



# HD-101

## Pipe - FRAC Tag



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## Pipe - FRAC Tag



### 1 PRODUCT DESCRIPTION

The patented (US Patent # 7,928,922) **TROI HD-101 Pipe - FRAC** RFID tag provides automatic identification and tracking capabilities never-before available in such a unique package designed for rugged or hazardous use-areas.

The rubber-covered tag is designed to be mounted to any metallic surface by wrapping, and then crimping, the black-nylon-coated cable around any pipe or round metal object. It can withstand unprecedented high temperature (consistent temperatures of 200 degrees Centigrade), high pressure and severe environmental conditions.

#### 1.1 SPECIFICATIONS

<b>Device type</b>	Passive RFID tag
<b>Air interface protocol</b>	UHF: EPCGlobal Class1Gen2 / ISO/IEC 18000-6C
<b>Operational frequency</b>	<b>Standard:</b> UHF 865-869 MHz (EU), 902-928 MHz (US)
<b>IC options - UHF</b>	<b>Standard:</b> Alien Higgs 3 (others on request) Optional: EM, Fujitsu, Impinj, NXP (others on request)
<b>EPC memory - UHF</b>	<b>Standard:</b> 128 bit Optional: Up to 240 bit
<b>EPC memory content</b>	Unique 96-bit number encoded
<b>Extended memory - UHF</b>	<b>Standard:</b> 512 bit
<b>TID - UHF</b>	Factory-programmed, non-changeable, unique 64-bit ID.
<b>Read range - UHF</b>	Real-world: 1 – 2 meters Lab environment: 7 meters
<b>Tag material</b>	HVP rubber
<b>Tensile strength</b>	2500 psi minimum
<b>Elongation</b>	400% minimum
<b>Durometer</b>	Shore A 60-70
<b>Cable specifications</b>	Black nylon-coated stainless steel rope Aluminum ferrel for crimp-type retention
<b>Drop test to asphalt</b>	2 meters with 5 Kg's attached @ 100+ times (competition fails at 20) 2 meters with 8 Kg's attached @ 5+ times (competition fails immediately)
<b>Applicable surfaces</b>	Any metallic material
<b>Product RoHS compliant?</b>	Yes
<b>Standards compliancy</b>	ATEX-compliant
<b>US Patent Number</b>	7,928,922



# HD-101

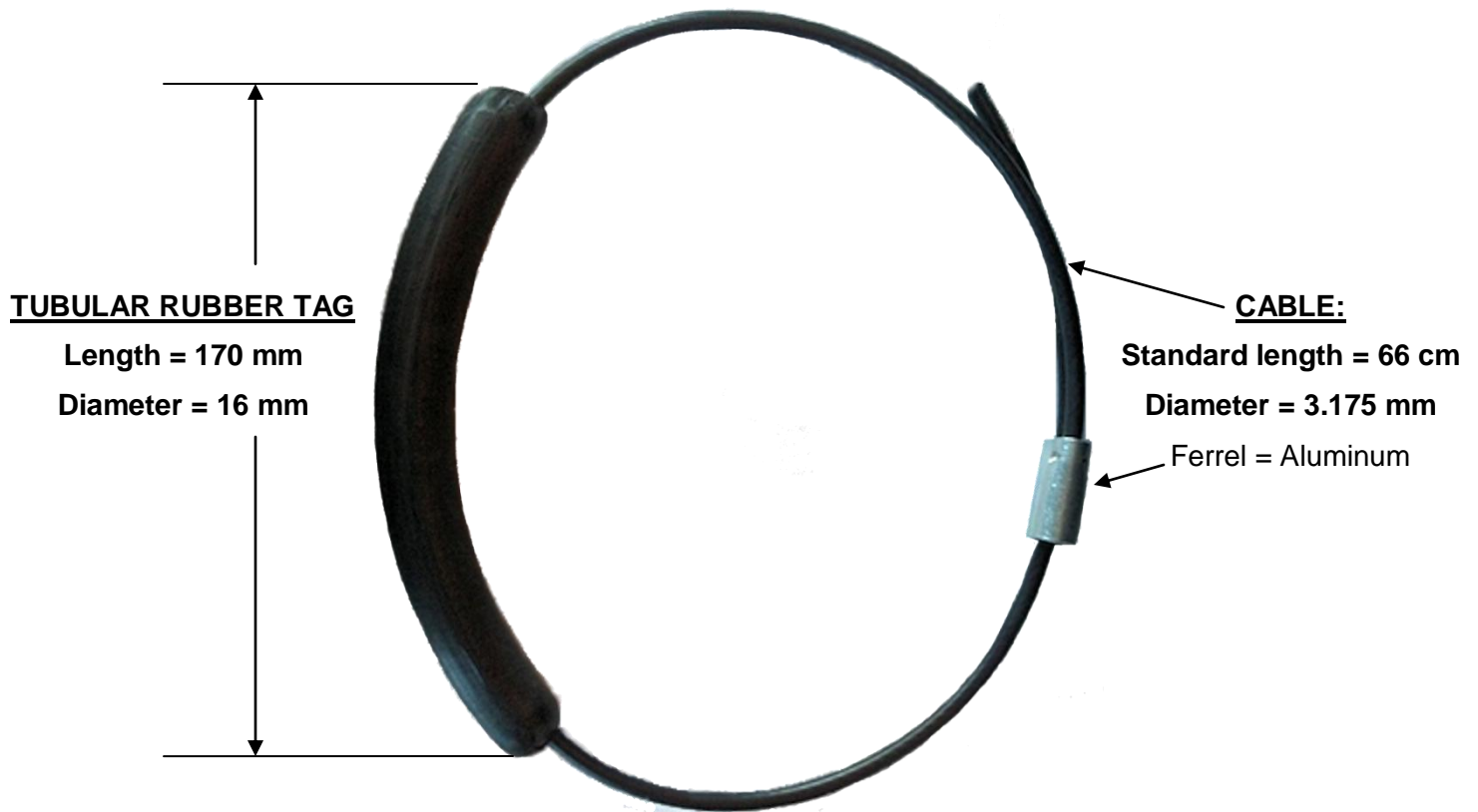
## Pipe - FRAC Tag



### 1.2 DIMENSIONS

**NOTE:** Standard cable length = 66 cm; other lengths can be quoted.

#### PLAN VIEW





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### 1.3 READ RANGE

	UHF max read-range on metal with 4W EIRP
HD-101 (915 MHz)	660.4 cm / 260 inches (6.63 m / 21.75 feet)

The read range listed above was obtained from a lab test environment. Actual test results may be different. Testing in actual use environments is strongly recommended.

### 1.4 ENVIRONMENTAL SPECIFICATIONS

<b>Operating temperature</b>	-50°C to +200°C* -50°F to +392 °F*
<b>Temperature Cycling Test</b>	200 deg C, continuous for 30-days
<b>IP classification</b>	IP69K EN 62262 IK-25 - Complete protection against dust - Protection against continuous immersion in water
<b>Weather resistance</b>	Excellent, including UV-resistance and sea water immersion
<b>Pressure resistance</b>	RFID tag tested to 30,000 PSI for 30 days
<b>Chemical resistance</b>	No physical or performance changes in: - Salt water - NaOH (depending on concentration) - Sulfuric acid (depending on concentration) - Motor oil (tested in 168 hour exposure) Generally good against: - Most solvents - Most acids and bases

\* **NOTE:** The RFID tag will not be functional if the tag is left at the maximum indicated temperatures such that the internal soak temperature exceeds +80 deg C. The RFID tag itself will (resume) function between -50 deg C and +80 deg C.

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### 1.5 SUPPORTED SERVICES

- Tag pre-encoding

For further details, please contact **TROI LLC**.

### 1.6 POSSIBLE APPLICATIONS

<b>Metal surfaces</b>	Metal returnable containers, metal canisters, metal pallets, metal pipes, high value metal items, aerospace applications, military applications, etc.
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## 2 INSTALLATION INSTRUCTIONS

Wrap the black nylon-covered cable around the metal surface and then firmly crimp the aluminum ferrel – done!

## 3 CONTACTING TROI LLC

For additional information and technical support contact:

**TROI LLC**  
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