CORROSIVE SERVICE · PRODUCT BROCHURE

POLYSIGHT™

CPVC and PVDF magnetic level gauge



Polysight™ is a CPVC and PVDF magnetic level gauge designed for acids, caustics and salts in chemical storage tanks, water and wastewater treatment, and OEM skid systems. The thermoplastic chamber has no glass and, with a standard non-metallic float, no metal in the wetted path. The indicator mounts outside the chamber, isolated from the process.

Built for low-pressure corrosive service to 150 psig (10 bar) and +120 °C, Polysight replaces the sight glasses and metal gauges used on aggressive chemicals. For higher pressure or temperature, Magnamont™ and Fortimag™ provide the same magnetic level indication in metal.

CONTENTS

- Industries served
- MagnaLine™ floats
- ClearView™ indicators
- Principle of operation
- Model code reference

REQUEST A QUOTATION →

lamontcontrols.com/request-a-quote

to 150 psig	−20 / +120 °C	to 222 in	CPVC · PVDF
10 bar	−4 / +248 °F	5,640 mm	thermoplastic
PRESSURE	TEMPERATURE	LENGTH	MATERIALS

01 Polysight™ CPVC and PVDF magnetic level gauge

A thermoplastic magnetic level gauge for corrosive, low-pressure service: glass-free, with no metal in the wetted path when fitted with a standard non-metallic float, and compatible with LevelSync™ transmitters and SurePoint™ switches.

Thermoplastic wetted path

DESIGN FEATURE

CPVC or PVDF, selected for the process chemistry. Both resist the acids, caustics and salts that corrode metal. With a standard non-metallic float, the wetted path has no glass and no metal.

IN SERVICE

The chamber material is selected for the acid, its concentration and the operating temperature at quotation; the buyer confirms chemical compatibility. PVDF construction suits high-purity chemical distribution, with no metal ions in the wetted path.

Glass-free chamber

DESIGN FEATURE

Polysight™ indicates the level of aggressive chemicals without glass. A sealed thermoplastic chamber replaces the sight glass, so the gauge has no glass to break under thermal shock or impact.

IN SERVICE

Personnel exposure to hazardous media at the gauge is reduced. Operators read the level on the external indicator, outside the sealed thermoplastic chamber, not through a sight glass.

Automation without new nozzles

DESIGN FEATURE

LevelSync™ transmitters and SurePoint™ switches clamp to the outside of the chamber and are actuated by the float's magnet. They add a standard 4–20 mA output, with optional digital communication depending on configuration, and point-level alarms.

IN SERVICE

Continuous measurement and point-level alarms are provided on a sealed, non-metallic boundary. The transmitter and switches have no wetted parts, require no additional vessel nozzle, and are fitted at the factory or in the field.

Matched to the service

DESIGN FEATURE

Each gauge is engineered to order for the chemistry, temperature and specific gravity. The float material and weighting are selected for the fluid, and the ClearView™ indicator is matched to the service temperature.

IN SERVICE

Indicators range from a fully non-metallic PVC-flag indicator to stainless-flag indicators for elevated temperature. Each indicator carries its own maximum-temperature rating.

CONSTRUCTION AND TESTING | ANSI 150 flange class (DIN PN10 · JIS available on request) · Full vacuum to 150 psig / 10 bar · Solvent- and fusion-bonded thermoplastic construction · Pressure tested before shipment; hydrostatic test at not less than 1.5 × design pressure and a 24-hour water-fill leak test where specified

02 Industries served

Polysight™ is designed for corrosive and chemically aggressive service across the process industries. Each gauge is engineered to order for the chemistry, the vessel and the fluid's specific gravity.



Chemical processing and storage

Sulfuric and hydrochloric acid, caustics and sodium hypochlorite in day tanks, storage tanks and batch systems. The chamber is selected for the acid, its concentration and the operating temperature at quotation. For high-pressure or high-temperature service in metal, see Magnamont™ and Fortimag™.



Water and wastewater treatment

Chemical feed and dosing systems (hypochlorite, alum, polymer, ferric chloride), and filtration and disinfection skids.



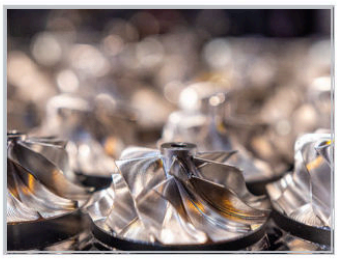
Seawater and desalination

RO trains, intake and brine service, and coastal installations exposed to chloride attack.



Chlor-alkali and bleach chemistry

Chlorine-side chemistry, hypochlorite generation and HCl handling. Chambers are engineered for oxidizing service.



Metal finishing and surface treatment

Compact, chemical-resistant level indication at the tank for plating baths, pickling acids and anodizing lines.



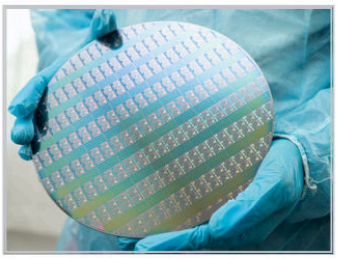
Mining and hydrometallurgy

Acid leach solutions, electrolyte circuits and reagent storage. For autoclave service, see Fortimag™.



Pulp and paper bleaching

Bleach-plant chemistry and chemical storage.



Semiconductor and high-purity chemicals

PVDF construction for aggressive and high-purity chemical distribution, with no metal ions in the wetted path.



Demineralized and ultrapure water

DI and polished-water systems that specify plastic wetted parts.



Food, beverage and CIP chemistry

Caustic and acid CIP solution storage and dosing. The gauge is sealed, glass-free and washdown-tolerant.



Aquaculture and marine systems

Seawater loops and treatment systems, onshore and shipboard. The gauge resists salt atmosphere and splash.



OEM dosing and treatment skids

Water-treatment and chemical-dosing skids. Custom lengths are repeatable, and one approved drawing covers a production run.

Also serving: pools and recreational water · irrigation and fertigation · odour-control and scrubber chemistry · electroplating job shops · laboratory and specialty chemicals.

ENGINEERED TO ORDER

Quality, testing and documentation

Each Polysight™ gauge is engineered to order. The chamber material is selected for the process chemistry, the length is cut to the vessel, and the float is precision-weighted for the fluid's specific gravity, down to a minimum SG of 0.59.

The approval drawing is issued after the purchase order. The solvent- and fusion-bonded joints and the complete assembly are inspected. Pressure tested before shipment; hydrostatic test with clean water at not less than 1.5 × design pressure (1 hour minimum) where specified. Where specified, a 24-hour water-fill test after the hydrostatic test; no visible leakage or weeping. For strong acids, caustics, hypochlorite or high-purity chemistry, the chamber material, the ClearView™ indicator temperature rating, custom scales graduated to the tank volume and special connections are engineered together.

DOCUMENTATION

- **Approval drawings** with every order
- **Joint and assembly inspection**
- **Hydrostatic and water-fill tests** where specified
- **Custom scale graduation** by volume or height
- **One point** of engineering contact



Engineered to order. Made in Canada. Approval drawing issued after the purchase order; test certificates available.

03 MagnaLine™ floats

For corrosive service, MagnaLine™ floats are selected for the fluid, the temperature and the chemistry. Each float is precision-weighted for the fluid's specific gravity.



Polypropylene (PP)

MAGNALINE™ OPTIONAL

Solid polypropylene float, precision-weighted for the fluid's specific gravity, for general corrosive service. SG ≥ 0.59, rated to 80 °C.



PVDF (PV)

MAGNALINE™ STANDARD · PVDF

PVDF fluoropolymer float for aggressive and high-purity chemistry where broad chemical resistance and higher temperature are required. SG ≥ 0.79, rated to 100 °C.



PTFE (TF)

MAGNALINE™ STANDARD · CPVC

All-PTFE float for hydrochloric acid and aggressive reducing service; the standard float for CPVC chambers. SG ≥ 0.84, rated to 120 °C (248 °F); low-pressure service, consult factory.



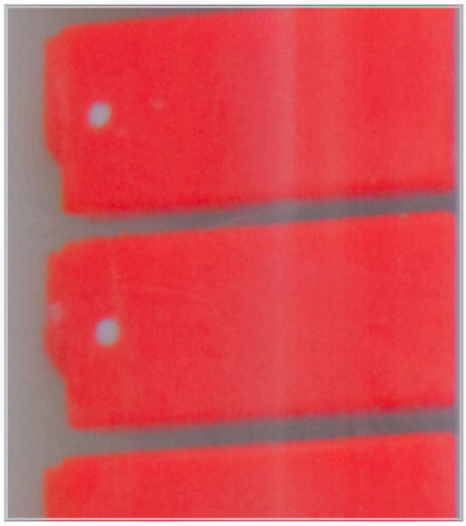
Custom (CU)

MAGNALINE™ ENGINEERED

Coated floats, alternative thermoplastics, exotic alloys and interface-service float designs, engineered to the application. Consult factory.

04 ClearView™ indicators

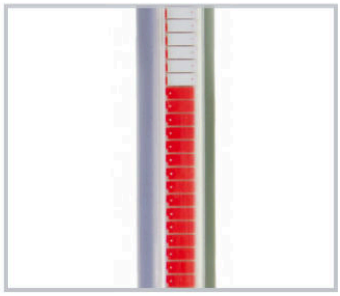
Matched to service temperature



The ClearView™ indicator gives clear, continuous local level indication with no mechanical linkage and no process penetration. It mounts outside the chamber, is driven by the float's magnetic field and has no contact with the process. Polysight™ indicators are matched to the service temperature: fully non-metallic PVC-flag indicators for corrosive fumes and lower temperatures, and stainless-flag indicators for higher temperatures. Each indicator carries its own maximum-temperature rating.

Custom scales and readout units

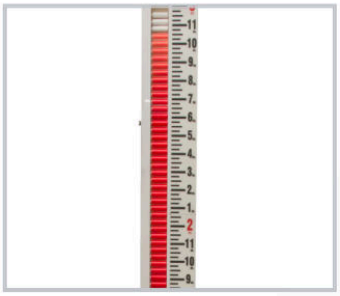
Indicators can be supplied with custom scale markings to suit the application. Standard linear scales are in inches, feet or metric units. Percent (0–100 %), dual scales and volumetric scales (gallons, litres), graduated to the tank volume from the vessel geometry, are also available.



PVC flags · transparent PVC housing

CLEARVIEW™ · IPVC-80 (STANDARD)

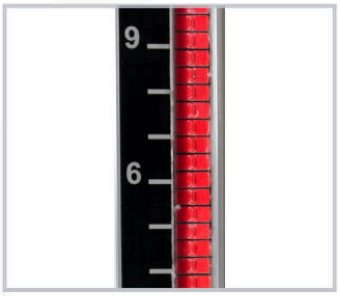
PVC flags in a transparent PVC housing: a fully non-metallic indicator for corrosive-fume environments. Rated to 80 °C.



PVC flags · aluminum housing

CLEARVIEW™ · IPVC-120

PVC flags in an aluminum housing with scale, for higher-temperature corrosive service. Rated to 120 °C.



Stainless flags · aluminum housing

CLEARVIEW™ · ISFS-300

Stainless steel flags in an aluminum housing with scale, for elevated temperature where the atmosphere permits a metal-housed indicator. Rated to 300 °C (indicator rating; Polysight ceiling 120 °C).



Hermetically sealed

CLEARVIEW™ · HS-80

Hermetically sealed, argon-filled indicator; condensation- and fog-proof, for humid, washdown or corrosive-fume atmospheres. Rated to 80 °C.

Also available: no-indicator configuration (IX) for transmitter-only or switch-only service.

05 Principle of operation

1 Float

- A sealed MagnaLine™ float carries a permanent magnetic assembly. The float is weighted for the fluid's specific gravity and floats at the liquid surface.
- As the level rises or falls, the float moves with it inside the sealed thermoplastic chamber.

2 Magnetic coupling

- The float's magnetic field couples through the chamber wall to the ClearView™ indicator mounted outside the chamber.
- The indicator follows the float and shows the level without contact with the process.

3 Visual indication

- The indicator is a column of rotating flags, in PVC or stainless steel to suit the service temperature. Each flag turns as the float passes: one colour shows liquid below, the other vapour above.
- The reading is clear and continuous. There is no glass in the pressure boundary and no wetted electronics.

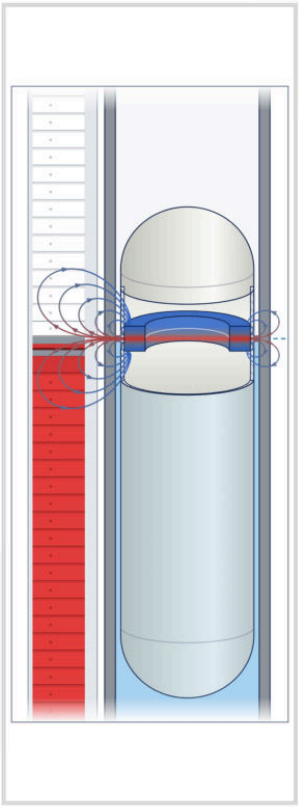
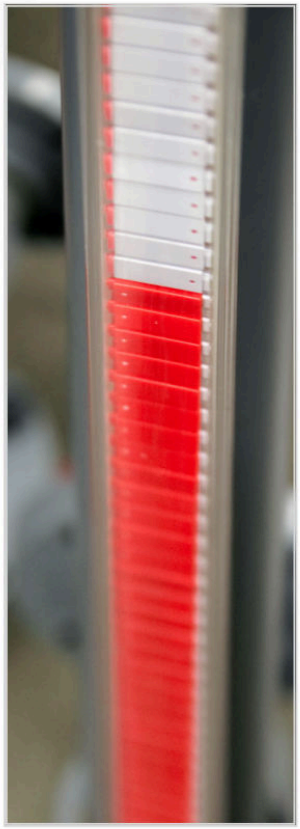


Illustration · section at the float magnet



Sealed, non-invasive design

- **Contained process:** The process fluid is contained within an all-thermoplastic, glass-free boundary.
- **No wetted indicator parts:** No glass, probes or electronics are exposed to the process.
- **Fewer leak paths:** The construction reduces potential leak paths, emissions and contamination risk.

06 Why a magnetic level gauge

A magnetic level gauge gives sealed, non-invasive liquid level indication. It suits corrosive and chemically aggressive process applications, where safety, reliability and maintenance access are critical and where glass and metal have a limited service life in the media.

01

Safety

No glass to break or corrode

No glass:
A sealed thermoplastic chamber replaces the sight glass, so the gauge has no glass to break under thermal shock or impact.

Sealed containment:
The thermoplastic chamber keeps hazardous and corrosive media contained at the gauge.

Reduced exposure:
Personnel exposure to hazardous or corrosive fluids is reduced.

02

Corrosion resistance

No wetted metal:
With a standard non-metallic float, the wetted path is thermoplastic, resistant to the acids, caustics and salts that corrode metal.

No wetted indicator parts:
The indication path has no wetted seals, packing or electronics.

Simplified inspection:
Inspection effort and lifecycle maintenance requirements are reduced.

03

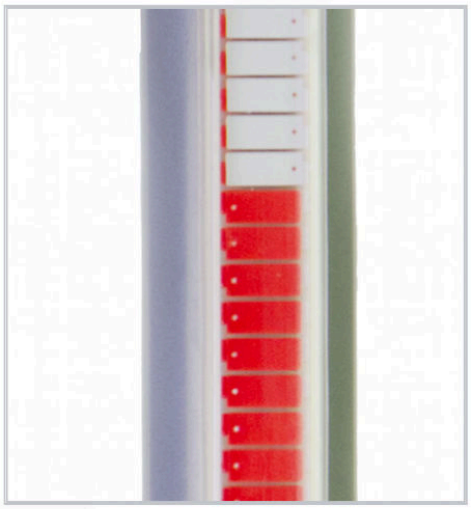
Mechanical reliability

Magnetic coupling:
The float and the external indicator are linked through the chamber wall by magnetic coupling.

No power to read:
Local indication requires no electronics, power supply or calibration.

Harsh atmospheres:
PVC-housed indicators are recommended for corrosive fumes; hermetically sealed indicators for condensation, humidity or washdown.







Engineered, manufactured, and tested in the Greater Toronto Area, Ontario, Canada.

LEAD TIME | Engineered to order and made in Canada. Expedited builds available; contact Lamont Controls Engineering for current lead times.

07 Technical specifications

CATEGORY	OPTIONS / SPECIFICATIONS	
Chamber configurations	Side–Side · Top–Bottom · Top–Side · Bottom–Side · Top Mount.	
Chamber diameters	2″ (schedule and material per design requirements). Custom sizes (SP) available on request.	
Measuring range	Standard lengths to 222 in (5,640 mm) centre-to-centre; longer lengths on request.	
Accuracy	Typical ±10 mm (±0.4 in), subject to float design and application conditions.	
Specific gravity range	≥ 0.59 minimum, subject to float design and application conditions.	
Pressure range	Full vacuum to 150 psig (10 bar). Flange class: ANSI 150 standard; DIN PN10 · JIS J5K available on request. Pressure and temperature ratings depend on materials, connections and configuration, and are confirmed at quotation.	
Temperature range	Operating range −20 °C to +120 °C (−4 °F to +248 °F), material-dependent. Chamber ceiling: CPVC ~93 °C, PVDF ~120 °C (service-dependent). Maximum operating temperature is further limited by float rating (PP 80 °C, PVDF 100 °C, PTFE 120 °C).	
Float materials — MagnaLine™	Polypropylene (PP)	SG ≥ 0.59, ≤ 80 °C
	PVDF (PV)	SG ≥ 0.79, ≤ 100 °C
	PTFE (TF)	SG ≥ 0.84, ≤ 120 °C, low-pressure service — consult factory
	Custom (CU)	Consult factory
Chamber materials	CPVC (standard). PVDF. Custom / exotic (CC) — consult factory.	
Construction	Industrial Grade (IG) — thermoplastic fabrication.	
Process connections	Flanged (FL), FNPT, MNPT. Sizes 1″, 1.5″, 2″ (default); 3″ consult factory. Custom (CS) available on request.	
Indicator options — ClearView™	IPVC-80	PVC flags, transparent PVC housing — max 80 °C (standard)
	IPVC-120	PVC flags, aluminum housing with scale — max 120 °C
	ISFS-300	Stainless steel flags, aluminum housing with scale — 300 °C (indicator rating; Polysight ceiling 120 °C)
	HS-80	Hermetically sealed indicator, argon-filled, condensation / fog-proof — max 80 °C
	IX	No indicator
	Note	For corrosive-fume environments, PVC-housed indicators (IPVC-80) are recommended; hermetically sealed (HS-80) for condensation, humidity, or washdown.
FloatSense™	FloatSense™ (FS) float-integrity monitoring available; NF = none (default).	

07 Technical specifications · continued

CATEGORY	OPTIONS / SPECIFICATIONS	
Scale options	Feet & Inches (IMP) · Metres / cm (MET) · Percent 0–100 % (PER) · Gallons (GAL) and Litres (LIT), each custom-graduated to tank volume · No Scale (NS) · Custom (CUS).	
Vent & drain options	Threaded: FNPT (standard) or MNPT. Sizes ½″ (default), ¾″, 1″. Flanged vents / drains: consult factory. No vent = NV-00 · No drain = ND-00.	
Surface finishes	Natural (NT) standard. Painted (PT) on CPVC only for outdoor / UV service — not available on PVDF.	
Options & accessories	MLT	LevelSync™ magnetostrictive level transmitter
	PLS-1 to PLS-8	SurePoint™ clamp-on switches (Qty 1–8)
	INTSGX.XX	Interface service — second liquid SG (specify, e.g. INTSG0.85)
	X	Custom options
Testing & quality assurance	Inspection	Visual inspection of solvent- and fusion-bonded joints and overall assembly
	Pressure testing	Pressure tested before shipment; hydrostatic test with clean water at not less than 1.5 × design pressure (1 hour minimum) where specified
	Leak testing	Where specified, a 24-hour water-fill test after the hydrostatic test; no visible leakage or weeping
	Documentation	Test certificates available
	Additional	Inspection methods available upon request, where applicable

08 Model code reference

A Polysight™ gauge is defined by an 18-position model code. Each position selects a chamber, float, indicator or construction option.

Codes such as IPVC-120 and HS-80 are single field values; positions are delimited by field, not by every hyphen.

01	02	03	04	05	06	07	08	09
PRODUCT	CONFIG	MATERIAL	SIZE	FLOAT MATL.	FLOAT SG	PRESSURE	CONSTRUCTION	CONN TYPE

10	11	12	13	14	15	16	17	18
CONN SIZE	INDICATOR	FLOATSENSE	SCALE	C-C LENGTH	VENT	DRAIN	FINISH	OPTIONS

POSITION REFERENCE · 01–10

01 Product Type

PS	Polysight — plastic

02 Chamber Configuration

SS	Side–Side (standard)
TB	Top–Bottom
TS	Top–Side
BS	Bottom–Side
TM	Top Mount

03 Chamber Material

CPVC	CPVC (standard)
PVDF	PVDF — aggressive / hot corrosive service
CC	Custom / exotic — consult factory

Service temperature ceiling per material: CPVC ~93 °C, PVDF ~120 °C (service-dependent).

04 Chamber Size

02	2" (only)
SP	Special — custom only

05 Float Material

PP	Polypropylene — SG ≥ 0.59, ≤ 80 °C
PV	PVDF — SG ≥ 0.79, ≤ 100 °C
TF	PTFE — SG ≥ 0.84, ≤ 120 °C, low-pressure service — consult factory
CU	Custom / consult factory

06 Float Specific Gravity

SGX.XX	User-specified (e.g. SG1.00, SG0.85, SG0.60)

Polysight minimum SG ≥ 0.59.

07 Pressure / Flange Class

150	ANSI 150 (standard)
PN10	DIN PN10 — available on request
J5K	JIS 5K — available on request

08 Construction Code

IG	Industrial Grade — thermoplastic fabrication

09 Process Connection Type

FL	Flanged
FNPT	Female NPT
MNPT	Male NPT
CS	Custom

10 Process Connection Size

ANSI / NPT	01 (1") · 15 (1½") · 02 (2", standard) · 03 (3", consult factory)
CS	Custom
DIN	DN25 · DN40 · DN50 — available on request
JIS	25A · 40A · 50A — available on request

08 Model code reference · continued

POSITION REFERENCE · 11–18

11 Indicator Configuration

IPVC-80	PVC flags, transparent PVC housing — 80 °C (standard)
IPVC-120	PVC flags, aluminum housing with scale — 120 °C
ISFS-300	Stainless steel flags, aluminum housing with scale — 300 °C (indicator rating; Polysight ceiling 120 °C)
HS-80	Hermetically sealed indicator, argon-filled, condensation / fog-proof — 80 °C
IX	No Indicator

For corrosive-fume environments, PVC-housed indicators (IPVC-80) are recommended; hermetically sealed (HS-80) for condensation, humidity, or washdown.

12 FloatSense™

NF	No FloatSense (standard)
FS	FloatSense™ float-integrity monitoring

13 Scale

IMP	Feet & Inches (Imperial)
MET	Metres / cm (Metric)
PER	Percent 0–100 %
GAL	Gallons — custom-graduated to tank volume
LIT	Litres — custom-graduated to tank volume
NS	No Scale
CUS	Custom

14 Centre-to-Centre Length

XX.XV	Inches — e.g. 120.0V
XXXXE	Millimetres — e.g. 2540E

Standard lengths to 222 in (5,640 mm) centre-to-centre; longer lengths on request.

15 Vent — Type

M	MNPT
F	FNPT
NV	No Vent

15 Vent — Size

05	0.5" (standard)
75	0.75"
1	1"
00	No Vent

No vent = NV-00. Polysight vents are threaded (FNPT standard, MNPT); flanged vents: consult factory.

16 Drain — Type

M	MNPT
F	FNPT
ND	No Drain

16 Drain — Size

05	0.5" (standard)
75	0.75"
1	1"
00	No Drain

No drain = ND-00. Polysight drains are threaded (FNPT standard, MNPT); flanged drains: consult factory.

17 Finish

NT	Natural / as-moulded (standard)
PT	Painted

Painted finish available on CPVC for outdoor / UV service. Not available on PVDF.

18 Options (stackable)

MLT	LevelSync™ magnetostrictive level transmitter
PLS-1 to PLS-8	SurePoint™ clamp-on switches, Qty 1–8
INTSGX.XX	Interface service — second liquid SG (specify, e.g. INTSG0.85)
X	Custom Options

SAMPLE CONFIGURATIONS

Acid tank · CPVC chamber · PTFE float

`PS-SS-CPVC-02-TF-SG1.15-150-IG-FL-01-IPVC-120-NF-IMP-120.0V-F-05-F-05-NT`

Water treatment · PTFE float · sealed indicator

`PS-TB-CPVC-02-TF-SG1.00-150-IG-FNPT-01-HS-80-NF-IMP-96.0V-F-05-F-05-NT`

OEM skid · PVDF chamber · DIN flange · no vent / drain

`PS-SS-PVDF-02-PV-SG1.20-PN10-IG-FL-DN25-IPVC-80-NF-PER-48.0V-NV-00-ND-00-NT`

NEXT STEP

Specify a Polysight™ gauge

Send the process conditions to Lamont Controls Engineering, or request a quotation online.

REQUEST A QUOTATION →

lamontcontrols.com/request-a-quote

RELATED PRODUCTS

Lamont Controls product family

Magnamont™

INDUSTRIAL SERVICE

316 stainless steel magnetic level gauge; glass-free indication to 3,400 psig (234 bar) and +450 °C.

Fortimag™

EXTREME SERVICE

High-pressure magnetic level gauge, to 5,000 psig; Class 2500 flanges built to order.

LevelSync™ and SurePoint™

AUTOMATION

Magnetostrictive level transmitters and magnetic point-level switches for continuous and point-level measurement.

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