

API 6A/16C Heavy Duty Hydraulic Fracturing Distribution Manifold and Erosion Resistant System



Continuous high-volume hydraulic fracturing carries intense sand volumes that rapidly wash out standard flowline crossovers. Built with targeted thick tungsten carbide erosion barriers to streamline extreme fluid velocities and safeguard downstream pipe networks. Tailored for high-stage shale gas developments, heavy-sand hydraulic fracturing, and continuous post-frac well cleanups.

Key Features & Advantages

- **Superior Erosion Protection:** Dynamic anti-erosion flow-crossover subs embedded with high-density tungsten carbide inserts streamline fluid physics and trap turbulences
- **Heavy-Duty Construction:** Engineered proprietary 175MPa heavy frac manifolds designed for extreme high-pressure fracturing operations
- **Modular Layout Design:** Optimized modular layout options (single-wing, dual-wing, multi-wing) for flexible configuration based on operational requirements
- **Rapid Field Setup:** High-strength hammer unions enable fast, safe field assembly and disassembly
- **CFD Optimized Design:** Computational fluid dynamics analysis ensures optimal flow paths and minimal erosion hotspots

Technical Specifications

Specification	Details
Pressure Rating	10,000 Psi to 25,000 Psi (172.5 MPa)
Main Components	Frac valves, frac heads, heavy flanged flowlines
Erosion Protection	Embedded Tungsten Carbide downstream rings
PSL Level	PSL 3 / PSL 4
PR Level	PR2
Configuration Options	Single-wing, Dual-wing, Multi-wing layouts
Compliance	API Spec 6A / API Spec 16C certified

Application

- **Shale Gas Operators:** Buffering and distributing extreme fracturing fluid volumes from high-pressure pump trucks to wellheads
- **High-Sand Flowback Tracking:** Heavy abrasive multi-stage flow control during post-frac well cleanups
- **Multi-Stage Fracturing:** High-stage shale gas development operations with heavy sand loading
- **Customization Available:** Custom skid-mounted designs with lifting frames; targeted erosive flow simulation (CFD analysis) to customize tungsten carbide coating thickness