

ICON RESEARCH LTD

Free Upgrade to New Doctor Version 6.4 Software

Over the past two years *Diesel Doctor* Version 6 software has been enthusiastically received by engineers worldwide benefitting from the user-friendly advanced engine analysis tools. Icon Research is delighted to announce the latest version 6.4 (V6.4) of the software which is a free upgrade for existing version 6 users offering many new features and improvements:

- **New engine performance reports**
- **Improved propeller curve analysis now included in “Diagnostic 6” software option**
- **Faster operation**
- **New extensive demonstration library**
- **Enhanced ISO normalisation and SFC calculations**
- **Expanded scalar list now sorted alphabetically with tooltip descriptions**
- **Compression curve projections to estimate TDC angle**
- **More flexibility in default folder selection**
- **Simpler activation for multi-account users**

As for previous revisions, V6.4 is offered in three options but the Propeller Curve Analysis has been moved from the Shop/Sea trial option to the *Diagnostic* option. The three software options are now:

- 1) *Standard 6*
- 2) *Diagnostic 6 (Includes Propeller Curve Analysis)*
- 3) *Shop/Sea Trial 6*

Inclusion of new Engine Performance Reports

In addition to the existing diagnostic reports a new engine performance report in a typical industry standard format has been added.

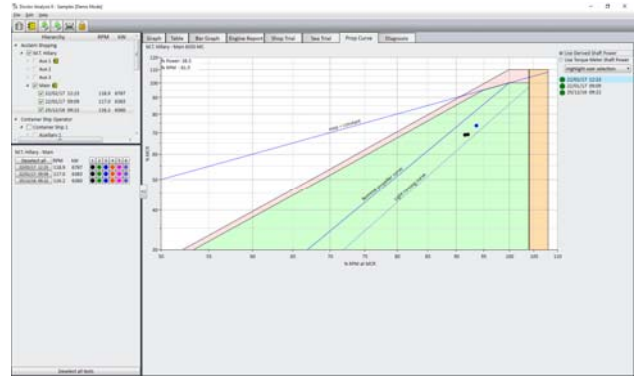
Any parameters measured or calculated by the Doctor such as powers and pressures are automatically entered into the sheet. Other values can be entered manually if required. The completed report is published as an Excel document with a single button click saving time and simplifying monthly reporting requirements.

Icon provide two report templates which can be used directly or modified to suit. Alternatively your own existing reports in Excel format can be imported into the program.

| SERVICE DATA | | Engine Type | | Name of vessel | | M.T. History | |
|-----------------------|--|----------------------------------|--|-----------------------------------|--|--------------------------|--|
| Engine Model | | Serial No. | | Engine No. | | Year | |
| 4000 | | 1000000 | | 1000000 | | 1910 | |
| Turboschargers | | No. of TC | | Serial No. | | No. of Cyl. | |
| Type | | Cylinder Constant (M/bar) | | Mean Friction Press. bar | | 500 | |
| Max. RPM | | Max. Temp. °C | | Lubrication Oil System (Tick box) | | Internal | |
| Compr. Slip Factor | | Compr. Diam. mm | | External from M.E. System | | External from Crank/Tank | |
| ISO specifications | | | | | | | |
| Overhaul No. | | Fuel Oil Viscosity before Engine | | 680 | | Temp. 95 °C | |
| Banker Station | | Cylinder Oil | | Brand | | Type | |
| Oil Brand | | Heat value, kcal/kg | | 44000 | | Circulating Oil | |
| Serials at 15 °C | | 100000 | | 2.50 | | Turbo Oil | |
| Test Date | | Load | | Air Inlet Pressure | | Engine RPM | |
| 20-Feb-11 12:23 | | 73.5 | | 1027 | | 119.2 | |
| Eff. Fuel Consumption | | ISO conversion | | Displacement | | Total Running Hours | |
| 110.0 | | 110.0 | | 14.0 | | 21.0 | |
| Indicated Power kW | | Sea State | | Draft Fore. m | | Log Knots | |
| 4787 | | 178.40 | | 14.2 | | 21.0 | |
| kW | | mBar | | Draft Aft. m | | Obs. Knots | |
| 4787 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Speed | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Port. m | | Wind Dir. | |
| 178.40 | | 178.40 | | 14.2 | | 21.0 | |
| mBar | | mBar | | Draft Starb. m | | Wind Dir. | |
| 178.40 | | 178.40 | | | | | |

Propeller curve analysis improved and now available in Diagnostic 6 edition

In version 6.3 propeller curves were included only with Shop/Sea trial. Now all customers with Diagnostic 6 have the ability to get instant analysis on the operating point of their propulsion engines without the need for the Shop/Sea Trial software option. Another new feature enables the latest set of readings to be colour identified.



Faster operation when working with large libraries

The program now runs faster when working with libraries containing many vessels and test results.

Licence Activation now on a per machine basis by default

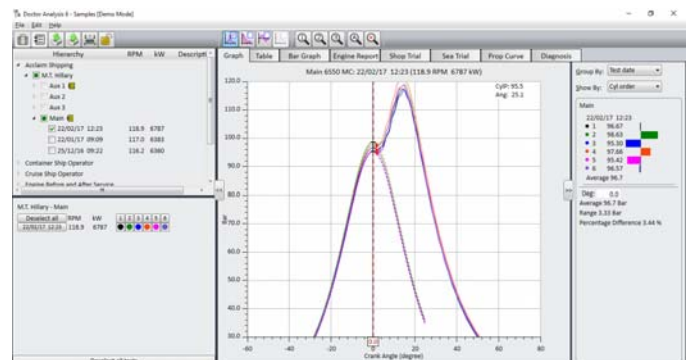
Previously when a number of users with different accounts were using the Doctor program on a single PC, the license had to be activated individually. In V6.4 only a single activation is required.

New Demonstration Library

The demonstration library is accessed by selecting *HELP > Enter Demo mode*. This feature is extremely useful for evaluating the software and experimenting safely. It is also very useful when the software is being used in a training mode. The previous samples library has been completely replaced with new examples encompassing a wide variety of engine types.

Extrapolated Curves to TDC and beyond indicator traces now viewable (Selectable)

The extrapolated pressure trace as if no fuel enters the cylinder is of interest to get an estimate of TDC angle. Note these projections are only visible as a guide and are not used to set TDC offset angle. It is crucial to set this angle correctly and the most reliable method under all conditions remains to have a TDC marker on the flywheel and set TDC offset angle manually after the first reading. Icon can assist with this if help is required.



Improved ISO normalisation and SFC calculations

Version 6 software will automatically calculate ISO normalisation and SFC assuming all the parameters required by the formulae are entered. Version 6.4 adds to the parameters and now also includes ISO normalised SFC calculations.

Scalar list now in alphabetical order making them much easier to locate when selecting/deselecting

The Doctor program provides a long list of scalars each of which can be selected for display by a simple check box. The down side of this is that it can be difficult to locate required scalars. Unselected scalars are now ordered alphabetically making this task much simpler. In order to help identify scalars a “tooltip” feature is now included such that a description appears when the user places the cursor on the scalar name.

Default folders for storage of libraries/logbooks can be relocated to shared location on the computer or network drive.

Previously the folder location for libraries and logbooks was fixed. Now their location can be set by the user. This provides more flexibility in cases where a server is used to store data.

Those customers using earlier versions of the Doctor Software (Versions 4 or Versions 5) can upgrade to directly to Version 6.4 regardless of the Doctor instrument they use. Please contact Icon for details of the license fees applicable.

Be sure to register and download version 6.4 from our website at:

<http://iconresearch.co.uk/diesel-engine-analysis/doctor-software/>

Go to *Software Downloads* then click the link for the software Version 6.4. Next select *Manuals and Support Documents* and then select Version 6.4 Reference Guide. To register, create your own user ID and password. You do not require a password from Icon.

Icon Research July 2017