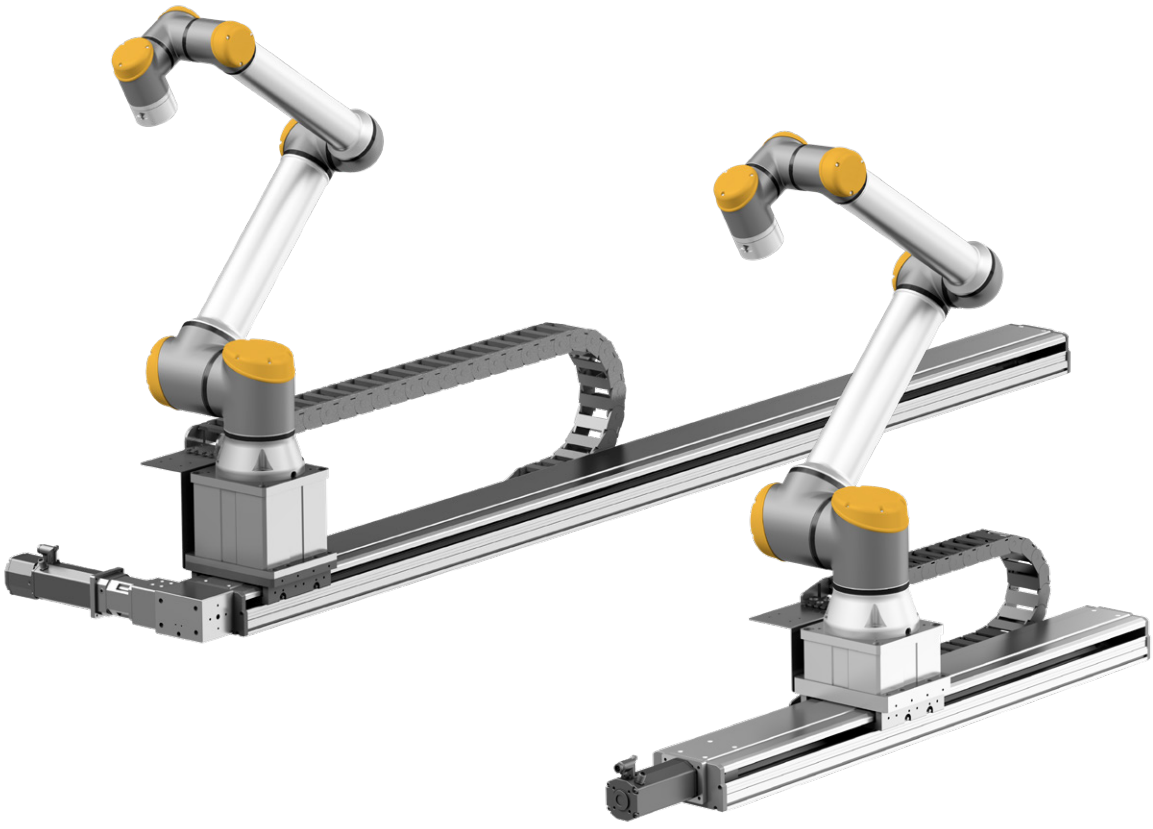
EWELLIX

A Schaeffler Company

Linear axis for any collaborative robots SLIDEKIT 2.0 0S (Ethernet TCP/IP)



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.

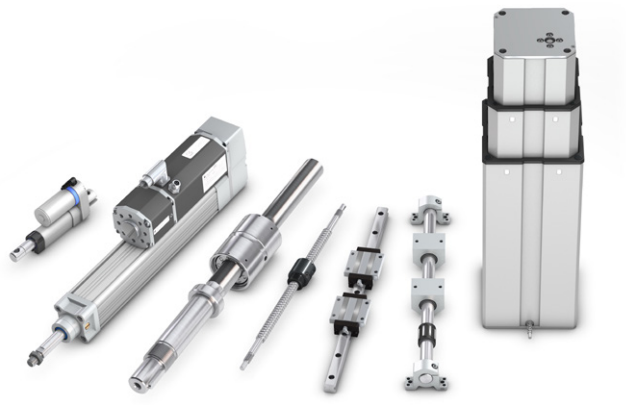
Technology leadership

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.

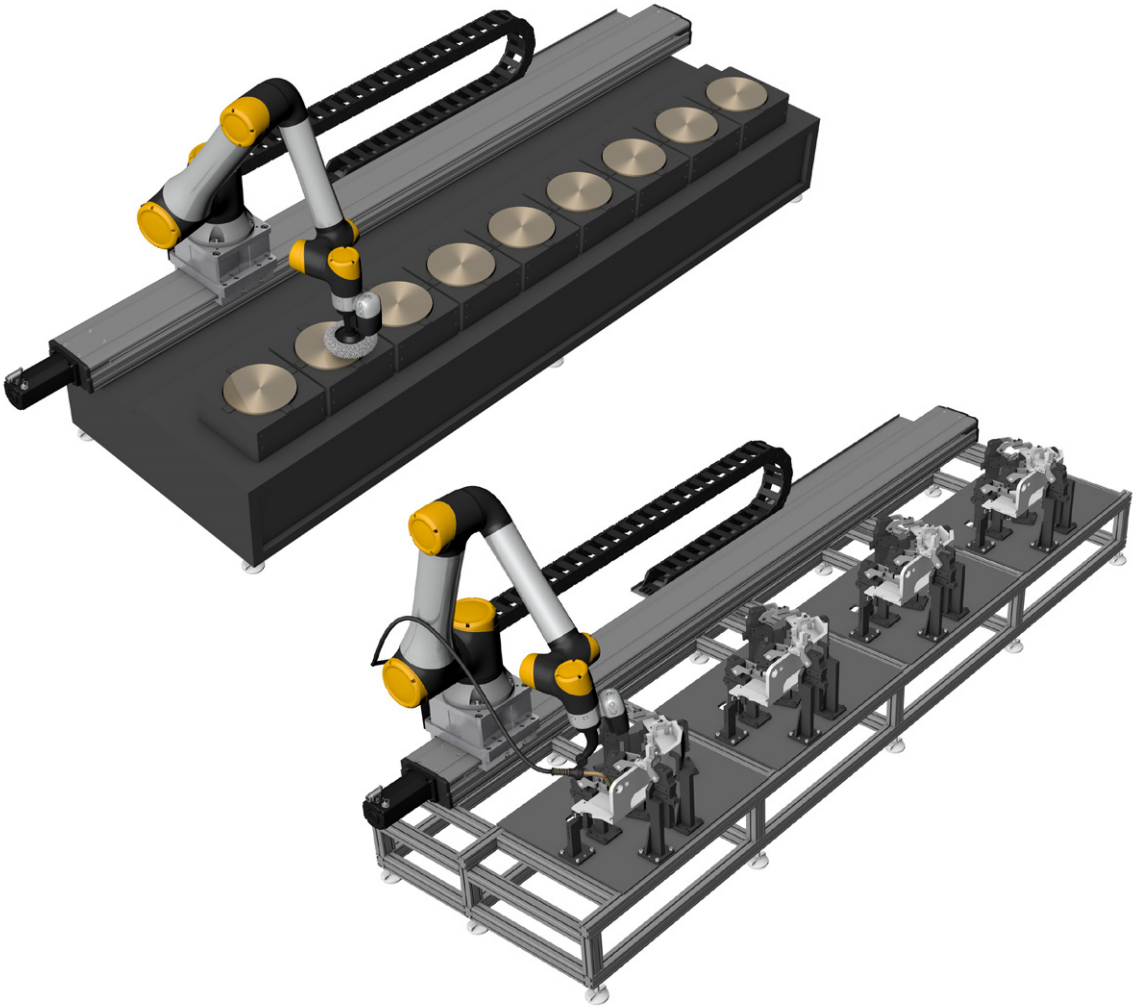
Benefits for industrial applications

Several industrial applications require covering long distances to perform manufacturing process operations, 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 any collaborative robots SLIDEKIT 2.0 0S

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.

Robot compatiblity

The SLIDEKIT 0S completes a production line with an open version of SLIDEKIT that can be used with any robots that are controlled directly from their robot controller or PLC via Ethernet TCP/IP. Most robot control systems and PLCs use Ethernet TCP/IP as a standard communication protocol.

Plug-and-play solution

The SLIDEKIT 2.0 offers quick installation with a standardized mechanical hardware and electrical control box that supports Ethernet TCP/IP communication protocol. It also includes a plug&play script library for easy communication with robot controllers or PLCs.

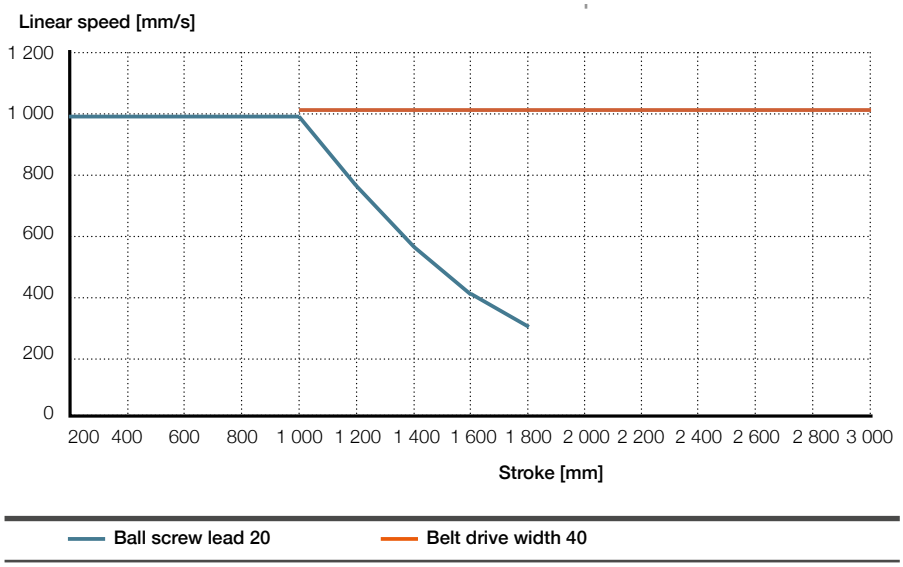
Cost savings and higher productivity

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

Technical data: SLIDEKIT-0S S00 for small and medium size cobots

Designation	Unit	SLIDEKIT-0S S00 ball screw version	SLIDEKIT-0S S00 belt 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	1 000 - 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
Robot compatibility		Small and medium-sized cobots weigh less than 50 kg with 20 kg max payload	Small and medium-sized cobots weigh less than 50 kg with 20 kg max payload
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	115 VAC / 4.8 A 230 VAC / 2.4 A
Emergency stop	-	Connection to Robot safety I/O	Connection to Robot safety I/O
Communication			
Control interface	-	Ethernet TCP/IP communication protocol	Ethernet TCP/IP communication protocol
Positioning, repeatability	mm	± 0.1	± 0.1
Motion parameters	-	Absolute position, velocity, acceleration	Absolute position, velocity, acceleration
Feedback	-	Absolute position, velocity, acceleration, status	Absolute position, velocity, acceleration, status
Soft start and stop	-	Implemented for smooth operation	Implemented for smooth operation
Software control	-	Ethernet TCP/IP script commands library	Ethernet TCP/IP script commands library
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

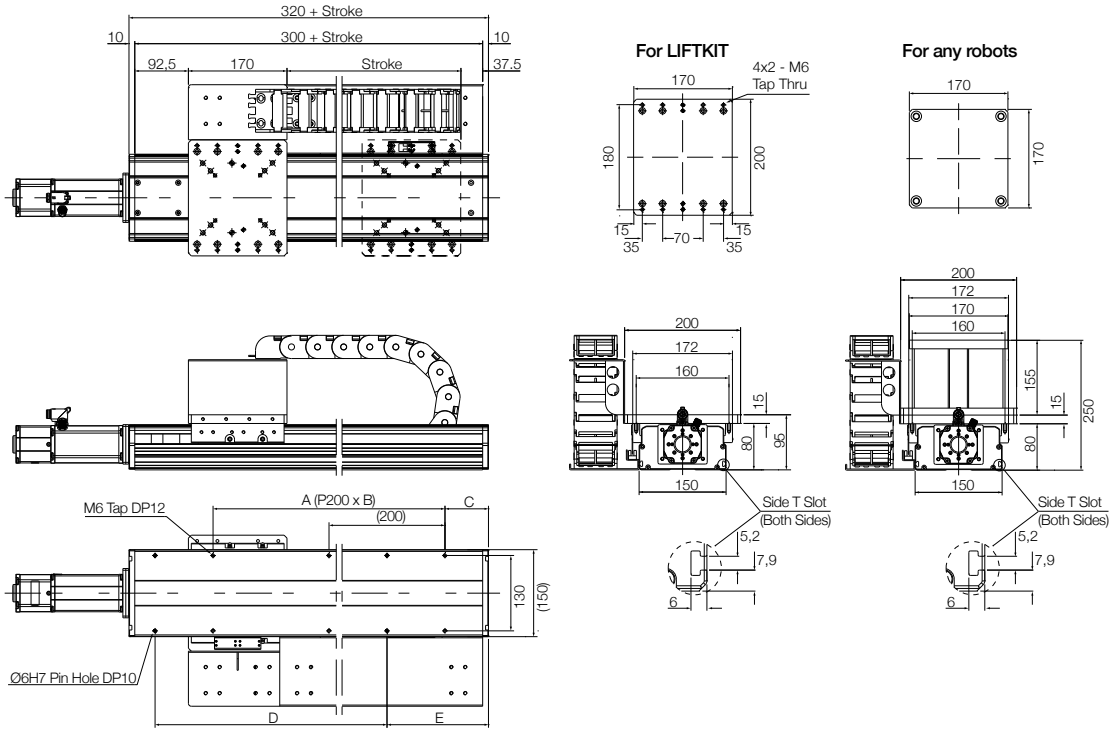


Technical data - SLIDEKIT 0S S20 for large cobot

Designation	Unit	SLIDEKIT-0S S20 belt version
Linear module type	-	CLSM-150 enhanced 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
Robot compatibility		Large cobot size 50 to 75 kg with 30 kg max payload
Mounting	-	Floor mount
Cable management	-	Cableveyor
Electrical		
Voltage/Current	V/A	115 VAC / 4.8 A 230 VAC / 2.4 A
Emergency stop	-	Connection to Robot safety I/O
Communication		
Control interface	-	Ethernet TCP/IP communication protocol
Positioning, repeatability	mm	± 0.1
Motion parameters	-	Absolute position, velocity, acceleration, status
Feedback	-	Absolute position, velocity, acceleration
Soft start and stop	-	Implemented for smooth operation
Software control	-	Ethernet TCP/IP script commands library
Environment		
Type of protection	IP	Controll box = N/A SLIDEKIT = N/A
Ambient temperature	°C	0 to +50
Max. humidity	%	95

Dimensional drawing for SLIDEKIT 0S BE S00

Ball Screw version for any robots



	Stroke (mm)	A	B	C	D	E
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**

NOTE:

A robot plate to mount the robot onto the SLIDEKIT can be ordered on request as an accessory item; see the robot plate item list.

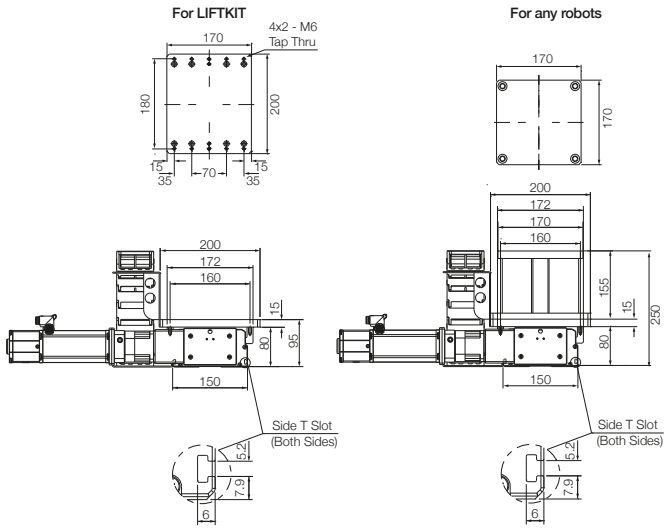
Standard stroke

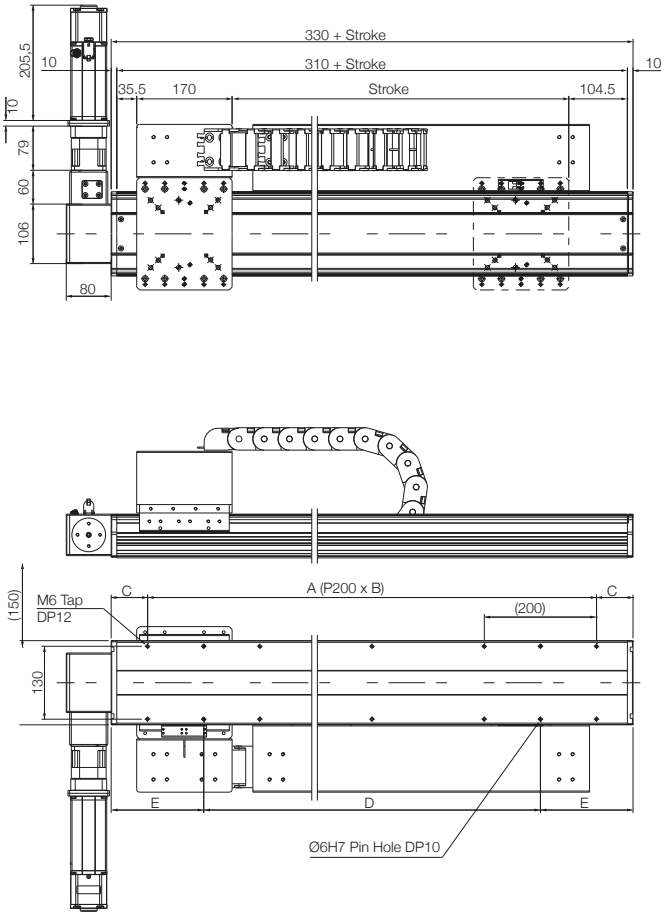
Small & medium size robot compatibility for SLIDEKIT 2.0 0S S00

	UR	Fanuc	Yaskawa	TM	Doosan	ABB
Top plate item	on request	on request	on request	on request	on request	on request
Size S00	UR3	CRX5	HC10	TM5	A0509/s	CRB 15000-5 15000-5
	UR5	CRX10		TM12	M0609	4 CRB 15000-10
	UR10	CRX20		TM14	M1509	4 CRB 15000-12
	UR16			TM20	A0912/s M1013 M0617	

Dimensional drawing for SLIDEKIT 0S PE S00

Belt version for any robots





	Stroke (mm)	A	B	C	D	E
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**

NOTE:

A robot plate to mount the robot onto the SLIDEKIT can be ordered on request as an accessory item; see the robot plate item list.

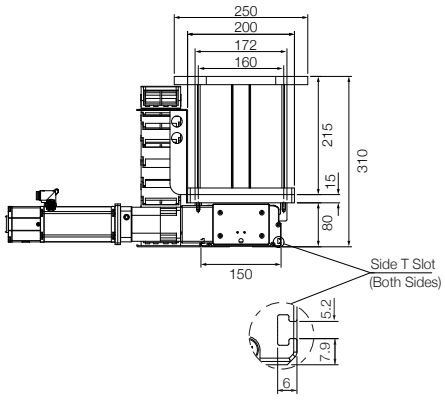
Standard stroke

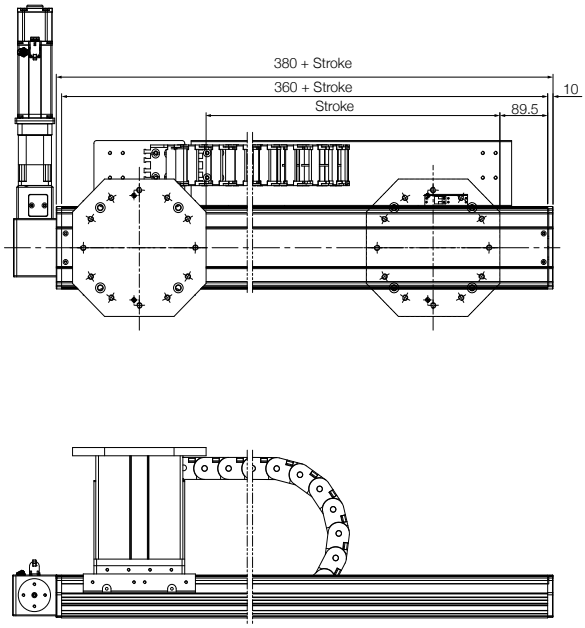
Small & medium size robot compatibility for SLIDEKIT 2.0 0S S00

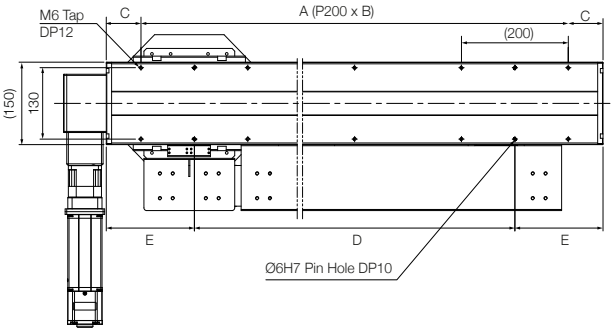
	UR	Fanuc	Yaskawa	TM	Doosan	ABB
Top plate item	on request	on request	on request	on request	on request	on request
Size S00	UR3	CRX5	HC10	TM5	A0509/s	CRB 15000-5 15000-5
	UR5	CRX10		TM12	M0609	4 CRB 15000-10
	UR10	CRX20		TM14	M1509	4 CRB 15000-12
	UR16			TM20	A0912/s M1013 M0617	

Dimensional drawing for SLIDEKIT 0S PE S20

Belt version for any robots







	Stroke (mm)	A	B	C	D	E
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

NOTE:

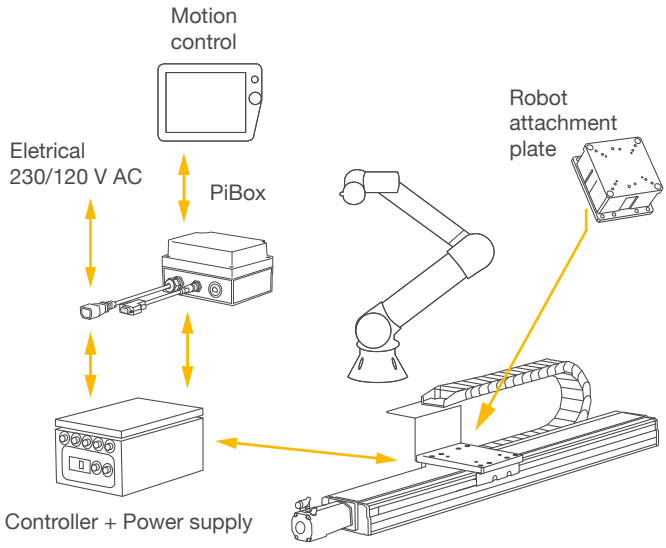
A robot plate to mount the robot onto the SLIDEKIT can be ordered on request as an accessory item; see the robot plate item list

Standard stroke

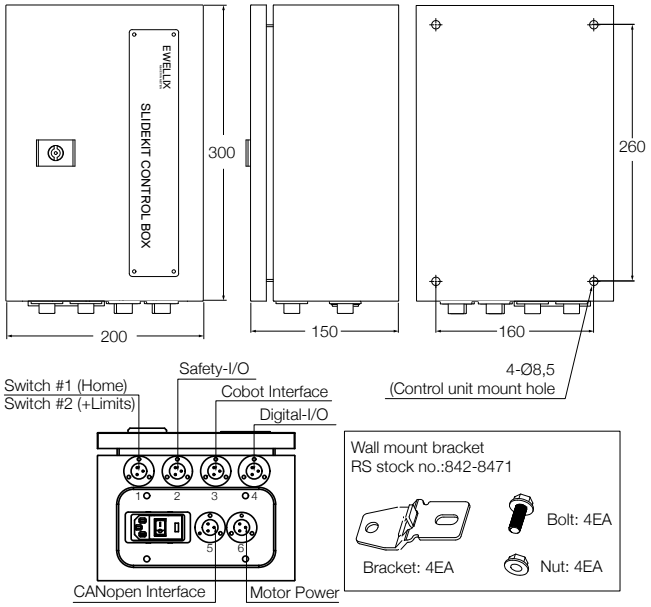
Large size robot compatibility for SLIDEKIT 2.0 0S S20

	UR	Dobot	JAKA	Aubo	Doosan
Top plate item	on request	on request	on request	on request	on request
Size S20	UR 20	CR20	ZU20	I20	H2017
	UR 30	CR20	Pro16	I20	H2515

Connection diagram



Control unit



Software functionality

The PiBox included in the SLIDEKIT 0S enables Ethernet TCP/IP communication with STARGATE script commends library, allowing convenient position access directly from the robot controller or PLC.

Setup

The STARGATE platform, integrated into the PiBox, features a comprehensive script command library that allows users to configure the SLIDEKIT type according to the selected version. It also enables setting virtual limits for the SLIDEKIT based on specific customer requirements. Additionally, homing commands are available to perform homing when it's needed.

Motion programming

The STARGATE script command library enables control over various motion parameters, including velocity, acceleration/deceleration, and infinite absolute positioning. It also allows reading key motion parameters from the SLIDEKIT, such as acceleration, deceleration, velocity, current absolute position, and max stroke of the SLIDEKIT. Additionally, it provides access to the SLIDEKIT status, offering essential diagnostic information that facilitates quick troubleshooting and efficient system monitoring.

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.

SLIDEKIT 2.0 0S script commends library

Command	Description
moveTo_absolutePosition	Moves SLIDEKIT to specified position
get_typesAvailable	Returns all supported SLIDEKIT types
get_type	Returns current SLIDEKIT type
set_type	Sets new SLIDEKIT type
get_velocity	Returns velocity stored in motion profile parameters
set_velocity	Sets SLIDEKIT velocity
get_acceleration	Returns acceleration stored in motion profile parameters
set_acceleration	Sets SLIDEKIT acceleration
get_deceleration	Returns deceleration stored in motion profile parameters
set_deceleration	Sets SLIDEKIT deceleration
get_position	Returns SLIDEKIT current position
get_stroke	Returns maximum stroke in mm
get_status	Returns SLIDEKIT's current state
stop_moving	Stops SLIDEKIT movement
get_motionProfileParameters	Returns motion profile parameters
set_motionProfileParameters	Sets motion profile parameters
start_homing	Starts SLIDEKIT homing
stop_homing	Stops SLIDEKIT homing
set_virtualLimits	Sets SLIDEKIT virtual limits
get_virtualLimits	Returns SLIDEKIT virtual limits

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.

Ordering key

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

Robot
00 SLIDEKIT mechnical part without motor
0S any robots (Ethernet TCP/IP)

Module options
Drive
B Ball screw (lead 20)
P Belt (width 40)
E Cover Aluminum 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

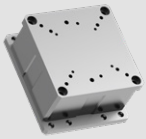
Accessories options
S Limit switch
Cableveyor
F High Flex cable [1)]
M Standard hole pattern

Customized options
S Option 1 - Safety relay

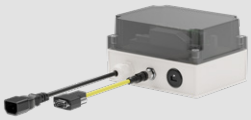
Robot compatibility
00 Small & medium robot size weight less than 50 kg with 20 kg max payload
20 Large robot size weight 50 to 75 kg with 30 kg max payload

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

SLIDEKIT 2.0 contains



Robot attachment plate available on request, tailored to the customer's robot



PiBox including STARGATE platform

CLSM Linear module

SLIDEKIT Control Box

CAN

D-SUB 9Pin

Digital IO

Motor Power

Proximity Limit Switches

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