

Inspection tool name	Light Detection and Ranging (LiDAR)
Inspection tool description	Standalone LiDAR attachment that can be mounted on either the NFT tool or RFT tool. The unit is completely self-contained for battery power, storage, and lighting, but does rely on the host tool's odometers for distance tracking.
Dimensions of inserted inspection tool	The unit measures 6 inches in diameter and is 12 inches long. It mounts on the back of the NFT tool or RFT tool (see above).
Technical Constraints	
Pipe Material	PCCP, concrete cylinder (bar-wrapped steel), reinforced concrete steel cylinder, steel, ductile iron, cast iron
Pipe Diameter (inches)	12-inch to 120-inch
Pipe slope (%)	100% during tethered operation
Flow requirements (feet per sec)	N/A – only works in dewatered pipe (LiDAR wont image past water level).
Pressure (psi)	N/A
Maximum inspection distance per access location (feet)	Tethered: 6,000 feet, or a total of 360° in combined bends, whichever comes first
Types of anomalies detected	Liner damage (including cracking), internal deposits/build-up, material changes, past repairs, etc.
Resolution of detected anomalies	Localized Lining Cracks in 78-inch pipe
Anomaly detection limitations (pipe barrel thickness, joints, pipe thickness, valves)	Will only document pipe that is dry. If pipe has some standing water left in a belly: the LiDAR will map the top of the water level.
Pipe entry access requirements (flange dia., manhole diameter/height, etc.)	Same as tool it is mounted on: Minimum 18-inch diameter manhole access
Typical analysis time required	6 to 8 weeks
Typical rate of inspection (e.g., miles/day)	Inspection speed = 15-20 feet/minute Inspection coverage = 1 mile/day
Other applicable restrictions/limitations	See NFT/RFT tool for restrictions on Butterfly valves.