Product Spotlight

Detailed manhole inspection and 3-D scan in under a minute with RST Helix

By Jared Raney

Imagine your typical manhole inspection. You’re probably picturing the use of a pole cam or other manual camera system, unwieldy and difficult to use, with substandard results. Or even worse, you’re picturing physical entry into the manhole, with the inherent dangers and hassles of confined-space entry.

Now imagine getting a detailed scan of a manhole — both comprehensive imaging and 3D mapping — all at the push of a button, literally.

“The RST Helix is a manhole inspection system capable of producing an incredibly detailed manhole inspection in under 60 seconds,” says Andrew Clinkingbeard, product specialist for the Helix system with R.S. Technical Services. “Operators simply position the system over a manhole and press a button to start the scan process.

“From there the unit automatically travels down the manhole, capturing every surface with high-resolution 2D images, as well as hundreds of thousands of 3-D data points,” Clinkingbeard says. “The entire scan process can be monitored wirelessly via tablet or laptop.”

Helix is fully automated and can be deployed from a CCTV vehicle, pickup truck or ATV by a lone operator. R.S. Technical says the system will scan a typical 10-foot manhole in less than one minute.

It uses six high-resolution cameras to capture panoramic imagery of every surface within the manhole, six 3D sensors recording hundreds of thousands of spatial data points, and a sonar system to assist in scanning.

The automatic system includes probe, cable reel, launching boom and wireless control unit, and the data is compatible with NASSCO's MACP standards.

“The heart of this product is its imaging system,” Clinkingbeard says. “Viewing the inspection in software becomes a completely immersive experience, allowing the user to pan, tilt, zoom, and even take measurements of every surface. It’s as if he was actually in the manhole, but can take place in the safety of the office.”

Developed to lower manpower costs and improve system performance in I&I analysis and structural evaluation, the Helix system is meant to bring users accuracy and simplicity.

“Our top priority when designing this system was data quality,” Clinkingbeard says. “We made the unit as compact as possible without sacrificing imaging and functionality. It can also be used to inspect wet wells, chambers, and pretty much any other type of vertical shaft.”

The system comes with a tablet, but can also connect to laptops, personal tablets or even cellphones. Helix Dashboard automatically receives the scan data, which can be reviewed in the office or field. It also shows past inspection data and usage statistics.

“This scanner is a general-purpose manhole inspection system,” Clinkingbeard says. “Inspections can be viewed later in the office, where software allows the user to look around virtually, take precise measurements and generate reports. 800/767-1974; www.rstechserv.com/helix.”