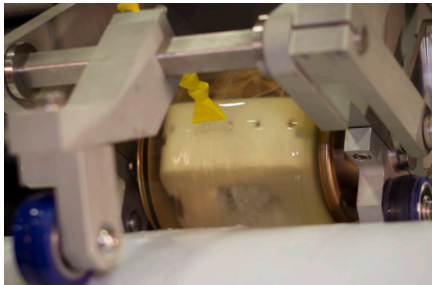


# Cyl-Sonic Tonne Cylinder Inspection System



## Key Features

- Ultrasound Examinations of Tonne Containers with 18" to 26" outside diameters up to 90" long
- Meets all Regulatory Requirements
- Nine channel Rolling Search Unit
- HD Digital Signal Processing Platform
- Rigid Skid Frame for setup flexibility
- Custom design Calibration Cylinders
- Couplant Reclamation



Nordco 9 Channel Inspection Wheel



Testing of customized Tonne calibration cylinder

## Flaw Testing, flawlessly done

The Cyl-Sonic Digital Tonne 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 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 traverse, longitudinal and oblique directions. This ensures 100% coverage of required exam volume and area. The four oblique transducers excel in detecting any moisture droplets inside cylinders.

## 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 elimination or minimizing the number of post-re-qualification cylinder treatment processing steps.

## Perfect for High-Volume Gas Production

The Cyl-Sonic Tonne system is ideal for high-volume gas production facilities, such as those handling hydrochloric gases. The tonne cylinders can be lifted onto the system and tested quickly, yet thoroughly.

## Estimated System Throughput

Cylinder Model	Outside Diameter	Length w/o End Caps	Description
2340 (3AA)	24" (610 mm)	80" (2032 mm)	3 to 6 cylinders/hour (operator dependent)

## Product Specifications

Category	Specification	Value
<b>General</b>	Length	14' 7" (4445 mm)
	Width	5' 5" (1651 mm)
	Height	7' 4" (2235 mm)
	Weight	~4800 lbs (2177 kg), includes control cabinet and skid
<b>Cylinder Inspection</b>	Tested Products	Steel (DOT 3A and 3AA)
	Regulatory Requirements	Complies with cylinder re-qualification requirements of US Department of Transportation (SP14920), Transport Canada (SU 10807) and ISO 10461 & 6406
	Diameter Range	18" to 26" (457 mm to 660 mm) outside diameter
	Wall Thickness	0.080" to 1.0" (2 mm to 25.4 mm)
	Length	Up to 90" (2286 mm)
	Exam Coverage	110% with a 0.25" (6 mm) helix
	System Performance	98%+ system uptime
<b>Utilities</b>	Configurations	Up-Enders/Down-Enders for loading/unloading, Staging Tables
	Electric	220/110 VAC, 60 Hz, 25A
	Pneumatic	80 psi (5.5 bar)

## Saves Time, Lower Costs and Skid-Mounted for Flexibility

The Cyl-Sonic Tonne system 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.

The system is mounted on a rigid steel frame skid, allowing companies to easily move the entire testing system to multiple locations as needed. If multiple production facilities are distributed across a region, it is possible to ship the entire Cyl-Sonic Tonne system every few months to the location that has tonne cylinders ready for re-certification testing.

## Calibration Standards ensure Accuracy

Each system uses a calibration cylinder standard with simulated flaws. For Tonne systems Nordco specifies appropriate calibration standards based on the number and different types of tonnes to be re-qualified. Tonne calibration cylinders are typically custom designed under the oversight of Nordco's SRT, based on customer supplied cylinder characteristics (i.e. specification, pressure rating, minimum thickness and outside diameter) and applicable special permits.

## 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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