

ROBOTAPE XL

by Innovative Automation

AUTOMATED TAPE APPLICATION FOR LARGE FORMAT MATERIALS

RoboTape™ XL is an advanced automation solution designed for high-volume tape applications requiring larger material formats, while maintaining precision, repeatability, and consistent throughput.

The RoboTape XL system is engineered to process wide-format tapes and gasket materials, typically ranging from 16 mm up to 30 mm and beyond, addressing a growing gap in automated tape application.

Built on the proven RoboTape platform, the XL version **extends core capabilities to support larger spool formats, increased application force, and enhanced material handling**, while maintaining flexibility for manufacturing environments.

Designed to overcome challenges associated with larger materials, RoboTape XL delivers:

- **Consistent placement**
- **Reduced downtime**
- **Extended run times through larger spool capacity**

Its modular design allows integration into both new and existing production cells, supporting complex geometries, curved paths, and constrained application areas.



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FEATURES AND BENEFITS

RoboTape XL expands the capabilities of automated tape application by enabling **large-format materials** to be processed with the same efficiency and control as standard systems.

The system is designed to handle **increased material width and height**, while maintaining flexibility in application paths and system integration.

To minimize production interruptions during spool replacement, RoboTape XL supports **zero-downtime spool changeover** ("hot swap"), allowing upstream equipment to continue running without interruption.

Splice detection
and auto reject

Liner reclaim

Flexible
feed system

Integrated
cut-to-length

Customizable
wet-out

Sleek applicator tip



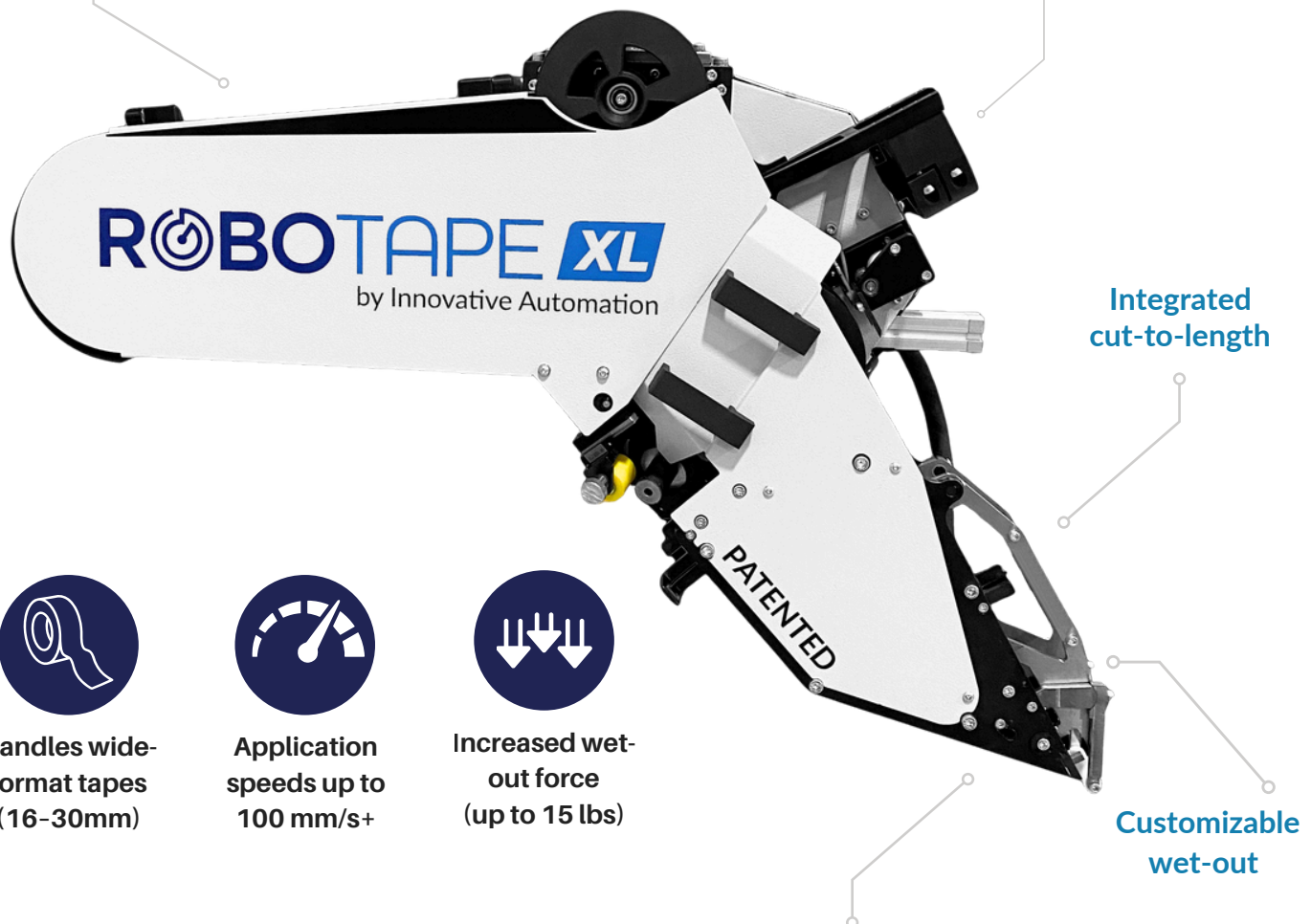
Handles wide-
format tapes
(16-30mm)



Application
speeds up to
100 mm/s+



Increased wet-
out force
(up to 15 lbs)



FEATURES

- Zero-downtime spool change ("hot swap" capable)
- Large capacity spool system for extended runtime
- Remote level-wound spool feeding (outside safe zone)
- Integrated cut-to-length dispensing
- Supports complex paths (curves, corners, 3D surfaces)
- Adjustable feed length for large-format applications
- Automatic splice detection and purge

CONSIDERATIONS AND SPECIFICATIONS

Can the material be spooled?

Yes. RoboTape XL is designed to support **level wound spools**, enabling extended runtime even with high-consumption materials, which can be purchased from dedicated material convertors located around the globe.

Material compatibility depends on flexibility and spool configuration, and systems can be adapted to meet specific application requirements.

Retrofit an existing cell or build new?

RoboTape XL integrates easily into both **existing production cells and new automation lines**.

New systems can be optimized for:

- large format material flow
- spool positioning
- operator ergonomics

What is the return on investment?

Return on investment depends on application complexity, but RoboTape XL enables automation of processes that are typically manual due to material size constraints.

Reduce manual labour

Improve consistency

Increased throughput

Reduced downtime

ROBOTAPE XL PAYOUT SPECIFICATIONS

Item	Description
Size	1400w X 740d X 1220h mm (55w x 29d x 48h")
Weight	265kg (584.2lbs)
Tape Dimension Constraints	14mm to 30mm Wide . Up To 30mm High*
Spool Size	406mm Dia x 406mm Lg - Options For Larger Spools Available
Feed System	Up to 6 Meters*
Compressed Air Supply (5.5 Bar)	Required supply capacity 1426 L/min (50 CFM) peak intermittent demand**
Electrical Supply	100-240V AC 1Phase 50/60Hz 5F.L. AMPHRES TN Distribution NEMA 5-15P
Short-Circuit Current Rating	5kA
Maximum Feed Rate	300mm/s (1 fps)
Integrated Control System	Beckhoff TwinCAT3, Windows 10 IoT, 64 bit
Program	Built-in recipe selection, fault messaging, data collection, material level indicator, maintenance alert
Slave Communication Protocol	EtherCAT, Ethernet-IP, PROFINET
Safety	Beckhoff TwinSAFE
Material	Body: Powder coated steel, Mechanical components: 6061 T6 AL, HRS, hardened steel, brass, Pulleys: Nylon
Ambient Operating Temperature	Minimum: 5°C (41°F) Maximum: 40°C (104°F)
Sensors	24VDC, PNP (Optical, inductive, laser, IO-Link)
Noise Emission	<70dB Emission***

*Application dependant, please consult the RoboTape team to confirm feasibility

** Average consumption varies with cycle rate and machine settings.

***In accordance with the Machinery Directive 2006/42/EC, the A-weighted emission sound pressure level of the RoboTape system is less than or equal to 70 dB(A) during all intended operating conditions.

ROBOTAPE XL APPLICATOR SPECIFICATIONS

Item	Description
Size	808w x 195d x 510h mm (32w x 8d x 20h")
Weight	25Kg (55.1lbs)
Tape Dimension Constraints	Up To 30mm x 30mm
Air Supply	Supplied from Payout
Electrical Supply	24VDC, 1.5A, DB25 (from Payout)
Maximum Feed Rate	300mm/s (1 fps)**
Standard Tool Clearance	31mm from center of tape - Offsets available
Application Precision	+/-1mm (0.04") all around**
Blade Adjustment Precision	0.025mm (0.0010") per increment
Sensors	24VDC, PNP (Optical, inductive, laser, IO-Link)
Ambient Operating Temperature	Minimum: 5°C (41°F) Maximum: 40°C (104°F)
Robot Requirements	50kg minimum payload, must have TCP speed output**

** Tape placement tolerance may be affected by several factors not limited to; Tape Specification, Robot Accuracy, Application Speed.



Manufactured under a Quality Management System certified to ISO 9001:2015.

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