ProSoft TECHNOLOGY

Technical Note

Automatic Flow Computers

Measurement Standards

AFC-AGA
April 21, 2008

Document Information

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Measurement Standards Supported

MVI46-AFC, MVI56-AFC, MVI69-AFC, MVI71-AFC, PTQ-AFC Automatic Flow Computer modules.

Standard	Supported	Notes
AGA3	Supported	
AGA 5	Not Supported	This standard specifies the computation of heating value (energy). The AFC does not implement AGA 5 itself, but instead compute heating value according to the equations given in Appendix C.4 of AGA 8 (1992 ed).
AGA7	Supported	
AGA8	Supported	
AGA9	Not Supported	This standard refers to the specification of Ultrasonic meters so it is not directly applicable to flow computers. The AFC module does support applications with Ultrasonic meters though.
AGA 10	Not Supported	This standard is titled "Speed of Sound in Natural Gas and Other Related Hydrocarbon Gases", and appears to be a clarification and extension of AGA 9 concering Ultrasonic Meters. The speed of sound must be known withing the on-board electronics of an ultrasonic meter, as that is how it can calculate the speed of the flow (because the effective speed of the sound signal is faster when it travels with the flow). But all this takes place before the input arrives at the AFC, and by that time the speed of sound is no longer relevant to the AFC. The AFC does not calculate speed of sound in the hydrocarbon fluid.
ISO 5167	Supported	We support this standard for measurement using orifice meters only. Other differential meter types (Venturi nozzles, etc.) are not supported. As the difference between ISO-5167 and AGA-3 pertains only to the calculation of the orifice Coefficient of Discharge, our existing support of V-cone meters and wedge meters is not affected.
ISO 6976	See note	We will shortly perform a test to verify compatibility with results predicted by ISO-6976. We do not implement the ISO standard directly, but we expect that the results using our implementation of AGA-8 will be the same as those of ISO-6976 within the uncertainty limits of that standard.
NX-19	Not Supported	