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# HydroComp NavCad® 2024 What's New

## New features for improved Vessel-Propulsor-Drive system simulation

Development in 2024 for HydroComp NavCad offers new technical features and workflow improvements.

### Release Build 2024.0

#### Miscellaneous

- New investigations allowed us to develop an updated prediction model for the partial load efficiency of PMAC (permanent magnet AC) motors.
- To support our continuing development of oblique flow corrected KTKQ prediction, a new scripting function is available (File.ExportFullKTKQ). [Premium Edition]

#### Interface Theme Update

Modifying the interface for one of our products is a careful balance between maintaining the efficiency of a known process and accommodating contemporary interface standards. Our priorities are to maintain the known workflow, but to also find aesthetic and process improvements that users expect with current versions of Windows. The interface updates for 2024 reflect the first step of a transition to a more contemporary look-and-feel while still being anchored to the process that users know. You can select this theme option by clicking **Tools | Options...** from the menu, then selecting **System** from the *Theme* dropdown list.

The screenshot displays the HydroComp NavCad software interface for a project named 'OSV63m.hnc'. The interface is divided into several functional areas:

- Top Panel:** Includes a menu bar (File, Edit, View, Analysis, Tools, Help) and a toolbar with icons for file operations, analysis, and results.
- Left Panel (VESSEL DRAG):** Contains settings for 'ITTC-78 (CT)' prediction, including technique, reference ship, expansion, friction line, hull form factor, speed correction, spray drag correction, and roughness.
- Center Panel (PROJECT):** Shows project details such as ID, description, scope, configuration, chine type, length on waterline, displacement, propulsor type, and count. It also includes 'WATER PROPERTIES' (density, viscosity) and 'DESIGN SPEED' (13.00 kt).
- Right Panel (Graph):** A line graph titled 'OSV63m.hnc' plotting Resistance (RBARE) in kN on the y-axis (0 to 200) against Speed in kt on the x-axis (0.0 to 14.0). The curve shows a non-linear increase in resistance with speed.
- Bottom Panel (Resistance Table):** A detailed table of resistance and effective power coefficients across a range of speeds.

SPEED [kt]	SPEED COEFS			ITTC-78 COEFS						RESISTANCE AND EFFECTIVE POWER					
	FN	FV	RN	CF	[CV/CF]	CR	dCF	CA	CT	RBARE [kN]	RAPP [kN]	RWIND [kN]	RSEAS [kN]	RCHAN [kN]	R'
10.00	0.214	0.458	2.54e8	0.001828	1.258	0.001674	0.000000	0.000669	0.004642	62.66	4.37	1.00	0.04	0.00	0.0
11.00	0.236	0.504	2.80e8	0.001805	1.249	0.002201	0.000000	0.000666	0.005120	83.62	5.23	1.21	0.04	0.00	0.0
12.00	0.257	0.549	3.05e8	0.001784	1.237	0.002959	0.000000	0.000662	0.005827	113.25	6.17	1.44	0.03	0.00	0.0
12.50	0.268	0.572	3.18e8	0.001774	1.230	0.003343	0.000000	0.000660	0.006185	130.44	6.66	1.56	0.03	0.00	0.0
13.00	0.279	0.595	3.30e8	0.001765	1.222	0.003857	0.000000	0.000658	0.006671	152.18	7.17	1.69	0.03	0.00	0.0
13.50	0.289	0.618	3.43e8	0.001756	1.213	0.004634	0.000000	0.000657	0.007421	182.55	7.70	1.82	0.03	0.00	0.0

## **About HydroComp NavCad**

For additional information, click to: [www.hydrocompinc.com/solutions/navcad](http://www.hydrocompinc.com/solutions/navcad)

## **About HydroComp**

Since 1984, HydroComp has been a leader in providing hydrodynamic software and services for resistance and propulsion prediction, propeller sizing and design, and forensic performance analysis. Through its unique array of software packages and services, HydroComp now serves over 1400 naval architectural design firms, shipyards, yacht owners, ship operators, propeller designers, universities, and militaries around the globe.

### **For more information, please contact:**

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