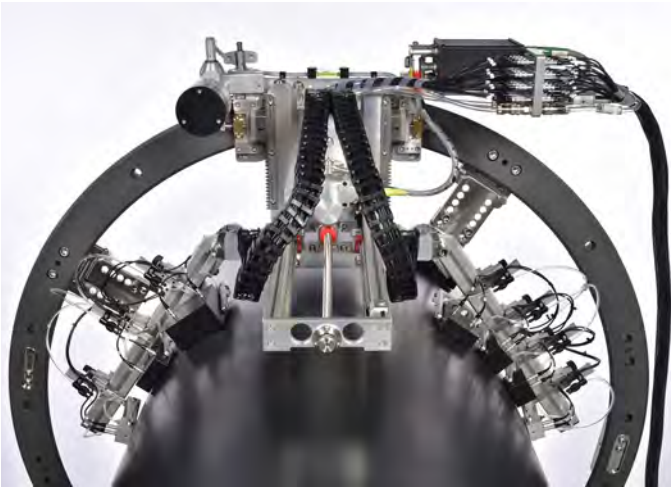


SAGE

Two Axis Automated Pipe Scanner



Maxi SAGE Scanner holding 7 x UT probes
on a 26in diameter pipe

The SAGE range of manipulators are designed for automated ultrasonic inspection of pipe and nozzle welds across a broad range of pipe diameters.

The system can deliver up to eight conventional ultrasonic, eddy current or phased array probes in a two-axis motorised modular design. The scanner drives around a ring which provides highly accurate raster capability in both circumferential and axial directions for inspections requiring the highest precision.

Benefits

- **Versatile** solution holding up to 8 probe combinations
- **Automated** inspection of nozzles and pipework, including dissimilar metal welds and elbow to elbow welds
- **Customisable** by design for specific applications
- **Operates** unattended during scanning
- **Quick-release** assembly allows system set-up in typically less than 10 minutes
- **Robust** construction for site conditions
- **Complies** with ALARA radiation exposure requirements

The SAGE family of scanners includes: Mini SAGE, SAGE and Maxi SAGE each designed for the inspection of welds on pipework with varying geometries (see specification table overleaf).

SAGE scanners are modular by design and have interchangeable configurations with light-weight components and tool free assembly allowing for rapid setup.

The manipulator carriage is driven on a split mounting ring which fits to the nozzle or pipe with adjustable fixing feet to allow the ring to fit on a range of diameters.

The axial drive unit, which can have a stroke length of up to 1000mm, holds the probes, wedges and couplant feed tubes and can be rapidly attached or removed from the main drive unit and be replaced with a smaller axial drive for areas with obstructions.

The SAGE range of scanners has been successfully deployed within nuclear power stations world-wide and are typically used for automated inspection of steam generator inlet nozzles and pipework inspection, including elbow to elbow welds. SAGE manipulators have been developed over the past 25 years to incorporate the latest design and technological advances and can be customised for specific application requirements.

Features

- Rugged field-proven construction
- Tethered / captive parts
- Components in direct contact with plant components are compatible with Nuclear Plant regulatory requirements
- Tool-free components for ease of use at inspection site
- Compatible with all manufacturers instrumentation



Modular by design – Attaching junction box

Options and Accessories

- **AE-DRIVE-L2** Drive Motor Controller
- **AE-CDS** Couplant delivery/ retrieval System
- Feet for straight pipes



Order Information

	Mini SAGE	SAGE	Maxi SAGE
Order Code	AE-MINI-SAGE	AE-SAGE	AE-MAXI-SAGE
Pipe Ø (min)	105mm	310mm	700mm
Pipe Ø (max)	285mm	700mm	Infinite
Nozzle Taper (max)	30°	30°	30°
Nozzle Bend Ø (min)	10mm Rod	10mm Rod	10mm Rod
Pipe Bend Ø (min)	1.5D	1.5D	1.5D
Operating Envelope			
Radially from pipe	200mm	200mm	200mm
Axially from pipe	500mm	500mm	500mm

Note: Other configurations and pipe diameters can be accommodated using interchangeable mounting rings and fixing feet.

Kit

- 1 x Manipulator
- 1 x Mounting Ring with clamp feet
- 1 x Circumferential Drive
- 1 x Axial Drive
- 8 x Standard transducer toolposts
- 1 x 12m umbilical cable delivering all required services (incl. couplant)
- 1 x Protective transport case



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