CHINT ELECTRIC

VSC-HVDC Converter Valve

2000MW Per Circuit · 0.75% Loss Over 100km · Turn Deep-Sea Wind into Shore Power

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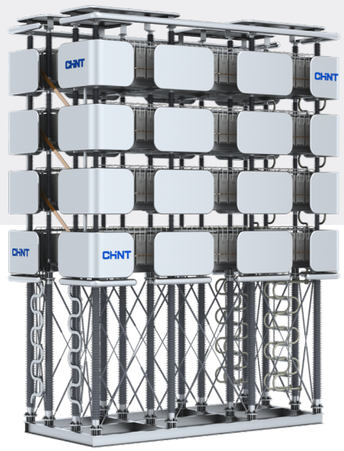
VSC-HVDC Converte Valve

Co-developed with Tsinghua University, the ±500kV/2000MW MMC-HVDC Converter Valve uses symmetric monopole topology and half-bridge sub-modules with 4500V/6500V IGCT devices. It delivers the world's highest single-circuit capacity for deep-sea wind transmission — over 100km, at under 0.75% loss.



Break the 100km Barrier

Unlocks wind resources hundreds of kilometers offshore; single-circuit 2000MW delivery drastically reduces subsea cable count and LCOE.

ReliaFlexible & Resilient Grid Integrationble

Smooths wind power fluctuations, isolates faults from the main grid, and supports multi-terminal expansion as wind farms phase in.

Smaller Offshore Platform

No reactive power compensation equipment needed — platform volume, weight, and construction costs are significantly reduced.

>99.25% System Efficiency

Loss under 0.75% at 100km; minimizes energy waste across the full transmission chain.

Key Specifications

Parameter	Value
DC Voltage	±500 kV
DC Power	2,000 MW
MMC Topology	Symmetric monopole
Sub-Module Topology	Half-bridge
System Efficiency	>99.25% (loss <<0.75%)
Power Device	4,500V / 6,500V IGCT
DC Transmission Line	±500 kV DC subsea cable
Applicable Transmission Distance	≥ 100 km

Application Scenarios

Deep-Sea Wind Bases (>100km)
GW-scale centralized power delivery from far-offshore wind farms to the onshore grid.

Multi-Terminal Offshore Wind Interconnection
Phased connection of multiple wind farms with unified dispatch and control.

Maritime Power Interconnection
Cross-sea island electrification replacing diesel generation; cross-border renewable power trading.