GENERAL PRODUCT SHEET

HATCH Packer™ – The Premier Stage Cementing Solution

PRODUCT DESCRIPTION:
The HATCH Packer™ is a unified construction, incorporating the TAM metal-to-metal seal Port Collar (PC) and Casing Annulus Packer (CAP) into an integral assembly for running with premium production casing. The primary benefit of the integral system is 100% assurance that after packer valve system closure and once stage cementing is complete, the valve system will be isolated from any wellbore pressures. When the first-stage wiper plug bumps, additional pressure can be applied to the casing to inflate the packer. When inflated, it provides an annular seal between the casing and the wellbore or a previously installed casing string.

The V0-rated HATCH Packer is the industry’s first integral stage cementing assembly qualified to ISO 14998 V0 Annex A & Annex D and ISO 14310. The 9-5/8 in. V0 HATCH Packer utilizes the same sealing system as the V- MTM Port Collar (qualified gas-tight @ 300°F (149°C) in 2015) to ensure that casing integrity is not compromised in critical applications such as premium production casing installations.

In addition to meeting the industry’s most rigorous qualification standards for casing integrity, the V0 HATCH Packer is also equipped with a key design enhancement to improve operational efficiency. Once the primary cementing operations are complete and the Casing Annulus Packer (CAP) has been inflated, additional pressure can be applied to rupture a burst disk in the Port Collar body to establish circulation above the CAP. This key feature enables the operator to clean out and condition the annulus while running in hole with the TAM Combo Tool, which is utilized to perform the second stage cementing operations through the Port Collar ports.

Running in with the work string Combo Tool allows for the exact location of the PC sleeve and selective inflation of the packer, if required. The PC sleeve is then opened and stage cementing operations are performed. Once cementing is complete, the PC is locked closed and tested, and the Combo Tool is retrieved, providing gas-tight integrity between the casing annulus and wellbore.

PROVIDE SOLUTIONS FOR:
- Two-stage or three-stage cementing
- Prevention of gas migration / shallow water flow
- Zonal isolation
- One-trip cementing of the radius in horizontal completions
- Isolation of the open hole section in steam injection wells
- Prevents requiring squeeze cementing
- Protects cement from invasion by well fluids
- Isolates lost-circulation/lower zones during cementing

MTM Port Collar (PC)
Connector Tubing
Casing Annulus Packer (CAP) (externally inflated)
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FEATURES:
- Integral Port Collar and Casing Annulus Packer (CAP)
- The CAP is inflated through the Port Collar, and the inflation port is isolated after locking out the MTM seal in the Port Collar
- Field-proven TAM CAP elements
- External shear pins are easily accessible for field adjustment
- SafeLok™ valving in the CAP with lock-out for element security
- Inflation with water or drilling muds
- Large cementing ports for multi-stage cementing
- Internal closing sleeve locks in the closed position
- Available with 3 ft standard length or 10 ft CAP elements

BENEFITS:
- Reduces drilling time and costs by eliminating the need for intermediate surface casings
- Robust enough to isolate high-temperature steam while allowing cementing of the liner blank pipe above the slotted pipe/screens
- Once closed, the CAP valve system is isolated from further pressure cycles
- With a Combo Tool, operators can inflate the CAP and perform a secondary cement job in one trip

TOOL SIZES:

<table>
<thead>
<tr>
<th>Element OD</th>
<th>mm</th>
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<tbody>
<tr>
<td>7.00 - 8.25</td>
<td>177.8 – 209.55</td>
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<tr>
<td>9.63 - 11.5</td>
<td>244.5 – 292.1</td>
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<tr>
<td>9.88 – 11.68</td>
<td>251 – 296.7</td>
</tr>
<tr>
<td>13.38 – 16.25</td>
<td>339.09 – 412.8</td>
</tr>
<tr>
<td>13.63 -16.25</td>
<td>347.47 – 412.8</td>
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</tbody>
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/IDs per casing weight