
# AccuFlo® Zero

## Automatic Zero Point Calibration for Differential Pressure

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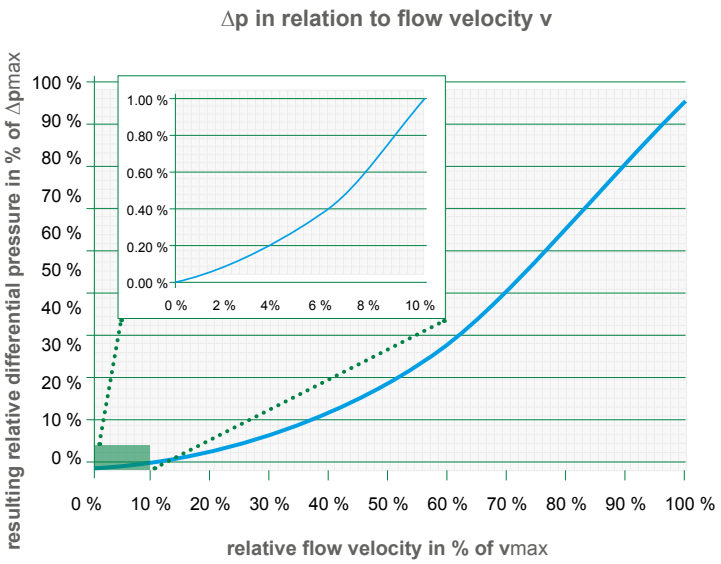
The AccuFlo Zero reduces maintenance costs for orifice plates, nozzles and other differential pressure based flow meters by over 90% and increases their accuracy considerably.

Constantly. Automatically. Reliably.

## Background

At reduced flow rates the usable signal of differential pressure based flow meters are decreased disproportionally.

The figure below illustrates this dilemma. At low flow rates only minimal differential pressure signals are created.




## The Problem

Highly accurate differential pressure transmitters suffer from considerable negative impacts at the zero point due to temperature change and long term drift. The consequence: practical shortcomings in stability and accuracy of these transmitters at low differential pressures.

Zero point errors are responsible for most problems and maintenance efforts.

## The Consequences

Most problems are only discovered when flow or energy balances are incorrect. Typical consequences are long discussions and a loss of trust in the used flow metering technology. But even with regular maintenance the responsible personnel cannot change the underlying condition.

## The solution

AccuFlo Zero.

In other words: the automatic zero point calibration is the solution. Periodical and demand driven at the same time.

If the surrounding conditions remain constant the zero point of the transmitter is recalibrated at regular intervals. But the AccuFlo Zero will also detect changing environmental conditions which could have negative impacts on zero point accuracy and perform a new zero point calibration. Everything based on digital communication and compatible with all common transmitter device types.


## Technical Specifications

| | |
|---|---|
| **Automatic Zero Point Calibration** | |
| Cycle length between calibrations | Freely configurable (preset: 24 h) |
| Temperature trigger | Freely configurable (preset: 10 K temperature difference to last calibration) |
| Duration of calibration | 30 s |
| Output signal | Last available measurement value is held constant by transmitter during calibration |
| Commissioning mode | Correction of permanent zero point errors due to uneven wet leg installation |
| Supported flow meters | All differential pressure based flow meters<br>(ISO 5167 and AGA-3 primary elements, pitot tubes, v-cones, etc.) |
| **Electrical Connection** | |
| Supply voltage | 24 V |
| Output | 4-20 mA |
| Configuration | Configuration via interface to AccuMind® flow computer (RS485-interface) |
| **Process and Signal Connection** | |
| Material of wetted parets | 316Ti / 1.4571 |
| Process connection manifold | IEC 61518 / DIN EN 61518: Groove Ø18,5 |
| Process connection transmitter | IEC 61518 / DIN EN 61518: Type A with spigot |
| Pressure rating | PN 64 |
| **Ambient Temperature** | |
| Ambient temperature | -20 … 50 °C |
| Climate conditions | Humidity 0-100%, condensation of installed device permitted |
| Protection class | IP 65 according to IEC 60529 |
| Electromagnetic protection | According to EN55011:2009+A1:2010, Group 1, Class B and EN61326-1:2013 |
| **Design** | |
| Weight | 2,8 kg |
| Dimension | 120 mm x 40 mm x 140 mm |
| Life expectancy | At least 10.000 calibrations (up to 25 years with standard settings) |
| Retrofittability | For all differential pressure based flow meters |
| **Certificates and Standards** | |
| Pressure Equipment Directive 2014/68/EU | For gases 1 fluid group 1, liquids fluid group 1;<br>fulfills requirements according to Art. 4 (3) (good engineering practice) |

## Ordering Codes - AccuFlo® Zero

| AccuFlo Zero-M | _ _ _ | _ _ _ _ _ | _ _ | _ _ | _ | _ _ | |
|---|---|---|---|---|---|---|---|
| **Equipment** | | | | | | | |
| | DHG | | | | | | Direct mounting (backside) for gas |
| | DHL | | | | | | Direct mounting (backside) for liquide |
| | DSG | | | | | | Direct mounting (at the side) for gas |
| | DSL | | | | | | Direct mounting (at the side) for liquide/steam |
| | AU | | | | | | separate mounting for all media *** |
| **Bolts and Nuts** | | | | | | | |
| | | MAXX | | | | | M10, XX:thread length in existing manifold |
| | | UAXX | | | | | 7/16“ UNF, XX:thread length in existing manifold |
| **Cycle Time for Long Time Drift** | | | | | | | |
| | | | hh | | | | to be specified in hours (standard 24 hours) |
| | | | AM | | | | Controlled by compact calculator AccuMind **** |
| **Temperature Intervall** | | | | | | | |
| | | | | KK | | | to be specified in Kelvin (standard 10 Kelvin) |
| | | | | AM | | | Controlled by compact calculator AccuMind **** |
| **Options** | | | | | | | |
| | | | | | 0 | | without |
| | | | | | V | | 2 vent valves for dp-transmitter ** |
| | | | | | Z | | special options |
| **Special Design** | | | | | | | |
| | | | | | | 0 | without |
| | | | | | | ZZ | on request |

** advised for liquid and steam applications (standard)

*** without electrical or signal cables

**** only possible in combination

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