The Torrential high-flow filtration unit is a compact, stacked diatomaceous earth filtration system for deepwater and ultradeepwater high-rate filtration applications. The unit comprises two modular stacks. The upper stack, consisting of a slurry tank and a dual-vessel polishing unit, enables process flow control automation. With only minimal manual intervention required, this is a first for filtration in flow-control automation and activation. The lower stack consists of an air-over-hydraulics filter press with full system redundancies. To prevent total system failure, the hydraulic system contains an emergency manual backup as a standard feature.

The unit reduces incidental costs, resulting in incremental benefits while ensuring the highest quality in processing standards and safety conformance. Unlike the diatomaceous earth filter press system for completions, workover, gravel-pack, and reclamation fluids filtration services, the high-flow filtration unit is not dependent on modular components such as filter presses, slurry tanks, polishing or guard filters, or ancillary equipment.

APPLICATIONS
- High-rate filtration processing
- Deepwater and ultradeepwater high-flow rate targets that operate above 15 bbl/min \([2.39 \text{ m}^3/\text{min}]\)

BENEFITS
- Enhances filtration velocity throughput
- Increases filtration cycle time
- Reduces storage capacity dependence
- Minimizes HSE risks
- Automated flow control and large filtration area
- Minimal footprint and improved ergonomics
- Total system backup redundancies
- Modular, two-part stack
- High tolerance to processing contamination

The Torrential high-flow filtration unit is capable of handling high-processing rates exceeding 15 bbl/min \([2.39 \text{ m}^3/\text{min}]\).