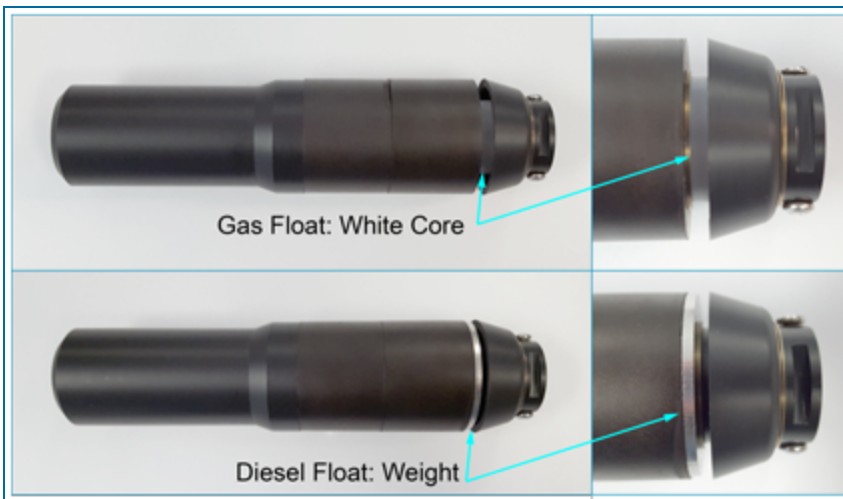


## M00-20-4431 - Density Measurement Float (DMF)

OPW Part Number 20-4431 (Gas - White Core) & 20-4432 (Diesel - Black Core)

The Density Measurement Float (DMF) can be installed on the pre-existing probe. The DMF continuously measures the average density of the fuel in the tank. This can measure the smallest change in product density within the API density range. Fuel-density reports can be shown real-time on the console or exported to an external device. The readings can be either nominal or temperature-corrected density.

There are two (2) versions of the DMF. One that measures density for gasoline (20-4431) and another for diesel (20-4432). They can be identified by the features in the image below.



### Density Measurement Float Specifications

Materials:	Nitrophenyl, Delrin, and Stainless-Steel spring
Dimensions:	Length: 20.3 cm (8 inches) Diameter: 5.1 cm (2 inches)
Precision:	±0.04%
Suggested Location:	15.2 cm (6 inches) from the bottom of the probe <b>NOTE:</b> Use two (2) set screws at the top of the float to hold it in position

Product Density and Chemical Compatibility			
Product Group	Compatibility	API	Specific Gravity
Gasoline	Gasoline Aviation Gasoline Regular Unleaded Regular Leaded Premium Unleaded Gasoline/Methanol blend, less than 5% methanol Gasohol, less than 40% ethanol	45 < API < 78	0.68 < d < 0.80
Diesel	Diesel Jet Fuel Kerosene Motor Oil Toluene Gear Oil Transmission Oil	26 < API < 45	0.80 < d < 0.90

## DMF Installation



**WARNING:** THIS IS A STATIC SENSITIVE DEVICE! To prevent the risk of explosion from static discharge, do not clean or rub this device with a dry cloth.



1. Power down the module that the probe is connected to before you remove the probe from the tank.
2. Remove the probe from the tank and detach the clip and nylon probe foot from the bottom of the probe.
3. Remove the water float, slide the density float on and tighten the screws of the float onto the probe shaft (the umbrella should be facing down). Leave a space of 10.2 cm to 15.2 cm (4 to 6 inches) at the bottom of the probe shaft so the water float can detect at least 7.6 cm (3 inches) of water.
4. Replace the water float, nylon probe foot and end clip.
5. Place the probe back in the tank.
6. Power up the module.

For DMF configuration and calibration please refer to your console Configuration Guide.

You will need the A and B Factors that are etched into the body of the float. See the image below.



**NOTICE:** The Density Measurement Float is not to be used in a pressurized tank.

## Tank Thresholds

- Since the Density Float is installed between the water and Product Float, the Product Float cannot be placed beyond the Density Float. In order to provide low-product alarms, the Low and Low-Low product threshold level should be set above the Density Float.
- Measure the distance between the end of the probe shaft and top end of the Density Float. Add 5.1 cm (2 inches) to this distance to account for the dead zone at the end of the probe. The resulting value represents the minimum product Low-Low threshold.

