

# METISAFE MODULAR CLEAN ROOM UNITS

## Safe and Efficient Particle Removal

- ✓ Improved air flow & dynamic designs
- ✓ GMP compliant DQ, IQ and PQ
- ✓ Conforms ISO 14644 standards
- ✓ Zero leakage HEPA filter system
- ✓ Negative plenum technology
- ✓ UV inactivation



## Instrument work concept of clean room

- Full steel body unique design ✓
- Optimized heating cooling ✓
- Very low noise level ✓

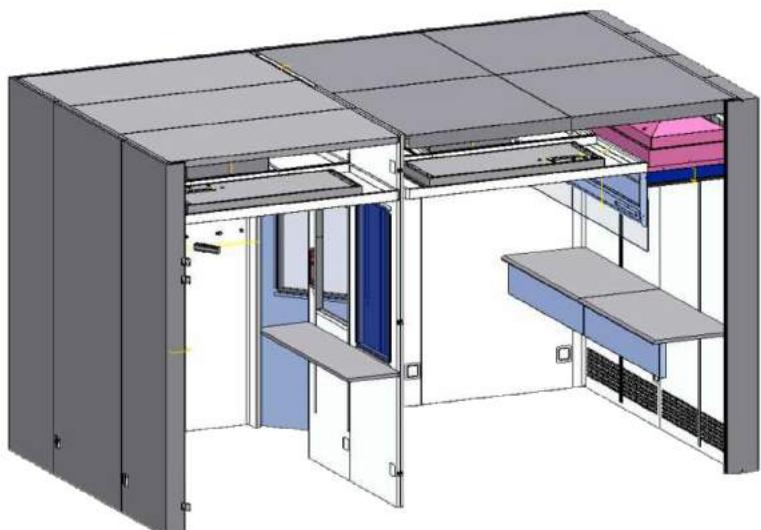
# METISAFE MODULAR CLEAN ROOM UNITS

Metisafe Modular Clean Room Units consists of 'Clean Room', 'Entry-Room' and 'Control Unit' sections. Between outside/clean room, entry room/clean room there are two Pass-boxes for the material transfers. Both rooms have positive air pressure and cleanliness class of ISO-7 (Class 10,000). Fresh air taken from outside of the unit reaches to HEPA Fan Filter Units following pre-filtering and climatization. The air inside the unit is being re-circulated through hygienic negative plenum. ISO-5 (Class 100) Laminar Air Flow workbench was integrated with the plant. Air flow direction to inside of the rooms is continuously prevented during the door openings by electronical control system. Depending on the capacity and workload two different standard models of Metisafe modular clean room are available.



## ADVANCED FEATURES

- ✓ Ex-factory standardized and easy to install units
- ✓ Rounded & continuous panel wall corners
- ✓ Demountable and validable at re-installation site
- ✓ The air-lock controlled entry-door access system
- ✓ Extremely smooth surfaces with antimicrobial and antistatic properties
- ✓ Advanced fully automated control system
- ✓ User friendly touch screen control panel
- ✓ Eco mode work: Saves energy, keeps room cleanliness class
- ✓ Prevention of particle entrance through surroundings by zero leakage and negative plenum technology



# METISAFE TECHNOLOGY

- Sophisticated air flow dynamics through CFD modelling
- Ideal fresh air and recirculation air flow management
- Zero leakage guarantee by Negative plenum technology
- High performance HEPA-Fan-Filter Unit
- Very low noise level by active noise control system (optional)
- Excellent air and temperature distribution by CFD modelling
- Precise Temperature management by PID control
- Fast and safe decontamination-room recovery
- Real time monitored Positive air pressure
- Clean Room integrated ISO-3 LAF cabinet
- Leak-proof filter performance under long period of excess vibration
- Maximum energy saving
  - Decreased pressure loss by unique HEPA Fan Filter Unit
  - Increased HEPA life through perfect pre-filtration
  - Efficient Centrifuge Fan with back inclined vane structure
  - Only needed fresh air usage
  - Automatic filter compensation system
  - Smooth air transport through negative plenum



METISAFE HEPA FAN FILTER UNIT



AUTOMATION CONTROL SCREEN



INTER-LOCK DOOR LOCK SYSTEM  
EMERGENCY OPENING BUTTON



AUTOMATIC GUILLOTINE MECHANISM  
OVERFLOW AIR CULVERTED DOOR



UNIQUE METISAFE WALL AND CEILING PANEL JOINTS



ELECTROMAGNETIC LID LOCK SYSTEM  
HEPA FILTERED-UV DYNAMIC PASS-BOX



CLEAN ROOM INTEGRATED  
LAMINAR AIR FLOW CABINETS



ANTI-STATIC FLOOR  
AIR SUCKING CULVERT

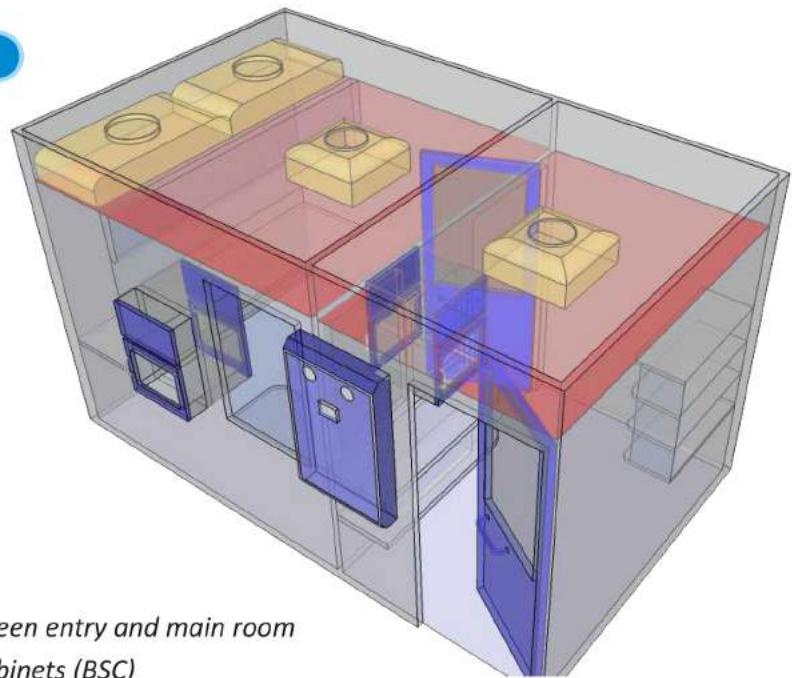


AUTOMATION CONTROL PANEL

# METISAFE MODULAR CLEAN ROOM UNITS

## Easy use and maintenance

- ✓ **Isolated air ventilation**
- ✓ **Advanced microprocessor control**
- ✓ **Easy to clean joints/corners**



## Maximum savings

- ✓ **Fast modular installation**
- ✓ **Easy demountable and re-installable**
- ✓ **Validation guarantee**
- ✓ **Low energy consumption**

### OPTIONALS

- Highly efficient integrated (air-lock) air shower unit between entry and main room
- Integrated Laminar Air Flow (LAF) or Biological Safety Cabinets (BSC)
- HEPA and UV-protected 60x60 cm dynamic pass-box
- Real time particle monitorization
- Additional clean room integrated shelves and work benches
- Ventilated storage cabinets, transportation tray
- Clean room weighing cabinet and/or weighing room
- Emergency - Eye wash/Body wash shower units
- Automatic fumigation-decontamination unit
- Exhaust system with Acid / Gas scrubber unit
- Detailed microbiologic test reports
- Facility / unit vibration resistance tests and reports
- Web-based telemetric tracking automation and early warning system
- Remote or centralized control center and 7/24 message warning system
- Earthquake or impulse electronic warning system
- Motion, smoke, flowage, door detectors
- Active noise control
- LED illumination



HANGER BAR



CLEAN ROOM SHELVES



ACID RESISTANT WORKBENCH



is trademarks of Metis Biotechnology

Also available from METISAFE :

Hygenic air cleaners with climatization, Ceiling type HEPA Filtration Units, Laminar Air Flow Cabinets (LAF), Biological Safety Cabinets (BSC), Chemical Fume Hoods, Mobile Air Extraction Units, Modular Clean Room and Biological Safety Units, Mobile Biosafety Labs, Air-Shower, Air-Lock and Pass-Boxes...

