TROX® TECHNIK
The art of handling air

STATISCHER DIFFERENZDRUCKTRANSMITTER VFP-300

UNIVERSALREGLER VRP

STATIC DIFFERENTIAL PRESSURE TRANSDUCERS

FOR THE STATIC EFFECTIVE AND DIFFERENTIAL PRESSURE MEASUREMENT

Differential pressure transducers based on the static measurement principle for volume flow rate measuring units Type VMR, VMRK or VME

- Linear volume flow rate actual value 2 – 10 V DC
- Recording of measured values for the display of volume flow rates or for the control of slave controllers
- Parameters are factory set

Application

Application

- Electronic volume flow controller Universal with static differential pressure transducer for use with volume flow rate measuring units
- For applications with polluted extract air, e.g. with fluff, sticky particles or aggressive substances
- Parameters are factory set
- On-site adjusting is not required
- For this application the Universal controller is only used for measuring the differential pressure and for transforming the measured value into a linear voltage signal. Connections for setpoint value signal and actuator are not relevant, and neither are the corresponding technical data.
- Volume flow rate actual value is available as linear voltage signal

Description

Parts and characteristics

- Sensor for static differential pressure measurements

Maintenance

- Zero point correction once per year is recommended

TECHNICAL INFORMATION

Function, Technical data, Produktbeziehungen

Functional description

The volume flow rate is determined by measuring the effective pressure. For this reason the measuring unit is fitted with an effective pressure sensor.

The static differential pressure transducer (diaphragm pressure transducer) transforms the effective pressure into a voltage signal. The volume flow rate actual value is hence available as a voltage signal. The factory setting is such that 10 V DC always corresponds to the nominal volume flow rate (V_{nom}).

Principle of operation – static differential pressure transducer
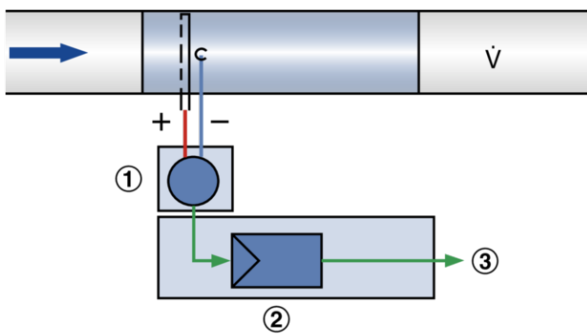
① Differential pressure transducer
② Volume flow controller
③ Actual value signal

Volume flow controller VRP

Supply voltage (AC)	24 V AC ± 20 %, 50/60 Hz
Power rating (AC)	without actuator max. 2.6 VA
Setpoint value signal input	2 – 10 V DC, R_a >100 kΩ
Actual value signal output	2 – 10 V DC linear, max. 0.5 mA
IEC protection class	III (protective extra-low voltage)
Protection level	IP 42
EC conformity	EMC according to 2014/30/EU

Static differential pressure transducer VFP-300

Supply voltage	from the controller
Measuring range	0 – 300 Pa
Linearity	± 3 Pa
IEC protection class	III (protective extra-low voltage)
Protection level	IP 42
EC conformity	EMC according to 2014/30/EU

Variants

Any attachments are to be defined with the order code of the volume flow rate measuring unit.

BB0

Application

- Electronic volume flow controller VRP with static differential pressure transducer for use with volume flow rate measuring units
- Separate casings for differential pressure transducer and controller electronics

Signal voltage range

- 2 – 10 V DC

Parts and characteristics

- Sensor for static differential pressure measurements

Installation and commissioning

- Installation orientation is relevant
- Zero point correction required

Static differential pressure transducers for volume flow rate measuring units

Order code detail	Controller		Static differential pressure transducer		Volume flow rate measuring unit
	Part number	Type	Part number		Type
BB0	M546EG2	VRP	M546EJ1	VFP-300	VMR, VME, VMRK

Universal controller VRP

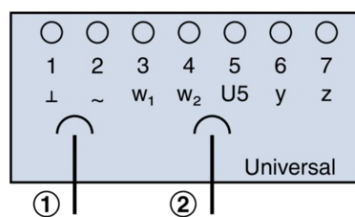Static differential pressure transducer VFP-300

Installation and commissioning

- Installation orientation is relevant
- Zero point correction required

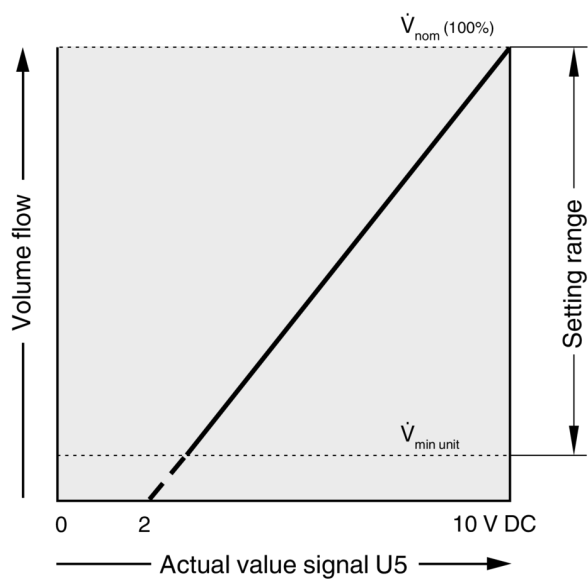## BB*, Klemmenbelegung

① Steckverbindung zum Anschluss des Differenzdrucktransmitters VFP
② Steckverbindung zum Anschluss des Stellantriebs
1 ⊥: Masse, Null
2 ~: Versorgungsspannung
3 w_1: Sollwertsignal
4 w_2: Sollwertsignal (0 – 20 V Phasenschnitt)
5 U5: Istwertsignal
6 y: Stellantriebssignal
7 z: Zwangssteuerung

BL0, BB*, Kennlinie des Istwertsignals

$\dot{V}_{nom}$ (100%)

$\dot{V}_{min\ unit}$

Setting range

Volume flow

0   2   10 V DC

Actual value signal U5

LMV-D3LON, VRP