

# Confidence in managing laboratory fume hoods

# **Digital Fume Hoods VAV kit**

A Variable Air Volume kit, with regulatory compliance at its core, designed to optimize energy consumption and help protect your investment. Supervisors, EH&S managers and operators can utilize intuitive and comprehensive Industry 4.0 mobile apps to view, operate, and manage laboratory fume hoods.

# **Benefits**

The Eurotherm™ Digital Fume Hood VAV kit helps manage the life cycle of a laboratory fume hood:

# **Operator safety**

• Streamline compliance to international and local standards

# Laboratory sustainability

- Minimize energy wasted through exhaust Increase operator wellbeing.
- · Track use of chemicals and waste (future release

#### Maintenance and testing effectiveness

- Provide digital reporting tools.
- Enable predictive maintenance.
- Single point of contact

# People empowerment through digitization

- Web app aids operator awareness and confidence and accelerates training.
- The kit generates documented evidence of fume hoods operation and maintenance to best practices.

# **Features**

#### Safety

- Increased operator awareness and continuous learning
- · Remaining useful life check before re-test/calibration
- · Hood performance derating check against latest on-site test
- · Cross-check of chemicals and hood suitability

#### Sustainability

- Measurable energy saving
- Option to monitor filter status and additional sensors in the exhaust duct (temperature, pH, flow)
- · Link operating cost with cost center/entity

# **Operation**

- Adaptive touch local panel
- Fume hood self-check
- Alarm management
- · Sash position alarm, alert, and control
- · Historical trends and data analytics
- Fume hood control (one or multiple)
- Lab room local control (BMS independent)
- BMS integration (BMS acting as master)
- Horizontal and vertical sash control
- Periodic maintenance and calibration

#### Web application

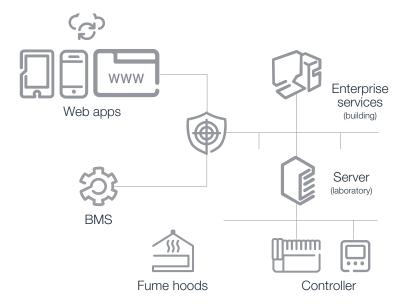
- · Operator access to the fume hood via QR code
- Fume hood online supervision/alarming/trending
- Sash position alarm and alert
- · Cybersecure password protected remote monitor and control

#### **Additional**

- Suitable for retrofit and new fume hoods
- Monitoring of laboratory conditions
- · Online availability of certificate and periodic test results
- Compliance to FDA 21 CFR Part 11 (ERES) and US and EU norms



# The Digital Fume Hoods VAV architecture



The Controller is dedicated to managing fume hoods. Sensors, actuators, and functions required for each hood can vary. The kit comes with different configurations to accommodate a variety of needs.

The Server is the gateway providing access to the web app and other ancillary functions. It can enhance performance and overall robustness of laboratories with large quantities of fume hoods.

Enterprise Services are used when a centralized repository or maintenance workplace is required. Data analytics, performance, safety and energy reports, certification, historical data, and alarm management can be archived on-premises or via the cloud.

Through the web app it is possible to collect relevant data about fume hood operation and the exposure of operators to chemicals. It is, therefore, easier to fulfill standard requirements regarding operator training and awareness, checks for fume hood status, or fume hood suitability for specific experiments. It is possible to gather analytics about different fume hoods, and this information can be used to improve overall laboratory performance, increasing efficiency, security, and sustainability.

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