



# MAG-GAGE® THE SUPERIOR MAGNETIC LEVEL GAUGE

- Patented Wide-Flag®  
Solid Design Magnet  
-350° / 1100° F rating
- Standard 2 to 4 week delivery  
Expedited delivery available
- Constructed to meet ANSI/ASME  
codes B31.1/B31.3 Min. Sch 40
- No Pressurized Floats
- All Welds are GTAW/TIG  
No MIG or T-Drilling
- Replaces Sightglasses

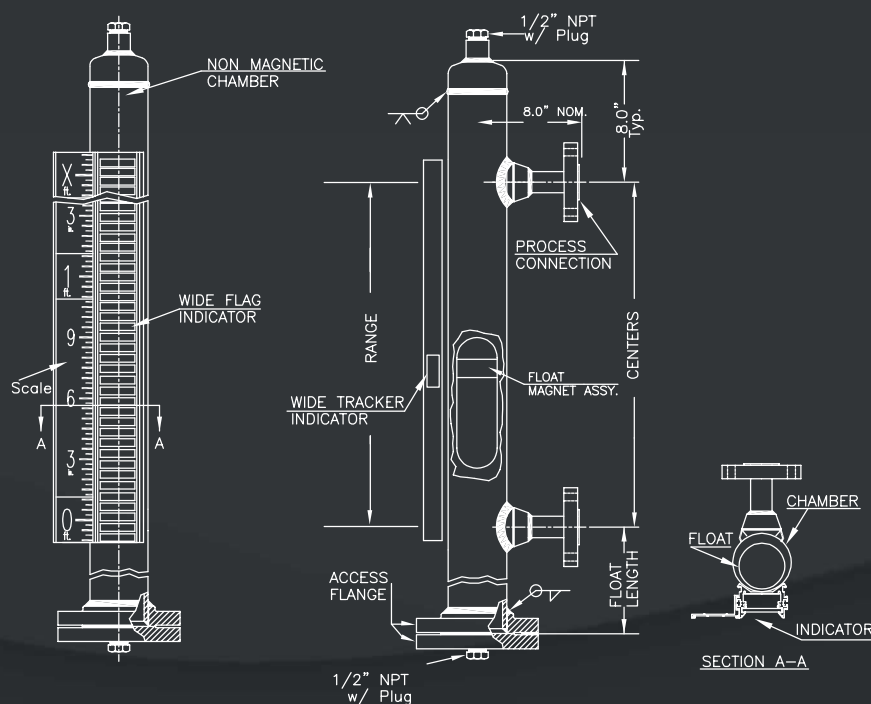


The Process Level Technology Mag-Gage® is a proven method to measure liquid levels. The Mag-Gage® is one of the safest and most economical ways to measure and control your level requirements. It can be installed on almost any shape, size or type of vessel in the industry. In applications of extreme pressure, temperature, vibration and highly corrosive or hazardous material the Mag-Gage® will perform where others fail.

### Principles of Operation

The Chamber is constructed of non-magnetic materials, and process connections to mate with those of the tank, vessel or other equipment where the level is to be measured.

The Float is engineered and located inside the Chamber. It is sized and weighed to the specific gravity of the process fluid to be measured. The float contains a 360° Magnetic Assembly which generates a strong uniform magnetic circuit. The magnetic Flux Lines generated by the float interlocks with the indicator. The hermetically sealed Indicator, the Wide Flag® or Wide Tracker® Style, contains its own magnetic assemblies which interlock with the float through the Chamber, providing a strong and reliable design. As the Float moves with the changes in the liquid level, the magnetic attraction between the Indicator and Float will ensure that the Indicator will track the position of the float exactly and the liquid level is measured precisely.



## INDICATORS



Wide Tracker®



Wide Flag®  
(Patented)

### Wide Tracker®

- Extra Large Rectangular Indicator
- 1.40" Wide X 1.5 Long
- Bright Yellow (other colors available)
- Dual Magnetic Coupling

### Wide Flag®

- Easy to read 1.40" Wide-Flag (Visible from 200+ ft.)
- Patented solid one piece ceramic magnetic flag
- 180 degree rotation
- Temperatures from -350°F to 1100°F
- High contrast Yellow (liquid) and Black (vapor)
- Other color combinations available

*Available Enclosures:*

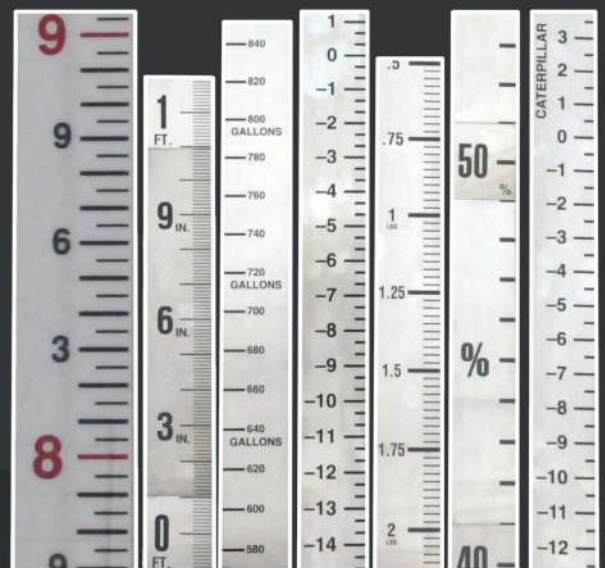
*Anodized Aluminum or 316 Stainless Steel*

## Scales

- Scale can be customized to any increments (ft./in., gallons, percent, metric, etc.)
- All scales are photo etched into Stainless Steel - No rusting, fading or stickers falling off
- Large, easy to read markings that allow measurement to be taken from a safe distance

### Scales Available In:

- |                            |                      |
|----------------------------|----------------------|
| • Feet/Inch Standard       | • Wide Acrylic Scale |
| • Metric                   | • Gallon Scale       |
| • % Scale                  | • +/- Scale          |
| • 10 <sup>th</sup> s Scale | • Inch only Scale    |



## POINT LEVEL SWITCHES



### MGS-200EX & MGS-200EX/2

Type	Electrical
Volts	150 VAC / VDC
Current	1.0 AMPS
Power	25 Watts
Contacts	SPDT or DPDT
Deadband	½ inch
MAWT	-40°F to +800°F
Enclosure	NEMA 4X
Connection	¾" FNPT

### MGS-700EX & MGS-700EX/2

Type	Electrical
Volts	125/250 VAC
Current	10.0 Amps
Power	2500 Watts
Contacts	SPDT or DPDT
Deadband	½ inch
MAWT	-40°F to +600°F
Enclosure	NEMA 4X
Connection	¾" FNPT

### MGS-500EX & MGS-500EX/2

Type	Electrical
Volts	500 VAC/VDC
Current	3.0 AMPS
Power	100 Watts
Contacts	SPDT or DPDT
Deadband	½ inch
MAWT	-40°F to +800°F
Enclosure	NEMA 4X
Connection	¾" FNPT

### MGS-900EX & MGS-900EX/2

Type	Electrical
Volts	125/250 VAC
Current	15.0 Amps
Power	3750 Watts
Contacts	SPDT or DPDT
Deadband	½ inch
MAWT	-40°F to +600°F
Enclosure	NEMA 4X
Connection	¾" FNPT



## Electrical Area Classification: Class I, Division I, Groups B, C, D

### MGS-100: NON-BLEED PNEUMATIC SWITCH



Type	Non-Bleed Pneumatic
Supply Pressure	VAC-200 PSIG
Deadband	½ inch
MAWT	0°F to 200°F
Enclosure	316SS
Connection	¼" FNPT





## A SUPERIOR MAGNETIC CIRCUIT

When designing the magnetic circuit between the float and indicator there are many considerations other than just how strong the magnets are in the float. The Mag-Gage® level gages have undergone extensive testing to produce a rigid and high performance design. With a unique construction the indication performs under the most demanding conditions such as high/low temperatures, vibrations, even schedule 160 chambers. Our patented solid magnet Wide Flag® design not only provides highly visible indication but provides a powerful connection with the float. The reliability and repeatability of the Mag-Gage® float and indicator combination is unmatched.



*CPVC Float*



*Kynar Float*



*Titanium High Pressure Float*



*High Pressure Interface Float  
with Field Adjustable Weight*



*Coated Float for Corrosive Process*



*Standard Stainless Steel Float*



*The Carbon Fiber Float® (Patented)*

- All floats are engineered to the specific operating conditions of each application.
- Shell is constructed of stainless steel, titanium, hasteloy, monel, CPVC, PVDF (Kynar), or any other non-magnetic material.
- Magnetic circuit is made of a series of Alnico magnets to provide a light yet effective connection.
- We can handle the highest pressures in the industry with no oversized, pressurized or vented floats. Pressurized floats can be a safety concern and can leak over time.
- PLT uses solid engineering to conquer the demands of high pressures and low gravities.

# MAG-GAGE® LIQUID LEVEL ORDERING GUIDE

## Standard Specifications

- Non-Magnetic Chamber material
- All Flanges, Fittings and Pipe meet ASME/ANSI Standards
- Fabricated/Welded to B31.1/B31.3 code

## Scale

- Feet and Inches, ¼" divisions
- Photo etched and backfilled on stainless steel
- Metric, Percentage, or Volumetric available
- Optional 3½" Acrylic scales

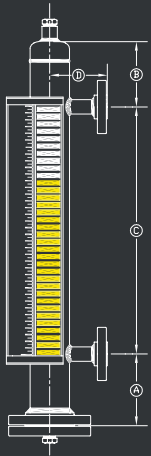
## Float Chamber

- 2" to 3" pipe W/RF Flanges - Sch 40
- ½" FNPT vent and drain connections
- All flanges and fittings rated for process conditions
- Connections: ½" through 8" plus
- Pressure ratings vacuum to 5000 PSIG
- Temperature Rating: -350°F to +1100°F
- Specific gravity range: 0.28 and up
- Lengths from 4.0" to 50 feet

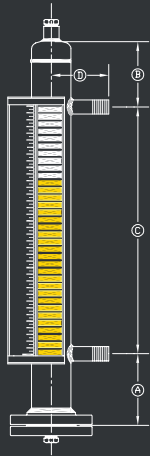
## Indicator

- Bright colored
- Can be seen from 200 ft. or more
- 1.4" wide
- Hermetically Sealed

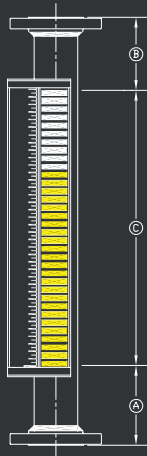
## Chamber Styles



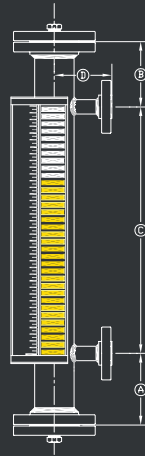
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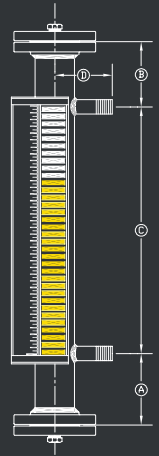
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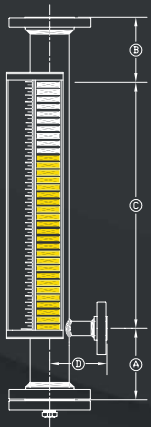
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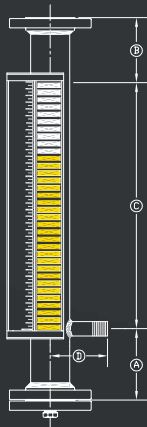
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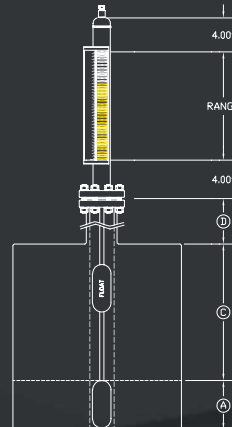
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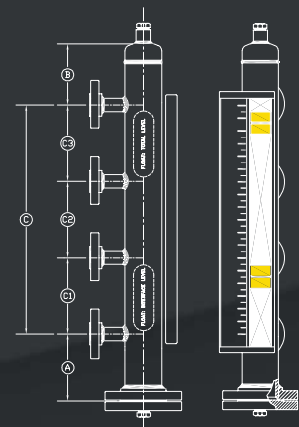
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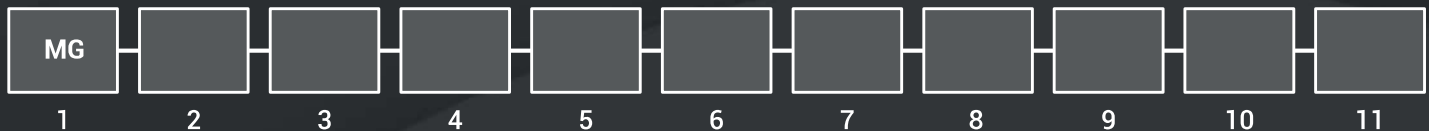
Style G



Style H



Style X (Other Configurations)



1	Model	2	Material
	MG: Mag-Gage®	4S: 304/304L SS    4H: Halar Coated 304 SS    HB: Hastelloy B    KY: Kynar (PVDF) 4C: 304 SS/CS    AL: Aluminum    HC: Hastelloy C    PP: Polypropylene 6S: 316/316L SS    A2: Alloy 20    ZR: Zirconium    CM: Other material 6C: 316 SS/CS    MO: Monel    CP: CPVC 2S: 321 SS    TT: Titanium    PV: PVC	

3	Style	4	Process Connection	5	Flange Rating
	Specify Options		Specify Size	01: 150#    06: 600#    15: 1500# 03: 300#    09: 900#    25: 2500#	

6	Specific Gravity	7	Pressure	8	Temperature	9	Length
	Specify		Unit in PSIG		Unit in Fahrenheit		Specify

10	Indicator
	WF: Wide Flag®    SWF: SS Wide Flag®    WT: Wide Tracker®    SWT: SS Wide Tracker®

11	Options
	<div> <p><b>Chamber</b></p> <p>WN: Weld Neck Flanges            LJ: Lap Joint Flanges            RJ: Ring Joint Flanges            BW: All Butt Weld Construction            NM: NACE MR0175/MRO103            4T: Teflon Lined 304 SS            NS: Non-Stick Coating            DC: Dual Chamber            EG: E-Gauge            NST: Nano Non-Stick Treatment</p> <p><b>Valves</b></p> <p>DV: Drain Valves            VD: Vent &amp; Drain Valves            (Specify Ball or Gate)</p> </div> <div> <p><b>Temperature Controls</b></p> <p>CI: Low Temp. Cryogenic Insulation            IB: High Temp. Insulation Blanket            EH: Electrical Heat Tracing            FP: Freeze Protection            ST: Steam Tracing            FE: Frost Extension</p> <p><b>Testing</b></p> <p>HY: Hydrostatic            NDE: 100% Non-destructive Testing            (Die Penetration, X-Ray)            PMI: Positive Material Identification</p> </div> <div> <p><b>Indication and Scale</b></p> <p>MS: Metric Scale            PS: Percent Scale            VS: Volumetric Scale            AS: 3 ½ " Acrylic Scale            FE: Non Frost Extension            DI: Dual Indication            IF: Interface Indication            AR: Level Arrow Indicators            IL: Illuma-Mag™            IG: Indicator Guard            HDC: Heavy Duty Mounting Clamps</p> </div>

## MAG-TRANS® PREMIER LEVEL TRANSMITTER

The Mag-Trans® 2523 Series Level Transmitter is the next generation in Magnetostrictive Level Sensing Technology. It contains a dual compartment enclosure attached to the piezomagnetic wave guide sensor. The output is reliable, repeatable, fast and accurate.

- Standardized Dual Compartment
- Stainless Steel Enclosure Option
- Two Wire: Loop Powered
  - 10-30 Vdc (24 Vdc Nominal)
- Graphic Display:
  - Inch-Metric-Percent
  - Scroll-Tile
- HART – Protocol
- PACTware
- Local Programming
- Repeatable
- Reliable
- Variable Range
- Process Temperatures: -50°F to +800°F
- Class 1, DIV 1, GRP B, C, D



### Specifications

Accuracy	+/- 0.015
Repeatability	.001% Full Span
Linearity	.020% Full Span
Refresh Rate	25x per second
Damping	1.0-25.0 Seconds
Electrical Classification	Class 1, Div 1, Grp B, C, D

Input	10-30 Vdc (24 Vdc Nominal)
Output	4-20mA, HART
Software	HART/PACTware
Display	LCD-Graphic
Process Temperature	-50°F to 800°F
Ambient Temperature	-25°F to 175°F





# MAG-TRANS® ORDERING GUIDE



<b>1</b>	Model	<b>2</b>	Length	<b>3</b>	Mounting Location	<b>4</b>	Dual Compartment Housing Material
MT 2523		Unit in Inches		<b>BML:</b> Bottom Left <b>TML:</b> Top Left <b>BMR:</b> Bottom Right <b>TMR:</b> Top Right		<b>ALE:</b> Epoxy Coated Aluminum <b>SSE:</b> All 316 Stainless Steel	

<b>5</b>	Probe Material	<b>6</b>	Temperature	<b>7</b>	Options
6S: 316 Stainless Steel		Unit in Fahrenheit		<b>HT:</b> High Temp <b>RD:</b> Remote Display <b>FM:</b> FM Approved US/Canada <b>FRD:</b> Field Mounted Loop Powered Indicator <b>FRDS:</b> All Stainless Steel FRD	

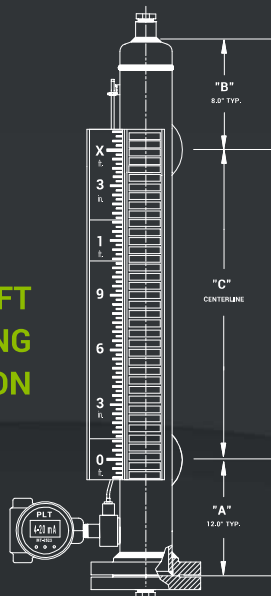


**FRD:** Field Mounted, Loop Powered Indicator - Can be externally mounted anywhere within power loop. Epoxy Coated Aluminum or 316 SS Class1, Div1, Group B, C, D

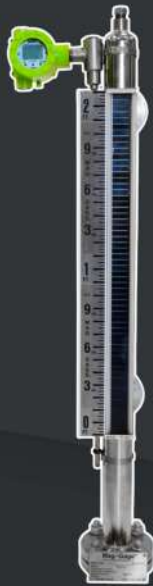
**FRDS:** All 316 Stainless Steel

## Installation Options

**LEFT MOUNTING POSITION**

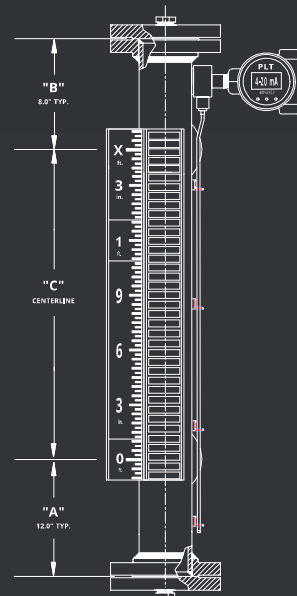


**BML**



**TML**

**RIGHT MOUNTING POSITION**

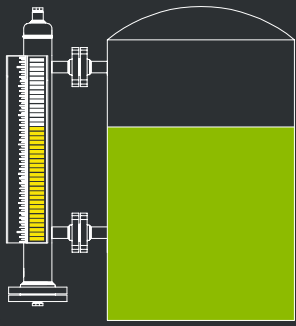


**TMR**

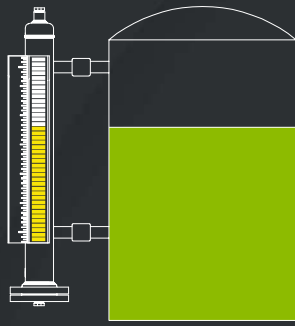


**BMR**

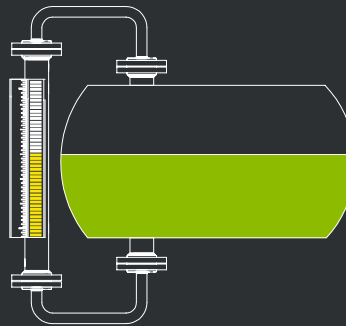
## GENERAL INSTALLATIONS



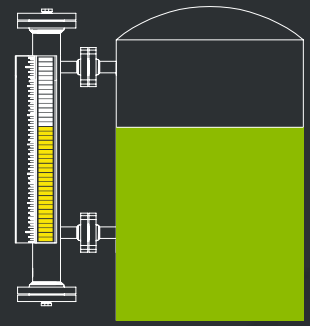
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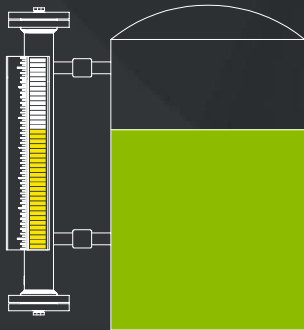
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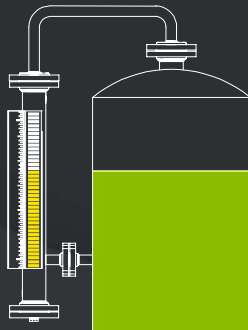
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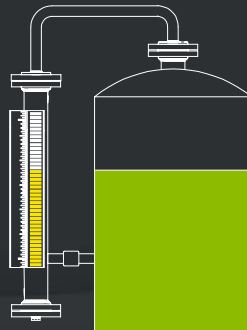
Style D



Style E



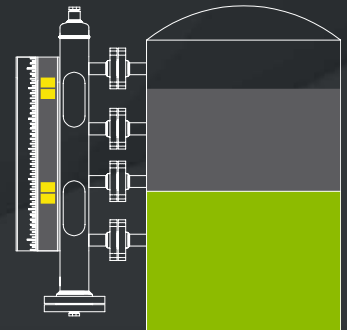
Style F



Style G



Style H



Style X

## Applications

- Acetic Acid
- Ammonia
- Asphalt Settler
- Benzene
- Blow case
- Boiler Steam Drum
- Butane
- Caustics
- Cooling Towers
- Deionized Water
- Dow Therm
- Drip Pot
- Feedwater Heaters
- Flare Drums
- Freon
- Glycol
- Hydraulic Oil
- Hydrazine
- Hydrochloric Acid
- Hydrofluoric Acid
- Hydrogen Sulfide
- Interface (i.e. oil/water)
- Jet Fuel
- LPG
- Liquid Carbon Dioxide
- Liquid Ethylene
- Molten Sulfur
- Phosgene
- Propylene
- Propane
- Seal Oil Pots
- Slop Oil
- Sour Oil
- Sump Tank
- Underground Storage
- and more...

## Other Products



Bypass



IT2523



Seal Pot



Day Tanks

## OPTIONS AND CUSTOMIZATIONS



### SANITARY MAG-GAGE®

*Tri-colored flags*



### DUAL CHAMBER

*Options: MAG-TRANS®,  
Guided Wave Radar*



### PLASTICS

*Options: CPVC, KYNAR, Others*



### HIGH TEMPERATURE INSULATION



### CRYOGENIC INSULATION



### INTEGRAL SIGHTGLASS

## INQUIRIES

Upon product inquiry, a thorough analysis of the customer's application and product specifications is performed. Promptly after the initial inquiry, PLT issues a quotation in complete compliance with the application/specifications previously submitted.

## DELIVERABLES

After purchase date, a standard shipping term between 2 to 4 weeks will be issued with all standard orders. Requests for a faster delivery, or immediate (24 hour) delivery can be accommodated. Any delivery requirements are to be given with initial inquiry in order to ensure on time delivery.



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MADE IN USA