

Model 5080e Automated Scanner

The Model 5080e is a new implementation of the successful 508x series of remotely controlled automated scanners. This new design completely encloses the two DC servo motor/ encoder assemblies. It is designed to permit the deployment of a variety of sensing elements including ultrasonic transducers and eddy current probes and is compatible with all AMDATA data acquisition systems. Magnetic wheels are used for mounting to a variety of scanning tracks providing fast installation on a wide range of flat or curved surfaces.

The scanner uses DC servo motors to power each of the two axes. Position feedback is provided by high resolution magnetic encoders. The magnetic encoders offer improved performance through increased temperature range and decreased current requirements.

The X axis consists of a gear driven tractor arrangement with magnetic rollers. The Y axis uses a precision lead screw to actuate a slide carriage that supports a transducer. The Y-axis arm has a standard stroke length of 10". Y-axis arms with up to 28" stroke are available. A 5080e scanner can use the same Y arms used on 5080, 5085 and 5090 scanners.

Variations in the height of the inspection surface are absorbed by the end effector assembly. The 5080 scanner is equipped with a spring loaded end effector that affords 2.5 inches of stroke and 2.5 inches of fixed height adjustment. For applications that require greater end effector stroke, the 5080 can alternatively be equipped with a pneumatic thruster system.

A retrofit is available for existing 5080 scanners.



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Physical Characteristics

- Scanner height: 4.5 inches (excluding thruster)
- Scanner width: 10.38 inches (including idler encoder)
- Scanner length: 5.75 inches*
- Scanner weight: 11 lbs.*
- Min. pipe diameter: 6.625 inches**
 - * Without Y-arm.
 - ** Without collar style track, 4" with collar style track.

X Axis

- Max. scan speed: 10 inch/sec
- Encoder resolution: 1310 pulses/inch
- Positional accuracy: + 0.100 inch per 3 feet
- Min. scan increment: 0.008 inches
- Payload capacity: 30 lbs. vertical, 15 lbs. on 6" pipe
- Drive description: Servo motor, belt drive gear head, gear drive, magnetic roller

Y Axis

- Max. scan speed: 30 inches/sec
- Encoder resolution: 12,444 counts/inch
- Positional accuracy: + 0.020 inch per 10 in.
- Min. scan increment: 0.001 inch
- Payload capacity: 8 lbs.
- Drive description: Servo motor, timing belt, lead screw, travel block
- Available arm lengths: 4 to 28 inches

Minimum required equipment to operate a Model 5080e Scanner - IntraSpect™ imaging system with IMC or MCS 1002 scan control subsystem, 2-axis joystick, cabling, and track.

