

OSMP

OptiPac service mechanical packer



Rated up to 5,000 psi
[34 MPa]



Rated to 163 degC
[325 degF]

APPLICATIONS

- Multizone openhole gravel-packed wells that use the OptiPac* Alternate Path† openhole gravel-pack service
- Vertical, deviated, and horizontal wells
- Land and offshore environments

BENEFITS

- Creates and isolates zones in openhole completions
- Saves rig time with instantaneous setting
- Reduces cost by enabling a single well to access multiple reservoirs
- Allows for selective or smart completions for efficient and increased production
- Alternate Path system bypass allows gravel packing after packers are set
- Enables future water and gas breakthrough shutoff

FEATURES

- Shunt tube isolation valve for zonal isolation between gravel-packed zones
- Hydrostatically setting with washpipe shifting tool
- Control line bypasses for PT gauges
- Compatibility with 5- and 5½-in Alternate Path openhole gravel-pack screens and fiber-optic-compatible screens
- Differential pressure rating of 3,000 psi [21 MPa] across element

The OSMP* OptiPac service mechanical packer is a mechanically activated hydrostatically set openhole gravel-pack packer with Alternate Path shunt tubes and control line bypasses. When used with Alternate Path screens and the shunt tube isolation valve (STIV), the packer-STIV assembly enables complete zonal isolation between different gravel-packed zones in openhole conventional or extended-reach wells. Zonal isolation or selective production is enabled with the OSMP packer through a variety of common completion architectures either to isolate unwanted zones or for future water and gas shutoff.

Unlike swell packers, which require roughly 18 hours to several days to swell to maximum outside diameter and provide zonal isolation prior to starting the gravel packing, the OSMP packer sets within seconds once activated, enabling gravel packing to commence immediately.

Operating procedure

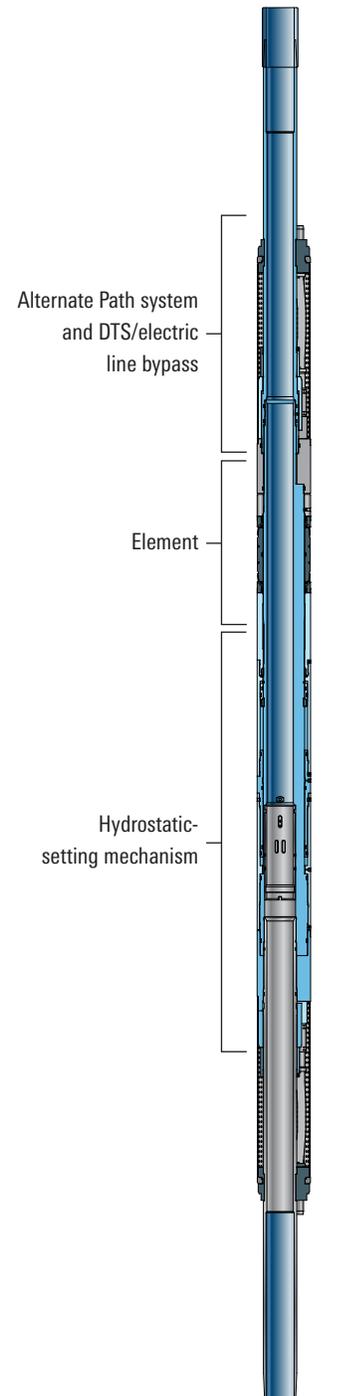
The OSMP packer is run in conjunction with Alternate Path screens. Each packer is built upon an eccentrically-oriented mandrel, enabling the OSMP packer to be properly aligned with the shunt tubes above and below. Multiple packers can be used within the same sandface completion.

After the OSMP packers, screens, blank pipe, and optional STIVs are run below rotary table, the washpipe and OSMP packer shifting tools are run inside the assembly. One shifting tool is run per OSMP packer placed 30 ft [9 m] below the first packer. The next shifting tool is placed an additional 10 ft [3 m] below each subsequent packer to avoid simultaneous engagement of the shifting tool's profile, enabling each packer to be set independently. If space-out permits, a single shifting tool can be deployed to set multiple OSMP packers.

The OSMP packer is run into the open hole below a QUANTUM* gravel-pack packer or QUANTUM MAX* HPHT gravel- and frac-pack packer, which is set in the cased hole. Upon reaching the proper depth, the gravel-pack packer is set and tested. Service tool positions are located and—if required—the open hole displaced. The service tool is then picked up, placing each washpipe shifting tool above its corresponding OSMP packer. Subsequently, the workstring is slacked downward, engaging each setting sleeve within the corresponding packer and enabling hydrostatic pressure to set the mechanical OSMP packer. Because OSMP packers are set prior to pumping gravel, all the packer seals are in contact with the wellbore, ensuring complete zonal isolation.

Proven element design

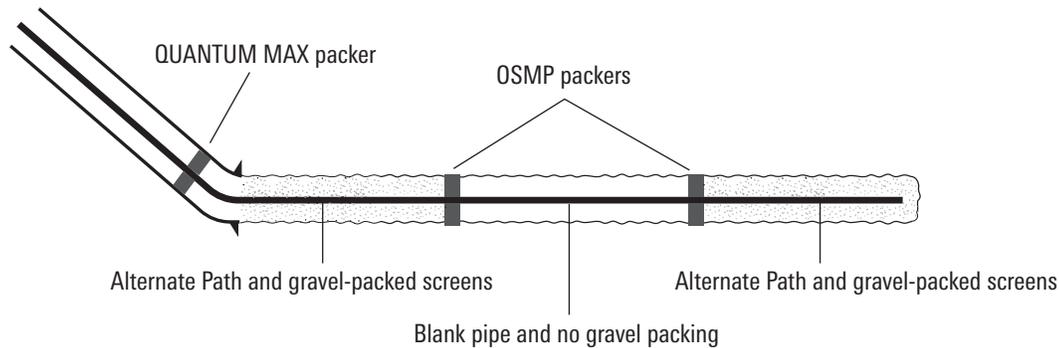
The OSMP packer element is the same design as used in the field-proven Falcon hydraulic-set openhole packer, which has more than 4,000 successful deployments.



OSMP packer.

OSMP Packer Specifications

Open hole size, in	8½ to 9¼	9 to 9¼
Flow wet material	13 Chromium, INCONEL® 718	13 Chromium, INCONEL® 718
Control line bypass (two lines), in [mm]	0.25 [6.4]	N/A
Certification status	ISO-V3	ISO-V3
Polished bore size, in [mm]	4.000 [101.6]	4.000 [101.6]
Major OD, in [mm]	8.10 [205.7]	8.30 [210.8]
Minor ID, in [mm]	4.000 [101.6]	4.000 [101.6]
Upper connection (workstring), in [mm]	5 [127] SLHT-S timed	5½ [140] SLHT-S timed
Lower connection (washpipe), in [mm]	5 [127] SLHT-S timed	5½ [140] SLHT-S timed
Connection weight, lbm/ft [kg/m]	18 [26.8]	20 [29.8]
Tensile rating, lbf [kg]	350,000 [158,757]	350,000 [158,757]
Max. setdown weight, lbf [kg]	260,000 [117,934]	260,000 [117,934]
Makeup length, ft [m]	17.3 [5.27]	18 [5.49]
Torque-through rating, lbf.ft [N.m]	6,000 [8,135]	6,000 [8,135]
Internal working pressure, psi [MPa]	5,000 [34]	5,000 [34]
Differential pressure rating (across element), psi [MPa]	3,000 [21]	3,000 [21]
External working pressure, psi [MPa]	5,000 [34]	5,000 [34]
Max. working temperature, degF [degC]	325 [163]	325 [163]
Run-in-hole rate, ft/min [m/min]	177 [53.9]	102 [31.1]
Reverse-circulation rate (open hole), bbl/min	12.5	11



Zonal isolation achieved in an openhole horizontal well completed with a QUANTUM MAX packer, OSMP packers, and Alternate Path screens.