



CMT
monitoring systems

Free to use, just register!

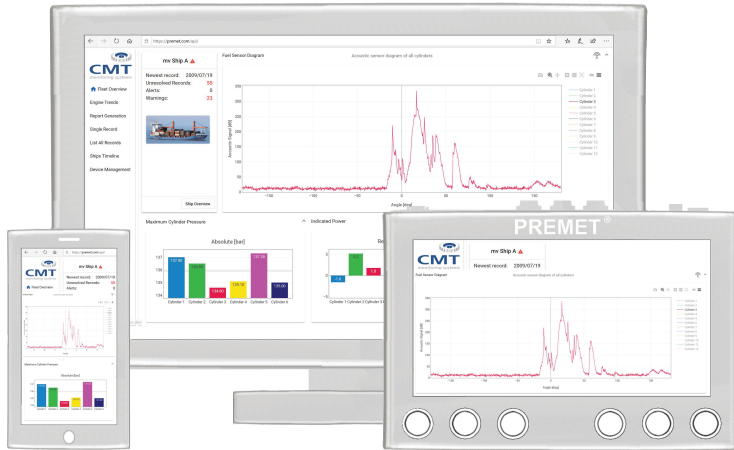


PREMET® Cloud and Evaluation Service

PREMET® Cloud - Analysis to Go

While every PREMETS® device comes including the PREMETS® Viewer, there is an even more beneficial solution. The PREMETS® Cloud allows an analysis from a single ship to complete fleets. Everything is stored in the cloud and can be accessed from all over the world. And the best thing? Its free to use, just register.

Management of the engines on board is nowadays crucial to reduce costs, adhere to modern maintenance requirements and to guarantee 24/7 reliable operation.



Availability - everywhere, anytime, instant and for everybody on your team

An **annual cloud subscription for the ship** is all you need to purchase, but all user accounts are free. The PREMETS® Cloud offers the **most modern DPA** with the **most complete number of parameters**.

For a retrospectively trend analysis, you can also **upload data from other devices** for example, older PREMETS, HLV, DieselSCOPE or Diesel Indicators etc.

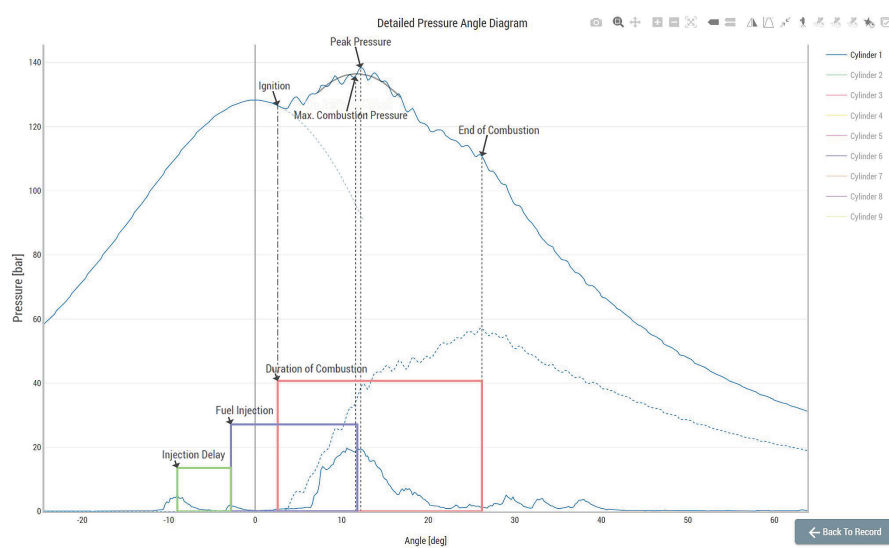
Comparison between sister engines within the fleet can help a lot and is easily done within the PREMETS® Cloud.



Cloud based - neat and uncomplicated

Your benefits:

- Free to use for all co-workers
- Easy account managing
- Only the ship needs an annual upload license
- Optional analysis service by marine engineers
- Worldwide access with all current browsers
- Most extensive Diesel Performance Analysis on the go
- Only software to show:
 - Maximum combustion pressure
 - Combustion pressure decomposition curve
 - Calculated point of ignition
 - Injection timing parameter



Extensive - complete analysis with no compromises

Ordering Information

DPA-CT-12025

PREMETS® Upload Subscription

DPA-CT-12028

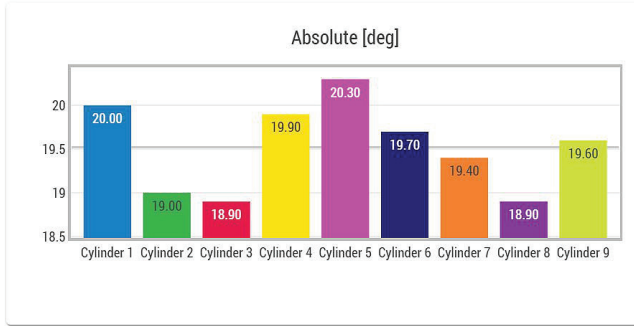
Evaluation Service per record
(PREMETS® Cloud Subscription required)

DPA-CT-12040

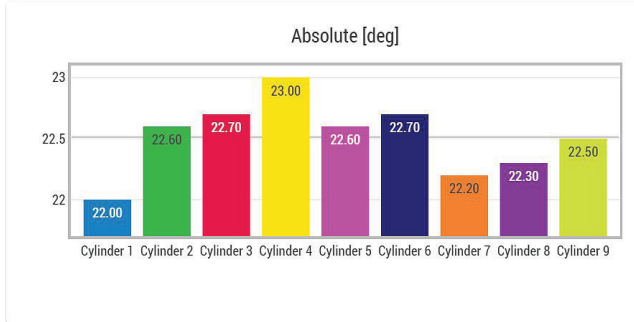
Evaluation Service per vessel and year
(PREMETS® Cloud Subscription required)

PREMET® Cloud - Complete fleet management

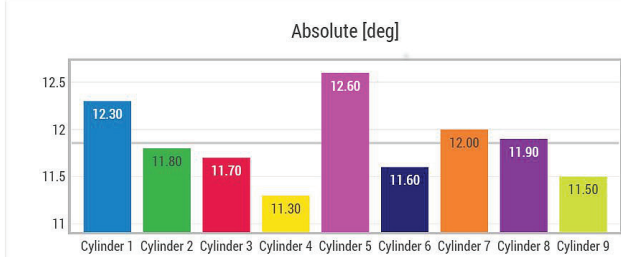
Fuel Injection Duration



Fuel Combustion Duration



Ignition Delay



Interpretation - easy comparison of absolute and relative values

The PREMETS® Cloud solution serves as exchange platform and analysing tool for your diesel performance data or your entire fleet. You can manage your fleet, trend performance data and compare data from sister engines, shop or sea trials.

Why not using one of the many other performance clouds available? Because normal fuel performance and ship performance clouds use a limited amount of data while a record of diesel performance data consists of a large array of data which are all necessary to get a conclusive analysis for the diesel engine.

If needed calculated performance data can be exported to be used in other clouds.

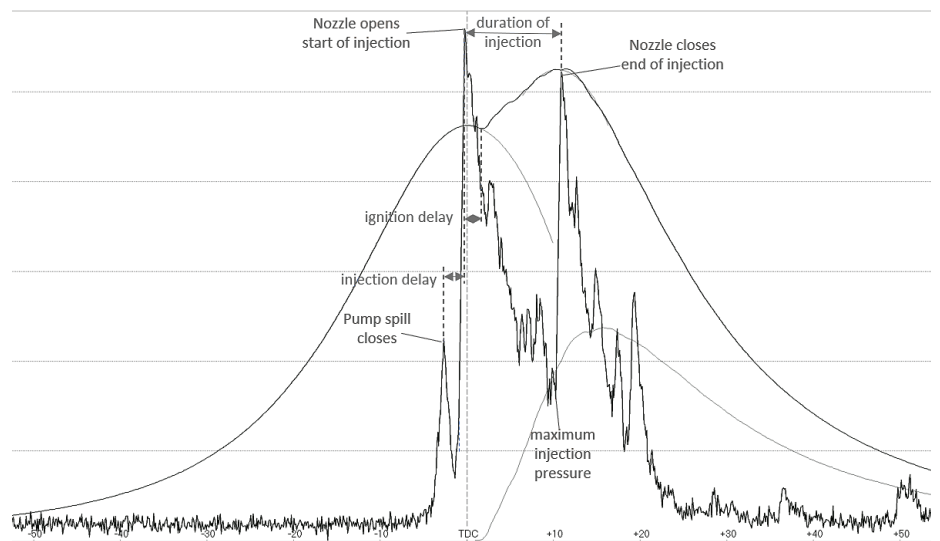


Assistance by external marine engineers - easy and tailored reports

The big advantage of the PREMETS® Cloud is the instant availability of data. The ship can easily upload data. Either from a registered computer or from a PREMETS® X device.

The uploaded files are just a few kilobytes in size. Data is then at once available for the superintendent or any data analyst who can analyse the data immediately.

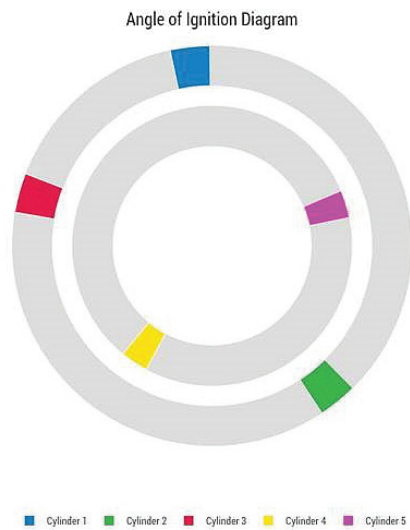
All the Data is accessible from any device with internet access from anywhere in the world.



Plentiful - uncompressed pure data

Complete list of parameters analysed in the PREMETS® Cloud*:

- Revolutions per Minute (RPM)
- Mean Indicated Pressure (MIP)
- Indicated Power (PI)
- Pressure at Fuel Ignition
- Angle at Fuel Ignition
- Compression Pressure
- Max. Combustion Pressure
- Angle at Max. Combustion Pressure
- Max. absolute Peak Pressure
- Angle at max. absolute Peak Pressure
- Angle where combustion ends
- Expansion Pressure
- $\lambda = p(\text{mxc}) / p(\text{cmp})$
- Combustion Pressure Rise
- Exhaust Gas Temperature
- Fuel Pump Index
- Ignition Delay = $a(\text{ign}) - a(\text{opn})$
- Injection Delay = $a(\text{opn}) - a(\text{pmp})$
- Angle where pump spill closes
- Angle where nozzle opens
- Angle where injection starts
- Fuel Injection Duration (length)



Visual - eye catching arrangement

Alerts

Compression pressure alert on cylinder 1.

The compression pressure is -5.0 bars away from average. Should be less than 2.0 bars.

Maximum combustion pressure alert on cylinder 1.

The maximum pressure is 10.7 bars away from the average. Should be less than 3.0 bars.

Mean indicated pressure alert on cylinder 1.

The mean indicated pressure is 3.1 bars away from average. Should be less than 0.5 bars.

Maximum combustion pressure alert on cylinder 3.

The maximum pressure is -4.3 bars away from the average. Should be less than 3.0 bars.

Compression pressure alert on cylinder 4.

The compression pressure is 2.4 bars away from average. Should be less than 2.0 bars.

Compression pressure alert on cylinder 5.

The Compression pressure is 2.5 bars away from average. Should be less than 2.0 bars.

Clear - Alert system for quick actions

* To take advantage of all parameters a PREMETS® from the third generation will be needed.

** (if optional AE sensor is used)

Analysis Summary

Fuel pump timing to be checked

Analyst Comments

Compression pressure variation is acceptable.

Ignition timing needs improvement to bring the engine into balance.

Unit 8 does ignite very early. The pump spill closes about 0.5 deg early but ignition starts well over one deg early. This may be due to lower opening pressure of the fuel valve. This is also confirmed due to the latest closing time of fuel valve.

Unit 5 and 7 are about 0.5 deg to late which results in to high load on this two units. Especially on unit 5 this results in

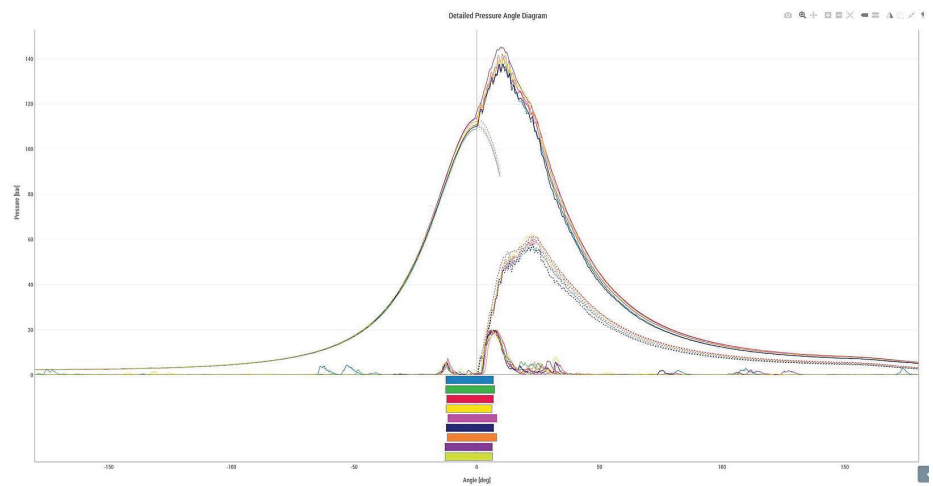
Recommended Actions

Unit 8: Please check opening pressure of fuel valve (possible to low).

Fuel pump timing of unit number 5 and 7 should be brought forward by 0.5 deg.

Please take another measurement after above redommended actions.

Detailed - Complete reports with actions



The PREMETS® Cloud is the only available software on the market with:

- **Maximum combustion pressure**
Instead of maximum pressure at indicator valve the PREMETS® Cloud calculates the most probable value by FFT analysis for the highest accuracy.
- **Combustion pressure decomposition curve**
Identify combustion problems like insufficient injected fuel volume as well as the combustion length for each individual cylinder
- **Calculated point of ignition**
Easy improvement of the accuracy by adapting the coefficient of determination.
- Individual determination for **injection and combustion timing** on each cylinder like:
 - Angle **pump spill closes** including **ignition delay** **
 - Angle **nozzle opening** including **injection delay** **
 - **Point of ignition**
 - Point of **nozzle closing** including **length of injection** **
 - **End of combustion** including **length of combustion**