FAST UT

Automated Weld Inspection & Corrosion Mapping

Intelligent NDT

FAST UT

With ever increasing requirements for inspection it becomes crucial to have access to reliable, fast and safe inspection services. More than ever asset owners, site operators and equipment manufacturers are under huge pressure to reduce downtime and further optimise health & safety conditions.

The FAST robotic platform was developed in close collaboration with asset owners and inspection service providers in oil&gas and power generation to meet your specific needs. Leading edge mobile robotic technology was translated into a robust and field service proven robotic solution, providing unmatched repeatability and keeping operators safe with a remote operating system.

Whether you are looking at NDT weld inspection using as Ultrasonics Phased Array and TOFD or you want to perform corrosion mapping - with the modular FAST UT platform you have an all-in-one system. The change from one application to another is done in less than a minute.

With a height below 15cm (6”) the system can access areas that were impossible to access by operators. Obstacles and scaffolding on tanks and pipes are not an issue any more.

The weight of the full system is below 14kg (<31 pounds), meaning it can be easily deployed and hand-carried by one operator.

Automated driving combined with active slippage control (ASC) provides precise position control all the time - every time. This is ideal for monitoring applications where repeatability and accuracy counts.

Weld inspection with **autonomous weld following**

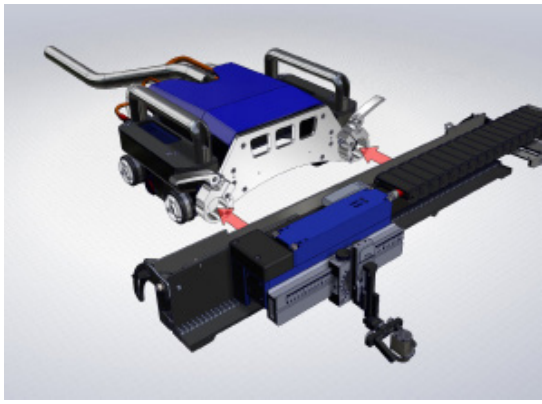
This innovative technology is using an industrial camera to recognize the weld seam. Image processing algorithms constantly extract the weld features from the image stream and determine its center position. The information is sent to the on-board motor controllers which maneuver the robot precisely along the weld.

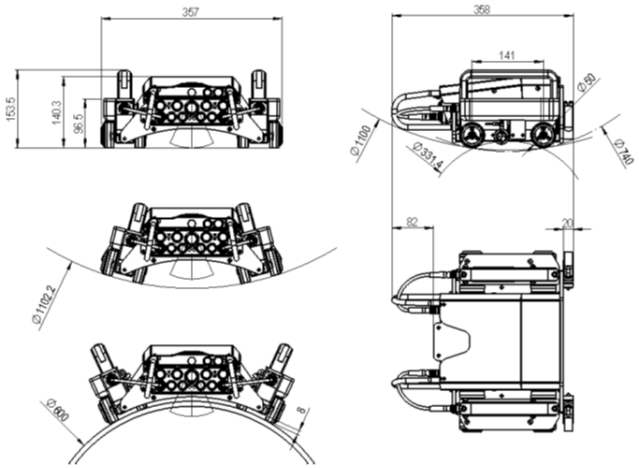
For the operator this is a completely new way of performing weld inspections. Now he can fully concentrate on the inspection data while the robot guides the NDT probes along the weld seam.

Raster Scanning **corrosion mapping**

Without the use of tools the FAST UT can be changed to the raster scan mode with an additional scan axis. This configuration is ideal for corrosion mapping inspection and wall thickness measurements.

In this mode the system delivers the two encoder positions (X-, Y Scan) to the Ultrasonic (or Phased Array) instrument to create an accurate C-Scan. For corrosion inspections along pipes, e.g. lower half of pipelined, curved scan axis are available. Even inspection inside tanks vessels are possbile.





FAST RVI **Basic platform** (PTZ camera not mounted)

Dimensions	Length Width Height	**358mm (14.1")** **357mm (14.1")** **154mm (6.1")**
Weight	w/o cables & cameras	**<15kg (33lb)**
Speed	fully adjustable	**-120mm/s ... 120mm/s (-4.7"/s ...4.7"/s)**
Payload	overhead on clean ferromagnetic surface	**15kg (33lb)**
Drives	2 integrated drive units with 48V brushless DC motors (Maxon)	
Power Supply	48V via umbilical cable from supply station	
Protection class	cables plugged	**IP65**
Motor Controller	integrated Inspection Robotics motor controller	
Communication	GigaBit Ethernet with power over ethernet	
Cable length	supply station to robot	**33m**

Imagination at work

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