AZIMUTH THRUSTERS

# Z-Drive Azimuth Thruster

A Z-drive is a type of marine propulsion unit. Specifically, it is an azimuth thruster. The pod can rotate 360 degrees allowing for rapid changes in thrust direction and thus vessel direction. This eliminates the need...

ISO9001 Supplier

Class Certificate

Export Supply




## Key Highlights

| | |
|---|---|
| **Category** | Azimuth Thrusters |
| **Standard** | DIN |
| **Weight / Size** | 350 875 980 1400 Weight (including blades, lubricating oil, and the mini... |
| **Certificate** | ABS, LR, BV, DNVGL, NK, KR, IRS, RMRS, CCS |

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

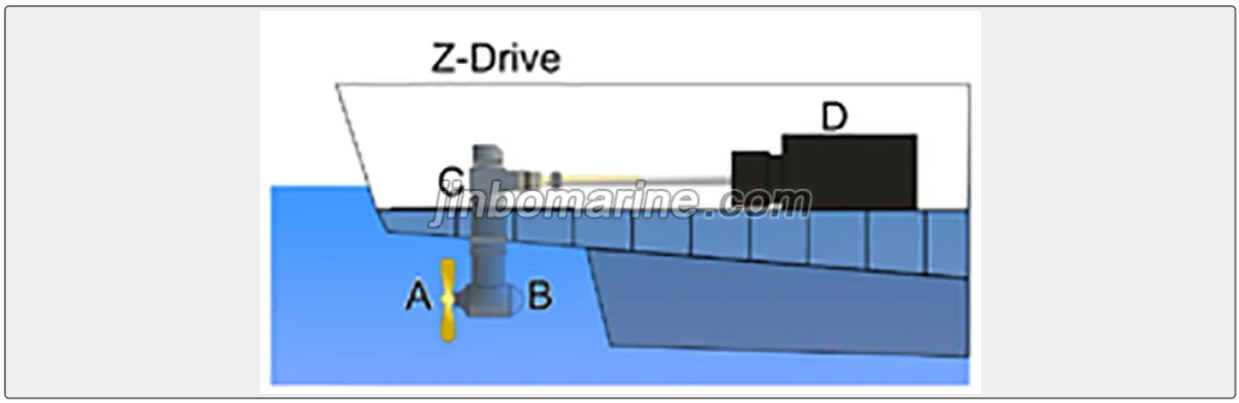
## Technical Specifications

| | | | |
|---|---|---|---|
| **Category** | Azimuth Thrusters | **Model / SKU** | Z-Drive-Azimuth-Thruster |
| **Standard** | DIN | **Weight / Size** | 350 875 980 1400 Weight (including blades, lubricating oil, and the minimum PAL) 65 190 300 1370 PAL increase the weight of kg per 100mm 8 9 20.4 40 Type CRP280 CRP330 CRP550 CRP1470 CRP1950 Input power max.(KW) 480 620 920 1250 1650 HP 650 843 1250 1700 2244 Input torque max. ( Sf=1 ) 2800 3300 5423 14740 19500 Input speed max. |
| **Certificate** | ABS, LR, BV, DNVGL, NK, KR, IRS, RMRS, CCS | **Warranty** | 12 Months unless specified otherwise |
| **Origin** | China | | |

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## China Z-Drive Azimuth Thruster:




A Z-drive is a type of marine propulsion unit. Specifically, it is an azimuth thruster. The pod can rotate 360 degrees allowing for rapid changes in thrust direction and thus vessel direction. This eliminates the need for a conventional rudder.

The Z-drive is so named because of the appearance (in cross section) of the mechanical driveshaft or transmission configuration used to connect the mechanically supplied driving energy to the Z-Drive azimuth thruster device. This form of power transmission is called a Z-drive because the rotary motion has to make two right angle turns, thus resembling the letter "Z". This name is used to differentiate the arrangement of drive to that of the L-drive. It does not refer to an electric motor in a rotating pod.

Jinbo marine builds a complete line of Z-Drive azimuth thrusters from 60 HP to 2000 HP for the inland towboat industry specifically designed to endure the demanding conditions when operating in brown water. Using Z-drives on towboats results in substantially improved fuel efficiency, shorter trip times, decreased maintenance downtime and higher customer satisfaction when compared to traditional shaft and rudder installations.

## Vastly improved maneuverability without rudders

A Z-drive replaces the propeller, shaft, stern tube, marine gear, rudder and steering gear all with a single unit. Z-Drive azimuth thrusters provide maximum thrust in any direction, independent of vessel speed, offering superior pinpoint maneuverability under all conditions. Rudders are completely eliminated. Rudder drag no longer exists. Troublesome operations such as stopping while pushing a tow downstream are easy when piloting a towboat equipped with Z-Drives. It facilitates quick switching of barges and parallel parking. And all of this can be done with a lot less power. A 1,500 HP Z-drive boat can replace a 2,000 HP conventional towboat and a 3000 HP Z-drive boat can replace a 4,000 HP conventional towboat.

## Safer, faster, using less fuel

Due to the greatly improved maneuverability with Z-drives, costly collisions can be avoided. There is no longer any need to slow down in turns and bends in the river. Trip times are reduced and require a lot less fuel. A study conducted by The Shearer Group, Inc. showed an average of 28% fuel savings and 11% trip time savings during a set of controlled experiments with unit tows when using Z-Drives instead of conventional shafts and rudders.

## Specification

| Type | CRP20 | CRP42 | CRP85 | CRP168 |
|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Input power max.(KW) | | 45 | 100 | 210 | 300 |
| HP | | 61 | 135 | 285 | 400 |
| Input torque max. ( Sf=1 ) | | 200 | 420 | 850 | 1675 |
| Input speed max. | | 2300 | 2500 | 2350 | 2000 |
| Reduction Rate i | I | 1.93 | 2.5 | 2.68 | 3.46 |
| | I up | 1.7 | 1.64 | 1.65 | 1.53 |
| | I down | 1.13 | 1.52 | 1.62 | 2.26 |
| propeller diameter | Max. | 500 | 800 | 950 | 1150 |
| | Min. | 700 | 900 | | |
| PAL length* | Max. | 2250 | 2800 | 2800 | 4250 |
| | Min. | 350 | 875 | 980 | 1400 |
| Weight (including blades, lubricating oil, and the minimum PAL) | | 65 | 190 | 300 | 1370 |
| PAL increase the weight of kg per 100mm | | 8 | 9 | 20.4 | 40 |

| Type | | CRP280 | CRP330 | CRP550 | CRP1470 | CRP1950 |
|---|---|---|---|---|---|---|
| Input power max.(KW) | | 480 | 620 | 920 | 1250 | 1650 |
| HP | | 650 | 843 | 1250 | 1700 | 2244 |
| Input torque max. ( Sf=1 ) | | 2800 | 3300 | 5423 | 14740 | 19500 |
| Input speed max. | | 1800 | 1800 | 1800 | 1000 | 1000 |
| Reduction Rate i | I | 3.96 | 4.04 | 5.059 | 3.257 | 3.58 |
| | I up | 1.63 | 1.53 | 1.647 | 1.286 | 1.286 |
| | I down | 2.43 | 2.64 | 3.071 | 2.533 | 2.79 |
| propeller diameter | Max. | 1550 | 1500 | 1800 | 2100 | 2300 |
| | Min. | 1250 | | | | |
| PAL length* | Max. | 4750 | 5000 | | | |
| | Min. | 1750 | 1700 | 2600 | 2800 | 3000 |
| Weight (including blades, lubricating oil, and the minimum PAL) | | 2100 | 2800 | 5820 | 11000 | 16500 |
| PAL increase the weight of kg per 100mm | | 40 | 45 | | | |