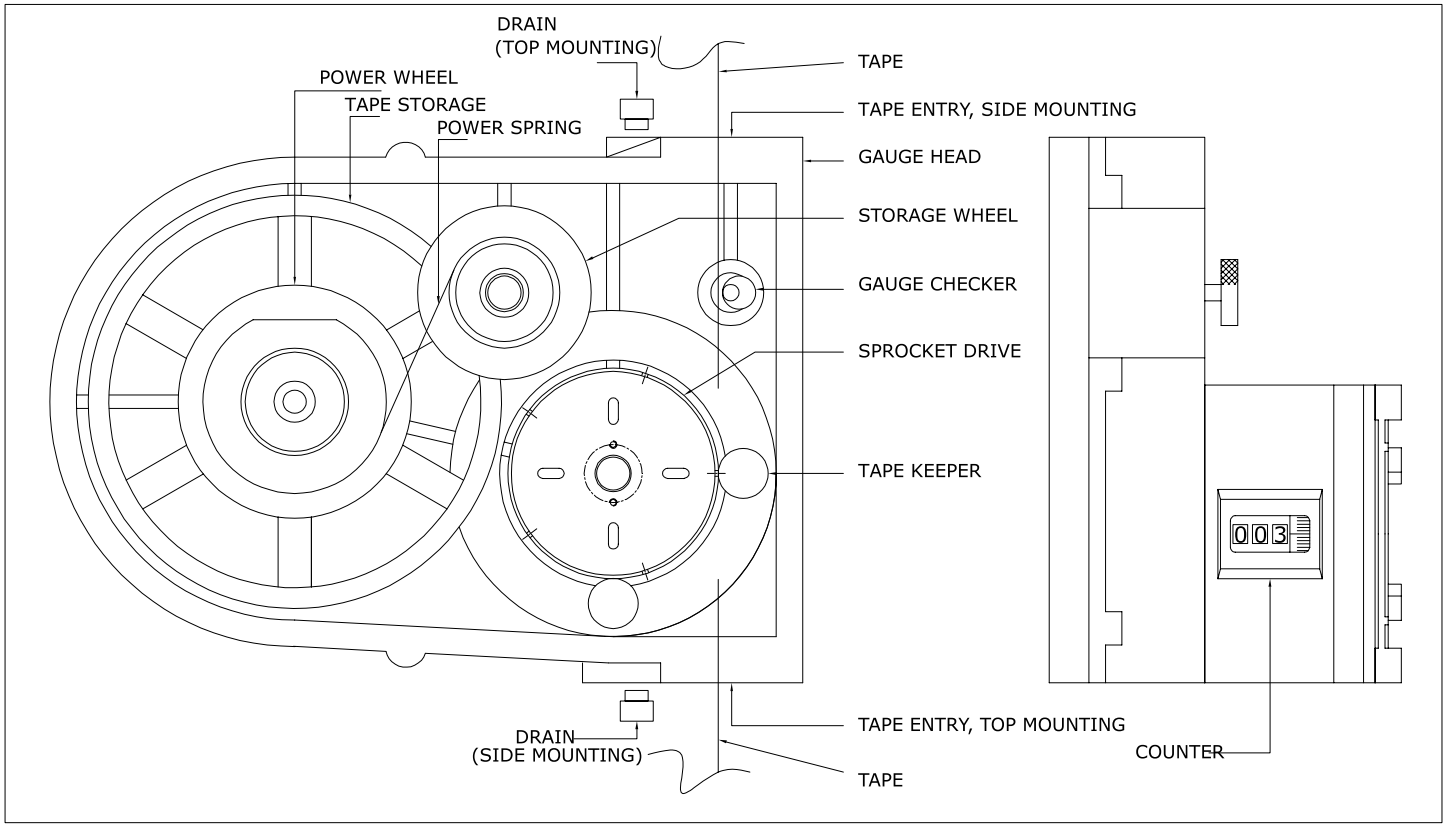
Automatic Tank Level Gauge (Float & Tape Type) August Series

SIGMA's AUGUST series Automatic Tank Gauges are designed to provide continuous liquid level measurement for bulk storage applications. The AUGUST is a float actuated instrument that provides continuous and reliable liquid level measurement, specifically engineered to reduce maintenance and enhance reliability.

Auto Tank Gauge Operation

In principle, the AUGUST utilizes a large stainless steel float that is attached to a perforated stainless steel tape to detect the liquid level. The float traces the liquid level rise and fall due to the constant pull-back tension force provided by a power spring. The precisely perforated tape engages pins on a sprocket drive wheel that in turn drives the measurement counter mechanism. The float is guided between the guide wires that are kept straight/kink free through the tension devices. Alternatively, still wells that shall guide the float can be used where there is no provision for guide wires. This simple, rugged design makes the gauge to perform with negligible maintenance throughout its working life.



Sigma Advant-edge

Gauge Shaft seals for oil filling:

AUGUST comes with an optional gauge shaft seals that allows the entire gauge head to remain in light oil, for longevity, smooth working and corrosion protection of main components in aggressive environments or where tank vapors can peek inside the gauge head.

Gauge Check Handle/Striker:

AUGUST comes complete with an easy to grip gauge check handle made of cast Aluminum, not plastic. The gauge check handle when turned deflects the tape in the sheave storage assembly, thus picking up the tape and the float. This allows the testing of the power spring strength. It also is used for checking gauge calibration, plumbing of the float alignment, or freeing stuck-up gauges.

Tape Keeper:

AUGUST comes with a take keeper around the sprocket wheel that allows tape to be installed simply by inserting the tape around the tape keeper wheels.

Tape Entry:

AUGUST gauge head is uniquely designed to allow tape entry for both tank top mounting and tank-side mounting. The orientation while mounting remains unchanged and so is the viewing direction.

Hoist Mechanism:

AUGUST with an optional hoist mechanism is used to hoist the float to facilitate easy tank maintenance. It is also used for high viscosity liquids or the liquids which may solidify at ambient temperature. With the help of the hoist mechanism, the float is lowered at the time of measuring the level and is hoisted again.

Gauge Body Protection:

AUGUST comes with epoxy powder coating to reduce the amount of moisture entering the gauge head through normal breathing of the aluminum housing. It effectively seals the unit from water penetration.

Note: AUGUST Gauge head is a purely mechanical device, hence enclosure as per IS:2147 is not applicable for this item.

Gauge Construction

Gauge Body	: Cast Aluminum Epoxy Powder Coated.
Shaft	: AISI 304.
Bearing	: Brass/Delrin/Glass filled PTFE.
Counter	: Thermoplastic Components.
Float	: AISI 316/ specified.
Perforated Tape	: AISI 316.
Guide wires	: Multi Strand – AISI 316.
Tensional spring	: Plated CS/ SS optional.
Tension Device	: CS/GI/ optional materials as required.
Bottom Anchor	: CS/ AISI 304 / AISI 316/ optional materials as required.
Pulley Housing (90° Elbow)	: Cast Aluminium.
Pulley	: Al / AISI 316 / specified.
Shaft	: AISI 304.
Pulley Bushing	: PTFE/Nylon/Delrin.

Specifications

Range	: 0-4M, 0-8M, 0-12M, 0-16M, 0-20M (For higher range consult factory)
Indication	: In millimeters (4 digit mechanical counter)
Temperature	: 0 °C to 160 °C
Resolution	: 1 mm
Accuracy	: ± 2 mm with 300 mm diameter float for liquid of specific gravity = 0.8 and above.
Protection	: Weatherproof to IP-65 as per IS:2147-1962

Note

All the Automatic Tank Level Gauge mentioned in this catalogue are our standard design. If the standard items do not meet your requirements, we can modify them to meet your specifications and would appreciate the opportunity of making suggestions to cover your application, based on engineering principles. SIGMA reserves the right to modify specification / design from time to time, which is deemed suitable for the product without prior intimation.

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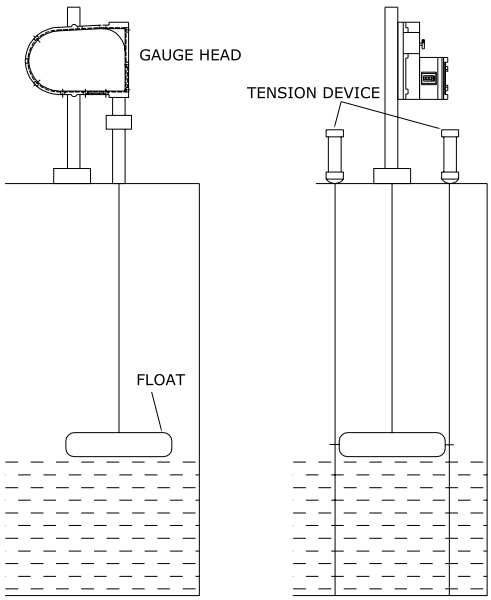
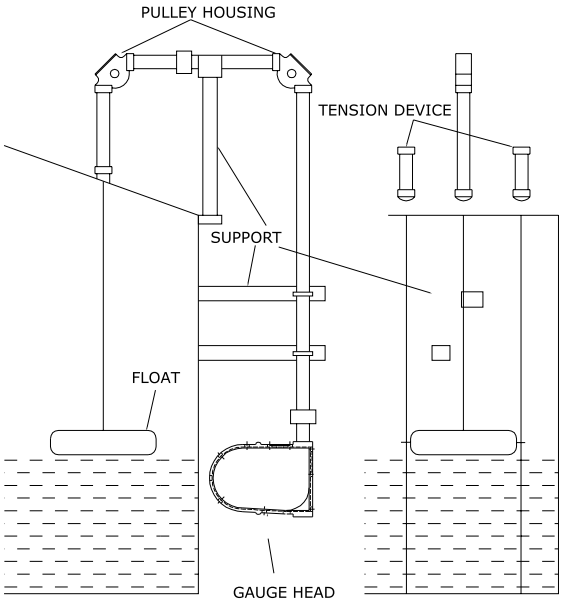
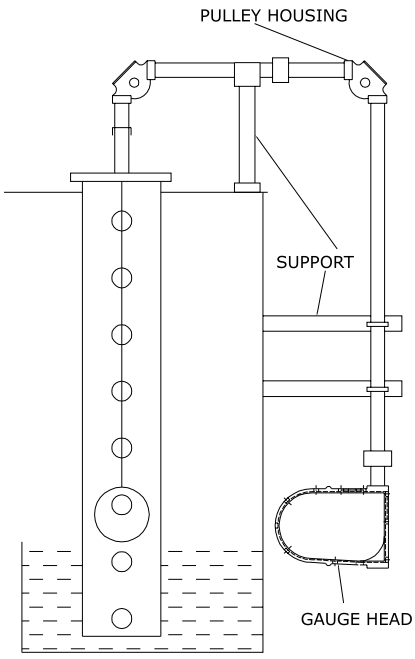
Installation Options



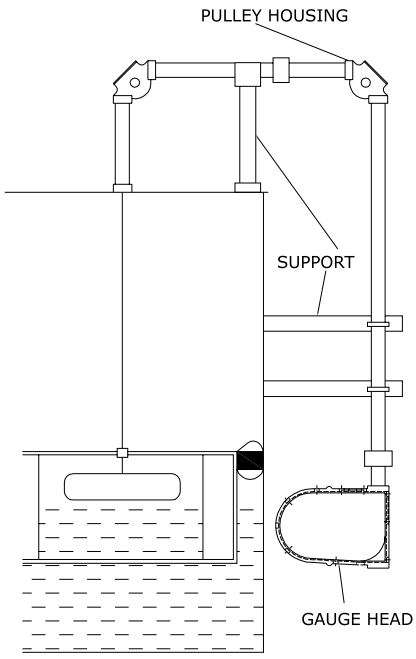
TOP MOUNTING



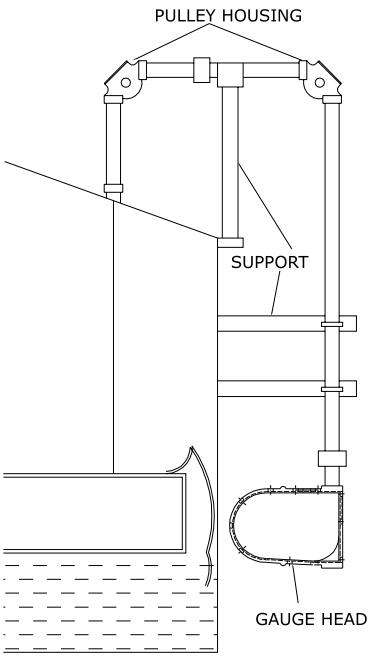
CONE ROOF TANK
SIDE MOUNTING



STILLING WELL
SIDE MOUNTING



FLOATING ROOF(WITH FLOATWELL)
SIDE MOUNTING



FLOATING ROOF
SIDE MOUNTING

Model Number Coding for Automatic Tank Gauge (Float & Tape Type) Level Gauge

ATLG
(Automatic Tank Gauge)

Type
S - Standard
W - With Hoist Mechanism
G - Gauge Head oil filled
A-2+3

Mounting
T - Top of Tank
S - Side of Tank
F - Floating Roof
O - Others specify

Range
1- 0 - 4000 mm
2 - 0 - 8000 mm
3 - 0 - 12000 mm
4. 0 - 16000 mm
5. 0 - 20000 mm
A - Specified

Process Connection
1- 1 ½" BSP(M) CS
2 - 1 ½" NPT(M) CS
3 - 1 ½" Flanged A 105 ANSI B 16.5
A - others specify

Tension Device
N - None
1 - CS with CS Spring
2 - SS 304 with SS Spring
3 - SS316 with SS Spring
A - Others specify

Guide Rods [a,e,f]
N - None [d]
4 - SS304
5 - CS
6 - SS316

Float
N - None [a]
1 - Ø150 mm for Still Well, AISI 316 [b]
2 - Ø300 mm AISI 316 [b]
3 - Ø375 mm AISI 316 [b]
4 - Interface Float AISI 316 [b]
A - Others specify

Optional
L - Liquid Seal Assembly
S - Limit Switches
T - 2 wire Transmitter

Model Decoding example: ATG-S - T - 1 - 1 - 2 - 4 - 1 - L

Automatic Tank Gauge (Float & Tape Type) Level Gauge, with

- Standard design
- Mounting on Top of Tank
- 0 -4000 mm Range
- Process connection 1 ½"BSP (M) CS
- Tension Device (SS 304 with SS Spring)
- SS 304 Guide Rod
- Ø 375 mm AISI 316 Float
- Liquid Seal Assembly

a. Guide Wires/Tension devices/Float are NOT required for floating roof tanks. Floats are required if Floating roof with float well is used. In this case, Guide rods may be used based on floating well tank dimensions. Accuracy of floating roof will depend purely on roof/float well movement. In case of floating roof the tape is attached to the floating roof itself. In floating roof tank installations, it is recommended that gauges be installed in a float well, rather than attaching the tape directly to the tank roof. The float well should contain a baffle to prevent the float from escaping, but also allow sufficient product movement to equalize the liquid level. No tape should be exposed outside of the roof or pipe work. If any section of the tape is currently exposed it should be replaced with a SS flexible cable,this will reduce measurement error due to wind drift. The connector between the tape and cable should not run over a conduit elbow (or pulley).

b. Accuracy for the ATLG with : 300 mm diameter float is 2 mm, with 15 mm diameter float is 20 mm

c. Interface float is applicable only for liquids with difference in densities = 0.2 gm/cc.

d. Guide wire/ tension devices, guide rods and bottom anchor are not required when Stilling well for float is provided.

e. In case guide rod option is chosen, no bottom anchor is required.

f. For retrofitting on existing tanks, guide rod assembly (up to 3 M) or weighted bottom anchor (above 3 M) is recommended. This installation must be done on manhole cover.

g. Gauge Head support brackets, GI Horizontal pipe for pulley , pulley connections, GI vertical pipe, and 3 Nos tank wall support with U bolts for pipe work is part of the supply for side mountingversions. Piping for side mounting can be provided on request.

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