



BunkerMaster

Version 3.1

Fuel buyers, shipboard personnel and other parties involved in managing marine fuel can now access BunkerMaster online. In the latest version of this unique software tool, users enjoy an improved suite of applications and information updates catering to current bunker requirements and industry practices.

Fuel Change-over Calculation

This function helps you plan and execute the change-over from normal sulphur HFO to low sulphur fuel (and vice versa) when entering and exiting Emission Control Areas (1.00% maximum fuel sulphur limit applies); EU community ports and inland waterways (0.1% maximum fuel sulphur limit applies for ships at berth); and any other areas where fuel sulphur restrictions exist. Proper fuel change-over calculation ensures that you comply with the

applicable regulations, optimize the consumption of the more costly low sulphur fuel, and execute the change-over safely.

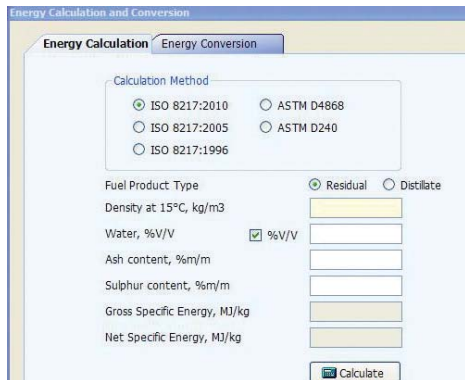
Fuel Blending Calculation

An accurate blend ratio can minimise compatibility and stability issues. With the Fuel Blending Calculator, users derive the recommended proportions of fuels to be blended by entering the values of critical

quality parameters, including Viscosity, Density, Sulphur, Ash, Vanadium, Aluminium + Silicon and Sodium.

Fuel Quantity Determination and Conversion

By entering values for Density, Volume and Temperature, you can work out the quantity of fuel delivered to your ship, or convert volume measurements into equivalent metric tonnes.



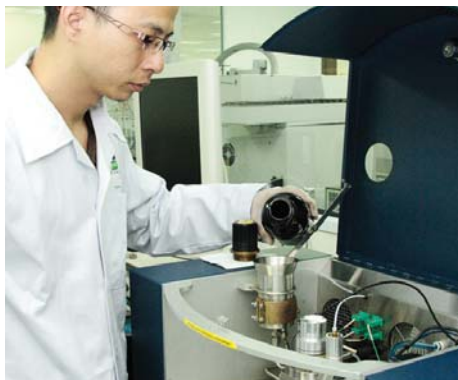
Energy Content Calculation and Conversion

By inputting values for Density, Water, Ash Content and Sulphur, BunkerMaster evaluates the Energy Content of your fuel purchases in various units of measurement. You may also convert energy content expressed in one unit of measurement into another.



Viscosity Calculation

For operational purposes, users can convert the viscosity value of a fuel product, as delivered, to the corresponding value at a different temperature; for example, MGO viscosity from 40°C to engine room temperature.



Fuel Combustion Analyser

Determination of Calculated Carbon Aromaticity Index (CCAI), Calculated Ignition Index (CII) and Calculated Cetane Index (CCI)

This function estimates the ignition quality of HFO and distillate products. For a more accurate evaluation of fuel ignition and combustion quality, DNVPS recommends the use of the Fuel Combustion Analyser, a laboratory instrument supported by the IP 541 fuel ignition test method.

Gravity Calculation

BunkerMaster lets you convert gravity measurements between Density (kg/m^3), API Gravity ($^\circ\text{API}$) and Specific Gravity.

Temperature Conversion

With this function, fuel temperature can be converted from $^\circ\text{C}$ to $^\circ\text{F}$ (vice versa).



Flashpoint, a critical ISO 8217 parameter

Marine Fuel Quality Information

This section contains a glossary of the fuel quality parameters covered in the ISO 8217 marine fuel specification.

DNV Petroleum Services Fuel Quality Testing (FQT) Support

Members of the DNV FQT Programme may use the **Sample Details** form to electronically transmit bunkering information to our offices. This helps expedite the transportation of fuel samples taken from ships to DNVPS labs for testing. To update the information of ships enrolled in our testing programme, you can also use the online **Ship Information** form.



Enjoy a 30-day BunkerMaster trial!

To sign up for a 30-day free trial, or for purchase enquiries, please contact the nearest DNVPS regional office.

DNVPS Singapore
27 Changi South Street 1,
Singapore 486071
Tel: +65 6 779 2475
Fax: +65 6 779 5636
Email: singapore@dnvps.com

DNVPS Oslo
Veritasveien 1 N-1363
Hovik, Norway
Tel: +47 67 57 9900
Fax: +47 67 57 9393
Email: dnvps.oslo@dnv.com

DNVPS Rotterdam
Zwolseseweg 1
2994 LB Barendrecht
The Netherlands
Tel: +31 10 292 2600
Fax: +31 10 479 7141
Email: rotterdam@dnvps.com

DNVPS Houston
318 North 16th Street
La Porte, Texas 77571, USA
Tel: +1 281 470 1030
Fax: +1 281 470 1035
Email: houston@dnvps.com

DNVPS Fujairah
Port of Fujairah,
P.O. Box 1227
United Arab Emirates
Tel: +971 9 222 8152
Fax: +971 9 222 8153
Email: fujairah@dnvps.com

www.dnvps.com