

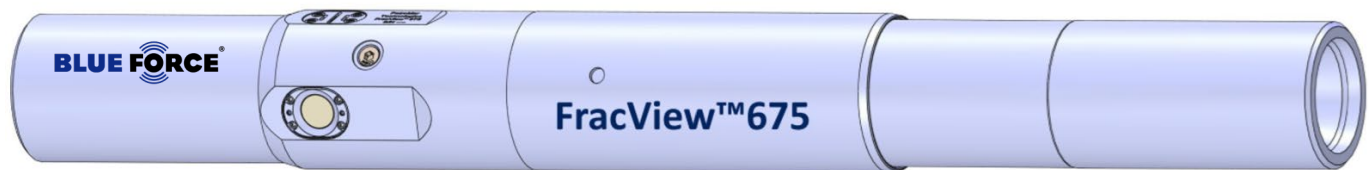
# Blue Force<sup>®</sup> LWD FracView<sup>®</sup>

## High-Resolution Borehole Imager

Industry leading Logging While Drilling (LWD) acoustic imager provides high-quality borehole images, caliper, and dynamics data while drilling with oil-based or water-based muds.

Our proprietary dynamically-focused ultrasonic transducers enable electronically controlled changes to focal depth. Using two independent transducers, FracView<sup>®</sup> provides 360 degrees of coverage while rotating. The tool captures wide-band vibration, acceleration, shock, and orientation via an integrated Drilling Dynamics monitor package, allowing for identification and flagging of drilling issues such as stick-slip and whirl.

The FracView system is memory-based based, runs on its battery power, with standard API mechanical connections, allowing it to be included in any BHA. Explore the logs using Blue Force DeepView<sup>®</sup> DLIS viewer, optimized to navigate extremely sized and detailed datasets.



### APPLICATIONS

- Natural fracture/fault characterization
- Induced fracture detection
- Thin bed and vug detection
- Formation stress and stress rotation
- Borehole stability
- Lithology and facies identification
- Frac optimization
- Dip measurement

### DELIVERABLES

- Natural fracture/fault characterization
- Induced fracture detection
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## Tool Specifications

# Blue Force® FracView®

## High-Resolution Borehole Imager

Creating images of wells while they are being drilled can also provide information about the size and shape of the hole and the surrounding rock. This tool works with both oil-based and water-based drilling muds.

### Measurement & Performance Specifications

Parameters	Specification	
<b>Imaging Resolution</b>	Features spaced 0.25 in (6.35 mm) apart or greater are fully resolved	
<b>Feature Detection</b>	Features as small as 0.04 in (1 mm) are detectable	
<b>Binning Capability</b>	64 to 512 bins	
<b>Orientation</b>	High-side, Magnetic	
<b>Radial and Axial Acceleration</b>	Range	±40g, 240 Hz (-3dB BW) ±200g, 125 Hz (-3dB BW)
<b>Torsional and Axial Acceleration</b>	Range	±2,500 rad/s <sup>2</sup> , 240 Hz (-3dB BW)
<b>RPM</b>	Range	±5,000 RPM
<b>Temperature Measurement</b>	Sensor Range Accuracy Precision	-40 to 190°C ±1.5°C 0.02°C rms
<b>Data Recording</b>	Accelerations & RPM Memory	Nominal 200 hrs
<b>Power Source</b>	Internal Batteries	Nominal 200 hrs

For questions, comments, or details on Blue Force® FracView®, please reach out to a Nabors Representative!

Tool Parameters		650	475
<b>Nominal Collar OD</b>	in.(mm)	6.50 (165)	5.00 (127)
<b>Maximum Collar OD</b>	in.(mm)	7.00 (178)	5.25 (133)
<b>Borehole Size Coverage</b>	In (MM)	7.88 - 9.88 (200 - 251)	5.88 - 7.75 (149 - 197)
<b>Mud Flow Channel ID</b>	in.(mm)	2.25 (57)	1.25 (32)
<b>Tool Length</b>	in.(mm)	62.00 (1575)	71.50 (1816)
<b>Tool Weight</b>	lbs	480	295
<b>Connections</b>		NC50, Box-Box	NC38, Box-Box
<b>Make-up Torque</b>	ft-lb	28,000	10,000
<b>Maximum Compression</b>	lbf	400,000	200,000
<b>Maximum Torque</b>	ft-lb	75,000	20,000
<b>Overpull non-rotating, Operational</b>	lbf	750,000	400,000
<b>Max DLS rotating</b>	deg/100 ft	10	15
<b>Max DLS sliding</b>	deg/100 ft	21	30
<b>Max Mud Flow Rate (&lt; 2% sand)</b>	GPM	750	350
<b>Max Operating Temperature Nominal</b>	°F (°C)	302 (150)	302 (150)
<b>High</b>	°F (°C)	329 (165)	329 (165)
<b>Extreme</b>	°F (°C)	347 (175)	347 (175)
<b>Max Operating Pressure, PSI, standard</b>	psi	20000	20000
<b>High</b>	psi	25000	

Tool Parameters		675, 675HP	
<b>Nominal Collar OD</b>	in.(mm)	6.75 (171)	
<b>Maximum Collar OD</b>	in.(mm)	7.25 (184)	
<b>Borehole Size Coverage</b>	In (MM)	8.13 - 10.50 (206 - 267)	
<b>Mud Flow Channel ID</b>	in.(mm)	2.25 (57) 2.00 (51) for 675H	
<b>Tool Length</b>	in.(mm)	64.85 (1647)	
<b>Tool Weight</b>	lbs	600	
<b>Connections</b>		NC50, Box-Box	
<b>Make-up Torque</b>	ft-lb	30,000	
<b>Maximum Compression</b>	lbf	400,000	
<b>Maximum Torque</b>	ft-lb	75,000	
<b>Overpull non-rotating, Operational</b>	lbf	750,000	
<b>Max DLS rotating</b>	deg/100 ft	10	
<b>Max DLS sliding</b>	deg/100 ft	21	
<b>Max Mud Flow Rate (&lt; 2% sand)</b>	GPM	750	
<b>Max Operating Temperature</b>			
<b>Standard</b>	°F (°C)	302 (150)	
<b>High</b>	°F (°C)	329 (165)	
<b>Extreme</b>	°F (°C)	347 (175)	
<b>Max Operating Pressure</b>	psi	20,000 25,000 for 675H	