



KONGSBERG ENGINEERING SERVICES

Full-scale observations & measurements

For most propulsion manufacturers it is a normal procedure to check the propulsor designs regarding their general performance i.e. power absorption, efficiency etc. by analysing the results achieved at ordinary sea trials. The feedback thus obtained is a basic condition for success in future design work.

However, in order to obtain more detailed full-scale information required for deeper analysis of theoretical calculations and model test results, several steps must be taken beyond the routines of ordinary sea trials.

KHRC has since the mid 1950's been conducting observations of full-scale propeller cavitation for the purpose of correlating with model-scale observations and troubleshooting in service issues.

The full-scale measurement methods have been developed further and today KHRC supports the following techniques:

FULL-SCALE OBSERVATIONS & MEASUREMENTS

- Cavitation Observations
- Pressure, sound, noise measurements
- Vibration measurements
- Load measurements with strain gauges
- Thrust measurements, WJ

Cavitation observations

- Hull windows and stroboscopic lights
- Borescopes

Pressure, sound, noise

- Pressure gauges
- Hydrophones
- Microphones

Vibration levels

- 3-axis accelerometers

Load measurements - strain gauges

- Shaft torque/power
- Stresses

Thrust measurements WJ

- Outlet nozzle pressure measurements

Ship operating condition

- Ship speed
- Propeller pitch and rpm
- Trim