



Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 17/DEC/2018. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 18/JUN/2018 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Product Name: Thruster, Tunnel Thruster

Model Name(s): 30TT200ML & 30TT150ML (30-inch tunnel diam., Mechanical L-drive, 150 and 200 HP ratings)

Presented to:

THRUSTMASTER OF TEXAS, INC.
6900 THRUSTMASTER DR.
United States

Intended Service:

Marine & Offshore Application - Bow and Stern Thrusters for athwartship Maneuvering and Dynamic Positioning service.

Description:

30" Diameter Mechanical Tunnel Thrusters driven by electrical motors.

Tier:

5

Ratings:

30TT200ML Rated 200 shp @ 805 RPM; Bollard Pull Force: 4,181lbf
30TT150ML Rated 150 shp @ 805 RPM; Bollard Pull Force: 3,417lbf

Service Restrictions:

Unit Certification is required for this product. Consult manufacturer for each installation and application.

Comments:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product. 1) Certificates of pinion shaft, low gear, propeller and electrical motor are to be made available to the attending Surveyor. Each particular application is to be specifically approved by submitting the following electrical installation drawings: 1) Description of operation of the Tunnel Thruster comprised of controller locations (i.e. main Controller, thruster controllers, etc.), signal path and control transfer procedures. 2) The E-Stop is to be independent of the automatic control system, manual position control system and manual thruster control system. 3) The emergency stop/shutdown facility is to be arranged to shutdown each thruster individually in accordance with 4-3-5/15.9.2 of the Rules. 4) A local means of control in addition to the remote control (bridge control) is also to

be provided in accordance with 4-3-5/7.1 of the Rules. 5) Variable Frequency Drive (VFD) controller details and installation drawings as per 4-8-3/5 of the SV Rules. 6) Alarms and instrumentation in accordance with 4-3-5/Table 1 of the Rules.

Notes / Documentation:

Dwg No. B117479, Rev. C, Schematic, Electrical, Io J-Box, Pages: 2 Dwg No. B117865, Rev. B, GA, Bridge Control Panel, , Pages: 1 Dwg No. B117870, Rev. F, Schematic, Electrical, Bridge Control Panel, Pages: 2 Dwg. No. B117478, Rev. A, Block Diagram, Control System; Dwg. No. B117632, Rev. 00, GA, I/O J-Box; Dwg. No. B117939, Rev. 00, I/O List Thrusters; Dwg. No. B117941, Rev. 00, Cable List; Dwg. No. B117942, Rev. A, Cable Details; Dwg. No. B117943, Rev. 00, Schematic, Control Checklist; Dwg. No. B118988, Rev. 00, GA, 30TT150-200ML-AL; Dwg. No. C111510, Rev. C, Housing, Bearing, Lower; Dwg. No. D111508, Rev. J, Housing, Lower Machining; Dwg. No. D111509, Rev. 00, Shaft, Propeller, Final Machining; Dwg. No. D112443, Rev. D, Tunnel Machining 30 x36 AL Dwg. No. D112446, Rev. B, Tunnel Weldment 30 x36 AL

Term of Validity:

This Product Design Assessment (PDA) Certificate 13-HS1037293-1-PDA, dated 26/Jun/2015 remains valid until 18/Jun/2018 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

ABS Rules:

2013 Steel Vessels Rules Under 90M 1-1-4/7.7, 1-1-A3 and A4; 4-2-1/1.1, 3-2-2/7 2013 Steel Vessels Rules 1-1-4/7.7, 1-1-A3 and A4, 3-2-2/5.11, 4-3-5

- National Standards:**
- International Standards:**
- Government Authority:**
- EUMED:**
- Others:**

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	13-HS1037293-1-PDA	29/JUN/2015	18/JUN/2018



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.