

A photograph of an industrial magnetic level indicator installed on a large metal tank. The indicator consists of a vertical scale with markings in inches (3, 6, 9, 12) and feet (2, 3). A yellow float is visible on the scale. The entire assembly is covered in snow, indicating a cold environment. The background shows other industrial pipes and valves, also partially covered in snow.

MAGNE-TRAC™

Magnetic Level Indicators &
Instrument Bridle Solutions

A close-up of the QTS logo and product details. The logo features the letters 'QTS' in a stylized font with three dots to the left. Below it, the text reads 'Quest-Tec Solutions' and 'The New Standard of Level'. A QR code is also present. The background shows the industrial equipment and snow.

QTS
Quest-Tec Solutions
The New Standard of Level
www.questtec.com
1-800-288-8888

USA

Questtec

SOLUTIONS

MAGNE-TRAC™

LEVEL INDICATORS

Quest-tec Solutions is a leading supplier of magnetic level indicators, as well as traditional sight glasses and conductivity type remote level indicators for water indication in steam service. This wide range of products for level indication allows **Quest-tec Solutions** the option of providing the best technology for nearly any level application. The Magne-Trac™ level indicator is easy to install, low maintenance, and easy to view. Accessories include point level switches and transmitters to provide integration into plant control systems.

PRINCIPLE OF OPERATION

There are three major components of a Magne-Trac™ liquid level indicator: Chamber, Float and Indicator.

MAGNE-TRAC™ CHAMBER

The chamber may be constructed of any non-magnetic material, including austenitic stainless steel, alloys such as Alloy 20, and plastics. The chamber is typically mounted to the side of the vessel with an inlet and outlet that will allow the liquid level in the chamber to match the liquid level in the vessel, in the same manner that traditional sight glasses work. Magne-Trac Chambers are available to ASME B31.1 and 31.3, and utilize flange end closures for float access.

MAGNE-TRAC™ FLOAT

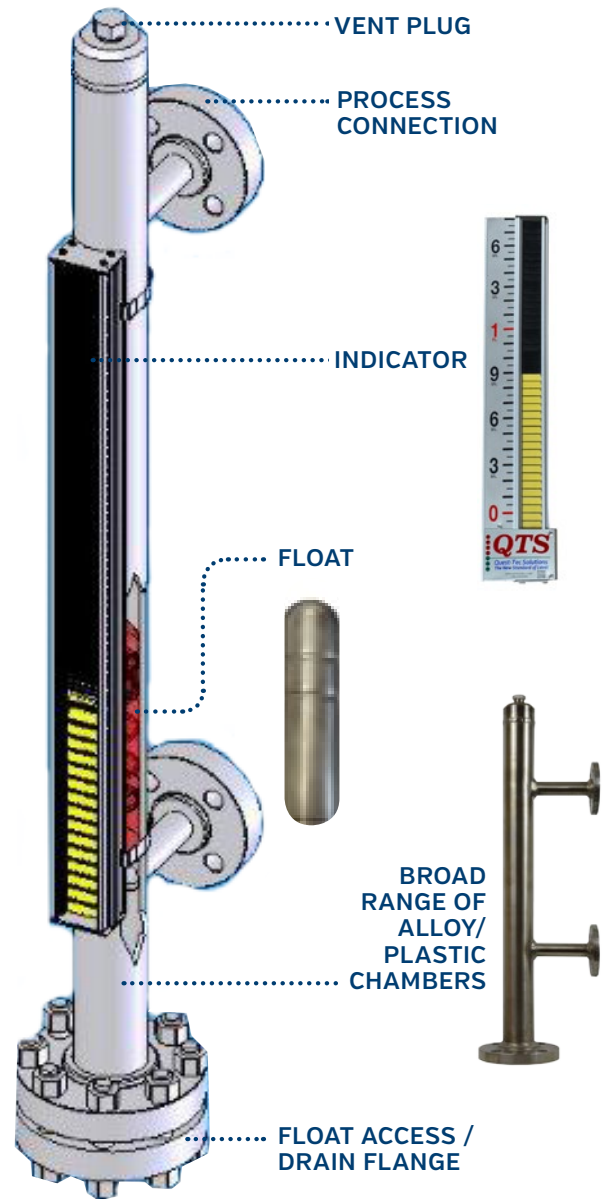
Standard floats are constructed of thin wall, deep drawn 316 Stainless Steel or Titanium. Optional materials are available. Each float is custom engineered for a specific application and operating process variables. The float houses a magnet array, designed to project a magnetic field through the chamber and to an externally mounted indicator assembly. Variables considered in the construction of a float are dependent on the temperature, pressure and liquid density, as well as material compatibilities.

MAGNE-TRAC™ INDICATOR

The standard indicator consists of anodized aluminum housing, rotating flags, and a clear cover. The standard UV stable Yellow/Black flags are uniquely constructed of high temperature molded nylon. The non-corrosive nature of the material eliminates problems with corrosion often encountered with the aluminum flag/stainless steel pins most commonly supplied in the market. Magne-Trac™ indicators are constructed with a UV scratch resistant polycarbonate window as standard, eliminating nuisance breakage of glass and allowing a high integrity fit. The flags are a wide 1.4" to enhance viewing. Each flag is assembled around a high temperature rare earth magnet assembly that ensures a latching action to eliminate false indication due to vibration.

SAMPLE SPECIFICATIONS

Magnetic Level Indicators shall be constructed of non-magnetic material. Floats shall be deep drawn, spherical end, with 360° magnet array. Indicators shall be housed in anodized aluminum. Flags shall be injection molded Amodel 1.4" in width. Flag color shall be Yellow [liquid] and Black [vapor]. The indicator shall be UV and scratch resistant polycarbonate. End closures for float access shall be flanged.



FEATURES

Innovative flag design—each flag contains two high strength magnets

360° Magnet Assembly for Consistent Flipper to Float Coupling

1.4" Wide Flag for enhanced Indicator view. Yellow-liquid, Black-vapor

Corrosion resistant moving parts

Impact resistant polycarbonate indicator window

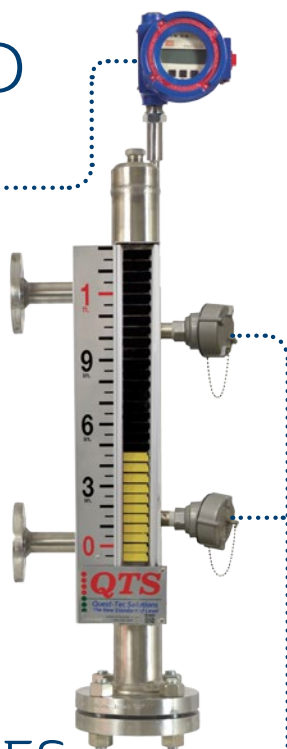
Standard Schedule 40 Chamber

Available to ASME B31.1/31.3 Standards

MAGNE-TRAC™

ACCESSORIES: TRANSMITTERS & SWITCHES

LIQUID LEVEL TRANSMITTER



MLT-5000 MAGNETOSTRICTIVE

The MTL-5000 is based upon the magnetostrictive principle. The sensing tube contains a wire which is pulsed at fixed time intervals. The interaction of the current pulse with the magnetic field created by the magnetic float causes a torsion stress wave to be induced in the wire. This torsion propagates along the wire at a known velocity from the position of the magnetic float and toward both ends of the wire. The microprocessor-based electronics measure the elapsed time between the start and return pulses and convert it into a 4-20 mA DC output which is proportional to the level being measured.

FEATURES

Designed to mount externally to the Magne-Trac™	NEMA 4X, IP65	Offers a 4 – 20 mA 2-wire loop powered circuit for continuous level measurement
Accuracy +/- 1mm [0.039in.] Repeatability 0.001% F.S. or 0.381 mm [0.015 in.]* *Whichever is greater	Modular design	Available in lengths up to 300 inches
No maintenance required	Adjustable output damping	Process temperature range: -40°F to 400°F
Multidrop HART Communications	Up to .001" resolution	Non-contact design ensures no wear to the sensing element, thus requiring no maintenance or recalibration
AMS Aware	2-wire loop powered	Available with 90° elbow to allow maximum measuring range in small clearance spaces
FM Approved Explosion Proof/IS	RFI/EMI protection	LCD display option available for local indication

SWITCHES

LEVEL SWITCHES

Quest-tec level switches are hermetically sealed, non-mercury, bi-stable latching switches designed for use with Magne-Trac level gages. The bias magnet design latches the switch maintaining the contact after the level continues to rise or fall. The switch will change state when the float magnet passes by. The switches are fully adjustable and non-invasive. Level switches are mounted to the Magne-Trac chamber with all 316 Stainless Steel worm gear pipe clamps. Switch points can be changed easily at any time without any interruption to the visual indication or process.

MODEL	Max Volts	Max Current	Max Power	Dead Band	Max Temp	Min Temp	Contacts	Enclosure Classification
MTLS-1A	120 VAC/ 150 VDC	1.0 AMPS	25W	0.50 Inch	302°F	-40°F	SPDT	Class 1 Div 1 Groups B, C, D
MTLS-5A	125 /250 VAC	.5.0 AMPS	1200W					
MTLS-10A	0.5 amp @ 110VDC 250VAC	10.1 AMPS	2500W	0.50 inch	248°F	-40°F	2 SPDT	Class 1 & 2 Div 1 & 2 Groups B, C, D

–High temperature switches available that require special mounting and insulation–
–Consult Factory for Pneumatic Switch–

OPTIONS

HIGH-TEMP

Narrow Aluminum Flag for Temperature's exceeding 450°F – 850°F

Flags Red-Liquid, Silver-Vapor

TEMP CONTROL

High Temperature Flexible Insulation Blanket

Cryogenic Insulation with Non-Frost Extensions

Steam Tracing

Electric Heat Tracing

DRUM LEVEL INDICATOR

Meets ASME Boiler Code [PG60] for water remote level indicators on Boiler Drum

Not acceptable for Boilers operating at or above 900 PSI WSP

SCALE OPTIONS

Inches only

Metric (mm/cm)

Negative/Positive (boiler service)

Percent (0-100)

Volumetric (gallons, liters)

Offset zero (plus and minus scale divisions)

Decimal feet (0.1ft or 0.01ft.divisions)

Custom Scale (specify)

INDICATOR

Stainless Steel for Offshore

MAGNE-TRAC™

ACCESSORIES: TRANSMITTERS & SWITCHES

GUIDED WAVE RADAR TRANSMITTERS used in conjunction with Magne-Trac Plus and Bridle-Trac Bypass Chamber Series.

FMP51 ACCESSORY

Continuous level measurement of liquids, pastes and slurries but also for interface measurement. The measurement is not affected by changing media, temperature changes, gas blankets or vapors.

FEATURES	
Process connections	Thread or flange
Temperature	-40 to +200°C [-40 to +392°F]
Pressure	-1 to +40bar [-14.5 to +580psi]
Maximum measuring range	Rod 10m [33ft], rope 45m [148ft], coax 6m [20ft]
Accuracy	±2mm [0.08"]
Dielectric Constant	1.6 [Rod probe, Rope probe], 1.4 [Coax probe]
International explosion protection certificates, overfill prevention WHG SIL, marine approval, 5-point linearity protocol	



FMP54 ACCESSORY

Continuous measurement in liquids under extreme conditions. Excellent for steam boilers, toxic media using gas tight feed-through guarantee. Reliable results in case of gas and steam phases. Reliable in moving surface, foam and changing medias.

FEATURES	
Process connections	Thread or flange
Temperature	-196 to +450°C [-320 to +842°F]
Pressure	Vacuum -1 to +400bar [Vacuum -14.5 to +5,800psi]
Maximum measuring range	Rod 10m [33ft], Rope 45m [148ft], coax 6m [20ft]
Accuracy	Rod ±2mm [0.08"]
Dielectric Constant	1.6 [Rod probe, Rope probe], 1.4 [Coax probe]
International explosion protection certificates, overfill prevention WHG, SIL, marine approval, steam boiler approval, 5-point linearity protocol	



FMP55 ACCESSORY

Combination of capacitance and guided wave radar measuring principle in one device. The instrument guarantees safe measured value acquisition even in emulsion layers and issues level and interface layer signals simultaneously.

FEATURES	
Process connections	Thread or flange
Temperature	-50 to +200°C [-58 to +392°F]
Pressure	-1 to +40bar [-14.5 to +580psi]
Maximum measuring range	Rod 4m [13ft], rope 10m [33ft], coax 6m [20ft]
Accuracy	Rod ±2mm [0.08"]
Dielectric Constant	1.6 [Rod probe, Rope probe], 1.4 [Coax probe]
International explosion protection certificates, overfill prevention WHG, SIL, marine approval	



Endress+Hauser 
VAR PARTNER

INSTRUMENT BRIDLE SOLUTIONS

In addition to Magnetic Gage manufacturing, **Quest-tec** manufactures custom instrument bridles in several configurations, utilizing various technologies, including guided wave radar, buoyancy-based devices, process gages, boiler gage systems, differential pressure and other equipment needing to be attached to the bridle.

Advantage **Quest-tec** Solutions provides:

- **Single Point Responsibility** instruments, bridle, welding, testing, documentation
- **Isolation** ease of calibration and maintenance
- **Avoid interference between other devices**
- **Reduces Turbulence & Foam** improves measurement accuracy

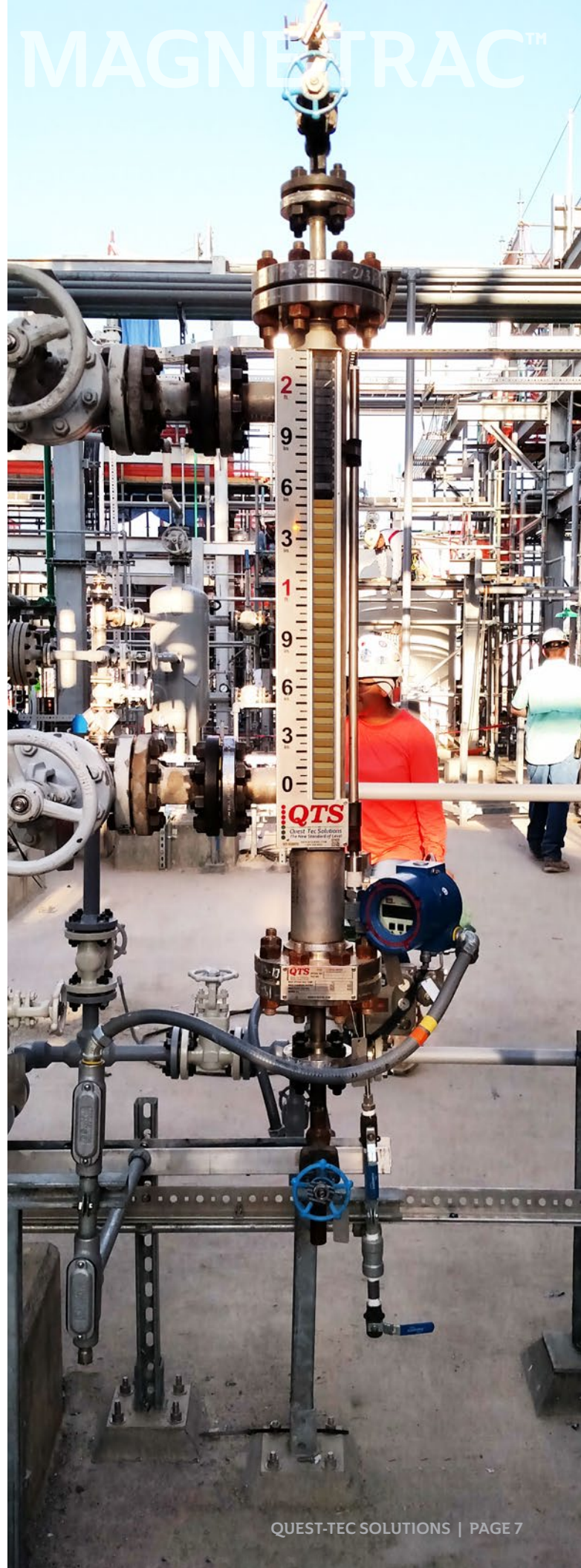


Quest-tec is an International Company with Representatives based throughout the world. Our Partners can assist with Commissioning Start Up and Calibration, 24 Hour Service and Repair Support.

866.240.9906

IMMEDIATE HELP VIA-REMOTE MAINTENANCE

Using the remote maintenance service TeamViewer, the QTS service technician can assist you immediately, check the instrument configuration and perform certain analysis.





40,000ft² climate controlled

Quest-tec Solutions Registration #0736



ASME "S" & "R"
Stamp holder



ISO 9001:
2008
Registered



ASME Sec. VIII
Div I BPVC
Certified
Manufacturing



CNC Precision
Machining for all
components

Questtec

SOLUTIONS

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