Hydraulic Pumping Unit (HPU)
Reduce total cost of ownership with a long-stroke HPU that delivers maximum lifetime and efficiency

- **Stroke length:** up to 336 in [8.53 m]
- **Lift rating:** up to 50,000 lbm [22,600 kg]
- **Installation time:** <6 hours

**Applications**
- Conventional, unconventional, and heavy oil wells onshore
- Multiwell pads
- Highly deviated wells
- Wells with high gas/oil ratio (GOR)
- Thermal and steam-assisted gravity drainage (SAGD) wells
- Well testing
- Transitional and intermittent production

**How a hydraulic pumping unit (HPU) improves oilfield economics**
Schlumberger long-stroke HPUs improve pump efficiency, simplify installation and maintenance, manage temperature swings, and reduce cyclical wear on bottomhole valves, rods and tubing, and surface equipment. That means operators experience lower total cost of ownership and less downtime and deferred production.

Long-stroke HPUs increase well productivity by reducing gas locking potential—without increasing wear on downhole equipment. This makes the technology especially beneficial to avoid downtime and interventions in steamflood, CO2-flood, and high-GOR wells.

**Why replace a conventional pumping unit?**

<table>
<thead>
<tr>
<th></th>
<th>Conventional Pumping Unit</th>
<th>Hydraulic Pumping Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shipping</strong></td>
<td>One unit in one to three trailer loads, depending on size</td>
<td>Up to four units on one trailer</td>
</tr>
<tr>
<td><strong>Site preparation</strong></td>
<td>Gravel, concrete slab, and piles</td>
<td>Mounts directly to the wellhead; skids are fully contained</td>
</tr>
<tr>
<td><strong>Installation time</strong></td>
<td>2–5 days</td>
<td>&lt;6 hours</td>
</tr>
<tr>
<td><strong>Footprint</strong></td>
<td>10 ft × 10 ft or larger</td>
<td>Minimal, next to the well</td>
</tr>
<tr>
<td><strong>Installation requirements</strong></td>
<td>Specialized crew, cranes, pickers</td>
<td>Turnkey equipment requires no site preparation or guide wires.</td>
</tr>
<tr>
<td><strong>Adjustments</strong></td>
<td>Variable frequency drive required for production optimization</td>
<td>Operators can remotely control speed and stroke length; independent up and down stroke speeds facilitate optimization</td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td>100% mechanical = frequent maintenance, high service costs, and increased downtime</td>
<td>Simplified maintenance requirements and intervals, reducing costs and downtime</td>
</tr>
<tr>
<td><strong>Total cost of ownership</strong></td>
<td>High capex due to cost of equipment; high opex due to maintenance and increased wear</td>
<td>Faster ROI due to lower capex and opex</td>
</tr>
</tbody>
</table>

1 On-location control is standard. Remote control requires additional SCADA interface or third-party equipment.

Remote monitoring and control capabilities also enable real-time well data analysis and pump adjustments. That means operators can rapidly respond to changing well conditions to optimize production, anytime, anywhere.

The leak-free design and compact footprint improve wellsite safety and environmental impact during operations and workovers.
**Hydraulic Pumping Unit (HPU)**

**How an HPU works with a sucker rod pump (SRP)**
The HPU is a hydraulically powered rod-reciprocating system. The surface equipment can be installed in most sucker rod pumping applications.

With the press of a few buttons on the unit’s controller, the up and down stroke speeds can be independently set to optimize well production characteristics. This is important because stroke length is fixed on conventional pumpjacks, which means smaller or larger units must be installed to accommodate production changes. The HPU stroke length adjustability delivers flexibility to manage the full production range without changing equipment.

**What it replaces**
Conventional mechanical sucker rod pumping units are large and difficult to install. Production optimization and maintenance requirements add to the uptime challenges, production assurance, and lifetime cost of ownership.

**Additional information**
Schlumberger HPUs are available in electric or gas-powered power unit options with either enclosed (rod down) or hollow (rod up) cylinders, several different cylinder diameters and lengths to enable design flexibility for any production requirements.

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### Hydraulic Pumping Unit Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Low Flow Lite (LFL)</th>
<th>Low Flow (LF)</th>
<th>High Flow (HF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump-off control</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Surface and downhole cards</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>SCADA compatibility</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Hollow-cylinder operation</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Enclosed-cylinder operation</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Multiple-well capability</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Automated stroke-speed adjustment</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

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### Hollow Jacks

<table>
<thead>
<tr>
<th>Model</th>
<th>Lift Rating, lbm</th>
<th>Stroke, in</th>
<th>LFL Strokes Per Minute (spm)</th>
<th>LF spm</th>
<th>HF spm</th>
</tr>
</thead>
<tbody>
<tr>
<td>H30-144</td>
<td>30,000</td>
<td>144</td>
<td>0.5–4.5</td>
<td>0.5–5.0</td>
<td>Not supported</td>
</tr>
<tr>
<td>H40-192</td>
<td>40,000</td>
<td>192</td>
<td>0.5–4.0</td>
<td>0.5–4.5</td>
<td>0.5–6.0</td>
</tr>
</tbody>
</table>

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### Enclosed Jacks

<table>
<thead>
<tr>
<th>Model</th>
<th>Lift Rating, lbm</th>
<th>Stroke, in</th>
<th>LFL Strokes Per Minute (spm)</th>
<th>LF spm</th>
<th>HF spm</th>
</tr>
</thead>
<tbody>
<tr>
<td>E30-144</td>
<td>30,000</td>
<td>144</td>
<td>Not supported</td>
<td>0.5–6.0</td>
<td>Not supported</td>
</tr>
<tr>
<td>E30-240</td>
<td>30,000</td>
<td>240</td>
<td>Not supported</td>
<td>0.5–4.5</td>
<td>0.5–6.0</td>
</tr>
<tr>
<td>E30-336</td>
<td>30,000</td>
<td>336</td>
<td>Not supported</td>
<td>0.5–3.0</td>
<td>0.5–4.5</td>
</tr>
<tr>
<td>E40-240</td>
<td>40,000</td>
<td>240</td>
<td>Not supported</td>
<td>0.5–3.5</td>
<td>0.5–5.5</td>
</tr>
<tr>
<td>E40-336</td>
<td>40,000</td>
<td>336</td>
<td>Not supported</td>
<td>Not supported</td>
<td>0.5–4.0</td>
</tr>
<tr>
<td>E50-240</td>
<td>50,000</td>
<td>240</td>
<td>Not supported</td>
<td>Not supported</td>
<td>0.5–4.5</td>
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<td>Not supported</td>
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</tr>
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All specifications are subject to change without notice. Strokes-per-minute ranges are subject to Schlumberger review of downhole survey and application design.