MAGNE-TRAC

PRODUCT CATALOG

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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 bridle 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:

MAGNE-TRAC MAGNETIC GAGES

TRANSMITTERS & SWITCHES

BRIDLE SOLUTIONS

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

STEAM-TRAC STEAM & WATER GAGES

LEVEL-TRAC STEAM & WATER LEVEL INDICATORS & ALARMS

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
"06: SPECIFICATION MODEL GUIDE"

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" and "U, Div. 1" Stamp / 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

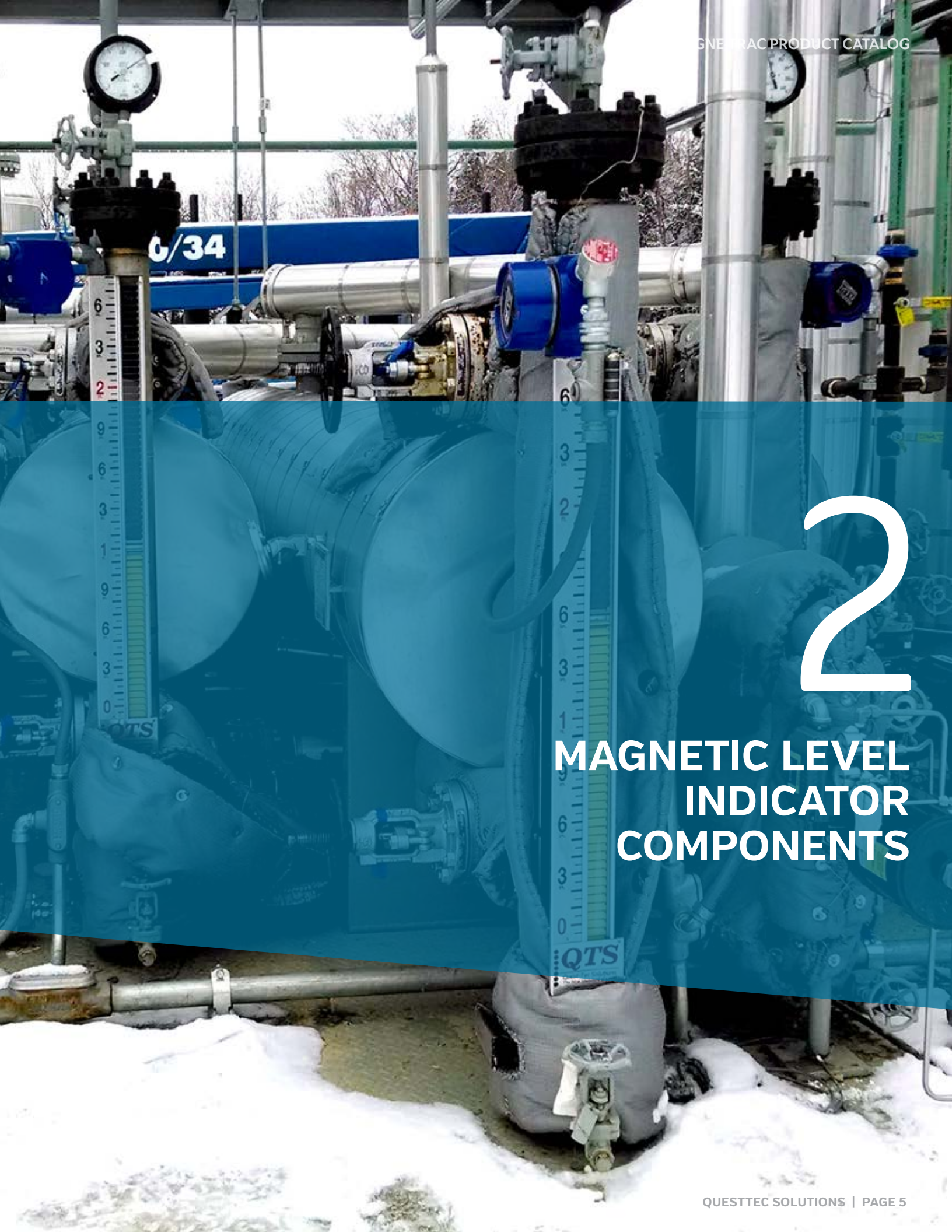
APPLICATION OPPORTUNITIES

YOUR SOLUTION FOR LIQUID LEVEL MEASUREMENT

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

APPROVALS

ATEX | FM | CSA | NACE | CRN | IEC



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MAGNETIC LEVEL INDICATOR COMPONENTS

MAGNETIC LEVEL INDICATOR COMPONENTS

What is a Magnetic Level Indicator, or MLI?

An MLI is a safe and effective way to provide local level indication. With options for non-invasive/externally mounted instrumentation, such as magnetic level switches and transmitters, make the technology a go-to solution for many difficult and demanding applications that require reduced leak points with clear, visible, and reliable level indication. 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.

1 **INDICATOR**

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

LEARN MORE, PAGE 9

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

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**

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 18 – 24

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.

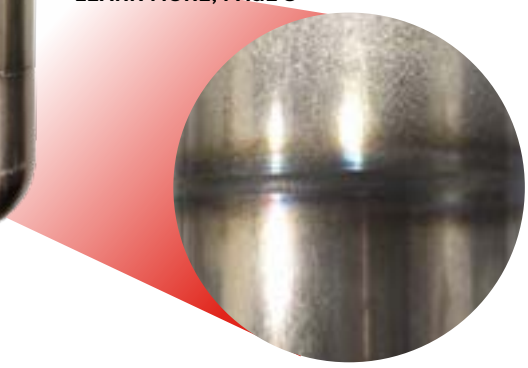
LEARN MORE, PAGE 22

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

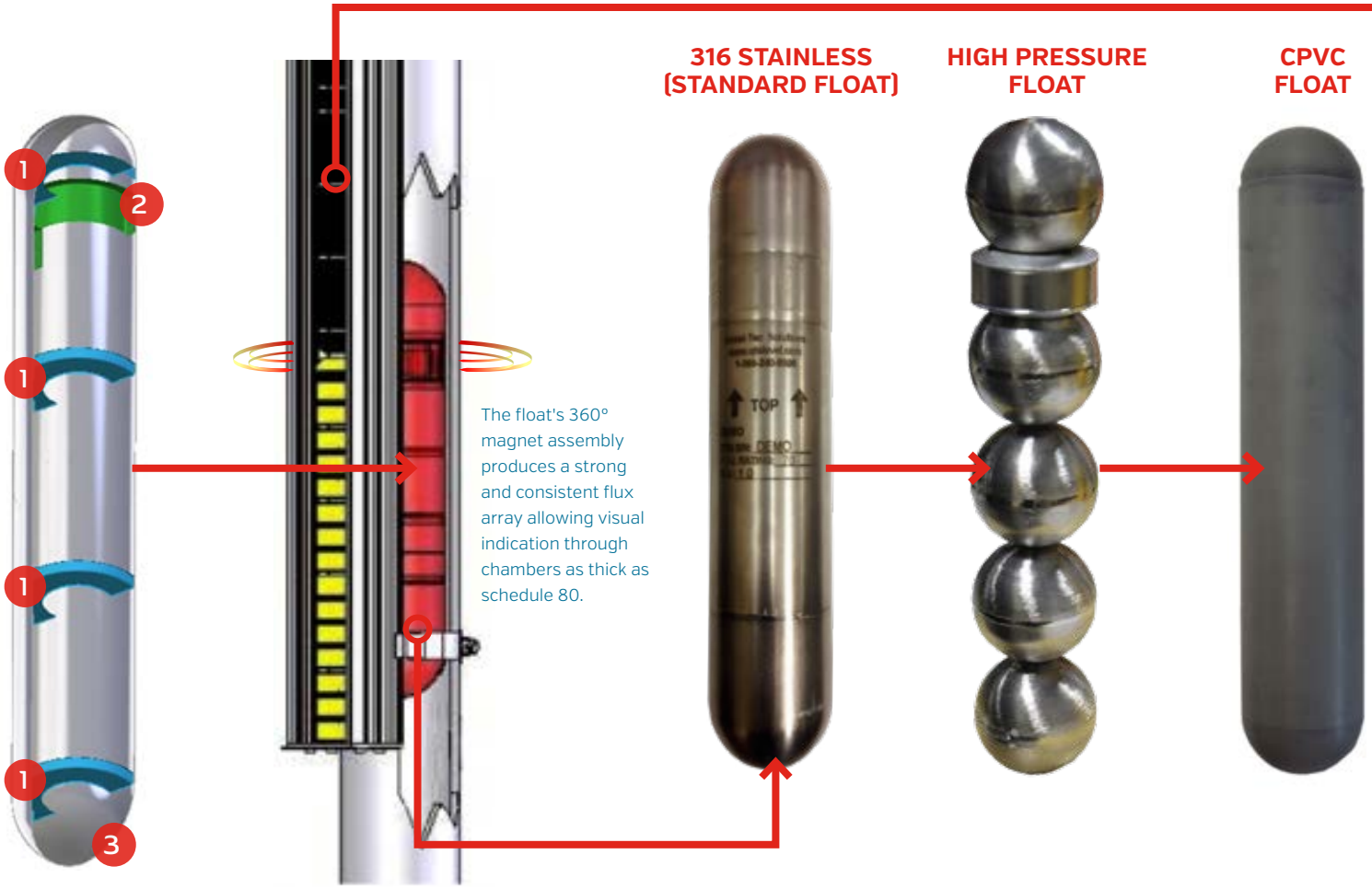


THE HEART OF THE QUESTTEC FLOAT

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)[1]
Process temperatures up to 800°F (427°C)[1]
High tempature magnets to 1000°F (538°C)
Total level specific gravities as low as 0.33[1]
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

[1]maximum capabilities can vary depending on combination of pressure, temperature, and media specific gravity

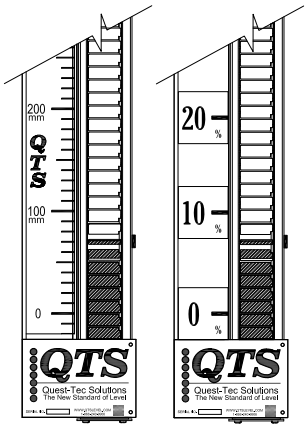
WIDE FLAG INDICATOR DESIGN

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) -10% increment std.
Metric (mm/M)
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

3

SAFE & ECONOMICAL MEASUREMENT

WITH MAGNE-TRAC PRODUCTS

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 *NACE Material available on request	Standard Alloys	304/304L 316/316L Other 300 series stainless
	Plastics/ Composites	CPVC PVDF (KYNAR)
	Exotic Allys	Titanium, Hastelloy-C276, Alloy20
Chamber Diameters*	2" Sch 40, 2 1/2 Sch 40/80, 3" Sch 40, 3" Sch10, 4" Sch 40, other sizes available *Float Chamber size finalized after engineering review.	
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	½" 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, CPVC
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; MTLT-6000 Guided Wave Radar (Use Page 22 for GWR Options)
Switch Options	MTLS-1A; MTLS-5A; MTLS-10A; MTLS-PNEU

MAGNE-TRAC PLUS (MTP)

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 technologies work together to provide reliable level indication and monitoring. The unique design couples the versatility of an MLI and reliability of GWR with minimum vessel penetration and maximum ease of installation with virtually maintenance-free operation.

Change in the process tank level corresponds to change in the Magne-Trac Plus chambers. 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	
Chamber Design	Dual Chamber, 1 Set of Process Connections	

*Consult factory for additional limits/options

DISCO-TRAC (DT)

Direct Insertion Single Chamber Oversize = The best approach for indicating level!

The Disco Trac combines the operating system of a conventional float-based magnetic level indicator (MLI) with a guided wave radar transmitter. This means you can enjoy reliable and accurate level-measurement in a simple and elegant design. Using a 3", 4"+ chamber to house both the GWR probe and the MLI float, these devices operate seamlessly to provide continuous electronic guided wave radar measurement and visual indication. Disco-Trac provides two independent level technologies off a single set of process taps for true redundant measurement. A single chamber is achieved by adding a slotted baffle plate inside the chamber to separate float and GWR Probe. The Guided Wave Radar transmitter obtains the independent reading of the liquid level, providing an accurate output even in the case of float failure. The GWR will read the true level of fluid even if density of product varies.

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	
Chamber Design	Single Chamber, 1 Set of Process Connections	

*Consult factory for additional limits/options

Measuring Range** **Limited by maximum length of GWR Probes

BRIDLE-TRAC
(BT)
BRIDLE-TRAC PLUS
(BTP)

BTP Shown

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. In addition, the Bridle-Trac Plus allows the utilization of all our other technology offerings such as Magne-Trac, Glass-Trac, Steam-Trac, Armor-Trac and other 3rd party instrumentation with ancillary connections as needed.

SPECIFICATIONS
Sealed or flanged-top chamber options
2", 3" 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

READY TO SPEC?

The following is an overview of **Questtec Solution**'s standard steam products. For more in depth information, contact your Questtec Sales Representative. You can also contact Questtec directly by phone at 866-240-9906, by email at sales@qtslevel.com, or online at: **questtecsolutions.com**

ECO-TRAC
(ET)
ECONOMICAL & SIMPLE

The Questtec Solution Eco-trac series offers the same functionality, robustness, and reliability of our Magne Trac series at more cost efficient design for light industrial services.

This product is safe and very economical alternative to sight glass sight glass technology to reduce leak points and broken glass concerns. The fixed design and specification allow for a quick, cost effective solution to many applications. The EcoTrac series meets and exceeds ASME class 150 ratings in most cases and is ideal for low pressure and temperature applications. Well suited for but not limited to applications such as skid systems, boiler feed water tanks, refrigeration units, wastewater treatment facilities and other light industrial applications. The Eco-Trac series can be combined with our magnetic level transmitters provide continuous level monitoring and magnetic level switches for discrete high and low alarms.

MATERIALS OF CONSTRUCTION
304SS or 316SS Chamber and Flanges
304SS or 316SS Chamber and Carbon Steel Flanges
Chamber/Pipe: 2" sch40

VESSEL CONNECTIONS	
M.NPT: ½" to 1", sch80	Flange: ½" to 2" RFSW, sch40

PIPE ENCLOSURE	
2" M. NPT x ¾" FNPT Bushing	

OPERATING CONDITIONS	
Min SG	0.65
Max Pressure Rating	500 PSIG
Max Temperature Rating:	300° F
Maximum Length	(Centers/Visible) 72"
Minimum Length	(Centers/Visible) 8"

VISUAL INDICATOR		
Aluminum Housing with Polycarbonate Shield	Flags: Black/Yellow	
	No Scale (std.)	Weatherproof

FLOAT	
12" long oblong, 316SS (std.)	Titanium

ACCESSORIES
TRANSMITTERS & SWITCHES

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

MTLS-10A
10 AMP

MTLT-5000

MTLT-6000

ECO-TRAC PLUS
(ETP)

The Eco-Trac Plus series offers the same functionally, robustness and reliability of our Magne-Trac Plus series with a fixed cost-efficient design for light industrial services.

Just like the Eco-Trac series this product is an economical alternative to sight glass technology. The ETP series is combined with the highly reliable guided wave radar harnessing the benefit of two independent technologies in one cost effective solution for visual indication and level monitoring needs. The ETP series also meets and exceeds ASME class 150# ratings and is ideal for low pressure and temperature solution making it well suited for applications such as skid systems, boiler feed water tanks, refrigeration units, wastewater treatment facilities and many other light industrial applications. The ETP series can still be combined with our magnetic level transmitters and switches to provide an even higher level of redundancy.

MATERIALS OF CONSTRUCTION
304SS or 316SS Chamber and Flanges
304SS or 316SS Chamber and Carbon Steel Flanges
Chamber/Pipe: 2" sch40

VESSEL CONNECTIONS	
M.NPT: ½" to 1", sch80	Flange: ½" to 2" RFSW, sch40

PIPE ENCLOSURE	
2" M. NPT x ¾" FNPT Bushing	

OPERATING CONDITIONS	
Min SG	0.65
Max Pressure Rating	500 PSIG
Max Temperature Rating:	300° F
Maximum Length	(Gliders/Visible) 72"
Minimum Length	(Centers/Visible) 8"

VISUAL INDICATOR		
Aluminum Housing with Polycarbonate Shield	Flags: Black/Yellow	Weatherproof
	No Scale	

FLOAT	
12" long oblong, 316SS	Titanium

ACCESSORIES
TRANSMITTERS & SWITCHES

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

MTLS-10A 10 AMP

MTLT-5000

MTLT-6000

Guided Wave Radar

4

OPTIONAL EQUIPMENT

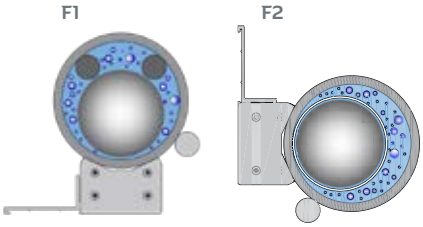
OPTIONAL EQUIPMENT

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

HIGH-TEMPERATURE INSULATION BLANKET (HB)

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.

FLASHING DESIGNS (F1 OR F2)



The Flashing design encompasses an oversized chamber with either guide rods (F1) or perforated tube (F2) to allow the out-gassing to bypass the smaller sized float that is situated towards one side of the chamber ideal for liquids that boil, flash and/or out-gas.

The F1-guide rode solution is ideal for shorter indication lengths (<8 ft), aggressive applications and dirty services (small, suspended particles). The F2-perforated tube design is ideal for long indication lengths (> 8ft) and clean liquids.

Applications:

- Anhydrous Ammonia,
- Carbon Dioxide,
- Liquid Nitrogen,
- Light Hydrocarbons and Pressure-liquefied gases (propane, butane, methane…)

HEAT TRACING: ELECTRIC (EH) & STEAM (ST)

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.

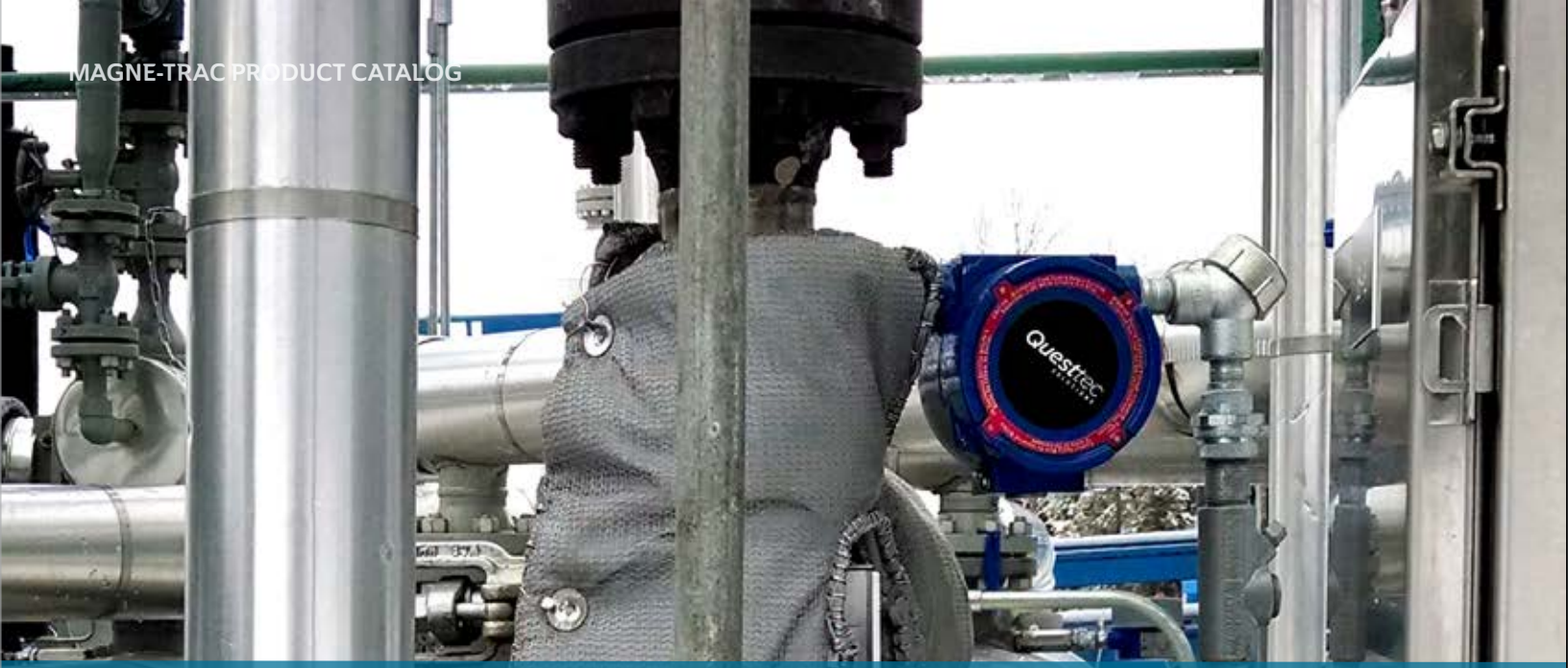
COLD INSULATION & FROST EXTENSION (CI)

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 (MP)

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.



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ACCESSORIES TRANSMITTERS & SWITCHES

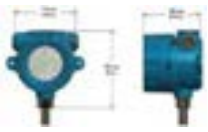
MAGNETOSTRICTIVE LIQUID LEVEL TRANSMITTER

MTLT-5000

PRINCIPLES OF OPERATION

The MTLT5000-Magnetostrictive 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) Process 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	External mounted with QTS Z-bracket	
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	¾" 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

Temposonics
AN AMPHENOL COMPANY

MAGNETOSTRICTIVE LEVEL TRANSMITTER

MTLT-6000

MTLT-6000 series liquid level transmitter is the latest development in magnetostrictive liquid level sensing technology that is designed exclusively for magnetic level indicators. The MTLT-6000 contains a low profile waveguide that is mounted external to the level gauge chamber. This design isolates the waveguide from excessive vibration and temperature. Due to enhanced sensor technology, the output signal is very sensitive, fast, stable, and accurate. The MTLT-6000 can be mounted and retrofitted to most magnetic liquidlevel indicators.

FEATURES	
24 VDC nominal, two wire, loop powered	Very durable with a strong, stable, and noise free output
LCD display in 4-20 mA, in, cm, and/or percent	State of the art sensor and transmitter electronics
HART protocol field communication	Unique electronics module design for ease of maintenance
Local programmability allows for easy parameter changes	Maximum transmitter length of 35 feet
Quick-Cal function for simple recalibration to any span	Will retrofit to most magnetic level indicators
Non wetted 316 SS low profile waveguide	Capable of extreme process operating temperatures
Isolated from excessive process temperature and vibration	Explosion proof enclosure, NEMA Type 4X
Top, bottom or remote transmitter enclosure mounting locations	FM Approval (U.S. & Canada)
Short offset mounting dimension of 8.00 inches	ATEX and IEC (Approvals pending)

SPECIFICATIONS	
PERFORMANCE	
Accuracy	+/- 0.015 inches
Repeatability	0.001% of full span
Linearity	0.020% of full span
Refresh Rate	10x per second
Initiation	0.00 seconds
Damping	0.00 to 1.00 @ 0.01 seconds 1.00 to 25.0 @ 1.00 seconds
ELECTRICAL	
Input Voltage	14-30 VDC (24 VDC nominal)
Output	4-20 mA, HART
Resistance	600 Ohms (max) @ 24 VDC
Power	0.66 watts (30 VDC x 0.022 amps)
Error Signal	3.60 mA (low) or 22.0 mA (high)
Interface	3 button keypad
Software	HART
Display	2 line, 8 character LCD
Connection	0.75 inch FNPT (Conduit)
RATINGS	
MAWP	Not applicable (non-invasive)
Ambient temp.	-40° to +158°F (-40° to +70° C)
Process temp.	-150° to +250°F (-100° to +121° C); (Standard) Options to 850°F (454°C)
Safety Approval	FM Factory Mutual Research Corporation XP / I / 1 / ABCD / T6 Ta = -40°C to +70°C; Type 4X DIP / II / III / EFG / T6 Ta = -40°C to +70°C; Type 4X IS / I / II / III / 1 / ABCDEFG / T4 Ta = -40°C to +70°C NI / I,II,III / 2 / ABCDEFG / T4 Ta = -40°C to +70°C; Type 4X

GUIDED WAVE RADAR
FOR REDUNDANT LEVEL TECHNOLOGY

Endress+Hauser
VAR PARTNER

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.

ADVANTAGES	
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

FMP50

Levelflex FMP50 is the instrument for basic applications in liquids which do not place high demands on temperature and pressure ranges or chemical resistance. Particularly in basic supply or storage applications as well as utility processes FMP50 is the best choice.

FEATURES	
Accuracy	Rod probe: +/- 2 mm (0.08 in) Rope probe: +/- 2 mm (0.08 in)
Process temperature	-20...+80 °C (-4...+176 °F]
Process pressure absolute / max. Over-pressure limit	Vacuum...6 bar, (Vacuum...87 psi)
Max. Measurement distance	Rod: 4 m (13 ft) Min DK>1.6 Rope: 12 m (40 ft) Min DK>1.6
Main wetted parts	Rod probe: 316L, PPS, Viton Rope probe: 316, PPS, Viton

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 (13t], 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	

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

SWITCHES

MTLS-1A
MTLS-5A

MTLS-10A

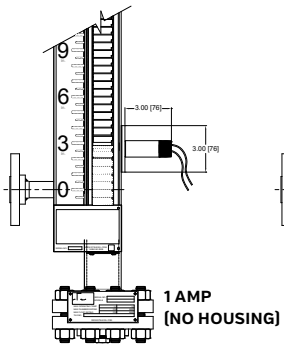
MTLS-PNEU

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

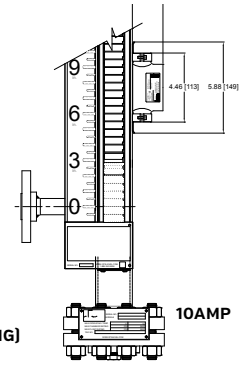
LEVEL SWITCHES

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.

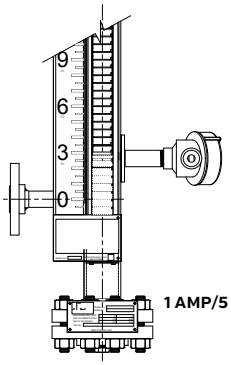
Standard Enclosure is Cast Aluminum Junction box. Optional, Stainless Steel Junction box. Enclosure Rating is FM/CSA. Level Switches are C Clamp mounted on MLI (standard), clamp mounted on MLI with insulation pad and or attached to a switch mount rod.



1 AMP (NO HOUSING)



10AMP

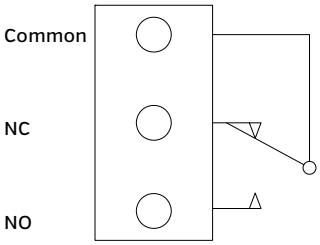


1 AMP/5 AMP

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.

SWITCH WIRING

MTLS-1A &5A

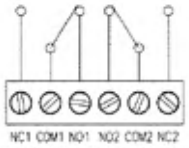


Green = Common
Red = NC
Blue = NO

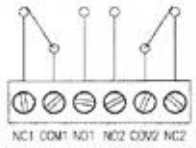
Red (NC) = Closed when float below switch

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 MTLS 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.

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	110/250VA C (Resistive)	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
	110/220 VDC	0.5/0.25 Amps	55W					
MTLS-PNEU	Not Applicable	N/A	N/A	0.50 Inch	200°F (93°C)	0°F (-17°C)		

REFINEME® (IN-TANK) TRANSMITTER

MEASURE MORE WITH LESS

Temposonics
AN AMPHENOL COMPANY

The Level Plus® RefineME® liquid level transmitter satisfies the demand for an accurate and robust liquid-level sensor with unsurpassed flexibility to meet most process application conditions.

The RefineME® 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	API Temperature Corrected Volumes

APPLICATIONS

Inventory Control	Bulk Storage	Custody Transfer

MARKETS

Petroleum and Petrochemical	LPG terminals	Mining

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

WIRING

Connections	4-wire shielded cable or twisted pair, Daniel Woodhead 6-pin male connector, 4570 mm (180 in.) Integral cable with pigtail

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.

LEVEL OUTPUT

Measured Variable	Product level and interface level
Output signal /Protocol	Modbus RTU, DDA, Analog (4-20 mA), HART®
Order length	Rigid Pipe: 305mm [12in] to 7620mm [300in]
Inherent Accuracy	±1 mm (0.039 in.)
Repeatability	0.001% F.S. or 0.381 mm (0.015 in.) * (any direction)

TEMPERATURE OUTPUT

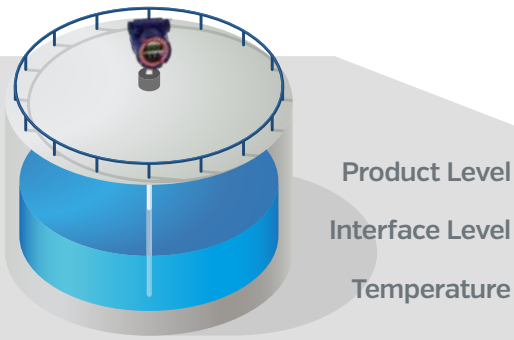
Measured Variable	Average and multi-point temperatures (Modbus, DDA) Single point temperature (Analog, HART®)
Temperature Accuracy (Modbus, DDA)	±0.2 °C (0.4 °F) range -40 °C (-40 °F) to -20 °C (-4 °F), ±0.1 °C (0.2 °F) range -20 °C (-4 °F) to 70 °C (158 °F), ±0.15 °C (0.3 °F) range 70 °C (158 °F) to 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	Rigid Pipe: 2000psi (138 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



3-IN-1 MEASUREMENT

TANK SLAYER® (IN-TANK) TRANSMITTER

MEASURE MORE WITH LESS

Temposonics
AN AMPHENOL COMPANY

The Level Plus® Tank Slayer® liquid level transmitter satisfies the demand for an accurate and robust liquid-level sensor with unsurpassed flexibility to meet most process conditions.

The Tank Slayer® 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

MARKETS		
Petroleum and Petrochemical	LPG terminals	Mining

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

WIRING	
Connections	4-wire shielded cable or twisted pair, Daniel Woodhead 6-pin male connector, 4570 mm (180 in.) Integral cable with pigtail

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®)

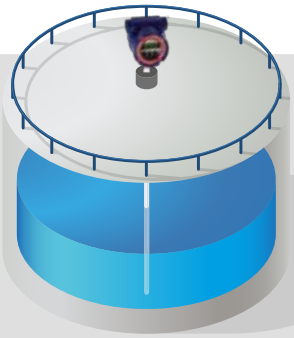
LEVEL OUTPUT	
Measured Variable	Product level and interface level
Output signal /Protocol	Modbus RTU, DDA, Analog (4-20 mA), HART®
Order length	Flexible hose: 1575 mm (62 in.) to 22000 mm (866 in.) Δ§
Inherent Accuracy	±1 mm (0.039 in.)
Repeatability	0.001% F.S. or 0.381 mm (0.015 in.) * (Any direction)

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

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



Product Level
Interface Level
Temperature

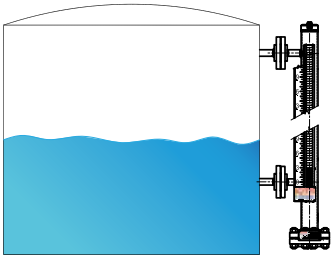
3-IN-1 MEASUREMENT

6

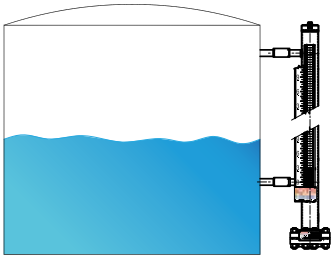
OUR SPECIFICATION & MODEL CODE GUIDES

TYPICAL TANK CONFIGURATIONS

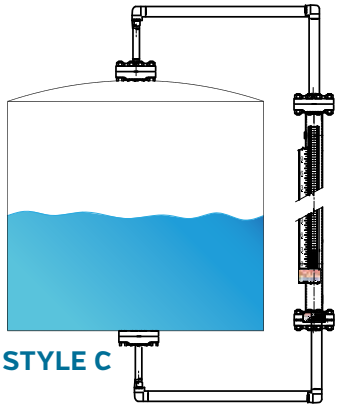
QUESTTEC SOLUTIONS



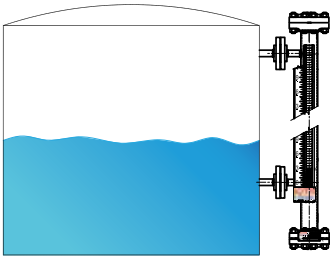
STYLE A



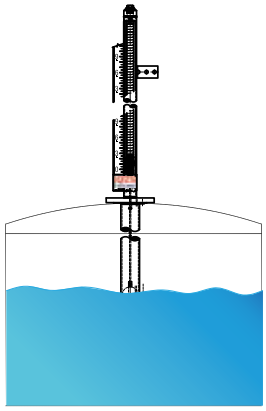
STYLE B



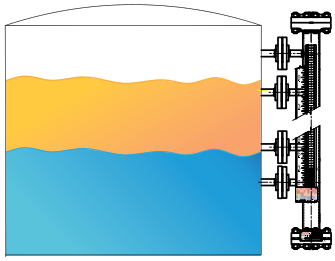
STYLE C



STYLE D



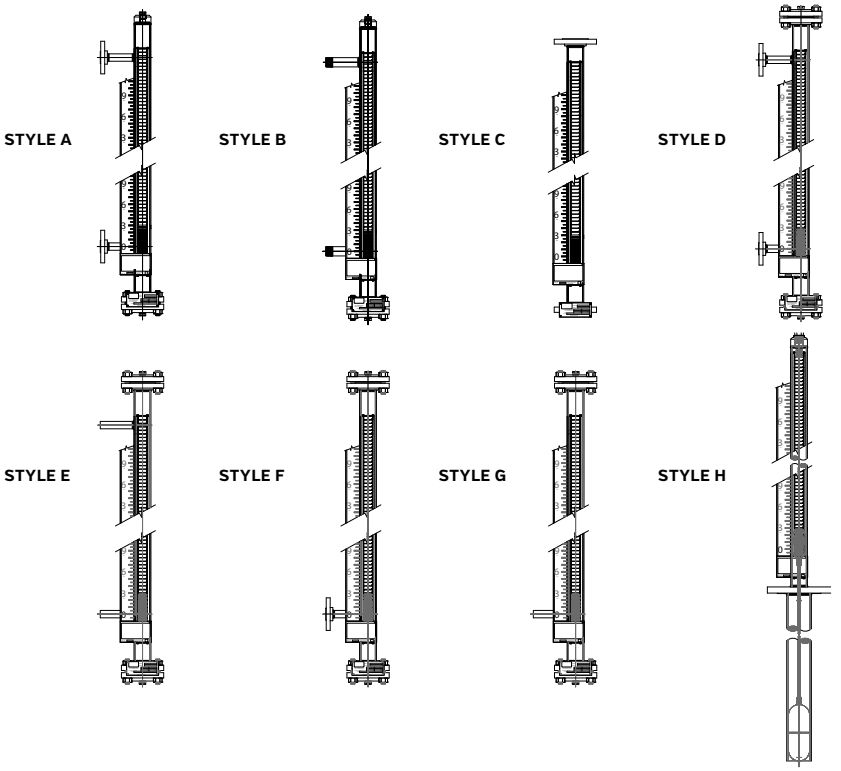
STYLE H



INTERFACE

MAGNE-TRAC
MODEL NUMBER

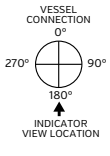
The **Questtec Solutions** Magne-Trac utilizes a non-magnetic pipe chamber mounted directly to a vessel. The process connections from the chamber to the vessel act as an inlet and outlet that allow the liquid level in the pipe chamber to match the level in the process vessel. Inside the chamber, a custom designed float rises and falls with the level of the liquid in the chamber. A 360° magnet array within the float projects a magnetic field through the pipe chamber to an externally mounted indicator to provide a visual read out of the liquid level within the vessel.

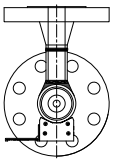


MT ORIENTATION
(ONLY 1 ACCESSORY ALLOWED PER POSITION)

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.





MT											OPTIONS
MAGNE-TRAC™	MLI MATERIAL	MLI STYLE	VESSEL CONNECTION	FLANGE CLASS	SPECIFIC GRAVITY	MAXIMUM PRESSURE	MAXIMUM TEMPERATURE	"C-C" DIMENSION[1]	INDICATOR STYLE	VENT/DRAIN	

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 Spec

MLI STYLE
A = See Chart (Std)
B = See Chart
C = See Chart
D = See Chart
E = See Chart
F = See Chart
G = See Chart
H = See Chart
Z = Customer Spec

VESSEL CONNECTION
04 = ½"
06 = ¾"
08 = 1" (STD.)
10 = 1¼"
12 = 1½"
16 = 2"
20 = 2½"
24 = 3"
CS = Customer Spec

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

SPECIFIC GRAVITY
Minimum operating specific gravity

MAXIMUM PRESSURE

MAXIMUM TEMPERATURE

"C-C" DIMENSION[1]

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
AA = ½" Top Vent & ½" Drain (NPT)
BB = ¾" Top Vent & ¾" Drain (NPT)
CC = 1" Top Vent & 1" Drain (NPT)
AB = ½" Top Vent & ¾" Drain (NPT)
AC = ½" Top Vent & 1" Drain (NPT)
BA = ¾" Top Vent & ½" Drain (NPT)
BC = ¾" Top Vent & 1" Drain (NPT
CA = 1" Top Vent & ½" Drain (NPT)
CB = 1" Top Vent & ¾" Drain (NPT)
XA = ½" Vent or Drain
XB = ¾" Vent or Drain
XC = 1" Vent or Drain
XX = None
CS = Customer Specified

OPTIONS

CHAMBER
SC = Special Coating
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
F1 = Guide Rod, Flashing
F2 = Perforated Tube, Flashing
X1 = Customer Specified
BF = Breakout Flange
BS = Bracket Support
PT = Particle Trap

SCALE/INDICATOR
MS = Metric Scale
PS = Percentage Scale
NS = Negative Scale
SH = SS Indicator Housing
SS = Custom Scale (specify)
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
AS = ASME "S" Stamp
AU = ASME "U" Stamp
B1 = ASME B31.1
B3 = ASME B31.3
CRN = ABSA Certifications
NM = NACE MR0175 Cert. 316 SS Bolting Access Flange

TRANSMITTER/ SWITCHING OPTIONS
MT = Magnetostrictive Transmitter
RX = Reed Switches (Specify Amperage)
LG= Level Gauge

Note: Spiral wound gasket is standard on access flange.

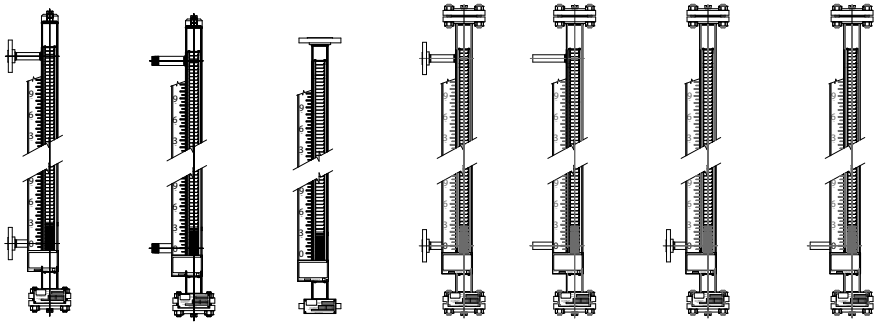
[1] For Style H provide insertion length and desired visible (i.e. 100/84 = 100" insertion length 84" visible

Endress+Hauser
VAR PARTNER

MAGNE-TRAC PLUS
(MTP)

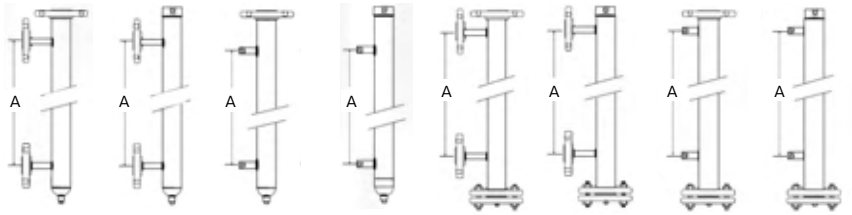
The **Questtec Solutions** Magne-Trac Plus combines the Magne-Trac magnetic level gage with the Bridle-Trac bypass chamber. It may be used with our VAR Partner E&H GWR or customer specified radar for redundant level measurement. See page 4 for listing of our partners GWR models. The Magne-Trac Plus is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

MT STYLES



STYLE A | STYLE B | STYLE C | STYLE D | STYLE E | STYLE F | STYLE G

BRIDLE STYLES

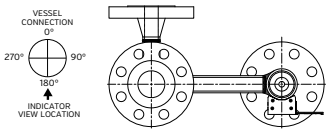


CHAMBER (1) | CHAMBER (2) | CHAMBER (3) | CHAMBER (4) | CHAMBER (5) | CHAMBER (6) | CHAMBER (7) | CHAMBER (8)

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 | | | | | | | | | | | | | | | | |

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

MLI / BRIDLE STYLE
AX = See Charts (Std.)
BX = See Charts
CX = See Charts
DX = See Charts
EX = See Charts
FX = See Charts
GX = See Charts
ZZ = Cust. Specified

VESSEL CONNECTION
04 = 1/2"
06 = 3/4"
08 = 1"
10 = 1¼"
12 = 1½"
16 = 2"
20 = 2½"
24 = 3"
32 = 4"
CS = Customer Specified

TOP BRIDLE CONNECTION
06 = 3/4"
08 = 1"
10 = 1¼"
12 = 1½"
16 = 2" (Std.)
20 = 2½"
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

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

"C-C" DIMENSION

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

VENT/DRAIN
XX = None
XA = ½" Vent or Drain
XB = ¾" Vent or Drain
XC = 1" Vent or Drain
AA = ½" Top Vent & ½" Drain (NPT)
BB = ¾" Top Vent & ¾" Drain (NPT)
CC = 1" Top Vent & 1" Drain (NPT)
AB = ½" Top Vent & ¾" Drain (NPT)
AC = ½" Top Vent & 1" Drain (NPT)
BA = ¾" Top Vent & ½" Drain (NPT)
BC = ¾" Top Vent & 1" Drain (NPT)
CA = 1" Top Vent & ½" Drain (NPT)
CB = 1" Top Vent & ¾" Drain (NPT)
CS = Customer Specified

BRIDLE CHAMBER SIZE
16 = 2" (Std.)
24 = 3"
32 = 4"
CS = Cust. Specified

BRIDLE 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
Gx = Guided Wave
F = Free Space

OPTIONS

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)

CHAMBER
SC = Special Coating
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
X1 = Customer Specified
BF = Breakout Flange
BS = Bracket Support
PT = Particle Trap

SCALE/INDICATOR
MS = Metric Scale
PS = Percentage Scale
NS = Negative Scale
SH = SS Indicator Housing
SS = Custom Scale (specify)
DI = Dual Indication
IF = Interface Indication
AR = Arrow Pointers

TESTING/MATERIAL
AS = ASME "S" Stamp
AU = ASME "U" Stamp
B1 = ASME B31.1
B3 = ASME B31.3
CRN = ABSA Certifications
NM = NACE MR0175 Cert., 316 SS Bolting Access Flange

TRANSMITTER/ SWITCHING
MT = Magnetostrictive Transmitter
RX = Reed Switches (Specify Amperage)
LG = Level Gage

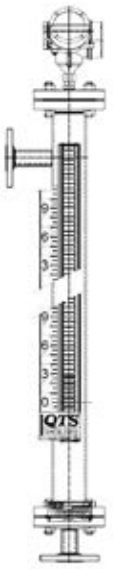
Note: Spiral wound gasket is standard on access flange.

DISCO-TRAC
(DT)

The Questtec Solutions Disco-Trac combines the Magne-Trac magnetic level gage and the Bridle-Trac bypass chamber into one chamber. It is used with our VAR Partner E&H GWR or customer specified radar for redundant level measurement. See page 21 for listing of our partners GWR models. The Disco-Trac is recommended in applications that require both visual and electronic level viewing.

STYLE A

STYLE B



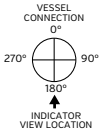
STYLE C

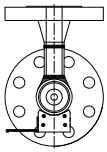
DT ORIENTATION

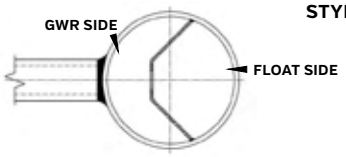
(ONLY 1 ACCESSORY ALLOWED PER POSITION)

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.







DT													

DISCO-TRAC™

MLI MATERIAL
4S = 304 SS
4C = 304 SS/CS
6S = 316 SS
6C = 316 SS/CS
MN = Monel
TI = Titanium
HC = Hastelloy C
Z = Customer Spec

MLI STYLE
A = See Chart (Std)
B = See Chart
C = See Chart

VESSEL CONNECTION
04 = ½''
06 = ¾''
08 = 1" (STD.)
10 = 1¼"
12 = 1½"
16 = 2"
20 = 2½"
24 = 3"
32 = 4"
Z = Customer Spec

TOP CONNECTION
04 = ½"
06 = 3/4"
08 = 1"
12 = 1-½"
16 = 2"
20 = 2-½"
24 = 3"
Z = Customer Spec
(All Styles Use a Flange for End Closure)

CHAMBER SIZE*
24 = 3"
32 = 4"
40 = 5"
Z = Customer Spec
(All Styles Use a Flange for End Closure)

*Schedule selected by pressure/ temperature or customer specification

FLANGE CLASS
01 = 150#
03 = 300#
04 = 400#
06 = 600#
09 = 900#
15 = 1500#
25 = 2500#
Z = Customer Spec
(All Styles Use a Flange for End Closure)

SPECIFIC GRAVITY
Minimum operating specific gravity

MAXIMUM PRESSURE

MAXIMUM TEMPERATURE

"C–C" DIMENSION¹

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
AA = ½'' Top Vent & ½'' Drain (NPT)
BB = ¾'' Top Vent & ¾'' Drain (NPT)
CC = 1'' Top Vent & 1'' Drain (NPT)
AB = ½'' Top Vent & ¾'' Drain (NPT)
AC = ½'' Top Vent & 1'' Drain (NPT)
BA = ¾'' Top Vent & ½'' Drain (NPT)
BC = ¾'' Top Vent & 1'' Drain (NPT
CA = 1'' Top Vent & ½'' Drain (NPT)
CB = 1'' Top Vent & ¾'' Drain (NPT)
XA = ½'' Vent or Drain
XB = ¾'' Vent or Drain
XC = 1'' Vent or Drain
XX = None
CS = Customer Specified

OPTIONS

CHAMBER
SC = Special Coating
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
F1 = Guide Rod, Flashing
F2 = Perforated Tube, Flashing
X1 = Customer Specified
BF = Breakout Flange
BS = Bracket Support
PT = Particle Trap

SCALE/INDICATOR
MS = Metric Scale
PS = Percentage Scale
NS = Negative Scale
SH = SS Indicator Housing
SS = Custom Scale (specify)
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
AS = ASME "S" Stamp
AU = ASME "U" Stamp
B1 = ASME B31.1
B3 = ASME B31.3
CRN = ABSA Certifications
NM = NACE MR0175 Cert. 316 SS Bolting Access Flange

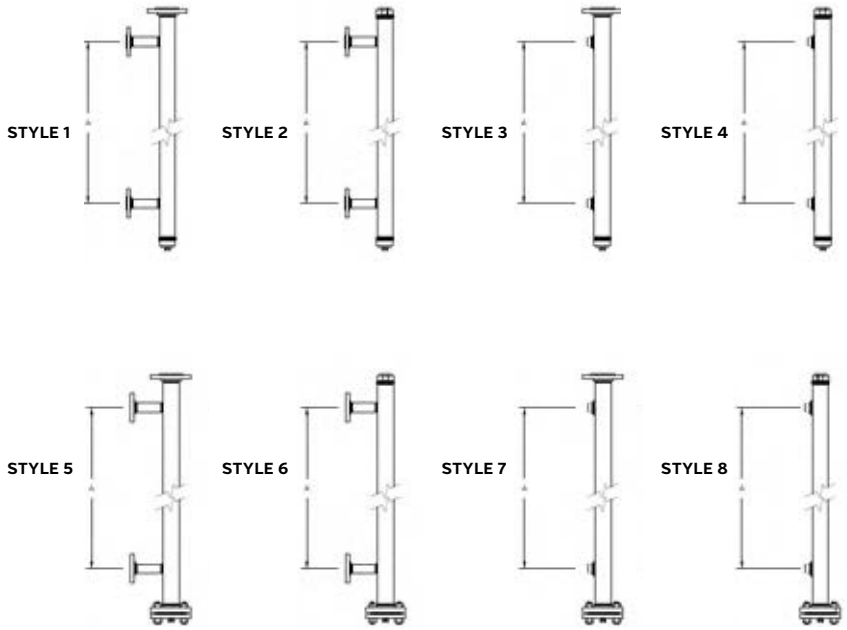
TRANSMITTER/ SWITCHING OPTIONS
Gzx = GWR
MT = Magnetostrictive Transmitter
RX = Reed Switches (Specify Amperage)
LG = Level Gauge

Note: Spiral wound gasket is standard on access flange.

¹ For Style H provide insertion length and desired visible (i.e. 100/84 = 100" insertion length 84" visible

BRIDLE-TRAC
(BT)

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.



BT | | | | | | | | | | | | | | | **OPTIONS**

BRIDLE-TRAC™

CHAMBER MATERIAL
- 3C= Carbon Steel
- 4S = 304SS Chamber/Flanges
- 4C = 304SS Chamber/Carbon Flanges
- 6S = 316SS Chamber/ Flanges
- 6C = 316SS Chamber/ Carbon Flanges
- HC = C276 Chamber/ Flanges
- MN = Monel Chamber/Flanges
- CS = Customer Specified

BRIDLE STYLE*
- 1 = Flanges Top/Side Connections, NPT Bottom
- 2 = NPT Top/Bottom, Flange Side Connections
- 3 = Flange Top, NPT Bottom/ Side Connections
- 4 = NPT Top/Bottom/Side Connections
- 5 = Flange Top/Bottom/Side Connections
- 6 = NPT Top, Bottom/Side Connections
- 7 = Flange Top/Bottom, NPT Side Connections
- 8 = NPT Top/Side Connections, Flange Bottom

* All Flanges are RFSW - Standard

VESSEL CONNECTION
- 04 = ½"
- 06 = ¾"
- 08 = 1"
- 12 = 1-½"
- 16 = 2"
- 20 = 2-½"
- 24 = 3"
- 32 = 4"
- CS = Customer Specified

TOP CONNECTION
- 04 = ½"
- 06 = 3/4"
- 08 = 1"
- 12 = 1-½"
- 16 = 2"
- 20 = 2-½"
- 24 = 3"
- CS = Customer Specified

FLANGE CLASS
- 01 = 150#
- 03 = 300#
- 06 = 600#
- 09 = 900#
- 15 = 1500#
- 25 = 2500#
- XX = None

CHAMBER SIZE*
- 16 = 2"
- 20 = 2-½"
- 24 = 3"
- 32 = 4"
- CS = Customer Specified

*Schedule selected by pressure/tem-perature or customer specification

DESIGN PRESSURE
Specify in PSI

DESIGN TEMPERATURE
Specify in deg F

CENTERS
Specify in Inches

Max Length Single Piece: 264.00"

VENT/DRAIN OPTIONS*
- AA = ½" NPT Vent and Drain
- AX = ½" NPT Vent / No Drain
- XA = No Vent / ½" NPT Drain
- BB = ¾" NPT Vent and Drain
- BX = ¾" NPT Vent / No Drain
- XB = No Vent / ¾" NPT Drain
- CC = 1" NPT Vent and Drain
- CX = 1" NPT Vent / No Drain
- XC = No Vent / 1" NPT Drain
- XX = None

*MNPT hex plug included

INSTRUMENT FOR BRIDLE
- Z = None
- Gx = Guided Wave Radar
- T1 = Other Technology, details required

PLUS EQUIPMENT (BTP)*
- AT = Armor-Trac
- ET = Eco-Trac
- MT = Magne-Trac
- GT = Glass-Trac
- QST = Steam-Trac
- STB = Steam-Trac Bi-color
- T1 = Other Technology, details required

* Respective model numbers/ descriptions continued separately

CHAMBER
- RJ = Ring Joint
- SO = Slip-On Flange
- WN = Weld-neck Flange
- SL = Stub End/Lap Joint Flange
- BW = Butt-Weld Tee design for full-bore process connections
- IV = Inverted Style Chamber
- SC = Special Coating

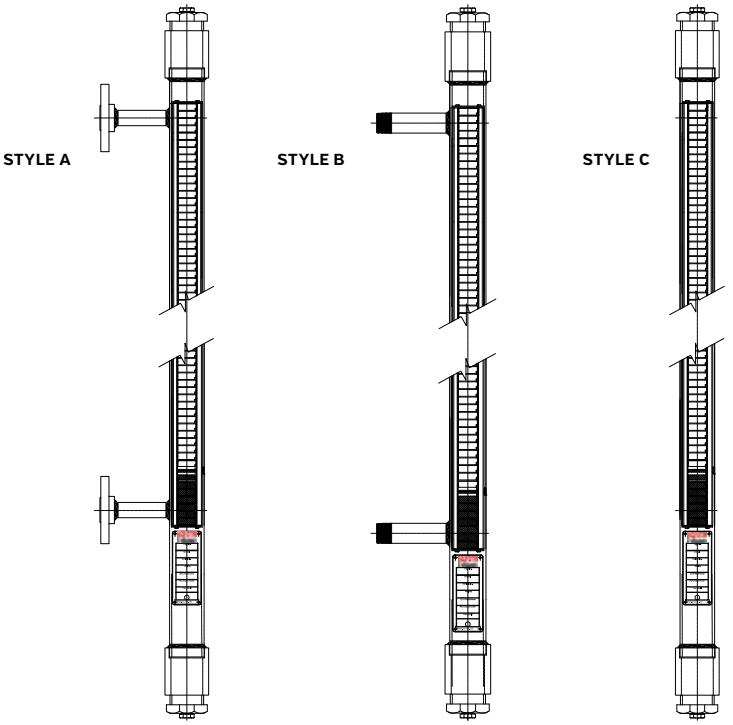
TEMP CONTROL
- CI = Cold Insulation
- EH = Electric Heat Trace*
- ST = Steam Trace*
- HB = Insulation Blanket
- VD = Vent/Drain Valves*
- IS = Isolation Valves*

*Details Required

MATERIAL & CONSTRUCTION REQUIREMENT OPTIONS
- NM = NACE* [MR0175 or MR0103]
- B1 = B31.1 Compliant Construction
- B3 = B31.2 Compliant Construction
- CRN = Canadian Registration Number*
- AS = ASME "S" Stamp
- AU = ASME "U" Stamp

ECO-TRAC
(ET)

This product is safe and very economical alternative to sight glass sight glass technology to reduce leak points and broken glass concerns. The fixed design and specification allow for a quick, cost effective solution to many applications. The EcoTrac series meets and exceeds ASME class 150 ratings in most cases and is ideal for low pressure and temperature applications. Well suited for but not limited to applications such as skid systems, boiler feed water tanks, refrigeration units, wastewater treatment facilities and other light industrial applications. The Eco-Trac series can be combined with our magnetic level transmitters provide continuous level monitoring and magnetic level switches for discrete high and low alarms.



ET

ECO-TRAC

ET MATERIAL
6S = 316SS Chamber/ Flanges
6C = 316SS Chamber/ Carbon Flanges

ET STYLE
A = Flange* Side Connections
B = NPT Side Connections
C = No Side Connections, Top/Bottom
* All Flanges are RFSW

VESSEL CONNECTION
04 = ½"
06 = ¾"
08 = 1"
16 = 2" x 1" reducing, for A or C Style only

FLANGE CLASS
001 = 150#
03 = 300#
XX = None

SPECIFIC GRAVITY
X.XX (minimum 0.65)

OPERATING PRESSURE
Specify in PSI (maximum rating 500 PSIG)

OPERATING TEMPERATURE
Specify in deg F (maximum rating 300°F)

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

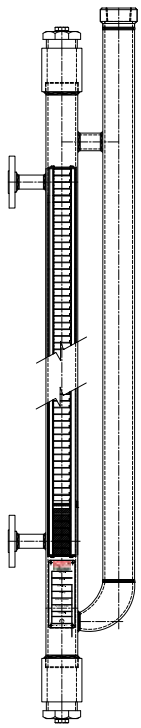
CENTERS/VISIBLE
Specify in Inches (maximum 72")
When centers and visible are the same only specify centers: xxx.xx (i.e. 36.00)
If centers are greater than visible specify both as: xxx.xx / yyy.yy (i.e. 48.00/32.00)

INDICATOR STYLE
WF = Wide Flags (no scale) - standard
*Flags are Black/Yellow, standard

VENT/DRAIN
AA = ½" NPT Vent and Drain
AX = ½" NPT Vent / No Drain
XA = No Vent / ½" NPT Drain
BB = ¾" NPT Vent and Drain
BX = ¾" NPT Vent / No Drain
XB = No Vent / ¾" NPT Drain
CC = 1" NPT Vent and Drain
CX = 1" NPT Vent / No Drain
XC = No Vent / 1" NPT Drain
XX = None
* M.NPT hex plug included

OPTIONS
FI = Foot/Inch Scale
MS = Metric – mm/M Scale
PS = Percentage – 10% increments
SS = Custom Scale* (Inches only, Positive/Negative, Customer Percentage, Volumetric)
VD = NPT Ball Valves*
* Details Required
MT = Magnetostrictive Level Transmitter
R1 = MTLS-1A: 1 Amp Magnetic Level Switch
R5 = MTLS-5A: 5 Amp Magnetic Level Switch
R10 = MTLS-10A: 10 Amp Magnetic Level Switch

ECO-TRAC PLUS
(ET)



Just like the Eco-Trac series this product is an economical alternative to sight glass technology. The ETP series is combined with the highly reliable guided wave radar harnessing the benefit of two independent technologies in one cost effective solution for visual indication and level monitoring needs. The ETP series also meets and exceeds ASME class 150# ratings and is ideal for low pressure and temperature solution making it well suited for applications such as skid systems, boiler feed water tanks, refrigeration units, wastewater treatment facilities and many other light industrial applications. The ETP series can still be combined with our magnetic level transmitters and switches to provide an even higher level of redundancy.

ETP | | | | | | | | | | | | | | | **OPTIONS**

ECO-TRAC PLUS

ET MATERIAL
6S = 316SS Chamber/ Flanges
6C = 316SS Chamber/ Carbon Flanges

VESSEL CONNECTION
04 = ½"
06 = ¾"
08 = 1"
16 = 2" x 1" reducing, for A or C Style only

FLANGE CLASS
01 = 150#
03 = 300#
XX = None

ET STYLE
A4 = Flange* Side Connections
B4 = NPT Side Connections
C4 = No Side Connections, Top/Bottom
*All Flanges are RFSW

SPECIFIC GRAVITY
X.XX (min. 0.65)

MAX OPERATING PRESSURE
Specify in PSI (maximum rating 500 PSIG)

MAX OPERATING TEMPERATURE
Specify in deg F (maximum rating 300°F)

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

CENTERS/VISIBLE
Specify in Inches (maximum 72")
When centers and visible are the same only specify centers: xxx.xx (i.e. 36.00)
If centers are greater than visible specify both as: xxx.xx / yyy.yy (i.e. 48.00/32.00)

INDICATOR STYLE
WF = Wide Flags (no scale) - standard
EF = Eco Flags (no scale) – coming soon
* Flags are Black/Yellow - standard

VENT/DRAIN
AA = ½" NPT Vent and Drain
AX = ½" NPT Vent / No Drain
XA = No Vent / ½" NPT Drain
BB = ¾" NPT Vent and Drain
BX = ¾" NPT Vent / No Drain
XB = No Vent / ¾" NPT Drain
CC = 1" NPT Vent and Drain
CX = 1" NPT Vent / No Drain
XC = No Vent / 1" NPT Drain
XX = None
* M.NPT hex plug included

BRIDLE CHAMBER SIZE
16 = 2" sch40 – standard

TOP BRIDLE CONNECTION
06 = 3/4" NPT (for G1)
12 = 1-½" NPT (for G2)

ANCILLARY EQUIPMENT
G1= GWR – FMP50
G2= GWR – FMP51
T1 = Other Technology*
* Details required

THE GWR OPTIONS - STANDARD
FI = Foot/Inch Scale
MS = Metric – mm/M Scale
PS = Percentage – 10% increments
SS = Custom Scale*
VD = NPT Ball Valves*
* Details Required

ET OPTIONS CONTINUED
MT = Magnetostrictive Level Transmitter
R1 = MTLS-1A: 1 Amp Magnetic Level Switch
R5 = MTLS-5A: 5 Amp Magnetic Level Switch
R10 = MTLS-10A: 10 Amp Magnetic Level Switch

LEVEL FLEX FMP50
(G0 – OPTION IN MTP/ETP/BT/BTP)
(DT)

Endress+Hauser
VAR PARTNER

Levelflex FMP50 is the instrument for basic applications in liquids which do not place high demands on temperature and pressure ranges or chemical resistance. Particularly in basic supply or storage applications as well as utility processes FMP50 is the best choice. Levelflex FMP50 guided radar is used for continuous level measurement of liquids, pastes and slurries. The measurement is not affected by changing media, temperature changes, gas blankets or vapors.

FEATURES	
Process temperature	-20...+80 °C (-4...+176 °F)
Process pressure absolute / max. over-pressure limit	Vacuum...6 bar, (Vacuum...87 psi)
Accuracy	Rod probe: +/- 2 mm (0.08 in) Rope probe: +/- 2 mm (0.08 in)
Max. measurement distance	Rod: 4 m (13 ft) Min DK>1.6 Rope: 12 m (40 ft) Min DK>1.6
Main wetted parts	Rod probe: 316L, PPS, Viton Rope probe: 316, PPS, Viton

FMP50				C	D		A4	RDJ				

LEVELFLEX FMP50

APPROVAL:
- 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
- FA = FM IS CL.1 Div. 1 Gr.A-D
- FC = FM XP Cl.1 Div. 1 Gr.A-D
- 8A FM/CSA IS+XP Cl.I,II,III Div.1 Gr.A-G

POWER SUPPLY; OUTPUT
- 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

DISPLAY, OPERATION
- A = Without, via communication
- C = SD02 4-line, push buttons + data backup function
- E = *SD03 4-line, illum., touch control + data backup function

HOUSING
- C = GT20 dual compartment, Alu coated

ELECTRICAL CONNECTION
- D = Thread NPT1/2, IP66/68 NEMA4X/6P

PROBE
- AA = 300 mm, rod 8mm 316L
- LA = 1000 mm, rope 4mm, 316, max 150mm nozzle height, center rod
- LB = 40 inch, rope 1/6" 316, max 6in nozzle height, center rod

SEAL
- A4 = Viton, -30...150°C/ -22...302°F

PROCESS CONNECTION
- RDJ = Thread ANSI MNPT3/4, 316L

CALIBRATION
- F4 = 5-point linearity protocol
- F3 = *3-point linearity protocol
- XX = None

*>100mm

PROBE DESIGN
- 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
- XX = None

ACCESSORY ENCLOSED
- XX = None
- PB = Weather Protection Cover

MARKING
- Z1 = stainless steel tag

LEVELFLEX FMP51
(G1 — OPTION IN MTP/ETP/BT/BTP)
(DT)

Endress+Hauser
VAR PARTNER

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.

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	

FMP51

LEVELFLEX FMP51

SECTION 1: APPROVAL:
- 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

DISPLAY, OPERATION
- A = Without, via communication
- C = SD02 4-line, push buttons + data backup function
- E = *SD03 4-line, illum., touch control + data backup function

ELECTRICAL CONNECTION
- 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

SEAL
- 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

CALIBRATION
- F4 = 5-point linearity protocol
- F3 = *3-point linearity protocol

PROBE DESIGN
- 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

MARKING
- Z1 = stainless steel tag

ACCESSORY MOUNTED
- 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" + DN65/2-½"
- 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"

PROBE
- AA = 300 mm, rod 8mm 316L
- AB = 12 inch, rod ⅓" 316L
- AC = 300 mm, rod 12mm 316L
- AD = 12 inch, rod ½" 316L
- AL = 300 mm, rod 12mm AlloyC
- AM = 12 inch, rod ½" 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 1/6" 316, max 6in nozzle height, center rod
- MD = 40 inch, rope 1/6" 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

PROCESS CONNECTION
- AEJ = 1-½" 150lbs RF, 316/316L flange ANSI B16.5
- AQJ = 1-½" 300lbs RF, 316/316L flange ANSI B16.5
- AQM = 1-½" 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

POWER SUPPLY; OUTPUT
- 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

HOUSING
- C = GT20 dual compartment, Alu coated
- B = GT18 dual compartment, 316L
- A = GT19 dual compartment, Plastics PBT

LEVELFLEX FMP54
(G4 — OPTION IN MTP/ETP/BT/BTP) (DT)

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.

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

FMP54 | | | | | | | | | | | | |

APPROVAL
- 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
- CD CSA C/US DIP Cl.II,III Div.1 Gr.E-G
- 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

DISPLAY, OPERATION
- A = Without, via communication
- C = SD02 4-line, push buttons + data backup function
- E = SD03 4-line, illum., touch control + data backup function
- L = Prepared for display FHX50 + M12 connection
- M = Prepared for display FHX50 + custom connection

ELECTRICAL CONNECTION
- A = Gland M20, IP66/68 NEMA4X/6P
- B = Thread M20, IP66/68 NEMA4X/6P
- D = Thread NPT1/2, IP66/68 NEMA4X/6P
- I = Plug M12, IP66/68 NEMA4X/6P

SEAL
- D1 = Graphite,-196...280°C/-321...536°F (XT), saturated steam max 200°C/392°F
- D2 = Graphite, -196...450°C/-321...842°F (HT)

APPLICATION PACKAGE
- EB = Interface measurement
- EF = Gas Phase Compensation, L ref= 300mm/11in see additional spec.
- EG = Gas Phase Compensation, L ref=550mm/21in see additional spec.

CALIBRATION
- F4 = 5-point linearity protocol observe minimum probe length, see documentation ref=550mm >=1500mm), rod >=1250mm
- F3 = 3-point linearity protocol observe minimum probe length, rod/coax >=1000mm (Gas Phase Comp., L ref=300mm >=1250mm / L

MARKING
- Z1 = stainless steel tag

PROBE DESIGN
- 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

POWER SUPPLY; OUTPUT
- A = 2-wire; 4-20mA HART
- B = 2-wire; 4-20mA HART, switch output
- C = 2-wire; 4-20mA HART + 4-20mA analog
- 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

HOUSING
- C = GT20 dual compartment, Alu, coated
- B = GT18 dual compartment, 316L
- A = GT19 dual compartment, plastic PBT

PROBE
- AA = 300 mm, rod 16mm 316L
- AF = 12 inch, rod 0.63in 316L
- BA = 618 mm, rod 16mm 316L, 500mm divisible
- BB = 24 inch, rod 0.63in 316L, 20inch divisible
- BC = 1118 mm, rod 16mm 316L, 1000mm divisible
- BD = 44 inch, rod 0.63in 316L, 40inch divisible
- LA = 1000 mm, rope 4mm, 316
- LB = 40 inch, rope 1/6" 316
- UA = 300 mm, coax 316L
- UB = 12.000 inch, coax 316L

PROCESS CONNECTION
- AFJ = NPS 2" Cl.150 RF, 316/316L flange ASME B16.5
- ARJ = NPS 2" Cl.300 RF, 316/316L flange ASME B16.5
- AAJ = NPS 2" Cl.300/600 RF, 316/316L flange ASME B16.5
- A6J = NPS 2" Cl.1500 RF, 316/316L flange ASME B16.5
- AGJ = NPS 3" Cl.150 RF, 316/316L flange ASME B16.5
- ASJ = NPS 3" Cl.300 RF, 316/316L flange ASME B16.5
- ABJ = NPS 3" Cl.300/600 RF, 316/316L flange ASME B16.5
- A7J = NPS 3" Cl.1500 RF, 316/316L flange ASME B16.5
- AHJ = NPS 4" Cl.150 RF, 316/316L flange ASME B16.5
- ATJ = NPS 4" Cl.300 RF, 316/316L flange ASME B16.5
- AOJ = NPS 4" Cl.600 RF, 316/316L flange ASME B16.5
- AZJ = NPS 4" Cl.900 RF, 316/316L flange ASME B16.5

LEVELFLEX FMP55
(G5 — OPTION IN MTP/ETP/BT/BTP) (DT)

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

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 (13t), 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

FMP55 | | | | | | | | | | | |

APPROVAL
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

DISPLAY, OPERATION
A = Without, via communication
C = SD02 4-line, push buttons + data backup function
E = *SD03 4-line, illum., touch control + data backup function
L = Prepared for display FHX50 + M12 connection
M = Prepared for display FHX50 + custom connection

ELECTRICAL CONNECTION
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

CALIBRATION
F4 = 5-point linearity protocol
F3 = *3-point linearity protocol

PROBE DESIGN
MB = Sensor remote, 3m/9ft cable, detachable+ mounting bracket

MARKING
Z1 = stainless steel tag

ACCESSORY MOUNTED
NC = Gas-tight feed through
NA = Overvoltage protection
OE = Rod center washer d=37mm/1.45", PFA, interface measurement, pipe diameter DN40/1-½" + DN50/2"

POWER SUPPLY; OUTPUT
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

HOUSING
C = GT20 dual compartment, Alu coated
B = GT18 dual compartment, 316L
A = GT19 dual compartment, Plastics PBT

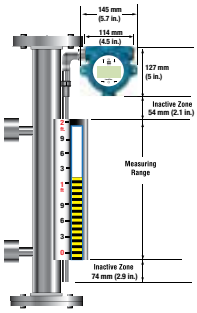
PROBE
CA = 500 mm, rod 16mm PFA>316L
CB = 19.5 inch, rod 0.63in PFA>316L
NA = 1000 mm, rope 4mm PFA>316
ND = 40 inch, rope 1/6" PFA>316
UA = 500 mm, coax 316L
UB = 19.5 inch, coax 316L

PROCESS CONNECTION
AEK = 1-½" 150lbs, PTFE>316/316L flange ANSI B16.5
AQK = 1-½" 300lbs, PTFE>316/316L flange ANSI B16.5
AFK = 2" 150lbs, PTFE>316/316L flange ANSI B16.5
ARK = 2" 300lbs, PTFE>316/316L flange ANSI B16.5
AGK = 3" 150lbs, PTFE>316/316L flange ANSI B16.5
ASK = 3" 300lbs, PTFE>316/316L flange ANSI B16.5
AHK = 4" 150lbs, PTFE>316/316L flange ANSI B16.5
ATK = 4" 300lbs, PTFE>316/316L flange ANSI B16.5
AJK = 6" 150lbs, PTFE>316/316L flange ANSI B16.5

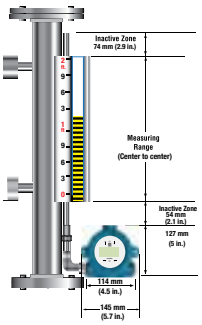
MTLT 5000
(LPC SERIES)

The MTLT5000-Magnetostrictive 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	
No maintenance required	Multi-drop HART Communications
FM Approved Explosion Proof/IS	NEMA 4x/7 enclosures
Modular design	Adjustable output damping
Up to .001" resolution	2-wire loop powered
RFI/EMI protection	Available up to 300 inches
Process temperature range: -30 to 250°F	Offers a 4/20 mA 2-wire loop powered circuit for continuous level measurement

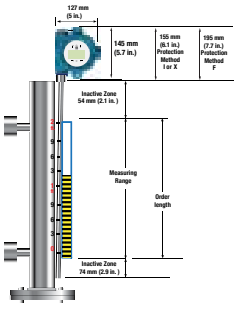


ELECTRONICS MOUNTING '4' TOP RIGHT



ELECTRONICS MOUNTING '6' BOTTOM RIGHT

"QTS STANDARD"



ELECTRONICS MOUNTING '7' TOP MOUNT

Temposonics
AN AMPHENOL COMPANY

MTLT 5000™ — **MTLT** ☐ **S**

OUTPUT
M = Modbus
D = DDA
3 = 1 Loop with HART®
4 = 2 Loop

ELECTRONICS MOUNTING
3 = 90° bend housing top left
4 = 90° bend housing top right
5 = 90° bend housing bottom left
6 = 90° bend housing bottom right [std.]
7 = Top Mount no bend

PROCESS CONNECTION TYPE
X = None

NUMBER OF DT'S (DIGITAL THERMOMETER)
X = None

NOTIFIED BODY
C = CEC (FMC)
E = ATEX
F = NEC (FM)
I = IEC

GAS GROUP
A = Group A
B = Group B
C = Group C
D = Group D
1 = IIA
2 = IIB
3 = IIC
X = None

MEASURING RANGE (NO DECIMAL SPACES)
☒ ☒ ☒ ☒ ☒
Rigid Pipe: 12 to 144 in
(code as 01200 to 14400)*
*Contact factory for longer length

☒ ☒ ☒ ☒ ☒
Rigid Pipe: 305 to 3658 mm
(code as 00305 to 03658)*
*Order length is equal to center to center dimension + 4" [102mm]

S = Standard Product

HOUSING TYPE
D = Single cavity with display
E = Dual cavity with display
L = SS single cavity w/ display

SENSOR PIPE
B = ⅝" OD pipe
R = ½" OD pipe

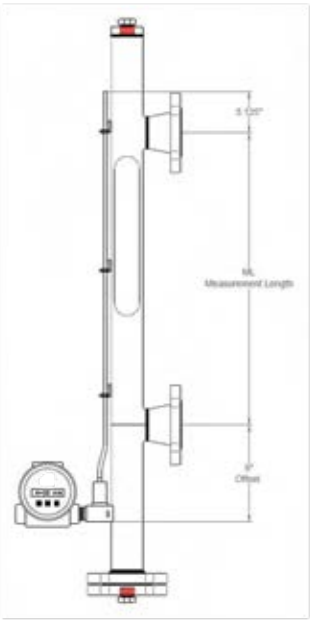
PROCESS CONNECTION SIZE
X = None

DT PLACEMENT
X = None

PROTECTION METHOD
I = IS
F = Flameproof Explosion Proof
X = No Approval

UNIT OF MEASURE
M = Metric: Millimeters
U = US Inches

MTLT 6000



The MTLT-6000 operates based on the magnetostrictive principle. The transmitter sends fixed interval current pulses (start pulse) down the length of the sensing wire, creating an electromagnetic field. When this electromagnetic field is interrupted by the magnetic field of the float, magnetostriction occurs. A constantvelocity torsional stress wave propogates along the length of the sensing wire from the position of the magnetic float. The piezoceramic sensing element converts the torsional stress to an electrical pulse (end pulse). The transmitter electronics measures the time interval between start and end pulses and uses this time to calculate the float position.

MTLT						S

MTLT 6000™

ENCLOSURE TYPE

S = Single compartment powder coated aluminum

MOUNTING POSITION

BL = Bottom mounted electronics left of MLG indicator (standard)

BR = Bottom mounted electronics right of MLG indicator

TL = Top mounted electronics left of MLG indicator

TR = Top mounted electronics right of MLG indicator

PROBE TYPE

S1 = Rated for process temperature to 250°F without chamber insulation.

S2 = Rated for process temperature to 500° F with insulation pad or chamber insulation.

HT90 = 90 degree bend in waveguide for high temperature service Rated for process temperature 850° F with chamber insulation.

LT = Transmitter housing offset from probe with vapor seal for cryogenic insulation.

LT90 = Transmitter housing offset from probe with 90 degree bend in probe for cryogenic service.

OPTIONS

VI = Vibration isolation mounting brackets

SW = Sensor well to allow removal of probe for cryogenic service

D = Dual level measurement (Interface and total level) (One output 4-20mA; one output HART)

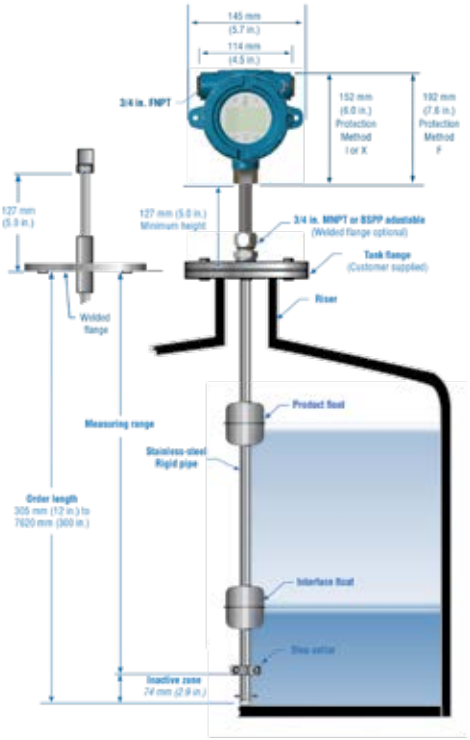
APPROVALS

FM = Standard FM Approval (US & Canada)

ATEX = ATEX Approval (pending)

S = Standard Product

LEVEL PLUS REFINEME®
(LPR SERIES)



Designed for process control in industrial environments: The Level Plus RefineME® liquid level transmitter satisfies the demand for an accurate and robust liquid-level sensor with unsurpassed flexibility to meet most process application conditions. The RefineME® transmitter provides 4-in-1 measurement using one process opening for product level, interface level, temperature and volume measurements. Once the transmitter is installed and calibrated there is no requirement for scheduled maintenance or recalibration for the expected 10 year life of the sensor.

- 4-IN-1 Measurement (Product, Interface, Temperature, Volume)
- Stainless steel, Nickel Alloy C-276, or FEP wetted parts
- Inherent Accuracy ±1 mm
- No scheduled maintenance or recalibration
- Hazardous area certified
- Set it and forget it!

Temposonics
AN AMPHENOL COMPANY

REFINEME®

OUTPUT
M Modbus
D = DDA
1 = Loop with HART®
2 = 2 Loop with HART®
5 = 1 Loop with HART® and SIL2
7 = 2 Loop with HART® and SIL2 Loop 1 only

ELECTRONICS MOUNTING
1 = Standard

MATERIALS OF CONSTRUCTION (WETTED PARTS)
1 = 316L stainless steel
3 = Hastelloy C
A = Teflon
C = CRN- Canadian Registration Number (FMC approval only)
Note: Contact factory for other materials

PROCESS CONNECTION SIZE
A = ¾ in. (DN20)
D = 2 in. (DN50)
E = 2-½ in. (DN65)
F = 3 in. (DN80)
G = 4 in. (DN100)
H = 5 in. (DN 125)
J = 6 in. (DN150)
X = None

DT PLACEMENT
F = Evenly spaced per API
C = Custom
X = None

PROTECTION METHOD
F = Explosion-proof / Flame Proof*
I = Intrinsically Safe
X = No approval
* Only for Housing Type D, E, or L

UNIT OF MEASURE
M = Metric: Millimeters
U = US customary: Inches

LENGTH (NO DECIMAL SPACES)
☒ ☒ ☒ ☒ ☒
Rigid pipe: 12 to 300 in. (code as 01200 to 30000)
☒ ☒ ☒ ☒ ☒
Rigid pipe: 305 to 7620 mm (code as 00305 to 07620)
*Order length is equal to center to center dimension

S
S = Standard Product

HOUSING TYPE
A = NEMA housing w/cable
B = NEMA housing w/terminal
C = NEMA housing w/connector
D = Single cavity with display
E = Dual cavity with display
L = SS single cavity w/display

SENSOR PIPE
B = 5/8" OD Rigid Pipe

PROCESS CONNECTION TYPE
1 = NPT adjustable (3/4 in. only)
2 = BSPP adjustable (3/4 in. only)
6 = 150 lb. welded RF flange
7 = 300 lb. welded RF flange
8 = 600 lb. welded RF flange
A = PN16, DIN 2572 welded flange
B = PN40, DIN 2572 welded flange
C = PN64, DIN 2572 welded flange
D = PN100, DIN 2572 welded flange

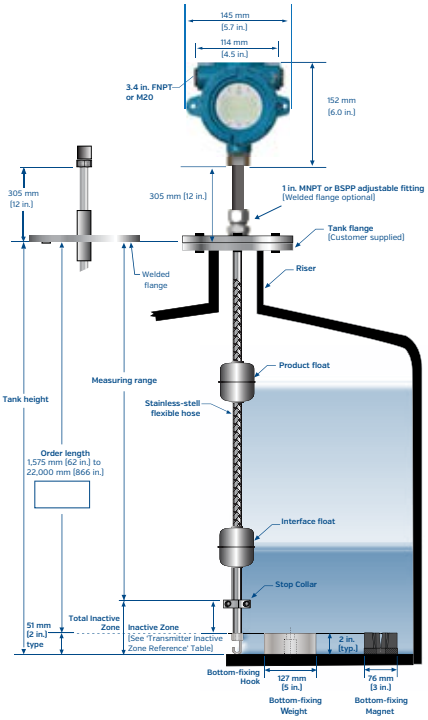
NUMBER OF DT'S (DIGITAL THERMOMETER)
0 = None
1 = One DT
5 = 5 DTs
K = Twelve DTs
M = Sixteen DTs

NOTIFIED BODY
C = CEC (FMC)
E = ATEX
F = NEC (FM)
I = IEC
X = None

GAS GROUP
A = Group A**
B = Group B
C = Group C
D = Group D
3 = IIC (Instrinsically Safe only)
4 = IIB + H2 (Explosion Proof / Flameproof only)
X = None
** Group A not available with C=CEC (FMC) notified body and F=Flameproof/Explosion Proof protection method

TANK SLAYER
(LPT SERIES)

The Level Plus® Tank Slayer® liquid level transmitter satisfies the demand for an accurate and robus liquid-level sensor with unsurpassed flexibility to meet most process conditions. The Tank Slayer® 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	
No maintenance required	Multidrop HART Communications
FM Approved Explosion Proof/IS	NEMA 4x/7 enclosures
Modular design	Adjustable output damping
Up to .001" resolution	2-wire loop powered
RFI/EMI protection	Available up to 866 inches
Process temperature range: -30	Offers a 4/20 mA 2-wire loop powered circuit for continuous level measurement

Temposonics
AN AMPHENOL COMPANY

LPT ☐ S

TANKSLAYER™

OUTPUT
M Modbus
D = DDA
1 = Loop with HART®
2 = 2 Loop with HART®

ELECTRONICS MOUNTING
1 = Standard

MATERIALS OF CONSTRUCTION (WETTED PARTS)
1 = 316L stainless steel

PROCESS CONNECTION SIZE
B = 1 in. [DN25]
D = 2 in. [DN50]
E = 2-½ in. [DN65]
F = 3 in. [DN80]
G = 4 in. [DN100]
H = 5 in. [DN125]
J = 6 in. [DN150]
X = None

DT PLACEMENT
F = Evenly spaced per API
C = Custom
X = None

PROTECTION METHOD
I = IS
X = No approval

UNIT OF MEASURE
M = Metric: Millimeters
U = US customary: Inches

LENGTH (NO DECIMAL SPACES)
☒ ☒ ☒ ☒ ☒
Rigid Pipe: 12 to 144 in
(code as 01200 to 14400)
☒ ☒ ☒ ☒ ☒
Rigid Pipe: 305 to 3658 mm
(code as 00305 to 03658)
*Order length is equal to center to center dimension

X = Standard Product

HOUSING TYPE
A = NEMA housing w/cable
B = NEMA housing w/terminal
C = NEMA housing w/connector
D = Single cavity with display
E = Dual cavity with display
L = SS single cavity w/display

SENSOR PIPE
M = Flexible, ⅞" OD tube w/bottom fixing eye
N = Flexible, ⅞" OD tube w/bottom fixing weight
P = Flexible, ⅞" OD tube w/bottom fixing magnet
S = Flexible, ⅞" OD tube w/o bottom fixing hardware

PROCESS CONNECTION TYPE
1 = NPT adjustable
2 = BSPP adjustable
6 = 150 lb. welded RF flange
7 = 300 lb. welded RF flange
8 = 600 lb. welded RF flange
A = PN16, DIN 2572 welded flange
B = PN40, DIN 2572 welded flange
C = PN64, DIN 2572 welded flange
D = PN100, DIN 2572 welded flange

NUMBER OF DT'S (DIGITAL THERMOMETER)
0 = None
1 = One DT
5 = 5 DTs
K = Twelve DTs
M = Sixteen DTs

NOTIFIED BODY
C = CEC (FMC)
E = ATEX
F = NEC (FM)
I = IEC
X = None

GAS GROUP
A = Group A
B = Group B
C = Group C
D = Group D
1 = IIA
2 = IIB
3 = IIC
X = None

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.

Questtec SOLUTIONS

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