

# deltaflow pitot



**systemec**  
Messen & Regeln  
**Controls**

# deltaflow

## deltaflow pitot tube: simple, precise, adaptable

### Portable Flow Rate Measurement Using the Prandtl Tube Principle

The deltaflow pitot tube can be used anywhere it is necessary to establish flow profiles and verify volume measurements.

The principle is tried and true: Use the hand-held deltaflow pitot tube measurement probe at various locations along the cross section to calculate the flow rate from the measured differential pressure—just as you have always done using the classic Prandtl tube system.

The deltaflow pitot tube has a whole series of advantages:

- Ease of use
- High degree of precision
- Best adaptability to unique processes

### From the Industry – For the Industry: Optimal Usability



#### Straight construction makes insertion easy

The measurement profile of the deltaflow pitot tube is perfectly cylindrical. The time-tested deltaflow measurement profile measures a maximum of 22mm in diameter, the attachable guidance tube measures 25mm. This means that the deltaflow pitot tube can quite easily be inserted into the sampling cross-section through existing connections or mountings. Using a special insertion mounting, the deltaflow pitot tube can be inserted into the process under sealed conditions through a 1" ball valve.

#### Detachable extensions make transport easy

Even people who have to work with large diameters prefer to work with a measuring instrument that is easy to transport. This is no problem with the new deltaflow pitot tube: the newly-developed threaded coupling allows you to simply disassemble the deltaflow pitot tube and then reassemble it in the desired length! And because our coupling requires no temperature-sensitive sealings or gaskets, the deltaflow can be used under even the most minimal of process conditions.



### For the Most Demanding Applications: Proven deltaflow Precision

#### Measure more precisely with the proven deltaflow profile

The deltaflow profile was tested and developed in cooperation with the Department of Flow Mechanics at the University of Erlangen. With its acceleration returns and its sharp tear-off edge, it has achieved the highest level of measurement linearity. This has been established by the PtB as well as others. In addition, when compared to a Prandtl tube, the differential pressure has been significantly increased, which means that much lower flow rates can be measured more precisely. The deltaflow is not even susceptible to transverse flows: you can hold the deltaflow at an angle of up to 10° without effecting the precision of the measurement.

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## Greatest Process Adaptability: Rough Conditions Are Our Specialty!

- **Straight, cylindrical design:** The newly developed DP coupling of the deltaflow pitot makes the entire measurement probe a single, straight instrument. This lets you access your sampling cross-section through any 1" aperture. By using a special insertion mounting, you can even seal the process off from any environmental influence.
- **Assembly in individual sections:** The deltaflow pitot can be disassembled into convenient sections and reassembled to desired lengths by means of a simple threaded coupling. Use up to 8 extension sections to extend the length of the deltaflow pitot to an impressive 8.5m.
- **Large Differential Pressure Bores:** Differential pressure tapings 8mm in diameter make sampling in particulate and condensating media possible.
- **High-Tech Stainless Steel:** The deltaflow is constructed of the highest quality 1.4828 stainless steel and can thus withstand temperatures up to 1040°C.

Our employees all about the conditions under which comparison samplings are performed: the measurement must stand up to contaminated and aggressive media, high temperatures, and condensation. It is often necessary to take samplings at locations that are difficult to access. Heat and dust are just as commonplace as harsh weather and cold temperatures. The operator doesn't want to introduce any new sampling bores, but wants to use existing apertures instead. Available support personnel are pretty much nonexistent nowadays, and everything should happen as quickly as possible, because the budget is tight...

The deltaflow pitot is your trustworthy and reliable tool. It can be made efficiently small for transport and powerfully long when it comes to the job of sampling. And it is good to know that the deltaflow pitot will not make your rough working conditions even more difficult. Almost indestructible, it will continue doing its job for decades without requiring calibration. Can any other tool on the market today make that claim?

## With Your Measurement Case, You Have the Job in Hand

You can comfortably store your deltaflow pitot, the handheld manometer, up to six 1m-long extension sections, the documentation, and all accessories in this sturdy measurement case. You will also receive an Excel file along with your deltaflow to assist you in automating your sampling analysis per DIN 2640 standards and allow you to present it print-ready to your client. After all, effective work is more than taking measurements! The handheld manometer is battery-powered, displays the differential pressure in all popular units, and comes standard with calibration instructions.



### Ordering Specifications:

DF25P-P	Sampling unit, Material 1.4828
DF25P-M5	Extension section, 500mm, Material 1.4828
DF25P-M10	Extension section, 1000mm, Material 1.4828
DF25P-M20	Extension section, 2000mm, Material 1.4828
DF25P-A	Connection and handle section, hose attachment, 4x1mm Material 1.4828
DF25P-K	Carrying case, hard-sided plastic with aluminum frame insulated with sponge padding, 1050x350x110mm. Holds all parts except DF25P-M20
DF25P-H25	Handheld manometer, 0..25mbar (0..43m/s in environmental air), min./max memory, damping, 0.1%vM+0.1%v.E., incl. battery
DF25P-H130	Same as DF25P-H25, except 0..130mbar equals ..99m/s
DF25P-HT	Handheld temperature measurement tool, incl. Sensor Type K -200..1000°C
DF25P-Vxxm	Connecting hose between probe and handheld manometer
DF25P-KP	Thread-protecting copper paste
DF25P-D	Documentation and Excel file analysis per DIN 2640 (1 copy included in DF25P-P)

# Flow-Measurement Equipment „made by systec“

## flowcom made by systec

Anyone who measures professionally must also evaluate professionally. The flowcom is the ideal enhancement to the deltaflow or any other flowmetering system. It compensates for flowmeter errors which occur in conjunction with pressure and temperature and calculates mass and standard volume flows of gas or steam. It can also compute energy and heat. The flowcom has been tested by the TÜV (Technical Monitoring Agency)



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## deltaflow DF25FF made by systec

deltaflow Model DF25FF integrating-pitot tube with integral pressure and temperature transmitters, tested for suitability by Germany's TÜV 100% steam-saturated smoke and exhaust gases

are insensitive to dirt and aggressive media at temperatures up to 1,200 °C.

## LSP1 made by systec

LSP1 is an air-flushing system for automatically scavenging dp-primary elements and stepping lines. The design and the function of the LSP1 is adapted to meet the particular prerequisites of power stations. Approaches, signals, and reports active or passive. Signal retention during the flushing process. Available alternatively for 2 pressure or 1 dp measurement transmitters. Fulfilling IP65. All come with a 2-year guarantee as standard.



The home of the systec Controls company is located in Puchheim, near Munich. Here we develop and manufacture our products according to DIN EN ISO 9001

standards. But innovative technology and product quality alone are not enough for us: we have allowed our systems to be evaluated and tested by independent institutions – with clear-cut and verifiable success! And we remain at your service after your equipment has been installed: you can reach **our hotline 24 hours a day, 7 days a week.** systec Controls – Your specialist for flow-metering technology.



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