



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): 47TT500L


Presented to:

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

Intended Service:	Bow and stern thrusters for athwartship maneuvering and dynamic positioning service.
Description:	Tunnel thruster, Model 47TT500L, is equipped with a fixed pitch propeller, an oil head tank and a 47 inch diameter (nominal) tunnel.
Ratings:	Diesel Engine Power - 388 kW (520 HP); Input/Output Speed - 1175/527 RPM; Gear Reduction Ratio - 2.23:1.
Service Restrictions:	Unit Certification is required for this product. Consult manufacturer for each installation and application.
Comments:	The design of Model 47TT500L tunnel thruster was the subject of ABS Houston's letter of 20 June 2002 (Ref.: 295137) and ABS New Orleans' letter of 16 September 2002 (Ref.: 303992, CSC/csc, 2NOH711). Since then, the intended service of the tunnel thruster has been upgraded to include dynamic positioning service as per your Request for Product Type Approval & Agreement of 10 March 2003. We understand that the gear designer has been consulted with respect to this upgrade. ABS Certificates of the vendor supplied propeller and bevel gear set are to be made available to the Suveyors.
Notes / Documentation:	
Term of Validity:	This product/model is covered under Product Design Assessment (PDA) Certificate # 03-HS364056-PDA, dated 31/Mar/2003. This PDA Certificate expires March of 2008. 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).

ABS Rules: 2001 Steel Vessel Rules (under 90m) 4-2-1/1.1, 3-2-2/7; 2003 SVR 4-3-1/5.9.1, 5.9.5, 5.13; 4-3-2/5, 5.19.2; 4-3-3/5.15.1; 4-3-5/5.7 & 5.9.

National Standards:
International Standards:
Government Authority:
EUMED:
Others: DIN 3991, Manufacturer's Standards.



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.