KUDU HSU
Hydraulic Stroking Unit

The Next Generation Hydraulic Solution
- Zero Environmental Leakage
- Industry Leading Stroke Length
- Simple Installation
KUDU HSU

The revolutionary Hydraulic Stroking Unit (HSU) is a hydraulically powered rod reciprocating system. It incorporates a leak-free design with an unparalleled long stroke, reduces costs and quickly achieves production efficiency by minimizing downtime and workovers. Available in electric and gas powered options, the HSU package is capable of handling a variety of oilfield environments.

How It Works

A hydraulic Power Unit consists of a hydraulic pump, a hydraulic tank, a cooling fan, controls and a prime mover (gas powered engine or electric motor), providing fluid to a cylinder which is directly attached to the wellhead. The piston in the cylinder is attached to a polished rod which in turn connects to the sucker rod string. As oil is pumped from the hydraulic Power Unit to the cylinder, the piston moves up the cylinder, actuating the sucker rod string and in turn the bottom hole pump.

Long Stroke Advantage

The KUDU HSU’s stroke with lengths of up to 336” (8.53 m) reduces cyclic stress, minimizes rod stretch impact, improves gas compression ratios and enhances overall system efficiency. Several different cylinder diameters and lengths provide design flexibility to suit any production requirements.

Zero Environmental Leakage

The fully enclosed cylinders prevent leaks which cause downtime related to environmental exposure and/or equipment maintenance and repair. This design further protects against spillage with a fully contained KUDU Power Unit enclosure.

Run Two Cylinders with One Power Unit

KUDU’s proven Power Unit design is capable of operating two cylinders at the same time. This option reduces capital cost compared to purchasing two complete systems.

Easy Installation and Maintenance

The HSU’s quick and easy installation significantly reduces the time required from days to hours. This product does not require any special site preparation. All system setting adjustments are viewable and can be changed either on-site or remotely.
KUDU HSU Capability Charts

SPM=Strokes Per Minute. PPRL=Peak Polish Rod Load.

*This model is capable of higher SPM, however 10 SPM is the highest recommended speed for all HSUs.

50 HP

75 HP

100 HP

150 HP

THOUSANDS OF LBS
TONNES

STROKE LENGTH
80° (2.03m)*
144° (3.66m)
240° (6.10m)

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KUDU HSU Control Systems

Level 1

The Level 1 HSU system is KUDU’s basic offering. This system has the capacity to run two wells with one Power Unit and gives our customers the flexibility of many different cylinder diameters and lengths. The system is designed around specific production requirements.

With KUDU’s Level 1 system, speed changes are as easy as turning a dial. In most instances, the Level 1 system is able to retrofit to an existing Power Unit. Consult a KUDU representative for further information.

KUDU HSU vs Conventional Beam Unit

KUDU HSU | Conventional Beam Unit
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Attached to Flow T | Piles or gravel, site preparation
Quick installation by attaching to Flow T | Requires special crews, cranes, pile drivers and picker
SPM adjustable remotely or on-site | Necessary time and crew to change stroke speeds
Inexpensive installations | Costly installations
No footprint as attached to wellhead | Large footprint of a minimum of 15’ W x 30’ L (5m W x 9m L)
Remote access | No remote monitoring
No Exposed Stuffing Box | Leaking and exposed Stuffing Box
Stroke length up to 336” | Limited options on stroke length

Level 2

KUDU’s Level 2 system not only offers all of the functionalities of our Level 1 system, but also gives users the ability to monitor and change system parameters either on-site or remotely. The Level 2 system generates a surface dynamometer card which can be used for analysis of the well. It also provides a historical sampling of the entire system’s pertinent data, including all alarm history, speed changes and set points.

KUDU HSU Models

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<thead>
<tr>
<th>PPRL - Cylinder Diameter - Stroke Length</th>
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<tbody>
<tr>
<td>THOUSANDS OF POUNDS</td>
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<tr>
<td>30 - 3.5 - 80</td>
</tr>
<tr>
<td>30 - 3.5 - 144</td>
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<tr>
<td>30 - 3.5 - 240</td>
</tr>
<tr>
<td>30 - 3.5 - 336</td>
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<tr>
<td>40 - 4.0 - 80</td>
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<tr>
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<td>50 - 4.5 - 336</td>
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Contact your local KUDU representative or visit our website to find a location near you. All information is considered accurate and up to date at time of printing. KUDU reserves the right to amend the contents of this document at any time. KUDU does not warranty manufacturers claims.