

TROX GmbH

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Installing and commissioning instructions

Velocity sensor VS-TRD

LABCONTROL system

MI/7.4/5/EN/2



Technical data

Power supply: 24 V AC $\pm 15\%$, 50/60 Hz

Temperature: 10 - 40°C

Output: 1 analog output 2-10 V DC equivalent to 0 - 1 m/s

Protection class: IP 20

Connector: Phoenix MC 1.5/3-ST-3.81

br (br) = Power supply 24 V AC

ws (wt) = Power supply GND

gn (gn) = Analog output AO

Dimensions:

max. casing dimensions: 80 x 90 x 60 mm

max. installation depth: 88.1 mm

Attention!
Before installing and commissioning read this manual carefully!

Scope of application for VS-TRD

The velocity sensor VS-TRD measures the face velocity of fume cupboards and gives an appropriate analog output signal with 2-10 V DC.

In conjunction with TROX volume flow controllers based on LABCONTROL EASYLAB, TCU-II or TCU-LON-II the sensor is used for variable volume flow control.

Alternatively the VS-TRD can be also used in conjunction with TROX LABCONTROL system TFM-2 for monitoring the face velocity.

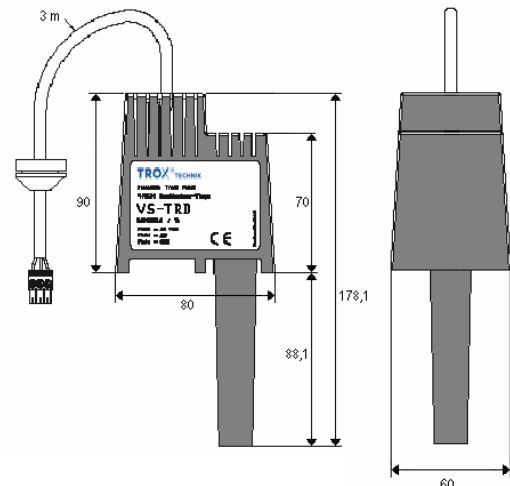
The sensor VS-TRD is placed for these functions at a suitable position on the fume cupboard.

Please regard the assembling drafts on the following side.

Safety instructions

The installation and wiring must be carried out by qualified and instructed personnel. The country and local specific guidelines and regulations for electrical installations must be observed.

During installation, wiring and commissioning, the established technical regulations, are to be observed, particularly those on safety and accident prevention.



Wiring

The transducer is supplied with a prefabricated 3 m cable ready-made for plug into the control systems. The green 3-pole Phoenix plug must be fitted in the corresponding plug socket on the EASYLAB, TCU-II respectively TCU-LON-II controller board. A cable extension with 5 m length is optionally available. (TROX -No. M536BA9)

Installing instructions

1. Accessibility for further maintenance work must be regarded.
2. A hole of $\varnothing 21-22.5$ mm diameter must be drilled in the top of the fume cupboard.
3. The hole diameter must be observed accurately, otherwise measuring errors may occur due to air flow besides the transducer.

Positioning of the hole:

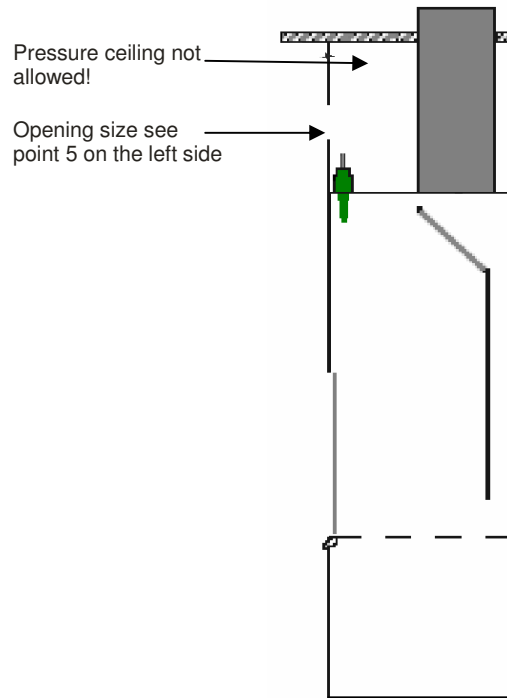
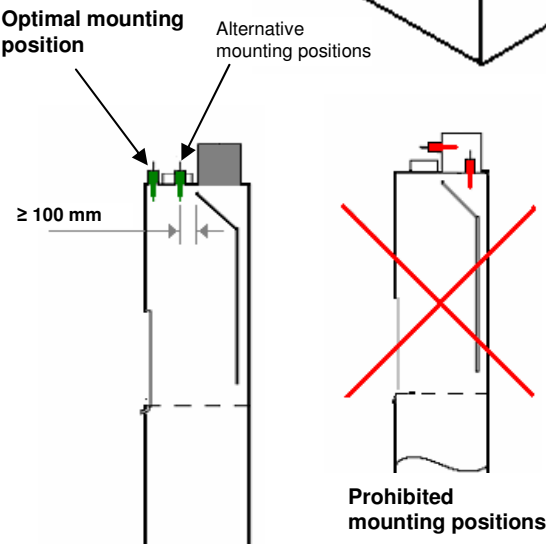
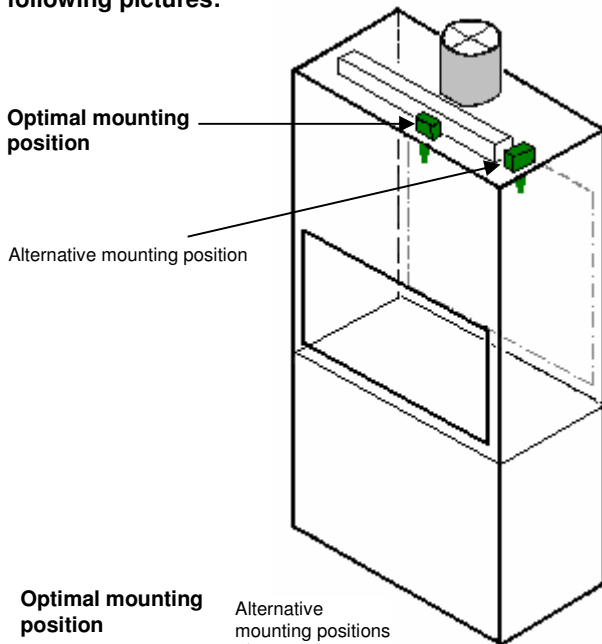
For positioning the hole please follow these instructions:

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1. There must be enough mounting room for the VS-TRD at the selected position.
2. Inside the fume cupboard the selected area must have a constant air flow with non turbulent air. (laminar airflow).
3. The VS-TRD should not be exposed to any air streams outside the fume cupboard. (e.g. installation beneath ceiling diffusers).
4. The VS-TRD should not be installed inside pressure ceilings.
5. If a pressure difference between the area around the transducer and the room can be recognized an opening is required as big as necessary to avoid a measurable airflow.

The best possible sensor position is shown in the following pictures:

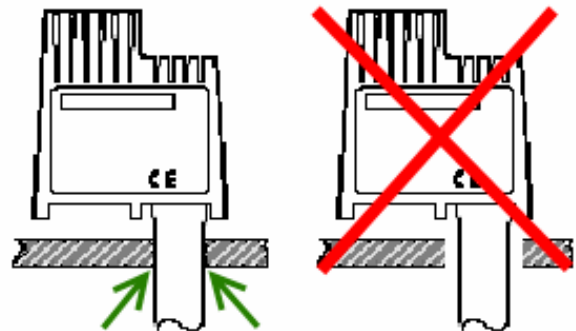


Insertion of the velocity sensor into the borehole:

1. The velocity sensor VS-TRD should only be inserted into the borehole of the fume cupboard.
2. The sensor must not rest onto the fume cupboard.
3. Never exceed the given diameter of the borehole.

Attention:

Exceeding the diameter of the borehole will influence the measuring negatively!



Important:

Airtight connection of sensor duct and fume cupboard