

Stretch[®]

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Advanced
Automation for
Warehouse Operations



A POWERFUL HELPING HAND FOR THE WAREHOUSE

Maximize your inbound productivity with improved efficiency and safety.

Stretch does the heavy lifting, unloading floor-loaded trailers and containers autonomously. Daily and in peak season, Stretch will help you meet operational goals reliably.





“

We're excited to partner with Boston Dynamics to deploy its best-in-class robotics in our warehouses. The Stretch robot addresses complex industry challenges through flexible automation, which we'll be able to replicate and scale regionally and globally.

”

SALLY MILLER

CIO, DHL

Supply Chain North America



Unloads continuously

Just set Stretch to begin, and the robot will power through up to two shifts, unloading quickly at a rate of 600 to 800 cases per hour. Since Stretch doesn't tire out this rate remains steady, setting a predictable workflow that managers can plan operations around.

Strength and flexibility for a tough task

Stretch works with cartons of many types and sizes, from standard brown to highly graphical. Its vacuum gripper can handle boxes up to 50 pounds.



“

We want to constantly innovate the warehousing and distribution flow of our inland logistics operations to serve the rising expectations of our B2B and B2C customer base. Boston Dynamics brings the engineering solutions we need to make supply chains operate in new and better ways.”

EREZ AGMONI

SVP OF INNOVATION & STRATEGIC
GROWTH, MAERSK



MAERSK

Mobile and compact

Stretch can travel from one point of work to another, with full mobility free of power or air lines. The base's footprint is the size of a pallet, ideal for maneuvering in the tight spaces of a truck or warehouse.

Fast and easy to deploy

Stretch can be installed and ready to work, within your existing warehouse layout, in just 5 days or fewer. The robot makes all decisions in real time, so no programming of box sizes or types is needed.





PENDANT



“ With Stretch, we will enhance the movement of freight through our facilities while providing a safer environment for our employees. ”

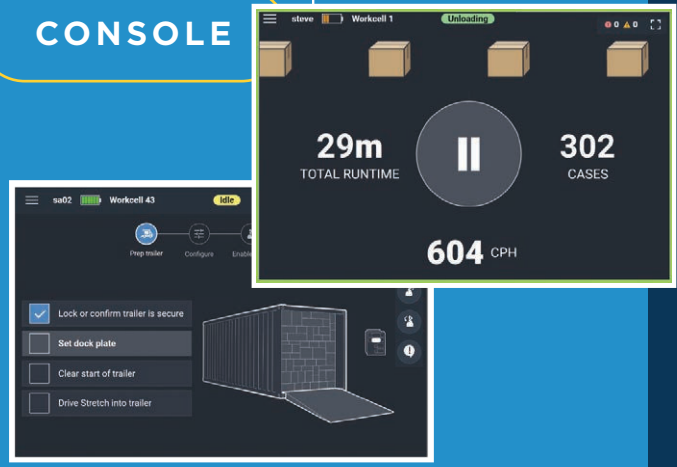
SID BROWN
CEO, NFI



Intuitive controls

Stretch was built with ease of use in mind. Drive the robot into place using the ergonomic pendant. Then switch over to the console, and use the step by step wizard to start up the robot. View the robot's progress through the container, and manage multiple Stretch robots from one console.

CONSOLE



Pick multiple cases with one swing of the arm

With the new Multipick capability, Stretch can grasp multiple boxes with each swing of the arm, boosting work speed and efficiency.

Works with common conveyor types

Stretch works with telescopic or flexible accordion conveyors. The robot communicates wirelessly with a telescopic conveyor, so it extends and retracts with Stretch. Flex accordion conveyors attach to the robot.



Rather than dumping those boxes on the conveyor, Stretch carefully places and spaces each one, in a way that aligns with sortation systems for scanning.



Seamless downstream integration

Stretch operators can activate a feature to adjust how cases are placed, ensuring they flow easily into the next steps of the process, like Automated Storage and Retrieval Systems and fast sorting systems.



REACHING FURTHER

Unparalleled dexterous manipulation

Standing out among traditional 6-axis robotic arms, Stretch's 7-axis arm enables key capabilities. The extra axis helps to avoid potential motion constraints, and gives the robot the dexterity to grasp boxes from various angles and orientations. It also helps to create optimized arm movements, resulting in smoother and faster case-handling motions.

A versatile gripper with sensing and adaptability

Stretch's powerful gripper works wherever the fully mobile robot goes, no power or air lines required. It uses sensing and pneumatic control to handle cases of various sizes and conditions, including partially crushed and damaged product.

A multipurpose vision

Stretch was designed to be a multipurpose robot and intended to take on additional tasks, from inbound to outbound and everything in between. As Stretch expands further into the warehouse beyond unloading, other applications on our roadmap include mobile palletizing.



SPECIFICATIONS

Maximum case weight

50 pounds (23 kg)

Maximum vertical and horizontal reach

10.5 feet (3.2 m) | 6.4 feet (1.95 m)

Footprint

40 x 48 inches (1 x 1.25 m)

Weight

2,866 pounds (1,300 kg)

Suitable trailers for operation

Standard/high-cube containers (20/40 foot) or enclosed cargo trailer

Battery life

Lasts for 2 shifts

Eligible conveyor types

Flexible accordion and fixed telescopic

Eligible types of cases

Rectangular cardboard boxes with taped or glued flaps; most common case wear and tear is acceptable

Eligible case sizes

The minimum length of any surface is 6 inches (15 cm), and the maximum is 36 inches (91 cm)

Unloading case rate

600-800 cases per hour

No required lighting in trailer

Stretch's camera system is equipped with onboard lighting to illuminate the environment for its vision system.

No robot pre-operational programming is required to handle your boxes

Stretch's machine learning trained vision system uses a pre-trained model that, immediately and upon initial use, allows it to detect most packages. The model improves over time.

Operating environment temperatures

41° – 113° F | 5° – 45° C

Fast charger

Reaches 90% of charge in approximately 75 minutes

EU compliance and conformity

Stretch is in conformity with Machinery Directive 2006/42/EC, EMC Directive 2014/30/EU, and Radio Equipment Directive 2014/53/EU. Stretch applies state of the art protective devices and complies with all relevant international safety technical standards.

OUR CUSTOMERS



MAERSK



Gap Inc.



FOREVER.
FASTER.



otto group



arvato



**GET STARTED
WITH STRETCH TODAY**

Contact our sales team to learn more
about how you can implement the
Stretch robot on your team:
bosdyn.co/stretch

Visit our website at:
www.bostondynamics.com

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