A Greener Future Powered by Intelligent Waterjet Cutting Forplus Intelligtent Equipment's Comprehensive Eco-friendly Waterjet Solutions for Wind Power Industry

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China’s wind turbine fleet is entering a new phase of large-scale decommissioning. Statistics indicate that the 15th Five-Year Plan period will mark the start of the first major wave of turbine blade retirements, creating rapidly growing demand for efficient disposal and recycling solutions.

However, blade recycling has long faced significant challenges. Made from high-strength glassfiber composites, turbine blades are extremely durable and difficult to process. Traditional mechanical cutting methods rely heavily on manual labor while generating large amounts of harmful dust. As a result, both processing efficiency and recycling effectiveness remain limited.

Waterjet Cutting: A Breakthrough Solution

Forplus Intelligent Equipment (Chongqing) Co., Ltd. is committed to providing integrated cutting solutions for the wind power industry. Specializing in ultra-high-pressure waterjet technology, Forplus combines intelligent control, automated operation, and environmentally friendly cutting processes into advanced equipment solutions.

Designed for dust- and pollution-free, high-precision processing of fiberglass composite materials, Forplus waterjet systems support applications ranging from wind farm decommissioning to manufacturing and blade recycling. From turbine production to end-of-life blade processing, Forplus delivers comprehensive, end-to-end cutting solutions across the entire wind power value chain. We are ambitious to empower the industry with next-generation cutting technology.

A Comprehensive Technical Solution for 5 Application Scenarios

Scenario 1: On-site Pre-cutting at the Wind Turbine Base

The complete skid-mounted cutting system integrates an ultra-high-pressure pump unit, generator set, and intelligent robotic system into a single containerized solution.

The system is ready for immediate deployment and efficient on-site blade cutting upon arrival at the turbine base. A three-person team can complete the cutting process for all three blades of a single turbine within one day.

Designed to adapt to complex terrain and harsh weather conditions, it provides a reliable and efficient solution for on-site wind turbine blade cutting.

Highlights:

Cut Upon Arrival · Fully Integrated Skid-Mounted Design · Adaptability to Harsh Environments

Scenario 2: Efficient Cutting in the Factory

As a fixed intelligent cutting production line, the system automatically performs material identification, sorting, feeding, and waterjet cutting.

Through seamless integration with AGV transportation systems and downstream shredding lines, it enables a fully automated closed-loop process from retired blade processing to recycled raw material production.

Highlights:

Automatic Loading & Unloading · Intelligent Sorting · Production Line Integration

Scenario 3: Precision Cutting of Main Beams

A dedicated tunnel-type multi-blade production line enables four-stage precision processing, including longitudinal cutting, trimming, cross-cutting, polishing, and drilling within a single continuous workflow. The annual processing capacity reaches up to thousands of metric tons.

By seamlessly connecting with downstream recycling production lines, the system maximizes material value retention.
Highlights:
Four-stage Processing · Thousand-ton-scale Production Capacity · High-value Material Utilization

Scenario 4: Intelligent Processing of Blade Covers and Deflector Covers

Instead of manual marking, the system uses intelligent vision technology for automatic contour recognition and flexible positioning. No dedicated fixtures are required for different specifications.
It also eliminates manual operations in dusty conditions and delivers consistent cutting accuracy and fast changeovers without downtime.
Highlights:
Vision Recognition · Flexible Fixture-free Positioning · Dust-free Operation

Scenario 5: High-Precision Cutting of Blade Flash

Equipped with a 3D vision contour-tracking system, the solution provides adaptive dual-curvature surface cutting for flash removal after blade molding.
The minimum remaining thickness can be controlled as low as 1–2 mm after cutting. The whole process is performed without heat-affected zones and dust pollution.
Fully automated operation ensures superior cutting consistency compared with traditional manual methods.
Highlights:
3D Contour Tracking · Minimum Remaining Thickness of 1–2 mm · Fully Automated Processing

Empowering the Green Wind Power Industry with Waterjet Cutting
Building a New Era of Sustainable Wind Turbine Blade Processing through Intelligent Manufacturing
Forplus Intelligent Equipment — Your Trusted Partner for Comprehensive Ultra-High-Pressure Waterjet Solutions Across the Wind Power Value Chain