

INDUSTRY TRENDS WATCH IN 2025

Precision-machined components are essential to high-performance engineering systems, where exact dimensions and tolerances determine safety and efficiency.

These components are increasingly vital in the global energy sector, especially in High Voltage Direct Current (HVDC) transmission, which is expanding rapidly due to renewable energy integration and long-distance power needs.

Among them, Klemmstueck parts are used within HVDC bushings to enable stable and reliable electrical connections to transformers, reactors, or airinsulated systems. With the HVDC market expected to exceed USD 25 billion by 2030, demand for such high-precision components continues to grow, driving innovation in CNC machining and materials technology worldwide.



These precision-machined components are produced using advanced MAZAK CNC Turning Centers, delivering outstanding levels of accuracy, uniformity, and reliability across batches.

Key Manufacturing Highlights:

- A critical 2 mm slit is precisely machined using a specialized slitting saw cutter on a 5-axis Vertical Machining Center, ensuring tight dimensional control.
- Components are fabricated from high-grade SS304 stainless steel, with diameters exceeding 3 inches, suitable for demanding industrial applications.
- For traceability and ease of operation, each part is permanently laser-marked with torque specifications, enhancing quality assurance and user clarity.



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