

DOEN DJ120

Performance Reliability Simplicity



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The Robust & Compact DJ120

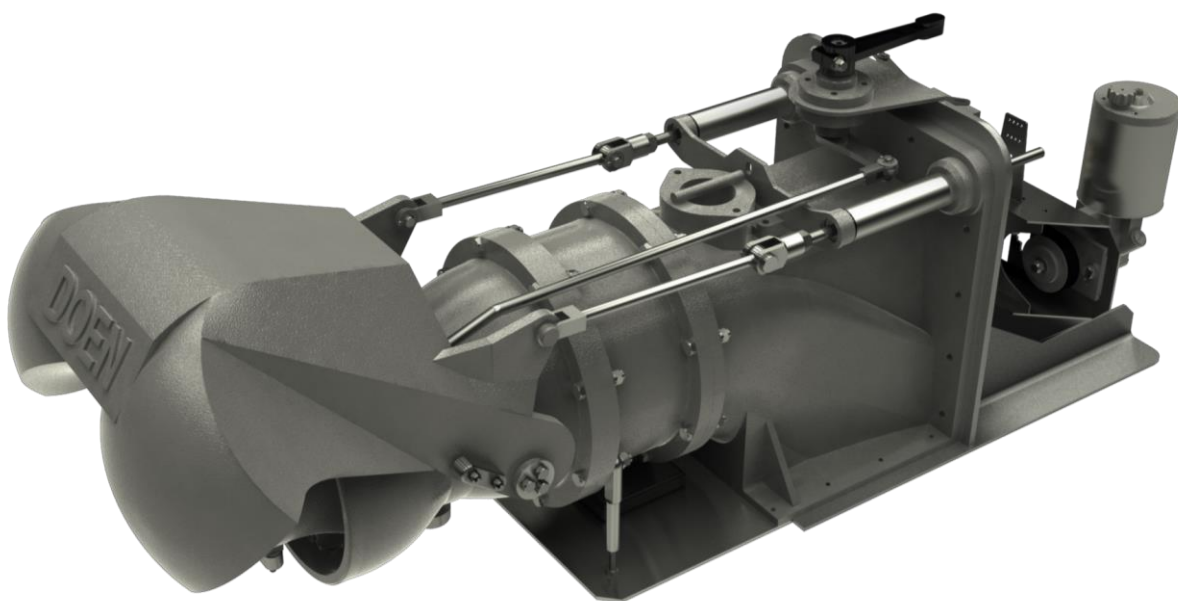
The DJ120 transom mount 310mm waterjet easily meets all Doen's key design criteria of high performance, reliability and simplicity of construction and maintenance. The axial flow waterjet delivers compact and efficient performance at speeds up to 50 knots. It is highly effective for variable speed applications. Construction, as with all Doen 100 series waterjets, comprises Stainless Steel and heavy-duty powdercoated Aluminium components with an anode anti-corrosion system.

The transom mounting and low profile of the waterjet 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.

The use of modular construction has allowed the DJ120 to be lightweight, compact and simple to maintain and repair while being a robust commercially rated waterjet. The heavy-duty propulsion shaft and bearings, and a robust reverse mechanism with two cylinders provide long life and trouble-free operation.

Doen's standard hydraulic rotary servo control (RSC) provides proportional, position sensing, and control of the reversing bucket by way of a 3" (75mm) stroke Morse 33C cable. The balanced nozzle steering design minimises required input force and provides precise control.

The hydraulic reverse cylinders are bulkhead mounted to the transom flange with all connections inboard and protected from corrosion. The jet-mounted hydraulic pump has an angle adjustment of 25° to allow for deadrise mounting in twin installations - All components are available in left and right configurations to suit mirrored installations.



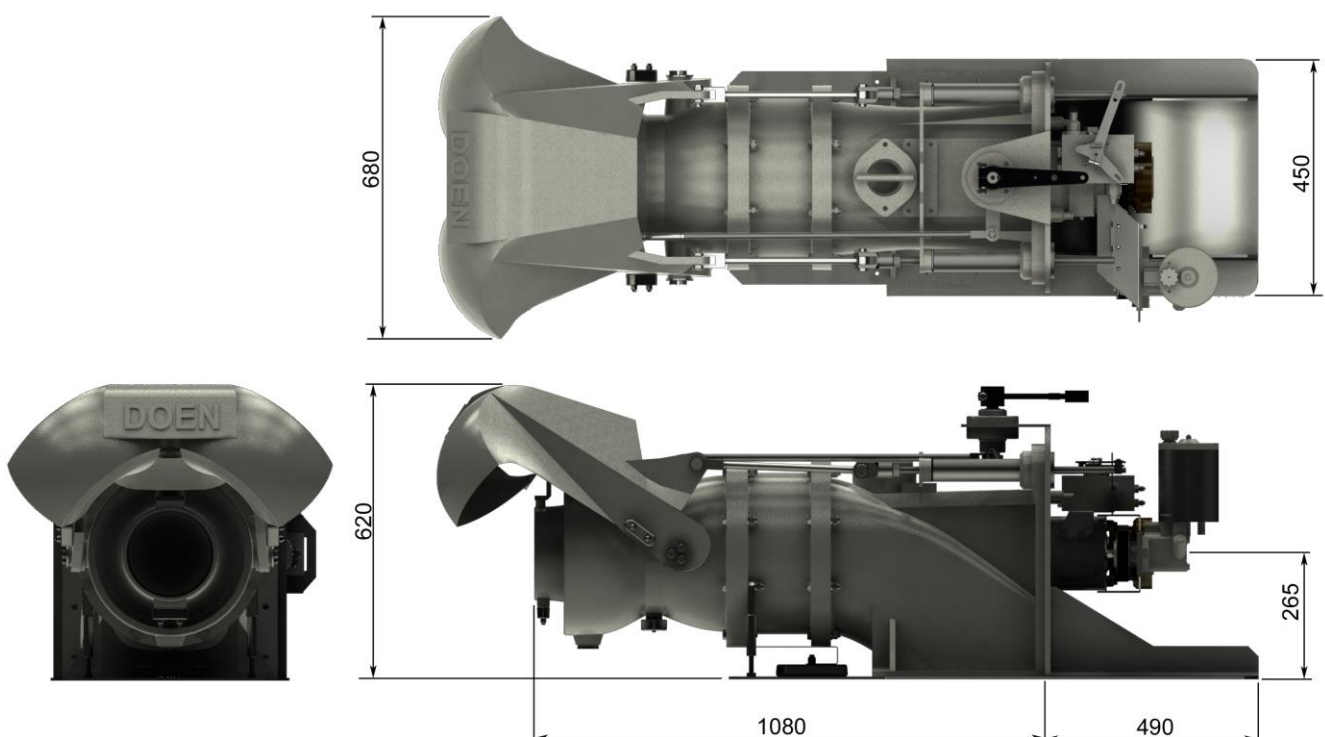
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For twin installations, DJ120 can also be configured with Doen's fully integrated electronic control system, ECS200 that is certifiable to class. **eDOCK** single joystick docking control panel is an option for customers that opt for ECS200; this device 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.

The DJ120 has been in strong demand within the more sophisticated commercial and military markets, typically twin installations in small workboats and patrol vessels up to 14 meter length, powered by inboard diesel engines to more than 600hp in high-speed applications.

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.

Working closely with our licensees in the USA and China, and a global network of sales and service partners, Doen WaterJets ensures customers' waterjet propulsion requirements are met anywhere in the world.



* 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 310mm 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 DJ120 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.



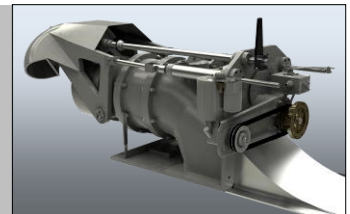
VERIETY OF CONTROL SYSTEMS

Customers have a range of controls to choose from for DJ120; 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 cylinders ensure long life and trouble-free operation under harsh and demanding conditions, such as frequent crash stop maneuver at full speed at full throttle.



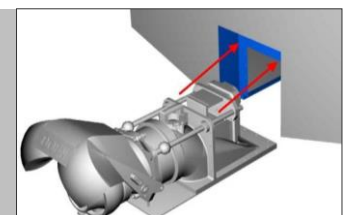
SPLIT DUCT REVERSE BUCKET

The split duct-reversing bucket provides excellent high thrust reverse maneuverability. Doen's control systems provide for proportional follow up control of the reverse bucket position, allowing the captain to smoothly change boat's direction ahead/astern or keep it stationary.



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 DJ120.



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UNIT DETAILS

Maximum Rec. Continuous Power:	up to 380skW (510shp)
Maximum Rec. Sprint Power:	447skW (600shp) ^(A)
Maximum Rec. Impeller speed:	2800rpm
Dry Weight:	3225 kg (complete waterjet including jet mounted hydraulic items)
Entrained Water:	45 kg
Loss of buoyancy:	0.006m ³ (duct volume within hull bound)
Corrosion Protection:	Cathodic with Anodes
Design Standard:	To international authority standards

(A) Requires application approval by Doen WaterJets

CONSTRUCTION DETAILS

Impeller

Diameter:	12.2 inch (310mm)
No of Stages/Configuration:	Single Stage – Axial flow pump
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 cylinder actuation
Reverse duct material:	Cast ASTM A356 Aluminium Alloy

Shaft Assembly

Main Shaft Material:	Stainless Steel Grade SAF 2205
Rear Bearing:	Water Lubricated Cutlass Bearing
Main Bearing:	Angular contact Thrust Bearing
Lubrication:	Grease
Shaft Seal:	Face type Mechanical Seal
Coupling Flange:	SAE Ø150 – 8Holes (Standard – adaptors available)
Shaft Angle:	0° Standard

Intake Body

Material:	Cast ASTM A356 Aluminium Alloy
Inspection Opening:	Outboard
Intake Grate:	Removable, Bar type

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