



CAKRA SINERGI KREATIF



# MARINE ANALYTICAL INSTRUMENT PRODUCTS SOLUTIONS



## CAKRA SINERGI KREATIF

### About Us

PT Cakra Sinergi Kreatif is a general supplier and system integrator company that focuses on marine needs. We provide various supplies of goods from the marine industry with excellent quality and at competitive prices. As a system integrator, we provide monitoring needs in the marine industry. Through the MANTRAZ (Marine Trend Analyzer) system we are here to provide solutions and analysis and monitor ship activities in real time so as to facilitate client operational activities in terms of ship monitoring.



### Vision

To be a trusted and integrity company in the marine industry, and to be a partner that is able to provide the best service to clients in various monitoring and data analysis system needs.

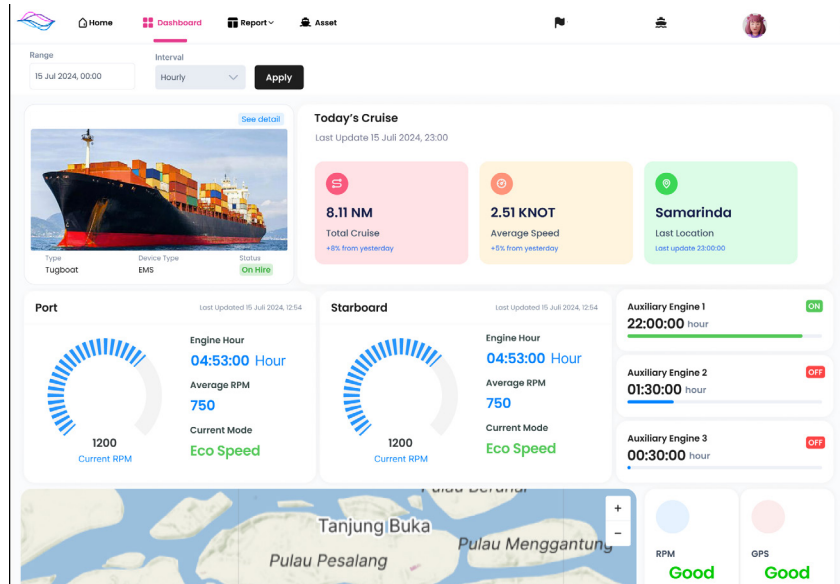
### Mision

1. Provide a variety of goods and services of good quality at competitive prices
2. Provide remote monitoring services through a system integrated on the ship.
3. Provide relevant data analysis to be able to be used by stakeholders to make decisions.
4. Provide one-stop service to clients
5. Provide optimal after-sales service as a form of our desire to move forward together in business.
6. Provide solutions to clients in increasing the use of IT
7. Become the main partner of the monitoring system service business



**mantraz**

**MANTRAZ** is an integrated system that can analyze various events read through sensors that have been installed and integrated. Through the **MANTRAZ** system, users can monitor and get further analysis of the data read on the installed sensors.



## Key Selling Points



**DIGITALIZATION**



**ANALYZE TRENDS**



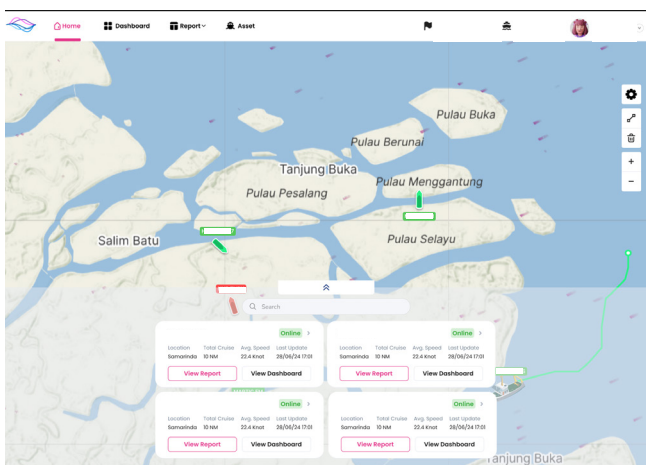
**LOW PRICES**



**EASY MONITORING**



**SERVICE EXCELLENT**



## What's Monitored:

1. Monitor Main Engine RPM by installing a readout sensor.
2. Monitoring Fuel on the main engine by installing a flowmeter on the engine piping line
3. Monitor distance, speed and location in real time.
4. Provide analysis of captured data



## Benefits of Implementing

1. Optimized repair and maintenance cost
2. Monitoring asset precisely
3. Monitor distance, speed and location in real time.
4. Provide analysis of captured data

## Key Features



RPM MONITORING



FUEL MONITORING



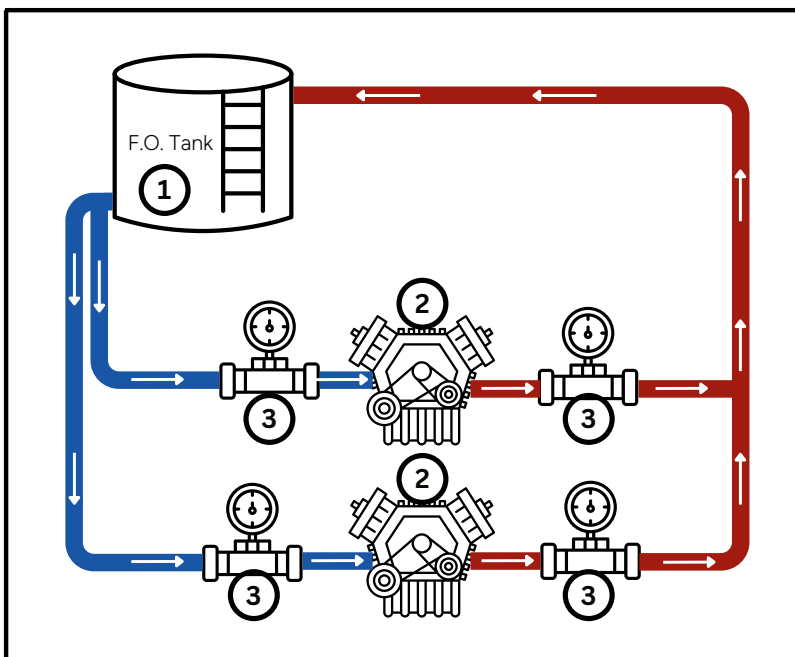
DATA ANALYZER



GPS TRACKER



DAILY REPORTING

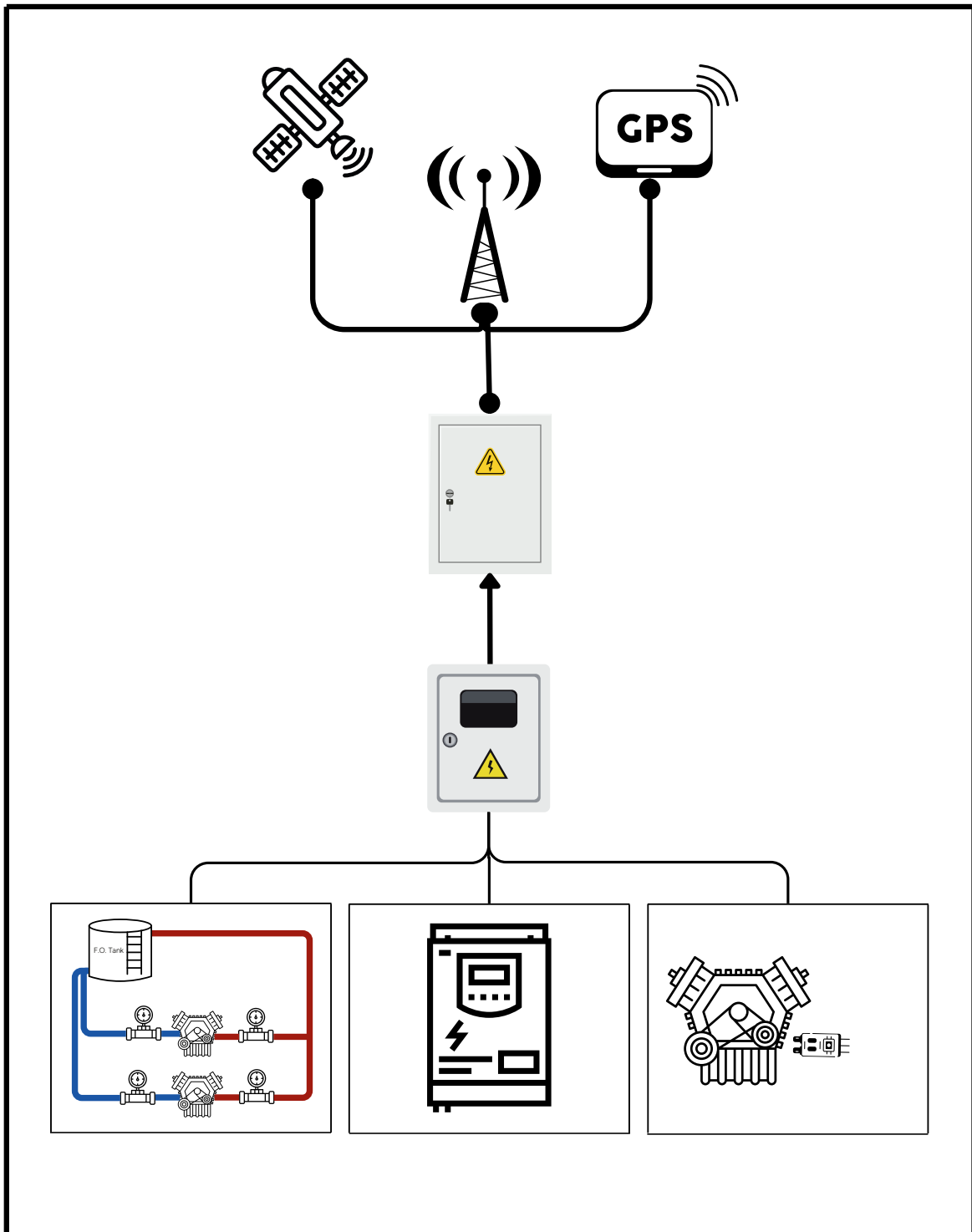


FUEL MONITORING SYSTEM  
INSTALLATION SCHEME

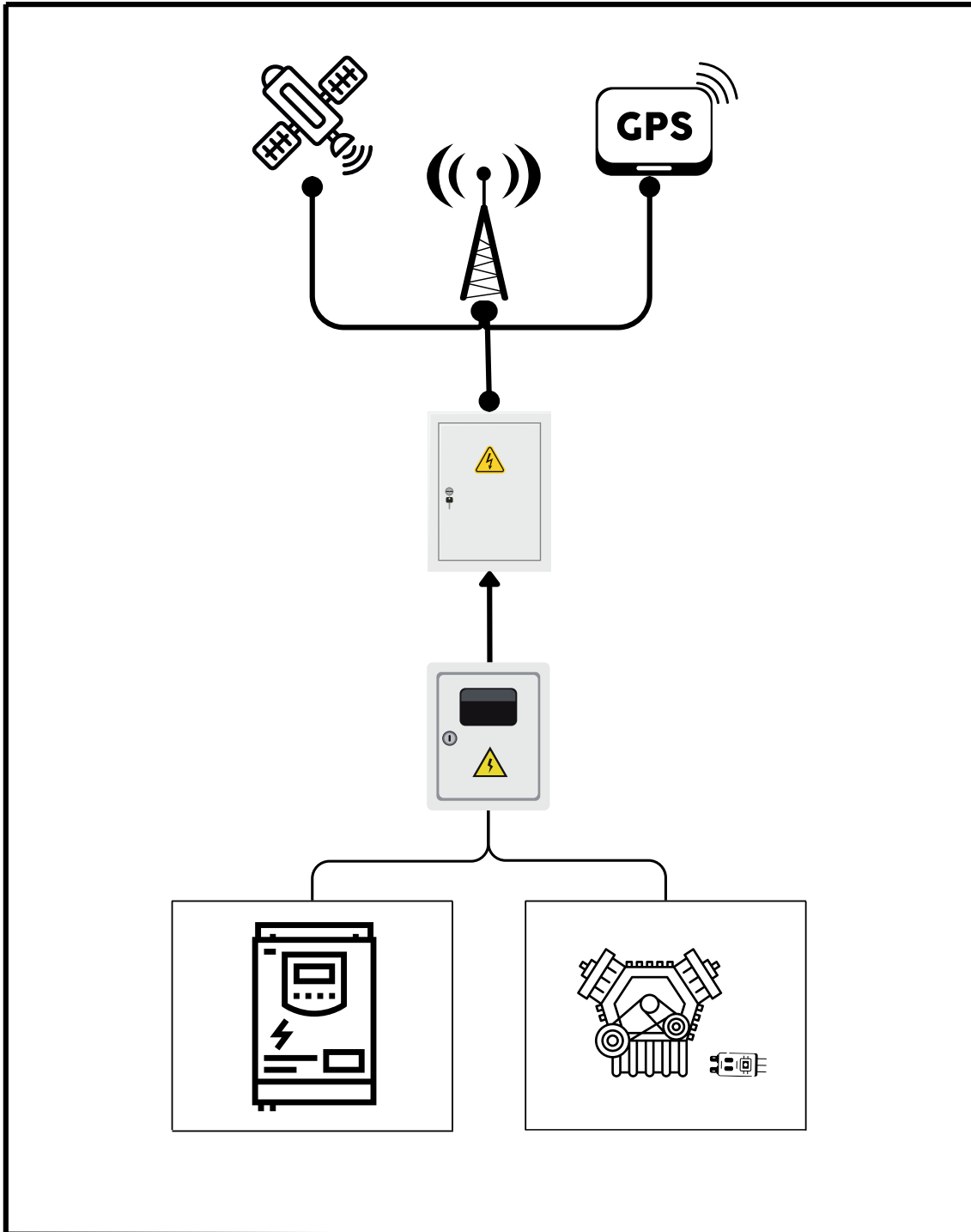
### KETERANGAN

- ① Fuel Oil Tank
- ② Main Engine
- ③ Flow Meter

# System Topology



# System Topology



SOLUTIONS



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RPM MONITORING



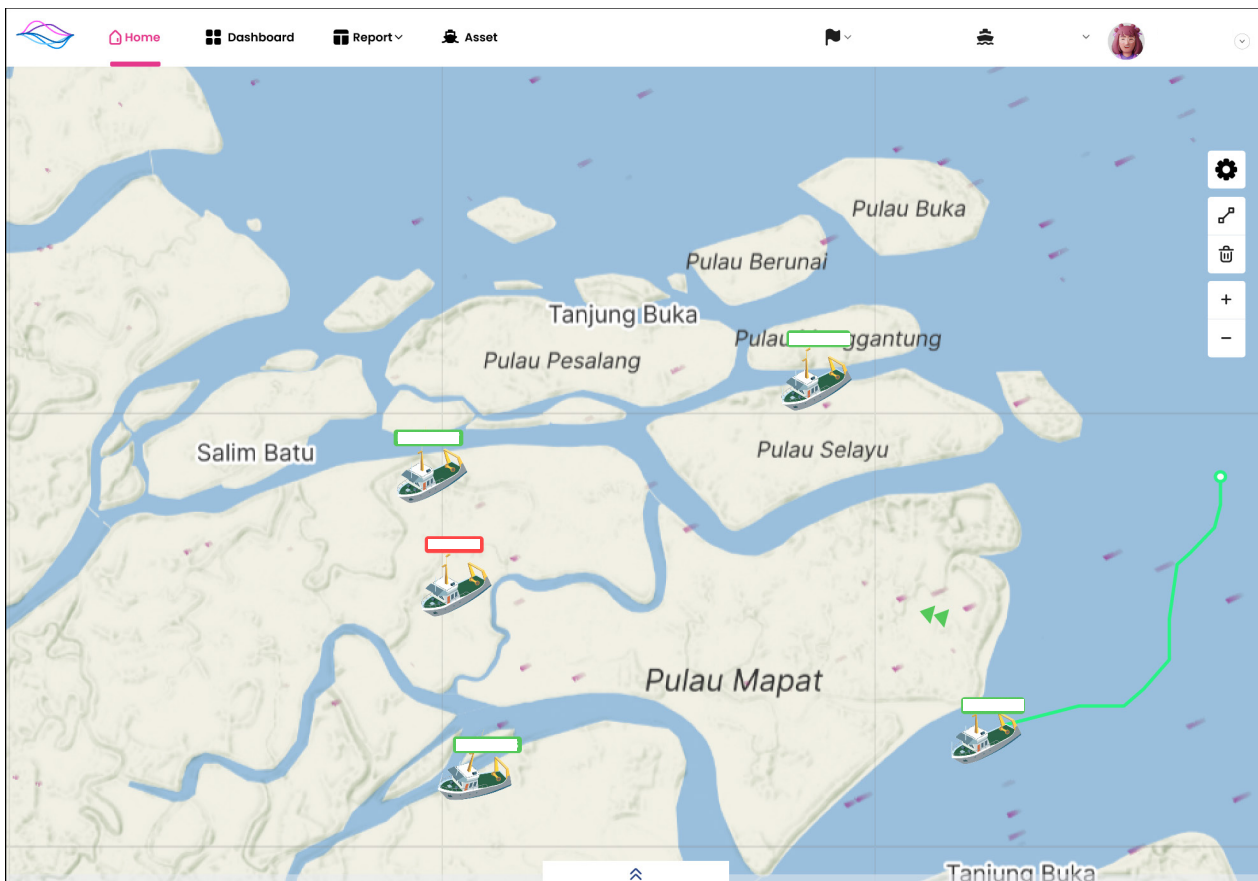
DATA ANALYZER



GPS TRACKER



DAILY REPORTING





## What's Monitored:

1. Monitor incoming fuel oil
2. Know the temperature and density of fuel oil
3. Place and time of fuel tank fill-up
4. Monitoring all of the process bunker

## Benefits of Implementing

1. Monitoring bunker precisely
2. Present real time data of bunker process

## Key Features



MONITORING BUNKER



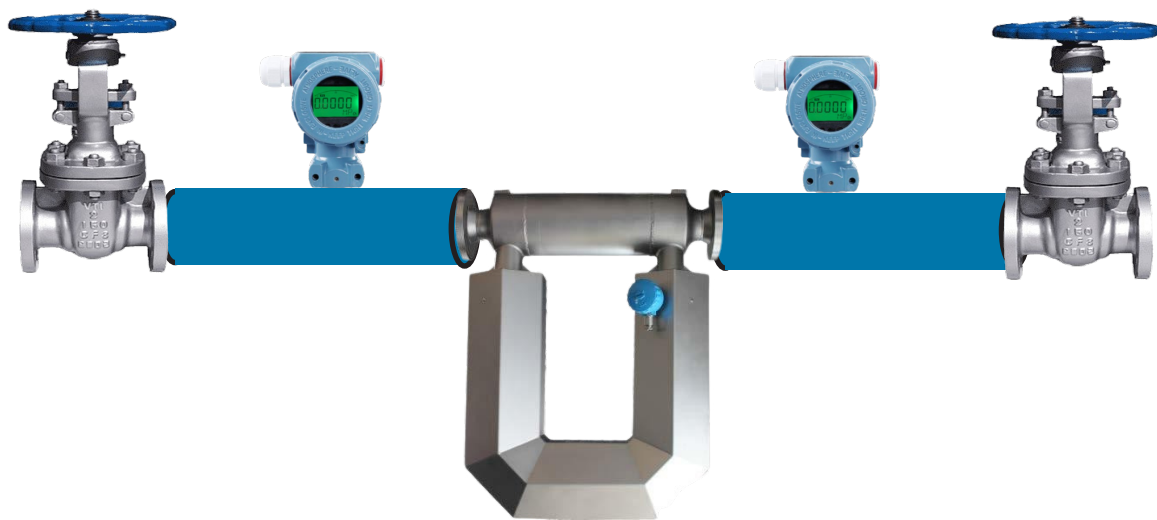
DATA ANALYZER



BUNKER TRANSACTION

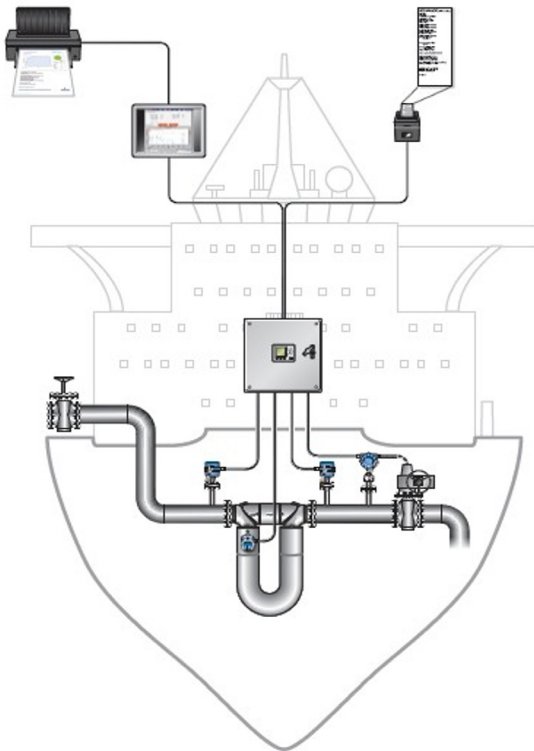


DAILY REPORTING

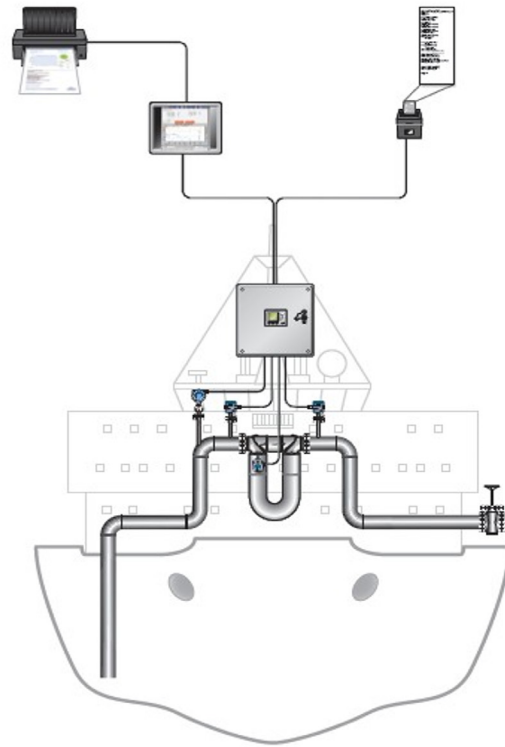




## VESSEL INSTALLATION



## BARGE INSTALLATION



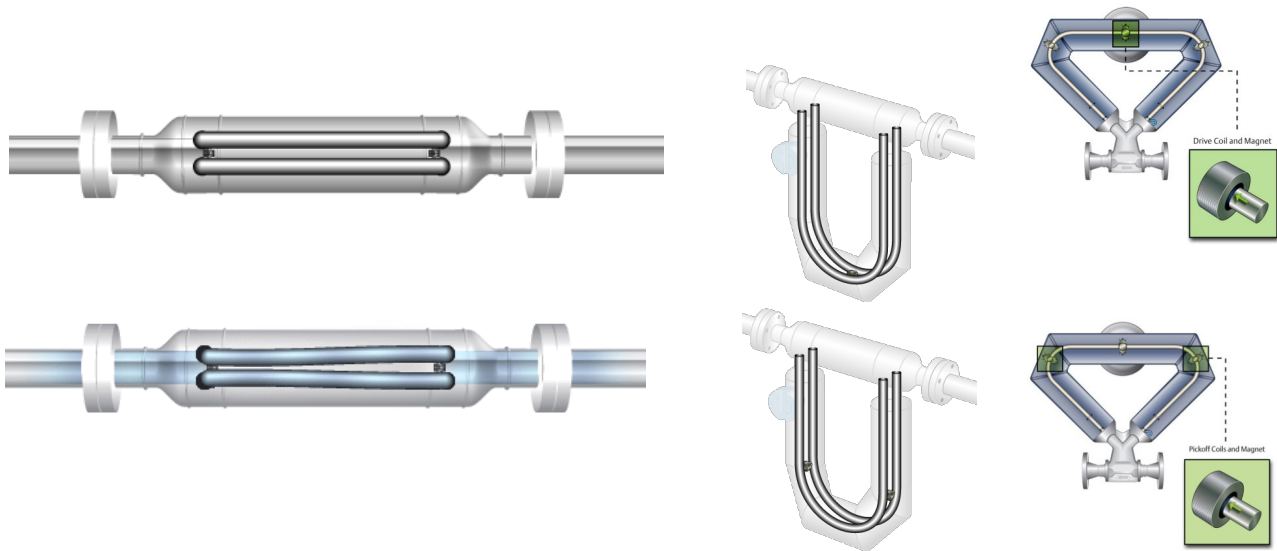


Mass flow meter is a device that measures the mass of a fluid traveling through a tube, in accordance with Coriolis Principle. Coriolis mass flow meter can directly measure fluid mass flow, and has great influence on processing and measuring methods in energy & chemical industries. Compared with traditional volumetric flow measurement, it has following advantages:

1. High accuracy: Generally from 0.1 % - 0.5%.
2. Wide application: Besides common fluid, mass flow meter can measure fluids such a non-Newtonian fluid, all kinds of slurry, suspensions, etc.
3. Convenient installation: No specific requirement of choosing upstream or downstream pipe.
4. High reliability

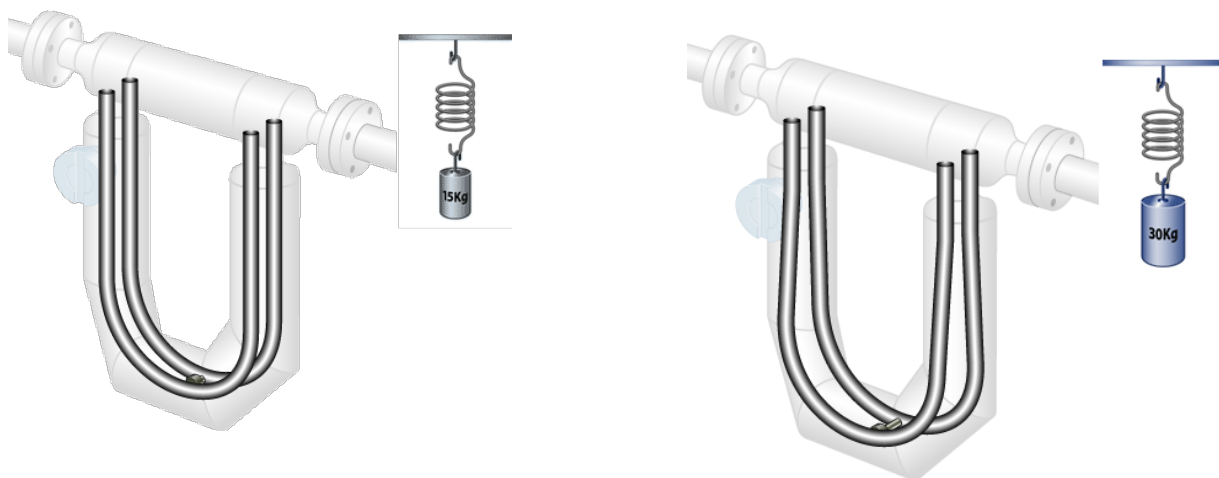


## Theory of Operations - Mass Flow Measurement



1. Process fluid enters the sensor and flow is split with half the flow through each tube
2. Drive coil vibrates tubes at natural frequency
3. Pick-off coils on inlet and outlet sides

## Theory of Operations - Direct Density Measurement



Density measurement is based on the natural frequency  
 As the mass increases, the natural frequency of the system decreases  
 As the mass decreases, the natural frequency of the system increases

# SERVICES

## General Services

We provides general maintenance services required by vessels in support of their business.

## Troubleshooting Services

Our service engineers can perform troubleshooting both on site and online.

## Technical Support

Assistance to Our customers with selecting proper product and configuring it for a specific case.

## Installation Supervision

Our Team can come to your location, to made an example installation and guide the technicians through whole process

## Online Training

Our Support engineers can make the training from online base



**CAKRA SINERGI KREATIF**

**For further information, please scan the barcode above to connected with us.**

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