

How Yan Yang Advances Dredging Equipment Performance with Flow Optimization and Anti-Wear Technologies

Exploring how advanced hydraulic design, material engineering, and surface protection technologies improve equipment durability and operational efficiency.

CALIFORNIA, CA, UNITED STATES, July 7, 2026 /EINPresswire.com/ -- Zhenjiang Yanyang Engineering Co., Ltd., operating under the brand [Yan Yang](#), is a Chinese manufacturer and exporter of dredging equipment including cutter suction dredgers, trailing suction hopper dredgers, backhoe dredgers, grab dredgers, split hopper barges, and pile driving barges. Founded in 1996 by a team of marine engineers, the company has delivered over 30 large dredger construction projects to clients worldwide.



Zhenjiang Yanyang Engineering Co., Ltd.

Dredging equipment efficiency is critical for port construction, channel dredging, and land reclamation projects. Yan Yang's vessels incorporate hydraulic flow channel optimization using computational fluid dynamics (CFD) simulation, high-wear-resistant alloy anti-corrosion processes, and intelligent variable-frequency electrical control systems. These technologies are designed to maximize solids transport efficiency, reduce downtime from erosion and corrosion, and enable precise speed and power management.

[Cutter Suction Dredger](#) (CSD) – Yan Yang's 8000m³/h self-propelled CSD is built for major port construction, reclamation, and deep-sea channel excavation. Key parameters include a length overall of 121 meters, beam of 25 meters, depth of 8.5 meters, dredging depth of 30 meters, and discharge distance of 8000 meters. The hydraulic flow channel is optimized via CFD to minimize turbulence and energy loss, while the cutter head and pump components utilize high-chrome

alloy and corrosion-resistant coatings for extended service life.

Trailing Suction Hopper Dredger (TSHD) – The 26,800m³ TSHD model offers a hopper capacity of 26,800 m³, suction pipe diameter of 1200 mm, dredging depth up to 115 meters, and a total installed power of 27,726 kW. It is classed by CCS with DP-1 dynamic positioning and features autonomous operation and ballast water treatment compliance. The vessel's underwater pump and inboard dredge pump are driven by variable-frequency drives (VFD) to optimize energy consumption across different load conditions.

Backhoe Dredger – The EX5500 self-propelled backhoe dredger is equipped with two Hitachi EX 5500 excavators, providing a combined power of 2,152 kW. Dredging depth reaches 32 meters with bucket capacities ranging from 15 to 20.5 m³. The excavator arms and bucket linkages are fabricated from wear-resistant steel plates and protected by anti-corrosion painting systems suitable for saltwater environments.

Grab Dredger – The 25 m³ grab dredger features a Weichai X6170ZC-21 main engine (2 units, each 456 kW at 1500 rpm), a grab capacity of 25 m³, and coastal navigation area certification (ZC class). The steel hull and clamshell are treated with anti-corrosion coatings and replaceable wear liners to handle hard clay and debris.

Split Hopper Barge – The 2600m³ split hopper barge (CCS classed) has an overall length of 76.95 m, beam 15.60 m, depth 6.00 m, design draft 4.00 m, and main engine power of 3,740 kW × 2. It is built with ice class B standards and uses corrosion-resistant steel in the hopper and hull to resist abrasion from sand and rock.

Pile Driving Barge – With a pile leader height of 110 meters (137 m above design draft), this vessel handles piles up to 4000 mm diameter, 107 m length plus water depth, and 400 tons weight. The pile frame and hydraulic systems incorporate anti-corrosion treatment and wear-resistant bushings for continuous offshore operations.

Yan Yang states that all its dredgers are built in compliance with international standards and can be classed by IACS societies including CCS, BV, LR, DNV. The company offers fully customized solutions tailored to dredging depth, output capacity, working environment, and local regulations. It claims a cost advantage of approximately 50% lower than European manufacturers, with delivery times of 2–3 months for standard vessels and 8–12 months for custom builds.

Yan Yang exports its dredging equipment to markets including the United Arab Emirates, Indonesia, India, Egypt, Turkey, Nigeria, South Africa, Tanzania, Saudi Arabia, and Oman. The company also provides global after-sales support including commissioning, training, spare parts, and long-term maintenance.

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