

Applications

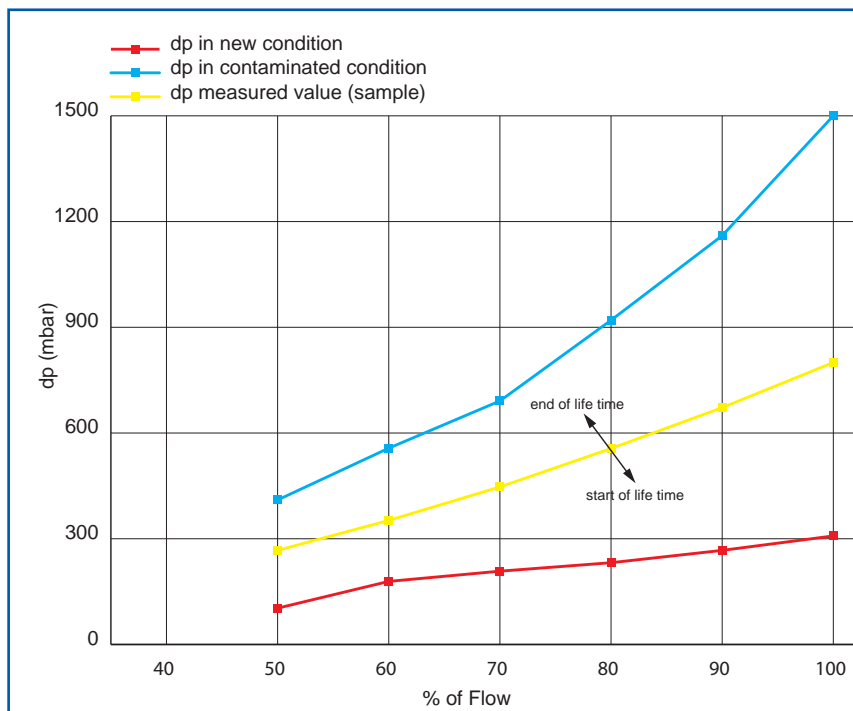
FAUDI Aviation DPGUARD® is a fully automated touch screen operated calculator to give out the corrected differential pressure across the filter elements (Monitor filters or Coalescers) in mobile or fixed filter vessels being operated at less than maximum rated flow.

The DPGUARD® automatically calculates the condition of the filter elements inside the vessel using the signal inputs of flow rate and differential pressure across the elements. It monitors the changing condition of the elements and provides a history (Oscillograph) so that element change times can be anticipated and abnormal conditions could be detected. It gives out the overall throughput (flow volume during lifetime) of the elements. It does a continuous differential pressure check calculating the corrected differential pressure, logging it and comparing the results against previously calculated numbers. If things are going wrong – Alarm functionality behind can be addressed to automatically stop the fuelling process without further interaction.



The system based upon the related joint standards as described in EI 1581, EI 1583, EI 1590 and EI 1596.

Sample Graph



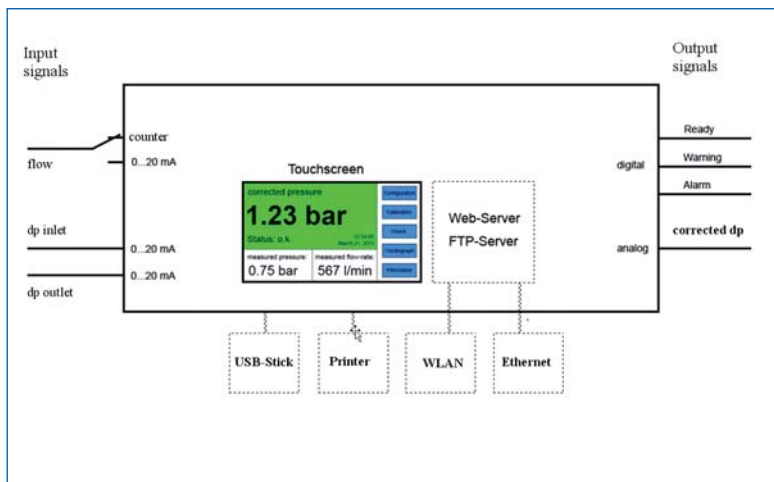
Differential pressure values of monitor elements contaminated versus new elements

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Function

The DPGUARD® catches up electrical signals from flow measurement (analogue input signals) and differential pressure measurement (one or two analogue signals) across the filter elements. These signals are the main information to calculate and give out the corrected differential pressure value. It does a continuous differential pressure check calculating the corrected differential pressure, logging it and comparing the results against previously calculated numbers. If things are going wrong – Alarm functionality behind can be addressed to automatically stop the fuelling process without further interaction.



Status ok

The corrected differential pressure as a mathematical calculation is ok. The calculation based on internal calculation relation and could be self adjusted during fully automated self learning step. (Patent pending).



Status Warning!

The corrected differential pressure is between user defined limits (predefined between ... % and 100 % of corrected differential pressure) Warning levels could be user defined and could be used to address Relay or digital output for further action.



Status Alarm! (blinking)

The corrected differential pressure is above the alarm limit (limit could be user defined in the configuration menu – in this case it is predefined to 1.5 bar) Alarm Status could be used to automatically stop fuelling processes due to Relay or digital output signal.

The main screen shows measured values like differential pressure and actual flow and gives out the calculated differential pressure value. Three different function / alarm-level related screen colours are available.

Technical Details

Power Supply	24 VDC ±10%
Memory	Internal Datalogger
Signal Transfer	Ethernet; USB; LAN/WLAN

Signal In- /Outputs			
	Qty.	Parameters	
Digitatl Input	8	24 VDC ±10%	10 mA
Digital Output	8	24 VDC	500 mA
Analog Input	4	0...10 VDC / 0...20 mA / Pt 1000	12 Bit
Analog Output	2	0...10 VDC	12 Bit
Counting Input	2	up to 5 kHz	min. pulse step 0,1 ms

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