Subsea Connection Systems
Stab Plates and Quick Couplings
MCD Series Plates / DSL Series Couplings
QCD-MCD/DSL | April 2016
Parker’s MCD Series Stab Plates provide maximum performance, ease of installation, long life, and a sound hydraulic connection in harsh subsea conditions.

Typical applications include:
- Hydraulic flying leads (HFL)
- Christmas trees
- Subsea manifolds
- Umbilical termination assemblies (UTA)

Engineered to function under demanding conditions, MCD Series Stab Plates have been designed to handle separation loads in excess of 100,000 lbs allowing connections with all lines at 15,000 psi. A high strength locking bayonet assures the plates remain securely connected for reliable performance. With the versatility to be custom configured for each application, MCD Series Stab Plates can accommodate combinations of 1/8” to 1-1/2” quick couplings. When used with Parker’s DSL Series Couplings, the MCD Series Stab Plates provide unparalleled performance and reliability.

MCD Series Stab Plates have best-in-class guiding features and are lightweight for ease of handling during installation. Connection indicators are clearly visible to show the ROV pilot when a proper connection has been made. Additionally, an ROV operated secondary release is a standard feature of the MCD Series Stab Plates. A standard work class ROV equipped with a Class 4 ROV torque tool securely connects the mating plates.

Parker offers stab plates, quick couplings, termination frames and tube bundle assemblies, to provide a complete subsea hydraulic connection solution. Manufacturing strength, engineering and quality-focused culture, along with global service and distribution – This is Parker.
Technical Specifications

Design:

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth</td>
<td>3000 meters (9842 feet)</td>
</tr>
<tr>
<td>Life</td>
<td>30 years</td>
</tr>
<tr>
<td>Separation Load</td>
<td>70,000 lbf (311 kN) at design pressure</td>
</tr>
<tr>
<td></td>
<td>105,000 lbf (467 kN) at proof pressure</td>
</tr>
<tr>
<td>Alignment Capability</td>
<td>Vertical and Lateral: +/- 75mm (3”)</td>
</tr>
<tr>
<td></td>
<td>Orientation: +/- 10 degrees</td>
</tr>
<tr>
<td></td>
<td>Elevation: +/- 10 degrees</td>
</tr>
<tr>
<td></td>
<td>Bearing: +/- 10 degrees</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-18°C to 70°C (-0.4°F to 158°F)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-25°C to 70°C (-13°F to 158°F)</td>
</tr>
<tr>
<td>Pressures/Arrangement</td>
<td>15,000 psi (1034 bar) on all lines</td>
</tr>
<tr>
<td>Weight in water (without termination frame)</td>
<td>80 kg (176 lbs)</td>
</tr>
</tbody>
</table>

Materials:

- Nitronic® 50HS
- 316L
- Super Duplex
- ToughMet®
- Carbon Steel
- Engineered Polymer

Standards:

API 17 E / F / H

Coupling Configuration:

14 way: (13) 1/2” - (1) 1”

Other configurations available

Testing:

- Hydrostatic Proof Pressure - Mated and unmated
- Connect - All lines and combination of lines under pressure
- Alignment
- Secondary Release Mechanism
- Mechanism Endurance
Low Separation Force Subsea Quick Couplings

DSL Series

Features:
- Sizes 1/4” to 1-1/2”
- Up to 15,000 psi (1034 bar)
- Poppet valves
- Redundant sealing
- Metal or PEEK primary seal, PEEK secondary seal
- Parker Nitrile O-rings standard
- Body material: Nitronic® 50HS
- Internal component materials:
  - Nitronic® 50HS, 316 SST or ToughMET® AT110
  - Springs are Inconel® X-750 or Elgiloy®

Options:
- Various O-ring materials
- Guide sleeve
- Vented valving
- Welded assembly or 2-piece threaded version
- Various end configurations: Autoclave, Weld prep, tube stub (others available upon request)
- Rear plate mounting

DSL Series couplings are designed for low separation force while under pressure. Durable PEEK or optional metal seals provide confidence at depths down to 3000 meters.

<table>
<thead>
<tr>
<th>Size</th>
<th>Working Pressure (psi/bar)</th>
<th>Rated Working Depth (ft/m)</th>
<th>Cv per Coupling Half</th>
<th>Separation Force (lb/1000 psi &amp; N/100 bar)</th>
<th>Water Ingress per Connect (mL)</th>
<th>Poppet Crack Pressure (psi/bar)</th>
<th>Length* (in/mm)</th>
<th>Min. Plate Bore Diameter* (in/mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>15,000/1034</td>
<td>10,000/3050</td>
<td>1.0</td>
<td>142/915</td>
<td>2.9</td>
<td>200/13.8</td>
<td>Male: 3.6/91</td>
<td>0.875/22.23</td>
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<td></td>
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<td></td>
<td>Female: 3.6/91</td>
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<tr>
<td>1/2&quot;</td>
<td>15,000/1034</td>
<td>10,000/3050</td>
<td>3.0</td>
<td>307/1981</td>
<td>5.7</td>
<td>200/13.8</td>
<td>Male: 5.0/127</td>
<td>1.250/31.75</td>
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<td></td>
<td>Female: 5.0/127</td>
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<td>1&quot;</td>
<td>15,000/1034</td>
<td>10,000/3050</td>
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<td>691/4459</td>
<td>12.1</td>
<td>200/13.8</td>
<td>Male: 5.8/147</td>
<td>1.800/45.72</td>
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<td></td>
<td>Female: 5.8/147</td>
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<tr>
<td>1-1/2&quot;</td>
<td>10,000/689</td>
<td>10,000/3050</td>
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<td>1267/564</td>
<td>38.2</td>
<td>200/13.8</td>
<td>Male: 7.0/178</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Female: 7.0/178</td>
<td></td>
</tr>
</tbody>
</table>

Data given is representative of the coupling series. Individual couplings may vary based on specific configuration of fittings/optional features.

* Minimum bore diameter and length are reference. May change for a specific plate configuration.

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