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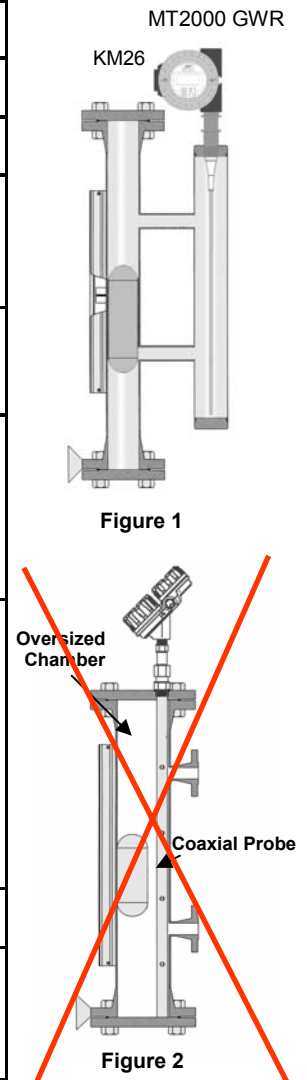
# Application Bulletin MAGNETIC LEVEL GAUGE

## KM26: Chamber Design for Total System Redundancy

**K-TEK** has built a world-class manufacturing reputation over the past 30 years that began with the **KM26 Magnetic Level Gauge (MLG)**. With over 65,000 installations to-date, **K-TEK** continues its leadership position in MLG innovation and technology. The initial target application for MLGs was the replacement of costly and dangerous sight glasses. But over time, the **K-TEK KM26** has become much more than a simple replacement-measuring device, it has become the measurement method of choice for a wide range of process industries.

Over the last few years, several customers have requested that **K-TEK** provide them a total “redundant” level system. **K-TEK**, in response, came up with a variety of KM26 level solutions. One very popular **K-TEK** system (see figure 1) supports the installation of a second chamber for redundancy and transmission of a level signal via a 4-20mA output. This superior dual chamber design combines the benefits of the **K-TEK KM26 Magnetic Level Gauge** and the **MT2000 Guided Wave Radar**. A comparison using similar level technologies in a single chamber configuration has been delineated in the table below.

Comparison of Dual and Single Chamber Level Systems				
	K-TEK Dual Chamber (Fig 1)		Single Chamber (Fig 2)	
	Description	Result	Description	Result
Magnetic Level Gauge (MLG) Chamber	Standard 2" chamber	Economical	Oversized 3" – 4" chamber	Drives up price (\$\$)
Guided Wave Radar (GWR) Chamber	Standard external chamber that is welded to MLG chamber	Immune to MLG misalignment errors and will not obstruct float	Same chamber as MLG float. MLG alignment to process vessel is critical.	MLG misalignment and bowing can cause radar probe to bend and obstruct float
Probe Installation	Transmitter is threaded into flange and inserted into second "independent" chamber	No routine removal for maintenance and cleaning	Transmitter is threaded into top flange of MLG and can only be supported against inside chamber walls at the top & bottom of MLG	Requires routine removal for cleaning and maintenance which can potentially bend probe and interfere with float
Probe Type	Rigid, flexible, or coaxial probes available depending on process media specifics	Several probe options to choose from and therefore can cover a broader range of level measurement applications (most applications can be covered with a single probe)	Limited to coaxial probe type only. The coax stilling well is needed to keep float from affecting GWR probe measurement (coax-to-probe clearance is only 0.185 inches)	Potential for false signals due to "bridging" or coax-to-probe plugging
Process Media	Broad range of liquid applications		Limited to clean liquids only due to the use of a coaxial probe	
Bottom Line Summary	A very competitively priced and highly reliable "independent" measurement system with a broad range of application capabilities and no required maintenance.		A costly quasi-independent level system with multiple failure modes, limited to clean liquid applications, and requires periodic maintenance.	



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