



## *Confirmation of Type Approval*

This is to certify that, pursuant to the Rules of American Bureau of Shipping (ABS), on 20/JUL/2005 the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) and a valid Product Design Assessment (PDA) for the below listed product, entitling the product to Type Approval. The validity of the Manufacturing Assessment is dependent on satisfactory audits as required by the Rules. The Product Design Assessment is valid only 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.

For Date of ABS Rules used for evaluation; Please refer to the ABS Rules below.

This Confirmation of Product Type Approval is valid as of the date shown above for the below listed 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 evaluation.

Due to a wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that the Client has full responsibility for continued compliance with the evaluation standard, whether the standard is an ABS Rule or a non-ABS Rule. As specified in the ABS Rules, Unit Certification may be required in addition to Product Type Approval. Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product.

**Thrustmaster of Texas, Inc.**

**Model Name(s): 16TT & 24TT Series. For models/sizes see attached pdf file.**

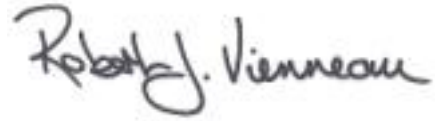
**Presented to:**

Thrustmaster of Texas, Inc.  
12227 FM529  
Houston  
Texas 77041  
United States of America

<b>Intended Service:</b>	Bow and stern thrusters for athwartship maneuvering and dynamic positioning service.
<b>Description:</b>	Each tunnel thruster is equipped with a hydraulic motor, a fixed pitch propeller and a tunnel. Tunnel outer diameter is 16" and 24" for Series 16TT and 24TT, respectively, with optional steel or aluminum tunnel material.
<b>Ratings:</b>	For ratings see attached pdf file.
<b>Service Restrictions:</b>	For Rule requirements concerning unit certification of thrusters, see 4-3-5/1.1 of the Rules. Consult manufacturer for each installation and application.
<b>Comments:</b>	When supplied with optional hydraulic hose assemblies, the rated burst pressure of each hose assembly is to be at least four times the maximum allowable working pressure and each hose type is to be fire resistant (30 minutes at 8000C) as per 4-4-1/9.19 of the Rules (under 90 m). Welding procedures and welding are to be to the satisfaction of the attending Surveyor. We note that the manufacturer of the hydraulic motor will request for ABS Type Approval.
<b>Notes / Documentation:</b>	
<b>Term of Validity:</b>	This product/model is covered under Product Design Assessment (PDA) Certificate # 04-HS433335-PDA, dated 30/Apr/2004. This PDA Certificate expires Apr of 2009. It will remain valid for the 5 years from date of issue or until the Rules or specifications used in the assessment are revised (whichever occurs first).
<b>ABS Rules:</b>	2004 Steel Vessel Rules 1-1-4/3.7, 4-3-5/1.1; 2001 Steel Vessel Rules (under 90m) 4-3-1/5.3, 4-3-1/7, 4-3-1/15.1, 4-4-1/9.19, 3-2-2/7.

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

Manufacturer's Standard



Manager, 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.