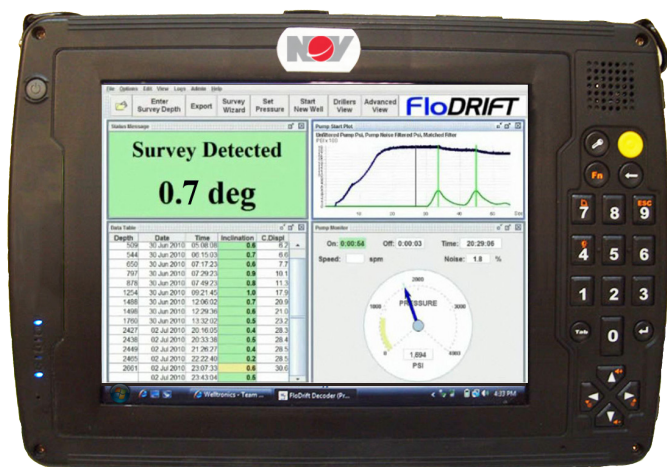


# FloSurvey Real-Time Survey Tool



## Collar Specifications

The FloSurvey tool runs in a 15-ft (4.6-m) long nonmagnetic drill collar w/float recess 15-15LC

Standard sizes and weights below:

- 9.5-in. (24.1-cm) OD (6R FloValve).....3,000 lb (1,361 kg)
- 8-in. (20.3-cm) OD (6R FloValve).....2,050 lb (930 kg)
- 6.5-in. (16.5-cm) OD (5R FloValve).....1,250 lb (567 kg)
- 4.75-in. (12-cm) OD (4R FloValve).....600 lb (272 kg)

## Surface System Specifications

### Display Option 1 – (Safe Area) Tablet PC

- Operating system.....Windows XP or 7
- Operating temperature.....-4 to 140°F (-20 to +60°C)
- Storage temperature.....-40 to 167°F (-40 to +75°C)
- With transducer interface and barrier box

### Display Option 2 – (Hazardous Location) HMI

- (EU and international IECEx – Zone 1)
- Operating system.....Windows XP or 7
- Operating temperature.....-4 to 131°F (-20 to +55°C)
- Storage temperature.....-40 to 167°F (-40 to +75°C)
- With transducer interface and power supply in Exd box for Zone 1
- Pressure transducer (for use with 1502 Weco hammer union)...5,000 psi
- Intrinsically safe (US and CA - Class I, Division 1 and Class I, Zone 0)
- (EU and international IECEx - Zone 0)
- Operating temperature.....-40 to 140°F (-40 to +60°C)

## Tool Specifications

- Inclination range.....0 to 180° (memory), 0 to 20° (real time)
- Inclination resolution.....0.1°
- Inclination accuracy.....±0.15° (memory), ±0.2° (real time)
- Azimuth range.....0 to 360°
- Azimuth resolution.....1°
- Azimuth accuracy (inclination > 5°).....± 2° (memory), ± 3° (real time)
- Operation pressure range.....250 to 15,000 psi
- Power source.....3x DD lithium batteries
- Battery life.....2,000 hours (250 days)
- Maximum operating temperature.....329°F (169°C)
- Maximum tool length.....9.5 ft (2.9 m) with 6R valve
- Maximum tool weight.....46.4 lb (21 kg) (tool) + 26.6 lb (12.1 kg) (6R valve) = 73 lb (33.1 kg) total
- Full survey transmission time.....As quickly as 60 seconds for inclination and azimuth

# FloSurvey Real-Time Survey Tool

## FloSurvey LCM Guidelines

Tool Type	FloSurvey			
	<15	15-35	35-50	>50
Fine Walnut	Green	Green	Yellow	Red
Medium Walnut	Green	Green	Yellow	Red
Coarse Walnut	Green	Green	Yellow	Red
Baro Seal	Green	Yellow	Red	Red
Baro Fiber	Green	Green	Yellow	Red
SteelSeal	Green	Green	Yellow	Red
Plug Git	Green	Green	Yellow	Red
Plug Git H	Green	Green	Yellow	Red
Cottonseed Hulls	Green	Yellow	Red	Red
Cedar Fiber	Green	Yellow	Red	Red

HIGH RISK
Lost-circulation material (LCM) in this concentration range significantly increases the probability of tool failure and is considered out of specification. Operator assumes all risk.
MEDIUM RISK
LCM in this concentration range can increase the probability of tool failure if not properly mixed.
LOW RISK

## Recommendations for Use

- Ensure that LCM is thoroughly premixed in the mud pit before going downhole
- Do not introduce LCM as a “slug” near the pump intake
- Be aware that the FloSurvey tool may have trouble delivering a survey right after the introduction of LCM
  - In many cases, surveys will transmit after two-to-three stands
- If the FloSurvey tool stops working after the introduction LCM, running a high-pressure, fresh-water sweep can be effective to clear the valve as well.