying overall air handling design and possibly alleviating the need to install additional room exhaust facilities. Bypass air can be extracted via a simple grille for containment level II facilities or via a room HEPA filter for containment level III applications.

### Design benefits for Containment Laboratory designers

The Advisory Committee on Dangerous Pathogens (ACDP) guidance on the design of Containment Laboratories stipulates that facilities should be maintained at a constant negative pressure (typically -30 to -50 Pa) to ensure safe containment. The use of the constant exhaust TriMAT system greatly simplifies Containment Laboratory air handling design by providing a fixed exhaust volume irrespective of whether the cabinet is ON, OFF, or undergoing fumigation.

Containment Laboratories are normally designed to provide at least 20 air changes per hour. The TriMAT bypass module can allow significant additional room extract volume through the cabinet exhaust duct. This feature can greatly simplify overall air handling design and cost by negating the need for dedicated additional room extracts.

TriMAT cabinets can also be manifolded into a central exhaust system allowing for multi cabinet installations, further reducing design and installation complexity and cost of ownership.

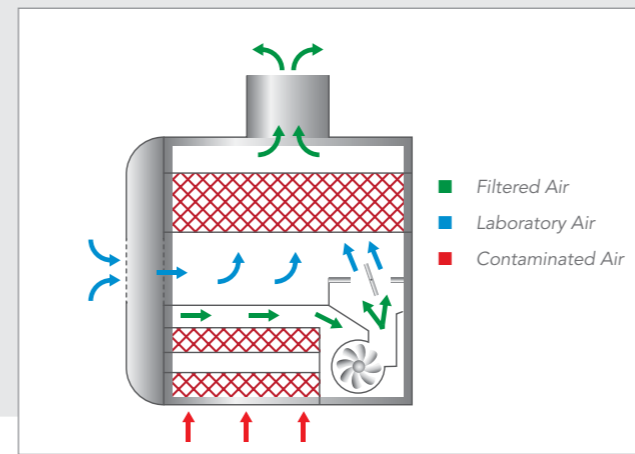


### Operational benefits for Containment Laboratory staff

Normal cabinet operations are completely unaffected by the provision of a TriMAT exhaust module on the Microbiological Safety Cabinet. However should the main extract fan fail during cabinet operations the user is immediately alerted to the problem via an audible and visual alarm. The cabinet will immediately revert to recirculation operation returning exhaust air to the laboratory. This is allowable as the TriMAT module is fitted as standard with a double H14 HEPA cabinet exhaust filter. The user can safely complete cabinet operations under full containment and then shut the cabinet down. Once the cabinet has been switched off it cannot be restarted until the main exhaust system is healthy.

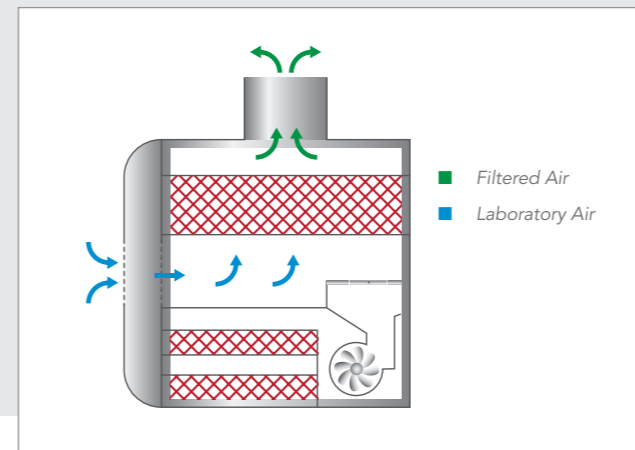


Class 1 TriMAT Microbiological Safety Cabinet



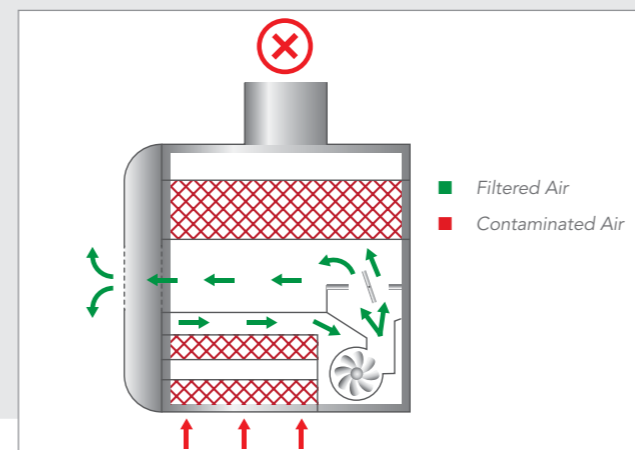
### Normal Operation - Cabinet On

- Cabinet and room exhaust is extracted through the dedicated duct
- Cabinet air is double HEPA filtered before entry to bypass module
- Room air is drawn through a non filtered grille (Containment level II), or room air is single HEPA filtered (Containment level III)
- Total volume set and maintained by upstream constant volume regulator



### Normal Operation - Cabinet Off

- Cabinet is switched off, automatically closing internal gas tight damper to isolate cabinet from room exhaust
- Total air volume now taken through bypass grille
- This arrangement allows the cabinet to be fumigated whilst maintaining negative pressure operations within the laboratory



### Emergency Operation - Room Extract Fail

- Cabinet is switched on and running normally.
- Room extract failure is detected by onboard pressure sensor
- Audible and visual alarms alert the operator to room extract failure
- Cabinet maintains operation allowing user to conclude work in safety and shut down
- Exhaust air is returned to the laboratory via the double HEPA filters mounted on the cabinet
- Once cabinet is shut down it cannot restart until room exhaust system is operational

### TriMAT models available

| Type           | Protection Level                        | Sizes Available |        |        |
|----------------|---|-----------------|--------|--------|
| TriMAT Class 1 | Operator Protection                     | 1200mm          | 1500mm | 1800mm |
| TriMAT Class 2 | Operator and Product Protection         | 1200mm          | 1500mm | 1800mm |
| TriMAT Class 3 | High Hazard and Full Barrier Protection | 1100mm          | 1500mm | 1800mm |

Other cabinet types/sizes are available on request.

TriMAT is a registered CAS trademark design in accordance with the Trade Marks Act 1994 (No 2603746).  
TriMAT design and principle of operation is Patent Pending.