FEATURES:
- AAR approved (E979002)
- Provides isolation from tank fluids while gaging
- Temperature range of \(-50°F \text{ to } 300°F / -45°C \text{ to } 149°C\)
- Pressures to 600 psig / 41 bar
- Measures specific gravities from 0.44 with a single float
- Gaging rod sealed to prevent fluid penetration
- Level indicator adjustment without damaging threads
- Alternative materials available
- Threaded, welded & flanged connections available
- Certification to ASME & NACE available

PRINCIPLE OF OPERATION:

The KM50 is a magnetically-coupled, liquid level indicating device that provides an isolated means of determining the fluid level within a storage tank without exposing personnel to potentially harmful contact. It operates on the principle of magnetic coupling between opposing magnets that are separated by the walls of a sealed, non-magnetic tube. One magnet is sealed within a large diameter float that moves up and down the tube as the fluid level changes. A smaller magnet, with poles in the opposite direction, is attached to a calibrated gaging rod that fits inside the tube. When the magnets are brought into proximity with one another they are attracted with sufficient force to cause the gaging rod to remain linked to the float. As the float changes level, so does the gaging rod. Readout is obtained directly from a ruler on the gaging rod. There is no need to dip and clean the rod with each measurement.

STANDARD FEATURES

- **Measuring Range**: 48” or 60” outage with black graphics on white background
- **Material Type**: 7-½” O.D. 316 Stainless Steel float
- **Gaging Rod**: Rigid Graphite Tubing with Teflon heat shrink sealed at ends

OPTIONAL FEATURES

- **Connections**: Tongue & Groove, Raised Face, Ring Type Joint, Flat Faced Flanges, Direct Welding, or Threaded Fittings
- **Material Type**: 316 Stainless Steel or other non-magnetic material for gaging tube. Head components can be manufactured from most available materials
- **Rulers**: Feet / inch, Innage, Metric, etc. upon request; colored and/or reflective available. Additional measuring range is available, but higher specific gravity limits apply depending on length of rod.
**ORDERING INFORMATION:**

**KM50 / a / b / c / d / e / f / g**

**/a Tank Connection Material**
- CST: Carbon Steel (Flanges Only); Male & Female Pipe Threads must be 304 or 316 SS
- SS4: 304 Stainless Steel
- N60: Nitronic 60
- ALT: Customer Specified - Contact Factory for Availability (Flanges machined from round bar)

**/b Head Material (if different from /a)** (Note: Head Caps are 316L SS unless CST Carbon Steel Head Material is selected)
- CST: Carbon Steel Standard
- SS6: 316 Stainless Steel
- ALT: Customer Specified - Contact Factory for Availability

**/c Tube Material (1.50 in. OD x 0.188" wall standard)**
- SS4: 304 Stainless Steel Standard
- SS6: 316 Stainless Steel
- ALT: Customer Specified - Contact Factory for Availability

**/d Tank Connection**
- TGxx: AAR Tongue & Groove Standard
  - 32 = 3-1/4" Bolt Circle
  - 41 = 4-1/8" Bolt Circle
- BRxx: Raised Face Blind Flange with 1-1/4" Bore
  - 32 = 3-1/4" Bolt Circle
  - 41 = 4-1/8" Bolt Circle
- BFxx: Flat Face Blind Flange with 1-1/4" Bore
  - 32 = 3-1/4" Bolt Circle
  - 41 = 4-1/8" Bolt Circle
- BJxx: RTJ Blind Flange with 1-1/4" Bore
  - 32 = 3-1/4" Bolt Circle
  - 41 = 4-1/8" Bolt Circle
- ALT: Consult Flange Chart FLNG-0202-1 for ANSI Standard Flange Options

**/e Tube Connection**
- WM: Welded to the Man-Way Flange Standard
- WT: Welded to the Tank Interior (by End User)
- WH: Welded to the head Assembly
  - Note: Openings for tube welded to head must be 2-1/2" minimum for float stop spring insertion.

**/f Gaging Length**
- 48"O: 48" Outage Standard
- 60"O: 60" Outage
- 48"I: 48" Innage
- 60"I: 60" Innage
- xx"O: Customer Specified Outage in inches (Consult Factory for availability)
- xx"I: Customer Specified Innage in inches (Consult Factory for availability)

**/g Special Options**
- DM: Dual Magnet
- DR: Dual Ruler
- SPC: Special Option - Consult Factory

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**Customer Provided Information:**

A. Top of tank fitting or man-way flange to internal top of tank
B. Length of gaging
C. Depth of tube into tank or flange for socket weld
D. I.D. of tube socket in tank or flange
E. Thickness of tank or man-way flange
F. Requested length of tube above upper spring (May be changed to prevent float damage)
G. Insertion of gauge tube into customer provided holder
H. I.D. of nozzle
K. Requested unmeasurable length at top of tank (May be changed to prevent float damage)
R. Offset of tube centerline from nozzle centerline
ID. Inside tank diameter

**K-TEK provided information:**

US. Upper spring length (2-5/8" Standard)
LS. Lower spring length (5-1/16" Standard)
BL. Buoyant length of float based upon provided specific gravity
F. Actual length of tube above upper spring to provide calibrated indication
K. Actual unmeasurable depth without float damage from contact with nozzle sides
OAL. Overall gaging tube length

**NOTES:**

1. Standard Float Height is 7 - 5/16"
2. Range of gaging will be provided for dual gravities or un-measurable depth other than zero
3. Vertical separation of float from potential contact with nozzle side or other obstruction will be 1" minimum and float stop and gauging range will be set accordingly to prevent float damage.