



# PropExpert®

Propeller Selection for Work Boats & Pleasure Craft

## What is PropExpert?

*PropExpert* is a software tool for the selection and analysis of propeller systems for work boats and pleasure craft. Built upon the award-winning *NavCad*® technical library, *PropExpert* insures the proper selection of propulsion system components – engine, gear and propeller.

## Who Should Use PropExpert?

Anyone sizing commercial propellers – marine equipment salespeople, boat builders, designers – should use *PropExpert*. Particular consideration is given to the requirements of engine and propeller salespeople. Companies large and small from every continent rely on *PropExpert* for their propeller sizing needs.

## What Hull Types Can Be Evaluated By PropExpert?

Work boats and pleasure craft generally describe the scope of *PropExpert*. This would typically include motor and sailing yachts, tugs, trawlers, barges and river boats, patrol craft and sport fishing boats. Only a few data items are needed to adequately describe the vessel for *PropExpert*'s various analyses and calculations. *PropExpert* can also be used to size propellers for other application, such as ROV/AUV thrusters.

## Which Propeller Types Can I Size With PropExpert?

*PropExpert* can determine optimal diameter, pitch, blade area and RPM for virtually all commercially-available inboard propellers of 2 to 5 blades, from about 450MM (18") diameter up to about 2.5M (100"). Both flat-faced (Gawn) and foil-section (B-series) propellers are supported, as well as ducted propellers (Kaplan). Unique to *PropExpert* is its ability to evaluate cupped propellers, and special consideration for folding propellers and propellers in stern pockets.

## Can I Use PropExpert To Estimate Vessel Speed?

*PropExpert* offers three techniques to estimate the speed of the vessel. The most accurate method is to base the estimation on a prior trial of the vessel. The trial of a similar vessel can also be used. When reliable trial data is unavailable, you can use *PropExpert*'s basic speed estimation formula.



Examples of Sizing Details (above) and Basic Sizing Data.

## What Makes PropExpert Different?

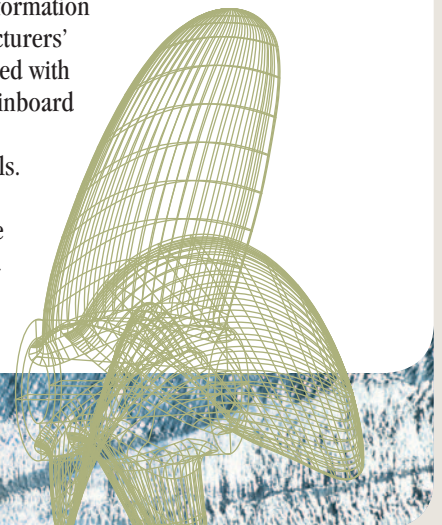
*PropExpert* shares the reliability and reputation of HydroComp's *NavCad* performance prediction package. Exhaustively tested in the office and in the field, *PropExpert* offers the most up-to-date techniques presented in an easy-to-use and powerful package. Special features have been included to support the needs of propulsion equipment salespeople. Minimal hull data requirements, automatic prediction of hydrodynamic properties, clear and concise data entry and extensive data handling capabilities make rapid sizing and review now possible.

## What Data Files Are Used By PropExpert?

All *PropExpert* data is handled by an internal data manager. You can manage data for your projects, clients, vessel sea-trials, propellers and engines.

## Where Can I Find Sources For Engine & Propeller Data?

You can create files of engine and propeller data for *PropExpert* using information that you gather from manufacturers' catalogs or web sites. Delivered with *PropExpert* is a commercial inboard propeller library of over 100 international propeller models. Use *PropExpert*'s blade scan analysis to determine the true effective pitch and blade area ratio of your propeller.





# PropExpert®

## Technical Specifications

### Propeller Types

Gawn (flat faced) • B-series (foil) • Kaplan 19A and 37 (ducted)

### Hull Types

Displacement • Semi-displacement • Planing • Sailing yacht  
• Barge • Catamaran • River boat

### Service Types

Passenger/pleasure • Work/commercial • Towing • Bollard

### Sizing Options

Diameter • Pitch • Blade area ratio • Reduction gear ratio

### Data Managers

Projects • Clients • Sea-trials • Propellers • Engines

### Speed Prediction

Average hull formula • Based on prior trial • Based on similar vessel

### Performance Analyses

Efficiency and slip • Thrust and tow pull • Engine power and fuel rate • Cavitation • Blade strength • Shaft diameter

### Advanced Features

Cupped propellers • Data estimates • Cavitating performance  
• Effect of shaft angle • Blade scan analysis

### Report Formats

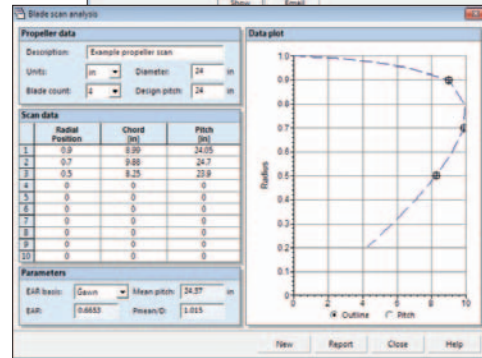
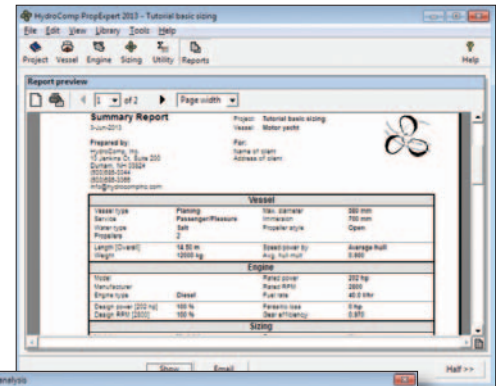
Summary report • Technical appendix • Performance plots

### Report Options

Integrated report viewer • Save as PDF and CSV • Attach to email

### Report Languages

English • French • Italian • Portuguese • Spanish • User-defined



Examples for PropExpert Summary Report (top) and Blade Scan Analysis.

- Size propellers
- Find gear ratio
- Integrated data manager
- Contemporary propellers
- Professional reports
- Imperial or SI units



To order, please contact HydroComp, Inc.  
or this authorized representative:

For license and ordering information, please contact:

©2018 HydroComp, Inc. 062018

HydroComp, Inc.  
15 Newmarket Road  
Suite 2  
Durham, NH 03824 USA

T: [603] 868-3344  
E: info@hydrocompinc.com  
[www.hydrocompinc.com](http://www.hydrocompinc.com)

