Data sheet

deltaflowB

Specification

The principle of deltaflowB reference air mass system is based on the differential pressure measurement. A special designed primary element (Venturi / Airwing combination) ensures highest linearity and pressure drops off 5-7% of the measured dp. Therefore the total pressure loss of the system is <20mbar. Three redundant integrated differential pressure, temperature and absolute pressure sensors are measuring with a sampling rate of up to 2000 measurements / second. By intelligent filter and averaging algorithms, a high accuracy and perfect dynamic is achieved.

Description	Specification
Principle of measurement	Differential pressure principle, compensation of absolute pressure and temperature
Measured variables	(turbulent) Volume- / mass flow, temperature, static pressure
Media	Air, Exhaust, Blow by

Accuracy *	Standard Type	High Accuracy Type (calibrated)
	1% of m.v. from 15% of flow range	1% of m.v. from 7% of flow range 0,5% of m.v. from 10% of flow range

Primary Element (Spool)		
Process connection	Flanges DN25 (1") and bigger, depending on customer Application	
Primary Element Length	1.4571 stainless steel 15 x Pipe Diameter	-

Application data	Min	Typical	Max	Unit
Pressure LP	0 (Vacuum)	1	4,5	bar abs
Temperature of media	-40	20	200	°C
Temperature of environment	10	20	30	°C
Range of measurement	1:25			

Flow Computer	
Type	19" Rack Win7 PC 3HE
Display	19" Rack SLide Display and Keyboard
Connecton I/O	Dual CAN-Bus (1 in for sensor, 1 out for customer), 250 or 500 kBaut (10mS values) All typical PC-Interfaces Other Outputs (Pulse / 0..10VDC / 4..20mA) optional on customer request
Software	Labview Based Operator Software

*valid for ambient temperature range 15- 30°C.

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Flow Computer / Software

The flow computer is connected via CAN-Bus to the triple dp-, T- and pabs-Sensors. The Labview based operator Software shows the three separate values and calculates and filters high accurate average values. Since all three values are observed, deviations or errors can easily be identified by a 2 fo 3 analysis. Automatic alerts and automized recalibration recommendations are displayed.

The flowcomputer offers a second CAN Bus port to transmit the result values to a Master system.

Other outputs such as digital outputs, frequency outputs, analogue outputs (4..20mA, 0..10VDC) can be added on customer request by adding I/O boards to the PC.

Dimensions / Flow Span

Dimesion*	Nominal Span [kg/h]**	Override Span [kg/h]***
DN25 / 1 in	160	225
DN32 / 1 ¼ in	300	420
DN40 / 1 ½ in	400	560
DN50 / 2 in	600	840
DN65 / 2 ½ in	1000	1400
DN80 / 3 in	1450	2000
DN100 / 4 in	2400	3400
DN125 / 5 in	3750	5200
DN150 / 6 in	5500	7700
DN200 / 8 in	9100	12800

* Pipe reduction or expansions to fit your pipe are available on request.
** pressure loss at nominal span is app. 20mbar, Calculation is based on ambient air (20°C, 1bara).
*** Override span can be used for no/ low pulsation, pressure loss app 40mbar.

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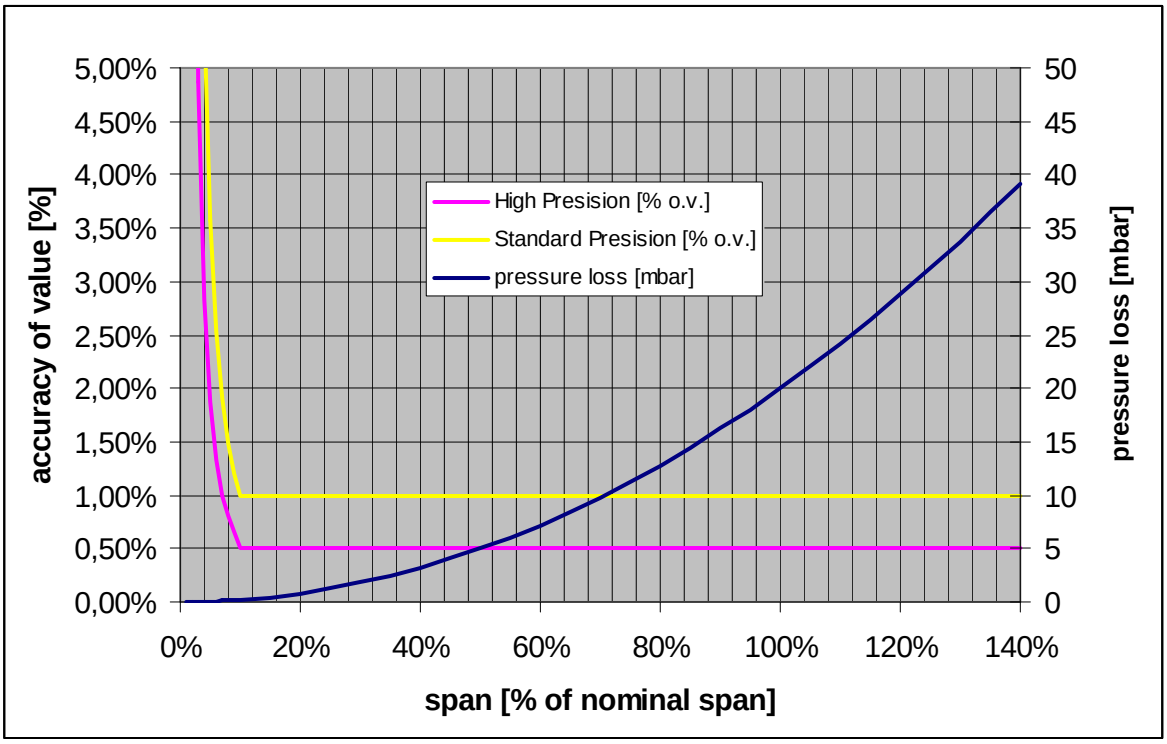
Accuracy / Pressure Loss



The graph shows the accuracy over the span (see Dimension / Flow Span). Accuracy is shown in % of actual flow.

Order Information

Each deltaflowB flow meter is individually designed and manufactured to your Application. Please share your application details with us, so that we can ensure best performance for your test bed. The following Information is needed:

- Type of fluid (air, exhaust/blow-by…)
- Maximum and minimum flow, temperature and pressure
- Measurement orientation (horizontal/vertical)
- In- and Outlet orientation
- Engine Position
- Required outputs (beside CAN-Bus)

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