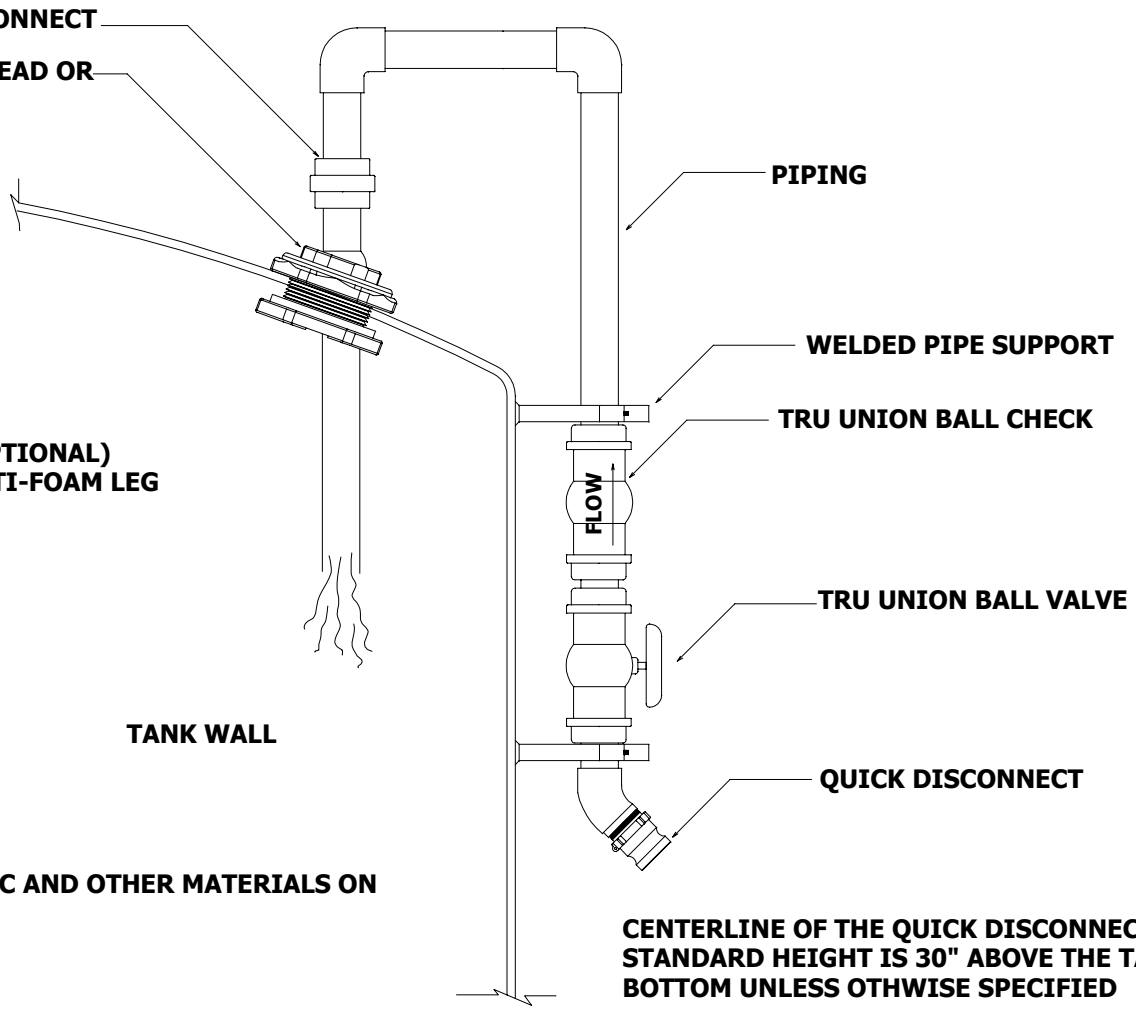


FILL LINE ASSEMBLY
AVAILABLE IN PVC, CPVC AND OTHER MATERIALS ON REQUEST.

CENTERLINE OF THE QUICK DISCONNECT
STANDARD HEIGHT IS 30" ABOVE THE TANK
BOTTOM UNLESS OTHWISE SPECIFIED

REV	DESCRIPTION	DATE	APPRD

ALL DIMENSIONS ARE IN DECIMAL INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED
+ - .5% @ 68° F

DRAWN / DATE
DHALL/12-9-19

APPRD. / DATE

THIRD ANGLE PROJECTION
ANSI 14.5M

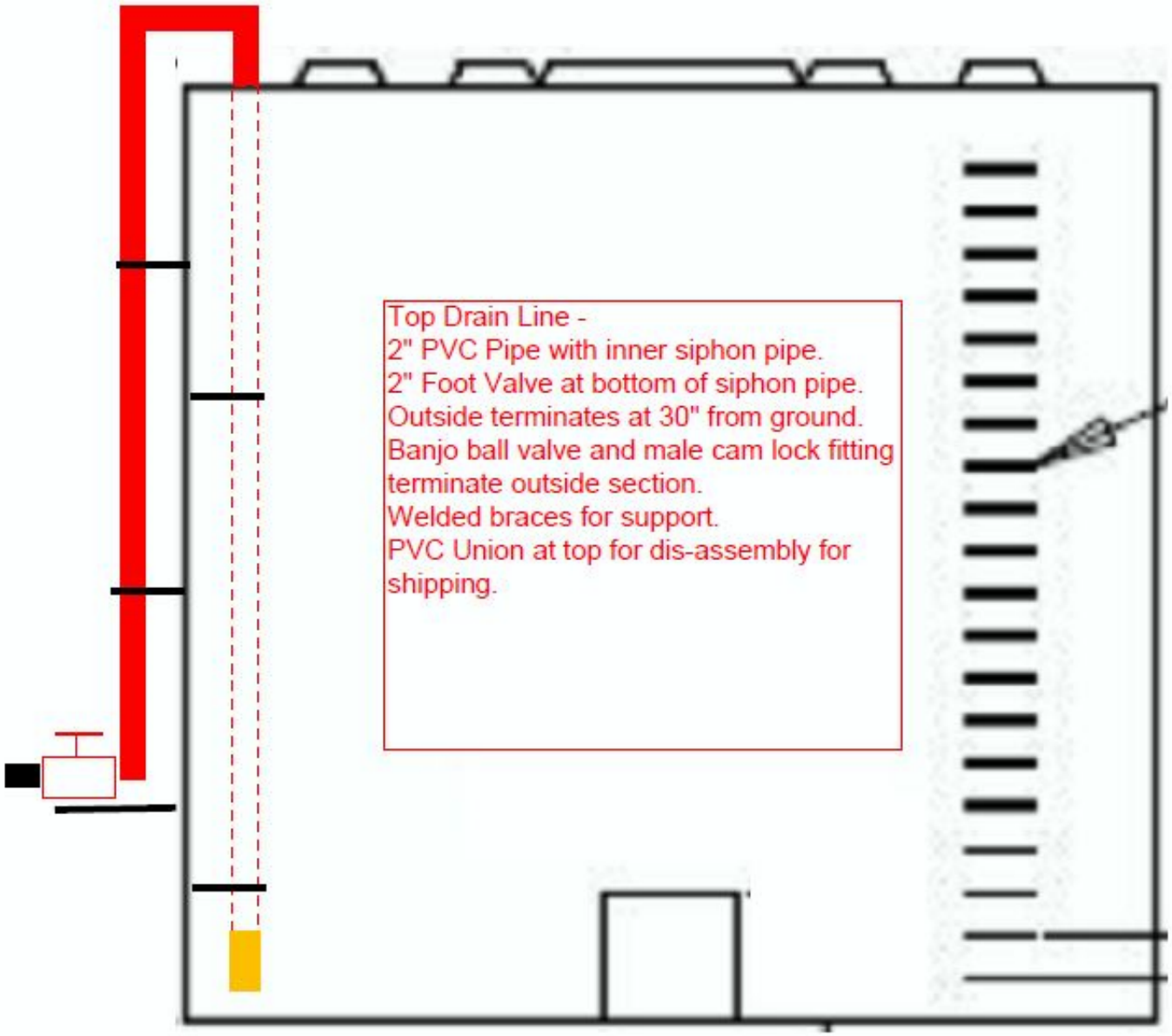
NOTES:

BAILIFF ENTERPRISES, INC.
302 N. THOMASON WILLIS,, TEXAS 77378
PHONE (936) 890-7777 FAX (936) 890-7773

CLIENT / DESCRIPTION
FILL LINE ASSEMBLY

SCALE
N.S.

PART NO.
FILL.CAD


Top Drain Line -
2" PVC Pipe with inner siphon pipe.
2" Foot Valve at bottom of siphon pipe.
Outside terminates at 30" from ground.
Banjo ball valve and male cam lock fitting terminate outside section.
Welded braces for support.
PVC Union at top for dis-assembly for shipping.

★ BAILIFF ENTERPRISES, INC. ★

THERMOPLASTIC WELDED COUPLINGS

HDPE · Polypropylene · PVDF · FNPT



Welded couplings provide secure threaded fittings for plastic tanks without the need for gaskets. They also allow for vertical pipe connections on sloped areas of the tank dome. We use thermoplastic welding to fuse couplings to the tanks.

Types & Sizes

- Polyethylene (HDPE) — 1″ to 4″ pipe size, FNPT.
- Polypropylene — 1″ to 4″ pipe size, FNPT.
- PVDF — ½″ to 6″ pipe size, FNPT.

> **Custom-fit:** We custom fit tanks with the fittings, options and accessories our customers need. Contact us to see how we can help you.

BAILIFF ENTERPRISES, INC. ◆ 305 E. Rogers Road ◆ Willis, TX 77378
Contact Dan Miller ◆ 936-228-1520 ◆ dmiller@plasticstoragetanks.com

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THERMOPLASTIC WELDED COUPLINGS



THREADED

Welded couplings provide secure threaded fittings for plastic tanks

THEY ALSO ALLOW FOR VERTICAL PIPE

without the need for gaskets. T

CONNECTIONS ON SLOPED AREAS OF THE TANK DOME.

We use

COUPLINGS TO THE TANKS

thermoplastic welding to fuse couplings to the tanks.

THE FOLLOWING TYPES AND SIZES.

Welded couplings are available in t

POLYETHYLENE - 1" TO 3" PIPE SIZE. FNPT .

POLYPROPYLENE - 1" TO 4" PIPE SIZE. FNPT.

PVDF - 1/2" TO 6" PIPE SIZE. FNPT.

We custom fit tanks with the fittings, options and accessories our

customers need. Contact us to see how we can help you.

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SANITARY TRI-CLAMPS





When Sanitary Tri-Clamps are the preferred fitting, we use a combination of welded couplings and Tri-Clamp adapters.

The couplings are used to bond to the tank material and the adapters are used to change to Tri-Clamp connections. To reduce the amount of threaded surface, we can use half couplings rather than full double threaded couplings.

This fitting combination is the following types and available int sizes.

Polyethylene - 1" to 4" pipe size.

Polypropylene - 1/2" to 4" pipe size.

PVDF - 1/2" to 4" pipe size.

We custom fit tanks with the fittings, options and accessories our customers need. Contact us to see how we can help you.

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THERMOPLASTIC WELDED FLANGES



Welded flanges provide secure fittings for plastic tanks without the need for gaskets. We use thermoplastic welding to fuse flanged fittings to our tanks in a wide range of sizes.



Welded flanges are available in polyethylene, polypropylene and PVDF. Our flanges are ANSI 150# flanges. We use flat face flanges and Vanstone loose backing rings for easy fit-up to your pipes.



Polyethylene - 3/4" to 30" in diameter. Polypropylene - 1" to 10" in diameter. PVDF - 1/2" to 11" in diameter.

We custom fit tanks with the fittings, options and accessories our customers need. Contact us to see how we can help you.

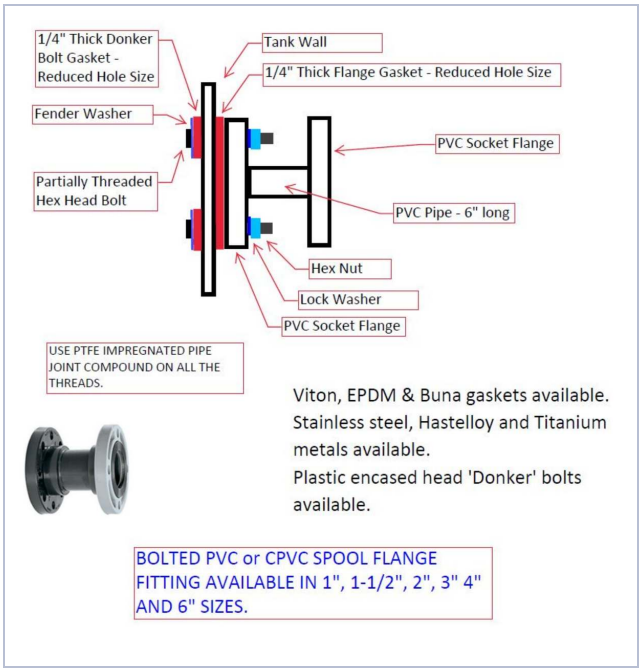
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BOLTED FLANGES

Bolted flanges provide a secure way to attach pipes to a tank and are often used in industrial applications. They are usually made from PVC, CPVC, Polypropylene and Stainless Steel. Other metals and plastics are also available but are much less common. The normal criteria for selection are chemical compatibility for the application, the work setting and amount of abuse the fitting will receive, and the price.

Bolted Spool Flanges offer a secure connection to the tank and an extended flange face to use when attaching valves or pipes. Our PVC and CPVC spool flanges have loose flange rings on the extended flange to make it easier to connect to pipe or valve flanges.



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BRASS FDC ADAPTERS





Brass Fire Department Connection Adapters equip a water tank with the appropriate connection for a fire hose to be connected. That hose supplies a pumper truck with the water supply.

These swivel adapters are available in many sizes. The most common size has a 3" NPT thread on the end that connect with the tank and a 2-1/2" NH thread on the end the connects with the hose. NFPA 14 requires one 2-1/2" connection for each 250 gallons of required water flow.

A brass, NH threaded plug is included to keep the hose connector free of dirt and debris.

Brass construction makes for a rugged connector that give many years of maintenance free use.

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COMMON VALVES

WE STOCK SEVERAL TYPES OF VALVES TO FIT THE REQUIREMENTS OF MANY APPLICATIONS. THESE ARE THE 3 MOST COMMON TYPES.



True Union Ball Valves are designed for industrial settings. The body of the valve can be replaced without dismantling the surrounding piping. These valves are available in PVC and CPVC. The internal O-rings can be FPM (like Viton) or EPDM. The valve seats are PTFE. Connections can be either threaded or socket. Automated (actuated) versions are available. ($$$)



Polypropylene Bolted Ball Valves are rugged valves. They are constructed from Polypropylene and have PTFE seat material. They have a design pressure rating of 150 psi. Locking arms are available to keep unauthorized persons from opening or closing the valve. ($$)



Compact Ball Valves are simple inexpensive valves . These valves are available in PVC and CPVC. The internal seals can be Viton or EPDM. These valves are available for threaded or socket connections. ($)



Check Valves are used to keep liquid flowing in only one direction. They can be used to keep liquid from siphoning back. These valves are available in PVC and CPVC. The internal seals can be Viton or EPDM. These valves are available for threaded or socket connections.

We can also supply less common valve types that may be more appropriate for applications. These include butterfly valves, PVDF valves and more. Just let us know what you need.

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PVC U-VENTS



Screened PVC U-Vents are a common type of vent for plastic tanks. Since plastic tanks are designed for atmospheric pressure only, it is important that they be vented to keep from developing a vacuum or over-pressure situation.

The normal ‘rule of thumb’ for vent sizing is to supply a vent that is 1” larger in diameter than the largest inlet or drain fitting. If you have a 3” flange or coupling, you would typically use a 4” vent.

We have PVC U-Vents available in screened or unscreened versions. Our normal sizes are 2”, 3” and 4”. For sizes larger than 4”, we have fabricated U-vents available.

For more information about our U-vents, please contact:

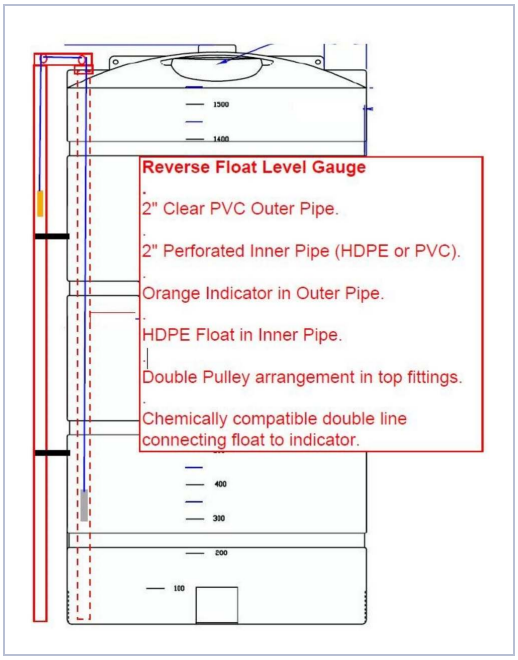
Dan Miller 713-203-4650

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Contact Dan Miller ◆ 936-228-1520 ◆ dmiller@plasticstoragetanks.com

★ BAILIFF ENTERPRISES, INC. ★

REVERSE FLOAT LEVEL INDICATOR

Our Reverse Float Level Indicator is a simple effective mechanical method for tracking the fill level of a storage tank. This is especially good for a double wall tank since it does not require sidewall pene-trations.



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DataView™ LI55

Level Controller

FLOWLINE™
LEVEL BEST

Application

The general purpose AC or DC powered level controller displays engineering units with one 4-20 mA level transmitter input and is offered in three configurations with optional 2 or 4 programmable relays, and an isolated 4-20 mA repeater. Each relay can be configured on a single set point (high level alarm or low level alarm) or latched on two set points for automatic fill or empty in simplex (one pump or valve) or duplex (two pumps) level control modes.



Features

- LED main display and secondary unit display with relay status
- Easy configuration via the push button display module
- DIN enclosure with NEMA 4X faceplate and shallow case
- Isolated power supply to sensor with optional 4-20 mA repeater
- Non-volatile memory with security password protection
- 32-point linearization function for volumetric measurement

Key Benefits

- Capable of displaying units in gallons, liters, inches, feet, meters or percent of liquid
- Add 2 or 4 relays to control tank pumps, valves or alarms
- Add repeater output to repeat the 4-20 mA signal to another PLC, SCADA or display
- Available in AC or DC powered configurations

Compatible Products



LG10/LG11

ECHOWAVE®

Guided Wave Level Transmitter



LU28

ECHOSONIC®

Ultrasonic Level Transmitter



DL14

ECHOPOD®

Ultrasonic Level Transmitter



LU83

ECHOSPAN®

Ultrasonic Level Transmitter



LR15

ECHOPULSE®

Pulse Radar Level Transmitter

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DataView™ LI55

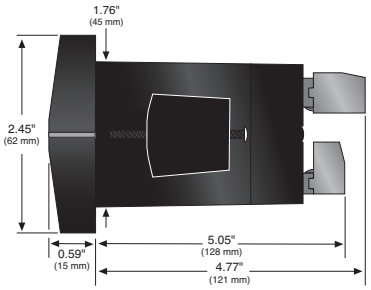
Level Controller

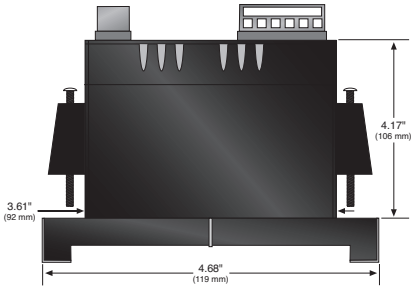
FLOWLINE™
LEVEL BEST

Specifications

Display type:	LED, 6-digit
Display units:	Engineering
Display output:	-99999 to 999999
Display height:	Main: 0.6” (15mm)
	Secondary: 0.46” (12mm)
Decimal point:	Floating
LED indication:	Relay status
Configuration:	Push button
Memory:	Non-volatile
Linearization:	2-32 point function
Sensor input:	(1) 4-20 mA or 0-10 VDC
Supply voltage:	-1_ _1: 85-265 VAC @ 50-60 Hz
	-8_ _1: 12-24 VDC ±10%
Consumption:	VAC: 20 watts max.
	VDC: 15 watts max.
Sensor supply:	24 VDC ± 5% @ 200 mA
Repeater output:	4-20 mA, 24 VDC ± 5%
	@ 40 mA supply
Contact type:	-12_1: (2) SPDT relays
	-14_1: (4) SPDT relays
Contact rating:	3A @ 30 VDC, 250 VAC
	resistive load
Ambient temp.:	F: -40° to 149°
	C: -40° to 65°
Enclosure type:	1/8 DIN, panel mount
Enclosure rating:	NEMA 4X (IP65) faceplate
Enclosure mat’l:	Polycarbonate
Classification:	General purpose
Compliance:	CE
Approvals:	UL, cULus listed,
	E160849, 508 industrial
	control equipment

Dimensions





Accessories







P/N	DESCRIPTION
LM92-1002	Single indicator windowed, 1/8 DIN, PC
LM92-2002	Two indicator windowed, 1/8 DIN, PC
LI56-1011	4-20 mA repeater card
LI56-1201	2 relay card
LI56-1211	2 relay with 4-20 mA repeater card
LI56-1401	4 relay card
LI56-1411	4 relay with 4-20 mA repeater card

Ordering

LI55 - ☐ ☐ ☐ 1

SUPPLY VOLTAGE
- **1** 85-265 VAC
- **8** 12-24 VDC

CONFIGURATION (1) (2)
- **0** Meter only
- **2** Meter with 2 relays
- **4** Meter with 4 relays

REPEATER CONFIGURATION
- **0** No repeater
- **1** 4-20 mA repeater

NOTES

1) For field mount installation in a NEMA 4X, polycarbonate windowed enclosure, order the single or two indicator box.
2) Expansion cards may be purchased separately to replace or expand the capability of the controller.

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EchoSonic® II LU23/27/28/29 Ultrasonic Level Transmitter

Application



LU27 LU23/28/29

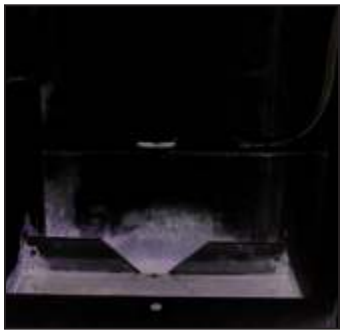
Offered in a type 6P enclosure with cable interface, the general purpose ultrasonic level transmitter provides continuous level measurement up to 32.8' (10m) with a 4-20 mA signal output, and is configured via our free Webcal software. This non-contact liquid level sensor is ideally suited for corrosive, ultrapure, sticky or dirty liquids, and is broadly selected for bulk storage, day tank, lift station and process tank level applications.

RoHS Compliant CE FM APPROVED

Features

- Offered in 4 measurement ranges from 9.8' (3m) to 32.8' (10m)
- DSP auto adaptive filters enable plug and play operation optimizing signal output filtering and obstacle recognition
- Submersible type 6P enclosure is ideal for sump and below grade installations
- Configuration is fast and easy via WebCal software and USB adapter
- Narrow 2" or 3" beam width for applications with limited measurement space
- Short 4" or 8" dead band maximizes the measurable filling capacity of the tank
- PVDF transducer and 6P polycarbonate enclosure for corrosive liquids
- Automatic temperature compensation for accurate measurement

Success



Ultrasonic level sensors are often used to measure open channel water flow thats discharged from rivers, streams, creeks, lakes or ponds. Here an EchoSonic II level sensor is installed on the upstream side of a weir. The non-contact sensor measures the gravity-fed, liquid surface height as it passes through the V-notch, and provides a continuous 4-20 mA signal output. The PLC converts level height into flow volume with rate, totalization and data-logging functions for wastewater treatment and environmental reporting.

Compatible Products

DataLoop™
Level Indicator



LI25

DataView™
Level Controller



LI55

Commander™
Multi-Tank Level Controller



LI90

DataPoint™
Level Controller



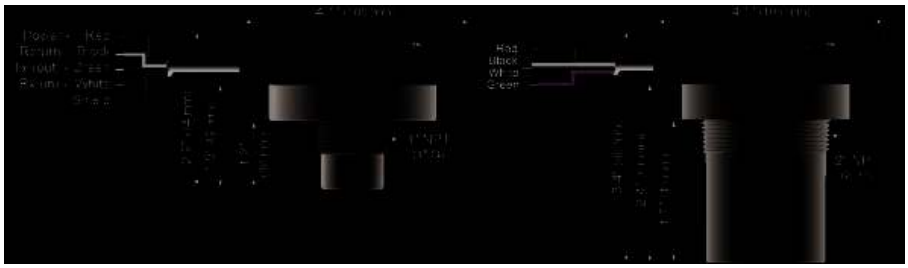
LC52

EchoSonic® II LU23/27/28/29 Ultrasonic Level Transmitter

Specifications

Range:	LU27: 4” to 9.8’ (10cm to 3m) LU23: 8” to 18.0’ (20cm to 5.5m) LU28: 8” to 26.2’ (20cm to 8m) LU29: 8” to 32.8’ (20cm to 10m)
Accuracy:	± 0.2% of range
Resolution:	LU27: 0.019” (0.5mm) LU23: 0.039” (1mm) LU28/29: 0.079” (2mm)
Dead band:	LU27: 4” (10cm) LU23/28/29: 8” (20cm)
Beam width:	LU27: 2” (5cm) LU23/28/29: 3” (7.6cm)
Configuration:	WebCal® PC Windows® USB 2.0
Memory:	Non-volatile
Supply voltage:	24 VDC (loop)
Consumption:	0.5W
Loop resistance:	500 ohms @ 24 VDC
Signal output:	4-20 mA, two-wire
Signal invert:	4-20 mA or 20-4 mA
Signal fail-safe:	4 mA, 20 mA, 21 mA, 22 mA or hold last
Process temp.:	F: -4º to 140º C: -20º to 60º
Temp. comp.:	Automatic
Ambient temp.:	F: -31º to 140º C: -35º to 60º
Pressure:	MWP = 30 PSI (2 bar)
Enclosure rating:	Type 6P, encapsulated, corrosion resistant & submersible
Encl. material:	Polycarbonate
Trans. material:	PVDF
Cable jacket mat:	Polyurethane
Cable type:	4-conductor, shielded
Cable length:	10’ (3m)
Process mount:	LU27: 1” NPT (1” G) LU23/28/29: 2” NPT (2” G)
Mount gasket:	Viton®
Classification:	General purpose
Compliance:	CE, RoHS
Approvals:	cFMus

Dimensions



Configuration

The level sensor is configurable via our free WebCal PC software and Fob USB adapter. The sensors are offered with and without Fobs. Fobs are universal and can be used to configure any WebCal compatible product. Download your free copy of WebCal in English or Chinese at www.flowline.com/webcal.php.



LI99-1001

Fittings

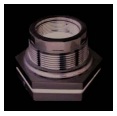
For optimum performance, install the level sensor using the below recommended or direct equivalent fittings.



P/N	Description
LM52-1400	2” NPT x 1” NPT (Sch. 40)
LM52-2400	3” NPT x 2” NPT (Sch. 40)
LM52-2800	3” NPT x 2” NPT (Sch. 80)
LM52-3800	4” NPT x 2” NPT (Sch. 80)



LM52-1410	2” Socket x 1” NPT (Sch. 40)
LM52-2410	3” Socket x 2” NPT (Sch. 40)
LM52-3410	4” Socket x 2” NPT (Sch. 40)
LM52-2810	3” Socket x 2” NPT (Sch. 80)
LM52-3810	4” Socket x 2” NPT (Sch. 80)



LM52-2890	2” NPT Bulkhead Fitting, PVC



LM50-1001-1	1” NPT Bracket, Polypropylene
LM50-1001	2” NPT Bracket, Polypropylene

Ordering

LU2☐-☐☐

Sensor range
- *7 — 3m (9.8')*
- *3 — 5.5m (18.0')*
- *8 — 8m (26.2')*
- *9 — 10m (32.8')*

Process mount (1)
- *0 — NPT (US)*
- *1 — G (Metric)*

Fob USB adapter (2)
- *0 — Without Fob*
- *1 — With Fob*

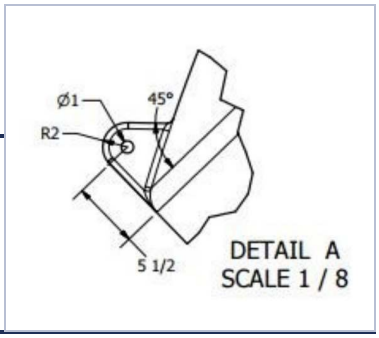
Notes

1) Install the level sensor using Flowline installation fittings or equivalents.
2) The level sensor is configured via our WebCal software and one LI99-1001 Fob USB adapter. The level sensor is offered with and without a Fob. Fobs are universal and can be Used to configure any WebCal compatible product. WebCal is a free download from our website at www.flowline.com/webcal.php.

★ BAILIFF ENTERPRISES, INC. ★

SEISMIC & WIND RESTRAINT SYSTEM

Our Seismic and Wind Restraints system consist of:



FOUR (OR

- Four heavy duty tie-down lugs molded into (vusroldad an) tha pmnnaor cidausnll af tho tankl

WELDED ON)

the upper sidewall of the tank.

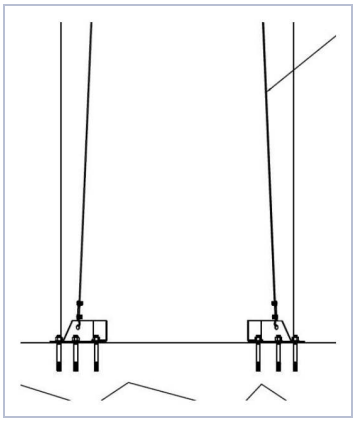
4 AIRCRAFT

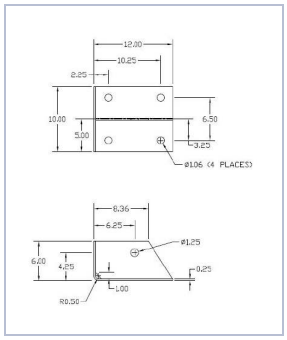


- 1/4" thick galvanized steel aircraft cable. It has excellent flexibility and good abrasion re-sistance. Batad at FTNNAN nninde hvranling ctranath Tha

RATED AT 7,000 POUNDS BREAKING STRENGTH. THE CABLE IS CUT TO LENGTH FOR EACH ANCHOR POINT.

- 6" tall x 10" wide x 12" deep anchors made from A-36 steel, which has been galvanized, connect with the cables and are bolted into the concrete base. The holes are designed for 1" bolts.
- The cables, anchors and cable clips are all included. The cable clips are galvanized, drop forged steel shackles.
- The restraints are rate for 125 mph winds. We offer site specific, stamped wind and seismic calculations at additional cost.





BAILIFF ENTERPRISES, INC. ◆ 305 E. Rogers Road ◆ Willis, TX 77378
Contact Dan Miller ◆ 936-228-1520 ◆ dmiller@plasticstoragetanks.com

LADDER & CAGE SYSTEMS





DEFI's fiberglass ladders and ladder cages are used in a wide range of industries. DEFI's fiberglass ladder and cage systems meet or exceed OSHA requirements and have become the preferred system for use in chemical plants and other corrosive environments. Fiberglass ladder and cage systems are light weight, corrosion resistant, easy to install, will outlast aluminum and steel, and require little or no maintenance.





Applications

- Industrial
- Marine
- Mining
- Chemical
- Oil and Gas
- Power Plants
- Off Shore
- Recreation
- Building Construction
- Water / Wastewater
- Transportation
- Electrical

Benefits

- Lightweight
- Low Maintenance
- Strong
- Easy to Install
- Corrosion Resistant
- Chemical Resistant
- Fire Resistant
- Non Conductive
- Dimensionally Stable

DEFI
DESIGN • ENGINEER • FABRICATE • INSTALL
STRUCTURAL FIBERGLASS

17111 Rolling Creek Drive, Suite 105 | Houston, TX 77290 | USA
Toll Free: 800-949-3665 | P: 281-440-3665 | F: 281-440-4936 | defi@defifiberglass.com

www.defifiberglass.com



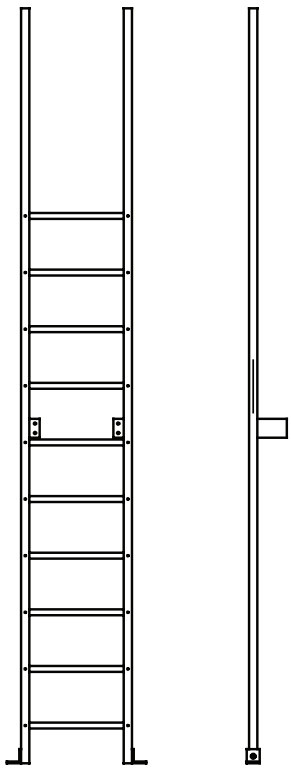




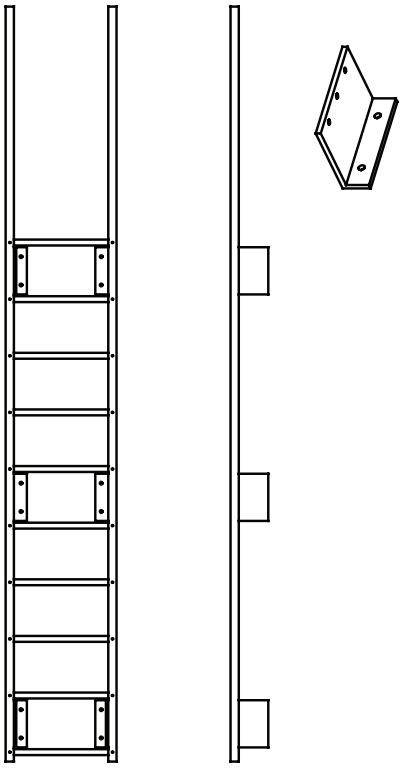
Sizes & Availability

DEFI's ladder and cage systems are designed and fabricated to meet the requirements of OSHA 1910.27. DEFI's ladders are fabricated in various lengths with a standard 18"rung width configuration with 12" rung spacing. Custom colors and custom designed ladders and cages can be fabricated upon request. Ladders can be shipped pre-assembled or as a kit for installation in the field.

Access Ladder with Walkthru
Base Mounted with Wall Brackets



Access Ladder with Walkthru
Heavy Duty Wall Brackets



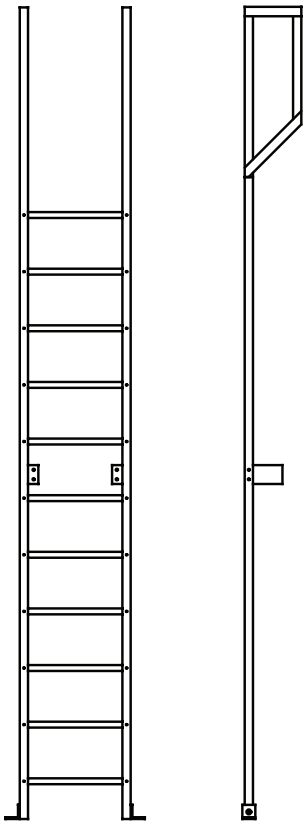




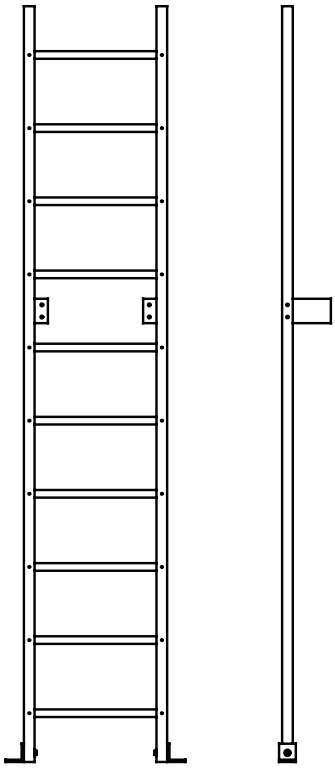
Materials of Construction

DEFI's fiberglass ladders and cage systems are constructed from pultruded shapes produced using a premium grade polyester resin system with flame retardant and ultraviolet (UV) inhibitor additives. For extremely corrosive environments an optional vinyl ester resin system is available. Side rails and cages are pigmented OSHA safety yellow. The rungs are a pultruded fiberglass fluted tube or a solid rod with non-skid surface.

Access Ladder
with Walkthru and Return



Standard Access Ladder
Base Mounted with Wall Brackets



Walkthru Ladder with Cage
Base Mounted with Wall Brackets

