Lab Control
Type 'TVLK'

TROX® TECHNIK
The art of handling air

Application

- Circular LABCONTROL VAV terminal units of Type TVLK, made of plastic, to control the volume flow rate of fume cupboards and fume hoods
- Suitable for contaminated air
- Closed-loop volume flow control using an external power supply
- Shut-off by means of switching (equipment supplied by others)

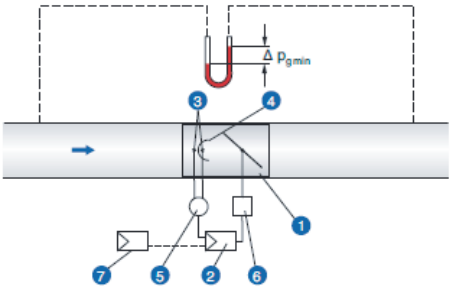
Special features

- High control accuracy even in case of unfavourable upstream conditions
- Integral slide-out differential pressure sensor with 3 mm measuring holes (resistant to dust and pollution)
- No metal parts come into contact with the airflow
- Factory set-up or programming and aerodynamic function testing
- Volume flow rate can be measured and subsequently adjusted on site; additional adjustment tool or configuration software may be necessary

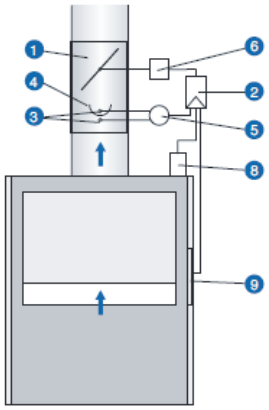
Nominal sizes

- Bluff body: 250 – 100, 250 – 160
- Venturi nozzle: 250 – D10, 250 – D16
- Bluff body and Venturi nozzle available in two sizes each for different volume flow rate ranges

Flow rate control



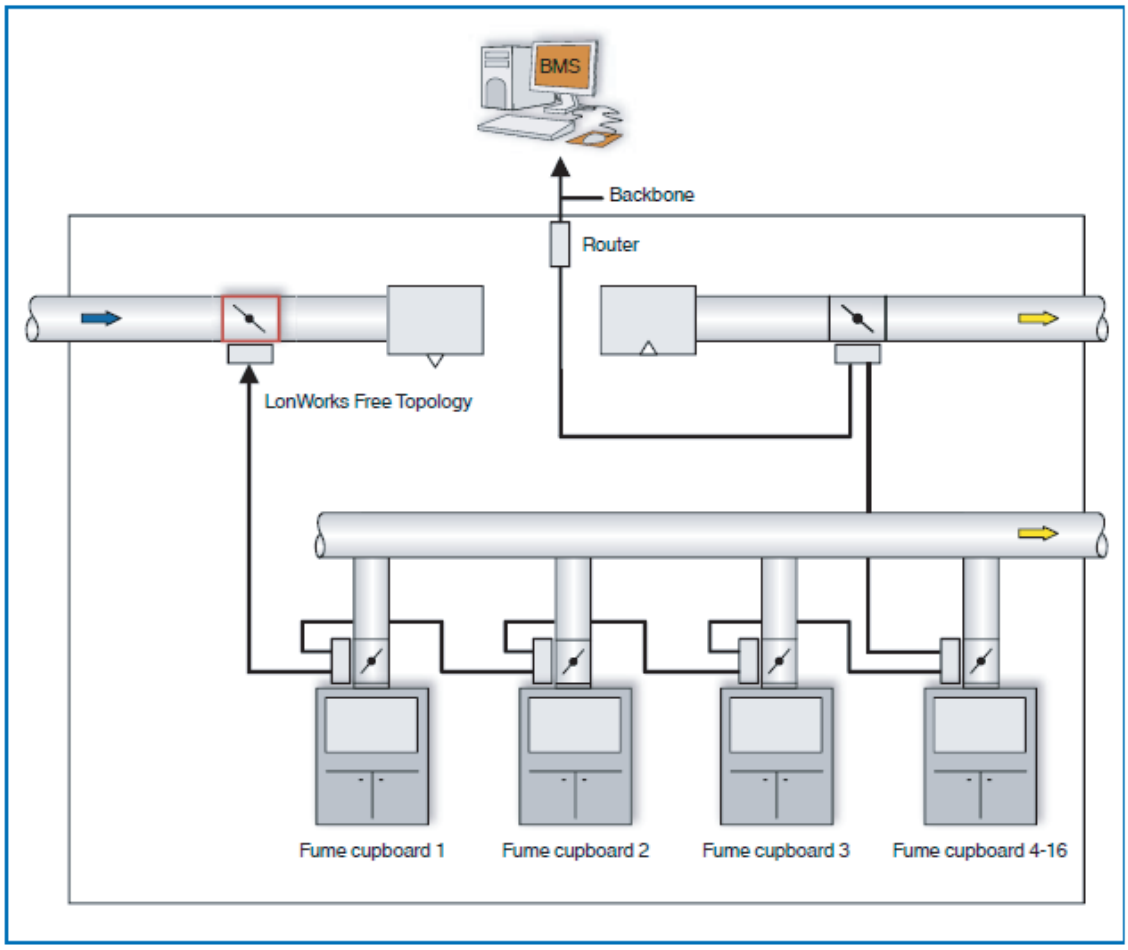
Fume cupboard control



Legend

1. VAV controller
2. Flow rate controller
3. Differential pressure sensor
4. Flow screen
5. Diaphragm pressure transducer
6. Actuator
7. External setpoint setting possible (by others)
8. Sash velocity sensor or sash position sensor
9. Control unit

Room control with TCU-LON-II



Technical data

Supply voltage	24 V AC ± 10 %, 50 Hz
Power consumption	25 VA
Glass fuse	MT2.5 A
Operating temperature	10 – 40 °C
Switch rating of the alarm relay	250 V AC, 5 A
IEC protection class	III (protective extra-low voltage)
Protection level	IP 20
EC conformity	EMC according to 2004/108/EG
Dimensions (B × H × T)	approx. 210 × 261 × 84 mm
Weight	1.7 kg

Order code

TVLK with EASYLAB for fume cupboard control

TVLK – FL / 250 – 100 / GK / ELAB / FH – VS / ULZS / 200 – 900
1 2 3 4 5 6 7 8

1 Type
TVLK VAV terminal unit made of plastic

2 Flange
No entry: none
FL Flanges on both ends

3 Nominal size
250 – 100 Bluff body 100
250 – 160 Bluff body 160
250 – D10 Venturi nozzle D10
250 – D16 Venturi nozzle D16

4 Accessories
No entry: none
GK Matching flanges for both ends

5 Control component
ELAB EASYLAB controller TCU3 with fast-running actuator

6 Equipment function – fume cupboard control
With face velocity transducer
FH-VS Face velocity control

With sash distance sensor
FH-DS Linear control strategy
FH-DV Safety-optimised control strategy

With switching steps for on-site switch contacts
FH-2P 2 switching steps
FH-3P 3 switching steps

Without signalling
FH-F Volume flow rate constant value

7 Expansion modules
Option 1: Supply voltage
No entry: 24 V AC
T EM-TRF for 230 V AC
U EM-TRF-USV for 230 V AC, provides uninterruptible power supply (UPS)

Option 2: Communications interface
No entry: none
L EM-LON for LonWorks FTT-10A
B EM-BAC-MOD-01 for BACnet MS/TP
M EM-BAC-MOD-01 for Modbus RTU

Option 3: Automatic zero point correction
No entry: none
Z EM-AUTOZERO Solenoid valve for automatic zero point correction

Option 4: Lighting
No entry: none
S EM-LIGHT Wired socket for the connection of lighting and for switching the lighting on/off using the control panel (only with EM-TRF or EM-TRF-USV)

8 Operating values [m³/h or l/s]
Depending on the equipment function
FH-VS: $\dot{V}_{min}$ – $\dot{V}_{max}$
FH-DS: $\dot{V}_{min}$ – $\dot{V}_{max}$
FH-DV: $\dot{V}_{min}$ – $\dot{V}_{max}$
FH-2P: $\dot{V}_1$ / $\dot{V}_2$
FH-3P: $\dot{V}_1$ / $\dot{V}_2$ / $\dot{V}_3$
FH-F: $\dot{V}_1$

Useful additions
Control panel for fume cupboard controllers, for displaying the functions of the control system according to EN 14175
BE-SEG-** with 2-character display
BE-LCD-01 with 40-character display