

## FlexBuffer™



The FlexBuffer™ is a modular cell, that offers additional functionality to the traditional automated storage and retrieval systems.

The robot is at the heart of the system, which makes it a very reliable and low maintenance alternative.

### What the solution contains

The FlexBuffer™ consists of a:

- ABB robot
- Suite of grippers
- In- & outfeed conveyor
- Storage racking
- Safety fencing & access door
- PC, controls & software pack

### How the solution works

The robot receives commands to store goods fed in on the inbound conveyor. Based on the storage logic the robot places the goods in the defined rack positions. On command the robot picks up requested goods from the respective racking positions and puts these on the outfeed conveyor.

### Applications

Automated warehousing of goods in transport modules enabling automated storage and retrieval for picking, packing, or palletizing.

Buffering describes the temporary storage of goods before further processing – also called order consolidation in warehouse and logistics context.

Sequencing is the process of changing the order of incoming and outgoing items to achieve pre-defined sequences based on item delivery time, weight, temperature, or other attributes.

### Configurations

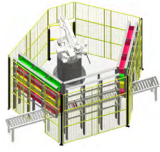
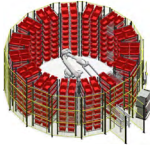
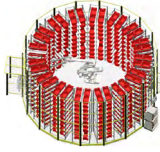
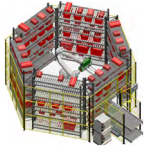
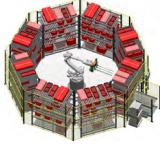
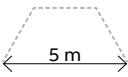
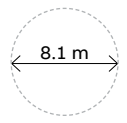
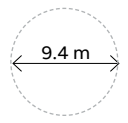
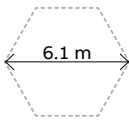
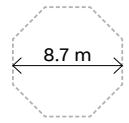
Totes: Custom designed racking and gripper to accommodate and handle a single tote type – optimizing the storage capacity of the cell.

Mixed items: A flexible gripper equipped with adjusting forks to allow manipulation of mixed cuboid items within a certain dimension range. Optimally designed octagonal or hexagonal racking to maximize flexibility in storage space allocation.

### Customer Segments

Logistics, Food & Beverage, Consumer Packaged Goods, Restaurants, Retail and Healthcare.

**FlexBuffer™**  
Configuration table

| Type                       | Totes   |   |   | Mixed   |   |
|----------------------------|---|---|---|---|---|
| Configuration              | Compact Sequencer   | Tote Compact  | Tote Storage+   | Mixed Compact   | Mixed Storage+  |
|                            |  |  |  |  |  |
| Storage capacity           | 36 totes <sup>2</sup>   | 452 totes <sup>2</sup>  | 612 totes <sup>2</sup>  | 190 items <sup>2</sup>  | 360 items <sup>2</sup>  |
| Cell size                  |  |  |  |  |  |
| Single cycle performance   | 543 cycles/hour <sup>1</sup>  | 288 cycles/hour   | 283 cycles/hour <sup>1</sup>  | 356 cycles/hour <sup>1</sup>  | 291 cycles/hour <sup>1</sup>  |
| Combined cycle performance | 261 cycles/hour <sup>1</sup>  | 145 cycles/hour <sup>1</sup>  | 143 cycles/hour <sup>1</sup>  | 181 cycles/hour <sup>1</sup>  | 146 cycles/hour <sup>1</sup>  |
| Max. payload               | 25 kg per tote  | 25 kg per tote  | 12.5 kg per tote  | 35 kg per pick  | 35 kg per pick  |
| ABB robot                  | IRB 460-110/2.4   | IRB 6700-150/3.2  | IRB 6650S-125/3.5   | IRB 6700-150/3.2  | IRB 6700-150/3.2  |

1. Design performance according to FEM norm 9.851, 2. Assuming avg. item dimensions of 600 x 400 x 350 mm