



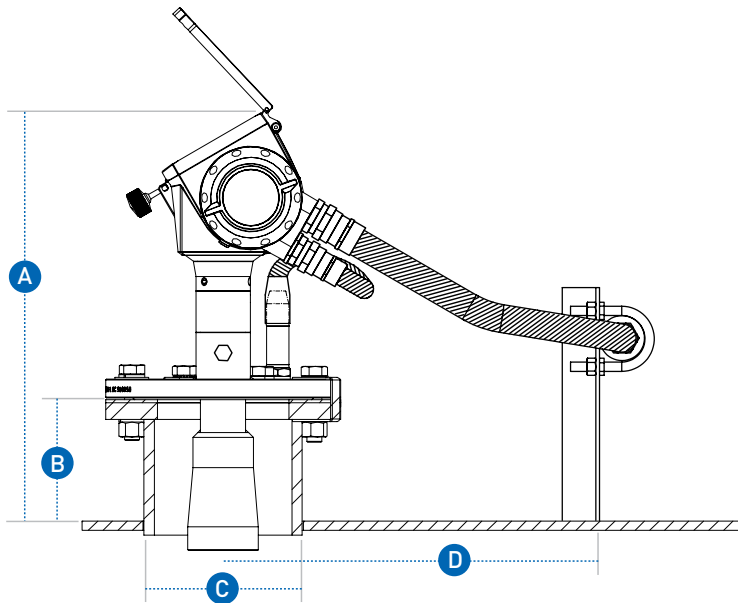
OPTIWAVE 8300 C Marine Technical Datasheet

Cargo Level Radar (FMCW)

- Redundant ullage indication
- Fully stand alone unit with touch screen
- Completely non-contacting to cargo and vapours
- Closed tank cleaning and service of all components
- Designed to operate in extremely rough conditions on ships

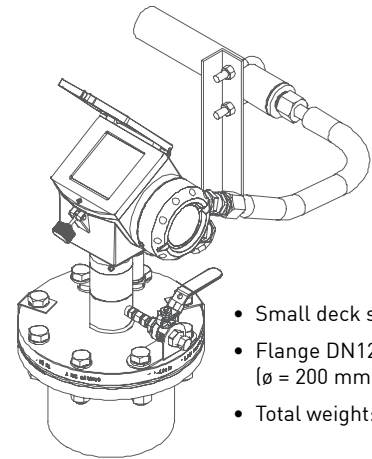


Dimensions and weight (DN125 standard flange)



Dimensions (mm)				Weight (kg)	Dimensions (inches)				Weight (lbs)
A	B	C	D		A	B	C	D	
433	141	ø 170	400	20	17	5.6	ø 6.7	16	44

Easy installation and light weight



- Small deck socket
- Flange DN125 (ø = 200 mm)
- Total weight: 20 kg

Non contact measurements

The OPTIWAVE 8300 C Marine offers completely non contact level measurements in cargo tanks.

The transmitter is located in the radar head, transmitting through the pressure sealing part.

Radar antennas

Horn antenna:

Standard antenna for most tanker applications.

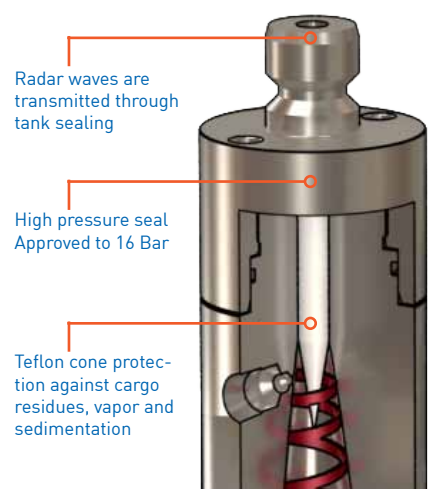
Drop antenna:

As an alternative to horn antenna we can also offer a solid drop antenna solution. The construction of the drop antenna makes it ideal for sticky/contaminating liquids or dust-laden atmospheres where product build-up inside a horn antenna is likely to occur.



OPTIWAVE 8300 C
Horn antenna

OPTIWAVE 8300 C
Drop antenna



Radar waves are transmitted through tank sealing

High pressure seal Approved to 16 Bar

Teflon cone protection against cargo residues, vapor and sedimentation

Measuring system

Measuring principle	Frequency Modulated Continuous Wave (FMCW), 24 GHz
Application range	Level measurement of liquids, pastes, slurries and solids
Measuring range	0...40 m / 0-132 ft
Beam angle	± 5°

Measuring accuracy

Accuracy (at reference conditions)	up to 20 m / 66 ft ≤ 2 mm / 0.08" 20...40 m / 66...132 ft m ± 0.01% of distance
Repeatability	≤ 0.5 x error of measurement
Measured value resolution	0.1 mm / 0.04"

Ambient conditions

Hazardous locations	Intrinsically safe, zone 0, 1, 2 Temperature classes: T6...T1 Explosion groups: IIA...IIC
Ambient temperature	-40...+70 °C / -40...+160 °F (signal converter)
Flange temperature	-40...+200 °C / -40...+390 °F optional -60...+250 °C / -75...+480 °F
Ingress protection	IP 66/67 (signal converter)

Product conditions

Physical properties	No effect on measurement results
Dielectric constant (ϵ_r)	≤ 1.5
Product limitations	Liquid ammonia (NH ₃), Liquid hydrogen (H ₂), Liquid helium (He)
Process temperature	Unrestricted (but beware ambient and flange temperatures)

Materials

Signal converter	Stainless steel 316L
Flange system / antenna	Stainless steel 316L (1.4404) (standard) or 3% Molybden Mo
Gaskets	FPM (Viton), Karlez 6375 (others optional)
Process connection	DIN 2501 DN 125 / PN 16 (standard) or ANSI B16.5 8", 150 lbs, RF

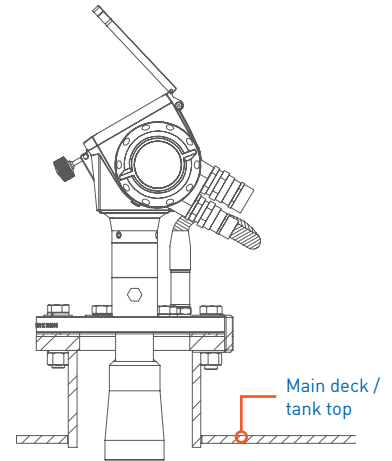
Power supply and output

Powered by	4-20 mA
Protocols	HART®
Current output	4-20 mA passive

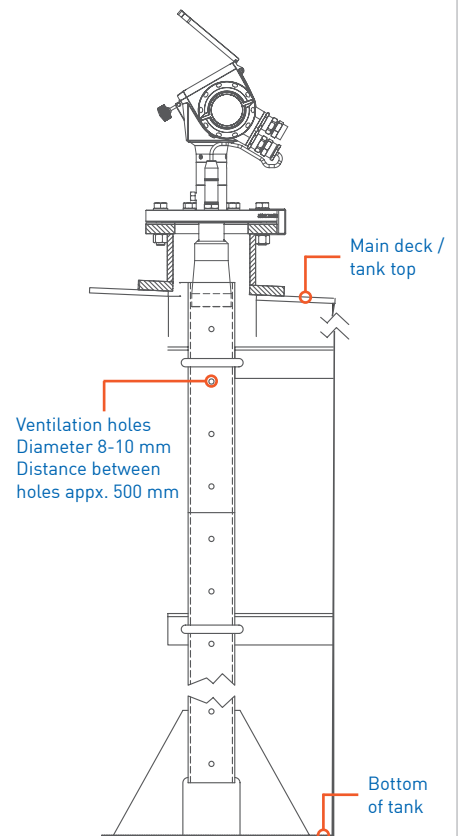
Certificates and approvals

Ex approvals	Intrinsically safe according to ATEX and IEC
IACS approvals	DNV, ABS, GL, LR, BV, CCS, NK, RINA, KR

Standard installation



Stillwell installation



Redundant level indication



Closed cleaning of radar antenna



Closed service



The OPTIWAVE Cargo Level Radar is a highly accurate and reliable instrument for measuring the ullage/level. With its heavy duty stainless steel housing, it is designed to withstand the roughest conditions on deck.

Well protected by a stainless steel cover, it carries a backup display for redundant indication. Loading may continue with a man on deck, if level information is lost on the main monitoring station.

