

Rig Building



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BENTEC SOFT PUMP SYSTEM (SPS)

Minimises damaging pressure pulses

The Bentec Soft Pump System MK II (SPS) is a Bentec Softline product, designed to precisely coordinate the output pump pressure of two or more mud pumps into the common high pressure mud line and through the borehole.

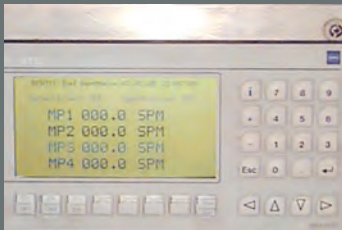
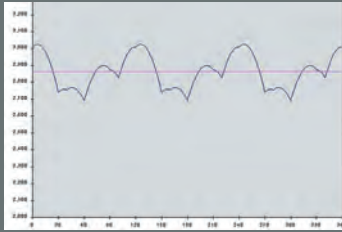
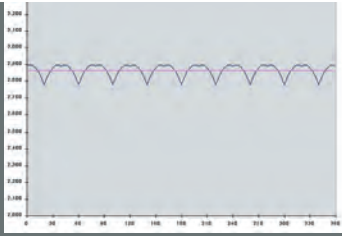
The three pistons of each triplex mud pump follow each other in cycles of 120 degrees, with two triplex mud pumps the pressure peaks occur every 60 degrees and a third pump results in peak cycles of 40 degrees, for the fourth pump of 30 degrees.

The amplitude of the pressure peaks is evenly diminished when synchronised by the SPS. No uncoordinated high pressure peaks as a result of the addition of two or more peaks can harm the high pressure mud lines.

The resulting low peak pressure amplitude at the exactly determined frequency enables the filtration of mud pressure pulsation signals from the MWD or LWD tools. The high pressure mud lines and pressure pulsation dampeners have a prolonged lifespan thus maintenance and repair costs are minimized. As a retrofit package the SPS can be applied on all types of electrically driven mud pumps, even when not operated from one single control system.

The Soft Pump System includes a strokes-per-minute (SPM) indicator for a maximum of four mud pumps, a stroke counter for each individual mud pump and a total stroke counter display. Alarms can be set allowing mud pumps to be stopped at pre-set signal levels.

Optionally the system may be fitted with an electronic pump pressure limiter and / or automatically controlled volume pumping.



- ▲ Pressure amplitude of synchronised pumps
- ▲ Example for pressure amplitude of unsynchronised pumps
- ▲ ME Display



▲ Mud pump

TECHNICAL DATA

Typical dimensions : (w x h x d / mm)

Control Cabinet : 800 x 1200 x 400

HMI Terminal : 297 x 200 x 80

Supply of Voltage:

110 -240V 50 / 60 Hz

Tolerance of phase angle:

< 5% of phase angle

Maximum number of Pumps :

4

TRAINING

Training can be done either in our facilities in Bad Bentheim or at site on the unit.

SERVICE

Professional service like system test, customer acceptance, installation, commissioning, customer training and after sales is available. Our customer care service is on standby at any time via our service hotline

+49-5922-72-354 (during business hours) and

+49-5922-72-111 (outside business hours).

ADVANTAGES :

- Improved MWD / LWD by control of frequency and amplitude of pressure pulses
- Reduced stress of pulsation dampener bladder
- Controlled operation of charge and discharge valves
- Reduced stress of high pressure piping, valves etc.
- Reduced vibration within the mechanical part of the mud pumps
- Increased life cycle of mud pump components and drive motors
- Easy adjustment of mud pump SPM by the driller
- Installation possible on any kind of Drive-System
- Simple operation via LCD display

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