WATER JET PROPULSION

SDPB-180 Diagonal Mixed Flow Pump

The SDPB type Marine Jet Propulsion Pump is designed and manufactured in accordance with the Technical Conditions for Marine Mixed-flow and Axial-flow Jet Propulsion Pump (CB3404-1991) and in conformity with the Rules fo...

ISO9001 Supplier

Class Certificate

Export Supply



Key Highlights

Category	Water Jet Propulsion
Standard	CB
Material	The SDPB type Marine Jet Propulsion Pump is designed and manufactured in...
Weight / Size	This product is designed in application of three-dimensional CFD modelin...
Certificate	ABS, LR, BV, DNVGL, NK, KR, IRS, RMRS, CCS

We can supply according to your requirement, drawings, class certificate needs, and delivery schedule.

Technical Specifications			
Category	Water Jet Propulsion	**Model / SKU**	SDPB-180-Diagonal-Mixed-Flow-Pump
Standard	CB	**Material**	The SDPB type Marine Jet Propulsion Pump is designed and manufactured in accordance with the Technical Conditions for Marine Mixed-flow and Axial-flow Jet Propulsion Pump (CB3404-1991) and in conformity with the Rules for Classification of Sea-going Steel Ships of China Classification Society (CCS) (2006 version).
Weight / Size	This product is designed in application of three-dimensional CFD modeling analysis after repeated computations, ensuring that the results of computation in two different methods are equal before putting the product into production.	**Certificate**	ABS, LR, BV, DNVGL, NK, KR, IRS, RMRS, CCS
Warranty	12 Months unless specified otherwise	**Origin**	China

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China SDPB-180 Diagonal Mixed Flow Pump:

The SDPB type Marine Jet Propulsion Pump is designed and manufactured in accordance with the Technical Conditions for Marine Mixed-flow and Axial-flow Jet Propulsion Pump (CB3404-1991) and in conformity with the Rules for Classification of Sea-going Steel Ships of China Classification Society (CCS) (2006 version).

The SDPB Type Jet Propulsion Pump is suitable for installation of rescue boats, fishery administration boat, harbor work boat, coastguard patrol boat, luxury yacht and traffic boat, etc.
This product may be granted the inspection certificate by China Classification Society (CCS).
This product is designed in application of three-dimensional CFD modeling analysis after repeated computations, ensuring that the results of computation in two different methods are equal before putting the product into production. The production conforms to the experimental result. This is the first time in the jet propulsion industry of China.

Materials of Main Parts

Impeller Material Cu1 (CCS Specification), or other copper alloy or stainless steel.
Material of pump casing Found aluminum alloy

Rear bearing Water-lubricated Theron Journal Bearings (Imported from Canada)
Front bearing Combination of radial and axial ball bearing (SKF bearing from Sweden)
Front bearing grease Molybdenum disulfide lithium-based grease (water-proof)
Inlet grill Class A steel plate (CCS specification) subjected to anticorrosion treatment, or stainless steel materials

Structural Description

The SDPB Type Jet Propulsion Pump consists of main pump and manipulating system.
The main pump consists of casing, impeller, rectifier, shaft, bearing, mechanical seal and half-coupling.

The rotating mechanism consists of impeller, shaft, bearing, mechanical seal and half-coupling. The propulsion force generated by the impeller is transmitted to the boat body via pump shaft, spherical roller thrust bearing on front end, pump casing, pump seat and flange. The radial force generated by impeller and the weight of rotor are supported by the aligning roller bearing on front end and the water-lubricated bearing on back end.

Mechanical seal is used on pump shaft. To avoid air intake via water inlet passage of the pump, a water-sealed chamber is provided between mechanical seal and bearing chamber to ensure that the pump can work normally.

On the pump body, an in-boat fast opening manhole is installed on the upper of the casing. Via this hole, you can check if the impeller is clogged or worn.

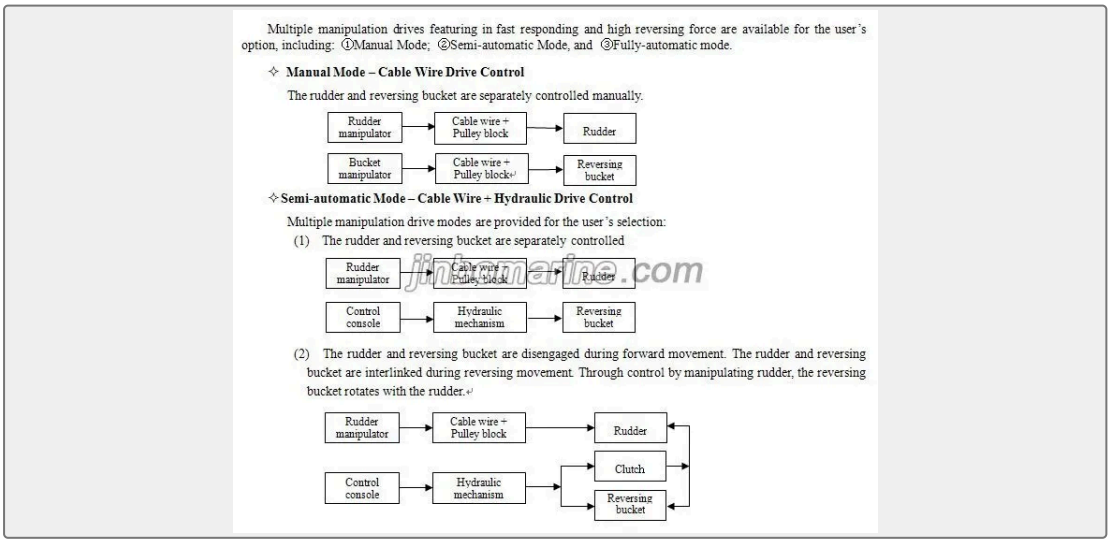
To prevent plants or other rubbish entering into the pump, a guard grill is installed at the water inlet of the pump (beneath the pump seat).

Diesel engine is connected with half coupling through gimbal, driving pump rotator to revolve. Pump rotating speed is controlled by throttle control system of diesel engine. Seen from the drive end, pump is rotating by the clockwise direction.

The rudder is drum-type guide door leaf, and the reversing bucket is horizontal reversing bucket or vertical rotary bucket.

Rudder and reversing bucket are installed at the rear of the pump. Controlled from the steering wheel and the reversing control buttons in the cab, the rudder may rotate to left or right, or the reversing bucket may turn upside down or rotate to left or right, for realization of forward movement, reverse movement, translational movement, turning or revolving of the boat.

Manipulation Control


Multiple manipulation drives featuring in fast responding and high reversing force are available for the user's option, including: ①Manual Mode; ②Semi-automatic Mode, and ③Fully-automatic mode.

✧ **Manual Mode – Cable Wire Drive Control**

The rudder and reversing bucket are separately controlled manually.

Rudder manipulator → Cable wire + Pulley block → Rudder

Bucket manipulator → Cable wire + Pulley block → Reversing bucket

✧ **Semi-automatic Mode – Cable Wire + Hydraulic Drive Control**

Multiple manipulation drive modes are provided for the user's selection:

(1) The rudder and reversing bucket are separately controlled

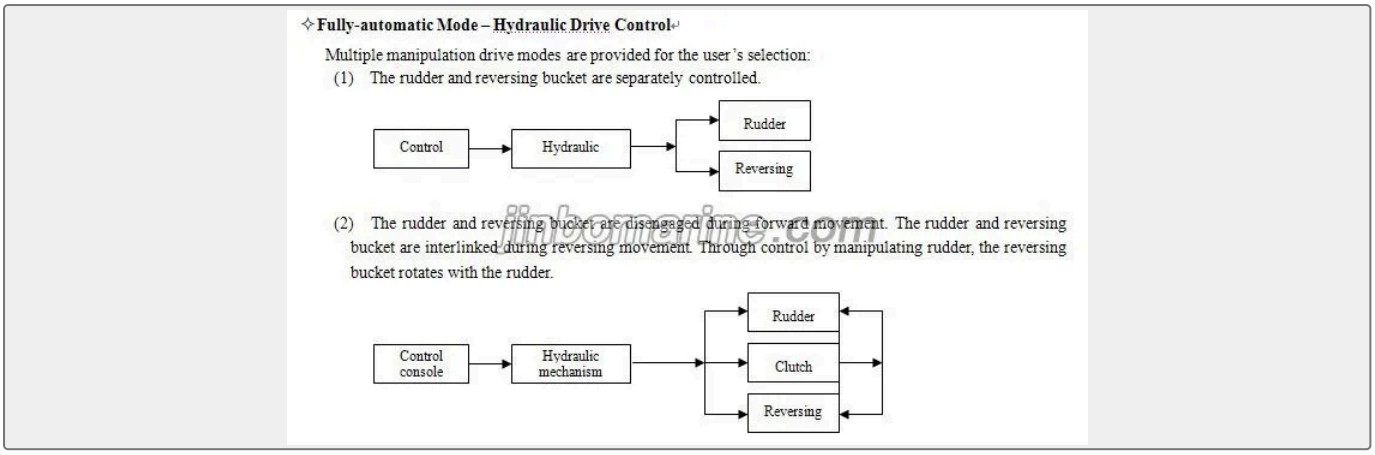
Rudder manipulator → Cable wire + Pulley block → Rudder

Control console → Hydraulic mechanism → Reversing bucket

(2) The rudder and reversing bucket are disengaged during forward movement. The rudder and reversing bucket are interlinked during reversing movement. Through control by manipulating rudder, the reversing bucket rotates with the rudder.

Rudder manipulator → Cable wire + Pulley block → Rudder

Control console → Hydraulic mechanism → Clutch / Reversing bucket



SDPB-180 Diagonal Mixed Flow Pump Main Specification

Jet Pump Model Type	Diagonal Mix-flow pump
Jet Pump Model	SDPB-180
Impeller Diameter	Φ180mm
Jet Port Diameter	Φ110mm
Steering Angle	±35°
Match Power	65~75KW
Rating Speed of Main Engine	3200r/min
Suitable Ship Speed	15~25knot
Jet Pump Weight(Single pump)	55kg
Water in Pump	18kg