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**Ships and marine technology - Hydraulic performance tests for
waterjet propulsion system**

船舶与海上技术 喷水推进系统水力性能试验方法

(English Translation)

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Table of Contents

Preface
1 Scope
2 Normative References
3 Terms and Definitions
4 Measurement and Acceptance Criteria
4.1 General Rules
4.2 Measurement Range
4.3 Stable operating conditions of the measurement system
4.4 Evaluation of Flow Rate and Head
4.5 Efficiency or Power Evaluation
5 Measurement uncertainty
5.1 General Provisions
5.2 Statistical assessment of total measurement uncertainty
5.3 Conversion
6 Test Methods 8.
6.1 Test Conditions
6.2 Test Apparatus
6.3 Test Items
7 Test Report
Appendix A (Informative) Test Report
A.1 Test Report Recommendation
A.2 Pump Test Record Form
Appendix B (Informative) Test Apparatus Working Section
B.1 General Provisions
B.2 Uniform Flow Model Test Apparatus
B.3 Model test device installed at the stern of the ship model
B.4 Prototype or intermediate model water jet propulsion test device
References

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document adopts ISO 4679:2023 "Test methods for hydraulic performance of waterjet propulsion systems for ships and marine technology".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Marine Machinery (SAC/TC137).

1 Scope

This document specifies the measurement and acceptance criteria and test reports for hydraulic performance testing of waterjet propulsion systems with Class A and Class B accuracy.

Require.

This document specifies the test methods for water jet propulsion pumps with or without an inlet flow channel.

This document applies to hydraulic performance tests of waterjet propulsion systems under specified test conditions.

This document applies to Class A accuracy levels used for waterjet propulsion hydraulic model tests, and to the acceptance testing of small to medium-sized products or intermediate models.

The test was conducted at accuracy level B.

This document specifies the test conditions for Class A and Class B accuracy, as well as recommendations and requirements for test equipment, to ensure that the tests meet the requirements.

It is carried out under conditions of corresponding precision.

This document does not cover other components of the waterjet propulsion system, such as the steering and reversing mechanisms, hydraulic systems, and control systems.

2 Normative references

This document has no normative references.

3 Terms and Definitions

The following terms and definitions apply to this document.

waterjet unit

Composed of a waterjet propulsion system, a steering and reversing mechanism, a hydraulic system, and a control system, it can provide thrust to the carrier and perform steering and reversing.

Operating device.

It consists of a waterjet propulsion pump, nozzle, and inlet channel (generally, the guide vanes and nozzle of a waterjet propulsion pump are integrated), and is capable of propelling a carrier.

A dynamic propulsion system.

waterjet pump

A pump that uses a rotating impeller to transfer energy from a prime mover to water.

Note: A waterjet propulsion pump drives a carrier by generating reaction force and consists of an impeller, guide vanes, casing, and shaft system (hereinafter referred to as "pump"). Its main types include...

Mixed-flow and axial-flow waterjet propulsion pumps. An axial-flow waterjet propulsion pump is a pump in which the liquid is discharged from the impeller along the axial direction, while a mixed-flow waterjet propulsion pump is a pump in which the liquid is discharged along the axial direction.

A pump that discharges water from the impeller at a certain angle α (0°