

175MPa Wellhead & Christmas Tree



Introduction

CDI full range 175MPa ultra-high pressure well control equipment is developed relying on nearly 20 years of R&D and manufacturing experience for 140MPa high-pressure well control products. Targeted at ultra-deep well field working conditions and service environments, we carry out systematic & comprehensive research: establish theoretical and mechanical models in accordance with API dimensional standards, structural specifications and design principles; formulate complete melting, forging, heat treatment and surfacing welding processes complying with ISO15156 / NACE MR0175 material selection standards. We have formed a complete set of design theories and production processes for well control equipment rated above 172.5MPa (25000PSI).

The product portfolio covers electric flat gate valves, tubing heads, conventional & Y-type production trees, automated surface test manifolds, well test & workover bleed-off manifolds, fully assembled skid-mounted process systems. All units are fully rebrandable under CDI, applicable for ultra-deep wells, 10,000-meter deep wells, high-pressure sour gas wells and large-scale fracturing operations.

Core Advantage

1. Ultra-high pressure endurance: Rated working pressure up to 25000PSI (172.5MPa), developed exclusively for ultra-deep, high-pressure tight oil & gas wells.
2. Strict corrosion resistance compliance: Material design fully meets ISO15156 & NACE MR0175, AA~HH material grades optional for H₂ S / CO₂ sour corrosive media.
3. High specification integrity: Standard PSL3~4 product specification levels, PR1 & PR2 performance grades to satisfy strict well control sealing requirements.
4. Wide temperature adaptability: Temperature class K.X, operating range -60°C ~ 180°C, suitable for polar cold and high-temperature downhole fluid conditions.
5. Diversified actuation & integrated solutions: Support manual, hydraulic and electric actuator options; provide skid-mounted integrated manifolds with automatic control cabinets, realizing remote intelligent operation.
6. Mature field verified performance: Massive successful service records in key national ultra-deep well projects including Sinopec Shengli Oilfield ZhengShen No.1 Well, PetroChina ChuanKe No.1 10,000m Deep Well, Sinopec Northwest Bureau XinYuan No.6 Well, with patented process technology for stable long-term operation.
7. Customized full package supply: Independent components and complete turnkey manifold skids are both available, compatible with matching CDI wellhead valve series for unified brand supporting.

Technical Specifications

General Common Specifications for All 175MPa Series Equipment

Parameter Item	Specification
Rated Working Pressure	25000PSI (172.5MPa)
Temperature Class	K.X (-60°C ~ 180°C)
Product Performance Level	PR1 / PR2
Material Class	AA ~ HH (NACE MR0175 / ISO15156 compliant)
Product Specification Level	PSL3 ~ PSL4

Dimensional Breakdown by Product Type

Product Model	Available Nominal Sizes	Standard Actuation Mode
CDI-FGV-E 175MPa Electric Flat Gate Valve	2-1/16"(52mm), 2-9/16"(65mm), 3-1/16"(78mm), 4-1/16"(103mm), 5-1/8"(130mm), 7-1/16"(180mm)	Electric / Manual Optional
CDI-TBH 175MPa Tubing Head	2-1/16" ~ 13-5/8" Flange Bore	Matched with supporting gate valves
CDI-XMT 175MPa Conventional Oil & Gas Christmas Tree	2-1/16" ~ 13-5/8" Flange Bore	Manual / Hydraulic
CDI-YMT 175MPa Y-Type Gas Christmas Tree	2-1/16" ~ 13-5/8" Flange Bore	Manual / Hydraulic
CDI-TST 175MPa Automated Surface Test Manifold	Custom skid combined with all above valve sizes	Full electric automated control
CDI-BLM 175MPa Well Test & Workover Bleed-off Manifold	Custom skid combined with all above valve sizes	Electric + Manual Dual Actuation

Application

1. Ultra-deep & 10,000-meter deep oil & gas wells: Mainly deployed for high-pressure ultra-deep vertical wells such as PetroChina ChuanKe No.1 Well, bearing extreme downhole pressure.
2. High-pressure sour gas / condensate gas fields: HH-grade corrosion-resistant material configuration for formations containing hydrogen sulfide and carbon dioxide.
3. Large volume high-pressure fracturing & acidizing stimulation: 175MPa flat gate valves and integrated manifolds withstand high sand-laden fluid erosion during reservoir reconstruction.
4. Well test & workover operations: Skid-mounted bleed-off manifolds provide safe pressure relief, flow control and fluid separation for well intervention.
5. Intelligent automated well sites: Electric flat gate valves & full-automatic test manifolds connect with central control systems for unmanned remote monitoring and operation.
6. National key oilfield engineering projects: Sinopec Shengli Oilfield, Sinopec Northwest Bureau, Chuanqing Drilling & Testing and other major domestic oil operators' flagship ultra-deep well projects.

Product show

