

QUANTUM MAX System

High-performance gravel and frac-packing in sandface completions

SYSTEM APPLICATIONS

- Stand-alone screens, gravel packs, and frac packs
- Land and offshore environments, including deepwater
- Open and cased holes
- Single-zone and multizone sand control completions

SYSTEM BENEFITS

- Field-proven design and improved performance parameters increase reliability and reduce risks

SYSTEM FEATURES

- ISO-rated sealbore retrievable QUANTUM MAX* packer
- QUANTUM MAX circulating extension with port closure sleeve
- Variety of weight-down service tools: fullbore, check valve, QUANTUM PERFPAC*, MZ-Xpress*, and antiswab
- QUANTUM MAX accessories, including shear subs, seal units, latches, guide shoes, packer plugs, and fluid loss control devices

The QUANTUM MAX system includes the latest-generation Schlumberger gravel-pack and frac-pack sandface completion tools. The system is well suited for land, offshore, and deepwater operations, including operations on floating rigs.

The QUANTUM MAX system is available in a variety of common oilfield casing sizes. Its flexible modular design—based on years of experience in completions and production engineering—allows the system to be operated in multiple configurations.

Because of the rugged, simple, field-proven design, the reliable system enhances handling of the dynamic conditions experienced during sand control treatments and throughout the life of the well. The pressure rating of all QUANTUM MAX components is 10,000 psi or greater at 350 degF.

Key components of the QUANTUM MAX system include the seal-bore retrievable QUANTUM MAX packer, a variety of robust QUANTUM MAX service tools, the QUANTUM MAX circulating housing extension, and QUANTUM MAX accessories.

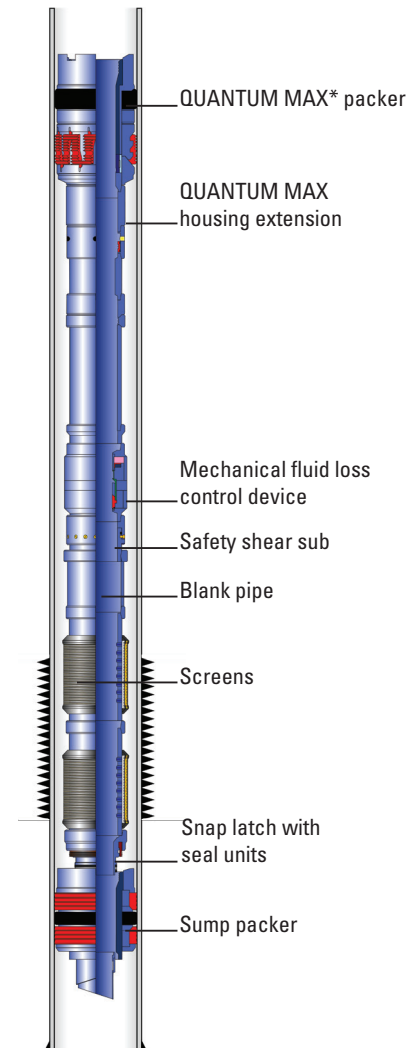
QUANTUM MAX packer

The QUANTUM MAX packer provides the platform for gravel- and frac-packing systems. Because of its reliable, field-proven design, the QUANTUM MAX packer optimizes operations in critical performance parameters, including differential pressure and temperature, load bearing capability, torque-through rating, and sealing reliability.

The hydraulically set, sealbore retrievable QUANTUM MAX packer design is based on years of experience, and includes a rugged barrel slip design and X-series elements common for all Schlumberger HPHT production packers.

QUANTUM MAX circulating housing

The QUANTUM MAX ported circulating housing supports sand control pumping operations by providing a pathway from the service tool crossover ports to the exterior of



QUANTUM MAX system.

the screens. Erosion and collapse resistant, the QUANTUM MAX housings are particularly suited for high-rate frac packs and gravel packs. A collar in the circulating housing supports the weight-down functionality of the QUANTUM MAX service tools. The port closure sleeve (PCS) is closed while the service tool is retrieved.

QUANTUM MAX service tool

QUANTUM MAX service tool is available in a variety of configurations for cased hole and open hole sandface completions. The tool

QUANTUM MAX System

is used to set the QUANTUM MAX packer and establish necessary gravel-pack and frac-pack treating positions, including weight-down circulating, weight-down squeeze, and reverse-out operations. The field-proven fullbore setdown (FBSD) version permits reverse-out operations without concern for fluid losses to the formation or loss of well control.

QUANTUM MAX accessories

Numerous accessories are available to complement the QUANTUM MAX system:

- Snap latch, anchor latch, and shearable anchor latches
- Guide shoes, including mule shoes and self-aligning guide shoes
- Bonded production seal units
- Safety shear subs and quick connects
- Mechanical fluid loss control devices: large-bore flapper valve (LBFV); bidirectional formation isolation valves, including the FORTRESS* isolation valve; dual-flow annular valve (DFAV) and hydraulic dual flow annular valve (HDFAV); and three-way subs with an inner isolation sleeve and sliding sleeves
- QUANTUM MAX BA packer plug

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