

**Doen Pacific Pty Ltd**  
33 Venture Way  
Braeside 3195  
Victoria, Australia  
Ph: (+613) 9587 3944  
Fax: (+613) 9587 3179



## **Doen Waterjet References – Military & Patrol Boats**

- Australian Navy
- Australian Army
- Australian Coast Guard
- N.S.W. Sea Rescue (Coast Guard)
- United States Navy (Tenders – USS Nimitz / Flagship)
- United States Navy - 300 Vessels.
- United States Coast Guard
- United States Army Corp of Engineers
- N.A.S.A. (U.S.) Security Police (Florida)
- Malaysian Marine Department
- Royal Malaysian Police
- New Zealand Coast Guard (Rotarua)
- New Zealand Navy
- Indian Coast Guard
- Oman Coast Guard
- Vietnamese Customs Department
- Vietnam Border Police
- Vietnam Navy
- Colombian Navy
- Russian Coast Guard
- Turkish Government – Special Forces
- Azerbaijan Navy
- Royal Thai Navy
- Indonesian Navy

Date: 22<sup>nd</sup> December 2000

**To Whom It May Concern:**

Dear Sir

Throughout this year MTU has supplied engines for the Malaysian Marine Department project being completed by Mara Shipyard And Engineering (Terengganu) Sdn. Bhd. (MSET).

Each of the four 25 metre aluminium Patrol Boats are fitted with two MTU 12V 396 TE 84 engines, rated at 1455 KW, coupled to ZF 465 transmissions and Doen DJ260 water jets. The full load speed is in excess of 30 knots.

The Doen DJ 260 jets were specifically developed for this project. They feature a stainless steel pump assembly (not cast aluminium) and were supplied complete with a fabricated aluminium intake, high-thrust reverse bucket and integrated hydraulics and controls.

During trials, the following features of the Doen jets were noted:-

- \* Simple installation and maintenance
- \* Economically priced
- \* Precise integration between the high-performance MTU engines and the Doen Jet package, including the electronic engine controls
- \* Impressive maneuverability at all speeds
- \* Performance in excess of contract requirements
- \* No jet-induced noise or vibration
- \* The ability of the optimized pump design to carry varying hull loads without significant performance loss, particularly at cruising speeds

We are currently working with Pacific Jets, the distributors of Doen water jets, on several other projects including 10 Patrol Boats fitted with MTU 16V 2000 M90 engines rated at 1343 KW coupled to Doen DJ 220 water jets. These 22 meter vessels will have a half load speed in excess of 40 knots.

...2/-

Given our considerable experience with water jets coupled to our engines, I would have no hesitation in recommending the Doen 200 series of water jets, as the interface with MTU engines in first class.

MTU is pleased to be associated with Doen Jets on these government projects and looks forward to continuing success in future applications.

Yours faithfully

**MTU SERVICES (MALAYSIA) SDN. BHD.**



**HJ. SAUD GANY SHAIK DAWOOD**  
Chief Executive

SGSD/nh



WANG TAK ENGINEERING & SHIPBUILDING CO., LTD.  
宏 德 机 器 铁 工 厂 有 限 公 司



## TO WHOM IT MAY CONCERN

Re : DOEN WATERJETS

Wang Tak Engineering & Shipbuilding Co., Ltd. has recently constructed and delivered two aluminium 33m Catamaran Fast Passenger Ferries, to China Classification Society rules. These vessels are powered by twin MTU 12V 2000 series marine diesel engines coupled to Doen DJ260 Waterjets, with an operational speed of about 28 knots, and can carry up to 199 passengers. The vessels were built in Guangdong Province, and will be operated in China on passenger routes such as Shekou to Zhuhai.

The vessel propulsion control is managed using Doen's own CAN BUS - CONTROL system. Configured for twin engine - single station, the system uses twin Rotary Speed Control Units (Kwant) as the primary control device for control of engine throttle, waterjet steering, and reverse functions. In seat Captain and Coxswain steering tillers are also provided. Split or combined control modes are selectable for precise and intuitive control at high speed, low speed, close quarter manoeuvring and docking. Additionally the system provides the operator with all the necessary monitoring, alarms, and back up control functions.

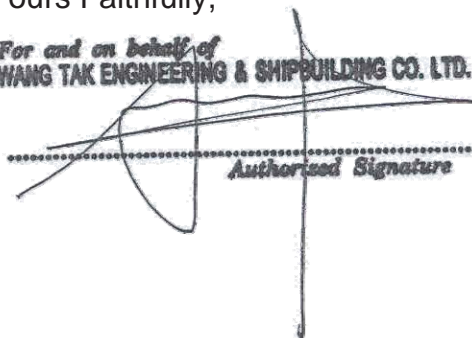
The Doen Stainless Steel Waterjets have performed very well and have proved reliable in the field.

Factory support from Doen has been of the highest order in all respects, and we have no hesitation in recommending Doen Waterjets to other users.

Yours Faithfully,

*For and on behalf of*  
**WANG TAK ENGINEERING & SHIPBUILDING CO. LTD.**

*Authorized Signature*



[www.tecoinc.com](http://www.tecoinc.com)

**Hatfield, PA**

*(Corporate Headquarters)*

1851 North Penn Rd  
Hatfield, PA 19440  
215.521.3285  
500.521.3285  
Fax 215.822.5608

**Reading, PA**

610.916.3885  
800.422.8556  
Fax 610.916.3888

**Wilkes-Barre, PA**

570.829.6403  
800.562.6748  
Fax 570.829.2209

**Baltimore, MD**

410.682.4900  
800.352.2323  
Fax 410.687.1536

**Vineland, NJ**

856.696.5363  
800.352.2323  
Fax 410.687.1536

**Rock Hill, SC**

803.366.2850  
800.767.1801  
Fax 803.366.7128

**Chesapeake, VA**

757.487.5539  
800.257.4455  
Fax 757.485.4155



**TRANSMISSION ENGINEERING COMPANY**

*Geared To Improve Your Performance*



February 22, 2012

To Whom It May Concern

Re: DOEN Water Jets in The United States of America

Since calendar year 1999, DOEN water jets continue to be the preferred water jet propulsion system for the U.S. Navy fleet of 11m Rigid Hull Inflatable Boats (RHIB). The fleet consists of RHIBs manufactured by Willard Marine, Brunswick Commercial & Government Products, Sea Ark and Zodiac Hurricane.

DOEN WaterJet model DJ110Z is an 11 inch (280 mm) single stage, axial flow pump, rated up to 450 shp (335 skW), with a zero degree installation configuration. The twin DJ110Z water jets installed in the 11m RHIBs, provides exceptional vessel performance throughout the engine rpm range, with top vessel speeds reaching 34-38 knots, at full mission ready vessel displacement.

The DJ110Z water jet buckets are controlled via DOEN's Rotary Servo Control (RSC) valve operated by manual levers and standard 43C Morse cables. The RSC valve provides a simple, yet reliable and precise operational control that allows the operator to confidently perform the vessel's mission requirements.

The DOEN DJ110Z, like all DOEN water jet models, is easy to maintain, which means the vessel is mission ready – an important feature for the USN. When maintenance is required, the USN depends on DOEN's worldwide distributors, like TECO, for local aftermarket spare parts and service support.

DOEN WaterJets and TECO is proud to be the water jet choice of the USN 11m RHIB fleet, with over 150+ water jets delivered to date – and growing...

Sincerely,

Phil Watson  
Business Development Manager





28<sup>th</sup> February 2012

To Whom It May Concern:

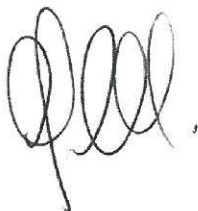
Re: Doen Waterjets.

Arpoador Engenharia has recently constructed and supplied three 35.00 metre aluminium Crew Boats to Brasil Supply Co. These vessels are fitted with triple DOEN DJ290 water jets and coupled to CATERPILLAR C32 diesels, and operate in the North East part of Brasil in the South Atlantic Ocean.

The vessels are moving personnel and equipment between supply ports and oil installations offshore and between oil installations. The vessels required excellent manoeuvrability around these installations for this role and the DOEN DJ290 water jets certainly provide this requirement.

The DOEN Waterjets have performed exceptionally well in this arduous environment and their stainless steel construction provides a very durable and reliable solution. The water jets are simple to install and maintain in the field, which is an advantage when operated in isolated areas such as this.

We would have no hesitation in recommending DOEN Water Jets to other builders and or operators requiring a heavy duty and reliable water jet propulsion solution.



Marco Santarelli

President

ARPOADOR ENGENHARIA Ltda.

Av. Winston Maruca S/N, Marina Verolme, Jacuecanga,

23 914-345 Angra dos Reis, Rj Brasil

Tel 24 3361 2231 e-mail: [arpoador@mistral-rio.com](mailto:arpoador@mistral-rio.com)



# Bakri Navigation Co. Ltd.

25th November, 2008.

TO WHOM IT MAY CONCERN

Dear Sir,

We operate five 15.0m Aluminium Patrol Boats in Saudi Arabia supporting the Oil industry. The vessels have been in operation for nearly two years. They are powered by twin CAT C18, rated at 747kW at 2300RPM through ZF gearboxes and DOEN DJ170 waterjets.

The vessels have a top speed of 40+ knots and their performance met our design criteria in all respects.

The DOEN waterjets have performed exceptionally well and their quality construction is ideally suited to the rigorous and heavy duty cycle required of our Patrol vessels. They are also relatively simple to maintain which is a distinct advantage, especially if we were operating in isolated areas.

We have also found that the factory support for the DOEN waterjet is prompt and very efficient. Spare parts are always readily available and reasonably priced.

We would have no hesitation in recommending Doen waterjets to other end users.

Kind Regards

M.A.Ghaffar



26<sup>th</sup> November 2008.

To Whom It May Concern:

**Re: DOEN Pacific Pty Ltd. Waterjet Propulsion Units.**

BUE Kazakhstan Ltd. has operated five crew boats propelled by Doen Waterjet DJ220 and DJ140Z units for the past three years. These boats, with two units each, are operating in the Northern part of the Caspian Sea moving personnel between supply ports and oil installations and between oil installations. The area is shallow and consequently there is a high degree of sediment entrained in the water.

The jet drives have worked well for us, operating around 1200 hours each year. Downtime we have experienced has not been directly attributed to Jet units. We have drawn ropes and fishing nets into the jets but we do not see this as a problem of the jet design and it has not resulted in consequential damage. The jets have stood up to the environment well.

Doen have always responded to technical queries in a positive way and we have a good relationship with them. Spare parts for wear items are generally readily available and if we have encountered a particular problem due to our operating criteria, the matter has been addressed in a professional manner.

In the past two years, we have engaged a Doen representative to review the unit operation, to advise and assist in our maintenance program. This has worked well for us in keeping the boats fully operational for our clients.

Yours faithfully,

  
Stewart Smith  
Engineering Manager.