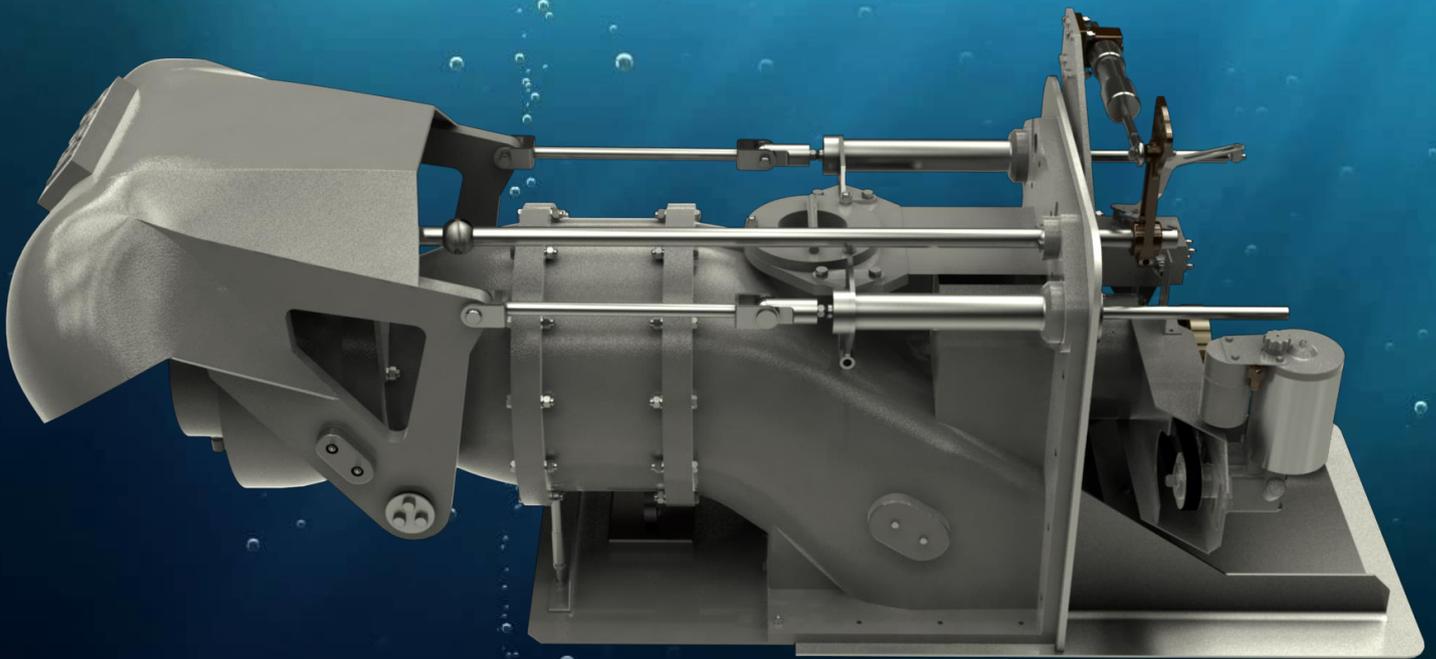


# DOEN DJ172



**Performance Reliability Simplicity**

# DOEN DJ172

## The DJ172, Thrust Through Simplicity

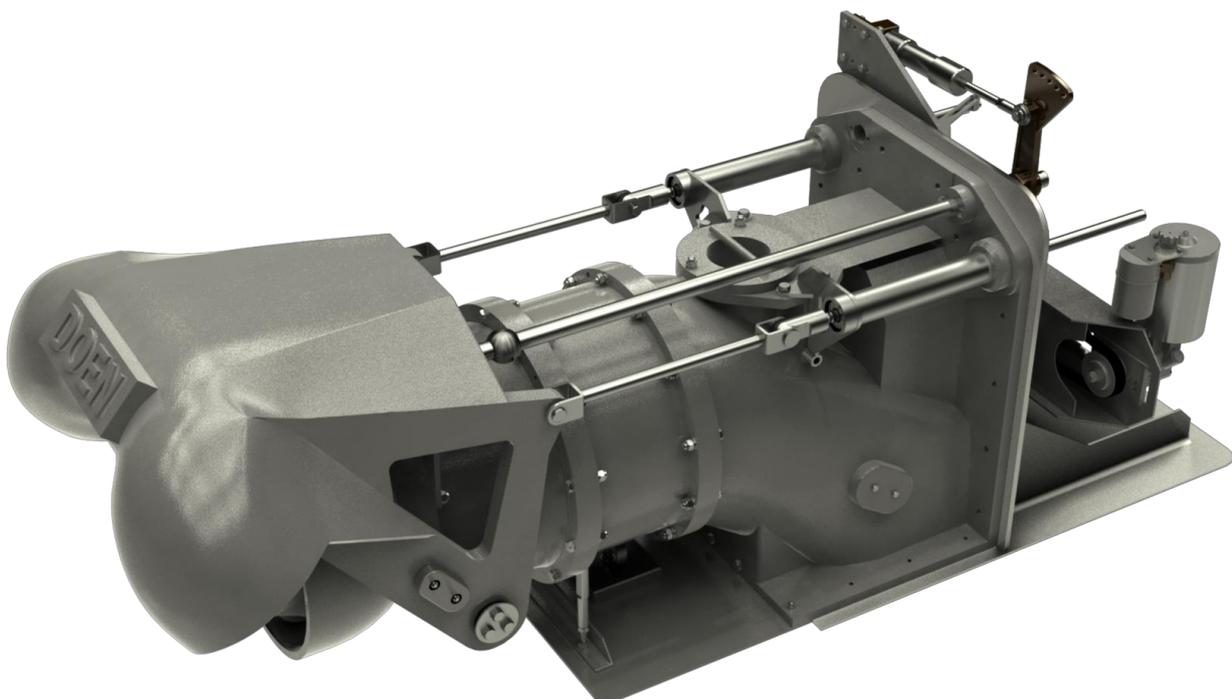
DJ172HT is Doen's largest transom mount 100 Series waterjet. The product is specifically released to address the market gap for a sleekly designed, lightweight, cost-effective waterjet that efficiently generate high thrust in low to medium speed regimes.

This 17-inch (432mm) waterjet perfectly meets DOEN's key design criteria of high performance, reliability and simplicity of construction and maintenance. This waterjet uses Doen's latest impeller technology to deliver mixed flow type, high speed performance, within an axial build. This approach combines the key benefits of excellent high-speed efficiency with superior cavitation margins and efficiency at lower speeds and cruise conditions.

Priced within the same bracket as the much smaller competitor products - impeller size ranging between 340mm to 400mm - and with the capacity to generate up to 25% more thrust than the rivals for the same amount of engine power, DJ172 is to be the number one choice for 15-20m workboat applications in which high bollard pull, fuel economy AND/OR high thrust to weight ratio is a key requirement.

Modular construction using stainless steel and heavy-duty powdercoated Aluminium components has made it this waterjet lightweight - merely 470kg - compact and simple to maintain, while being a heavy duty commercially rated product. An anode anti-corrosion system protects the waterjet.

The transom mounting ensure minimal intrusion into valuable onboard space. This allows for very low profile swim platforms or additional deck area; and the low propulsion shaft height allows flatter trim for the boat. Furthermore, DOEN can supply mould inserts for GRP boats and weld-in Aluminium inserts for Aluminium boats to ensure installation is as simple as possible.



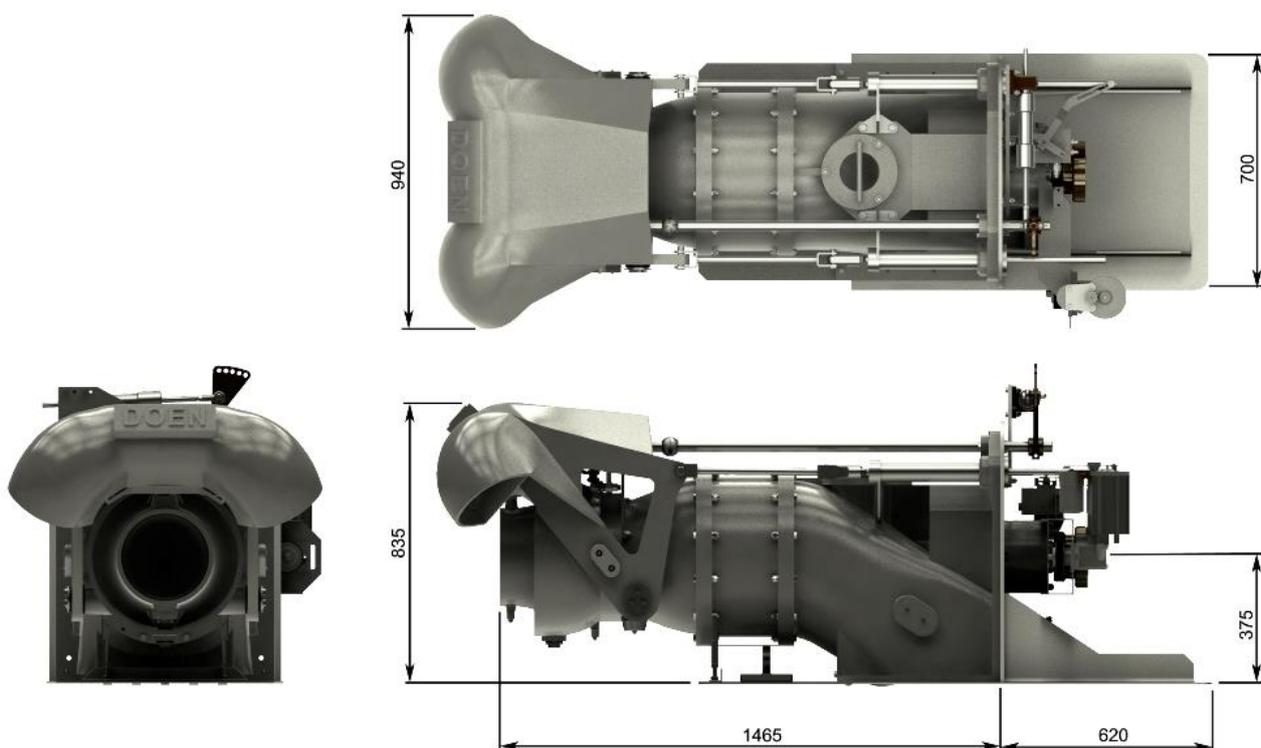
# DOEN DJ172

The balanced steering nozzle design minimises operating force and provides precise control via the inboard tiller and conventional steering cylinder. Stand alone or fully integrated hydraulic power steering systems are available. The heavy-duty propulsion shaft and bearings, and reverse mechanism with two inboard mounted cylinders assist in providing long life and trouble-free operation. The design and construction allow the DJ172 to be easily configured to meet BV, DNV, Lloyds, Rina or other marine standards on customer specification.

Reverse is by default controlled by Doen's standard hydraulic Rotary Servo Control (RSC) that provides proportional, position sensing, and control of the reverse bucket by way of a 3" (75mm) stroke Morse 33C cable. The DJ172 can also be configured with Doen's fully integrated electronic control system, ECS200, which is certifiable to class.

**eDOCK** single joystick docking control panel is an option for customers that opt for electronic controls. This device is intended for close docking manoeuvres and can function as a standalone control station. The joystick lever is used to co-ordinate the combined control of all waterjets speed setting, steering and reversing so as to provide the user with a simple vectored control.

Doen WaterJets is a market leader in design and manufacturing of axial flow waterjets with over 45 years experience in design and application engineering, together with significant investment in R&D and a policy of continuous product improvement placing Doen waterjets at the forefront of the industry.



\* Dimensions are in mm. All data are subject to change without prior notice.

## Key Product Features:

### HIGH THRUST PUMP

Optimally sized to best suit engine/s power range and target vessel size and weight envelope. The 17-inch axial flow pump efficiently converts horsepower into a high volume jet flow delivering high thrust, more range and more payloads with reduced fuel consumption.



### IMPELLER TECHNOLOGY

The DJ172 can be configured for high bollard pull (maximum low speed thrust) or variable speed and load operation. Impeller and nozzle combinations are custom matched to each application to ensure optimum performance is achieved.



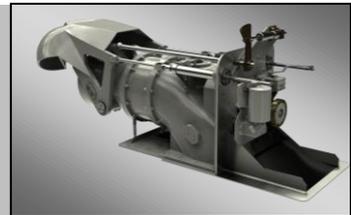
### VERIETY OF CONTROL SYSTEMS

Customers have a range of controls to choose from for DJ172; from simple hydro-mechanical follow-up RSC to fully integrate electronic control system, ECS200, which satisfies the standards of all international classification societies.



### HEAVY-DUTY COMPONENT

The heavy-duty propulsion shaft and bearings, and a robust reverse mechanism with two inboard cylinders assist in providing long life and trouble-free operation under harsh and demanding conditions that is faced by workboats day in, day out.



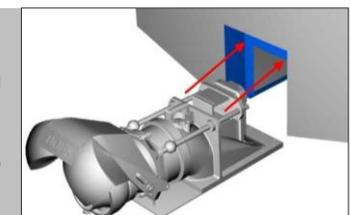
### INBOARD INSPECTION HATCH

Inspection cover of the standard DJ172 is outboard mounted and simply retained using three bolts. This means quick release operation without the risk of flooding. However, if required the waterjet can be supplied with an inboard inspection hatch through hull insert.



### TRANSOM MOUNTING

The unit is installed using Doen's proven quick and simple transom mounting method. This results in less intrusion into valuable inboard space, allowing more compact machinery arrangements further aft in the boat. Doen can also offer compact coupling systems with the DJ172.



**Performance Reliability Simplicity**

## UNIT DETAILS

Maximum Rec. Power Continuous:	up to 520skW (700shp)
Maximum Rec. Impeller speed:	1975rpm
Dry Weight:	470 kg (complete waterjet including jet mounted hydraulic items)
Entrained Water:	120 kg
Loss of buoyancy:	0.09 m <sup>3</sup> (duct volume within hull bound)
Corrosion Protection:	Cathodic with Anodes
Design Standard:	To international authority standards

## CONSTRUCTION DETAILS

### Impeller

Diameter:	17 inch (432mm)
No of Stages/Configuration:	Single Stage – Axial pump construction
Standard Rotation:	Anti-clockwise (Looking forward from stern)
Impeller Material:	Cast CF8M Stainless Steel

### Pump Assembly

Impeller Casing Material:	Cast ASTM A356 Alum. Alloy with stainless steel liner
Discharge Nozzle Material:	Cast ASTM A356 Alum. Alloy

### Steering System

Description:	Balanced nozzle
Operation:	Inboard tiller actuation
Steering Bowl/Nozzle Material:	Cast ASTM A356 Aluminium Alloy

### Reverse System

Description:	Split Duct Type – “High Thrust”
Operation:	Hydraulic with Inboard Cylinder Actuation
Reverse duct material:	Cast ASTM A356 & 5083 grade plate Aluminium

### Shaft Assembly

Main Shaft Material:	Stainless Steel Grade SAF 2205
Rear Bearing:	Water Lubricated Cutlass Bearing
Main Bearings:	Angular contact Thrust Bearing
Lubrication:	Grease
Shaft Seal:	Face type Mechanical Seal
Coupling Flange:	DIN 180_8 Bolt
Shaft Angle:	0 degrees standard

### Intake Body

Material:	Cast ASTM A356 Aluminium
Inspection Opening:	Inboard through hull insert
Intake Grate:	Removable Aluminium Bars

**Performance Reliability Simplicity**

## **DOEN WATERJETS**

33 VENTURE WAY  
BRAESIDE, 3195  
VICTORIA, AUSTRALIA

TEL: + 613 9587 3944

FAX: + 613 9587 3179

Email: [inquiries@doen.com](mailto:inquiries@doen.com)

Web: [www.doen.com](http://www.doen.com)

**DISTRIBUTOR**