

Fully Automated MD-3 Triple-Deck Shaker

Improve on HSE and waste reduction while reducing and drilling fluid losses

How it improves wells

- Reduces personnel in shaker house
- Runs at a lower deck angle to run fluid across shakers only when needed
- Reduces screen consumption
- Avoids fluid spills to reduce cost and HSE risk
- Increases dryness

Improving efficiency of shakers and screens

The full shaker automation package for the MD-3* triple-deck shale shaker enables operators to enhance the efficiency of the shakers and screen operation while reducing the HSE implications of the typical shaker house. Reduction of exposed personnel to noise, fumes, and vibration is 60% to 70%. Package components include parallel MD-3 shakers, computer server control system, and shaker sensor modules for each shaker.

Two operating modes

The MD-3 shaker automated system enables remote manual operation using a local human machine interface (HMI) located in the shaker house control room to operate each shaker completely within the safeguards of a nonhazardous environment. This full automation package enhances the remote manual function to promote real-time automatic operation of the entire shaker system by bringing shakers on- or offline to most efficiently handle the drilling program.

How it works

Mode 1: Remote manual. Enables operator to control each shaker from within the shaker control room. Operator can start and stop, adjust deck angle, open or close feed valves, change motion selection, and ensure screens are clamped before the shaker operates. An HMI also gives warning with visible and audible signal when the fluid pond setpoint is reached to prevent losses of whole mud.

Mode 2: Full automation. Incorporates all the same abilities as remote manual but configures these to automatically and constantly adjust to the most efficient operation, keeping best practices in mind. Because the system prioritizes maintaining a set deck angle, operators may expect an increase in screen life. For example, on a typical rig all the shakers can be run full time and the deck angles set to the maximum angle. This system maintains the desired deck angle, with the default recommendation at 1.5°.



The full automation package expands the functionality of MD-3 shakers to include remote control from a safe area as well as fully automatic controls to minimize exposure of personnel to the hazardous area.

Basics of operation

- Shaker A: System opens and closes valve to maintain a certain screen coverage percentage, such as 75%.
- Shaker B: The header box level is maintained at the setpoint, such as 50%.
- If the beach coverage on Shaker B exceeds the setpoint, it brings another shaker online.
- If there are no additional shakers to bring online, the system goes into boost mode, increasing the deck angles to the maximum setting and switching the motion setting to capacity (high G) mode. Same will be for low setpoints; The shakers shut down in reverse if not needed, saving shaker wear and screen life.
- When the system no longer requires shaker boost mode, it switches back to normal mode (low G) and begins shutting down shakers.