

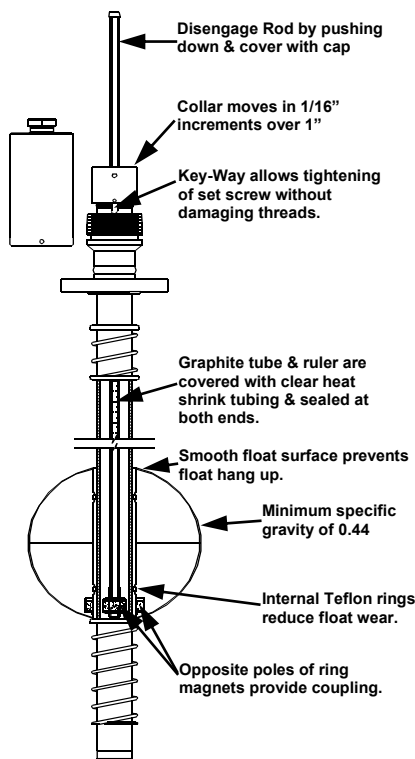
Tank Car Gauging Device for Top of Car Mounting

FEATURES:

- AAR approved (E979002)
- Provides isolation from tank fluids while gauging
- 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
- Gauging 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 gauging 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 gauging rod to remain linked to the float. As the float changes level, so does the gauging rod. Readout is obtained directly from a ruler on the gauging 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- $\frac{1}{2}$ " O.D. 316 Stainless Steel float 304 Stainless Steel tube (1- $\frac{1}{2}$ " OD x 0.188" wall) Carbon Steel flange and head
Gauging Rod	Rigid Graphite Tubing with Teflon heat shrink sealed at ends

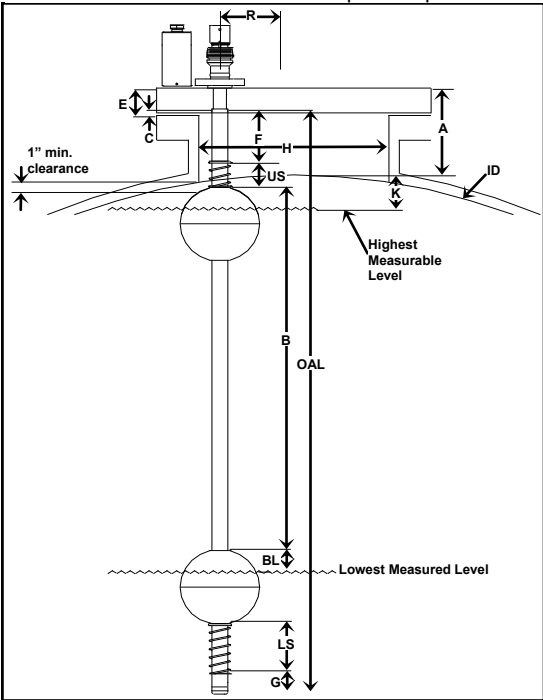
OPTIONAL FEATURES

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 gauging 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 gauging 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.