

direct-hd is the second generation of **rime's** uncompensated patented rotary shear valve servo pulser. it builds on the proven success of **rime's** first generation direct servo pulser and adds significant improvements in reliability across the entire operating regime.

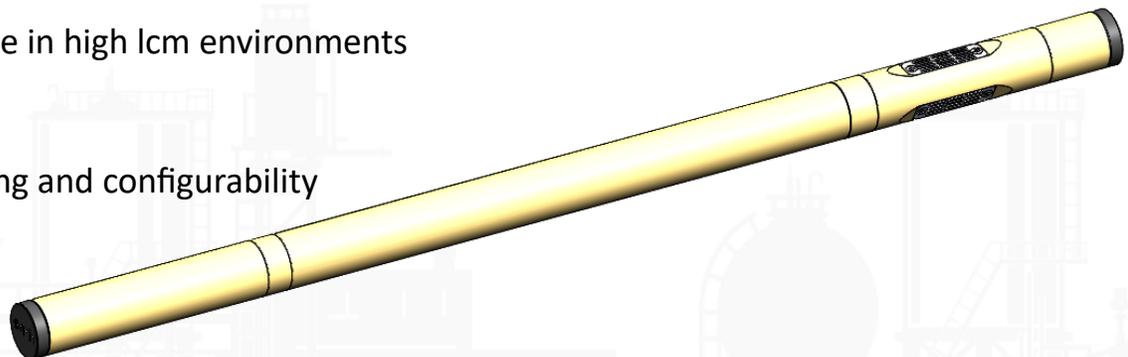
direct-hd features a rotary shear servo valve that provides exceptional performance in high solids and high LCM environments. it minimizes the pressure loss through the servo module, thus allowing greater forces to be imparted to the main valve assembly. this helps create more reliable, sharper and cleaner pulses than can be achieved with other types of servo pulsers. the wiping and cutting action of the rotary shear valve clears away any compacted debris and ensures unobstructed flow through the system in the most challenging and contaminated environments.

direct-hd eliminates the need for a hydrostatically compensated section in the servo pulser module through the use of a proprietary high pressure, low friction sealing system. this dramatically reduces maintenance and service cycle times and greatly increases system reliability. these improvements are coupled with a compact, modular and rugged pulser driver with extensive performance and maintenance tracking capabilities.

direct-hd is available in both dual port or quad port versions. dual port provides the highest level of lcm capability while quad port offers the ability to achieve faster pulse widths. **direct-hd** is available with many connector and interface options including kintec, lemo and mdm.

the combination of the rotary shear valve, uncompensated direct drive and robust control electronics enables **direct-hd** to have exceptional performance in fast cycle drilling operations and hostile fluid environments while maintaining low operating cost, high reliability and exceptional functionality.

- second generation high wear rotary shear servo valve
- uncompensated, no oil fill
- direct drive
- exceptional performance in high lcm environments
- 150°C, 15,000 psi rated
- extensive memory logging and configurability



specifications

nominal length	38.81" (985.7mm) with kintec connector
housing o.d.	1.875" (47.6 mm)
operating voltage range	15-40VDC (20-35V recommended)
power consumption	~3mA standby, ~100mA*sec/pulse @ 28V (~3.5 joules/pulse)
operating temperature	32° to 302°F (0° to 150°C)
shock rating	1000g, 0.5ms, ½ sine, 10 times, all three axes
vibration rating	5-30Hz@1in double amplitude, 30-500Hz 20grms all axes
pressure rating	15,000 psi (103,421 kPa)
operating pulse widths	0.200-2.000 s with dual port option
	0.100-2.000 s with quad port option
flow switch	integrated three axis, solid state with high configurability
memory	8MB non volatile memory with event and statistical data logging

patents

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