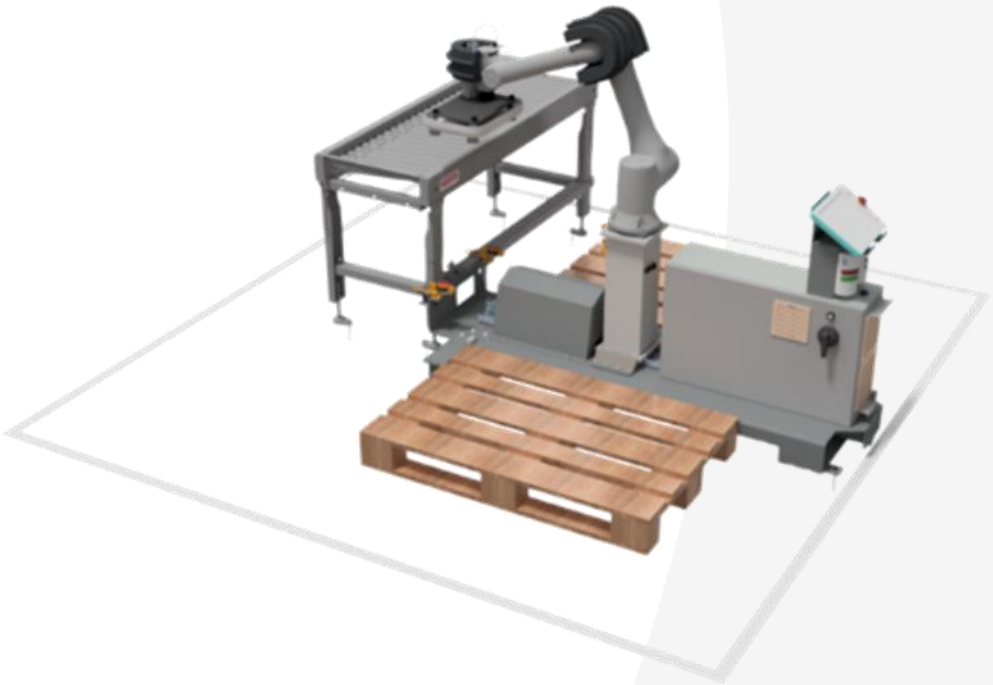
FlexBase Appendix 1



1.1 Standard Performance - only basic data, need to be confirmed in Section 2-SKU Analysis

Case weight	up to 8 kg [17 ⅝ lb] for single pick up to 3,5 kg [7 ¾ lb] for double pick up to 10kg [22 lbs] for single pick with pick with Venturi style of vacuum generator for robot gripper-option up to 4kg [8.5 lbs] for double pick with pick with Venturi style of vacuum generator for robot gripper-option
Case size (LxWxH) [1)]	Min 150 x 150 x 100 mm [5 ⅞" x 5 ⅞" x 3 ⅞"] Max 600 x 400 x 500 mm [23 ⅝" x 15 ¾" x 19 ⅝"]
Capacity [2)]	up to 7[DM1][DM2] cases per minute for single pick up to 12 cases per minute for double pick
Max pallet height	up to 1250 / 1750* / 2050* mm [49 ¼" / 68 ⅞" * / 80 ¾" *] depending on pallet size, SKU dimensions and pallet pattern *with electrical pedestal

[1)] For double pick, minimum dimensions are equal as for single, but maximum dimensions are for the total size of two cases.

[2)] Capacity is related to case specifications (weight, dimensions), pallet size and palletizing pattern. Some combinations of large pallets and small products may not be practical or require a special gripper. Contact FlexLink for an assessment of your application.

FAT is conducted at FlexLink before delivery. It tests all mechanical and electrical systems, along with available interfaces. If certain interfaces are not present during FAT (mechanical and/or electrical), manual tests are conducted to a reasonable extent.

SAT will be carried out within a 4-hour timeframe and includes:

- Reviewing documentation
- Conducting additional tests to ensure compliance with the agreement, beyond what was verified during FAT
- Confirming the effectiveness of training
- Due to the limited time frame of SAT (half a day) and the availability of formats, the number of formats to be tested is restricted. Additional time required for testing other formats will be subject to additional charges.

2 WARRANTY AND SERVICE

2.1 Service during the warranty period!

The warranty period is 12 months from the time of shipment.

Liability for defects is provided according to FlexLink's Standard Terms & Conditions.

Warranty

2.2 Service after the warranty period

FlexLink products are designed for minimal maintenance. Our components are crafted to the highest quality standards, guaranteeing longevity and reliability. Nonetheless, regular procedures are necessary to uphold optimal performance. You will find a Maintenance Manual and Schedule included in the system documentation.

Should you require it, FlexLink can provide a preventive maintenance agreement tailored to your production needs. Our skilled personnel will conduct the work, maximizing system uptime and lifespan. Please note that the maintenance program is not part of this quotation unless explicitly stated in the Scope of Supply and Price section. Requests for maintenance quotes are welcome.

2.3 Spare parts

The project documentation will contain a list of recommended spare parts. Typically, standard components are readily available from our Distribution center. For non-proprietary items, delivery aligns with the quoted timelines of the relevant suppliers.

Please note that spare parts are not covered in this quotation unless explicitly stated in the Scope of Supply and Price section.

3 EXCLUSIONS

Exclusions

See TM12 Palletizer Standards and Options

4 CONFIDENTIALITY AND OWNERSHIP

Information, whether communicated verbally or in writing, shared by FlexLink prior to or during the execution of a joint project, constitutes our Intellectual Property (IP) and must be handled with care and confidentiality.

All intellectual property rights associated with this quotation and any accompanying documentation provided by FlexLink or its sub-suppliers, as well as those related to the technical solutions developed by FlexLink or its sub-suppliers, belong solely to FlexLink or its sub-suppliers. These rights are solely for evaluating the offer outlined in this quotation.

Should a collaboration ensue, the Customer may utilize FlexLink's documentation and intellectual property rights for the agreed-upon purposes to the agreed-upon extent.

5 MISCELLANEOUS

This quotation, samples and drawings are covered by our copyright and cannot in any part be used against a third party without our permission.

Miscellaneous

6 APPENDIX 1 -COLLABORATIVE PALLETIZER APPLICATION

6.1 Performance

Production capacity [cycles/min]	up to 7 cpm single pick Capacity depends on case specifications. The exact capacity will be determined based on the cases (dimensions, weights and quality), palletizing pattern and size of pallet relevant for each case and also based on proposed solution (single pick, double pick). See SKU analysis for details.
Noise level [dB]	69
Lifetime expectancy [years]	10
Required suction cup check interval [cycles]	10 000
Vacuum pump filter lifetime [months]	3

6.2 Requirements

6.2.1 Environmental

General climate requirement	Standard indoor production environment without direct sunlight.
Temperature	

	Operating ambient	10 ... 40°C	[50 ... 104°F]
	Storage temperature	0 ... 40°C	[32 ... 104°F]
Relative humidity		10 ... 70%	
Altitude [m]		0 ... 800 m	[2 624’] (affects vacuum pump selection)
IP (Ingress Protection)		Robot Arm:	IP54
		Electrical Cabinet (main + HMI):	IP54
		Electrical Cabinet (robot):	IP54
		Roller conveyor:	IP20

Others	Area classified as electrically non-hazardous. No environmental factors that might impact the choice of components and/or system performance have been reported (e.g. extremes of temperature, liquids, dust, particles, static, etc.). Out of scope any ATEX requirements.

6.2.2 Flooring

Palletizer weight	<280 kg [617 lb]
Conveyor weight	<120 kg [264 lb] including products
Strength	According to complete application weight. Surface resistant to vibration transmission.
Conveyor floor level	±30 mm [±1 ⅛”] Conveyor top must be horizontal.
Palletizer parts	Horizontal. Flat. Max ±10 mm [±⅜”] difference to conveyor.
Flatness	Flatness tolerances according to: DIN 18202 Tolerances for Building Structures or used interchangeably, Surface regularity class SR 2 according to: BS 8204-2 Screeds, bases and in-situ floorings. Concrete wearing surfaces.
Floor	Concrete class C20/25 (old B25) according to: EN 206-1:2000 Concrete. Specification, performance, production and conformity. The minimum thickness 200 mm [7 ⅞”]*.

*The minimum thickness is required if the unit will be anchored to the ground. Contact FlexLink for further information.

6.2.3 Workpiece

Product will vary with SKU (Store Keeping Unit).

Maximum height of pallet with products	≤ 1250 mm** [49 ¼”]	fixed pedestal
	≤ 1750 mm** [68 ⅞”]	elec. pedestal +500 mm
	≤ 2050 mm** [80 ¾”]	elec. pedestal +800 mm

**Depends on box dimensions, pallet type and pallet pattern.

Box

General	Closed, undamaged, uniform shape, good quality, clean and rectangular corrugated carton box. Sealed with a method which allows the box to be lifted with suction cups (vacuum). Poor quality boxes may require decreasing palletization speed to avoid their damage.	
Dimension tolerances	±3 mm [±⅛"]	
Case Weight	≤8 kg (with Rotary Vane Vacuum pump)	
	<10kg (Up to 10 kg single pick with Venturi style of vacuum generator for robot gripper) requires	
	general pressure air interface to be provided by Customer:	
	Compressed air supply 6 bar	
	Minimum air consumption: > 300 Nl/min	
	Required hose diameter Ø12 (connection with air preparation system	
Width	150 … 400 mm	[5 ⅞" … 15 ¾"]
Length	150 … 600 mm	[5 ⅞" … 23 ⅝"]
Height	100 … 500 mm	[3 ⅞" … 19 ⅝"]

Handling surface	Fixed, flat top-surface, corrugated material

Center of gravity	Maximum 40 mm [1 ⅝”] from center point
Recommended quality	EUPS 110, BC-Flute (Double wall, 7.0 mm) Brown/Brown
Label orientation	The standard offer includes one case with the label facing outwards on each side of the pallet. In some situations, it is not always possible to place the cases on the pallet with labels facing outwards. This is mainly due to the limit of the reach of the robot and to some embedded software limitations. Customer should discuss these requirements in the quotation phase.
Others	The box can be dropped onto the pallet from a height of 40-50 mm [1 ⅝ - 2”] without damage

Pallet

General	Undamaged, of good quality, no missing parts.
Position on floor	Pallet position tolerance is 10 mm [⅜”].
Length x Width*	1200x800, 1200x1000, 1219x1016, 1165x1165, 1100x1100 [mm] [47¼” x 31½”], [47¼” x 39⅜”], [48” x 40”], [46” x 46”], [43¼” x 43¼”]
Height [mm]	145 [5 ¾”], 150 [5 ⅞”], 162 [6 ⅜”]
Note	It may not be possible to place a small box at the furthest position on a larger pallet. Please contact FlexLink for an evaluation.

6.2.4 Forklift

Blade length	1400 mm	[55 ⅛”]
Blade width	max 160 mm	[6 ¼”]

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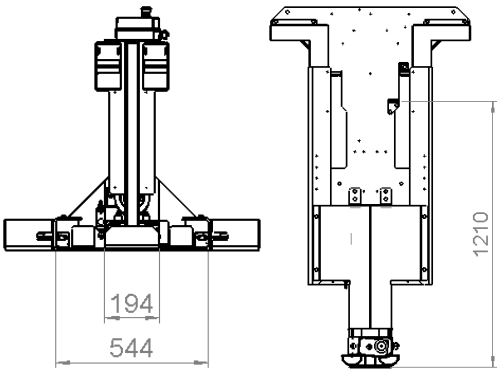


6.2.5 Power supply

The machine requires electrical power. No other power source is required. The vacuum is produced via an onboard pump. Optional higher capacity (+2kg) configuration requires factory supplied air.

General electrical interface:

Phases	1	
Short-circuit current capacity	10 kA	
Connection type	Terminals 2,5 mm^2	
Power consumption	Robot	350 W
	Conveyor + vacuum pump	Max 1080W

<u>230 V – voltage version power requirements:</u>

Voltage	207 … 240 V_{AC}
Frequency	50/60 Hz
Nominal current	<7,5 A

<u>110 V – voltage version power requirements:</u>

Voltage	110 … 115 V_{AC}
Frequency	60 Hz
Nominal current	<15 A

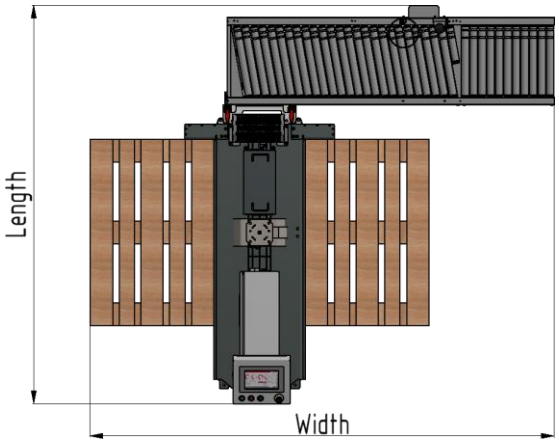
6.2.6 Overall dimensions

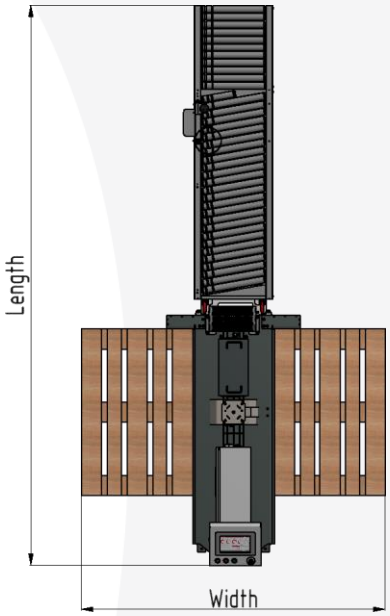
Machine height:

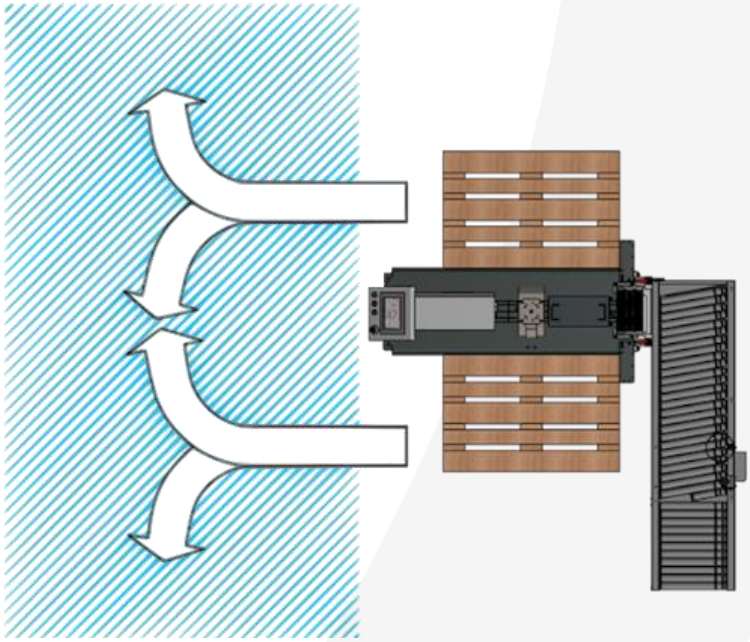
Fixed pedestal	max 2500 mm [98 ⅜”]
Electrical +500 mm pedestal	max 3000 mm [118 ⅛”]
Electrical +800 mm pedestal	max 3400 mm [133 ⅞”]

Physical dimensions based on pallet size 1200 x 800 mm [47 ¼” x 31 ½”] and single infeed configuration:

Product	Conveyor type	Width	Length
Right	No extension – 1512 mm [59 ½”]	2397 mm [94 ⅜”]	2570 mm [101 ⅛”]
	One extension – 2117 mm [83 ⅜”]	3002 mm [118 ¼”]	2570 mm [101 ⅛”]
	Two extensions – 2722 mm [107 ⅛”]	3607 mm [142”]	2570 mm [101 ⅛”]
Left	No extension – 1512 mm [59 ½”]	2397 mm [94 ⅜”]	2570 mm [101 ⅛”]
	One extension – 2117 mm [83 ⅜”]	3002 mm [118 ¼”]	2570 mm [101 ⅛”]
	Two extensions – 2722 mm [107 ⅛”]	3607 mm [142”]	2570 mm [101 ⅛”]
Center-Right	No extension – 1512 mm [59 ½”]	2190 mm [86 ¼”]	3435 mm [135 ¼”]
	One extension – 2117 mm [83 ⅜”]	2190 mm [86 ¼”]	4040 mm [159”]
	Two extensions – 2722 mm [107 ⅛”]	2190 mm [86 ¼”]	4645 mm [182 ⅞”]
Center-Left	No extension – 1512 mm [59 ½”]	2190 mm [86 ¼”]	3435 mm [135 ¼”]
	One extension – 2117 mm [83 ⅜”]	2190 mm [86 ¼”]	4040 mm [159”]
	Two extensions – 2722 mm [107 ⅛”]	2190 mm [86 ¼”]	4645 mm [182 ⅞”]







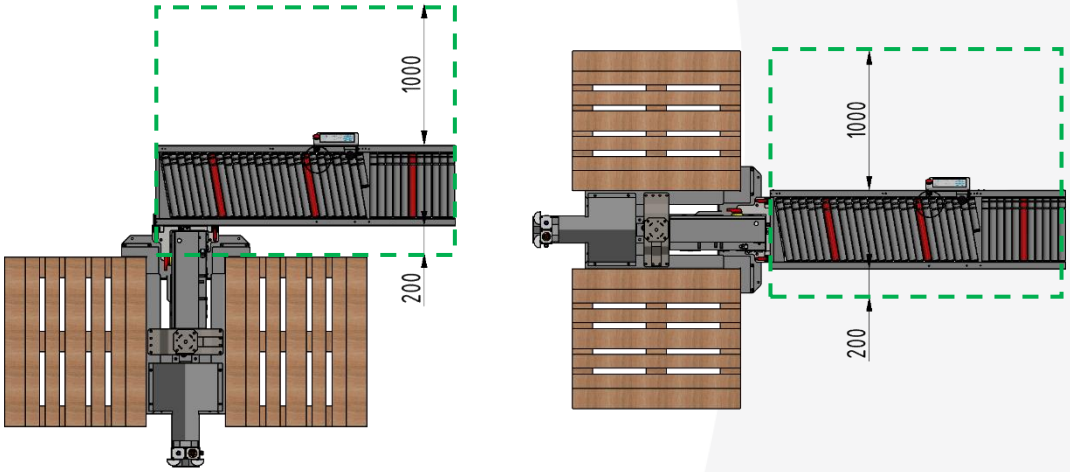
Recommendation:

For safe operation and quick pallet handling, we recommend keeping a free space in front of the collaborative palletizer.

The working area, including the safety zone, is to be kept clear of any obstacles. Approved obstacles inside workspace are limited to palletized cartons on a pallet.

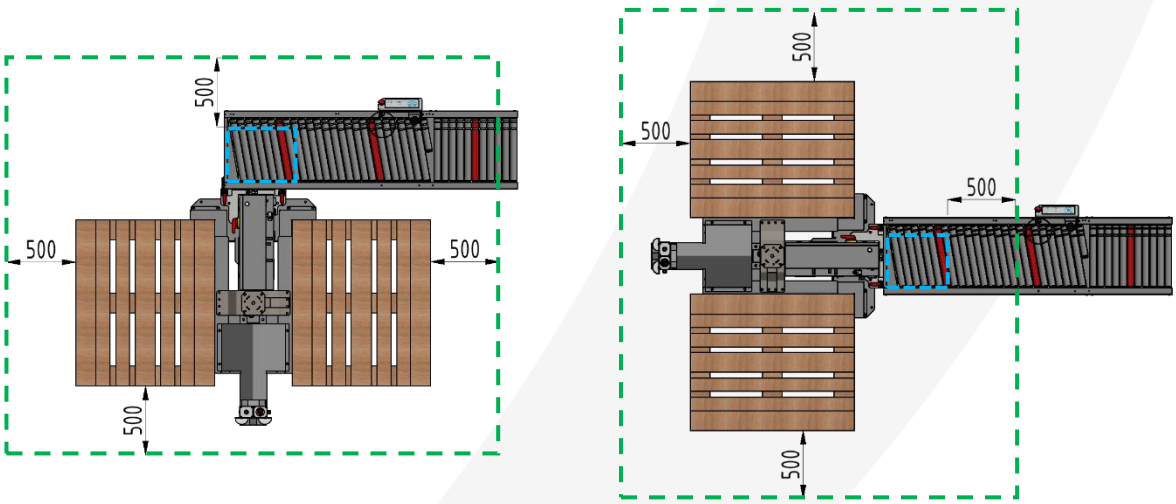
Clearances around conveyor should take into account all operational phases of the machine (operating, maintenance, troubleshooting, etcetera):

- 1000 mm [39 ⅜”] on teach pendant side.
- 200 mm [7 ⅞”] on the opposite side (recommended: 1000 mm [39 ⅜”] for maintenance).



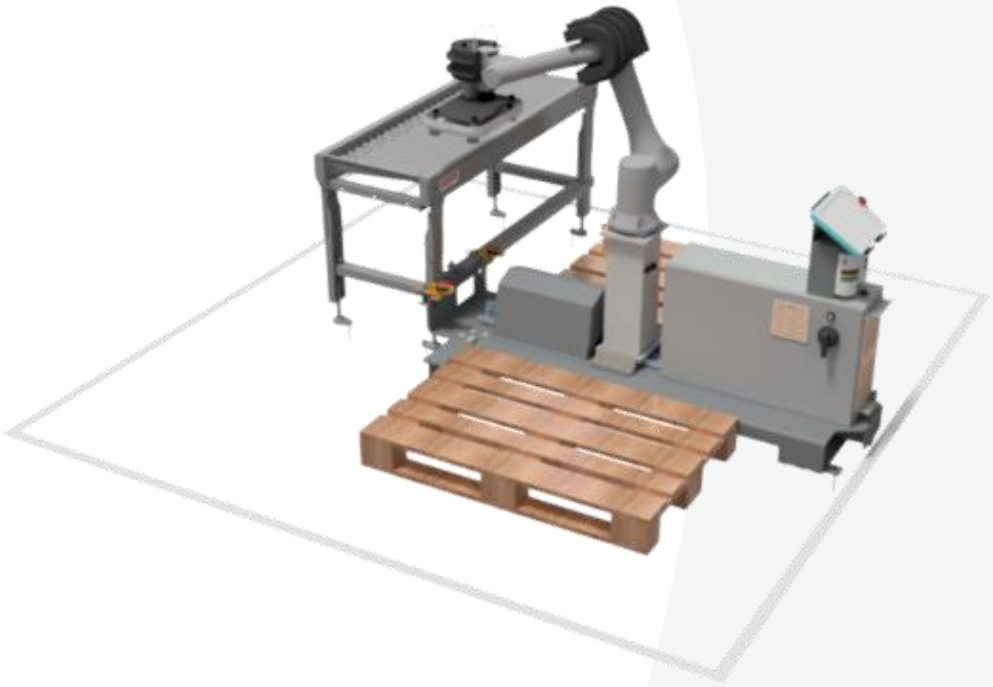
Clearances around the robot to avoid quasi-static contact:

- 500 mm [19 ⅝”] around pallets
- 500 mm [19 ⅝”] around picking position.



6.3 Standard TM12 Palletizer– General Description

6.3.1 Palletizer components



The Standard TM12 Palletizer configuration includes the following items:

One (1) Palletizer

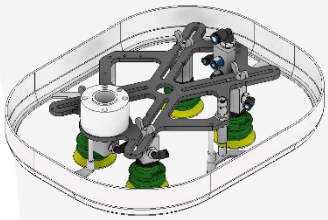
The Standard TM12 Palletizer configuration includes the following items:

One (1) Palletizer:

- TM12 Robot System (robot arm + OMRON control box)
- Safety paddings for robot head and joint
- Robot foot pedestal
- Control box with 10” HMI.
- Docking positions for two (2) pallets
- Automatic pallet detection with present sensors
- Two (2) pallet status lights

- Vacuum pump and vacuum valve

One (1) Offset Vacuum Gripper (Single Pick):



- Handles one (1) box
- Four (4) Vacuum Cups
- Lightweight Carbon Fiber Frame
- Safety Shroud & Safety Sensor
- One (1) Vacuum switch

One (1) Infeed Roller Conveyor

- Mounting frame for light stack and no entry zone sign
- Preset variable height.
- Skew rollers for box alignment in picking zone.
- Zero-pressure zones handling one carton box each.
- One picking zone and up to three (3) accumulation zones.
- Each zone with 24VDC-driver and end-position sensor

6.3.2 Additional Collaborative Palletizer features

Additional Collaborative Palletizer features:

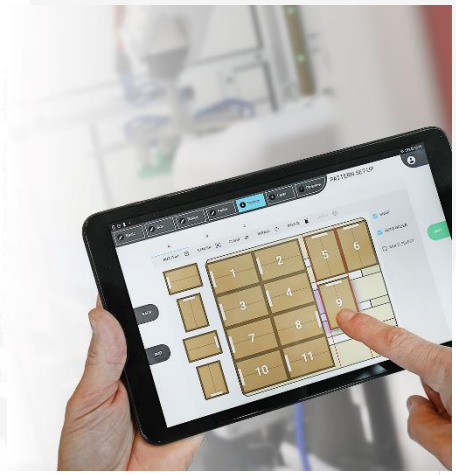
- Easily connectable to the conveyor by industrial connectors (Harting-style)
- Mobility with forklift or pallet jack
- Two pallet positions
- Automatic pallet detection for each position
- One status beacon for each pallet position
- Anchor holes.
- Electrical pedestal – option for extended reach
- Docking station – option for easy docking to conveyor

6.4 TM12 Palletizer Standards and Options – General Descriptions

6.4.1 Maintenance & Emergency kit- Option

- One Maintenance & Emergency kit contains urgent spare parts for one year of operation.

6.4.2 Software Robot Config- Option



Software Robot Config - Option: Robot Config is an intuitive software user interface with drag & drop functionality, accessible from any device with a web browser. It's useful for defining pallet patterns and offers the following features:

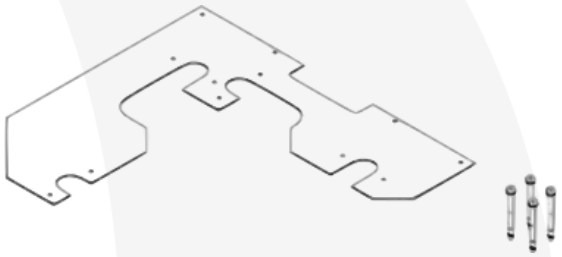
- Create, view, or edit existing patterns.
- Settings include product dimensions and weight, palletizer configuration (actuator / in-feed conveyor), orientation of product and label, pallet type selection, and amount of layers.
- Automatic function determines the best pallet pattern based on case dimensions.
- Drag and drop with auto snap function simplifies pattern design.
- Two configurable pattern layers, including 180° rotation as an option.
- Centered, symmetrical, or asymmetrical alignment.
- Grouping function enables double pick functionality.
- Interlayer position setting (on the pallet and/or chosen layer).
- Ability to associate any pattern to any layer.
- Patterns are uploaded to the Collaborative Palletizer.
- Advanced settings available to set virtual margin between product placements, specify pallet border overhang on each side, and set up metric or inches parameters.

The Robot Config application operates on a web browser. A license is required for use.

6.4.3 Docking

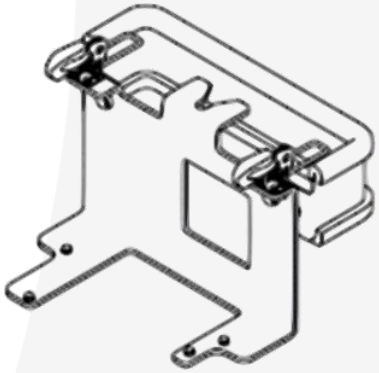
Alignment plate

A machine without a docking unit is intended for installation where the frequency of docking is low. It then simply includes an alignment plate.



The alignment plate is designed for all conveyor position alternatives and is placed under the conveyor to guide the palletizer into the correct position. Although is not securing robot position during palletization, therefore anchoring base to the floor is recommended.

Docking unit -Option



The docking unit consists of a locating pin attached to an additional beam of the conveyor.

The docking station itself is mounted on the mainframe of the robot base. The positioning of the locating pin is ensured by two clamping toggle systems.

The docking is a single-handed operation. When used there is no need to anchor base to the floor (for fixed pedestal).

6.4.4 Conveyor- Option

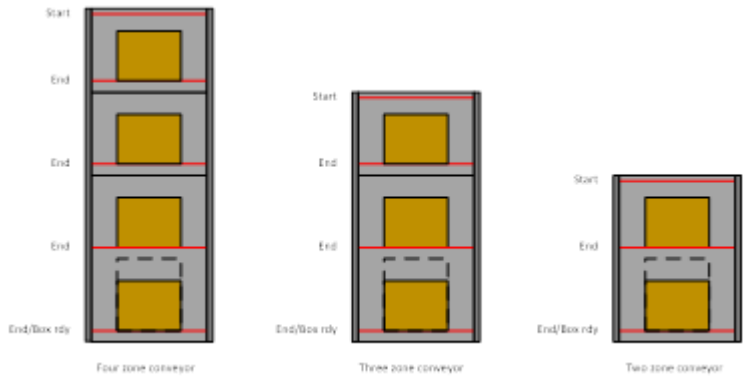
Normally, the product is transported with the short side leading on the in-feed conveyor for single pick operation. However, if the multi-pick gripper feature is utilized, cases should be transported with the long side leading orientation.

Key Features:

- Conveyor length and number of zones vary based on configuration.
- Zero-pressure zones handle one carton box at a time.
- The first zone is equipped with a start sensor to detect incoming boxes.
- Skew rollers are used for box alignment in the picking zone.
- Anchor holes on foot pads ensure stability.

- Settable fixed heights (700, 744, 774, 818, 862 mm) [27½”, 29¼”, 30½”, 32¼”, 33⅞”].
- Foot adjustment range accommodates floor irregularities (± 40 mm) [± 1⅝”].

The standard conveyor consists of two zones, each separately driven to ensure only one product is present at the picking point, minimizing backpressure.



An extended conveyor option (Zone 3 and 4) is available to increase buffer capacity before picking. The conveyor is delivered as a single unit, with the number of zones determined prior to ordering. Any alterations to the infeed conveyor or system order after drawing approval will affect price and lead time. Additional zones are provided as part of the conveyor, not as separate extensions.

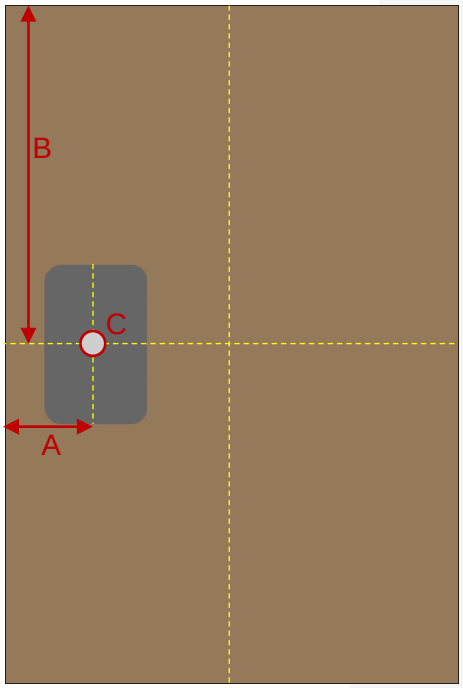
6.4.5 Interlayers handling-Option

Collaborative Palletizer provides users the option to choose the presence of interlayers on the pallet pattern. By default, when an interlayer is required, the robot halts palletization, displaying a pop-up message on the teach pendant for the user to confirm interlayer placement. Automation of this process depends on the type of interlayers.

For rigid interlayers:

- A tilted magazine is positioned next to the in-feed conveyor.
- The standard gripper picks up one interlayer and places it onto the pallet.

- A "rigid interlayer" refers to an interlayer that can be handled smoothly without curling the edges, allowing it to be moved without issue by grabbing close to the edge with a vacuum gripper. The image below can serve as a guideline:



A – 250 mm; B – in the middle; C – center of the pick point

When placing interlayers at a height over 1.2 m [47 ¼“], additional safety scanners are necessary (palletizing boxes on higher layers poses no issues

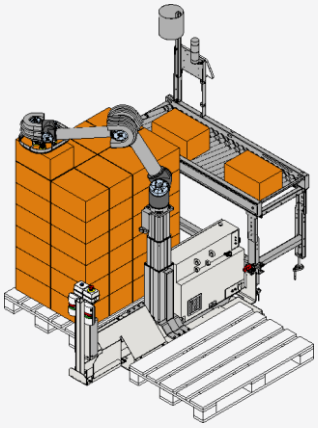
Flexible interlayer -Option

- The magazine is positioned adjacent to the in-feed conveyor.
- Flexible interlayers require a customized gripper, which is larger than the standard gripper (e.g., double/triple gripper).
- If an electrical pedestal is chosen for the robot, the interlayer magazine may need electrical height adjustment.
- In both scenarios, pallet offset might be necessary to prevent collision between the robot arm and the pallet.

6.4.6 Double/triple gripper-Option

- End-effector of gripper class, non-mechanical gripper type.
- Holds product with eight/twelve vacuum suction cups.
- Includes two vacuum switches.
- Includes lightweight carbon fiber frame.
- Includes one or two pressure relief valves.
- Equipped with safety shroud (triggers a safety stop when removed from its location)
- If a solution with double/triple pick is assumed, then different box dimensions and weight limits needs to be applied.

6.4.7 Electrical pedestal-Option

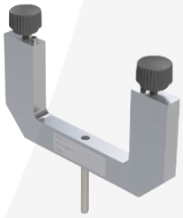


Variable height robot pedestal (option):

- Includes electrical actuator.
- 500 or 800 mm [19 ⅝” or 31 ½”] extended vertical reach*
- Control by 24VDC.
- Electrical wiring loom
- Set of electrical wires
- 2 positions: up and down
- Safe position signal
- Controller for manual operation

When an 800 mm actuator is used robot base position is 150 mm higher, therefore not all configurations are possible (e.g. with big pallet and small box).

6.4.8 Calibration kit-Option



- Used for calibrating the robot.
- Includes tool and plate.

6.5 Control system-Standard.

The control cabinet includes:

- Control based on PLCs: AB (general), Omron (robot), SICK (safety) + IPC HMI 10”
- Chassis-mounted fast-connectors for field component connections
- Easily removable cabinet from palletizer base
- Solid-state relays for longer life
- Robot gripper: one input for “vacuum present” signal per 4 suction cups

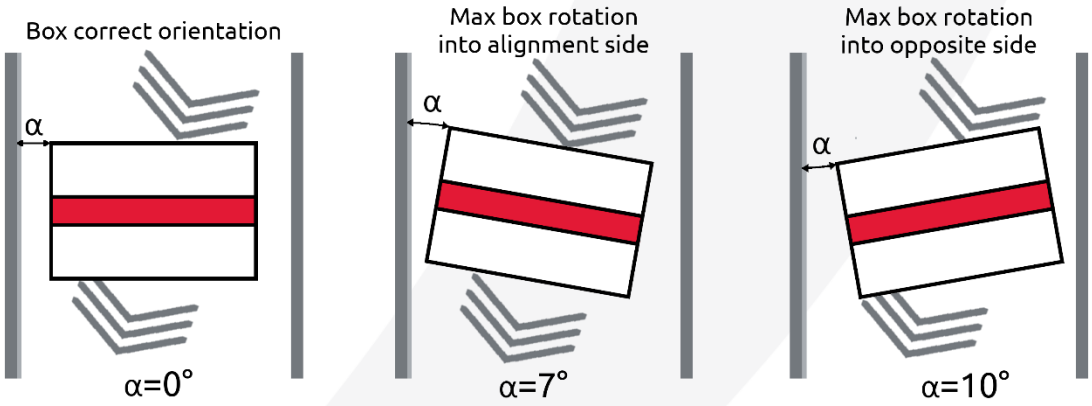
- Pallet docking units equipped with optical pallet presence sensors.
- Light stack with two-color indicators, buzzer, and pallet position lamps
- Remote connection device installed (ready for remote service

NOT INCLUDED:

- PackML software interface for external Up-/Downstream machines and higher-level IT system.
- Any safety fences, covers, doors, light barriers, safety scanners.

6.6 Disclaimer

- FlexLink cannot be held responsible for pallet stability if the quality, shape, or size of the boxes vary.
- FlexLink cannot be held responsible for production losses, opened, or dropped boxes due to lack of quality or poor application of tape on carton boxes.
- The speed of the robot during palletization depends on the type and permeability of the cardboard.
- Some limitations may occur with the "label facing" functionality, resulting in not all labels being visible during pattern generation, especially for TM14 with reduced maximum robot arm reach.
- Boxes with distinct length to width ratio and oriented long side leading may tend to rotate on the skew rollers of the roller conveyor. If in doubt, please contact FlexLink for an evaluation.
- It's important to maintain correct product orientation on the in-feed conveyor for the proposed automated system. Although slight product misalignment is possible due to the technology used, it is limited. The maximum allowed box angle on the in-feed conveyor entrance depends, among other factors, on the box length to width ratio. The values described below are indicative; please contact FlexLink for evaluation.



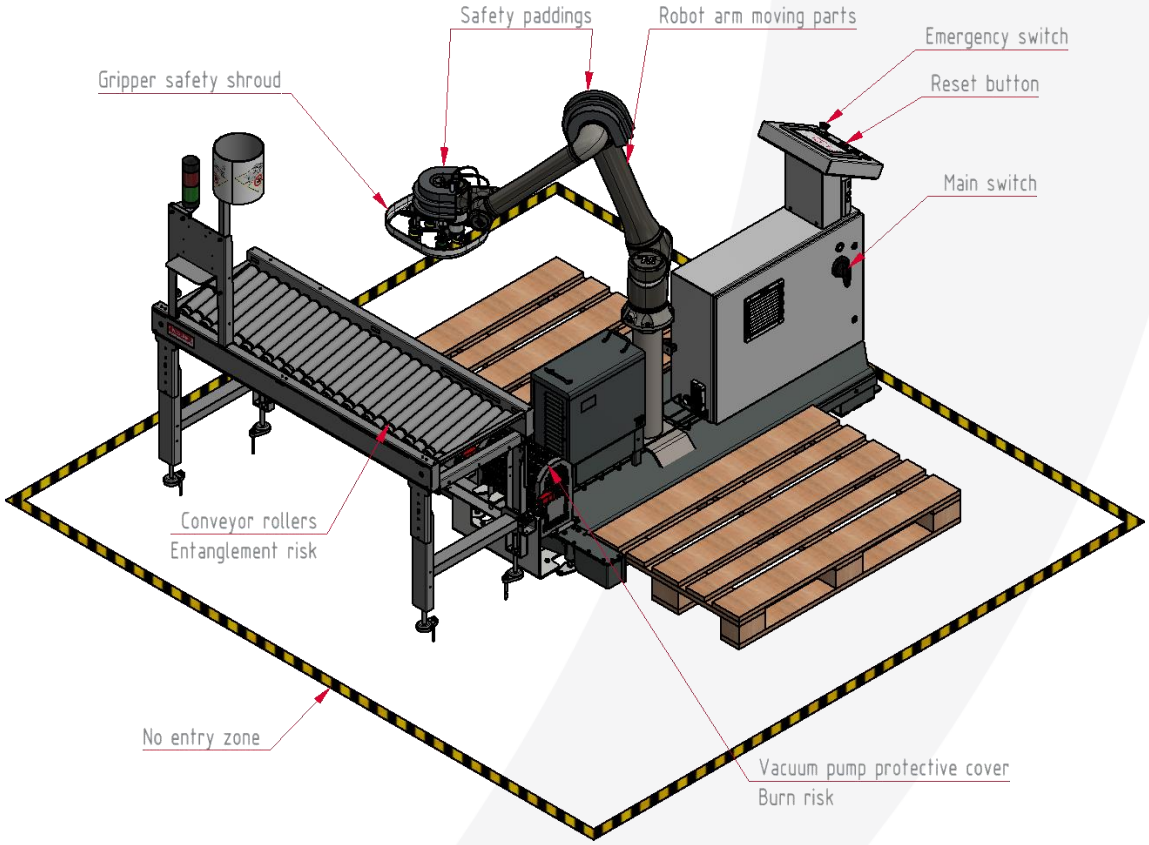
7 SAFETY

All equipment provided by FlexLink meets mandatory safety and health requirements, including the Machinery Directive (2006/42/EC) issued by the European Union, along with any relevant amendments up to the declaration date. We supply a declaration along with machine manuals, user instructions, and maintenance schedules to cover these requirements.

7.1 Safety system design

The heart of the machine is a single-mode operated Collaborative robot. Collaborative operation relies on power and force limitation, eliminating the need for a device to detect human presence to prevent contact.

Performance Level: d Cat. 3[DM3]



The emergency switch is situated in the operator area at the front of the machine. An additional emergency switch is integrated into the robot stick, positioned inside the control cabinet.

Our safety system combines the inherent safety features of the robot system, including geometry, torque limitation, limited moving mass, velocity, and axis limitations, with supplementary safety measures. These include a safety shroud on the gripper, safety paddings on the robot head, and safety padding on the elbow.

The safety paddings serve as cushioning. Both the gripper safety shroud and the robot arm safety paddings are pressure-sensitive, triggering a safety stop in the event of a collision."

7.2 Guarding

The standard machine does not need or come with any fencing or guarding system beyond what's already specified.

7.3 Risk analysis[DM4].

FlexLink conducts a standard risk analysis encompassing all project aspects. We'll keep the customer informed about any remaining risks.

For non-standard applications, FlexLink will conduct an additional risk analysis covering all project aspects.

If necessary, additional safety measures like safety scanners will be quoted separately based on the results of the risk analysis.

7.4 Noise

We anticipate that the noise level in the zones designated for system operators (operator panels) will not surpass 69 dB when measured 1 meter from the machine. Details regarding the noise level will be included in the documentation provided.

8 STANDARDS

The standard version of our equipment meets all relevant provisions of Machinery Directive 2006/42/EC and EMC Directive 2014/30/EU. Specifically, the machine complies with Annex I, Chapter 1.

We adhere to European harmonized standards, including:

- ISO 12100: Safety of machinery – General principles for design – Risk assessment and risk reduction
- ISO 13857: Safety of machinery – Safety distances to prevent hazard zones being reached by upper and lower limbs
- ISO 14121-2: Safety of machinery – Risk assessment – Part 2: Practical guidance and examples of methods
- ISO 13849-1: Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design
- IEC 60204-1: Safety of machinery – Electrical equipment of machines – Part 1: General requirements
- EN 619: Continuous handling equipment and systems – Safety and EMC requirements for equipment for mechanical handling of unit loads
- ISO 10218-2: Robots and robotic devices – Safety requirements for industrial robots – Part 2: Robot systems and integration.

9 STANDARD PROJECT EXECUTION

9.1 Quotation

- This quotation is the primary document for the project, overriding all others and any discussions. If the customer provides new drawings or specifications significantly impacting the proposed system, FlexLink reserves the right to adjust this quotation accordingly.
- The layout included in this quotation is for reference only. FlexLink may modify it during the project, as long as functionality is maintained.
- The appendices are integral to this quotation. By referencing this quotation, you automatically accept the content of all appendices.

9.2 Project management / project model

- FlexLink applies professional project management to ensure customer satisfaction. Cooperation and common sense guide our approach. We follow FlexLink's Operational Management System (OMS) and additional activities outlined here. Key milestones include:
    - F1: Approved project plan
    - F2: Final Design Review (FDR)
    - F3: Factory Acceptance Test (FAT)
    - F4: Site Acceptance Test (SAT)
    - F5: Approved Project, Closing
- We'll develop a project plan, timeline, and test protocols with the customer post-order

Engineering Change Notice

Contract changes are documented via an "Engineering Change Notice" (ECN). This notice describes the reason, scope, impact on project cost, timeline, and/or quality. Customer project manager approval is required, and ECNs must be reviewed and approved by the customer within two working day

9.3 Tests and Installation

9.3.1 Factory Acceptance Test (FAT)

FAT is conducted at FlexLink before delivery to test all mechanical and electrical systems, along with available interfaces. If interfaces are not present during FAT, manual tests are conducted to an appropriate extent.

It's recommended to test all SKUs during FAT, with a maximum duration of 1/2 day (including testing 1 SKU). For projects with multiple SKUs, FAT time will be quoted proportionally. Product samples for each SKU (quantity equal to 1.5 pallets) are mandatory.

FAT includes the following tests:

- "Yellow line" test (electrical wiring check)
- Dry run
- Testing 1 SKU (unless agreed differently)
- IFS safety test covering various points such as E-stop, cycle stop, and power loss.

FlexLink creates a report, signed by both parties, serving as a checklist for addressing any documented deviations.

9.3.2 Installation on site

Installation on site is scheduled during normal working hours (weekdays 08:00-17:00) without interruptions. FlexLink incurs additional costs for overtime if required due to reasons not related to FlexLink (e.g., customer or sub-supplier delays).

9.3.3 Site Acceptance Test (SAT)

The SAT is conducted at the customer's site and verifies that all requirements outlined in the agreement, including any changes, are met. Representatives from both FlexLink and the customer participate in the SAT. FlexLink documents the SAT results and shares the report with the customer.

The SAT lasts for 4 hours and includes:

- Reviewing documentation
- Additional tests to ensure compliance with the agreement, beyond what was tested during FAT
- Verification of training
- Due to the SAT's limited timeframe (1/2 day) and format availability, the number of formats tested is limited. Additional testing time for other formats will incur additional charges.

Before the SAT, FlexLink develops a plan, subject to customer approval. A SAT protocol is then created and signed by both parties. The SAT serves as the final hand-over of the system.

By signing the Acceptance Protocol, the customer confirms equipment readiness, and that installation aligns with their requirements. The customer is liable for any damage caused during testing and agrees to compensate accordingly.

The system is accepted upon passing the Performance Test, during which the customer must provide operational capability. The customer is responsible for providing all materials meeting the specified quality at no cost to FlexLink.

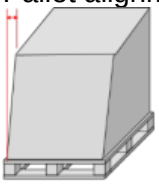
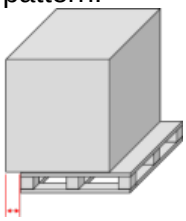
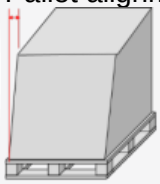
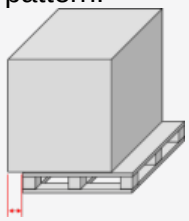
9.3.4 Performance requirements for tests

Criteria	**FAT** Factory Acceptance Test	**SAT** To be performed immediately after the installation,
Cycle time	According to capacities in SKU analysis.	According to capacities in SKU analysis.
Unplanned stoppages	N/A	90% minimum uptime during course of 4 hour run.
Machinery safety	Zero accident / Zero incident	Zero accident / Zero incident
Gripper Vacuum level required from cases	50%	50%

Unplanned stoppages refer to time lost due to unforeseen events hindering production, like breakdowns or process failures. It includes the time from the last unit produced to the first good unit produced after the interruption, including any necessary startup period.

$$Unplanned\ Stoppages\ (\%) = \frac{Total\ time\ of\ Unplanned\ stoppages}{Run\ time} x\ 100\%$$

Quality requirements

Criteria	FAT Factory Acceptance Test	SAT To be performed immediately after the installation.
Product Alignment Test method: Check all pallets	Palletizing accuracy +/- 10 mm	Palletizing accuracy +/- 10 mm
Pallet Alignment Test method: Check all pallets	1) Pallet alignment <20 mm  2) Product deviations < ±30 mm from theoretical pallet pattern:  The above based on nominal dimensions of product.	1) Pallet alignment <20 mm  2) Product deviations < ±30 mm from theoretical pallet pattern:  The above based on nominal dimensions of product.
Interlayer – Slip sheet Alignment Test method: Check all pallets	Interlayer – slip sheet position deviate less than 30 mm from theoretical position	Interlayer – slip sheet position deviate less than 30 mm from theoretical position

9.4 SAT final acceptance

After a successful SAT test, both parties consider the system accepted. Minor defects discovered at this time, which don't significantly affect system use, won't prevent acceptance and warranty commencement.

By signing the Acceptance Protocol, the Customer confirms readiness for operation and that installation meets their requirements. The Customer is liable for any damage caused during testing and agrees to compensate accordingly.

As per Orgalime SI14 §38, the system shouldn't be used before SAT without FlexLink's written consent. If used without consent, the system is considered accepted, relieving FlexLink of SAT obligations.

SAT is considered accepted if not conducted within 30 days post-delivery, for reasons beyond FlexLink's control.

9.5 Ramp up / Service

After a successful SAT and training, we offer additional support for the ramp-up phase. FlexLink will bill these services to the customer based on our daily rate.

9.6 Customer responsibilities / Standard exclusions

and its Appendices falls under the responsibility of the customer. Examples of such exclusions include:

- Products and services not outlined in this offer.
- Installation of roof hangers, if required. The customer is responsible for ensuring installation according to the agreed schedule.
- Providing product samples as per FlexLink's requirements.
- Ensuring accuracy of all drawings referenced in this quotation regarding construction parts, unless otherwise confirmed.
- Seismic surveys and certifications.
- Supplying necessary equipment such as ladders, lifts, and scaffolding, unless agreed otherwise.
- Civil works needed to accommodate the system, including floor preparation and finishing.
- Any equipment, controls, or services not specified in this quotation or its appendices.
- Providing a clear and electrically safe installation site with unobstructed access.
- Handling and unloading of trucks.
- Transporting equipment within the plant.
- Supplying air, gas, and electricity over the assembly area.
- Verification or adjustment of compressors for vacuum systems.
- Adjustments or modifications to existing machinery.
- Change of process during the project.
- Certification by external companies, unless specified.
- Health and safety equipment.
- Products not specifically listed in this offer.
- Costs associated with specifications not shared with FlexLink.
- Operator stations and anti-truck protections not described in this offer.
- Resources and personnel for performance measurement.

- Changes from our standard hardware specifications.
- Emergency stop functionality beyond what's outlined in this quotation.
- Additional programming for more than one SKU pattern, if not ordered separately.
- Spare or wear parts, unless specified.
- FMEA study, database inputs, operator manuals, and specific training files.
- Customer staff training, if not ordered.
- Applicable duties and/or taxes, unless specified.
- Working during night shifts or bank holidays

10 STANDARD DOCUMENTATION

All documentation is provided in English. The delivery consists of one hard copy (paper) and one soft copy (flash drive) of each document, where applicable. Documentation from sub-suppliers, such as for robots, will be exclusively in electronic format (pdf) and in English only.

The project documentation comprises:

- User instructions (pdf)
- Electrical drawings (pdf)
- Pneumatic drawings (pdf)
- Recommended spare part lists (pdf)
- Service and assembly instructions for FlexLink components (pdf)
- System software backup (provided solely on a flash drive)

11 FORMAL TRAINING-OPTIONAL

- During installation and SAT, informal training takes place. Additionally, there's an option for one-day supplementary training during regular working hours

(weekdays 08:00-17:00), which can be quoted separately for additional sessions.

- The training will be conducted in English, with the customer responsible for providing an interpreter if needed. It's essential that adequately qualified personnel are available for the training.

- To ensure plant safety, responsible employees from each shift should receive training in specific subareas. They can then share their knowledge with other maintenance staff as needed.

- The training program covers various topics including general information on safety and operations, system and machine descriptions, safe machine use, production start and stop procedures, program and machine settings, control panel operations, diagnostics and breakdown procedures, workstation instructions, spare parts, troubleshooting, basic maintenance tasks, and documentation review.

12 MISCELLANEOUS

All attachments are integral to this quotation. By referencing this quotation in your purchase order, you automatically accept the contents of all appendices. Our copyright protects the quotation, samples, and drawings; they cannot be used against a third party without our permission. At FlexLink, we highly value ongoing and long-term relationships with our customers. Consequently, we appreciate opportunities to engage in joint marketing efforts for project installations.

13 SEVERABILITY

If any part of this agreement becomes legally invalid or if there's something missing, it won't affect the rest of the agreement. We'll agree on new terms to replace any invalid ones. If there's something missing, we'll agree on what should be there to match our original intentions. Any changes or additions to this agreement need to be written down to be valid.

14 SET-OFF

Neither party can hold back or subtract payments, and the right to offset is specifically not allowed. However, if the law mandates the right to offset, this rule doesn't apply. Regarding the Buyer's General Terms and Conditions, FlexLink rejects them outright, and they won't be part of the contract unless FlexLink explicitly declines them.

15 ANTICORRUPTION

FlexLink and its customers will make sure that everyone involved in their business relationship, such as officers, employees, contractors, suppliers, or agents, follows all relevant laws. This includes laws regarding corruption, money laundering, bribery, tax evasion, economic sanctions, chemical regulations, health, and safety. They will not participate in any illegal activities.

16 CONFIDENTIALITY AND OWNERSHIP

Any information, whether spoken or written, shared by FlexLink before or during a collaborative project is considered FlexLink's IP and must be handled with care and confidentiality. All creations, drawings, models, protected by intellectual property rights, belong to FlexLink. Any

technical solutions developed by FlexLink, regardless of their format or medium, are exclusively owned by FlexLink and cannot be distributed, copied, or reproduced without written permission.

17 STANDARD CHECKLIST[DM5]

17.1 Checklist

The checklist outlines the key responsibilities for both FlexLink and the Customer during the project. It reflects FlexLink's assumptions at the time of the quotation, which may extend beyond what's listed. FlexLink emphasizes the importance of Customer involvement in defining responsibilities.

Responsibilities of the Vendor and Purchaser

- The Vendor and Purchaser will arrange and pay for the facilities, undertakings etc. as shown below.
- The Vendor will always ask the Purchaser if they can provide assistance prior to other arrangements being made.

Item	Arr. by	Paid by
Customs clearance, duties and charges	Purchaser	Purchaser
Provision of services to the prepared location on site(s)	Purchaser	Purchaser
Inspection of Purchasers preparatory work on-site prior to installation	Purchaser	Purchaser
Supply and transportation of all necessary labor, packaging and clearly marked goods to fulfill the contract. This includes transport up to the installation site(s)	Vendor	Vendor
Insurance of the goods until Take Over.	Vendor	Vendor
Unloading of goods on the installation site. Vendors will have full responsibility in terms of supervision and risk during unloading of goods. The purchaser provides people and equipment for the unloading exercise. Vendor to specify requirements and approve equipment and personnel.	Purchaser	Purchaser
Unpacking, including checking	Purchaser	Purchaser

Work permits for foreign labor	Vendor	Vendor
Installation team (optional)	Vendor	Purchaser
Two to three suitable personnel from the Purchaser will participate from time to time in the installation phase in order to assist the vendor, and for training purposes. Vendor to approve and supervise personnel.	Purchaser	Purchaser
Warning sign(s) on installation site(s)	Purchaser	Purchaser
Setting-out work (canter lines, reference heights, etc.) (optional)	Vendor	Vendor
Levelling on the floor and foundations for installation	Purchaser	Purchaser
Connection to services	Purchaser	Purchaser
Products for testing/commissioning	Purchaser	Purchaser
Touch up painting of installed equipment, if applicable.	Vendor	Vendor
Storage facilities for material and tools	Purchaser	Purchaser
Free area for material preparation (cutting). Roped off by Vendor, with necessary safety features	Purchaser	Purchaser
Use of workshop premises by Vendor.	Purchaser	Purchaser
Cleaning and removal of waste from the installation site(s) during installation and commissioning as well as after commissioning. Waste shall be moved to waste containers within the factory premises. Transport to external disposal plant will be handled by Purchaser.	Purchaser	Purchaser

Accommodation, travel costs, allowances and other costs for Vendor personnel and Vendor subcontractor personnel on site	Vendor	Vendor
Easy access to a small office near the installation place, with access to telephone, fax and internet for project related office work.	Purchaser	Purchaser

18 ADDITIONAL APPENDICES AND/OR ATTACHMENTS