

A photograph of an industrial facility, likely a refinery or chemical plant, featuring a complex network of pipes, valves, and level gauges. The scene is partially covered in snow, suggesting a cold environment. A prominent vertical level gauge is visible on the left, with a scale ranging from 0 to 30 feet. A blue Questtec sensor is mounted on a pipe in the upper right. The background shows more industrial structures and a clear sky.

# MAGNE-TRAC™

## Product Catalog

**QTS**  
Quest-Tec Solutions  
The New Standard of Level

**Questtec**  
SOLUTIONS

**QTS**  
Quest-Tec Solutions  
The New Standard of Level

# The New Standard of Level

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# 1

A LEADER IN

## LIQUID LEVEL MEASUREMENT

## ABOUT QUESTTEC

**Questtec Solutions** has a long history of quality, experience, and care in the development and engineering of the liquid level gage and valve product lines.

Over the past fifty years, under the direction of Daniel Measurement and Control, **Questtec Solutions'** products have been consistently refined to remain one of the industry leaders in liquid level measurement. Today, **Questtec Solutions** carries on this legacy with renewed dedication in order to bring you real solutions.

**Questtec Solutions**, employs over 125 years of collective experience with all aspects of the liquid level gage and valve product lines. With a new state-of-the-art manufacturing facility, and custom weld shop fabrication services, **Questtec Solutions** is able to provide flexibility to tailor to its customer's specific needs.



## 125+ YEARS

of collective experience in liquid level gage and valve product lines



## NEW STATE-OF-THE-ART MANUFACTURING FACILITY



## CUSTOM WELD SHOP FABRICATION SERVICES

provide flexibility to tailor to its customer's specific needs

*When choosing your liquid level measurement solutions provider, why not choose the best? The symmetry of a field-tested, reputable product, coupled with the energy of new management, has positioned **Questtec Solutions** to be best suited to assist you in solving your liquid level measurement challenges.*

## Questtec Solutions delivers engineered solutions to meet the most complex level bridge requirements.

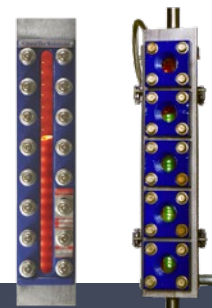
In addition to the existing Daniel Liquid Level Gage and Valve line, this new facility, allows **Questtec Solutions** to offer new products, which include:



**GLASS-TRAC LIQUID LEVEL GAGES & VALVES, LEGACY DANIEL LEVEL GAGES & VALVES**



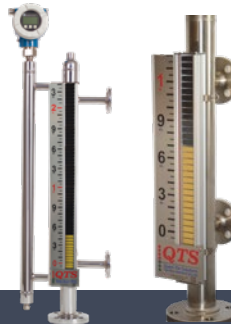
**LEVEL-TRAC STEAM & WATER LEVEL INDICATORS & ALARMS**



**STEAM-TRAC STEAM & WATER GAGES**



**TRANSMITTERS & SWITCHES**



**MAGNE-TRAC MAGNETIC GAGES**



**BRIDLE SOLUTIONS**

## WHY CHOOSE US

### At Questtec Solutions, we strive to exceed our customer's expectations by using a hands-on approach.

For every project, we take our customers through a step-by-step process to identify both cost efficient options, as well as, effective solutions for even the most challenging applications. Our approach, high quality products, and experienced team members are testimony to customer confidence in **Questtec Solutions** as a leader in the liquid level instrumentation industry.

✓ ENGINEERED SOLUTIONS

✓ WORLD CLASS MANUFACTURING FACILITY

✓ FULL-RANGE CAPABILITIES

✓ TOP NOTCH WELDING FACILITY



READY TO SPEC? TURN TO "07: SPECIFICATION MODEL GUIDE"

# MAGNE-TRAC™

A LEADER IN LIQUID LEVEL MANAGEMENT



## ENGINEERED SOLUTIONS

With collaborative efforts of our dynamic outside sales team and network of domestic and international product representatives, we provide quick insight and responsiveness that customers warrant. In addition, our knowledgeable inside sales team will work alongside production staff to deliver flexible lead times, a variety of options for customized bids, and explore all possible solutions for each individual project.



## FULL-RANGE CAPABILITIES

Engineering operations are an essential aspect of developing, adapting, and refining any product line. We offer complete engineering services to all of our customers. From the early development stages of projects, our accomplished engineers will review applications to find efficient solutions. Our approval drawings provide real options for customers' application in regards to applicable code and standards. We recognize that focusing on the engineering of each unit benefits in the assimilation of our products for seamless operations.



## WORLD CLASS MANUFACTURING FACILITY

Our manufacturing is split into three distinct skill centers: machining, fabrication, and assembly. All shop work is carefully documented and inspected throughout the manufacturing process. Our production planners follow assigned orders, and communicate job specific requirements to the shop floor. We maintain focus on quality, speed, exceeding customer expectations.

**CNC machining and laser engraving capabilities**



## TOP NOTCH WELDING FACILITY









### QUALIFICATIONS

Section IX Weld Procedures (WPS)	Procedure Qualifications (PQR)
Welder Certification (Level II Weld Inspector on Staff)	Conforms with PED (Pressure Equipment Directive)
Standard Welds GTAW	MTR (Material Test Reports)
PMI (Positive Material Identification)	Pressure Piping Stamp (PP)
NB-415 Accreditation of R Repair Organizations (R Stamp)	CNC Precision Manufacturing
ASME "S" & "R" Stamp and ANSI / ASME B 31.1, B31.3	Over 35 Weld Procedures for numerous material grades

### TESTING PROCEDURES

PWHT (Post Weld Heat Treat)	Dye-Penetration (performed in-house)
Radiography	Ultrasonic
Magnetic Particle Testing	Destructive Testing

## APPROVALS

 ATEX	 FM	 CSA	 NACE	 CRN	 IEC	 ISO 9001:2008 REGISTERED	 ASME SEC. I DIV 1 BPVC CERTIFIED
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# APPLICATION OPPORTUNITIES

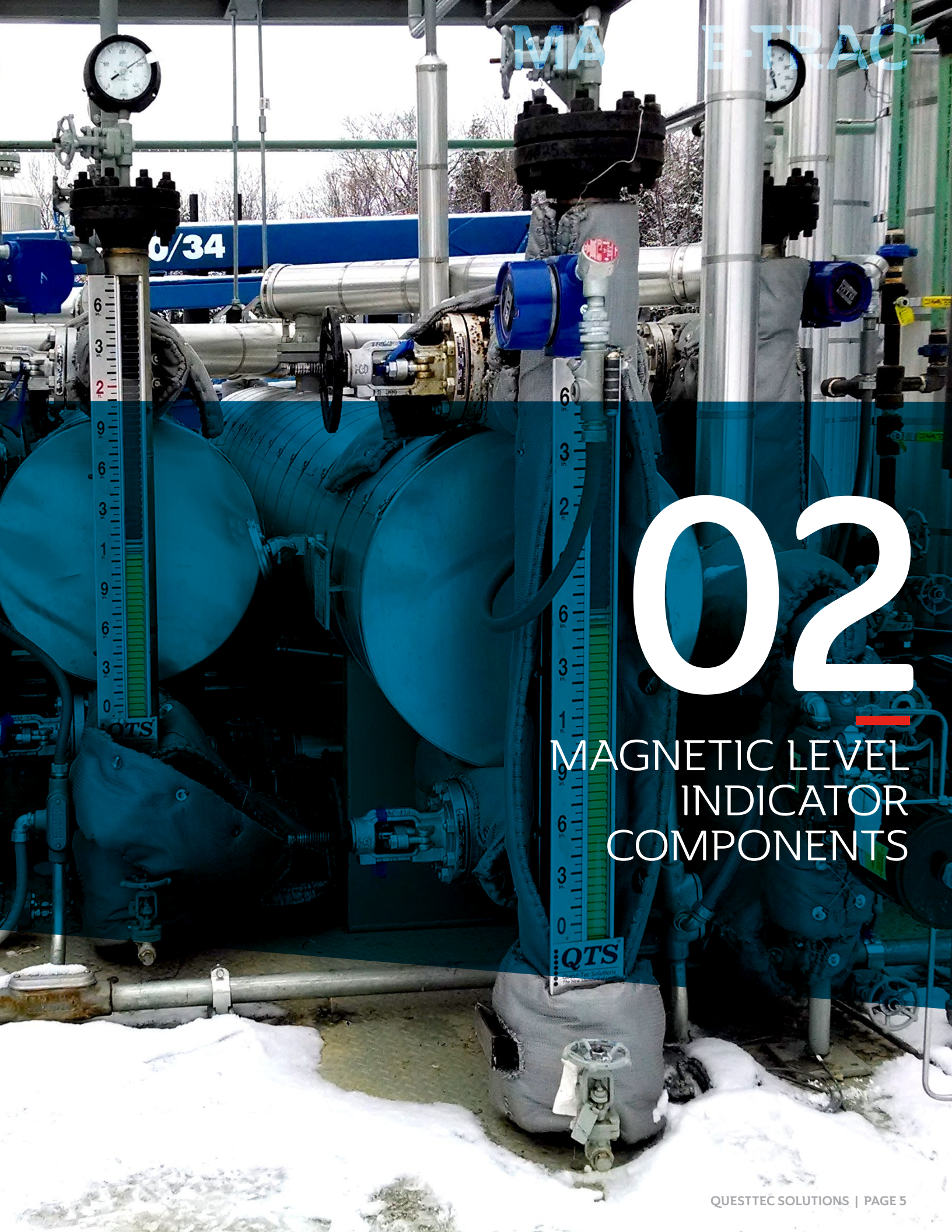
YOUR SOLUTION FOR LIQUID LEVEL MEASUREMENT

	CHEMICAL & PETROCHEMICAL
	METALS & MINERALS
	REFINING
	OIL & GAS
	POWER GENERATION
	AEROSPACE
	FOOD PROCESSING
	PULP & PAPER

0/34

# 02

## MAGNETIC LEVEL INDICATOR COMPONENTS



## MAGNETIC LEVEL INDICATOR COMPONENTS

### What is a Magnetic Level Indicator, or MLI?

At **Questtec Solutions**, we have built our business on a readiness to adapt to specific customer requirements in terms of customer materials, fabrication, and delivery requirements. Our standard configuration is by no means the limits to our capacity of supply.

A Magnetic Level Indicator (MLI) consists of 5 major components

Constructed of non-magnetic materials including standard 316 SST. Exotic materials such as Alloy 20 & Hastelloy C are available. Traditional inlet & outlet mounted design displaying liquid level to match the vessel level. Complete with flange end closure for accessibility to the float. Magne-Trac chambers are available to ASME 31.1 and 31.3.

#### FEATURES

Innovative Flag Design Maximizes Magnetic Field

Wide Flags for Enhanced Indicator View

Impact Resistant Polycarbonate Indicator Window

Corrosion Resistant Moving Parts

Wide Variety of Materials

Available to ASME 31.1 / 31.3 Standards



1

#### INDICATOR

Indicators provide a high-contrast visual representation of the liquid level.

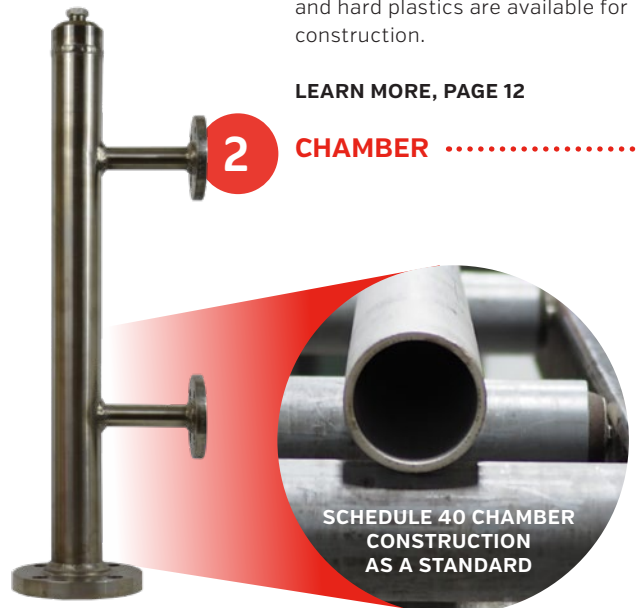
[LEARN MORE, PAGE 9](#)

A chamber is custom-engineered and constructed per the highest manufacturing standards. A wide range of non-magnetic materials such as stainless steel, exotic alloys, and hard plastics are available for construction.

[LEARN MORE, PAGE 12](#)

2

#### CHAMBER

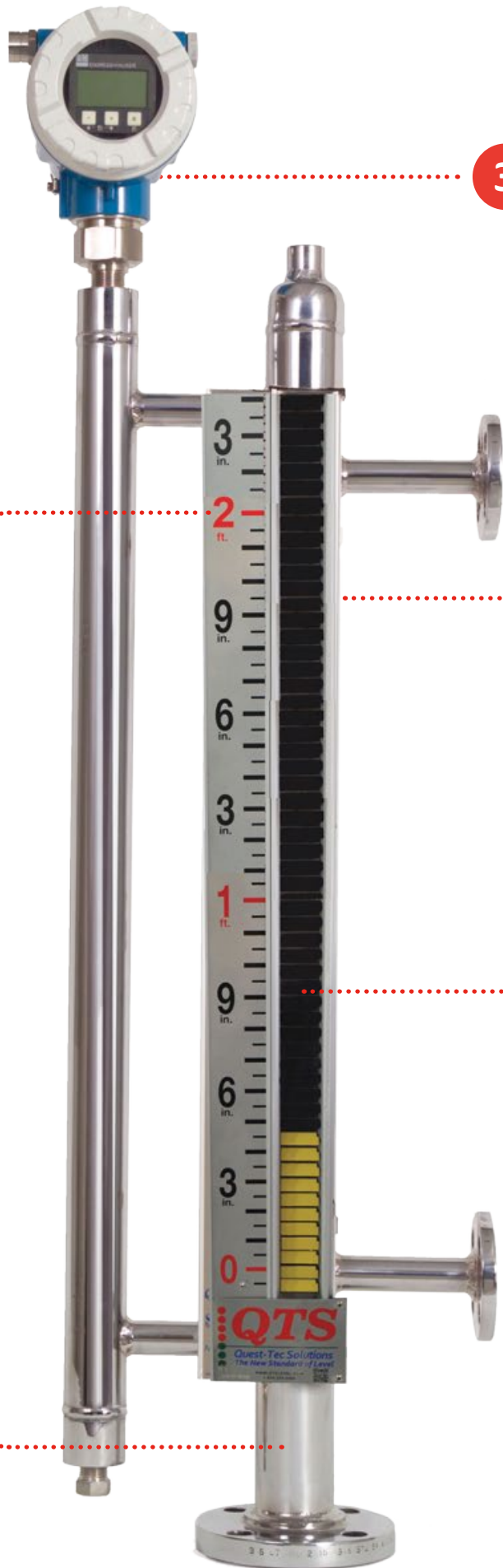


SCHEDULE 40 CHAMBER CONSTRUCTION AS A STANDARD



# MAGNE-TRAC™

MAGNETIC LEVEL INDICATOR COMPONENTS



3



**TRANSMITTER**  
Loop-powered level transmitters expand the functionality of a magnetic level indicator by providing process data back to the control room. (Magnetostrictive or Guided Wave Radar, as shown.)

**LEARN MORE, PAGE 17 & 18**

4



**SWITCH**  
Externally mounted magnetic level switches expand control capabilities of MLIs. These can be used as latching level alarms or level controls by sensing the position of the float in the chamber.

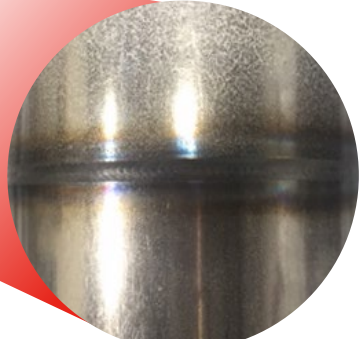
**LEARN MORE, PAGE 19**

5



**FLOAT**  
Engineered and designed to solve each level application, the float is the science behind accurate magnetic level measurement. Size, volume, weight, buoyant force, and construction technique are variables carefully considered before each float is manufactured. Smooth Autogenous welds on all floats producing an ultra-smooth weld, without bead which could interfere with the float's motion.

**LEARN MORE, PAGE 8**



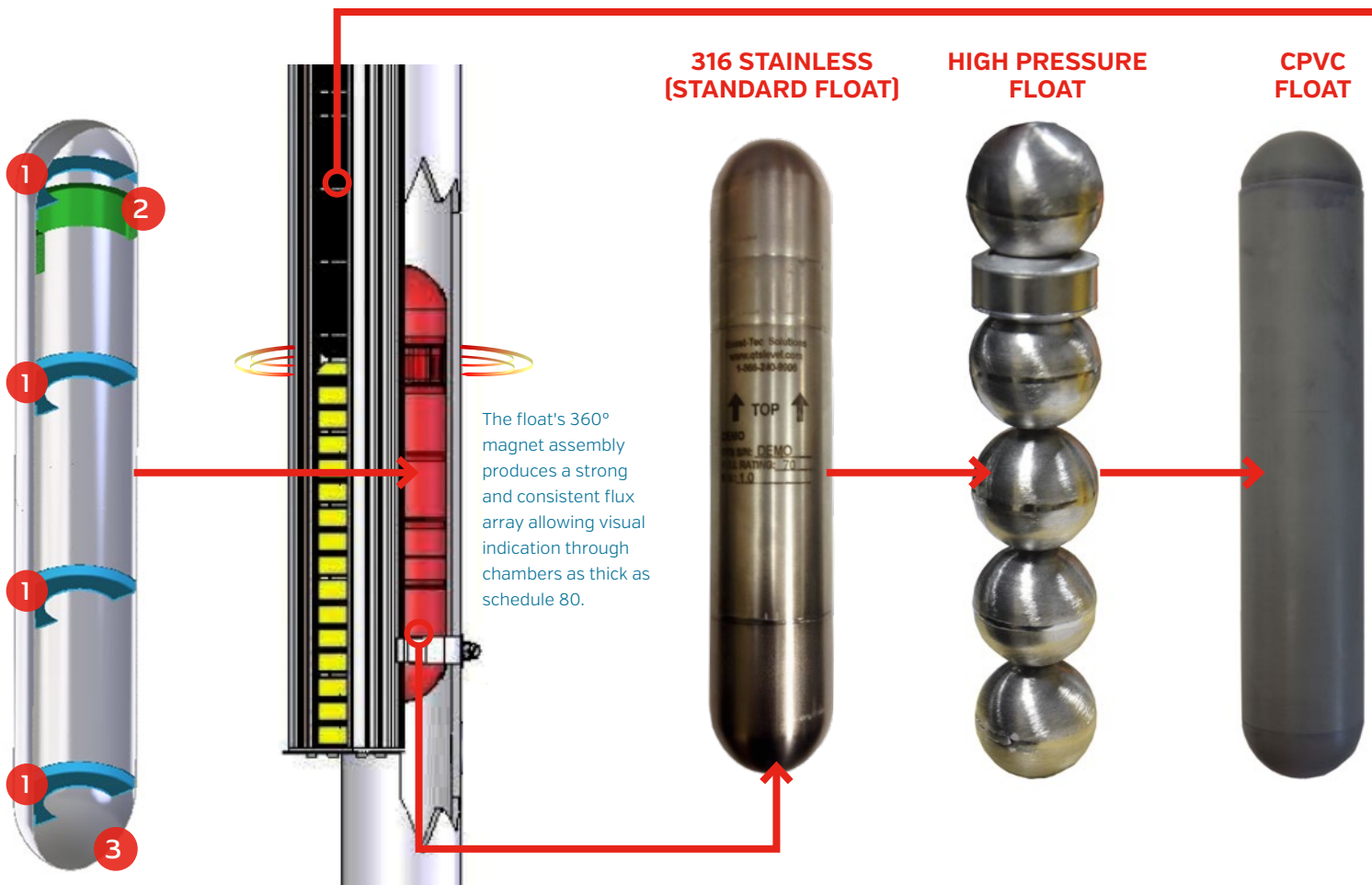
# MAGNE-TRAC™

MAGNETIC LEVEL INDICATOR COMPONENTS

## THE HEART OF THE QUESTTEC FLOAT TECHNOLOGY

### Precision Manufactured Float: The magnetic float is the most crucial component within Questtec Solutions' magnetic level indicators.

Constantly pushing the limits of design structure, buoyancy, density, weight and pressure Questtec stays on the cutting edge of innovation. Our engineers aim to provide customers with the most effective solutions no matter how difficult the applications or extreme the environments. Questtec boast solutions for a variety of unique high pressure/high temperature, flashing, interface and corrosive processes.



- 1. STIFFENING RINGS;
- 2. MAGNET;
- 3. FLOAT BODY

CAPABILITIES
Process pressures up to 4,500+ psig [310 bar] <sup>1</sup>
Process temperatures up to 1,000°F [538°C] <sup>1</sup>
Total level specific gravities as low as 0.33 <sup>1</sup>
Interface float designs available for liquid specific gravity differentials as little as 0.1
Adequate buoyancy to operate effectively and freely in many viscous liquids, including crude oil

<sup>1</sup>maximum capabilities can vary depending on combination of pressure, temperature, and media specific gravity

## WIDE FLAG INDICATOR DESIGN

Standard indicators consist of anodized aluminum housing; black & yellow rotating flags; and a clear UV scratch resistant polycarbonate window.

Each flag is 1.4" wide to heighten overall viewing capabilities from up to 200ft. The non-corrosive flag materials also eliminate problems with deterioration often encountered with market standard aluminum flag/stainless steel pins. Magne-Trac™ indicators are constructed with a UV scratch resistant polycarbonate window as standard, eliminating the fragility often encountered with glass while still forming a high integrity fit. The tightly sealed housing contains a single column wide flag assembly all aligned within an extruded aluminum case.

### SCALE OPTIONS

In addition to the standard stainless steel scale (graduated in feet and inches), other custom scale options are available

Inches only

Offset zero (plus & minus scale divisions)

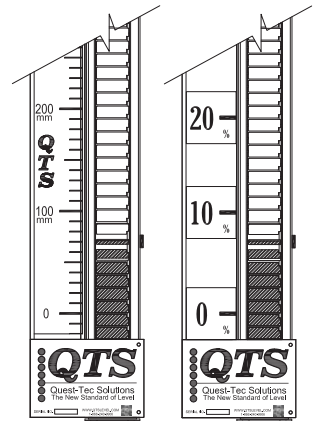
Negative/Positive (boiler service)

Percent (0 to 100)

Metric (mm/cm)

Volumetric (gallons, liters)

Decimal feet (0.1ft or 0.01ft.divisions)



Given the characteristics of every vessel are different, drawings or strapping tables must be supplied.

EACH FLAG CONTAINS TWO HIGH STRENGTH MAGNETS



# 200 FEET LEVEL VIEWING





# MAGNE-TRAC™



# 3

SAFE &  
ECONOMICAL  
MEASUREMENT  
WITH MAGNE-TRAC PRODUCTS

**QTS**  
 Quest-Tec Solutions  
 The New Standard of Level  
 MT-002583 WWW.QTLEVEL.COM  
 1-866-240-9906

MADE IN U.S.A.  
 MT-002583  
 # V40786 PO# 16990

## MAGNETIC LEVEL INDICATOR SPECIFICATION

### The Questtec Magne-Trac Engineered to your Specifications!

In applications for extreme pressure, temperature, vibration, and highly corrosive or hazardous material, the Magne-Trac gage will perform where others fail. Features include lower installation costs, easy to read liquid level indication, and low maintenance. The Magne-Trac gage is constructed of non-magnetic materials including standard 316 SST. Exotic materials such as Alloy 20 & Hastelloy C are also available. Traditional inlet & outlet-mounted design display liquid level to match the vessel level. Comes complete with flange end closure for accessibility to float. Magne-Trac chambers are available to ASME 31.1 and 31.3.



FEATURES	
Innovative Flag Design Maximizes Magnetic Field	Wide Flags for Enhanced Indicator View
Low Specific Gravities	Corrosion Resistant Moving Parts
Wide Variety of Materials	High Pressure Applications
Available to ASME B31.1/31.3 Standards	

SPECIFICATIONS		
Measuring Range	Standard single section	12 to 216in
	Multi section (custom)	>216in
Temperature Range	-320°F to 800°F	
Pressure Range	Full Vacuum to 4500 PSIG	
Minimum Specific Gravity	As low as 0.33	

\*Consult factory for additional limits/options

MATERIALS OF CONSTRUCTION			
Chamber Materials	Standard Alloys	304/304L 316/316L Other 300 series stainless	
	Plastics/ Composites	CPVC PVDF [KYNAR]	
	Exotic Allys	Titanium, Hastelloy-C276, Alloy20	
*NACE Material available on request			
Chamber Diameters	2" Sch 40 [Std]	2 1/2" Sch 40 or 80	3" Sch 40
Oversized Chamber (Flashing, Boiling & Dirty Service)	3" Sch 40 with smaller OD floats		
Process Connections	Pressure Class Ratings	ANSI 150#; 300#; 600#; 900#; 1500#; 2500#	
	Process Connection	1/2" to 10+ DN20 to DN150	
	Process Connection Types	MNPT, FNPT, Weldolet®, Sockolet®, Sockweld Flange, Weldneck Flange, Lap Joint Flange; RTJ Flanged, Plain Pipe Stub	

VISUAL INDICATION	
Indicator Flags	1.4" Wide Flag Assembly in Yellow/Black [Additional Colors Available on Request]
Indicator Housing	Anodized Aluminum Stainless Steel casing available upon request
Scale Options	Ft./Inches [Std.], Metric, Percentage, Volume, etc. Custom Scales Available

FLOAT SPECIFICATIONS	
Float Materials	316/316L, Titanium, Hastelloy-C276, Alloy 20, CPVC, PVDF [KYNAR]
Specific Gravity Range	As low as 0.33
Pressure	Up to 4500 PSIG @ 100°F
High Temp Magnets	Up to 1000°F *Selected by Questtec application

TEMPERATURE OPTIONS	
High	Insulation Blankets, Electric or Steam Tracing High Temperature Indicators, etc.
Low	Insulation Blankets, Cryogenic Insulation with Non-Frost Extensions, etc.

LEVEL TRANSMITTER & DISCRETE ALARM OPTIONS	
Transmitter Options	MTLT-5000 Magnetostrictive Guided Wave Radar [Use Page 22 for GWR Options]
Switch Options	MTLS-1A; MTLS-5A; MTLS-10A; MTLS-PNEU

## MAGNE-TRAC PLUS



The Questtec Magne-Trac Plus combines the rugged versatility of the Magne-Trac with the flexibility, accuracy and reliability of a Guided Wave Radar Transmitter inserted into a Bridle-Trac Bypass Chamber.

The two independent level measurement technologies provide true redundancy with minimum vessel penetration, and maximum ease of installation with virtually maintenance-free operation. Although either instrument may be connected to the vessel, **Questtec** recommends that the bridle function as the primary chamber. By using the magnetic gage as the secondary chamber, the customer will have the option to rotate the indicator up to 180 degrees easily in the field. The two chambers may be welded or flanged together; Questtec recommends installing valves in between the magnetic gage and bridle chamber so one may be isolated if necessary.

Change in the process tank level corresponds to change in the Magne-Trac Plus chamber. The float within the chamber actuates flags for visual indication. The instrument mounted within the second chamber also reacts according to the level change.

### SPECIFICATIONS

Measuring Range	Standard single section	12 to 216in
	Multi section (custom)	>216in
Temperature Range	-320°F to 800°F	
Pressure Range	Full Vacuum to 4500 PSIG	
Minimum Specific Gravity	As low as 0.33	
Unique Dual Chamber Design	True Independent Level Measurement Devices.	

\*Consult factory for additional limits/options

## BRIDLE-TRAC



The Questtec Bridle-Trac is an ideal means of utilizing the power of many technologies without mounting directly into process vessel.

The Questtec Bridle-Trac external chamber is a self-contained cage designed for use with our top mounting level transmitters or switches. Quality construction and a wide selection of configurations make this cage an ideal means of utilizing the power of our many technologies without mounting directly into the process vessel. The chamber is suitable for use with Guided Wave Radar, RF Capacitance Transmitters, Electronic point sensors and top mounted displacer switches. In addition, mount Level Gages and Valves to your Instrument Bridle for ease of maintenance.

### SPECIFICATIONS

Sealed or flanged-top chamber options

2" and 4" nominal chamber diameters to accommodate all sensing elements, Schedule 40 pipe as a minimum

Carbon steel or 316 stainless steel materials of construction

Rugged Questtec commercial construction available as well as ASME B31.3, ASME B31.1, NACE or combined NACE and ASME B31.3 construction options

Rated for pressures up to 5000 psi (345 bar)

For applications to 842°F (450°C)

Lengths for measuring ranges to twenty feet (6.1 m)

Broad selection of process connections sizes and types

Head flange bolting included with flange-top models

Suitable for use with RF capacitance transmitters, all electronic point sensors and top mounted displacer switches

Optimal design for use with Guided Wave Radar transmitter:

- Smallest possible chamber diameters
- Pressure rating to match High Temperature, High Pressure (HTHP) and High Pressure (HP) probes
- Temperature rating to match HTHP probe
- Space above and below measuring range to accommodate measurement transition zones

## ECO-TRAC

ECONOMICAL & SIMPLE



**Economical & Simple:** In applications that are low-pressure and operating near or at ambient pressure, an Eco-Trac is an great alternative.

The Eco-Trac is a strong featured, reliable, cost-effective package. Field adjustable visual indicator to convenient viewing with a shatter resistant viewing window; the Eco-Trac precision-engineered to ensure long service life.

### FEATURES

- High Quality 1.4" Wide Flag
- 150# Flange Pressure Class
- Switches and Transmitters available for expanded functionality.
- Float Accessible via Chamber Plug

### TECHNICAL

<b>Materials</b>	316 SST & 304 SST
<b>Pipe Diameter</b>	2" Sch. 40
<b>Minimum Specific Gravity</b>	0.65 SG
<b>Maximum Indication Length (C-C)</b>	72"
<b>Pressure Rating</b>	Full Vacuum to 285 psig
<b>Temperature Rating</b>	-40°F to 450°F [-40° to 232°C]
<b>Indicator Type</b>	Flag Indicator

\*Carbon Steel / Stainless Steel Combos available upon request.  
Please contact sales for details

### APPLICATIONS

Oil Water Separators	Hot Wells	Surge Tanks
Stage Tanks	Day Tanks	and many others

## ACCESSORIES:

TRANSMITTERS & SWITCHES



**MTLS-1A** 1 AMP  
**MTLS-5A** 5 AMP



**MTLS-10A** 10 AMP



**MTLT-5000**



**Guided Wave Radar**



1-323-24-108  
1" 150# RF 50G  
SA 182 316SS FLANGE

1-327-01-011  
STANDARD BLIND  
SA 182 316SS FLANGE

PN:1-323-18-108  
SIZE: 1" - 150#  
RFSW - SCH 40  
MAT:316SS

1-323-15-332P  
2" X 1/2" 300# RF THD REG  
SA 182 316SS FLANGE

23-18-620  
2" X 3/4" 300# RFWN  
MAT:316SS

PN:1-323-15-351P  
SIZE: 2" X 3/4" 150# RFWN  
SCH: XXH  
MAT:MONEL

PN:1-323-15-320P  
SIZE: 2" X 1/2" 150#  
RFTHD  
MAT:316SS

1-323-18-622

# 4

## OPTIONAL EQUIPMENT

1-323-15-344  
2" 300# RFWN SCH 40  
SA 182 316SS FLANGE

1-327-01-023S  
STANDARD BLIND  
SA 182 316SS FLANGE

PN:1-323-18-164  
SIZE: 3/4" 300# RFSW  
SCH: 40  
MAT:316SS

PN:1-323-15-388P  
SIZE: 1 1/2" X 3/4" 300# RF  
MAT:316SS

PN:1-323-15-389P  
SIZE:1" 300# RFWN  
SCH 160  
MAT:316SS

PN:1-323-15-390P  
SIZE: 1" 300# RFWN  
SCH 40  
MAT:316SS

PN:1-323-18-229

PN:1-323-18-140

1-323-18-704  
2" 300# RFWN SCH 40  
SA 182 316SS FLANGE

PN:1-323-18-200  
SIZE: 2" X 1" 300# RFSW SCH 40  
MAT: SA 182 316SS FLANGE



## OPTIONAL EQUIPMENT

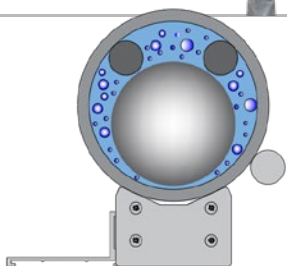
These items are listed on the Specification Guide for items to add to our MLI.

### HIGH-TEMPERATURE INSULATION



**Questtec Solutions** specializes in custom fiberglass insulation blankets for MLIs of all shapes and sizes. They are constructed with high-quality materials capable of constant contact with temperatures up to 1,000° F [538° C]. This insulation is available as personal protection or with heat tracing options for freeze protection or process temperature maintenance.

### OVERSIZED CHAMBERS (BOILING FLUIDS, FLASHING VAPORS & DIRTY SERVICE)



Used to uniformly heat or cool process fluid. Over sized chamber allows vapors to pass floats when a fluid is close to vapor pressure and can be used in fluids with small suspended particles. Also, used in conjunction with Teflon S coating for non-stick. [Boiling Liquids, Flashing Vapors and Dirty Service]

Applications:

- Light Hydrocarbons
- Liquid Nitrogen
- Propane
- Anhydrous Ammonia
- Methane (or any pressure-liquified gas)
- Carbon Dioxide

### HERMETICALLY-SEALED FLAG INDICATOR



**No gaskets: can't leak or fog**

Designed to meet needs of chemical wash down, severe environments and offshore industry. Flag indicators are purged with inert gas and permanently sealed in:

- Glass tubing with 100% fused glass end seals to 550° F [287° C] process temperatures

### HEAT TRACING: ELECTRIC & STEAM



For applications where process freeze protection or temperature maintenance is required, heat tracing will allow the MLI to operate uninterrupted throughout harsh, cold conditions.

Electric Heat Tracing is available in self-regulating, constant wattage, and mineral insulated varieties. Contact the factory for more information.

### CRYOGENIC INSULATING & FROST EXTENSION



To facilitate operation where the product is kept cold via chillers, refrigerants, and condensers, cryogenic insulation is provided. By insulating the MLI with a specialized cryogenic jacket, process temperatures can be maintained in the liquid state down to -320° F [-195° C].

A frost extension option is available to prevent ice from collecting on the visual indicator, thereby decreasing the visibility. The extension is constructed of durable acrylic plastic and is provided standard with all cryogenic insulation

### MAGNETIC PARTICLE TRAP



Magnetic Particle Traps provide protection for MLIs. The particles are composed mostly of ferrite, often from carbon steel piping. The trap keeps magnetic particles out of float chamber. The Trap fits in line with the process connection. The trap collects the particles which can be cleaned periodically to ensure continued operation of the magnetic level indicator.

# 5

ACCESSORIES  
TRANSMITTERS  
& SWITCHES

## MAGNETOSTRICTIVE LIQUID LEVEL TRANSMITTER

MTLT-5000



### PRINCIPLES OF OPERATION

The MTLT5000-Magnetostriuctive M or L Series 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

High Accuracy	4/20mA Analog with HART
AMS Aware	Two Channel Output
Explosion Proof and/or Intrinsically Safe	No scheduled Maintenance or Recalibration (due to non-contact design of sensing element)
Designed and Tested with Questtec Magne-Trac Series	

### SPECIFICATIONS

LEVEL OUTPUT	
Full Range	.5 ft. to 25 ft.
Non-Linearity	.035% of Full Scale
Repeatability	.01% of Full Scale or 0.015in [0.381]*
Operating Temperature	Electronics: -40°F [-40C] to 160°F [71C] Sensing Element: -40°F [-40°C] to 257°F [125°C] Chambered Temperature: -40°F 9-40°C] to 400°F [204°C]
Output: Signal/Protocol	Standard 4-20mA DC, 2 Wire HART
Inherent Accuracy	+,-[.] 0.039in [1mm] 20" [508mm] to 300" [7620mm]
TRANSMITTER LOOP	
Input Voltage	10.5-28 VDC
Fail Safe	High (>21.4mA), or Low (<3.8mA)
CALIBRATION	
Zero Adjust Range	Anywhere within active length
Span Adjust Range	FS > 6" from zero
FIELD INSTALLATION	
Mounting	Z Brackets to Mag-Gage
Wiring	2-wire twisted shielded cable 3/4" FNPT Conduit Opening
ENVIRONMENTAL	
Housing Type	NEMA Type 4X Epoxy Coated Cast Aluminum, 316L Stainless Steel
Humidity	0 to 100% humidity, non-condensing
HOUSING OPTIONS/ DIMENSIONS	
Single and Dual Cavity	3/4" FNPT Conduit M20 for ATEX/IECEX Version
Safety Approval	FM/CSA: Explosion-Proof Class I, Groups B, C, D Class II, Groups E, F, G Division I, NEMA 4X
	FM/CSA: Intrinsically Safe Class I, Groups A, B, C, D Class II, Groups E, F, G Division I, NEMA 4X



## GUIDED WAVE RADAR FOR REDUNDANT LEVEL TECHNOLOGY

The E&H Guided Wave Radar works with high-frequency radar pulses which are guided along a probe.

These top mounted, direct insertion radars measure interface and direct level of liquids and solids, both of high and low pressures and temperatures. GWR technology provides dependable level indication through pulsating high-frequency, microwave energy down the probe within a bypass chamber. A GWR will read the true level of the process, even in the density diverges over time.

### PRINCIPLES OF OPERATION

Levelflex works with high-frequency radar pulses which are guided along a probe. As the pulse impacts the medium surface, the characteristic impedance changes and part of the emitted pulse is reflected. The time between pulse launching and receiving is measured and analyzed by the instrument and constitutes a direct measure for the distance between the process connection and the product surface.



FMP51

FMP54

FMP55

### FEATURES

Mounts in bridle chamber to the Magne-Trac and provides Redundant Level	No wet calibration required, simple setup without adjustment
Simultaneous acquisition of interface layer and total level of clear and emulsions interface	Not affected by density of the medium
High Measuring accuracy	Models available to meet applications up to 752° at 5800 psi

Endress+Hauser VAR PARTNER

### FMP51

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

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

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



## SWITCHES

Questtec level switches are hermetically sealed, non-mercury, bi-stable latching switches, which are designed for use with Magne-Trac level gages.

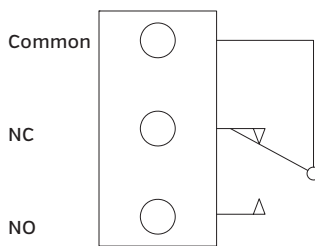
### LEVEL SWITCHES

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.

Standard Enclosure is Cast Aluminum Junction box. Optional, Stainless Steel Junction box. Enclosure Rating is FM/CSA. Level Switches are C Clamp mounted on MLI (standard), clamp mounted on MLI with insulation pad and or attached to a switch mount rod.

### SWITCH WIRING

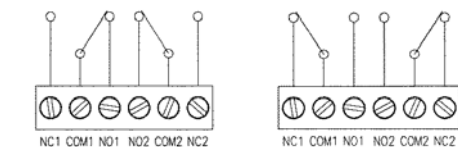
MTLS-1A & 5A



Green = Common  
Red = NC  
Blue = NO

Red [NC] = Closed when float below switch  
Blue [NO] = Closed when float above switch

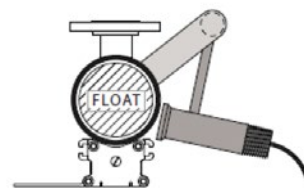
MTLS-10A



Contacts position when Float is higher than switch

Contacts position when Float is lower than switch

A switch mount rod is an available alternative method for mounting the MTL to an MLI when insulation is present. The rod assembly, which is welded to the MLI chamber, allows the switch to slide along the full length. When the desired position is selected, simply tighten it in place. Consult Factory.



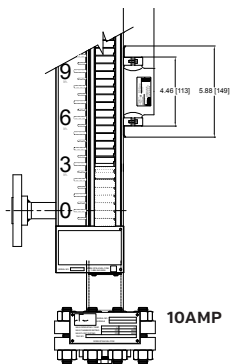
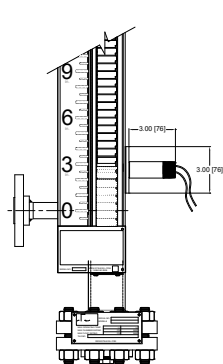
MTLS-1A  
MTLS-5A



MTLS-10A

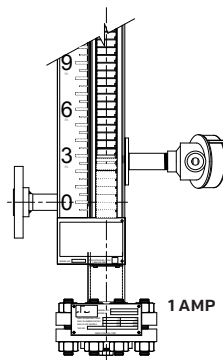


MTLS-PNEU



10AMP

All switches field adjustable. Loosen the mounting clamps and position at desired location. Ensure that the switch always remains in close proximity to the internal float.



1AMP

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 [150°C]	-40°F [-40°C]	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 [120°C]	-40°F [-40°C]	2 SPDT	Class 1 & 2 Div 1 & 2 Groups B, C, D
MTLS-PNEU			Consult Factory	0.50 Inch	200°F [93°C]	0°F [-17°C]		

# MAGNE-TRAC™

## PRODUCTS

# MAVRICK IN-TANK TRANSMITTER

MEASURE MORE WITH LESS



The Mavrick In-Tank liquid level transmitter satisfies the demand for an accurate and robust liquid-level sensor with unsurpassed flexibility to meet most process application conditions.

The Mavrick transmitter provides 3-in-1 measurement using one process opening for product level, interface level, and temperature measurements. Once the transmitter is installed and calibrated there is no requirement for scheduled maintenance or recalibration. **Set it and forget it!**

### FEATURES

3-in-1 Measurement: Product, Interface, Temperature	No Scheduled Maintenance or Recalibration
Inherent Accuracy ±1mm	Integral Display
Intrinsically Safe & Hazardous Area Certified	API Temperature Corrected Volumes

### APPLICATIONS

Inventory Control	Bulk Storage	Custody Transfer
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### LEVEL OUTPUT

Measured Variable	Product level and interface level
Output signal /Protocol	Modbus RTU, DDA, Analog [4-20 mA], HART®
Order length	Flexible hose: 1575 mm [62 in.] to 22000 mm [866 in.] ΔS
Inherent Accuracy	±1 mm [0.039 in.]
Repeatability	0.001% F.S. or 0.381 mm [0.015 in.] * [any direction]

### TEMPERATURE OUTPUT

Measured Variable	Average and multi-point temperatures [Modbus, DDA] Single point temperature [Analog, HART®]
Temperature Accuracy [Modbus, DDA]	±0.2 °C [0.4 °F] range -40 °C [-40 °F] to -20 °C [-4 °F], ±0.1 °C [0.2 °F] range -20 °C [-4 °F] to 70 °C [158 °F], ±0.15 °C [0.3 °F] range 70 °C [158 °F] to 100 °C [212 °F], ±0.5 °C [0.9 °F] range 100 °C [212 °F] to 105 °C [221 °F]
Temperature Accuracy [Analog, HART®]	±0.28 °C [0.5 °F] range -40 °C [-40 °F] to 105 °C [221 °F]

### ENVIRONMENTAL

Enclosure Rating	NEMA Type 4X, IP65
Humidity	0 to 100% relative humidity, non-condensing
Operating Temperatures	Electronics: -40 °C [-40 °F] to 71 °C [160 °F] Sensing element: -40 °C [-40 °F] to 125 °C [257 °F] ◇ Temperature element: -40 °C [-40 °F] to 105 °C [221 °F]
Vessel Pressure	Flexible Hose: 260 psi [18 bar]
Materials	Wetted parts: 316L stainless steel † Non-wetted parts: 316L stainless steel, Epoxy coated aluminum

### DISPLAY

Measured Variables	Product level, interface level and temperature
--------------------	--

### ELECTRONICS

Input Voltage	10.5 to 28 Vdc
Fail Safe	High, Full scale [Modbus, DDA] Low, 3.5 mA default or High, 22.8 mA [Analog, HART®]
Rev. Polarity Protection	Series diode

### MOUNTING

Flexible Hose	1 in. Adjustable MNPT or BSPP fitting, Flange mount
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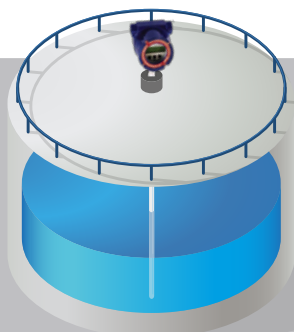
### WIRING

Connections	4-wire shielded cable or twisted pair, Daniel Woodhead 6-pin male connector, 4570 mm [180 in.] Integral cable with pigtail
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### ELECTRICAL CONNECTIONS

Single & Dual Cavity	¾ in. FNPT conduit opening, M20 for ATEX/IECEx version
NEMA Type 4X	½ in. FNPT conduit opening Low, 3.5 mA default or High, 22.8 mA [Analog, HART®]

\* Whichever is greater | Δ Contact factory for longer lengths. |  
◇ Contact factory for specific temperature ranges.



Product Level  
Interface Level  
Temperature

## 3-IN-1 MEASUREMENT

# 6

CUSTOM  
BRIDLE  
SOLUTIONS

## INSTRUMENT BRIDLES SOLUTIONS

In addition to Magnetic Gage manufacturing, **Questtec** manufacturers 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.



## ADVANTAGES

- ✓ 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

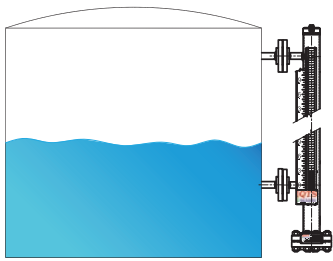


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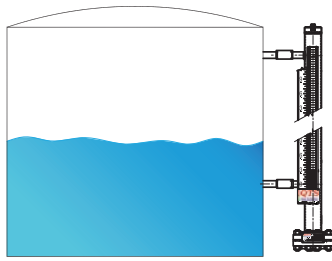
## OUR SPECIFICATION & MODEL CODE GUIDES

## TYPICAL TANK CONFIGURATIONS

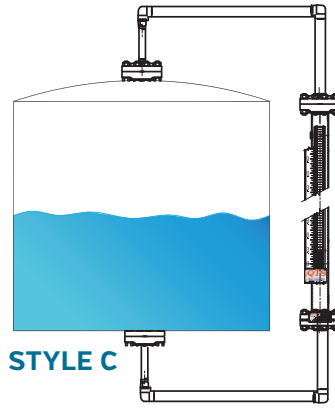
QUESTTEC SOLUTIONS



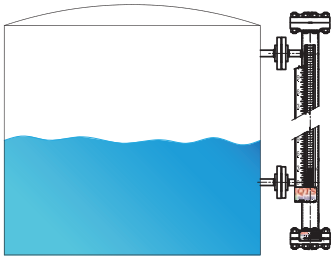
STYLE A



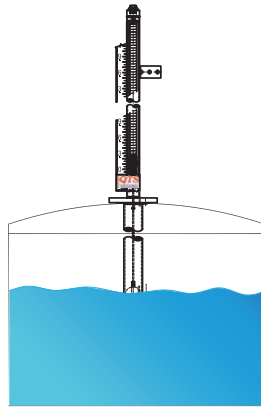
STYLE B



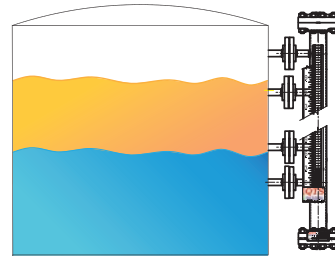
STYLE C



STYLE D



STYLE H



INTERFACE



# MAGNE-TRAC™

## SPECIFICATION SHEET

Endress+Hauser  VAR PARTNER

# MAGNE-TRAC PLUS

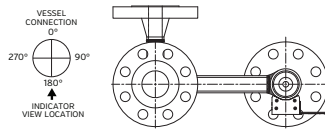
## MODEL NUMBER

The **Questtec Solutions** Magne-Trac Plus combines the Magne-Trac magnetic level gage with the Bridle-Trac bypass chamber. It may be used with our VAR Partner E&H GWR or customer specified radar for redundant level measurement. See page 4 for listing of our partners GWR models. The Magne-Trac Plus is recommended in applications that require both visual and electronic level viewing.

### MTP ORIENTATION

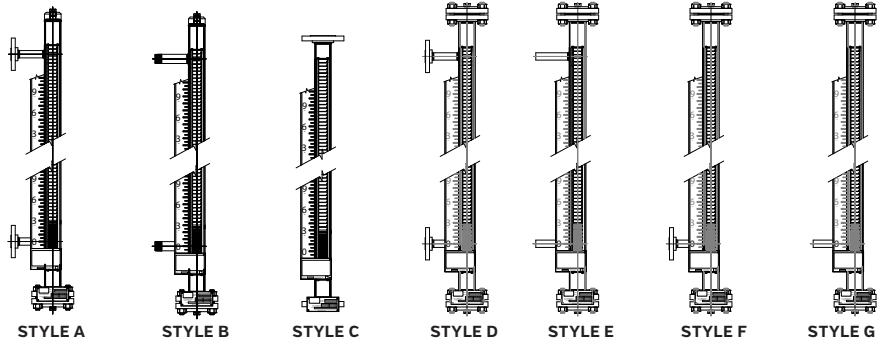
(ONLY 1 ACCESSORY ALLOWED PER POSITION)

INDICATOR	AT TRANSMITTER	SWITCHES
○ 90°	○ 90°	○ 90°
○ 180°	○ 180°	○ 180°
○ 270°	○ 270°	○ 270°

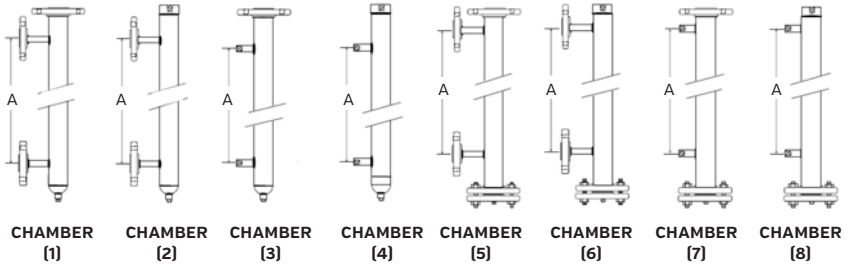


Note: Overall length will always be greater than measuring length (ML). Please specify if a max overall length is required.

### MTP STYLES



### BRIDLE STYLES



**MAGNE-TRAC™ PLUS**

**MLI MATERIAL**  
 4S = 304 SS  
 4C = 304 SS/CS  
 6S = 316 SS  
 6C = 316 SS/CS  
 MN = Monel  
 TI = Titanium  
 HC = Hastelloy C  
 CP = CPVC  
 CS = Customer Specified

**VESSEL CONNECTION**  
 04 = 1/2"  
 06 = 3/4"  
 08 = 1"  
 10 = 1 1/4"  
 12 = 1 1/2"  
 16 = 2"  
 20 = 2 1/2"  
 24 = 3"  
 CS = Customer Specified

**TOP BRIDLE CONNECTION**  
 06 = 3/4"  
 08 = 1"  
 10 = 1 1/4"  
 12 = 1 1/2"  
 16 = 2" [Std.]  
 20 = 2 1/2"  
 24 = 3"  
 CS = Cust. Specified

**FLANGE CLASS**  
 01 = 150#  
 03 = 300#  
 04 = 400#  
 06 = 600#  
 09 = 900#  
 15 = 1500#  
 25 = 2500#  
 CS = Customer Specified  
 [All Styles Use a Flange for End Closure]

**SPECIFIC GRAVITY**

**MAXIMUM PRESSURE**

**MAXIMUM TEMPERATURE**

**"C-C" DIMENSION**

**These parameters must be based on Maximum Operating Conditions and are the basis for Float construction.**

**INDICATOR STYLE**  
 WF = Wide Flag  
 ST = Follower  
 HF = High Temp Flag  
 XX = None

**VENT/DRAIN**  
 XX = None  
 XA = 1/2" Vent or Drain  
 XB = 3/4" Vent or Drain  
 XC = 1" Vent or Drain  
 AA = 1/2" Top Vent & 1/2" Drain [NPT]  
 BB = 3/4" Top Vent & 1/2" Drain [NPT]  
 CC = 1" Top Vent & 1" Drain [NPT]  
 AB = 1/2" Top Vent & 3/4" Drain [NPT]  
 AC = 1/2" Top Vent & 1" Drain [NPT]  
 BA = 3/4" Top Vent & 1/2" Drain [NPT]  
 BC = 3/4" Top Vent & 1" Drain [NPT]  
 CA = 1" Top Vent & 1/2" Drain [NPT]  
 CB = 1" Top Vent & 3/4" Drain [NPT]  
 CS = Customer Specified

**BRIDGE CHAMBER SIZE**  
 16 = 2" [Std.]  
 24 = 3"  
 32 = 4"  
 CS = Cust. Specified

**BRIDGE MATERIAL**  
 3C = A105 CS  
 4S = 304 SS  
 6S = 316 SS  
 MN = Monel  
 TI = Titanium  
 HC = Hastelloy C  
 CP = CPVC  
 CS = Cust. Specified

**RADAR**  
 Z = No Radar  
 G = Guided Wave  
 F = Free Space

**CHAMBER**  
 SO = Slip on Flanges  
 IV = Inverted Chamber  
 WN = Weld Neck Flanges  
 SL = Stub End/Lap Joint Flanges  
 RJ = Ring Joint Flanges  
 BW = All Butt Weld Construction  
 B1 = ASME B31.1  
 B3 = ASME B31.3

**SCALE/INDICATOR**  
 MS = Metric Scale  
 PS = Percentage Scale  
 NS = Negative Scale  
 SH = SS Indicator Housing  
 SS = Custom Scale [specify]  
 FE = Non Frost Extension  
 DI = Dual Indication  
 IF = Interface Indication  
 AR = Arrow Pointers

**TEMP CONTROL**  
 CI = Cryogenic Insulation w/ Frost Extension  
 HB = High Temp Insulation Blanket  
 EH = Electrical Heat Tracing  
 FP = Freeze Protection [Electrical]  
 ST = Steam Tracing  
 VD = Vent & Drain Valves [Specify Type]  
 IS = Isolation Valves [Specify Type]

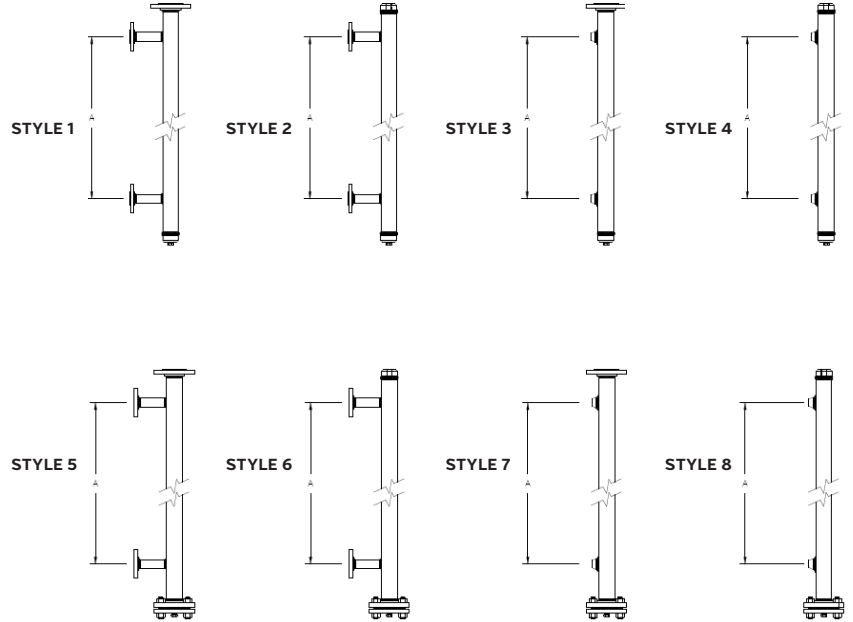
**TESTING/MATERIAL**  
 CRN = ABSA Certifications  
 NM = NACE MR0175

**TRANSMITTER/SWITCHING**  
 MT = Magnetostrictive Transmitter  
 RX = Reed Switches [Specify Amperage]  
 LG = Level Gage

## BRIDLE-TRAC

### MODEL NUMBER

The **Questtec Solutions** Bridle-Trac utilizes a pipe chamber mounted directly to a vessel with two or more process connections. These connections act as an inlet and outlet that allow the liquid level in the pipe chamber to match the level in the process vessel. A Bridle-Trac may be referred to in the industry as a bridle chamber, a stilling well, a bypass chamber, a cage or a standpipe. It may be used with a customer specified radar for level measurement. All standard chambers are manufactured to Questtec's Heavy Duty Design. Requirements to ASMEB31.1, 31.3 and NACE Design is available upon request.



<b>BT</b>														
BRIDLE-TRAC™									"C-C" DIMENSION			OPTIONS		
	<b>CHAMBER MATERIAL</b> 3C = A105 CS [Std.] 4S = 304 SS 6S = 316 SS MN = Monel TI = Titanium HC = Hastelloy C CP = CPVC CS = Cust. Specified	<b>VESSEL CONNECTION</b> 04 = 1/2" 06 = 3/4" 08 = 1" [STD.] 10 = 1 1/4" 12 = 1 1/2" 16 = 2" 20 = 2 1/2" 24 = 3" CS = Cust. Specified	<b>FLANGE CLASS</b> XX = NONE 01 = 150# 03 = 300# 04 = 400# 06 = 600# 09 = 900# 15 = 1500# 25 = 2500#	<b>CHAMBER STYLE</b> 1 = See Chart [Std.] 2 = See Chart 3 = See Chart 4 = See Chart 5 = See Chart 6 = See Chart 7 = See Chart 8 = See Chart Z = Cust. Specified	<b>TOP CONNECTION</b> 03 = 3/8" 04 = 1/2" 06 = 3/4" 08 = 1" 10 = 1 1/4" 12 = 1 1/2" 16 = 2" [Std.] 20 = 2 1/2" 24 = 3" CS = Cust. Specified	<b>CHAMBER SIZE</b> 16 = 2" [Std.] 20 = 2 1/2" 24 = 3" 32 = 4" CS = Cust. Specified	<b>MAXIMUM PRESSURE</b>	<b>MAXIMUM TEMPERATURE</b>	<b>VENT/DRAIN</b> XX = None XA = 1/2" Vent or Drain [NPT] XB = 3/4" Vent or Drain [NPT] XC = 1" Vent or Drain [NPT] AA = 1/2" Side Vent & 1/2" Drain [NPT] BB = 3/4" Side Vent & 3/4" Drain [NPT] CC = 1" Side Vent & 1" Drain [NPT] AB = 1/2" Side Vent & 3/4" Drain [NPT] AC = 1/2" Side Vent & 1" Drain [NPT] BA = 3/4" Side Vent & 1/2" Drain [NPT] BC = 3/4" Side Vent & 1" Drain [NPT] CA = 1" Side Vent & 1/2" Drain [NPT] CB = 1" Side Vent & 3/4" Drain [NPT] CS = Customer Specified	<b>CHAMBER</b> SO = Slip on Flanges IV = Inverted Chamber WN = Weld Neck Flanges SL = Stub End/Lap Joint Flanges RJ = Ring Joint Flanges BW = All Butt Weld Construction B1 = ASME B31.1 B3 = ASME B31.3	<b>TEMP CONTROL</b> CI = Cryogenic Insulation with Frost Extension HB = High Temp Insulation Blanket EH = Electrical Heat Tracing FP = Freeze Protection [Electrical] ST = Steam Tracing VD = Vent & Drain Valves [Specify Type] IS = Isolation Valves [Specify Type]	<b>These parameters must be based on Maximum Operating Conditions and are the basis for Float construction.</b>	<b>RADAR</b> Z = None G = Guided Wave F = Free-Space	<b>TESTING/MATERIAL</b> CRN = Canadian Registration No. NM = NACE MR0175 <b>TRANSMITTER/SWITCHING OPTIONS</b> MT = Magnetostrictive Transmitter RX = Reed Switches [Specify Amperage] LG = Level Gage

# MAGNE-TRAC™

## SPECIFICATION SHEET

# LEVELFLEX FMP51

## MODEL NUMBER

Levelflex FMP51 for level measurement even under extreme process conditions like high temperature and high pressure in the process industry. FMP51 offers maximum reliability even in case of moved surface and foam or when numerous tank baffles interfere with the measurement. Levelflex FMP51 is used for 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.



Endress+Hauser   
VAR PARTNER

LEVEL-FLEX											
LEVELFLEX FMP51											
<b>SECTION 1: APPROVAL:</b> AA = Non-hazardous area CA = CSA C/US General Purpose C2 = CSA C/US IS Cl.I,II,III Div.1 Gr.A-G, NI Cl.1 Div.2, Ex ia C3 CSA C/US XP Cl.I,II,III Div.1 Gr.A-G, NI Cl.1 Div.2, Ex d FB FM IS Cl.I,II,III Div.1 Gr.A-G, AEx ia, NI Cl.1 Div.2 FD FM XP Cl.I,II,III Div.1 Gr.A-G, AEx d, NI Cl.1 Div.2 8A FM/CSA IS+XP Cl.I,II,III Div.1 Gr.A-G	<b>DISPLAY, OPERATION</b> A = Without, via communication C = SD02 4-line, push buttons + data backup function E = *SD03 4-line, illum., touch control + data backup function	<b>ELECTRICAL CONNECTION</b> A = Gland M20, IP66/68 NEMA4X/6P B = Thread M20, IP66/68 NEMA4X/6P C = Thread G1/2, IP66/68 NEMA4X/6P D = Thread NPT1/2, IP66/68 NEMA4X/6P I = Plug M12, IP66/68 NEMA4X/6P	<b>SEAL</b> A4 = Viton, -30...150°C/-22...302°F B3 = EPDM, -40...120°C/-40...248°F C3 = Kalrez, -20...200°C/-4...392°F, saturated steam max 150°C/302°F E1 = *FVMQ, -40...150°C/-40...302°F	<b>PROBE</b> AA = 300 mm, rod 8mm 316L AB = 12 inch, rod 1/8" 316L AC = 300 mm, rod 12mm 316L AD = 12 inch, rod 1/2" 316L AL = 300 mm, rod 12mm AlloyC AM = 12 inch, rod 1/2" AlloyC BA = 591 mm, rod 16mm 316L, 500mm divisible BB = 23 inch, rod 0.63in 316L, 20inch divisible BC = 1091 mm, rod 16mm 316L, 1000mm divisible BD = 43 inch, rod 0.63in 316L, 40inch divisible LA = 1000 mm, rope 4mm, 316, max 150mm nozzle height, center rod MB = 1000 mm, rope 4mm 316, max 300mm nozzle height, center rod LB = 40 inch, rope 1/8" 316, max 6in nozzle height, center rod MD = 40 inch, rope 1/8" 316, max 12in nozzle height, center rod UA = 300 mm, coax 316L UB = 12 inch, coax 316L UC = 300 mm, coax AlloyC UD = 12 inch, coax AlloyC	<b>CALIBRATION</b> F4 = 5-point linearity protocol F3 = *3-point linearity protocol	<b>PROBE DESIGN</b> MB = Sensor remote, 3m/9ft cable, detachable+ mounting bracket MC = *Sensor remote, 6m/18ft cable, detachable + mounting bracket MD = *Sensor remote, 9m/27ft cable, detachable + mounting bracket	<b>MARKING</b> Z1 = stainless steel tag <b>ACCESSORY MOUNTED</b> NC = Gas-tight feed through NA = Overvoltage protection OA = Rod center washer d=75mm/2.95", 316L pipe diameter DN80/3" + DN100/4" OB = Rod center washer d=45mm/ 1.77", 316L pipe diameter DN50/2" + DN65/2-1/2" OC = Rope center washer d=75mm/2.95", 316L pipe diameter DN80/3" + DN100/4" OD = Rod center washer d=48-95mm/ 1.88-3.74", PEEK, interface measurement, pipe diameter DN50/2" + DN100/4"	<b>POWER SUPPLY; OUTPUT</b> A = 2-wire; 4-20mA HART C = 2-wire; 4-20mA HART, 4-20mA E = 2-wire; FOUNDATION Fieldbus, switch output G = 2-wire; PROFIBUS PA, switch output K = 4-wire 90-253VAC; 4-20mA HART L 4-wire 10,4-48VDC; 4-20mA HART	<b>HOUSING</b> C = GT20 dual compartment, Alu coated B = GT18 dual compartment, 316L A = GT19 dual compartment, Plastics PBT	<b>PROCESS CONNECTION</b> AEJ = 1-1/2" 150lbs RF, 316/316L flange ANSI B16.5 AQJ = 1-1/2" 300lbs RF, 316/316L flange ANSI B16.5 AQM = 1-1/2" 300lbs, AlloyC>316/316L flange ANSI B16.5 AFJ = 2" 150lbs RF, 316/316L flange ANSI B16.5 AFM = 2" 150lbs, AlloyC>316/316L flange ANSI B16.5 ARJ = 2" 300lbs RF, 316/316L flange ANSI B16.5 ARM = 2" 300lbs, AlloyC>316/316L flange ANSI B16.5 AGJ = 3" 150lbs RF, 316/316L flange ANSI B16.5 AGM = 3" 150lbs, AlloyC>316/316L flange ANSI B16.5 ASJ = 3" 300lbs RF, 316/316L flange ANSI B16.5 ASM = 3" 300lbs, AlloyC>316/316L flange ANSI B16.5 AHJ = 4" 150lbs RF, 316/316L flange ANSI B16.5 ATJ = 4" 300lbs RF, 316/316L flange ANSI B16.5 AJJ 6" 150lbs RF, 316/316L flange ANSI B16.5 AKJ 8" 150lbs RF, 316/316L flange ANSI B16.5	

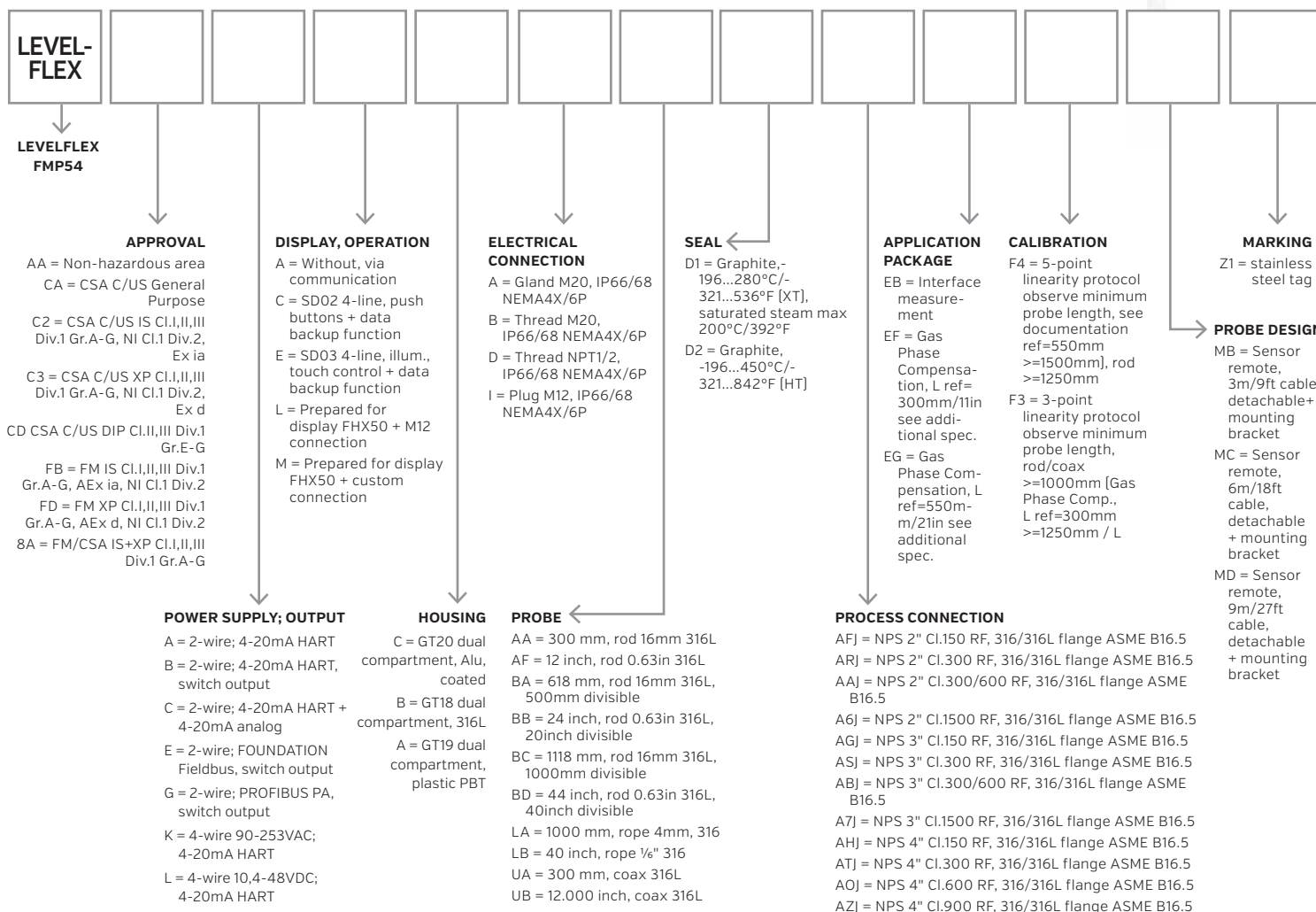
# LEVELFLEX FMP54

## MODEL NUMBER

Levelflex FMP54 for continuous level measurement in liquids under extreme conditions. The process connection with its ceramic-graphite seal safeguards high temperature and high pressure applications as they occur in steam boilers and toxic media like ammonia. The gas tight feed through guarantees additional safety. Only the gas phase compensation of the FMP54 gives reliable results in case of gas and steam phases. Reliable measurement in case of moving surface and foam or in changing medias.



Endress+Hauser   
VAR PARTNER



# MAGNE-TRAC™

## SPECIFICATION SHEET

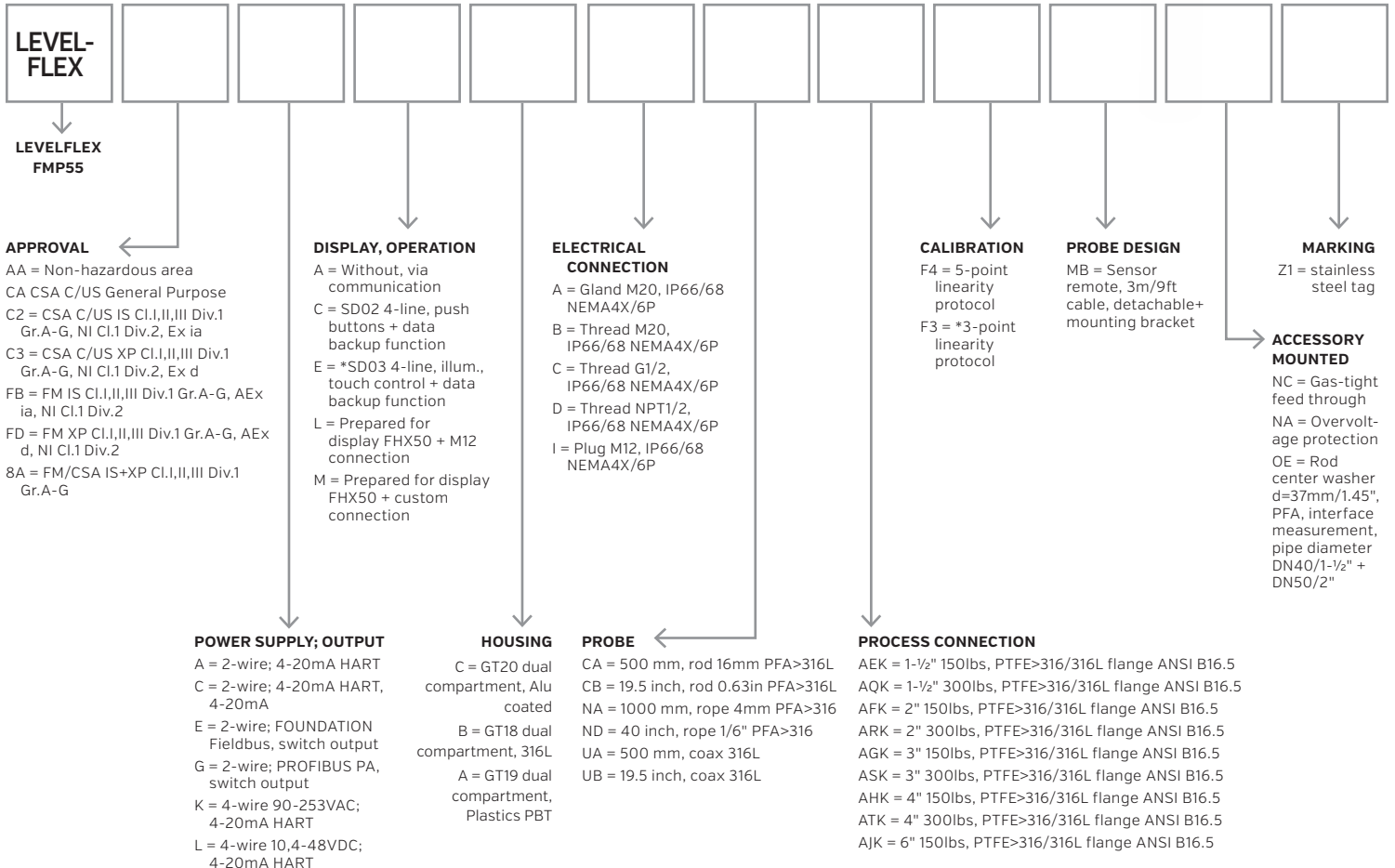
# LEVELFLEX FMP55

## MODEL NUMBER

Levelflex FMP55 guided radar with SensorFusion offers the worldwide first combination of the capacitance and guided 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. This makes the FMP55 Multiparameter the new standard in interface measurement especially in the oil & gas, chemical and petrochemical industry.



Endress+Hauser   
VAR PARTNER

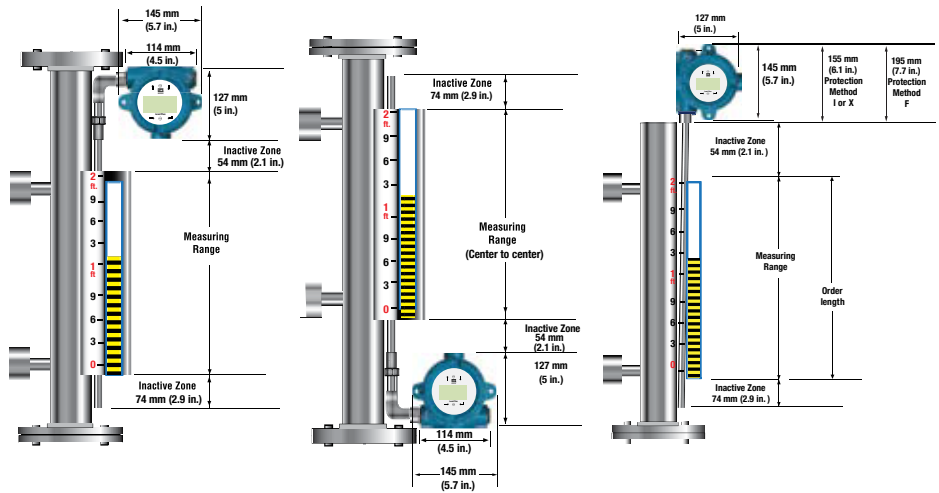




# MTLT 5000

MODEL NUMBER

The MTLT-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. A patented piezo-magnetic sensing element placed in the transmitter assembly converts the received mechanical torsion into an electrical return pulse. The microprocessor-based electronics measures the elapsed time between the start and return pulses and converts it into a 4-20 mA DC output which is proportional to the level being measured.

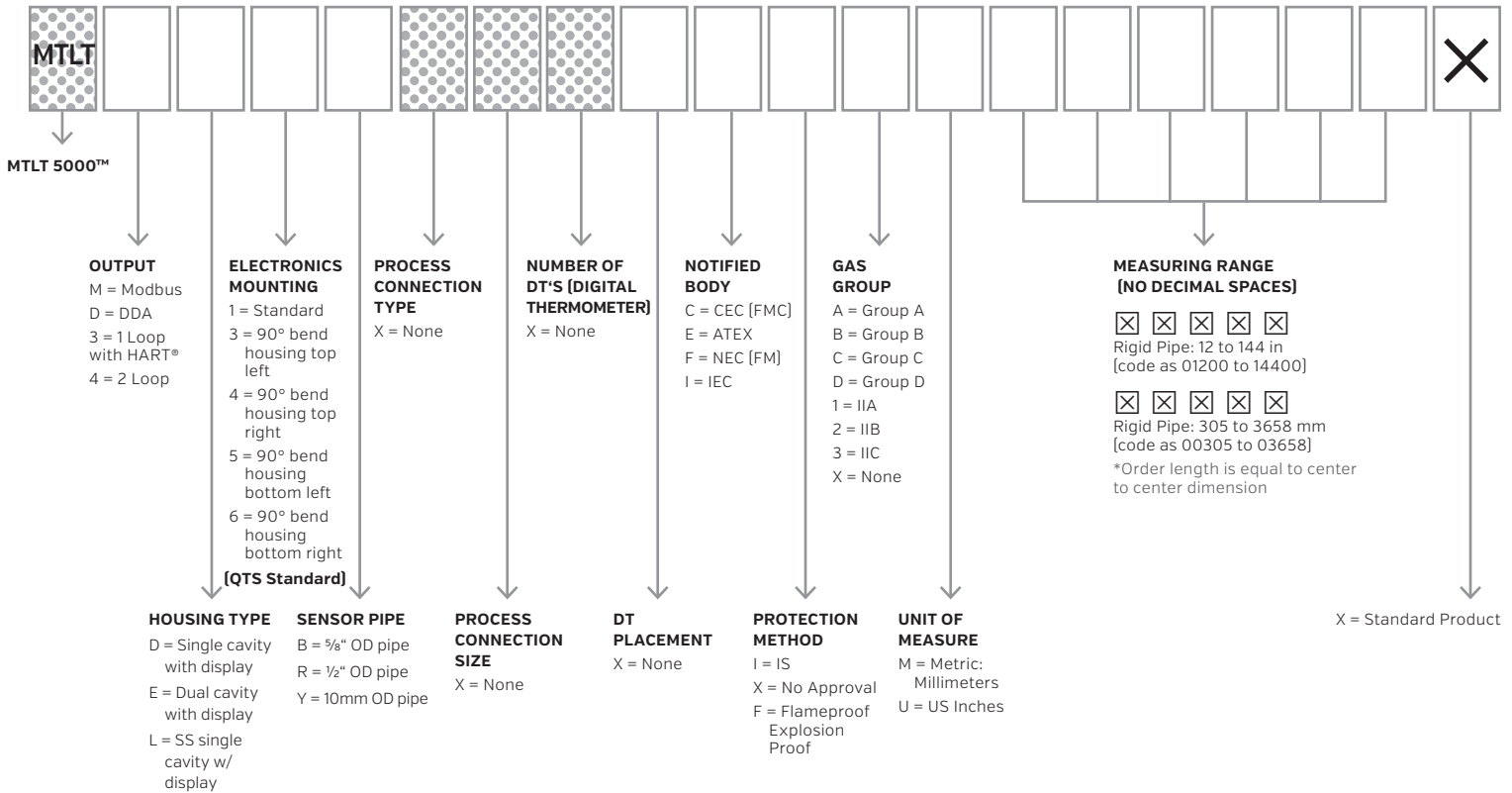


ELECTRONICS MOUNTING '4'  
TOP RIGHT

ELECTRONICS MOUNTING '6'  
BOTTOM RIGHT

ELECTRONICS MOUNTING '1'  
TOP MOUNT

### "QTS STANDARD"





3  
in.

**Questtec** 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 Questtec service technician can assist you immediately, check the instrument configuration and perform certain analysis.



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**New Standard of Level**

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40,000ft<sup>2</sup> climate controlled

# Questtec

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