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TANK CAR GAGING DEVICE For Top of Tank Car Mounting

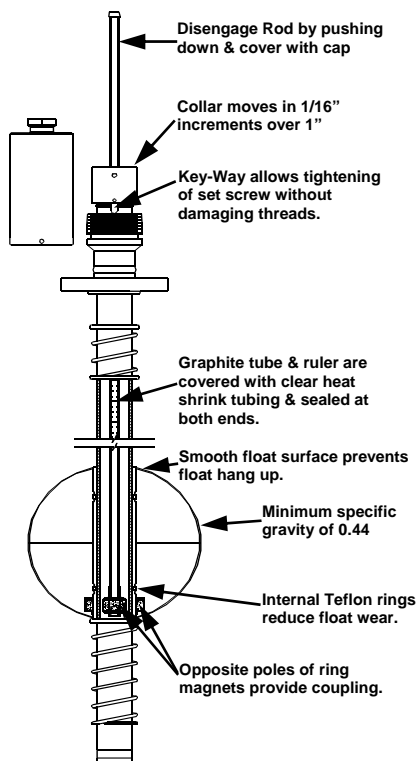
Model KM50

FEATURES:

- AAR approved (E979002)
- Provides isolation from tank fluids while gaging
- Temperature range of -50°F to 300°F / -45°C 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 of the principle of magnetic coupling between opposing magnets that are separated by 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 Others available on request.
Material Type	7-1/2" O.D. 316 Stainless Steel float 304 Stainless Steel tube (1-1/2" OD x 0.188" wall) Carbon Steel flange and head
Gaging Rod	Rigid Graphite Tubing with Teflon heat shrink sealed at ends

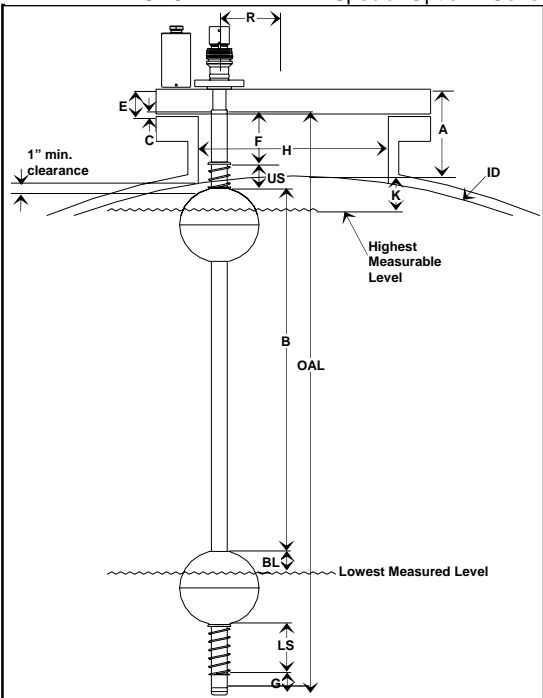
OPTIONAL FEATURES

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 MPx Male Pipe Thread
 32 = 3-1/4" Bolt Circle 20 = 2" Pipe 30 = 3" Pipe
 41 = 4-1/8" Bolt Circle 25 = 2-1/2" Pipe 35 = 3-1/2" Pipe
 BFxx Flat Face Blind Flange with 1-1/4" Bore FPx Female Pipe Thread Cap
 32 = 3-1/4" Bolt Circle 25 = 2-1/2" Pipe 30 = 3" Pipe
 41 = 4-1/8" Bolt Circle 40 = 4" Pipe
 BJxx RTJ Blind Flange with 1-1/4" Bore HWxy Head Welded to Tank Car
 32 = 3-1/4" Bolt Circle Consult Factory for Options
 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



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 unmeasurable 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 gaging range will be set accordingly to prevent float damage.

