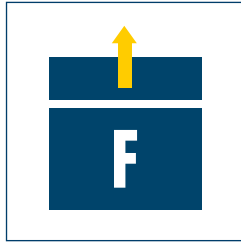




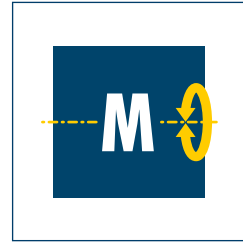
**Useful stroke**  
up to 3,800mm



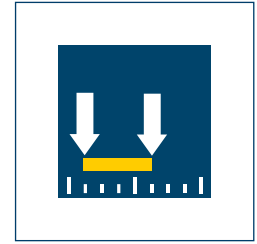
**Driving force**  
270 .. 550 N



**Maximum speed**  
Up to 4 m/s

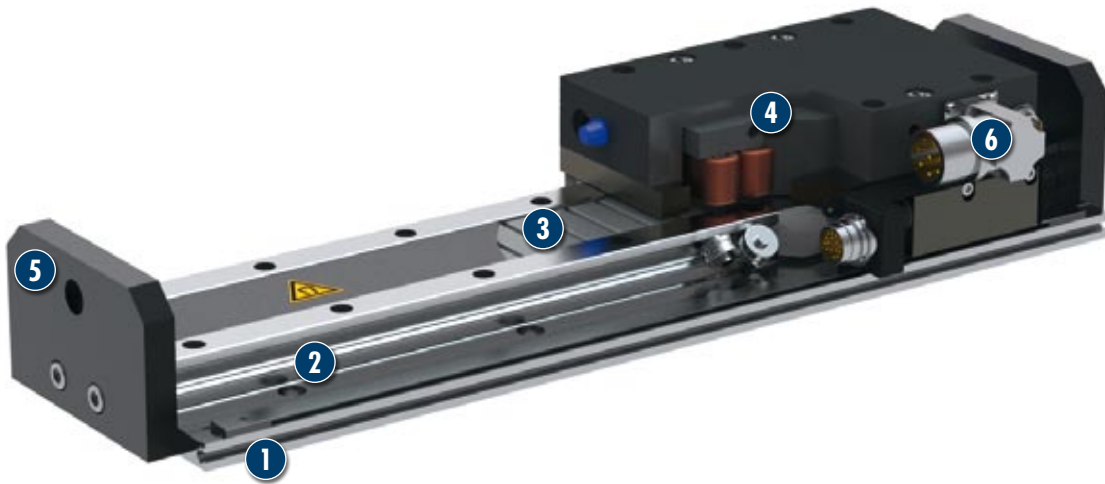


**Moment load**  
Max. 120 Nm



**Repeat accuracy**  
0.01 mm

## Module design



- 1 Supporting aluminum press-drawn section**  
for higher useful loads
- 2 Precise, polished spring steel guide rails**  
for optimum guidance properties and speeds
- 3 Integrated secondary parts**  
with high power magnets
- 4 Compact primary part slide**  
with mounting surfaces, roller shoes adjusted without play and integrated measuring system
- 5 End plates**  
for mounting sensors and shock absorbers
- 6 Motor plug**

## Linear axis with direct drive

and roller guide with exceptionally flat design

### Area of application

The axis module is suitable for low to medium loads with high dynamic requirements.



## General information about the series

### Drive

3-phase, electronically commutated AC synchronous linear motor. Primary part 3-phase copper coil body, secondary part iron mount with permanent magnets and dirt cover.

### Stroke measuring system

Non-contact magnetic measuring system with integrated analog signal output, 1 Vss (insensitive to contamination)

### Profile guide

Aluminum press-drawn section with polished spring steel tracks with secondary part made of high power magnets

### Guided slide

Needle bearing rollers with integrated felt wipers, slide adjustable without play, primary part and measuring system reading head directly integrated. Attachments mounted and secured using thread and centering sleeves

### Operating temperature

From 10 °C to 40 °C

### Options

- Pneumatic brake for relieving the load on the linear motor, e.g. under influence of axial forces in target position
- Other independent motor slides on a common profile guide and with a linear measuring system
- Collision protection in case of programming errors is provided by corresponding limit switches
- Second passive guided slide for long attachments (free moving)
- Absolute stroke measuring system

### Accessories

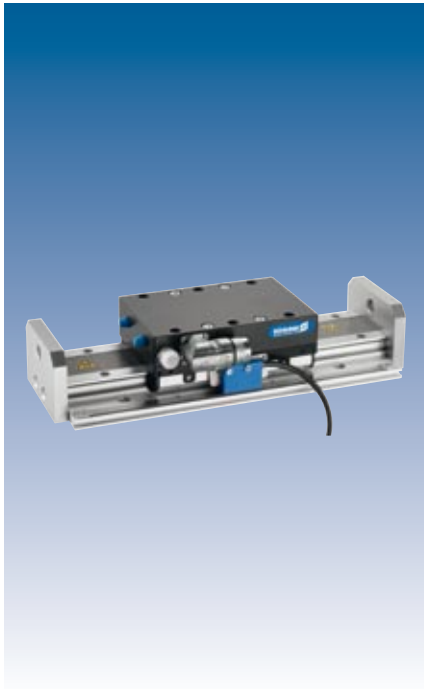
- Control units from Bosch Rexroth or Siemens (other manufacturers on request)
- Limit switching with inductive sensors; referencing using inductive sensors
- Hydraulic shock absorbers on profile end plates to prevent inelastic collisions (size and number of shock absorbers depend on application)
- Cable track, pre-assembled and mounted on drive
- Adapter plates, bellow cover and stainless steel guide on request
- Pre-assembled cable sets in different lengths

### Warranty

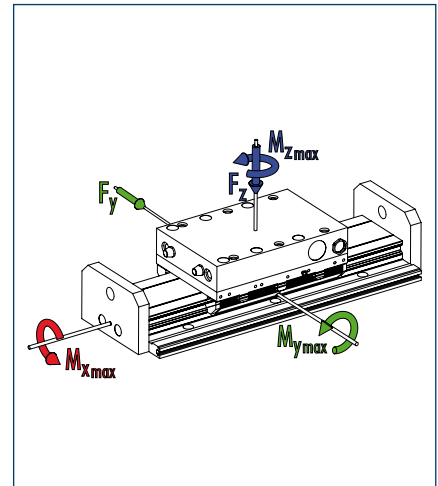
24 months

① Refer to ambient conditions on our introductory pages

For production reasons, the colors may vary from those shown in the catalog.



### Load data



	MLD 100FU	MLD 200FUL
$M_x$ max. [Nm]	47	60
$M_y$ max. [Nm]	37	120
$M_z$ max. [Nm]	37	120

### Technical data

Designation		MLD 100FU	MLD 200FUL
Max. driving force (*)	[N]	250	500
Rated force (**)	[N]	86	183
Max. speed	[m/s]	4	4
Max. acceleration	[m/s <sup>2</sup> ]	40	40
Max. useful load (horizontal)	[kg]	10	30
Max. stroke	[mm]	3800	3700
Repeat accuracy (***)	[mm]	0.01	0.01
Measuring system resolution (controller-dependent)	[µm]	0.5	0.5
Max. current	( $A_{eff}$ )	8.1	16.2
Max. continuous current at standstill	( $A_{eff}$ )	2.2	3.9
Max. ambient temperature	[°C]	40	40
Max. surface temperature	[°C]	70	70
Weight of guided slide inc. motor	[kg]	2.2	3.6
Weight of end plates	[kg]	0.37	0.37
Profile / 100mm stroke	[kg]	0.77	0.77

(\*) Depending on controller type used

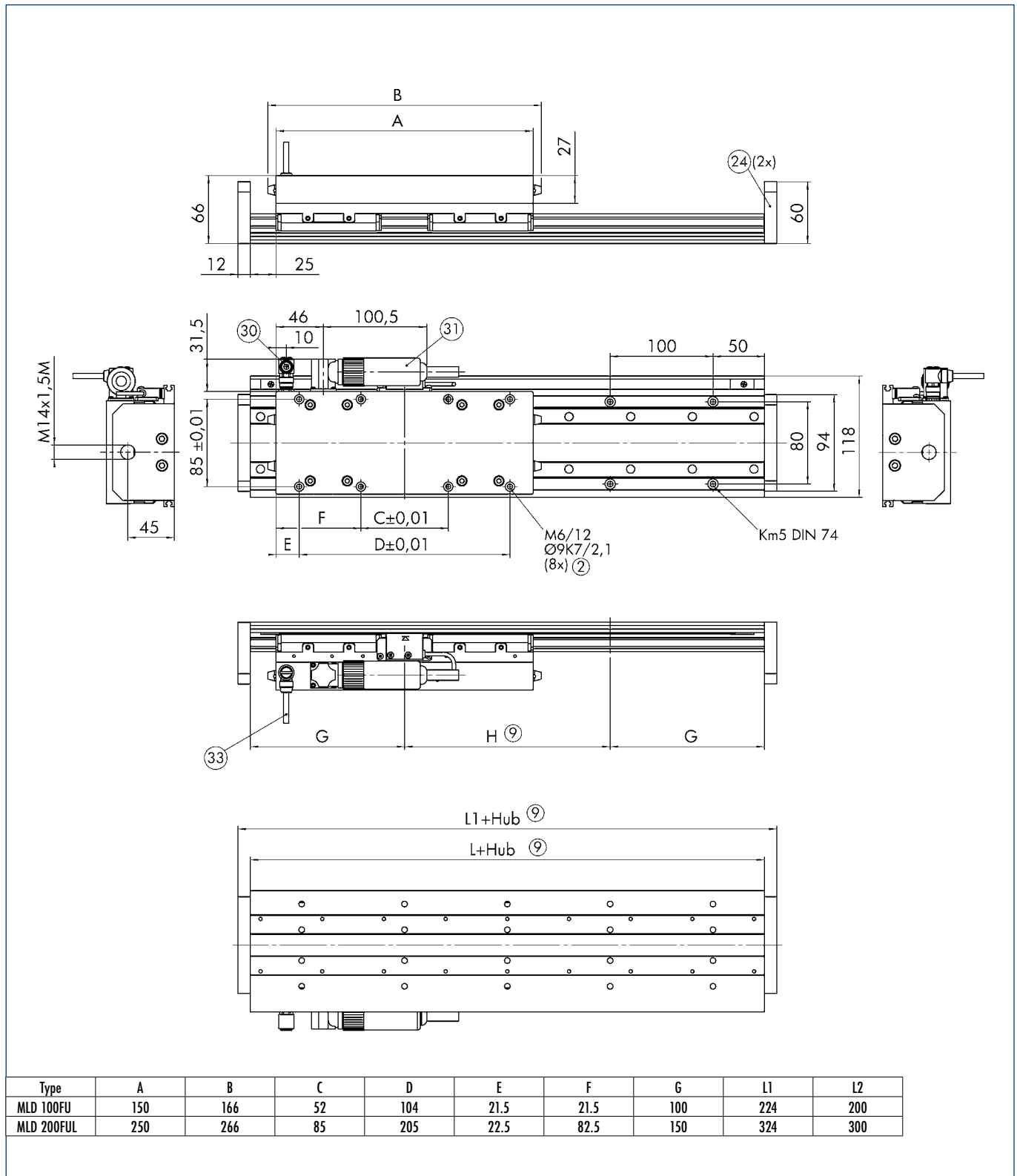
(\*\*) Depending on installation situation (heat dissipation)

(\*\*\*) The specified repeat accuracies are only applicable at constant ambient temperatures.

① The specified repeat accuracy applies at constant ambient temperatures.

Some of the specified forces can vary considerably when using different control units and with increasing travel speeds

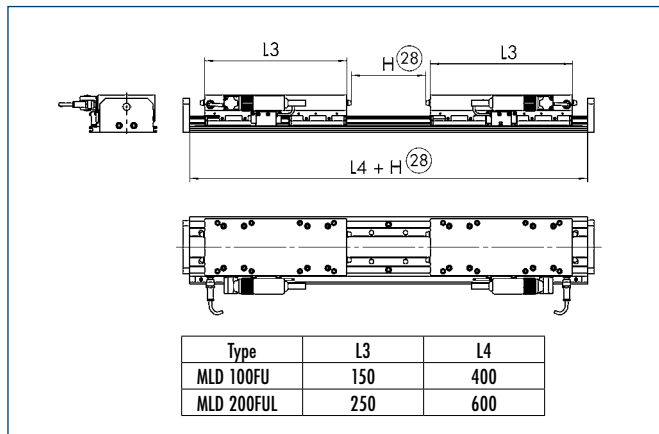
### Main views



- ② Assembly connection
- ⑨ Useful stroke
- ②④ Flange

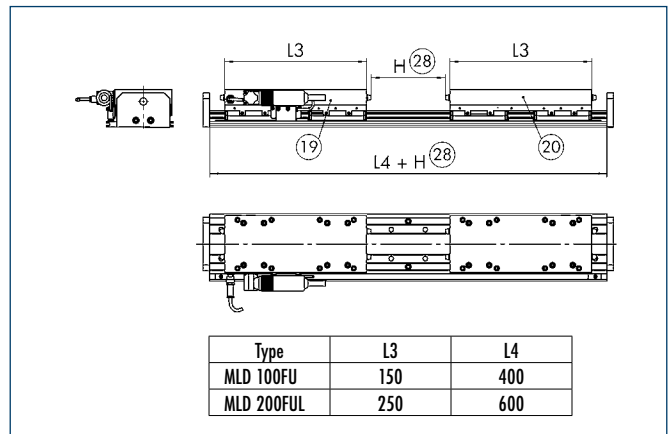
- ③⑩ Hall sensor connecting plug
- ③⑪ Motor plug
- ③⑫ Cable for stroke measuring system

### Second slide (third slide only on request)



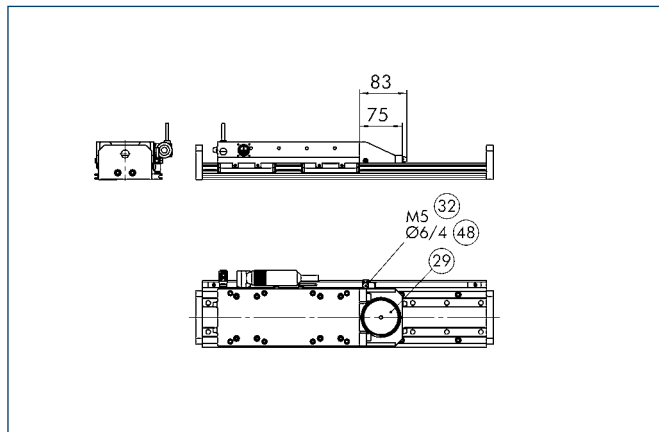
Ⓒ Total stroke = 2 x stroke per slide

### Second passive slide



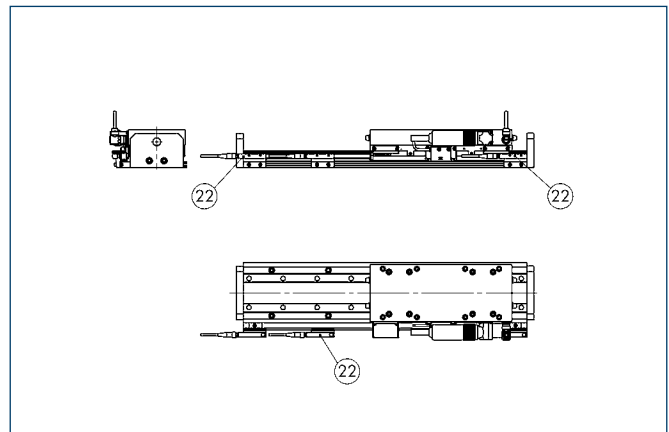
- Ⓓ Powered slide
- Ⓔ Passive slide
- Ⓒ Total stroke = 2 x stroke per slide

### Brake attachment



- Ⓓ Brake
- Ⓒ Compressed air connection
- Ⓒ Hose diameter

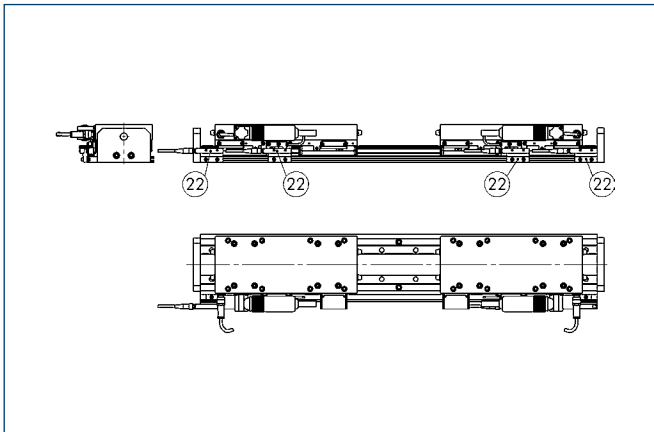
### Limit and reference switch with one slide



- Ⓒ Inductive reference switch

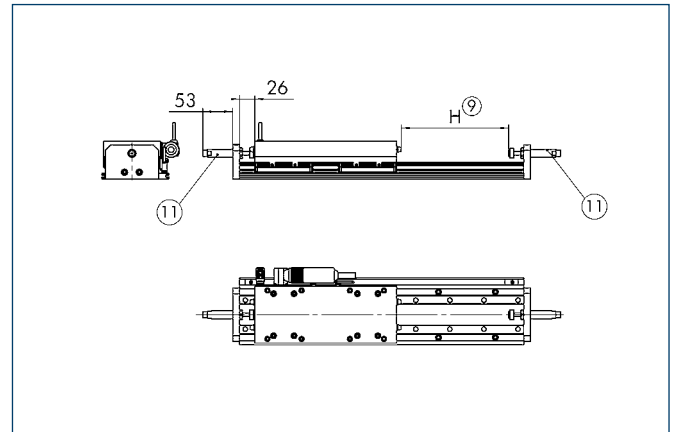
Figure : Left reference switch

### Limit and reference switch with two slides



② Inductive reference switch

### Shock absorber



⑨ Useful stroke  
⑪ Shock absorber

① Shock absorbers shorten the useful stroke by 42 mm, as the shock absorbers may not be actuated during axis operation.

### Cable track for one motor slide

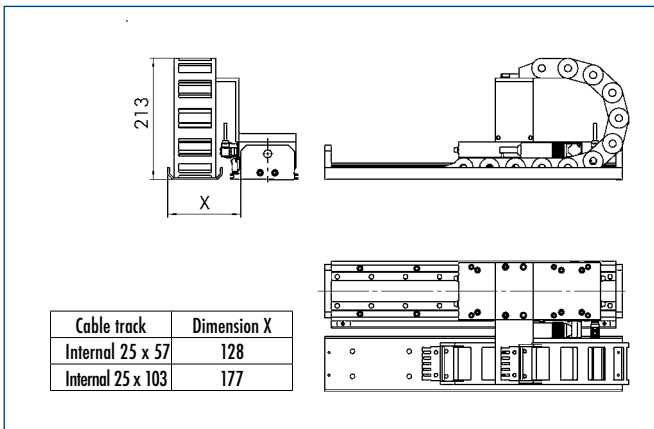
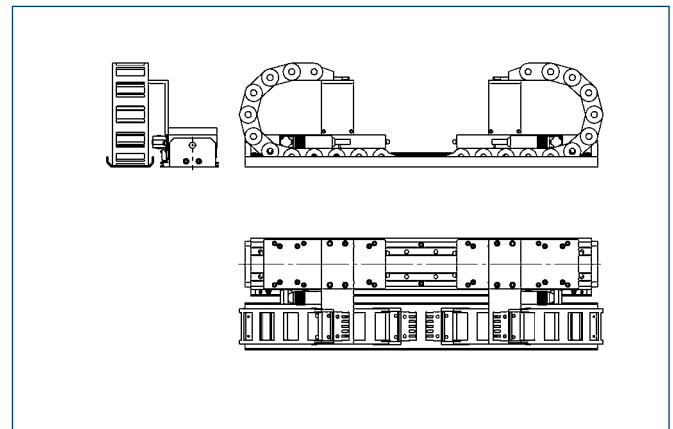


Figure : Cable track to left

### Cable tracks for two motor slides



### MLD FU(FUL) component option codes and ordering

Each axis is supplemented with the required options. Each option is made up of 4 digits. The first two digits indicate the axis type. These are identical for all options for an axis. \* The last two digits indicate the selectable options or accessories.

Option digits for axis types:  
MLD 100FU = 81xx

MLD 200 FUL = 82xx

Version	Description	Option			
Active slide	1 slide	xx01			
Motor for active slide with plug outlet	Left (completely assembled for INDRADRIIVE)	xx03			
	Right (completely assembled for INDRADRIIVE)	xx04			
	Left (completely assembled for SINAMICS)	xx58			
	Right (completely assembled for SINAMICS)	xx59			
Passive slide	1 slide	xx02 (n)**			
Holding brake	Mounted in 1 active slide	xx05			
Brake valve inc. 10m cable	for 1 slide	xx06			
Wipers	mounted on slide	-			
Reference switch	Inductive reference switches, left	xx08			
	Inductive reference switches, right	xx09			
	Inductive reference switches for 2 active slides	xx10			
Limit switches	Inductive limit switches (right/left)	xx11			
	Inductive limit switches for 2 active slides	xx12			
	Mechanical limit switches (right/left)	-			
Cable track	Narrow, attachment on left	xx15			
	Narrow, attachment on right	xx16			
	Narrow, for 2 slides left/right	xx17			
	Wide, attachment on left	xx18			
	Wide, attachment on right	xx19			
	Wide, for 2 slides left/right	xx20			
Shock absorber	2 units in set	xx21			
	3 units in set (2 slides)	xx22			
Clamping profiles	Mounting strips for axis profile	xx23 (n)**			
Centering sleeves	D = 9K7 in enclosed pack	xx24 (n)**			
Standard cable sets	INDR. / Basic cable set, 5m straight	xx32			
	INDR. / Basic cable set, 10 m straight	xx33			
	INDR. / Basic cable set, 15 m straight	xx81			
	INDR. / Basic cable set, 20 m straight	xx35			
	INDR. / Adv. cable set, 5m straight	xx36			
	INDR. / Adv. cable set, 10 m straight	xx37			
	INDR. / Adv. cable set, 15 m straight	xx38			
	INDR. / Adv. cable set, 20 m straight	xx39			
	Sinamics cable set, 5 m	xx40			
	Sinamics cable set, 10 m	xx41			
	Sinamics cable set, 15 m	xx42			
Sinamics cable set, 20 m	xx43				
Measuring system mounting kit	Four-digit code: (e.g. 0132) generated from following code:				
	Digit 1:	0			
	Digit 2: Stroke measuring system type:	1 = Magnetic incremental linear unit 2 = Internal 3 = Absolute MSA			
	Digit 3: Stroke measuring system cable length: (Corresponding to cable set length as standard)	1= 5m 2= 10m 3= 15m 4= 20m			
	Digit 4: Drive controller cable version: (Corresponding to cable set version as standard)	1 = Internal 2 = BoschRexroth Indradrive BASIC 3 = BoschRexroth Indradrive ADVANCED 4 = SIEMENS Sinamics			
		Digit 1	Digit 2	Digit 3	Digit 4
		0	1	3	2

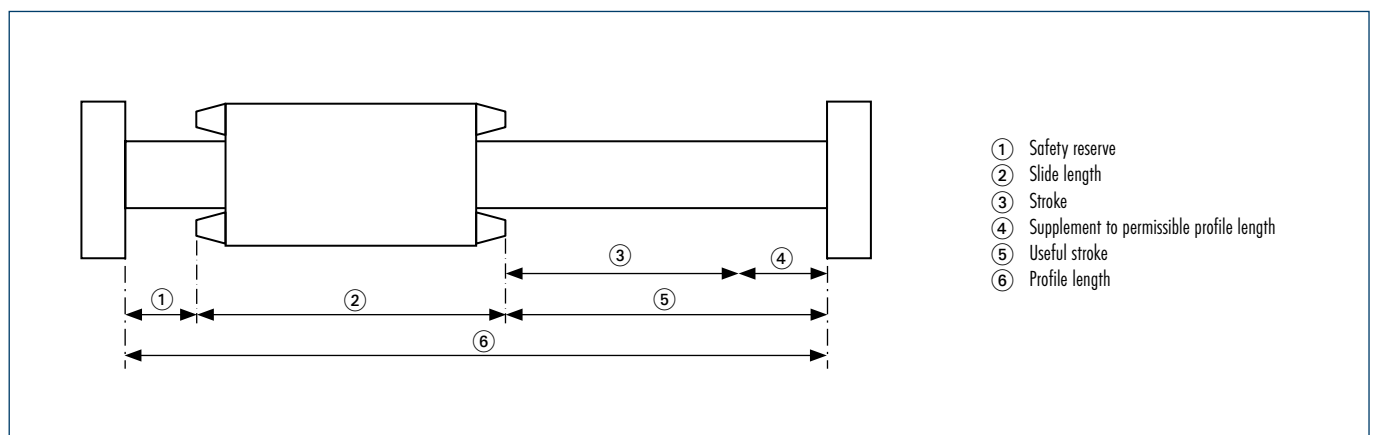
### Sample order

MLD 100FU	-	1	-	150	-	nnn	-	8104 - 8111 - 8116 - 8124(6) - 8133 - 0132
Type of axis		Number of active slides		Useful stroke		Total length*** (added by Schunk)		List of required options

\* The exception is the stroke measuring system option, which always appears last.

\*\* Options with ( ) contain the quantity of the options specified in brackets. For all options where the number automatically corresponds to the number of active slides, no quantity is specified.

\*\*\* Total length = Profile length + 2x end plate The only length available as the profile length for this axis type - due to the magnet - is xx00mm. The profile length is made up of the useful stroke, the total of the slide lengths and the safety reserve typical for the axis (34 mm) and is extended to the next technically feasible length by Schunk project engineers (wipers and shock absorbers are also taken into account). The Schunk useful stroke specification may slightly exceed the required useful stroke due to the permissible profile length. The total length is supplemented.



### Scope of delivery includes

3-phase, electronically commutated AC synchronous linear motor with primary and secondary part, measuring system, profile guide with guide rollers, slide, profile end plates and with or without Hall sensor depending on the drive concept. Please specify other options when ordering.