

Type TVLK



OPTIMISED FOR USE IN LABORATORIES AND ON FUME CUPBOARDS

Plastic circular VAV terminal units for aggressive extract air in laboratories and production facilities

- Casing and damper blade made of flame-resistant polypropylene
- Compact construction, only 400 mm long
- High control accuracy even in case of unfavourable upstream conditions
- Combination with fast-running actuators (air management systems)
- Volume flow rate measurement with bluff body or Venturi nozzle
- Slide-out differential pressure sensor allows for easy leaning
- Closed blade air leakage to EN 1751, class 4
- Casing air leakage to EN 1751, class C

Optional equipment and accessories

- With flanges on both ends
- Plastic secondary silencer Type CAK for the reduction of air-regenerated noise



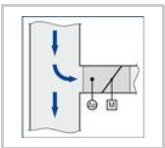
Application

- 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



Variants

- TVLK: VAV terminal unit
- TVLK-FL: VAV terminal unit with flanges on both ends

Parts and characteristics

- Ready-to-commission unit which consists of mechanical parts and control components.
- Averaging differential pressure sensor for volume flow rate measurement; can be removed for cleaning
- Damper blade
- Factory-assembled control components complete with wiring and tubing
- Aerodynamic function testing on a special test rig prior to shipping of each unit
- Unit carries test label with relevant data

Attachments

- LABCONTROL: Control components for air management systems
- Universal controller: Controller, differential pressure transducer and actuators for special applications

Accessories

- Matching flanges for both ends

Useful additions

- Plastic secondary silencer Type CAK for demanding acoustic requirements

Construction features

- Circular casing
- Short casing: 392 mm without flange, 400 mm with flange
- Spigot suitable for ducts according to DIN 8077
- Both spigots with same diameter (250 mm)
- Position of the damper blade indicated externally at shaft extension

Materialien und Oberflächen

- Gehäuse und Regelklappe aus schwer entflammarem Polypropylen (PP), Brennbarkeit nach UL 94, V-0
- Differenzdrucksensor (Staukörper oder Düse) und Gleitlager aus Polypropylen (PP)
- Regelklappendichtung aus thermoplastischen Elastomeren (TPE)

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Functional description

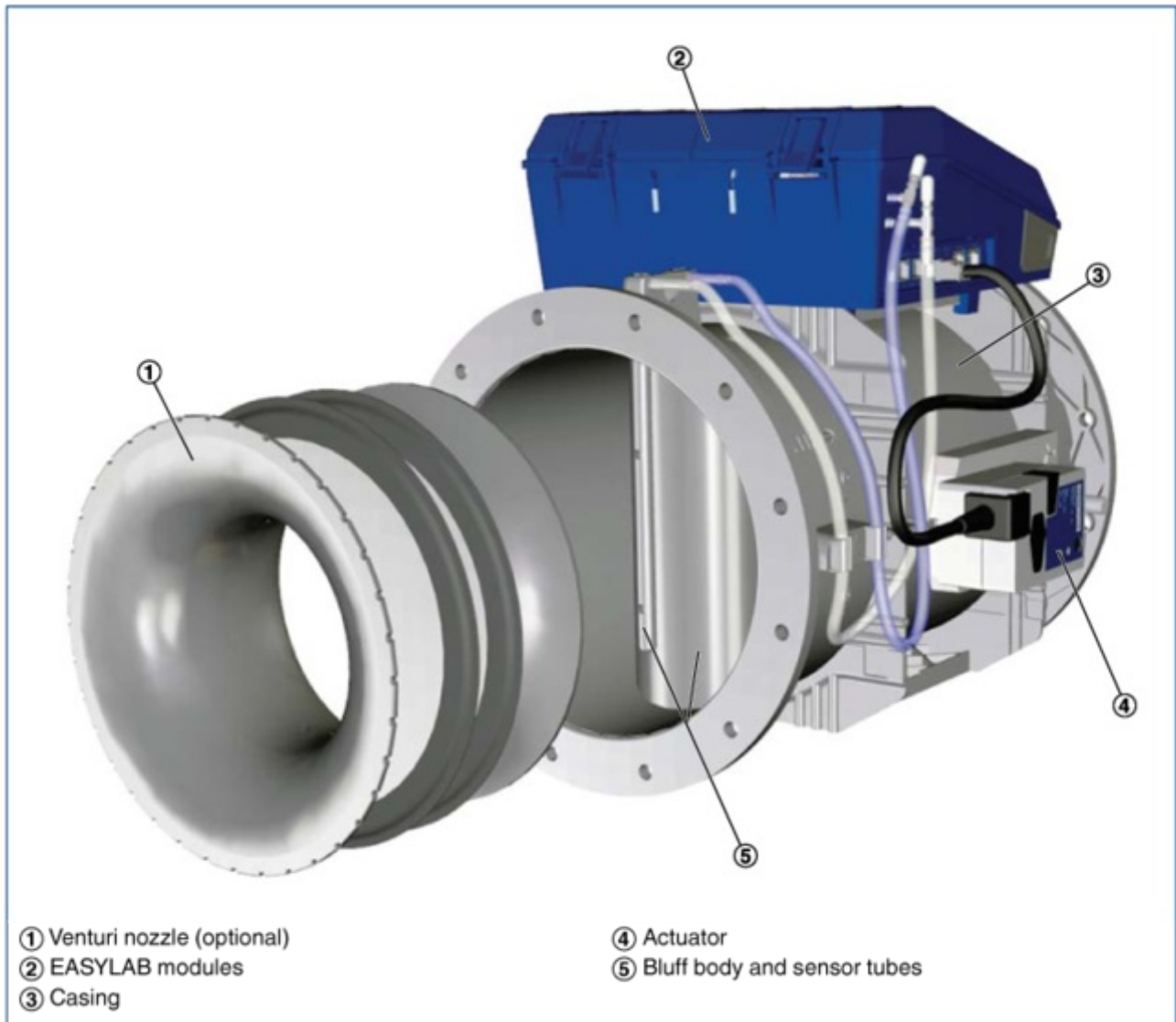
For measuring the volume flow rate the VAV terminal unit is fitted either with a bluff body and a differential pressure sensor or with a Venturi nozzle.

The control components (attachments) include a differential pressure transducer that transforms the differential pressure (effective pressure) into an electric signal, a controller, and an actuator.

- Fume cupboard control: The volume flow rate setpoint depends on the control strategy for the fume cupboard control and is based on the face velocity, the sash position, or a constant value.
- Volume flow control: The volume flow rate setpoint comes from an external unit or device.

The controller compares the actual value with the setpoint value and alters the control signal of the actuator if there is a difference between the two values.

Schematic illustration of the TVLK





Circular VAV terminal units made of flameresistant plastic, for variable air volume systems and fume cupboards. Suitable for the control of extract air containing aggressive substances since all components coming into contact with the airflow are made of plastic (no interior metal parts).

Ready-to-commission unit consists of the mechanical parts and the electronic control components. Each unit contains an averaging differential pressure sensor with bluff body or a Venturi nozzle for volume flow rate measurement, and a damper blade. Factory-assembled control components complete with wiring and tubing. Differential pressure sensor with 3 mm measuring holes (resistant to dust and pollution) Spigot connection, suitable for ducts according to DIN 8077.

Position of the damper blade is indicated externally at shaft extension.
Closed blade air leakage to EN 1751, class 4.
Casing air leakage to EN 1751, class C.

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 later be measured and adjusted on site; additional adjustment device or configuration software may be necessary

Materials and surfaces

- Casing and damper blade made of flameresistant polypropylene (PP), flammability to UL 94, V-0
- Differential pressure sensor (with bluff body, or Venturi nozzle) and plain bearing made of polypropylene (PP)
- Damper blade seal made of thermoplastic elastomers (TPE)

Technical data

- Nominal sizes: 250 mm
- Volume flow rate range: 30 – 360 l/s or 108 – 1296 m³/h
- Volume flow rate control range: approx. 15 – 100 % of the nominal volume flow rate
- Differential pressure: 5 – 1000 Pa

Attachments

Variable volume flow control with electronic EASYLAB controller for fume cupboards.

- Supply voltage 24 V AC
- Fast and stable control
- Static differential pressure measurement
- Fast-running actuator
- Easy commissioning due to plug and play communication system
- Controller can be expanded through modules
- Volume flow rate monitoring



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