Linear axis for collaborative robots LIFTKIT

Benefits for palletizing

Fully automated pick and place solutions are becoming a new standard with packaging stations. The main challenge for packaging system manufacturers is to complete multi-axis systems in a simple and cost effective way. A typical application that benefits from an added linear axis is palletizing of boxes. Stacking on pallets can start at floor level, but the stack can be up to 2 m high. A standard collaborative robot does not have such a large vertical working range.

The SKF Motion Technologies LIFTKIT provides an effective solution to complete vertical axis adjustment in a smart way, providing a ready to mount additional linear axis to the robot. While stacking a pallet, the base of the robot can be lifted or lowered to work at a more optimal position.

Operating range extension

- Vertical lifting of the cobot by up to 900 mm with compact retracted height
- Robust pillar design for industrial use, vibration free motion and virtually maintenance free

Plug-and-play solution

- Hardware interface compatible with UR3, UR5 and UR10 robots
- Universal Robots+ certified product
- Software control integrated with UR controller (URCaps) for easy motion programming

Cost savings and higher productivity

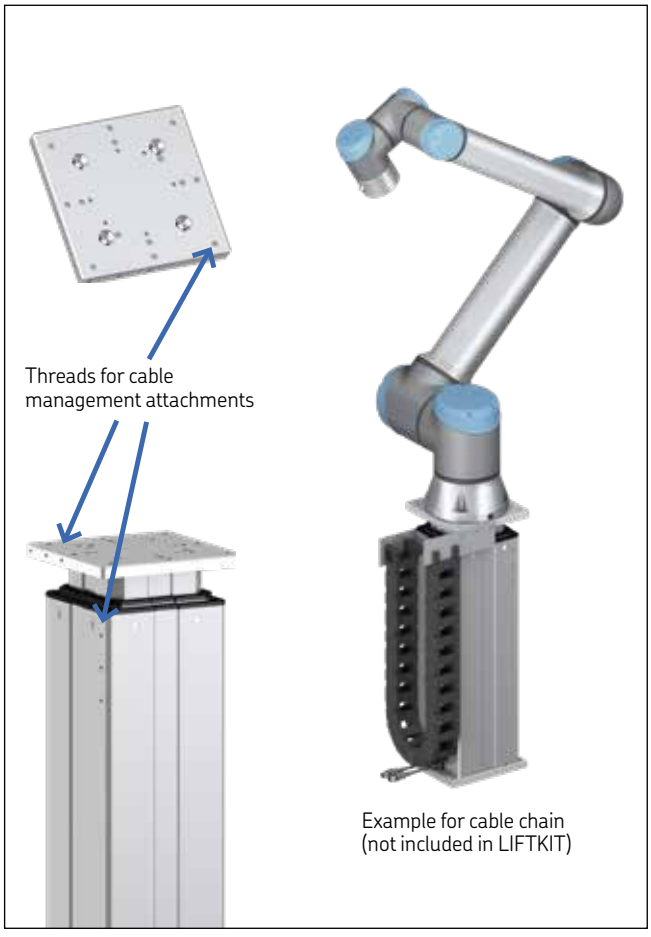
UR cobots combined with SKF Motion Technologies LIFTKIT provide a cost-effective solution to upgrade an existing assembly shop, moving from a manual handled to a fully automatized line.

UNIVERSAL ROBOTS+
Certified

Technical data

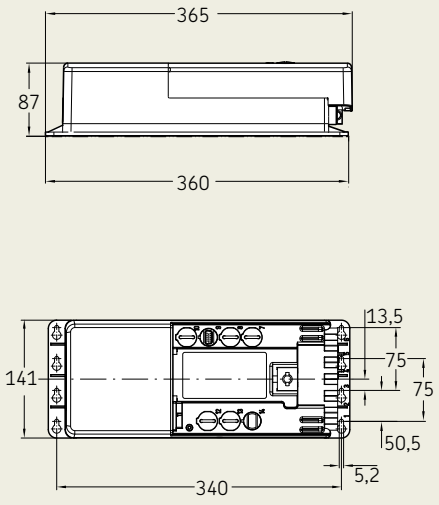
	Unit	LIFTKIT-UR-601
Mechanical		
Push load	N	1 500 N
Pull load	N	0 N
Speed	mm/s	80 mm/s
Stroke	mm	500 – 900 mm
Retracted length (hardware)	mm	Stroke/2 + 265 mm
Retracted length (software controlled)	mm	Stroke/2 + 275 mm
Height of attachment plates	mm	2x15 mm
Cross section	mm	163 mm x 163 mm
Type of protection	IP	40
Ambient temperature	°C	+10 to +40 °C
Compatibility to UR	-	UR3, UR5, UR10, e-Series
Cable management	-	Threads on pillar and interface plate to attach cable management
Electrical		
Voltage/Current	V/A	120 AC / 6.5 230 AC / 3,3 24 DC / 10
Emergency stop	-	Connection to UR safety IO
Software functionality		
Positioning, repeatability	mm	± 1 mm
Accessible positions	-	any
Feedback	-	Position feedback via URCaps
Soft start and stop	-	Implemented for smooth operation
Universal Robots controller compatibility		CB 3.1 / Polyscope 3.6 or higher

Cable management

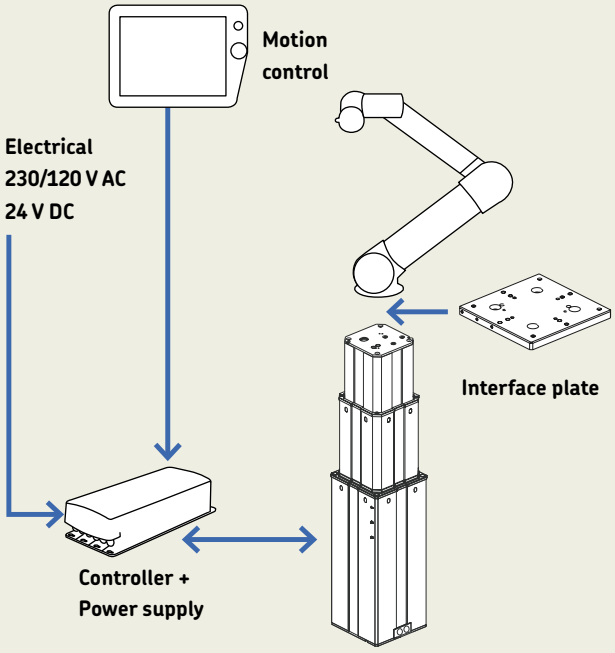


LIFTKIT contains

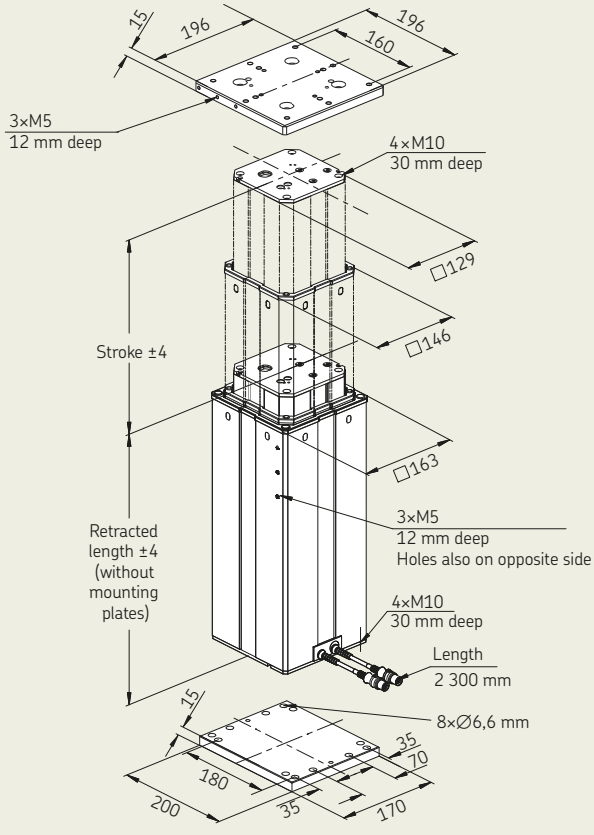
Dimensional drawing control unit

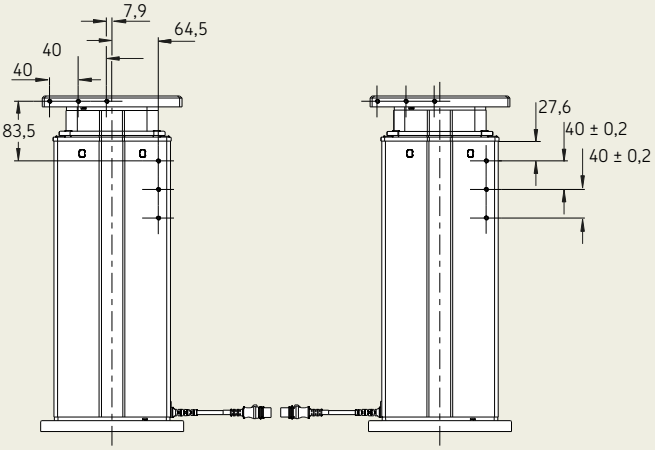


Connection diagram



Dimensional drawing telescopic pillar





Software functionality

The URCaps software for the LIFTKIT allows easy positioning access directly within the UR Polyscope environment.

Setup

In the installation tab, the user can manually move the linear axis in both directions and define multiple user specific positions, that are accessible in programming mode.

Motion programming

Within the UR motion program, the LIFTKIT axis is easily integrated through a URCaps command module. Simply insert this element from the structure tab at the desired position of the program.

Additionally, reading and setting positions is possible through a script function.

Safety elements

The LIFTKIT has a range of safety elements built in to allow its integration into a robot application.

NOTE: The LIFTKIT is not a functional safety system compliant with EN ISO 13489-1 or IEC 62061. To integrate the LIFTKIT into a functional safety chain, external safety devices have to be integrated into the overall system.

LIFTKIT software functionality

Ordering key

LIFTKIT - UR - [ ][ ][ ] - [ ][ ]00 - [ ][ ][ ]

Robot
UR Universal Robots

Stroke
500 mm
600 mm
700 mm
800 mm
900 mm

Electrical options
00 24 V DC
11 120 V AC / US cable
22 230 V AC / EU cable
23 230 V AC / CN cable
24 230 V AC / UK cable
25 230 V AC / CH cable

Pillar type
601 TLT

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