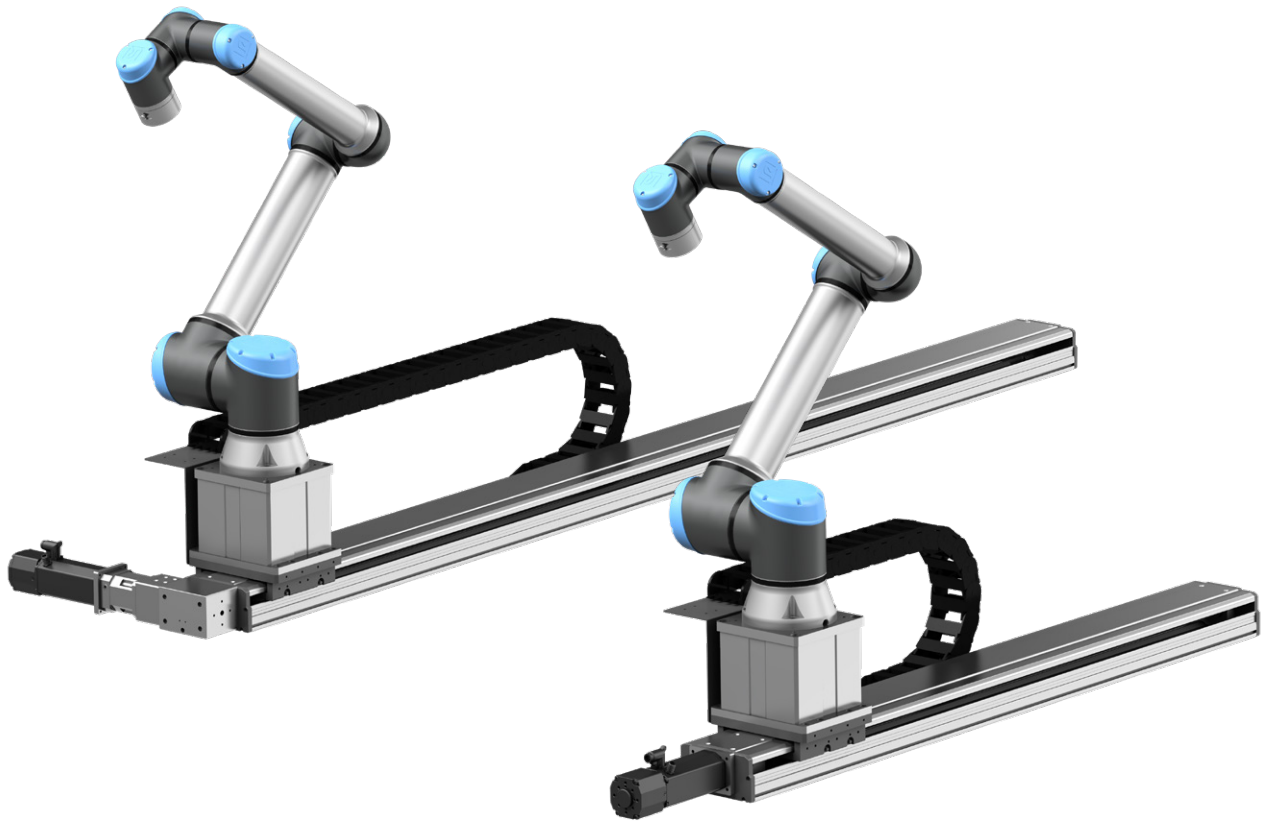
EWELLIX

A Schaeffler Company

Linear axis for collaborative robots SLIDEKIT 2.0



The heritage of innovation

Ewellix is a global innovator and manufacturer of linear motion and actuation solutions. Our state-of-the-art linear solutions are designed to increase machine performance, maximise uptime, reduce maintenance, improve safety and save energy. We engineer solutions for assembly automation, medical equipment, mobile machinery, distribution and a wide range of other industrial applications.

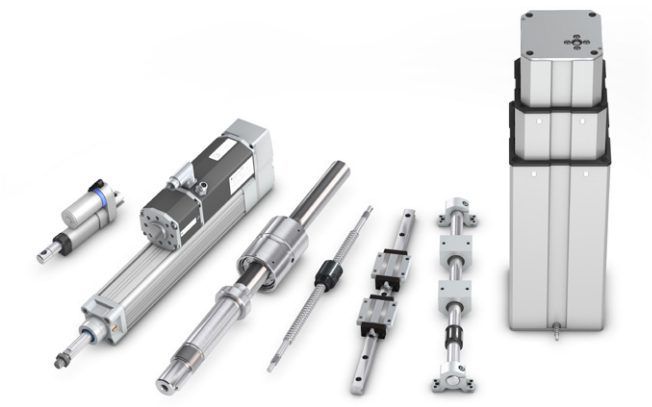
Technology leadership

We earned our reputation through decades of engineering excellence. Our journey began over 50 years ago as part of the SKF Group, a leading global technology provider. Our history provided us with the expertise to continuously develop new technologies and use them to create cutting edge products that offer our customers a competitive advantage.

In 2019, we became independent and changed our name to Ewellix. We are proud of our heritage. This gives us a unique foundation on which to build an agile business with engineering excellence and innovation as our core strengths.

Global presence and local support

With our global presence, we are uniquely positioned to deliver standard components and custom-engineered solutions, with full technical and applications support around the world. Our skilled engineers provide total life-cycle support, helping to optimise the design, operation and maintenance of equipment thus improving productivity and reliability while reducing costs. At Ewellix, we don't just provide products; we engineer integrated solutions that help customers realise their ambitions.



Schaeffler Group – We pioneer motion

Ewellix is since 2023 owned by the Schaeffler Group.

As a leading global supplier to the automotive and industrial sectors, the Schaeffler Group has been driving forward groundbreaking inventions and developments in the fields of motion and mobility for over 75 years.

With innovative technologies, products, and services for electric mobility, CO_2-efficient drives, Industry 4.0, digitalization, and renewable energies, the company is a reliable partner for making motion and mobility more efficient, intelligent, and sustainable.

Schaeffler manufactures high-precision components and systems for powertrain and chassis applications as well as rolling and plain bearing solutions for a large number of industrial applications.

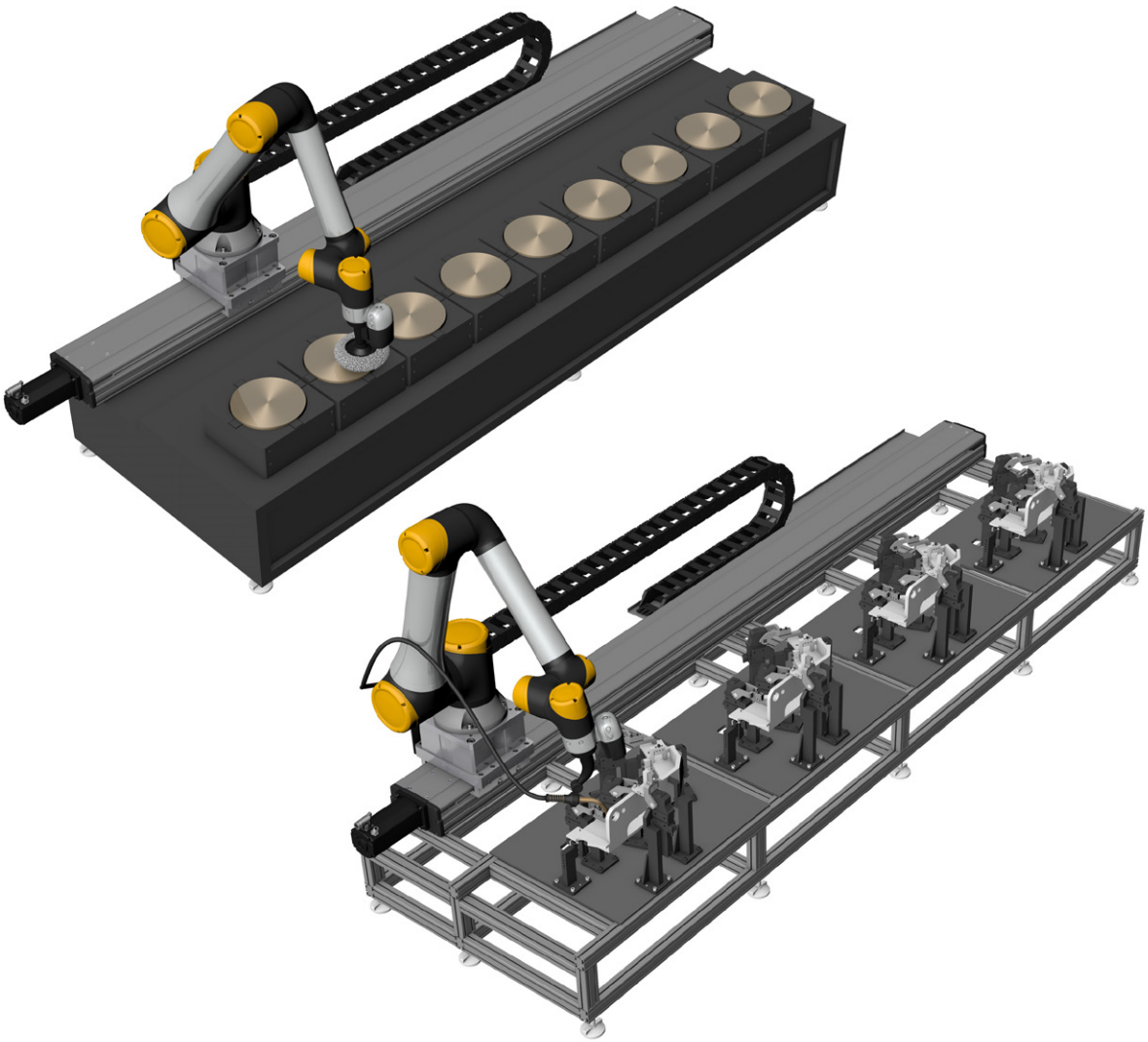
Benefits for industrial applications

Several industrial applications require to cover long distances to perform the manufacturing process operation, like finishing, welding and parts inspection.

These repetitive tasks, usually done manually, are time consuming and with low added value for the operators

By using a cobot on the Ewellix linear module, it is possible to easily automate these processes, increasing the productivity and output quality.

Linear modules from Ewellix provide fast and precise movements to effectively position the robot along a horizontal axis, extending its reach.



Linear axis for collaborative robots SLIDEKIT 2.0

Operating range extension

By adding a linear module as a dynamic base for the robot, it is possible to extend the handling operating area of the robot, increasing the productivity of a series of machines working in the same production flow.

Plug-and-play solution

The SLIDEKIT 2.0 provides quick and fast installation, by having a standardized mechanical, electrical and software interface with Universal Robots.
In few steps, the system is ready to be used and simply programmed in operation.

Cost savings and higher productivity

UR cobots combined with the SLIDEKIT 2.0 linear module provide a cost-effective solution to upgrade an existing assembly shop, moving from a manual handled to a fully automatized line.

Improved performances

The 2.0 release of the SLIDEKIT delivers several improvements compared to the former version, like higher system reactivity and stability, lower noise in operation and optimized design for limit switches and re-lubrication points

UNIVERSAL ROBOTS+ Certified

Technical data - For general cobot version

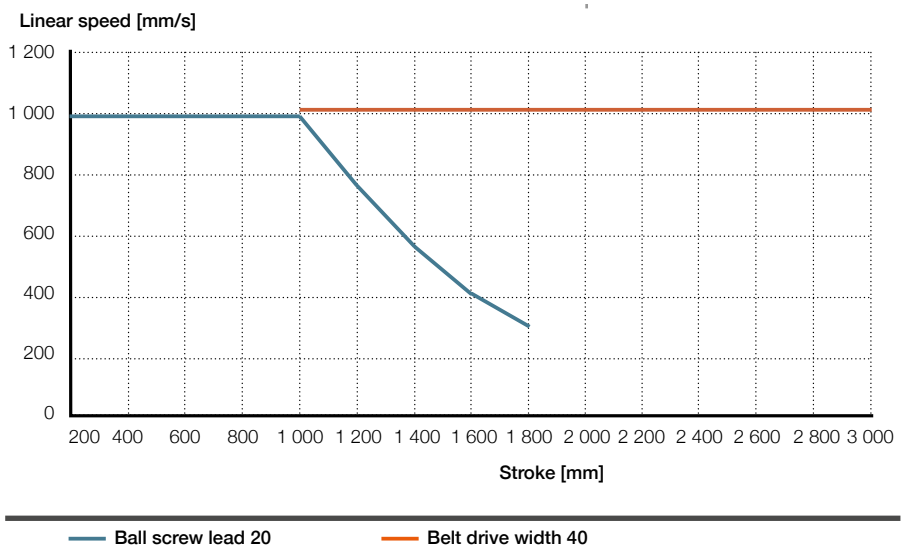
Designation	Unit	SLIDEKIT-00-Ball screw version	SLIDEKIT-00-Belt drive version
Linear module type	-	CLSM-150	CLSM-150
Performance Data			
Max. dynamic payload	N	10 900	10 900
Max. static load capacity	N	12 100	12 100
Max. belt tension	N	-	960
Max. belt thrust	N	-	4 500
Max. dynamic moments Mx	Nm	2 400	2 400
Max. dynamic moments Mz	Nm	1 800	1 800
Max. linear speed	mm/s	See graph page 5	See graph page 5
Duty cycle	%	100	100
Mechanical Data			
Drive type	-	Ball screw	Belt drive
Stroke range	mm	100 - 1 800	1 000 - 3 000
Repeatability	mm	± 0.01	± 0.08
Weight @ 0 mm stroke	Kg	15	17
Δ weight per 100mm stroke	Kg	1,6	1,4
Robots compatibility		Any robot	Any robot
Mounting	-	Floor mount, ceiling mount, wall mount (lateral)	Floor mount, ceiling mount
Cable management	-	Cableveyor	Cableveyor
Electrical			
Voltage/Current	V/A	115 VAC / 4.8 A 230 VAC / 2.4 A 24 DC / 20 A	115 VAC / 4.8 A 230 VAC / 2.4 A 24 DC / 20 A
Emergency stop	-	Connection to Robot safety I/O	Connection to Robot safety I/O
Communication			
Control interface	-	Digital I/O control, CAN interface for external software control [1]	Digital I/O control, CAN interface for external software control [1]
Positioning, repeatability	mm	± 0.1	± 0.1
Accessible positions	-	14 memory positions programmable	14 memory positions programmable
Feedback	-	Position feedback via output signal	Position feedback via output signal
Soft start and stop	-	Implemented for smooth operation	Implemented for smooth operation
Software control	-	CAN interface for external software control [1]	CAN interface for external software control [1]
Environment			
Type of protection	IP	Controll box = N/A SlideKit = N/A	Controll box = N/A SlideKit = N/A
Ambient temperature	°C	0 to +50	0 to +50
Max. humidity	%	95	95

[1] No software provided / The software can be downloaded from the Dunker motor website

Technical data - Universal Robot UR3, UR5, UR10, UR16 version

Designation	Unit	SLIDEKIT-UR-Ball screw version	SLIDEKIT-UR-Belt drive version
Linear module type	-	CLSM-150	CLSM-150
Performance Data			
Max. dynamic payload	N	10 900	10 900
Max. static load capacity	N	12 100	12 100
Max. belt tension	N	-	960
Max. belt thrust	N	-	4 500
Max. dynamic moments Mx	Nm	2 400	2 400
Max. dynamic moments Mz	Nm	1 800	1 800
Max. linear speed	mm/s	See graph page 5	See graph page 5
Duty cycle	%	100	100
Mechanical Data			
Drive type	-	Ball screw	Belt drive
Stroke range	mm	100 - 1 800	1 000 - 3 000
Repeatability	mm	± 0.01	± 0.08
Weight @ 0 mm stroke	Kg	15	17
Δ weight per 100mm stroke	Kg	1,6	1,4
Robots compatibility	-	UR3, UR5, UR10, UR16, CB-Series and e-series	UR3, UR5, UR10, UR16, CB-Series and e-series
Mounting	-	Floor mount, ceiling mount, wall mount (lateral)	Floor mount, ceiling mount
Cable management	-	Cableveyor	Cableveyor
Electrical			
Voltage/Current	V/A	115 VAC / 4.8 A 230 VAC / 2.4 A 24 DC / 20 A	115 VAC / 4.8 A 230 VAC / 2.4 A 24 DC / 20 A
Emergency stop	-	Connection to UR safety I/O	Connection to UR safety I/O
Communication			
Control interface	-	URCaps plugin compatible with CB3.1 / Polyscope 3.6 or higher	URCaps plugin compatible with CB3.1 / Polyscope 3.6 or higher
Positioning, repeatability	mm	± 0.1	± 0.1
Accessible positions	-	any	any
Feedback	-	Position feedback via URCaps	Position feedback via URCaps
Soft start and stop	-	Implemented for smooth operation	Implemented for smooth operation
Software control	-	URcap	URcap
Environment			
Type of protection	IP	Controll box = N/A SlideKit = N/A	Controll box = N/A SlideKit = N/A
Ambient temperature	°C	0 to +50	0 to +50
Max. humidity	%	95	95

Performance diagrams

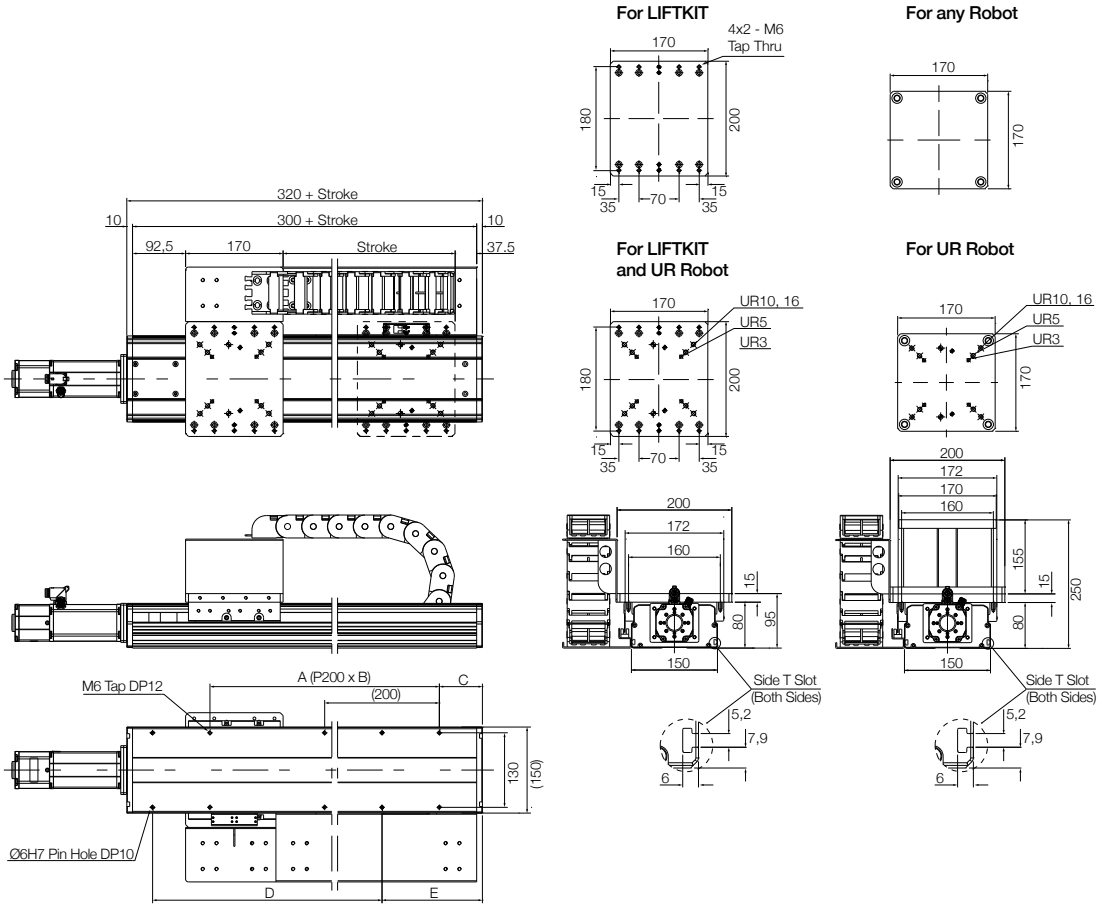


Technical data - Universal Robot UR20, UR30 version

Designation	Unit	SLIDEKIT-UR-Belt drive version S01
Linear module type	-	CLSM-150 inchainced version
Performance Data		
Max. dynamic payload	N	16 000
Max. static load capacity	N	19 400
Max. belt thrust	N	960
Max. dynamic moments Mx	Nm	3 660
Max. dynamic moments Mz	Nm	3 970
Max. linear speed	mm/s	300
Duty cycle	%	100
Mechanical Data		
Drive type	-	Belt drive
Stroke range	mm	1 000 – 3 000
Repeatability	mm	± 0.08
Weight @ 0 mm stroke	Kg	18
Δ weight per 100mm stroke	Kg	1,4
Robots compatibility		UR20 and UR30 E-series
Mounting	-	Floor mount
Cable management	-	Cableveyor
Electrical		
Voltage/Current	V/A	115 VAC / 4.8 A 230 VAC / 2.4 A 24 DC / 20 A
Emergency stop	-	Connection to Robot safety I/O
Communication		
Control interface	-	URCaps plugin compatible with CB3.1 / Polyscope 3.6 or higher
Positioning, repeatability	mm	± 0.1
Accessible positions	-	any
Feedback	-	Position feedback via URCaps
Soft start and stop	-	Implemented for smooth operation
Software control	-	Urcap
Environment		
Type of protection	IP	Controll box = N/A SlideKit = N/A
Ambient temperature	°C	0 to +50
Max. humidity	%	95

Dimensional drawing

Ball Screw version for any robots and for UR3, UR5, UR10, UR16

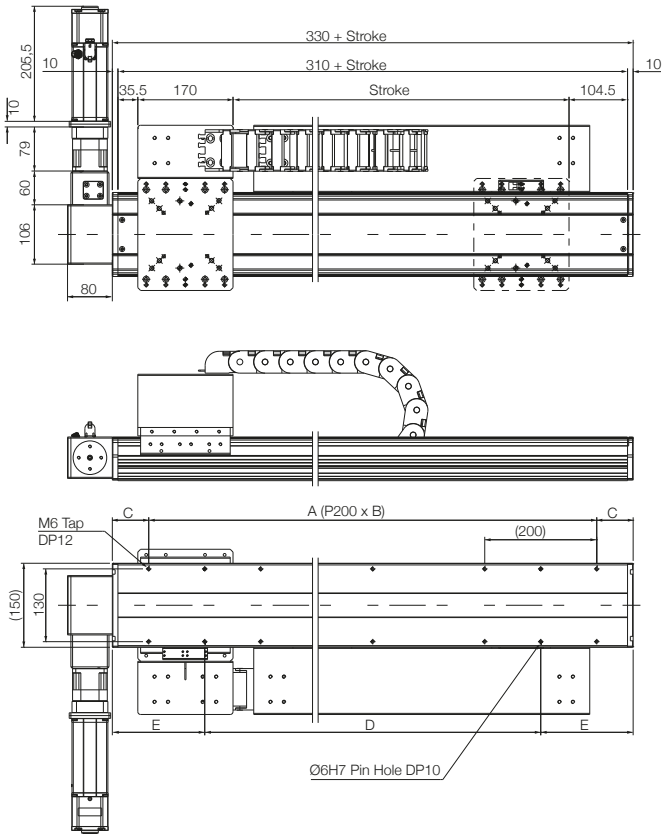


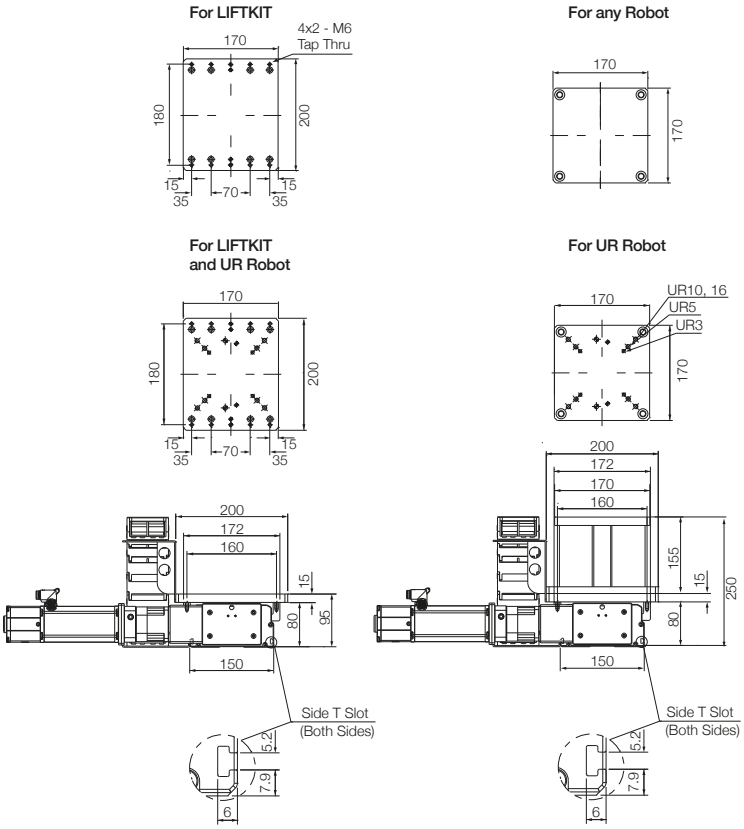
	Stroke	A	B	C	D	E
	mm					
1	100	200	1	75	200	175
2	200	400	2	25		125
3	300	400	2	75	400	175
4	400	600	3	25		125
5	500	600	3	75	600	175
6	600	800	4	25		125
7	700	800	4	75	800	175
8	800	1 000	5	25		125
9	900	1 000	5	75	1 000	175
10	**1 000**	**1 200**	**6**	**25**		**125**
11	1 100	1 200	6	75	1 200	175
12	1 200	1 400	7	25		125
13	1 300	1 400	7	75	1 400	175
14	1 400	1 600	8	25		125
15	1 500	1 600	8	75	1 600	175
16	1 600	1 800	9	25		125
17	1 700	1 800	9	75	1 800	175
18	**1 800**	**2 000**	**10**	**25**		**125**

Standard stroke

Dimensional drawing

Belt version for any robots and for UR3, UR5, UR10, UR16



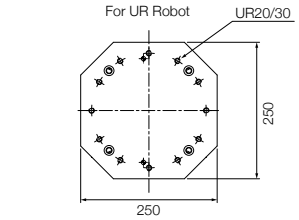


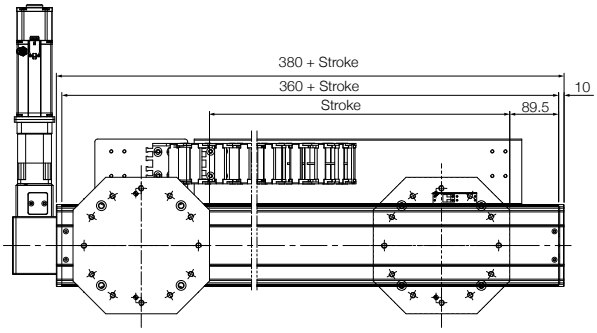
	Stroke	A	B	C	D	E
	mm					
10	1 000	1 200	6	65	1 000	165
11	1 100	1 200	6	115	1 000	215
12	1 200	1 400	7	65	1 200	165
13	1 300	1 400	7	115	1 200	215
14	1 400	1 600	8	65	1 400	165
15	1 500	1 600	8	115	1 400	215
16	1 600	1 800	9	65	1 600	165
17	1 700	1 800	9	115	1 600	215
18	1 800	2 000	10	65	1 800	165
19	1 900	2 000	10	115	1 800	215
20	2 000	2 200	11	65	2 000	165
21	2 100	2 200	11	115	2 000	215
22	2200	2 400	12	65	2 200	165
23	2 300	2 400	12	115	2 200	215
24	2 400	2 600	13	65	2 400	165
25	**2 500**	**2 600**	**13**	**115**	**2 400**	**215**
26	2 600	2 800	14	65	2 600	165
27	2 700	2 800	14	115	2 600	215
28	2 800	3 000	15	65	2 800	165
29	2 900	3 000	15	115	2 800	215
30	**3 000**	**3 200**	**16**	**65**	**3 000**	**165**

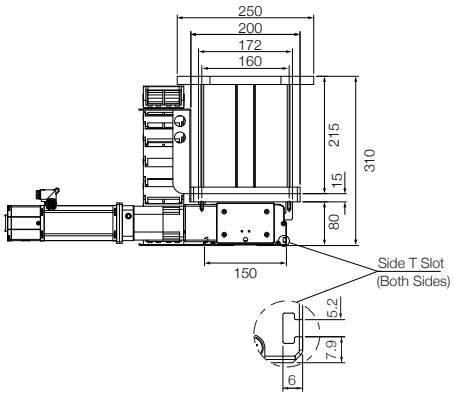
Standard stroke

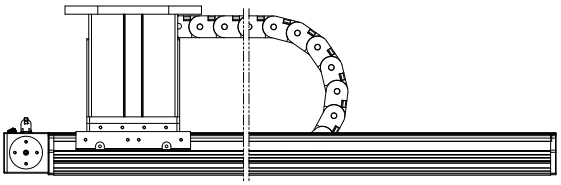
Dimensional drawing

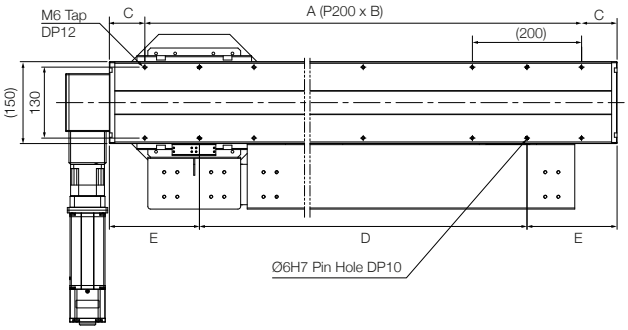
Belt version for UR20 and UR30





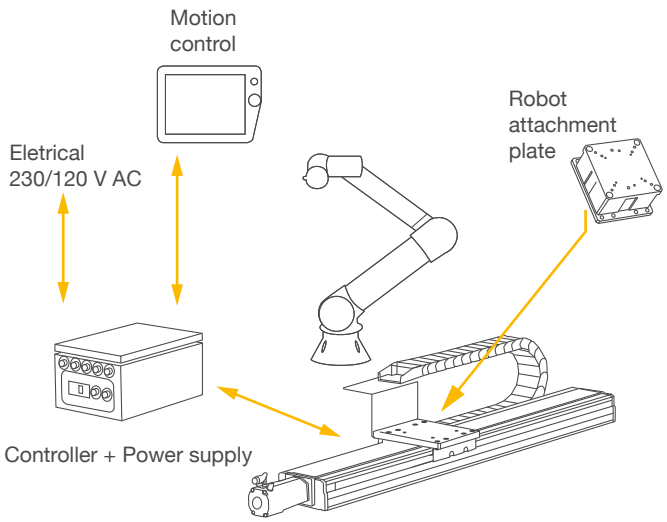




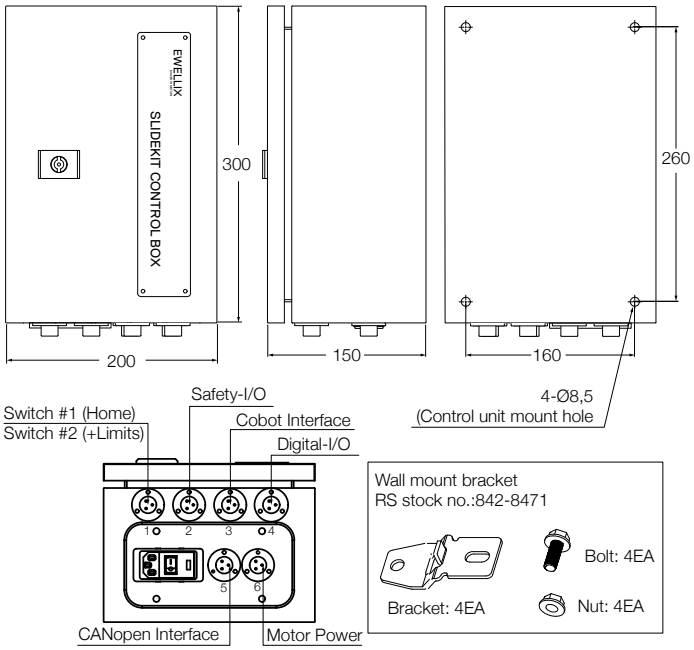


	Stroke	A	B	C	D	E
	mm					
1	100	400	2	140	200	240
2	200	400	2	90	200	190
3	300	600	3	140	400	240
4	400	600	3	90	400	190
5	500	800	4	140	600	240
6	600	800	4	90	600	190
7	700	1 000	5	140	800	240
8	800	1 000	5	90	800	190
9	900	1 200	6	140	1 000	240
10	1 000	1200	6	90	1 000	190
11	1 100	1 400	7	140	1 200	240
12	1 200	1 400	7	90	1 200	190
13	1300	1 600	8	140	1 400	240
14	1 400	1 600	8	90	1 400	190
15	1 500	1 800	9	140	1 600	240
16	1 600	1 800	9	90	1 600	190
17	1 700	2 000	10	140	1 800	240
18	1 800	2 000	10	90	1 800	190
19	1 900	2 200	11	140	2 000	240
20	2 000	2 200	11	90	2 000	190
21	2 100	2 400	12	140	2 200	240
22	2 200	2 400	12	90	2 200	190
23	2 300	2 600	13	140	2 400	240
24	2 400	2 600	13	90	2 400	190
25	2 500	2 800	14	140	2 600	240
26	2 600	2 800	14	90	2 600	190
27	2 700	3 000	15	140	2 800	240
28	2800	3 000	15	90	2 800	190
29	2 900	3 200	16	140	3 000	240
30	3 000	3 200	16	90	3 000	190

Connection diagram



Control unit



Software functionality

The URCaps software for the SLIDEKIT 2.0 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 SLIDEKIT 2.0 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.

Software updates

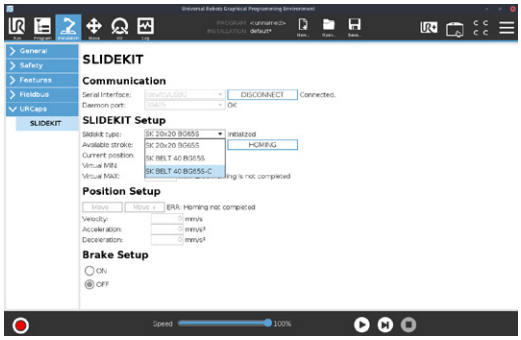
To download the latest software update please check on ewellix.com/support/library/software updates.

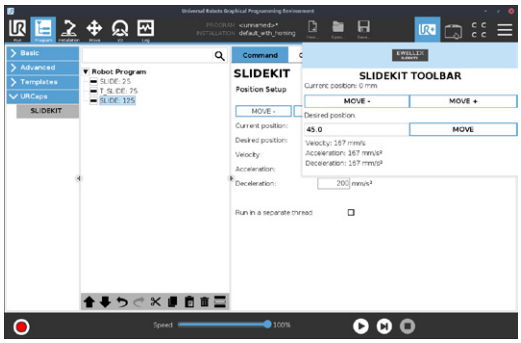
Safety elements

The SLIDEKIT 2.0 has a range of safety elements built in to allow its integration into a robot application.

It's equipped with 2 safety relays, certified ISO 13849-1.

NOTE:
The SLIDEKIT 2.0 is not a functional safety system compliant with EN ISO 13489-1 or IEC 62061. To integrate the SLIDEKIT 2.0 into a functional safety chain, external safety devices have to be integrated into the overall system.





SLIDEKIT 2.0 software functionality

Ordering key

SLIDEKIT - UR - E - [ ][ ][ ][ ] - [ ][ ] - SFM - S00

Robot
00 Any robot (no software)
UR Universal Robot

Module options
Drive
B Ball screw (lead 20)
P Belt (width 40)
E Cover Alumium and External motor attachment

Stroke
100 ... 3 000
1 000 Preferred range Ball screw
1 800 Preferred range Ball screw
2 500 Preferred range Belt
3 000 Preferred range Belt

Electrical options
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

Accessories options
S Limit switch
Cableveyor
F High Flex cable [1)]
M Standard hole pattern

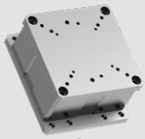
Customized options
S Option 1 - Safety relay

Robot compatibility
00 for UR3, UR 5, UR10 and UR16
20 for UR20 and UR30 available only with belt drive

[1)] The bending radius increased to comply with cobot manufacturers' requirements

SLIDEKIT 2.0 contains

**Teach pendant not included*



Robot attachment plate
(The taps are only provided for Universal Robots cobot as standard)

UR software plugin
(not included in SLIDEKIT-00)

CLSM Linear module

Control unit

CAN

D-SUB 9Pin

Digital IO

Motor Power

Proximity Switch

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