

# Stretch<sup>®</sup>

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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've continued to roll out the robot and expand its presence in our facilities. We have been able to reduce injury rates, reduce turnover, and improve predictable flow into the building with the robot. So we continue to push it out into our facilities, and we continue to learn from it.”

**Matthew Dippold**

Director of Operations Excellence - Innovation  
DHL Supply Chain



## **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. The robot works autonomously, even recovering boxes that may fall during the unloading process automatically.

## **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.



“

Gap Inc. has found great utility in Stretch across our distribution network, and while we introduce these machines in more facilities across our network, we've been impressed with its potential to increase efficiency and help reduce staff injuries and turnover in our distribution centers.”

**Kevin Kuntz**

SVP, Global Logistics  
Fulfillment at Gap Inc.

# Gap Inc.

## 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**

## Intuitive controls

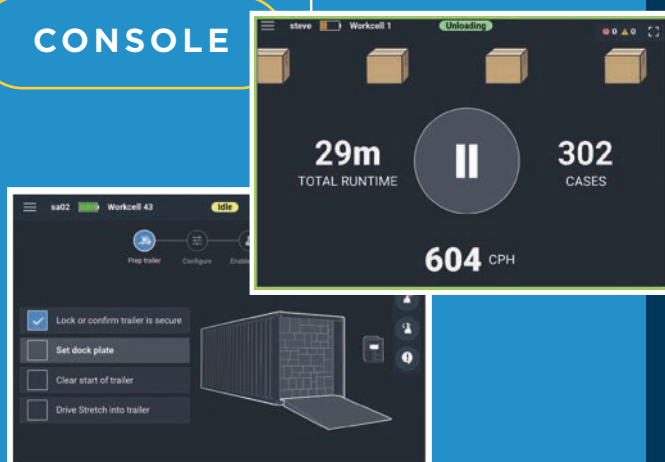
Stretch was built with ease of use in mind. Drive the robot into place using the ergonomic pendant. Then switch over to the console, and use the step by step wizard to start up the robot. View the robot's progress through the container, and manage multiple Stretch robots from one console.

## Fast Charger

Maximize Stretch's productivity with rapid charging. With a 90% charge in under 2 hours, fast charging adds up to continual unloading.



**CONSOLE**



“

Seasonal planning is very important to our operations. There are often unknowns in the supply chain. With Stretch being very consistent on its unload rate, we can plan additional capacities where we need them. We can also plan for off hours where we may not have a scheduled shift in place, with just one operator putting Stretch into a truck.”

**PHILIPP RÜCKER**

Vice President Logistics Engineering, Arvato

**arvato**

## Pick multiple cases with one swing of the arm

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

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.



## Label Sense

This feature may be ideal for warehouses with an ASRS or a sortation system with label scanning. Stretch can place cases on the conveyor with the labels facing the same direction each time, enabling cameras to scan each barcode for seamless downstream integration.

## Works with common conveyor types

Stretch works with telescopic conveyors of various brands. The robot communicates wirelessly with the conveyor, so it extends and retracts with Stretch.



# 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, and aids in the ability to place cases in various orientations for better downstream ingestion.

## 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), enclosed cargo trailer, and curtainsider trailer

## Battery life

Lasts up to 16 hours

## Eligible conveyor types

Telescopic conveyors of various brands

## 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 1 hour and 45 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



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Gap Inc.



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FASTER.



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