1. FORUM-Blohm+Voss
2. Equipment Thomas Tool
3. Engineering & Testing
4. 1250 ton Tools
   1. Power Slip
   2. Elevator
1. FORUM-Blohm+Voss

- Blohm+Voss - based out Hamburg, Germany
- Business since mid 70`s
- First Flush Mounted Slip mid 90`s
- More than $\frac{3}{4}$ of office employees have engineering background
- 95% of material MADE in Germany
- acquired by FORUM ENERGY TECHNOLOGIES in July 2013
1. Product Portfolio

- **Hydraulic Side Elevator**
  - Dual elevator system
  - „Tube Fuse“ System
  - Hydraulic Spider System

- **Standard Equipment**
  - Rotary Slip
  - Manual Tongs
  - Drill Pipe Elevator
  - Side Door Elevator

- **Special Solutions**
  - Power Slip 500 - 1250 ton
  - AMP Elevator 350 – 1250 ton
  - Riser Solid Body 1250 ton

- **Largest Casing Equipment**
  - Side Door Elevator up to 42“
  - Elevator Links up to 720“ length

- **Heavy Load Equipment**
  - "Tube Fuse" System

*Smart Solutions. Powerful Products.*
2. Equipment Thomas Tool

PS-1250 & AMP-1250  
PS-1250
2. Equipment Thomas Tool

AMP-1250

PS-1250 & AMP-1250
3. Engineering & Testing

Elevator Pull Test
Machine: 4000 tons / 8,8 Mio lbs

Pipe Crushing Calculation

Power Slip Pull Test
Machine: 3500 tons / 7,7 Mio lbs

FEM Calculation & Pipe Test with VAM
AMP-1250 & PS-1250
6.906" Landing String Configuration
**PS-1250**

**Outside Diameter**
- Fits into: 49.1/2” Hinged Design
- National, Wirth and Continental-Emsco RT

**Pipe Range:**
- 3.1/2” – 14”

**Capacity:**
- 1250 tons

**Working pressure**
- Min 140 bar (2030 Psi), Max 210 bar (3046 Psi)

**Required Flow rate**
- Min 6 Gpm (22 l/m), Max 10 Gpm (37 l/m)

**Temperature working range**
- - 20°C to +55°C / - 4°F to 140°F

**API proof load test**
- 1875 sh tons

**Throat Opening:**
- 21.65”

**Stick out Height:**
- 6.5”

**Quality Level**
- API 7K (PSL-2)
- DNV & ABS Type Approval
- CE/ ATEX Rating

*PS-1250*
## PS-1250

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Device</strong></td>
<td>774000-N PS-1250-1 Hydraulic operated Power Slip Pipe Range 3.1/2&quot; - 14&quot;, for 49.1/2&quot;, National RT, 1250 ton, c/w Hydraulic Guide System, less Slips, Insert Carrier and Guides, Plates, API 7K <em>(Acc. to API PSL2)</em></td>
</tr>
<tr>
<td><strong>Slip Assembly</strong></td>
<td>774020 Slip Assembly Range 3.1/2&quot; - 14&quot; less Insert Carrier</td>
</tr>
<tr>
<td><strong>Insert Slip</strong></td>
<td>774060-112 Insert Slip 7&quot; x 6.906&quot; Slip Proof Section</td>
</tr>
<tr>
<td><strong>Carrier for DP and CSG</strong></td>
<td>774070-BC Insert Carrier Assembly for PS 1250</td>
</tr>
<tr>
<td><strong>Carrier for DC</strong></td>
<td>774090-BC Insert Carrier Assembly for PS 1250</td>
</tr>
<tr>
<td><strong>Hydraulic Guide Assembly</strong></td>
<td>7748XX Guide Plate Assembly for Ps 1250</td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td>774000-HUK Hook Up Kit, for PS 1250 including steel transport box</td>
</tr>
<tr>
<td></td>
<td>774001 Grease pump Assembly for PS 1250</td>
</tr>
<tr>
<td></td>
<td>774003 Transport Rack for PS 1250</td>
</tr>
</tbody>
</table>
Slip Insert PS-1250 – 7” x 6.906”

28” – die contact length
Insert Carrier for PS-1250

Drill Pipe and Casing

Fig. 25: Insert lengths for Drill Pipe and Casing
HCS – Centering System - Guide

Fig. 94: Turn Guide Plate in Guide Rail

*PS-1250 – Pacific Drilling
Feedback System

A - to "center and set the slips"
B - to "open the slips"
C – Feedback Signal
G – Grease
L – compressed air

• Feedback Signal – activates Grease System
Slip Opening

Fig. 61: Spreading Body with Opening Tool

Smart Solutions. Powerful Products.
Optional Equipment

- 49.1/2” RT Adapter

- Bottom Guide Assembly
- Additional guide system in addition to the HCS.
**AMP-1250**

**Technical Data**

**AMP 1250 Automated-Multi-Pipe Elevator**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working pressure</td>
<td>Min 140 bar (2030 Psi), Max 210 bar (3046 Psi)</td>
</tr>
<tr>
<td>Maximum allowed pressure</td>
<td>210 bar (3,046 Psi)</td>
</tr>
<tr>
<td>Required Flow rate</td>
<td>Min 6 Gpm (22 l/m), Max 10 Gpm (37 l/m)</td>
</tr>
<tr>
<td>Temperature working range1</td>
<td>20°C to +55°C / - 4°F to 140°F</td>
</tr>
<tr>
<td>Load Capacity</td>
<td>1250 sh tons (18° load shoulder)</td>
</tr>
<tr>
<td></td>
<td>1500 sh tons (45° and 90° load shoulder)</td>
</tr>
<tr>
<td>API proof load test</td>
<td>1875 sh tons</td>
</tr>
<tr>
<td>Weight</td>
<td>2018 kg / 4448 lbs</td>
</tr>
<tr>
<td>Pipe Diameter Range</td>
<td>5.1/2&quot; - 9.7/8 “(90° shoulder)</td>
</tr>
<tr>
<td>Elevator Links</td>
<td>5.1/2&quot; - 6.1/2”</td>
</tr>
<tr>
<td>Quality Level</td>
<td>API 8C (PSL-2)</td>
</tr>
<tr>
<td></td>
<td>DNV &amp; ABS Type Approval</td>
</tr>
<tr>
<td></td>
<td>CE/ ATEX Rating</td>
</tr>
</tbody>
</table>

*AMP-1250*
AMP-1250 General Dimension

NOV BX-7 Dimension

- Weight: 2030 kg / 4475 lbs
- Height: 788 mm / 31"
- Width: 1295 mm / 51"
- Length: 895 mm / 35.23"

NOV BX-7

- 1000 ton – 18° Shoulder
- 1250 ton – 45° & 90° Shoulder
AMP-1250 - Bushing

- Bushing Assembly = 5 Segments
  3x Body, 1x Door & 1 x Latch
- Installation from the Top
- Guide Key backside of the bushing
- each bushing marked with location number
- Bushing # 2 include trigger pin
- Bushing # 1 machined for load sensor device
AMP-1250

- Trigger Assembly
- (cylinderbody – trigger pin bushing)
- Not adjustment for different pipe size

- Load Sensor System
- disconnection of Elevator Open circuit

- Feedback System Latch
• Latch Lock

• Latch Lock Cylinder – additional visual feedback

• Latch Lock Feedback System (releases feedback to PLC)
AMP-1250 (Closing)

- Weight of Tubular activates Load Sensor System
- Latch Lock Cylinder
- Latch Lock Closing
- Latch Closing
- Door Closing
- Elevator is open
- Tubular activates trigger assembly
- Ready to Go!

Feedback signal to PLC
Optional Equipment

- Single & double acting rotation arm
- 90° forward
- 55° backward (double acting)