

# Cyl-Sonic Micro Cylinder Inspection System



## Key Features

- Ultrasound Examinations of Cylinders with 3.2" to 8" outside diameter up to 30" long
- Compact Tabletop Configuration for maximum flexibility and portability
- Meets all Regulatory Requirements
- Nine channel Rolling Search Unit
- HD Digital Signal Processing Platform
- Couplant Reclamation
- Length Test Verification



Nordco 9 Channel Inspection Wheel

## Flaw Testing, flawlessly done

The Cyl-Sonic Digital Micro System scans through paint and most clear coatings to detect potential pits, cracks, corrosion and gouges. In addition, the system measures and detects lost cylinder wall thickness as well as identifies undesirable water moisture inside the cylinders.

## Wheel Probe Technology

The ultrasonic wheel probe includes nine complementary high-frequency transducers - the most integrated transducers in one unit in the industry - that search for flaws in transverse, longitudinal and oblique directions. This ensures 100% coverage of required exam volume and area. The four oblique transducers excel in detecting any water moisture droplets inside cylinders.

## Perfect for Specialty Gases

The Cyl-Sonic Micro is the ideal system for facilities specializing in small cylinder specialty gases, such as medical and beverage gases. In addition, the Micro is small enough to be portable — easily fitting on a cart to move to different locations as needed. The Micro is also configurable to accommodate "grab-and-go", or integrated, valves.

## Safer for Operators and Environment

Unlike hydrostatic testing methods, ultrasonic examination eliminates the need to remove hazardous gases from cylinders, helping protect both your operators and the environment. The method does not require valve or O-ring removal, so there is less need for valve replacement as well as reduced cylinder neck thread damage.

Ultrasonic examination also eliminates the need to introduce water into the cylinders, helping prevent product contamination and eliminating or minimizing the number of post-re-qualification cylinder treatment processing steps.



High Definition Digital Signal Processing Platform offers superior performance and optimized signal to noise capabilities

## Estimated System Throughput

Cylinder Model	Outside Diameter	Length w/o Valve and Cap	Description
M6 (3AL)	3.2" (81 mm)	11.8" (300 mm)	50 to 60 cylinders/hour (operator dependent)
Medical E (3AL)	4.2" (107 mm)	25.75" (654 mm)	30 to 40 cylinders/hour (operator dependent)
20 (3AA)	5.25" (133 mm)	14" (356 mm)	30 to 40 cylinders/hour (operator dependent)

## Product Specifications

Category	Specification	Value
<b>General</b>	Length	4' 8" (1422 mm)
	Width	2' 3" (686 mm)
	Height	3' 5" (1041 mm)
	Weight	~500 lbs (227 kg), includes control cabinet but no bench top table
<b>Cylinder Inspection</b>	Tested Products	Steel (DOT 3A and 3AA), Aluminum (DOT 3AL) and other cylinders allowed in accordance with established standards and specifications
	Regulatory Requirements	Complies with cylinder re-qualification requirements of US Department of Transportation (SP14920), Transport Canada (SU 10807) and ISO 10461 & 6406
	Diameter Range	3.2" to 8.0" (81 mm to 203 mm) outside diameter
	Wall Thickness	0.080" to 0.5" (2 mm to 12.7 mm)
	Length	4" to 30" (102 mm to 762 mm)
	Exam Coverage	110% with a 0.15" (4 mm) helix
	System Performance	98%+ system uptime
<b>Utilities</b>	Configurations	Manual load/unload only
	Electric	110 VAC, 60 Hz, 10A
<b>Optional Equipment</b>	Pneumatic	80 psi (5.5 bar)
	LTV	Length Test Verification sensors to ensure examination over the entire cylinder length

## Saves Time, Lower Costs and Simple Maintenance

The Cyl-Sonic Micro saves on personnel costs. Since operators don't need to spend time drying and re-valving the cylinders, daily production levels can be much higher. The cost per cylinder test is lower for UE testing than hydrostatic testing. With just two motors, the Micro uses the least power and has the lowest water requirements of all our cylinder systems, making it extremely economical to operate. In addition, the system has fewer mechanical components, both simplifying and minimizing preventive maintenance. The electronic components are digital and interchangeable with all our testing systems.

## Calibration Standards ensure Accuracy

Each system uses a calibration cylinder standard with simulated flaws. This allows accurate comparison testing against known simulated flaws.

## Software Control and Record Retention

The Cyl-Sonic Cylinder Test application has been updated to support Nordco's high definition, digital control electronics. The software allows the operator to control all axis motion, including position, rotation and sensitivity. Calibration setups are stored and reused. The software displays real-time scanning test results showing the locations of any detected flaws; the system also alerts the operator about a cylinder's pass/fail status.

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