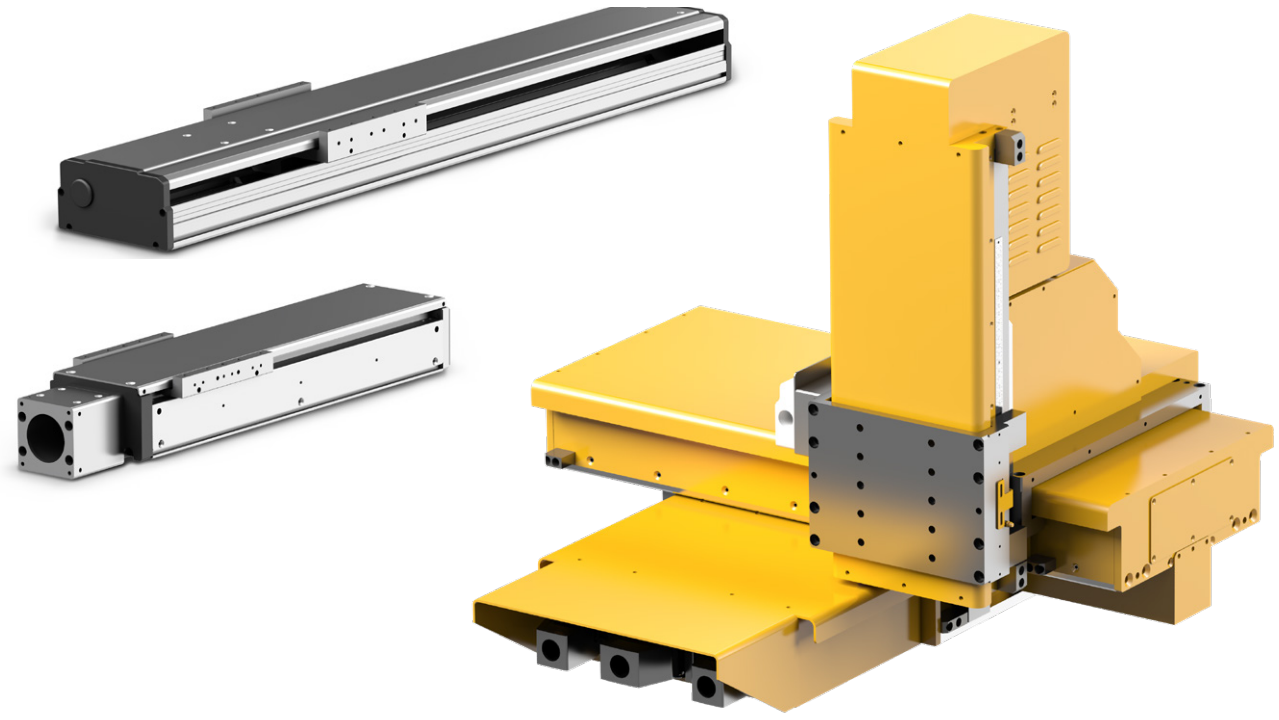
EWELLIX

A Schaeffler Company

Linear modules and systems



Contents

EWELLIX

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.

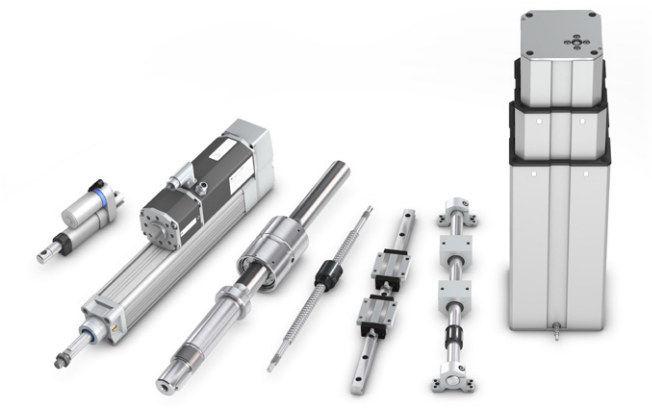
Technology leadership

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.

Trusted engineering expertise

Our industry is in motion; pushing towards solutions that reduce environmental impact and leverage new technology. We provide technical and manufacturing expertise to overcome our customers' challenges.

Engineering for the future

We work in a **wide range of industries**, where our solutions provide key functionality for business critical applications.

For the **medical industry**, we provide precision components for use in core medical equipment.

Our unparalleled understanding of **assembly automation** systems is based on decades of research into advanced automation components and techniques.

Our deep knowledge of **mobile machinery** provides powerful and reliable electromechanical solutions for the harshest conditions. In an **industrial distribution** setting, we supply linear expertise to our partners, empowering them to serve customers with greater efficiency.

We offer excellence

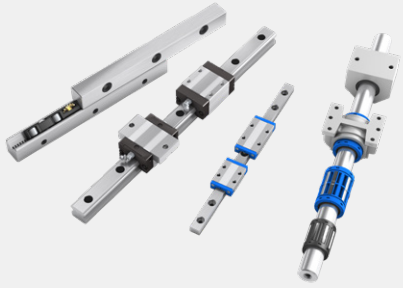
We have a **unique understanding of linear equipment** and how it's integrated in customers' applications to provide the best performance and machine efficiency.

We assist our customers by creating equipment that runs faster, longer and that is safe and sustainable.
We provide a wide variety of **linear motion components** and **electromechanical actuators** for equipping any automation application, thus helping our customers **increase productivity, reduce their footprint, energy use and maintenance**.

Actuation systems

Ball and roller screws

Linear guides and systems



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Product range

Standard products description

Ewellix linear modules are designed for automation and automotive applications.

They are equipped with a pair of profile rail guides, each with 2 carriages and are designed for maximum rigidity and stability.

In our linear modules are available a wide selection of ball or lead screws, linear motors and belt drives to ensures high levels of speed and positioning accuracy.

The cover is available in aluminum, polyurethane, stainless steel or steel.

Features

- Compact design with ball or lead screw
- Aluminum or steel as the base material option
- External mechanical brake option (CLSM 92)
- Inline and parallel(belt) gear boxes
- Customized motor adapter
- Different cover option for most applications

Benefits

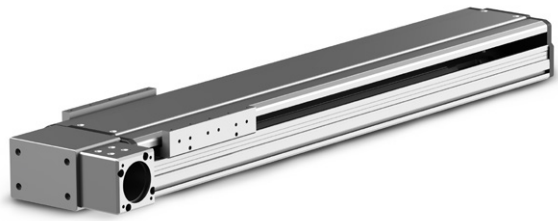
- Heavy load carrying capabilities and long service life
- Precision alignment and secure clamping
- Easy maintenance through outside lubrication port as option
- High level of accuracy and repeatability
- Fits most brushless DC motors and servomotors

Standard products range

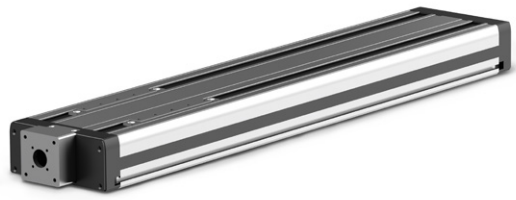
CLSM-92
Linear module
Lead screw or Ball screw
Stainless steel cover

CLSM-150-B…S
Linear module
Ball screw
Steel cover

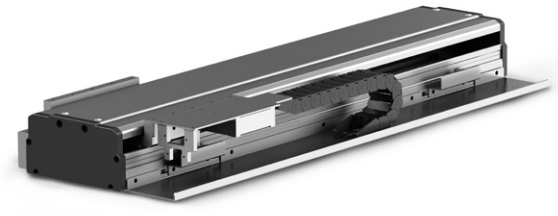
CLSM-150-B…A
Linear module
Ball screw
Aluminum cover



CLSM-150-P…A
Linear module
Belt
Aluminum cover



CLSM-150-B…P
Linear module
Ball screw
PU strip cover



CLSM-150-L…A
Linear module
Linear motor
Aluminum cover

Performance overview of linear modules - Lead & Ball screw

Designation	Symbol	Unit	CLSM-92-T	CLSM-92-B	CLSM-150-B...A	CLSM-150-B...P	CLSM-150-B...S
Performance Data							
Max. dynamic load capacity	C_{max}	N	19 330	19 330	41 330	41 330	41 330
Max. static load capacity	C_{0max}	N	30 000	30 000	81 800	81 800	81 00
Max. dynamic moments M_x	Mxc_{max}	Nm	465	465	1 705	1 705	1 705
Max. dynamic moments M^z	Mzc_{max}	Nm	845	845	1 680	1 680	1 680
Mechanical Data							
Profile rail guide	–	–	Size 15	Size 15	Size 20	Size 20	Size 20
Drive type	–	–	Lead screw	Ball screw	Ball screw	Ball screw	Ball screw
Stroke	s	mm	50...800	50...800	50...1 800	50...1 800	50...1 800
Repeatability (same direction and load)	–	mm	± 0,07	± 0,01	± 0,01	± 0,01	± 0,01
Base material	–	–	Steel or Aluminum	Steel or Aluminum	Aluminum profile	Aluminum profile	Aluminum profile
Cover material	–	–	Stainless steel	Stainless steel	Aluminum profile	PU strip	Steel

Performance overview of linear module - Belt

Designation	Symbol	Unit	CLSM-150-P...A
Performance Data			
Max. belt tension	–	N	960
Max. belt thrust	–	N	4 500
Max. dynamic moments M_x	Mxc_{max}	Nm	1 705
Max. dynamic moments M_z	Mzc_{max}	Nm	1 680
Mechanical Data			
Profile rail guide	–	–	Size 20
Drive type	–	–	Timing belt
Stroke	s	mm	50…3 000
Repeatability (same direction and load)	–	mm	± 0,08
Base material	–	–	Aluminum profile
Cover material	–	–	Aluminum profile

Performance overview of linear module - Linear motor

Designation	Symbol	Unit	CLSM-150-L...A
Performance Data			
Linear motor force	F_{max}	N	220
Load capacity (can be changed by acc.)	m	kg	20 (0,5G)
Straightness	–	µm/mm	±10/300
Flatness	–	µm/mm	±10/300
Mechanical Data			
Profile rail guide	–	–	Size 15
Drive type	–	–	Linear motor
Stroke	s	mm	50…3 000
Repeatability (same direction and load)	–	mm	± 0,002
Base material	–	–	Aluminum profile
Cover material	–	–	Aluminum profile

CLSM-92-T

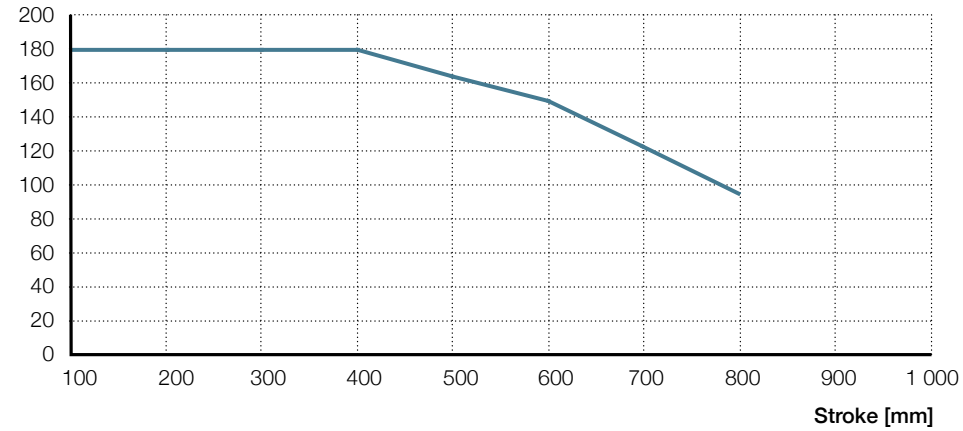
Linear module
Lead screw, Stainless steel cover

Technical data

Designation	Symbol	Unit	CLSM-92-T
Performance Data			
Max. dynamic load capacity	C_{max}	N	19 330
Max. static load capacity	C_{0max}	N	30 000
Max. dynamic moments Mx	Mxc_{max}	Nm	465
Max. dynamic moments Mz	Mzc_{max}	Nm	845
Max. input torque	T_{max}	Nm	9
Max. linear speed	V_{max}	mm/s	180
Max. rotational speed	n_{max}	1/min	1,270 (PV=0.1)
Max. acceleration	a_{max}	m/s^2	1
Duty cycle	D_{unit}	%	60
Mechanical Data			
Profile rail guide	–	–	Size 15
Screw type	–	–	Lead screw
Screw diameter	d_{screw}	mm	14
Screw lead	P_{screw}	mm	3
Lead accuracy	–	–	N/A
Stroke	s	mm	50...800
Repeatability(same direction and load)	–	mm	± 0,07
Weight @ 0 mm stroke-Aluminum base	m_{lu}	kg	4,7
Δ weight per 100 mm stroke-Aluminum base	Δm	kg	0,8
Weight @ 0 mm stroke-Steel base	m_{lu}	kg	5,1
Δ weight per 100 mm stroke-Steel base	Δm	kg	1,2
Base material	–	–	Steel or Aluminum
Cover material	–	–	Stainless steel
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

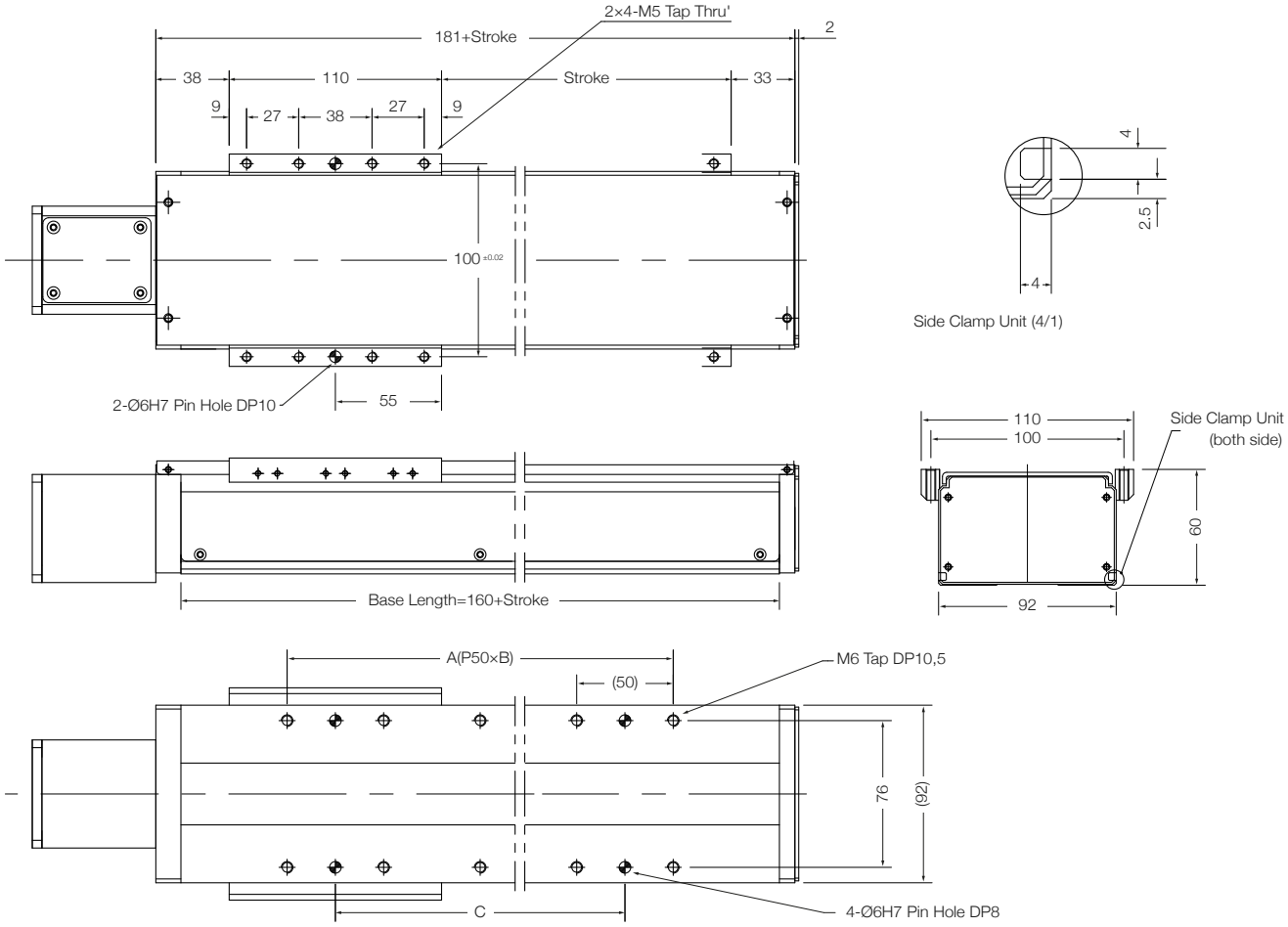
Performance diagrams

Linear speed [mm/s]



CLSM-92-T03

Dimensional drawing



No	Stroke mm	A	B	C
1	50	100	2	50
2	100	200	4	150
3	150	200	4	150
4	200	300	6	250
5	250	300	6	250
6	300	400	8	350
7	350	400	8	350
8	400	500	10	450
9	450	500	10	450
10	500	600	12	550
11	550	600	12	550
12	600	700	14	650
13	650	700	14	650
14	700	800	16	750
15	750	800	16	750
16	800	900	18	850

Ordering key

See **page 22**

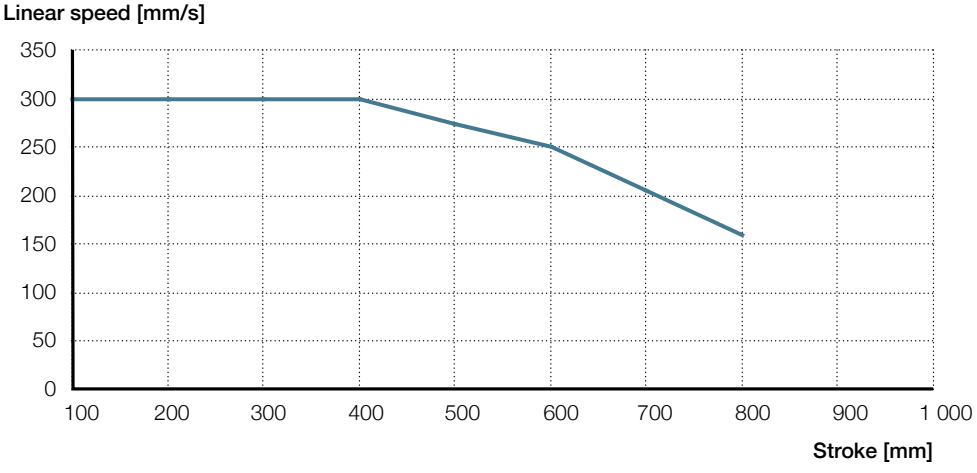
CLSM-92-B

Linear module
Ball screw, Stainless steel cover

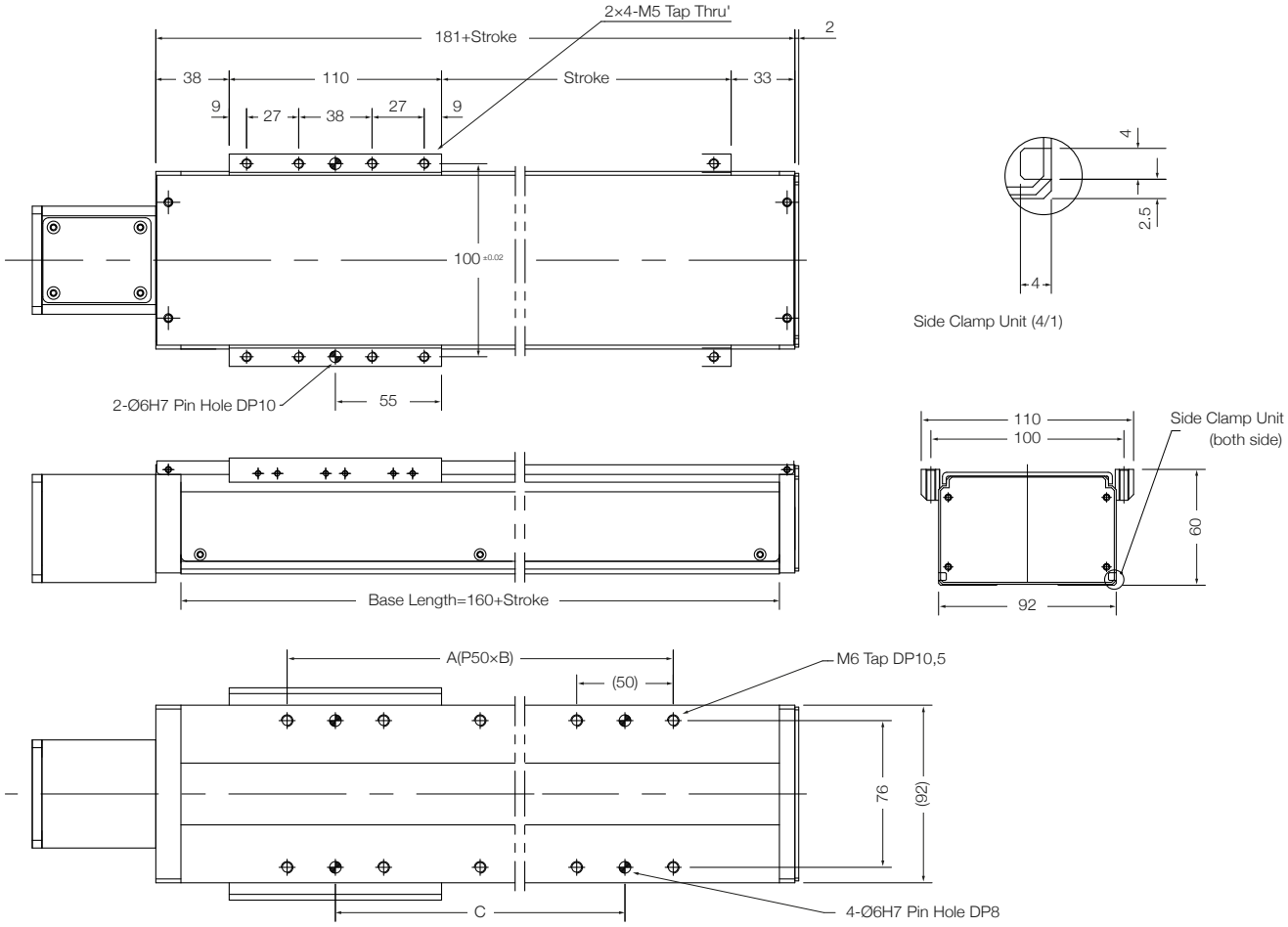
Technical data

Designation	Symbol	Unit	CLSM-92-B
Performance Data			
Max. dynamic load capacity	C_{max}	N	19 330
Max. static load capacity	C_{0max}	N	30 000
Max. dynamic moments Mx	Mxc_{max}	Nm	465
Max. dynamic moments Mz	Mzc_{max}	Nm	845
Max. input torque	T_{max}	Nm	3
Max. linear speed	V_{max}	mm/s	300
Max. rotational speed	n_{max}	1/min	3 600
Max. acceleration	a_{max}	m/s^2	6
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	–	–	Size 15
Screw type	–	–	Ball screw
Screw diameter	d_{screw}	mm	12
Screw lead	P_{screw}	mm	5
Lead accuracy	–	–	G7
Stroke	s	mm	50...800
Repeatability(same direction and load)	–	mm	± 0,01
Weight @ 0 mm stroke-Aluminum base	m_{lu}	kg	4,7
Δ weight per 100 mm stroke-Aluminum base	Δm	kg	0,8
Weight @ 0 mm stroke-Steel base	m_{lu}	kg	5,1
Δ weight per 100 mm stroke-Steel base	Δm	kg	1,2
Base material	–	–	Steel or Aluminum
Cover material	–	–	Stainless steel
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

Performance diagrams



Dimensional drawing



No	Stroke mm	A	B	C
1	50	100	2	50
2	100	200	4	150
3	150	200	4	150
4	200	300	6	250
5	250	300	6	250
6	300	400	8	350
7	350	400	8	350
8	400	500	10	450
9	450	500	10	450
10	500	600	12	550
11	550	600	12	550
12	600	700	14	650
13	650	700	14	650
14	700	800	16	750
15	750	800	16	750
16	800	900	18	850

Ordering key

See **page 22**

CLSM-150-B...A

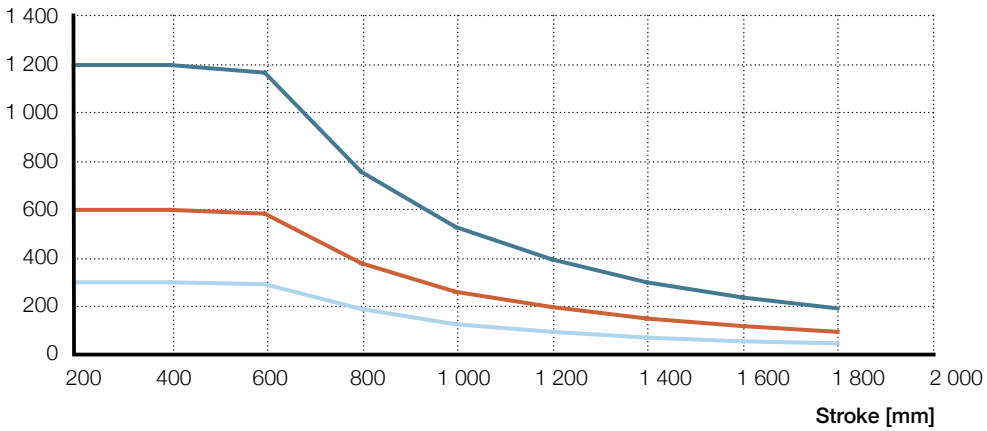
Linear module
Ball screw, Aluminum cover

Technical data

Designation	Symbol	Unit	CLSM-150-B...A
Performance Data			
Max. dynamic load capacity	C_{max}	N	41 330
Max. static load capacity	C_{0max}	N	81 800
Max. dynamic moments Mx	Mxc_{max}	Nm	1 705
Max. dynamic moments Mz	Mzc_{max}	Nm	1 680
Max. input torque	T_{max}	Nm	10
Max. linear speed	V_{max}	mm/s	1 200
Max. rotational speed	n_{max}	1/min	3 600
Max. acceleration	a_{max}	m/s^2	10
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	–	–	Size 20
Screw type	–	–	Ball screw
Screw diameter	d_{screw}	mm	20
Screw lead	P_{screw}	mm	05 or 10 or 20
Lead accuracy	–	–	G7
Stroke	s	mm	50...1 800
Repeatability(same direction and load)	–	mm	± 0,01
Weight @ 0 mm stroke	m_{lu}	kg	10
Δ weight per 100 mm stroke	Δm	kg	1,4
Base material	–	–	Aluminum profile
Cover material	–	–	Aluminum profile
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

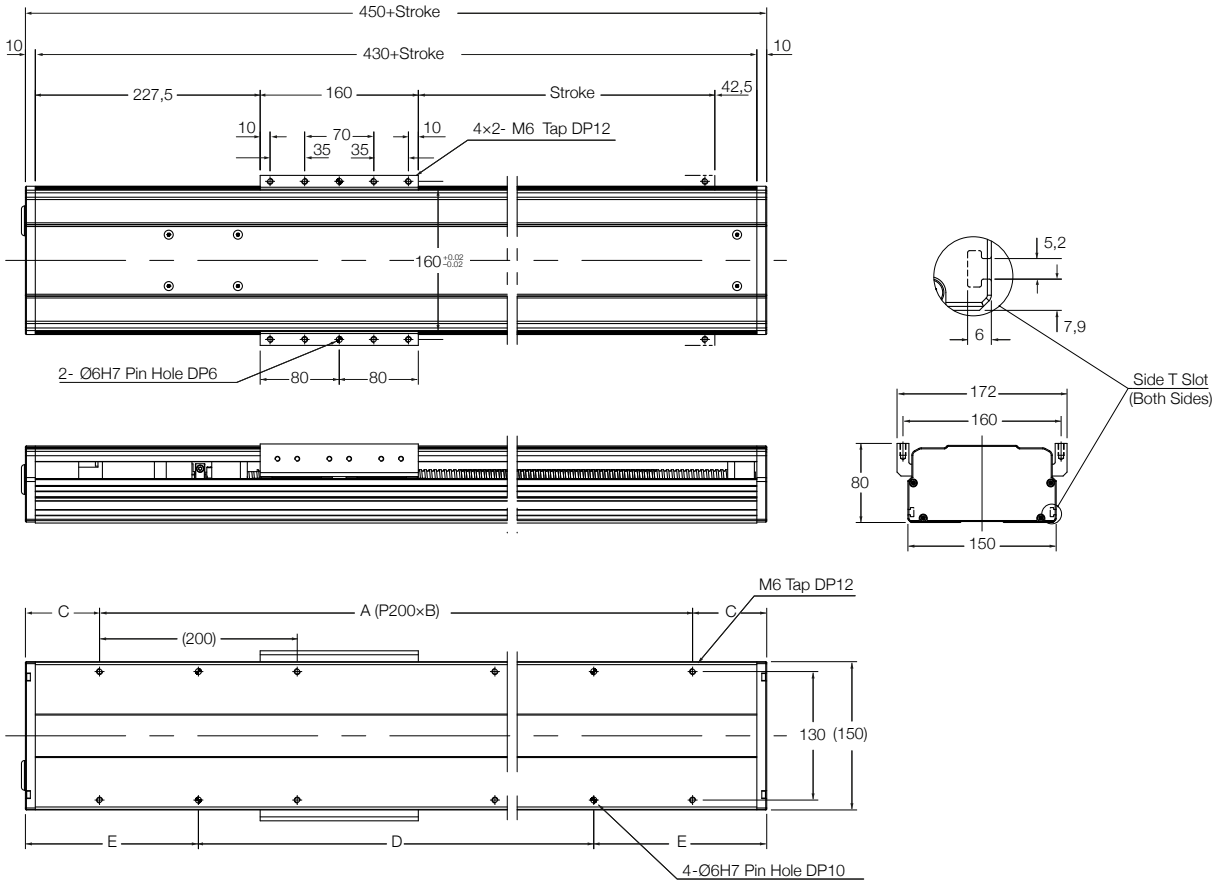
Performance diagrams

Linear speed [mm/s]



CLSM-150-B20...A CLSM-150-B10...A CLSM-150-B05...A

Dimensional drawing



No	Stroke	A	B	C	D	E
	mm					
1	100	400	2	75	200	175
2	200	600	3	25	400	125
3	300	600	3	75	400	175
4	400	800	4	25	600	125
5	500	800	4	75	600	175
6	600	1 000	5	25	800	125
7	700	1 000	5	75	800	175
8	800	1 200	6	25	1 000	125
9	900	1 200	6	75	1 000	175
10	1 000	1 400	7	25	1 200	125
11	1 100	1 400	7	75	1 200	175
12	1 200	1 600	8	25	1 400	125
13	1 300	1 600	8	75	1 400	175
14	1 400	1 800	9	25	1 600	125
15	1 500	1 800	9	75	1 600	175
16	1 600	2 000	10	25	1 800	125
17	1 700	2 000	10	75	1 800	175
18	1 800	2 200	11	25	2 000	125

Ordering key

See **page 22**

CLSM-150-B...P

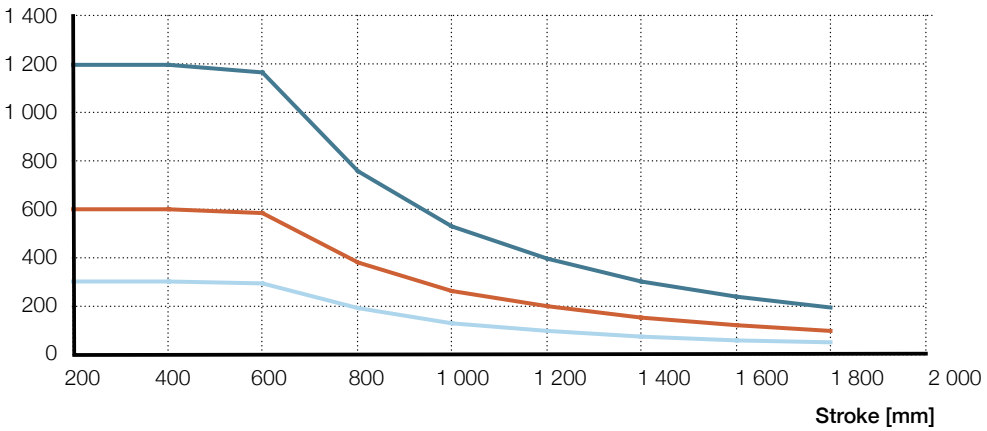
Linear module
Ball screw, PU strip cover

Technical data

Designation	Symbol	Unit	CLSM-150-B...P
Performance Data			
Max. dynamic load capacity	C_{max}	N	41 330
Max. static load capacity	C_{0max}	N	81 800
Max. dynamic moments Mx	Mxc_{max}	Nm	1 705
Max. dynamic moments Mz	Mzc_{max}	Nm	1 680
Max. input torque	T_{max}	Nm	10
Max. linear speed	V_{max}	mm/s	1 200
Max. rotational speed	n_{max}	1/min	3 600
Max. acceleration	a_{max}	m/s^2	10
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	–	–	Size 20
Screw type	–	–	Ball screw
Screw diameter	d_{screw}	mm	20
Screw lead	P_{screw}	mm	05 or 10 or 20
Lead accuracy	–	–	G7
Stroke	s	mm	50...1 800
Repeatability(same direction and load)	–	mm	± 0,01
Weight @ 0 mm stroke	m_{lu}	kg	9
Δ weight per 100 mm stroke	Δm	kg	1,3
Base material	–	–	Aluminum profile
Cover material	–	–	PU strip
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

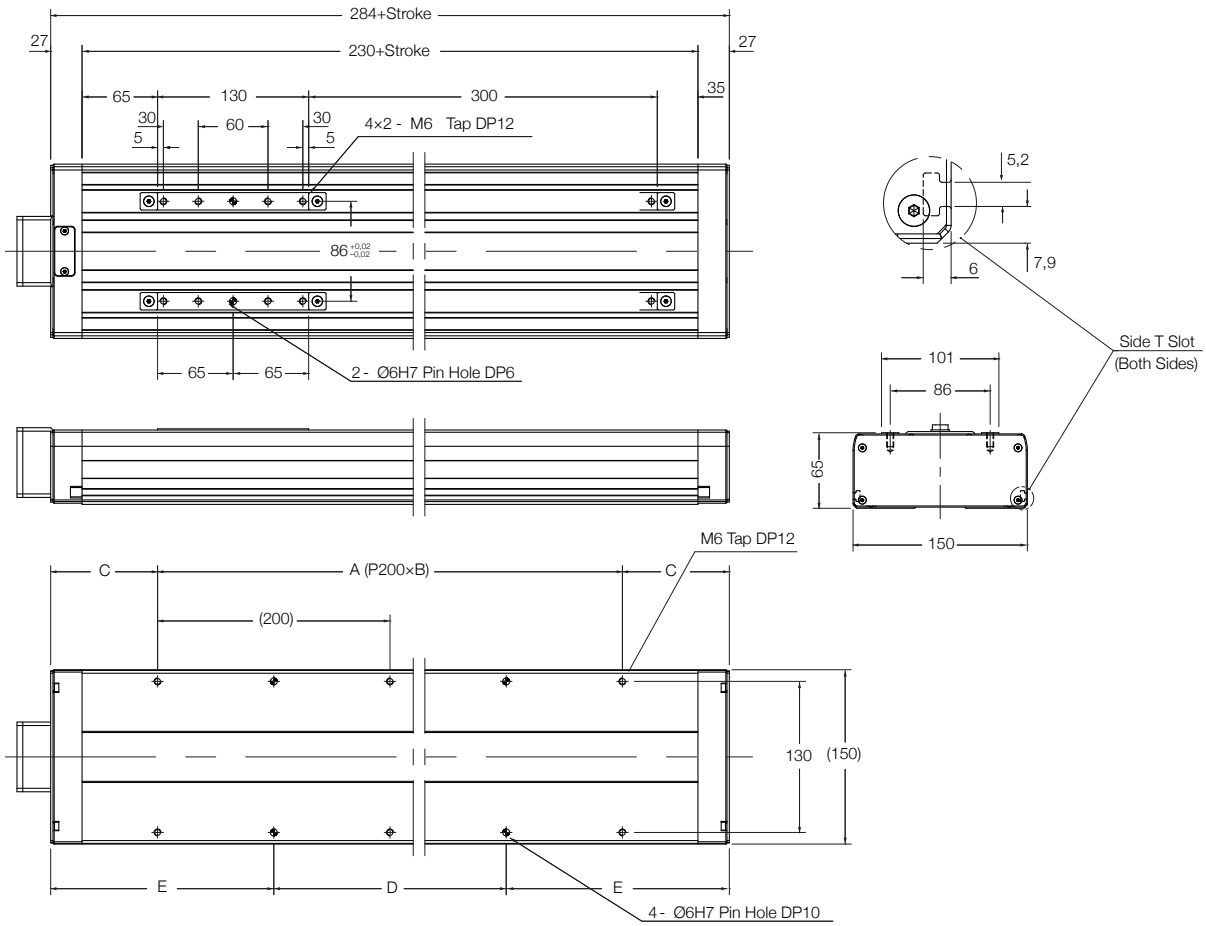
Performance diagrams

Linear speed [mm/s]



CLSM-150-B20...P CLSM-150-B10...P CLSM-150-B05...P

Dimensional drawing



No	Stroke	A	B	C	D	E
	mm					
1	100	200	1	92	100	142
2	200	400	2	42	200	142
3	300	400	2	92	200	192
4	400	600	3	42	400	142
5	500	600	3	92	400	192
6	600	800	4	42	600	142
7	700	800	4	92	600	192
8	800	1 000	5	42	800	142
9	900	1 000	5	92	800	192
10	1 000	1 200	6	42	1 000	142
11	1 100	1 200	6	92	1 000	192
12	1 200	1 400	7	42	1 200	142
13	1 300	1 400	7	92	1 200	192
14	1 400	1 600	8	42	1 400	142
15	1 500	1 600	8	92	1 400	192
16	1 600	1 800	9	42	1 600	142
17	1 700	1 800	9	92	1 600	192
18	1 800	2 000	10	42	1 800	142

Ordering key

See **page 22**

CLSM-150-B...S

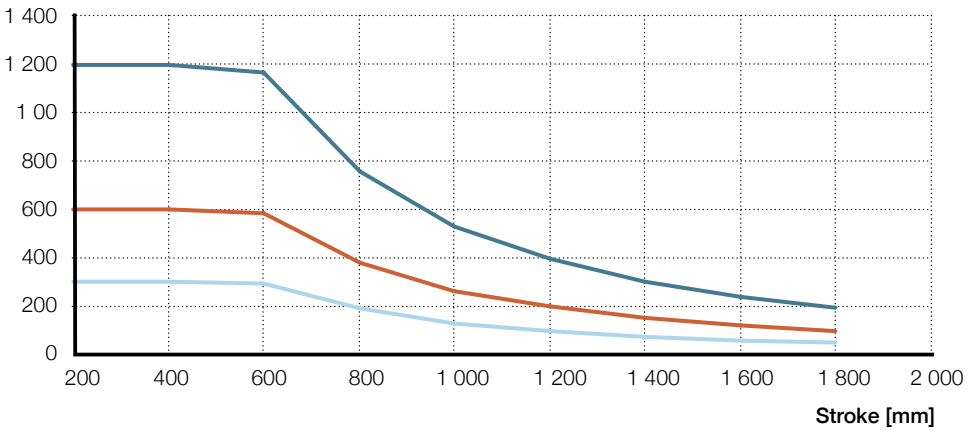
Linear module
Ball screw, Steel cover

Technical data

Designation	Symbol	Unit	CLSM-150-B...S
Performance Data			
Max. dynamic load capacity	C_{max}	N	41 330
Max. static load capacity	C_{0max}	N	81 800
Max. dynamic moments Mx	Mxc_{max}	Nm	1 705
Max. dynamic moments Mz	Mzc_{max}	Nm	1 680
Max. input torque	T_{max}	Nm	10
Max. linear speed	V_{max}	mm/s	1 200
Max. rotational speed	n_{max}	1/min	3 600
Max. acceleration	a_{max}	m/s^2	10
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	–	–	Size 20
Screw type	–	–	Ball screw
Screw diameter	d_{screw}	mm	20
Screw lead	P_{screw}	mm	05 or 10 or 20
Lead accuracy	–	–	G7
Stroke	s	mm	50...1 800
Repeatability(same direction and load)	–	mm	± 0,01
Weight @ 0 mm stroke	m_{lu}	kg	11
Δ weight per 100 mm stroke	Δm	kg	1,5
Base material	–	–	Aluminum profile
Cover material	–	–	Steel
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

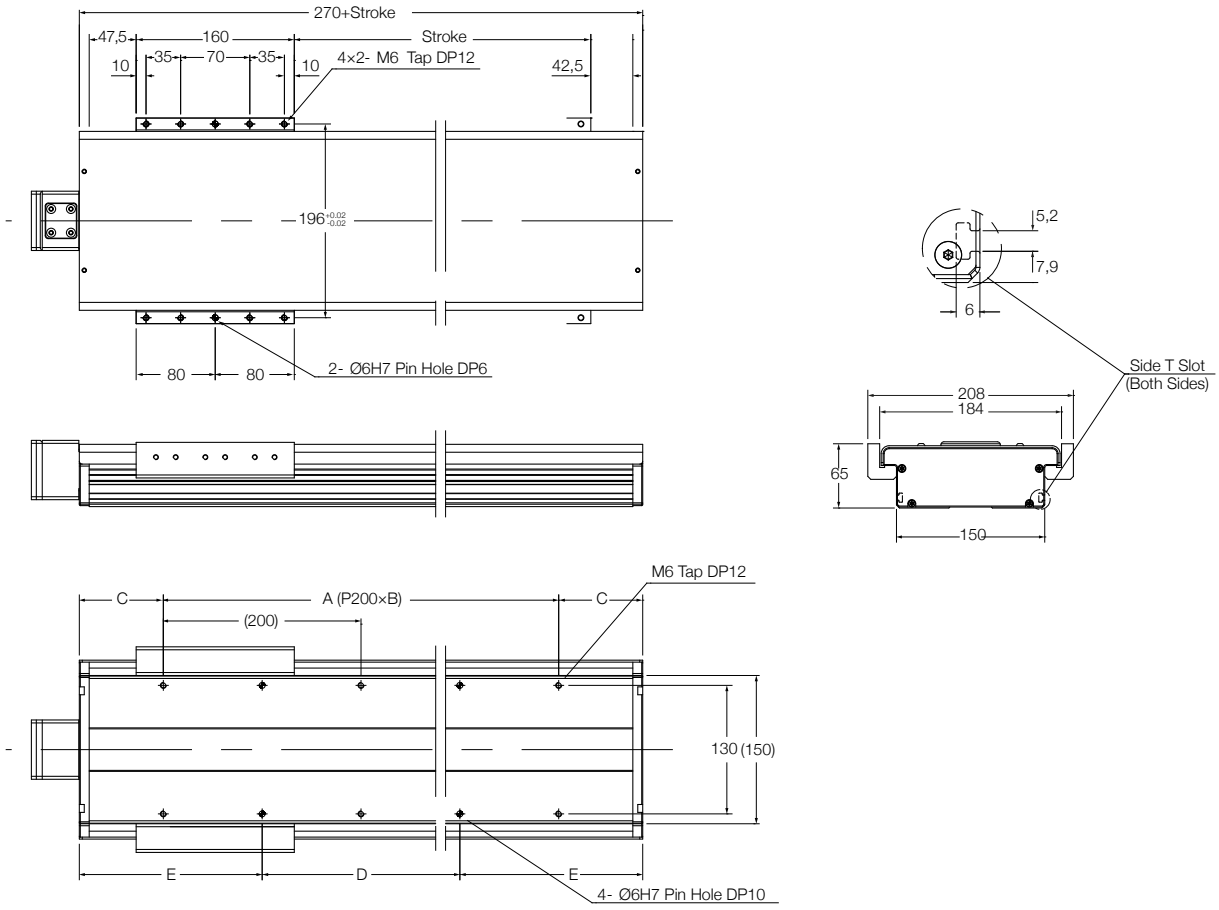
Performance diagrams

Linear speed [mm/s]



CLSM-150-B20...S CLSM-150-B10...S CLSM-150-B05...S

Dimensional drawing



No	Stroke (mm)	A	B	C (mm)	D (mm)	E (mm)
1	100	200	1	85	100	135
2	200	400	1	35	200	135
3	300	400	2	85	200	185
4	400	600	3	35	400	135
5	500	600	3	85	400	185
6	600	800	4	35	600	135
7	700	800	4	85	600	185
8	800	1 000	5	35	800	135
9	900	1 000	5	85	800	185
10	1 000	1 200	6	35	1 000	135
11	1 100	1 200	6	85	1 000	185
12	1 200	1 400	7	35	1 200	135
13	1 300	1 400	7	85	1 200	185
14	1 400	1 600	8	35	1 400	135
15	1 500	1 600	8	85	1 400	185
16	1 600	1 800	9	35	1 600	135
17	1 700	1 800	9	85	1 600	185
18	1 800	2 000	10	35	1 800	135

Ordering key

See **page 22**

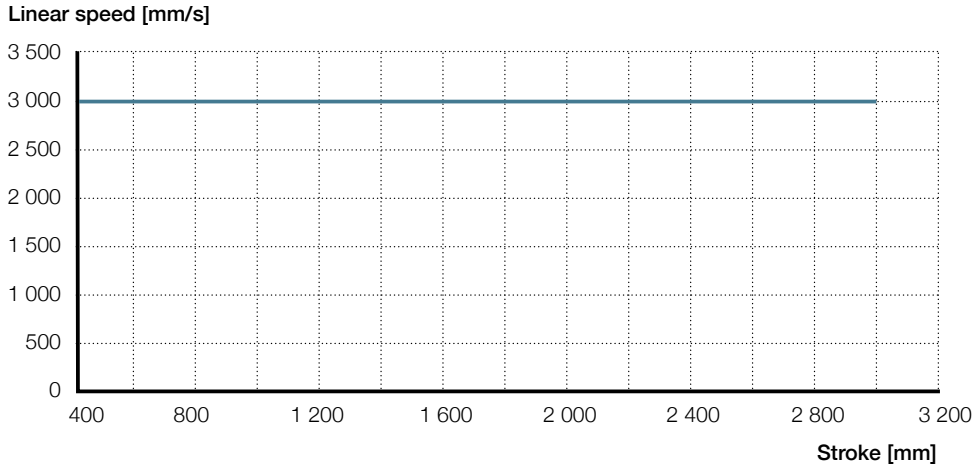
CLSM-150-P...A

Linear module
Belt, Aluminum cover

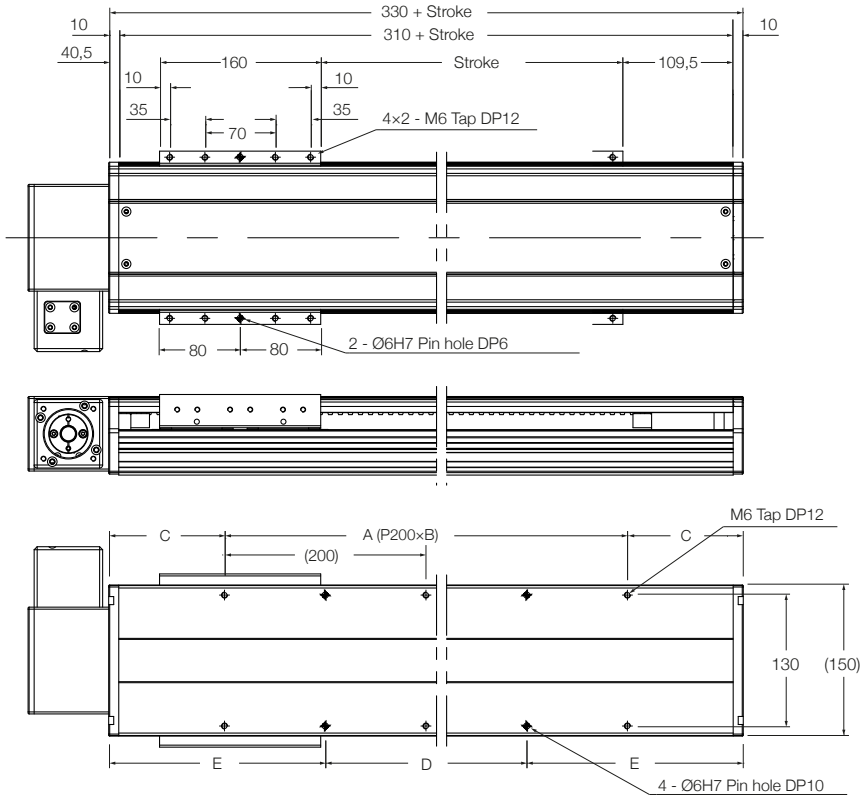
Technical data

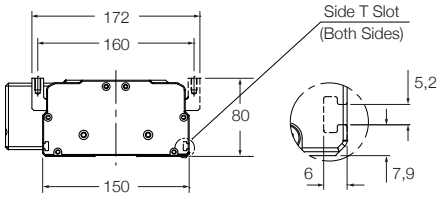
Designation	Symbol	Unit	CLSM-150-P...A
Performance Data			
Max. belt tension	–	N	960
Max. belt thrust	–	N	4 500
Max. dynamic moments Mx	Mxc_{max}	Nm	1 705
Max. dynamic moments Mz	Mzc_{max}	Nm	1 680
Max. linear speed	V_{max}	mm/s	3 000
Max. rotational speed	n_{max}	1/min	3 500
Max. acceleration	a_{max}	m/s²	5
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	–	–	Size 20
Belt type	–	–	Timing belt
Pulley (Pitch/Width)	–	mm	10/40
Stroke	s	mm	50…3 000
Repeatability(same direction and load)	–	mm	± 0,08
Weight @ 0 mm stroke	m_{lu}	kg	10
Δ weight per 100 mm stroke	Δm	kg	1,2
Base material	–	–	Aluminum profile
Cover material	–	–	Aluminum profile
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

Performance diagrams



Dimensional drawing





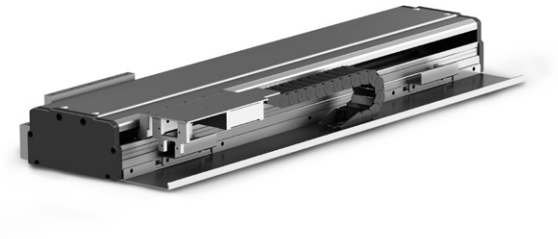
No	Stroke	A	B	C	D	E
	mm					
1	100	200	1	115	100	165
2	200	400	2	65	200	165
3	300	400	2	115	200	215
4	400	600	3	65	400	165
5	500	600	3	115	400	215
6	600	800	4	65	600	165
7	700	800	4	115	600	215
8	800	1 000	5	65	800	165
9	900	1 000	5	115	800	215
10	1 000	1 200	6	65	1 000	165
11	1 100	1 200	6	115	1 000	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	2 200	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

Ordering key

See **page 22**

CLSM-150-L...A

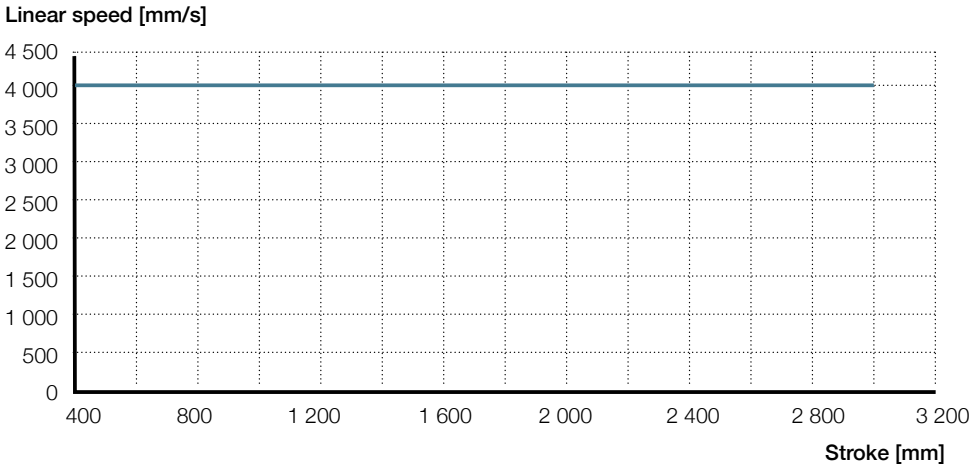
Linear module
Linear motor, Aluminum cover



Technical data

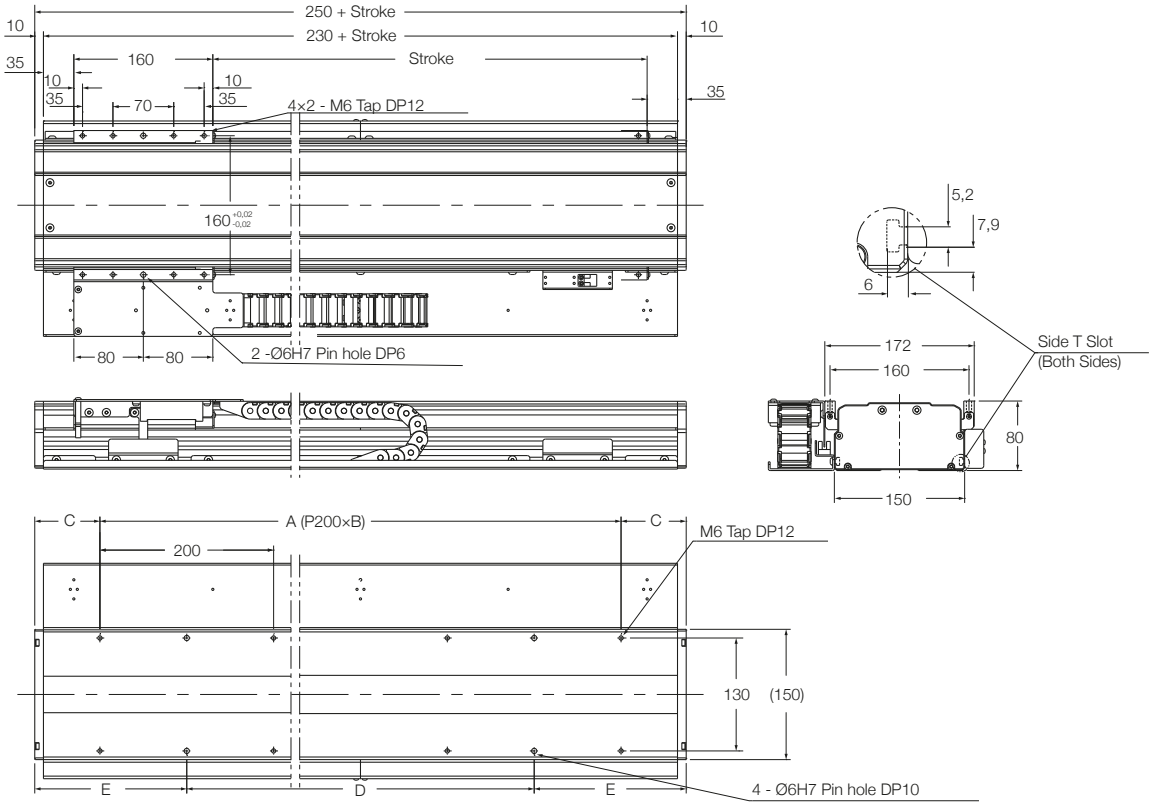
Designation	Symbol	Unit	CLSM-150-L...A
Performance Data			
Max. linear motor force	F_{Lmax}	N	220
Load capacity (can be changed by acc.)	m	kg	20 (0,5G)
Linear scale (Grating pitch)	–	um	40
Linear encoder resolution	–	µm/ct	1
Straightness	–	µm/mm	± 10/300
Flatness	–	µm/mm	± 10/300
Max. linear speed	V_{max}	m/s	4
Max. acceleration	a_{max}	m/s^2	40
Cleanness	–	class	1 000
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	–	–	Size 15
Linear motor type	–	–	Flat iron core
Linear encoder type	–	–	Optical & Incremental type
Stroke	s	mm	50...3 000
Repeatability(same direction and load)	–	mm	± 0,002
Weight @ 0 mm stroke	m_{lu}	kg	13,5
Δ weight per 100 mm stroke	Δm	kg	3,2
Base material	–	–	Aluminum profile
Cover material	–	–	Aluminum profile
Environment			
Ambient temperature	Tambient	°C	0 to +50
Max. humidity	ϕ	%	95

Performance diagrams



CLSM-150-L22...A

Dimensional drawing



No	Stroke (mm)	A	B	C (mm)	D (mm)	E (mm)
1	100	200	1	75	100	125
2	200	400	2	25	200	125
3	300	400	2	75	200	175
4	400	600	3	25	400	125
5	500	600	3	75	400	175
6	600	800	4	25	600	125
7	700	800	4	75	600	175
8	800	1 000	5	25	800	125
9	900	1 000	5	75	800	175
10	1 000	1 200	6	25	1 000	125
11	1 100	1 200	6	75	1 000	175
12	1 200	1 400	7	25	1 200	125
13	1 300	1 400	7	75	1 200	175
14	1 400	1 600	8	25	1 400	125
15	1 500	1 600	8	75	1 400	175
16	1 600	1 800	9	25	1 600	125
17	1 700	1 800	9	75	1 600	175
18	1 800	2 000	10	25	1 800	125
19	1 900	2 000	10	75	1 800	175
20	2 000	2 200	11	25	2 000	125
21	2 100	2 200	11	75	2 000	175
22	2 200	2 400	12	25	2 200	125
23	2 300	2 400	12	75	2 200	175
24	2 400	2 600	13	25	2 400	125
25	2 500	2 600	13	75	2 400	175
26	2 600	2 800	14	25	2 600	125
27	2 700	2 800	14	75	2 600	175
28	2 800	3 000	15	25	2 800	125
29	2 900	3 000	15	75	2 800	175
30	3 000	3 200	16	25	3 000	125

Ordering key

See **page 22**

Engineered solutions description

Ewellix has a strong expertise in realizing powerful linear modules, fit to the customer needs. Over the decades, we have developed multiple solutions that have been successfully used across different industries and applications.

The various designs and features are suitable for virtually all machine applications in terms of cost, size, accuracy and motion patterns. Ewellix's expertise in standard and custom linear systems is based on engineering and design know-how of processes and precision parts.

Here's an overview of the wide portfolio of solutions we can offer.

CLSM-080-B

Features

- Compact design with unique precision rail guide technology and high precision ball screw
- Aluminum or steel as the base material option
- PU strip as side cover
- Excellent performance and aesthetic design

Benefits

- Extreme high load carrying capabilities with small section area
- Extreme high running accuracy
- Low friction
- Longer service life compared to profile rail guide design
- Higher stiffness
- Can operate in harsh environments

CLSM-100/120/170 HLSM-280/330/ 340/380

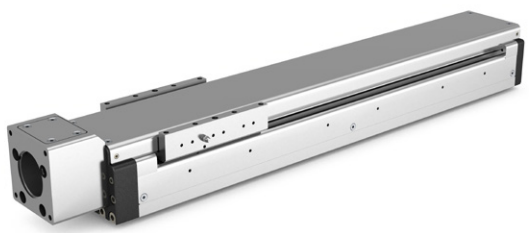
Features

- Unique and ready to use heavy load linear module solution
- Design for automotive and heavy industries
- High load carrying capacity with very compact design
- High bending load resistance capacity
- High positioning accuracy and repeatability due to high precision ball screw and profile rail guides

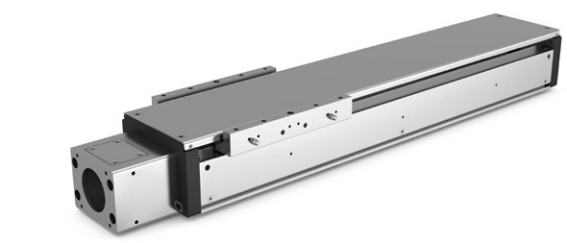
Benefits

- Easy integration in the machine design
- Ideal solution for heavy load applications
- Fits most brushless DC motors and servomotors
- Easy maintenance through outside lubrication port as option
- Designed and validated for demanding automotive applications
- Customizable according to customer needs

Engineered solutions range



CLSM-080-B...S
Precision rail guide, Ball Screw, Stainless Steel Cover



CLSM-100-B...S
CLSM-100-T...S
Linear module, Ball screw, Stainless Steel Cover

CLSM-120-B...S
CLSM-120-T...S
Profile rail guide, Lead Screw, Stainless Steel Cover

CLSM-170-B...S
Profile rail guide, Ball Screw, Steel Cover

HLSM-280-B...S
HLSM-330-B...S
Profile rail guide, Ball Screw, Steel Cover

HLSM-340-B...S
HLSM-380-B...S
Profile rail guide, Ball Screw, Steel Cover

Performance overview of linear modules - Lead & Ball screw

Designation	Symbol	Unit	CLSM-080-B	CLSM-100-B	CLSM-100-T	CLSM-120-B	CLSM-120-T
Performance Data							
Max. dynamic load capacity	C_{max}	N	25 000	28 000	28 000	41 330	41 330
Max. static load capacity	C_{0max}	N	27 300	51 300	51 300	81 800	81 800
Max. dynamic moments Mx	Mxc_{max}	Nm	440	790	790	1 340	1 340
Max. dynamic moments Mz	Mzc_{max}	Nm	330	1.425	1.425	2 455	2 455
Max. linear speed	V_{max}	mm/s	250 mm/s	250 mm/s	150 mm/s	250 mm/s, 500 mm/s	150 mm/s
Max. rotational speed	n_{max}	1/min	3 000	3 000	3 000	3 000	3 000
Duty cycle	D_{unit}	%	100	100	60	100	60
Mechanical Data							
Precision rail guide	-	-	Size 6	Size 15	Size 15	Size 20	Size 20
Screw type	-	-	Ball screw	Ball screw	Lead screw	Ball screw	Lead screw
Screw diameter	d_{screw}	mm	16	16	14	16	16
Screw lead	P_{screw}	mm	5	5	3	5 or 10	3
Stroke	s	mm	50…300	50…800	50…800	50…800	50…800
Base option	-	-	Steel or Aluminum	Steel or Aluminum	Steel or Aluminum	Steel or Aluminum	Steel or Aluminum
Cover option	-	-	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Environment							
Ambient temperature	$T_{ambient}$	°C	0 to +50	0 to +50	0 to +50	0 to +50	0 to +50
Max. humidity	ϕ	%	95	95	95	95	95

Designation	Symbol	Unit	CLSM-170-B	HLSM-280-B	HLSM-330-B	HLSM-340-B	HLSM-380-B
Performance Data							
Max. dynamic load capacity	C_{max}	N	62 660	41 330	41.330	62 660	62 660
Max. static load capacity	C_{0max}	N	102 300	81 800	81.800	102 300	102 300
Max. dynamic moments Mx	Mxc_{max}	Nm	3 375	3 515	4 360	6 710	7 690
Max. dynamic moments Mz	Mzc_{max}	Nm	2 635	2 460	3 170	3 730	5 060
Max. linear speed	V_{max}	mm/s	250 mm/s, 500 mm/s	250 mm/s	250 mm/s	250 mm/s	250 mm/s
Max. rotational speed	n_{max}	1/min	3 000	3 000	3 000	3 000	3 000
Duty cycle	D_{unit}	%	100	100	100	100	100
Mechanical Data							
Precision rail guide	-	-	Size 25	Size 20	Size 20	Size 25	Size 25
Screw type	-	-	Ball screw	Ball screw	Ball screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	25	16	16	25	25
Screw lead	P_{screw}	mm	5 or 10	5	5	5	5
Stroke	s	mm	50…800	100…800	100…800	100…800	100…800
Base option	-	-	Steel or Aluminum	Steel or Aluminum	Steel or Aluminum	Steel or Aluminum	Steel or Aluminum
Cover option	-	-	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Environment							
Ambient temperature	$T_{ambient}$	°C	0 to +50	0 to +50	0 to +50	0 to +50	0 to +50
Max. humidity	ϕ	%	95	95	95	95	95

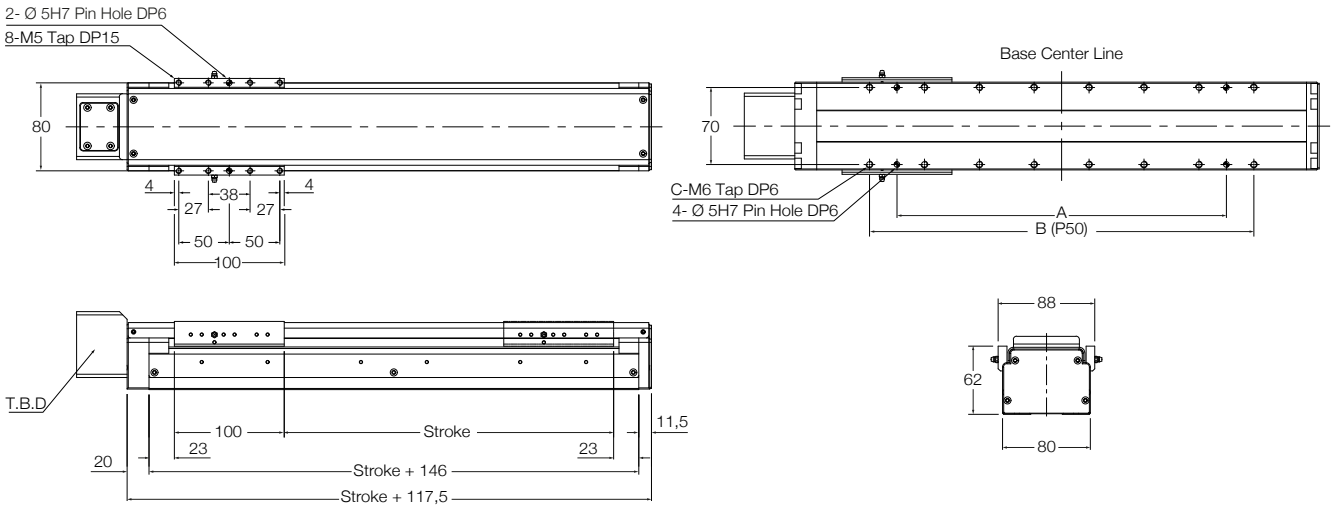
CLSM-080-B...S

Precision rail guide, Ball Screw, Stainless Steel Cover

Technical data

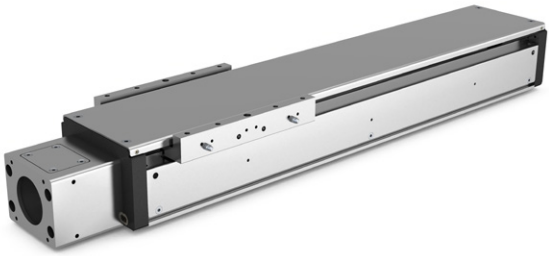
Designation		Unit	CLSM-080-B
Performance Data			
Max. dynamic load capacity	C_{max}	N	25 000
Max. static load capacity	C_{0max}	N	27 300
Max. dynamic moments Mx	Mxc_{max}	Nm	440
Max. dynamic moments Mz	Mzc_{max}	Nm	330
Max. linear speed	V_{max}	mm/s	250 mm/s
Max. rotational speed	n_{max}	1/min	3 000
Duty cycle	D_{unit}	%	100
Mechanical Data			
Precision rail guide	-	-	Size 6
Screw type	-	-	Ball screw
Screw diameter	d_{screw}	mm	16
Screw lead	P_{screw}	mm	5
Stroke	s	mm	50...300
Base option	-	-	Steel or Aluminum
Cover option	-	-	Stainless steel
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

Dimensional drawing



CLSM-100-B...S

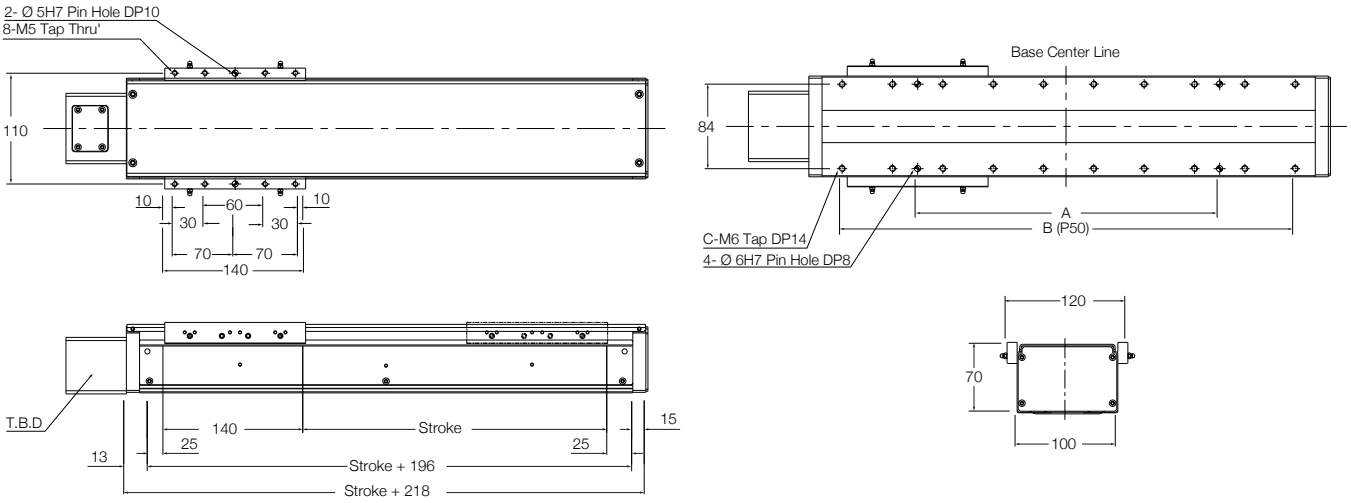
Profile rail guide, Ball Screw, Stainless Steel Cover



Technical data

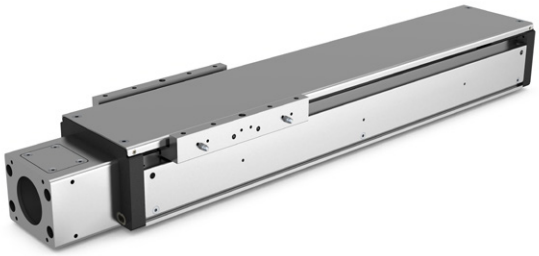
Designation		Unit	CLSM-100-B
Performance Data			
Max. dynamic load capacity	C_{max}	N	28 000
Max. static load capacity	C_{0max}	N	51 300
Max. dynamic moments Mx	Mxc_{max}	Nm	790
Max. dynamic moments Mz	Mzc_{max}	Nm	1 425
Max. linear speed	V_{max}	mm/s	250 mm/s
Max. rotational speed	n_{max}	1/min	3 000
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	-	-	Size 15
Screw type	-	-	Ball screw
Screw diameter	d_{screw}	mm	16
Screw lead	P_{screw}	mm	5
Stroke	s	mm	50...800
Base option	-	-	Steel or Aluminum
Cover option	-	-	Stainless steel
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

Dimensional drawing



CLSM-100-T...S

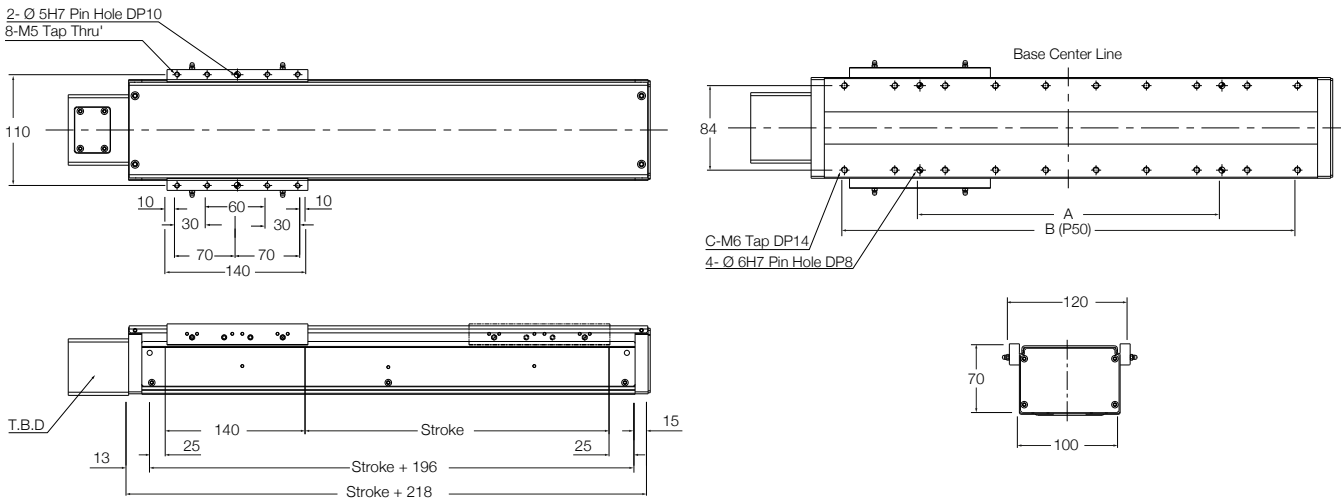
Profile rail guide, Lead Screw, Stainless Steel Cover



Technical data

Designation		Unit	CLSM-100-T
Performance Data			
Max. dynamic load capacity	C_{max}	N	28 000
Max. static load capacity	C_{0max}	N	51 300
Max. dynamic moments Mx	Mxc_{max}	Nm	790
Max. dynamic moments Mz	Mzc_{max}	Nm	1 425
Max. linear speed	V_{max}	mm/s	150 mm/s
Max. rotational speed	n_{max}	1/min	3 000
Duty cycle	D_{unit}	%	60
Mechanical Data			
Profile rail guide	-	-	Size 15
Screw type	-	-	Lead screw
Screw diameter	d_{screw}	mm	14
Screw lead	P_{screw}	mm	3
Stroke	s	mm	50...800
Base option	-	-	Steel or Aluminum
Cover option	-	-	Stainless steel
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

Dimensional drawing



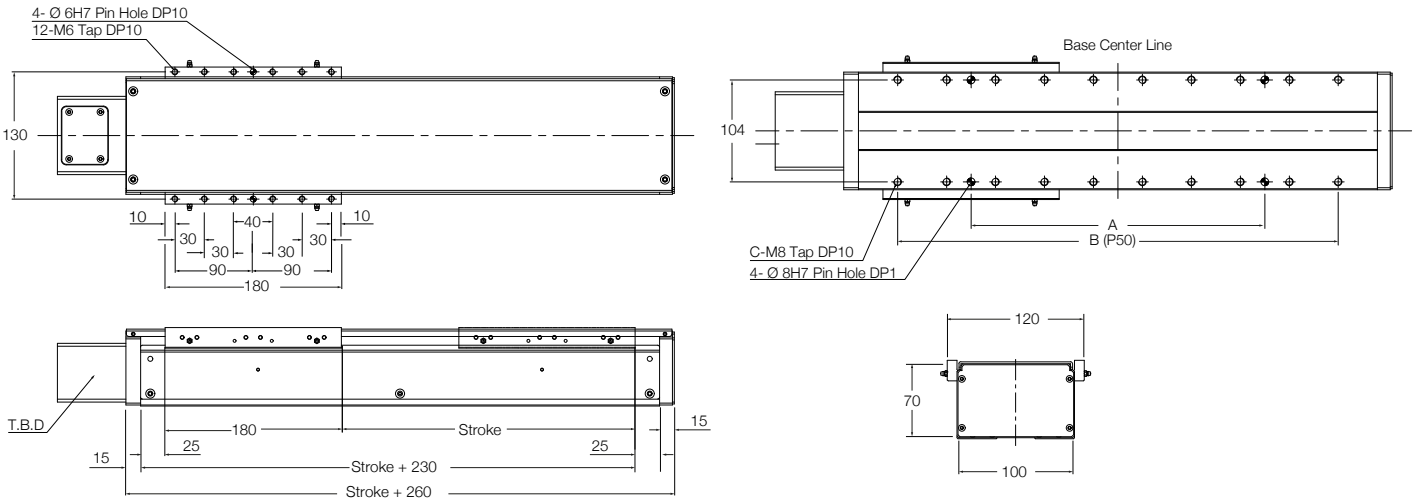
CLSM-120-B...S

Profile rail guide, Ball Screw, Stainless Steel Cover

Technical data

Designation		Unit	CLSM-120-B
Performance Data			
Max. dynamic load capacity	C_{max}	N	41 330
Max. static load capacity	C_{0max}	N	81 800
Max. dynamic moments Mx	Mxc_{max}	Nm	1 340
Max. dynamic moments Mz	Mzc_{max}	Nm	2 455
Max. linear speed	V_{max}	mm/s	250 mm/s, 500 mm/s
Max. rotational speed	n_{max}	1/min	3 000
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	-	-	Size 20
Screw type	-	-	Ball screw
Screw diameter	d_{screw}	mm	16
Screw lead	P_{screw}	mm	5 or 10
Stroke	s	mm	50…800
Base option	-	-	Steel or Aluminum
Cover option	-	-	Stainless steel
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

Dimensional drawing



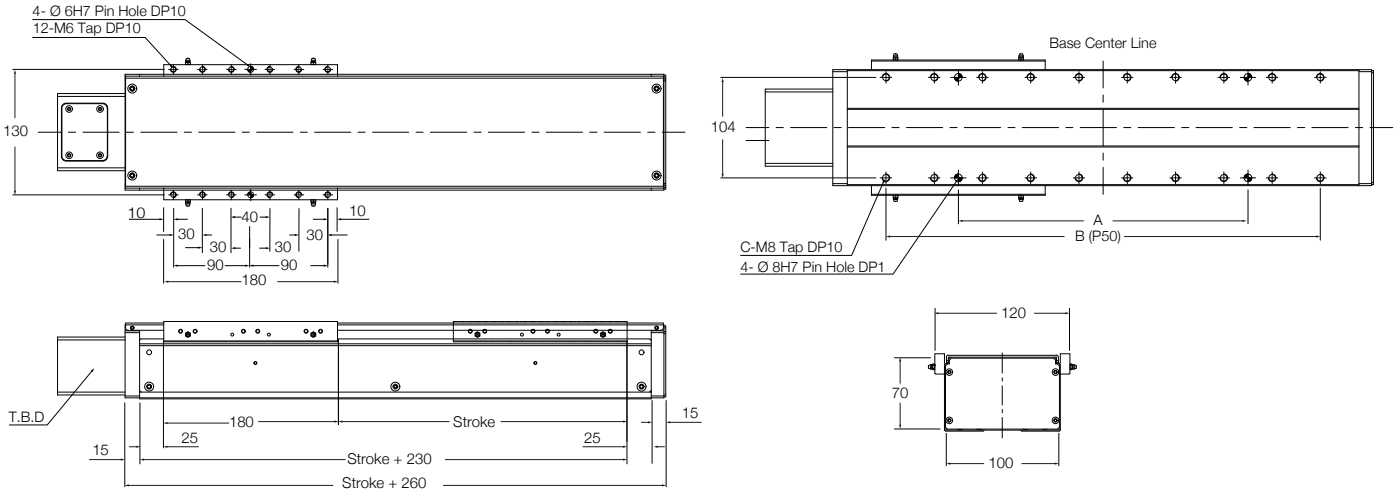
CLSM-120-T...S

Profile rail guide, Lead Screw, Stainless Steel Cover

Technical data

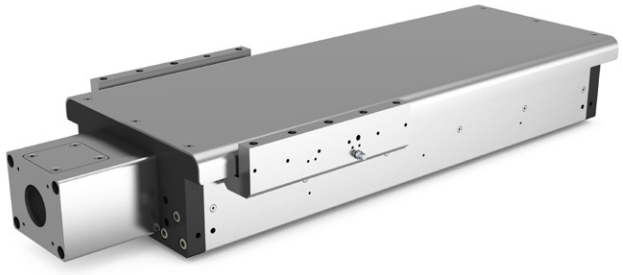
Designation		Unit	CLSM-120-T
Performance Data			
Max. dynamic load capacity	C_{max}	N	41 330
Max. static load capacity	C_{0max}	N	81 800
Max. dynamic moments Mx	Mxc_{max}	Nm	1 340
Max. dynamic moments Mz	Mzc_{max}	Nm	2 455
Max. linear speed	V_{max}	mm/s	150 mm/s
Max. rotational speed	n_{max}	1/min	3 000
Duty cycle	D_{unit}	%	60
Mechanical Data			
Profile rail guide	-	-	Size 20
Screw type	-	-	Lead screw
Screw diameter	d_{screw}	mm	16
Screw lead	P_{screw}	mm	3
Stroke	s	mm	50...800
Base option	-	-	Steel or Aluminum
Cover option	-	-	Stainless steel
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

Dimensional drawing



CLSM-170-B...S

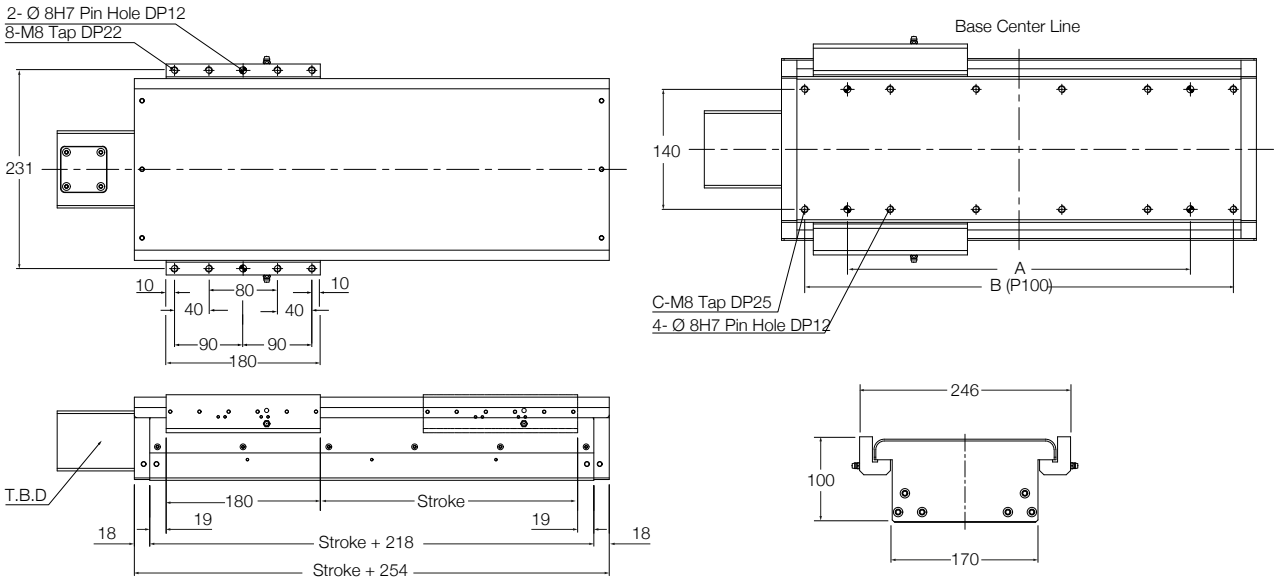
Profile rail guide, Ball Screw, Steel Cover



Technical data

Designation		Unit	CLSM-170-B
Performance Data			
Max. dynamic load capacity	C_{max}	N	62 660
Max. static load capacity	C_{0max}	N	102.300
Max. dynamic moments Mx	Mxc_{max}	Nm	3 375
Max. dynamic moments Mz	Mzc_{max}	Nm	2 635
Max. linear speed	V_{max}	mm/s	250 mm/s, 500 mm/s
Max. rotational speed	n_{max}	1/min	3 000
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	-	-	Size 25
Screw type	-	-	Ball screw
Screw diameter	d_{screw}	mm	25
Screw lead	P_{screw}	mm	5 or 10
Stroke	s	mm	50...800
Base option	-	-	Steel or Aluminum
Cover option	-	-	
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

Dimensional drawing



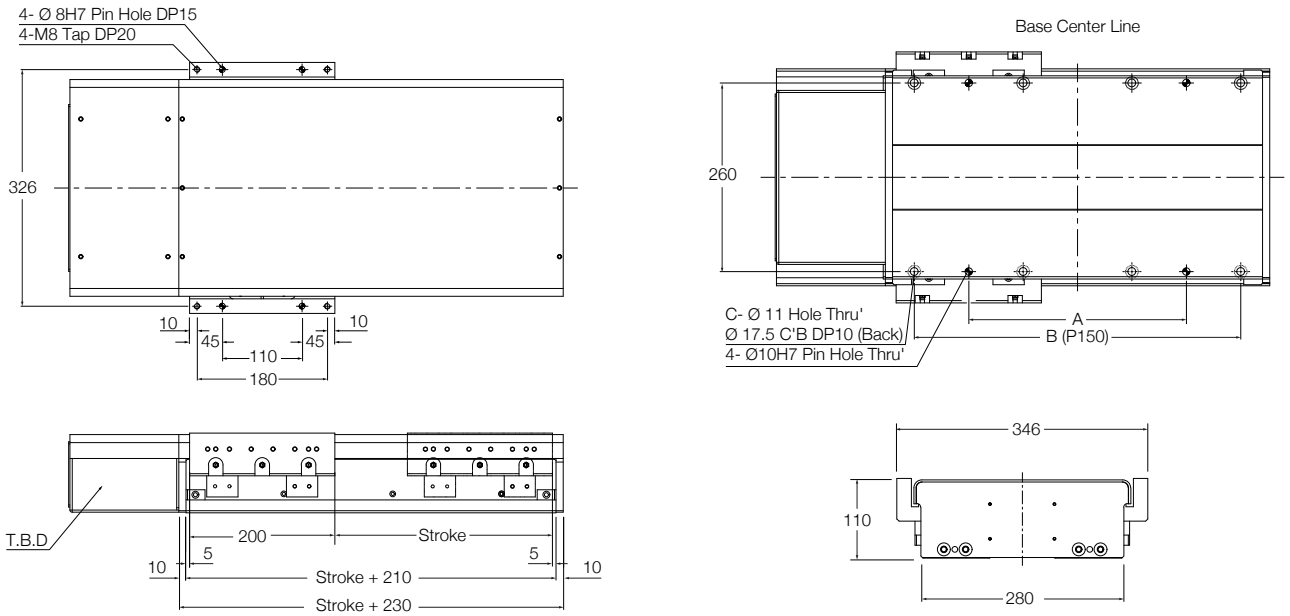
HLSM-280-B...S

Profile rail guide, Ball Screw, Steel Cover

Technical data

Designation		Unit	HLSM-280-B
Performance Data			
Max. dynamic load capacity	C_{max}	N	41 330
Max. static load capacity	C_{0max}	N	81 800
Max. dynamic moments Mx	Mxc_{max}	Nm	3.515
Max. dynamic moments Mz	Mzc_{max}	Nm	2 460
Max. linear speed	V_{max}	mm/s	250 mm/s
Max. rotational speed	n_{max}	1/min	3 000
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	-	-	Size 20
Screw type	-	-	Ball screw
Screw diameter	d_{screw}	mm	16
Screw lead	P_{screw}	mm	5
Stroke	s	mm	100...800
Base option	-	-	Steel or Aluminum
Cover option	-	-	steel
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

Dimensional drawing



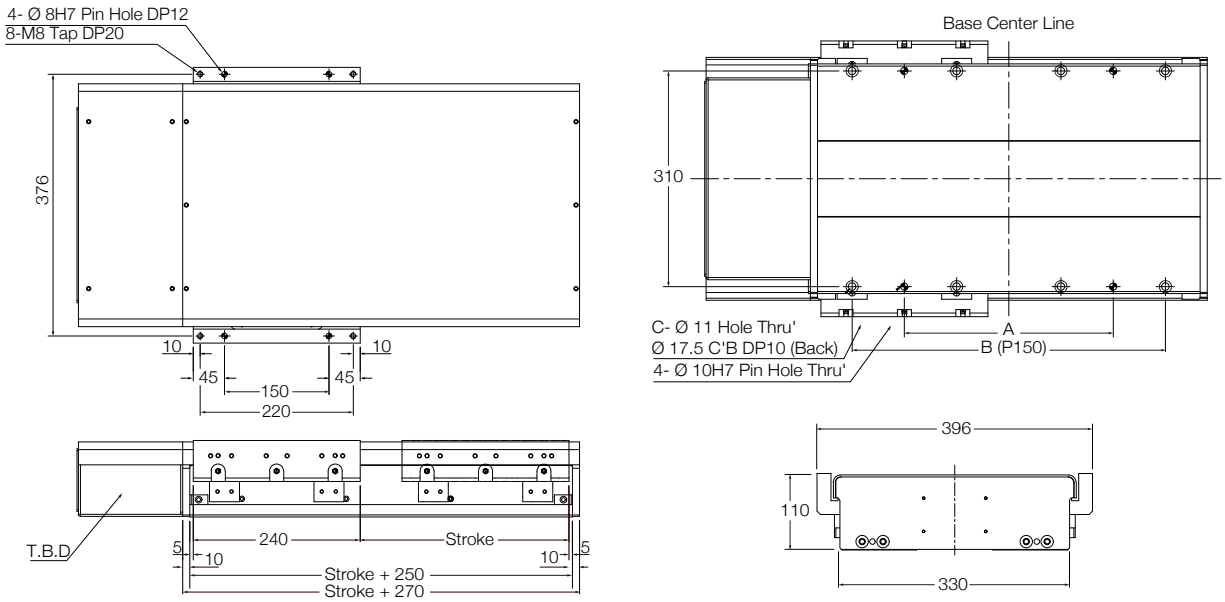
HLSM-330-B...S

Profile rail guide, Ball Screw, Steel Cover

Technical data

Designation		Unit	HLSM-330-B
Performance Data			
Max. dynamic load capacity	C_{max}	N	41 330
Max. static load capacity	C_{0max}	N	81 800
Max. dynamic moments Mx	Mxc_{max}	Nm	4 360
Max. dynamic moments Mz	Mzc_{max}	Nm	3 170
Max. linear speed	V_{max}	mm/s	250 mm/s
Max. rotational speed	n_{max}	1/min	3 000
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	-	-	Size 20
Screw type	-	-	Ball screw
Screw diameter	d_{screw}	mm	16
Screw lead	P_{screw}	mm	5
Stroke	s	mm	100...800
Base option	-	-	Steel or Aluminum
Cover option	-	-	steel
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

Dimensional drawing



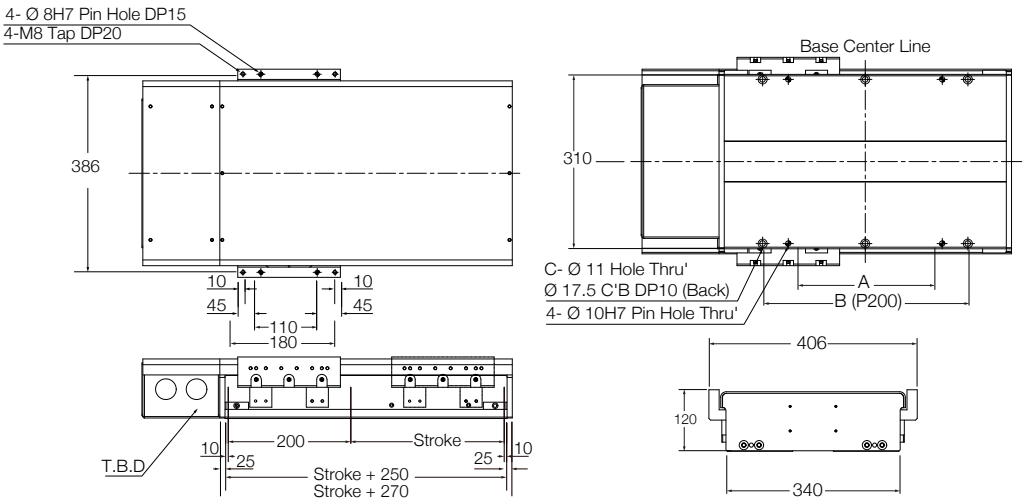
HLSM-340-B...S

Profile rail guide, Ball Screw, Steel Cover

Technical data

Designation		Unit	HLSM-340-B
Performance Data			
Max. dynamic load capacity	C_{max}	N	62 660
Max. static load capacity	C_{0max}	N	102 300
Max. dynamic moments Mx	Mxc_{max}	Nm	6 710
Max. dynamic moments Mz	Mzc_{max}	Nm	3 730
Max. linear speed	V_{max}	mm/s	250 mm/s
Max. rotational speed	n_{max}	1/min	3 000
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	-	-	Size 25
Screw type	-	-	Ball screw
Screw diameter	d_{screw}	mm	25
Screw lead	P_{screw}	mm	5
Stroke	s	mm	100...800
Base option	-	-	Steel or Aluminum
Cover option	-	-	steel
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

Dimensional drawing



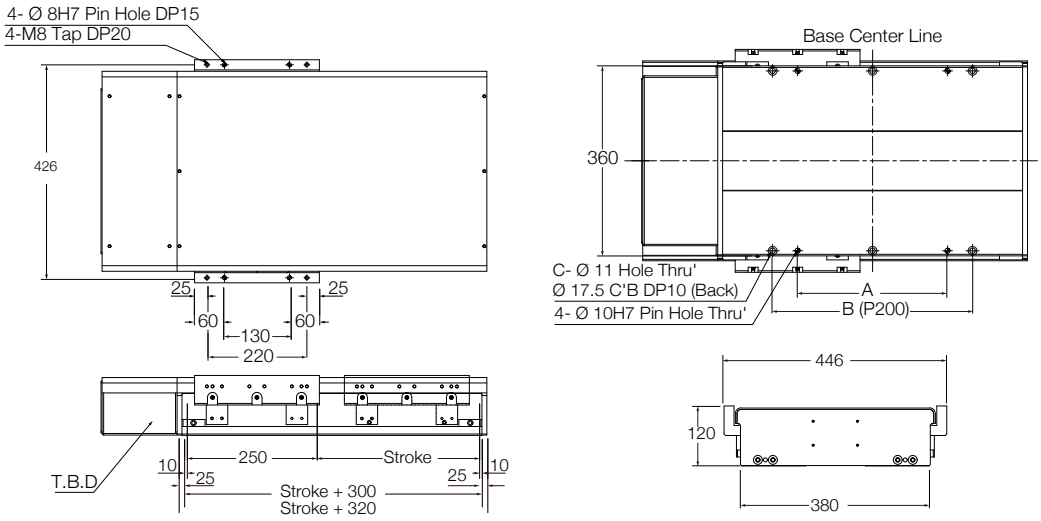
HLSM-380-B...S

Profile rail guide, Ball Screw, Steel Cover

Technical data

Designation		Unit	HLSM-380-B
Performance Data			
Max. dynamic load capacity	C_{max}	N	62 660
Max. static load capacity	C_{0max}	N	102.300
Max. dynamic moments Mx	Mxc_{max}	Nm	7 690
Max. dynamic moments Mz	Mzc_{max}	Nm	5.060
Max. linear speed	V_{max}	mm/s	250 mm/s
Max. rotational speed	n_{max}	1/min	3 000
Duty cycle	D_{unit}	%	100
Mechanical Data			
Profile rail guide	-	-	Size 25
Screw type	-	-	Ball screw
Screw diameter	d_{screw}	mm	25
Screw lead	P_{screw}	mm	5
Stroke	s	mm	100...800
Base option	-	-	Steel or Aluminum
Cover option	-	-	steel
Environment			
Ambient temperature	$T_{ambient}$	°C	0 to +50
Max. humidity	ϕ	%	95

Dimensional drawing



Ordering key

Linear module

C L S M - [ ] - [ ] [ ] - [ ] [ ] - [ ] [ ] [ ] - [ ] [ ] [ ] - [ ] [ ] [ ]

Type
C Compact
H Heavy

Width

Drive
B Ball screw
T Lead screw (Trapezoidal screw or Acme screw)
P Belt type (only for CLSM-150)
L Linear motor (only for CLSM-150)

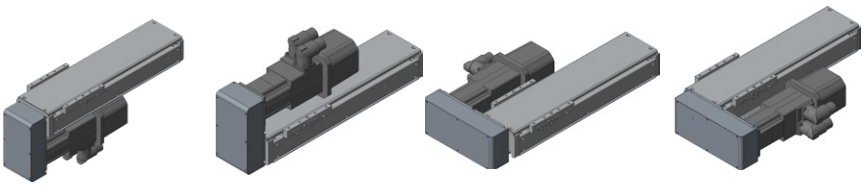
Lead(Ball screw / Belt) or Force(Linear motor)
03 Lead screw
05 Ball screw
10 Ball screw
20 Ball screw
22 Linear motor (only for CLSM-150)
40 Belt (only for CLSM-150)

Stroke*
100… 3 000 mm

Base
A Aluminum
S Steel
P Aluminum profile (only for CLSM-150)

Option 1: Motor adaptor
0 None
A Dunker
D Dyadic
W Dyadic Water Protection Type
R Dyadic Water Protection Rotation Type
F Fastech
Y Yaskawa
M Mitsubishi
P Panasonic
S Siemens
J JVL
T TAMAGAWA
C Magnetic Coupling
X Others

Option 2: Brake & U-shape bracket
0 None
B Brake
D U-shape Motor bracket - Down side
U U-shape Motor bracket - Up side
L U-shape Motor bracket - Left side
R U-shape Motor bracket - Right side



Down side *Up side* *Left side* *Right side*

* mandatory four digit code; if necessary add 0 at left

Option 3: Motor

0 None
A Dunker
D Dyadic
W Dyadic Water Protection Type
R Dyadic Water Protection Rotation Type
F Fastech
Y Yaskawa
M Mitsubishi
P Panasonic
S Siemens
J JVL
T TAMAGAWA
C Magnetic Coupling
X Others

Option 4: Cover

0 None
A Aluminum profile (only for CLSM-150)
P PU-strip (only for CLSM-150)
S Steel for HLSM 280/330/340/380 and CLSM 150/170
Stainless steel for CLSM 80/92/100/120

Option 5: Gear reducer

0 None
G Gear reducer

Option 6: Central lubrication

0 None
C Central one-port lubrication

Option 7: Limit switch

0 None
S Limit switch

Option 8: Cableveyor

0 None
C Cableveyor

Option 9: Carriage

0 Standard carriage
U U type (only for CLSM-92)

Car transfer unit solutions

CTU positioning systems are designed for the automotive industry. They are equipped with a pair of profile rail guides with 2 carriages each and show a high performance in terms of guiding accuracy and stiffness. The profile rail guide system is available with a wide range of ball screws to match high dynamic and positioning accuracy. CTU systems have integrated motor, controller, cables, mechanical brake, shock absorber and steel cover. CTU systems are available with lifting columns or linear modules for vertical axis.

Features

- **Compact design with aluminum or steel as base material**
- **Integrated motor, controller, cables, mechanical brake and shock absorber**
- **Lifting column or linear module as option of vertical axis**
- **Inline and right-angle gear boxes with customized motor adapter**

Benefits

- Made for long service life and high loads
- Easy maintenance by outside-point lubrication
- Precise alignment and secure fastening of attachments
- High precision in positioning and repeatability

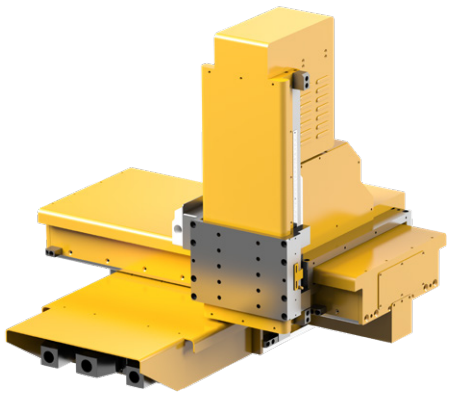
LCTU unit

Load capacity 200 kgf

LCTU unit

Ewellix LCTU systems are innovative and powerful multi-axis systems for Automotive production line.

LCTU systems are embedding our linear guides as a ready to use solution for precise motion. The profile rail guide system is available with a wide range of ball screws to match high static, dynamic and positioning accuracy. LCTU systems have integrated motor, controller, cables, connectors, mechanical brake and steel cover. LCTU systems are available with linear modules for vertical axis.



Benefits

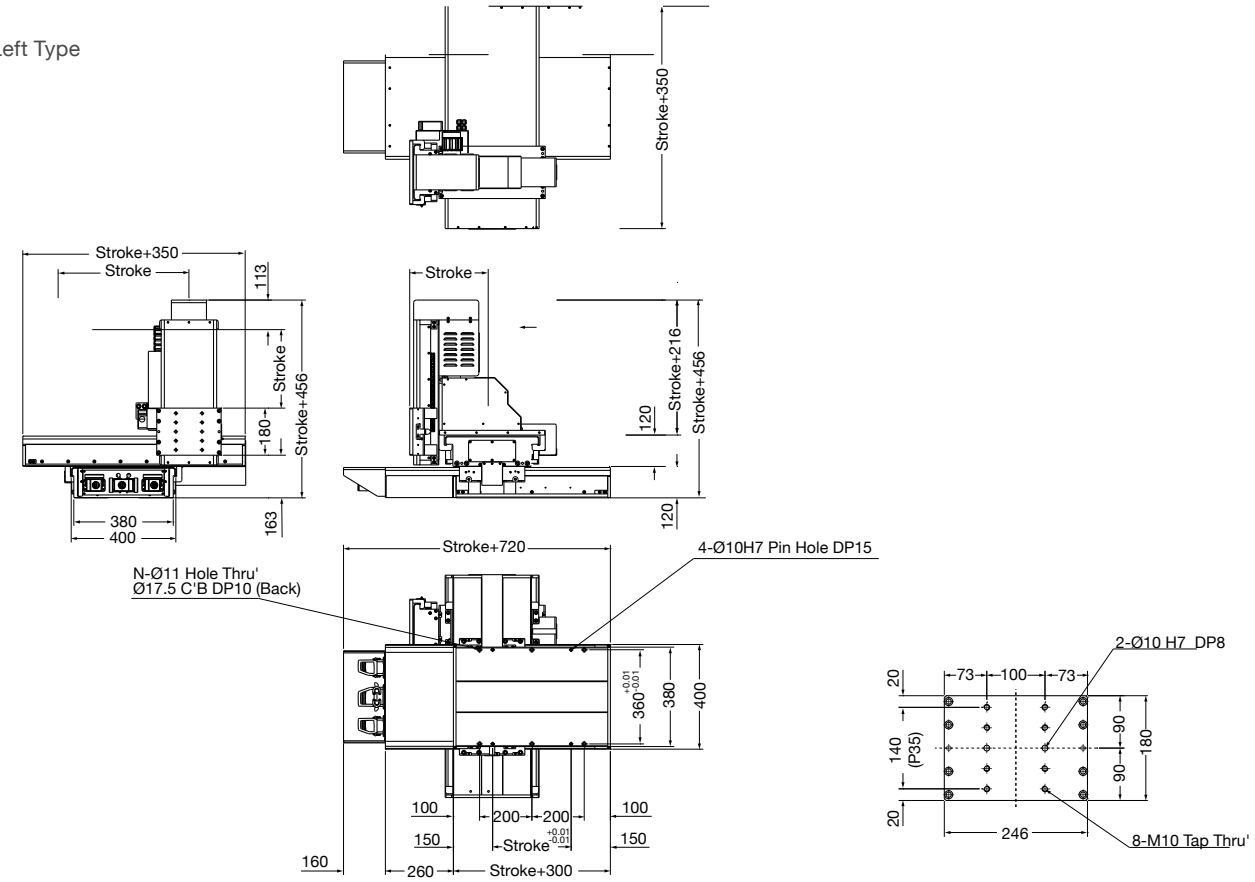
- Made for long service life and high loads
- High speed for dynamic movement
- High precision in positioning and repeatability
- Easy maintenance by outside-point lubrication

Technical data

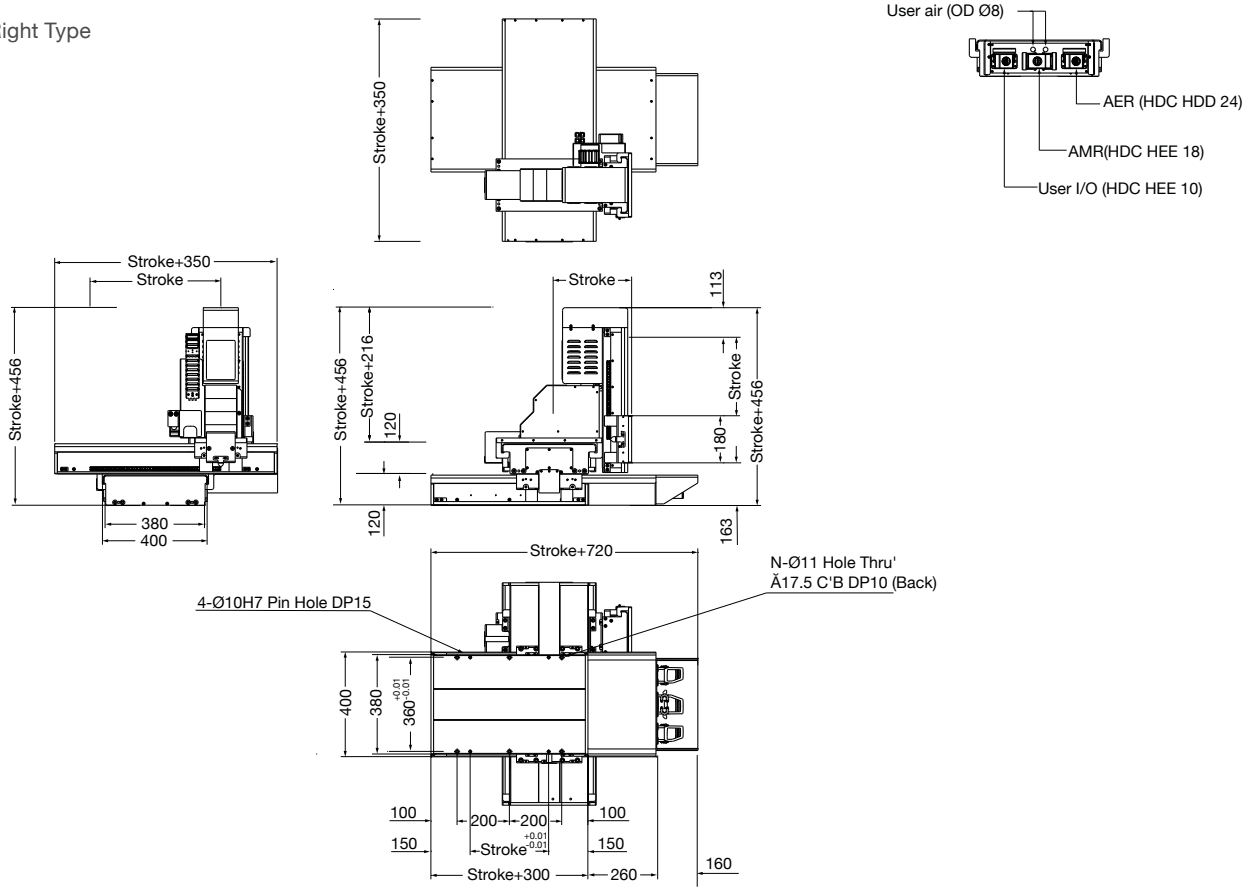
	Symbol	Unit	X axis	Y axis	Z axis
Performance Data					
Max. linear speed	V_{max}	mm/s	300 at 3 600rpm	300 at 3 600rpm	300 at 3 600rpm
Max. payload	P_{max}	kg	250	250	200
Max. acceleration	a_{max}	m/s^2	10	10	10
Duty cycle	D_{unit}	%	100	100	100
Mechanical Data					
Profile rail guide	-	-	Size 25	Size 25	Size 25
Screw type	-	-	Ball screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	25	25	25
Screw lead	P_{screw}	mm	5~10	5~10	5~10
Stroke	s	mm	100...800	200…600	100…600
Repeatability (same direction and load)	-	mm	± 0.02	± 0.02	± 0.02
Base	-	-	Aluminium or Steel	Aluminium or Steel	Aluminium or Steel
Cover	-	-	Steel	Steel	Steel
Environment					
Ambient temperature	$T_{ambient}$	°C	0 to +50	0 to +50	0 to +50
Max. humidity	ϕ	%	95	95	95

Dimensional drawing

LCTU Left Type



LCTU Right Type



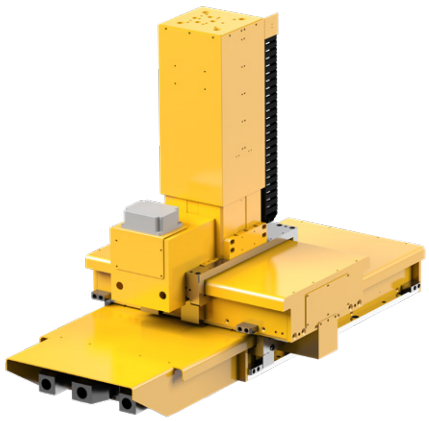
HCTU unit

Load capacity 200 kgf

HCTU unit

Ewellix HCTU systems are innovative and powerful multi-axis systems for Automotive production line.

HCTU systems are embedding our linear guides as a ready to use solution for precise motion. The profile rail guide system is available with a wide range of ball screws to match high static, dynamic and positioning accuracy. HCTU systems have integrated motor, controller, cables, connectors, mechanical brake, shock absorber and steel cover. HCTU systems are available with lifting columns for vertical axis.



Benefits

- Made for long service life and high loads
- Shock absorber and mechanical brake for external impact
- High precision in positioning and repeatability
- Easy maintenance by outside-point lubrication

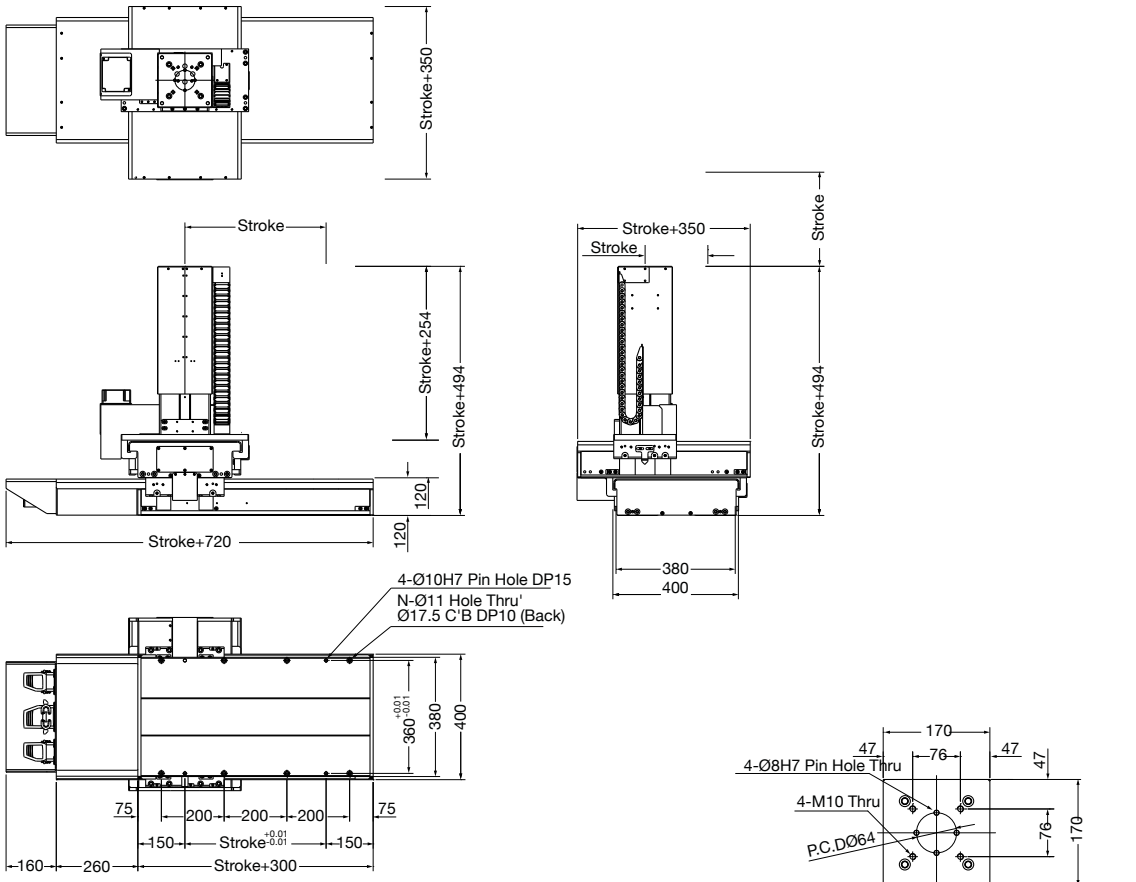
Technical data

	Symbol	Unit	X axis	Y axis	Z axis
Performance Data					
Max. linear speed	V_{max}	mm/s	300 at 3 600rpm	300 at 3 600rpm	60 at 3 600rpm
Max. payload	P_{max}	kg	250	250	200
Max. acceleration	a_{max}	m/s^2	10	10	5
Duty cycle	D_{unit}	%	100	100	100
Mechanical Data					
Profile rail guide	-	-	Size 25	Size 25	Size 25
Screw type	-	-	Ball screw	Ball screw	Ball screw
Screw diameter	d_{screw}	mm	25	25	20
Screw lead	P_{screw}	mm	5~10	5~10	10(1/10)
Stroke	s	mm	100...800	200…600	100…600
Repeatability (same direction and load)	-	mm	± 0.02	± 0.02	± 0.05
Base	-	-	Aluminium or Steel	Aluminium or Steel	Aluminium or Steel
Cover	-	-	Steel	Steel	Steel
Environment					
Ambient temperature	$T_{ambient}$	°C	0 to +50	0 to +50	0 to +50
Max. humidity	ϕ	%	95	95	95

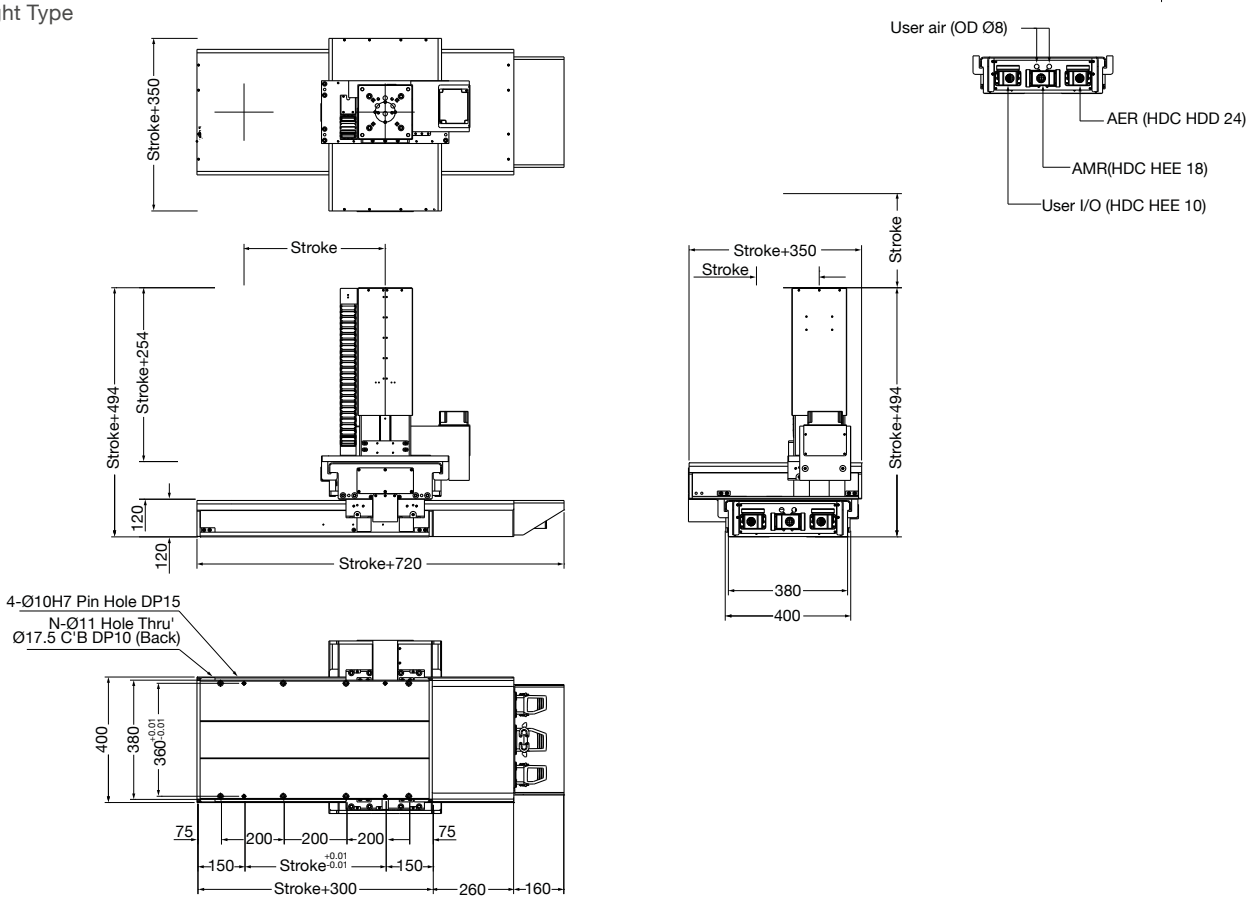
For vertical axis, please, refer to CPSM technical data into **IL-05001/2-EN-June 2021 High performance actuator**

Dimensional drawing

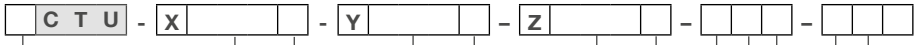
HCTU Left Type



HCTU Right Type



Ordering key



Type
L: Linear module for Z axis
H: Lifting column for Z axis

X axis Stroke

X axis Base
A : Aluminum plate
S : Steel plate

Y axis Stroke

Y axis Base
A : Aluminum plate
S : Steel plate

Z axis Stroke

Z axis Base
A : Aluminum plate
S : Steel plate

Motor adaptor
0 : None
D : Dyadic
F : Fastech
Y : Yaskawa
M : Mitsubishi
P : Panasonic
S : Siemens
T : TAMAGAWA
L : LENZE
C : Magnetic Coupling
X : Others

Brake
0 : None
B : Brake

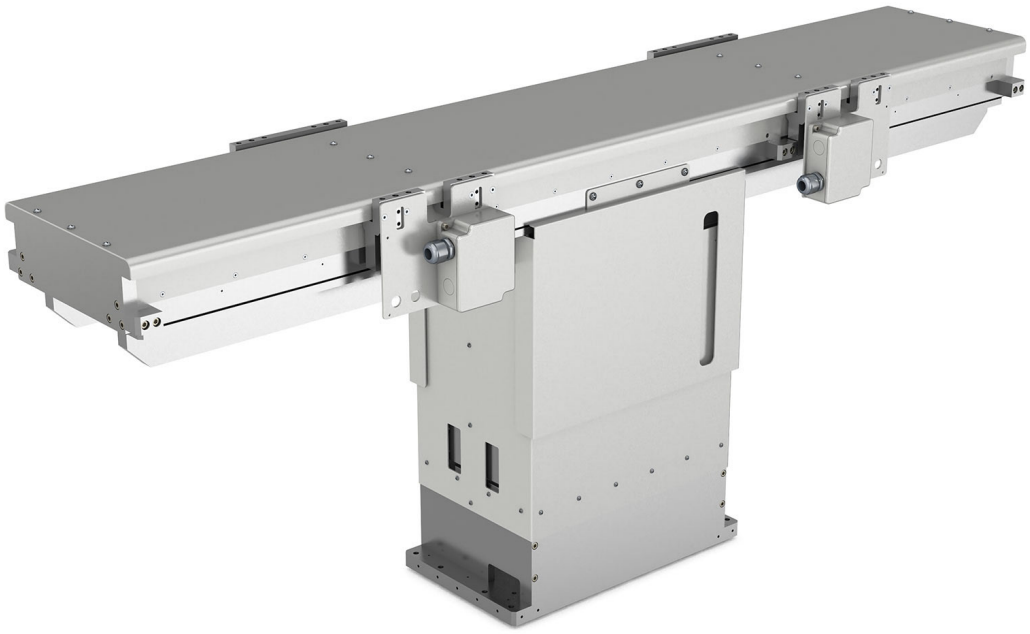
Motor
0 : None
D : Dyadic
F : Fastech
Y : Yaskawa
M : Mitsubishi
P : Panasonic
S : Siemens
T : TAMAGAWA
L : LENZE
C : Magnetic Coupling
X : Others

Electric terminal box
0: None
I: Integrated internal termina box
E: External terminal box

Cableveyor
0: None
I: Integrated Cableveyor
E: External Cableveyor

Direction
L : Left type
R: Right type
C: Center type

Advanced customizations

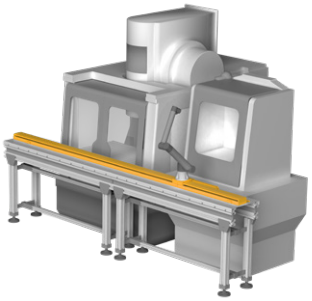


Customized three axis system
for Automotive production line

Customized multi axes
system for inspection

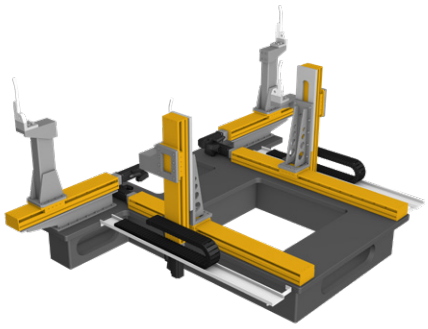
Multi axes system for
collaborative robot
applications

Application examples



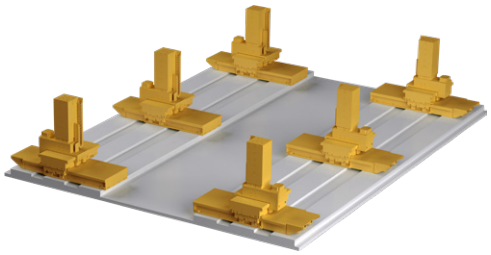
Cobot transfers

Pallet lifting



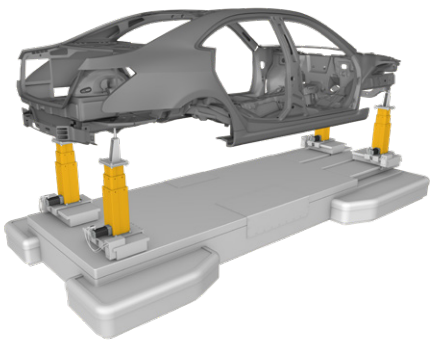
Jig - geo sets

End effector - grippers



Car chassis (BIW) lifting application

Vision and inspection machines



AGV application or Car Pallet

Vertical axis for ceiling mounting installation.

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PUB NUM IL-06018/3-EN-February 2023