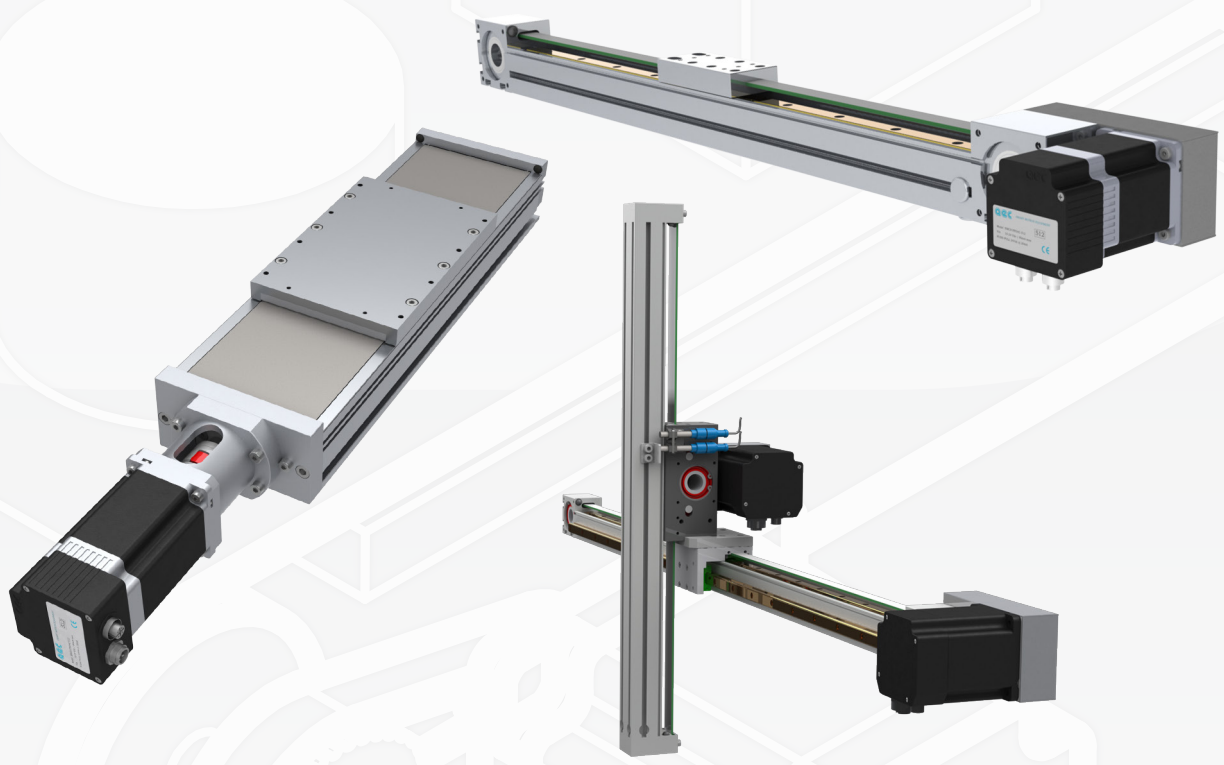


# Linear axes



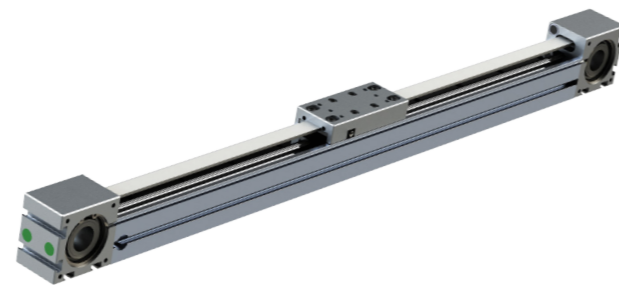
# A045A

Toothed belt axis, size 45, short slide

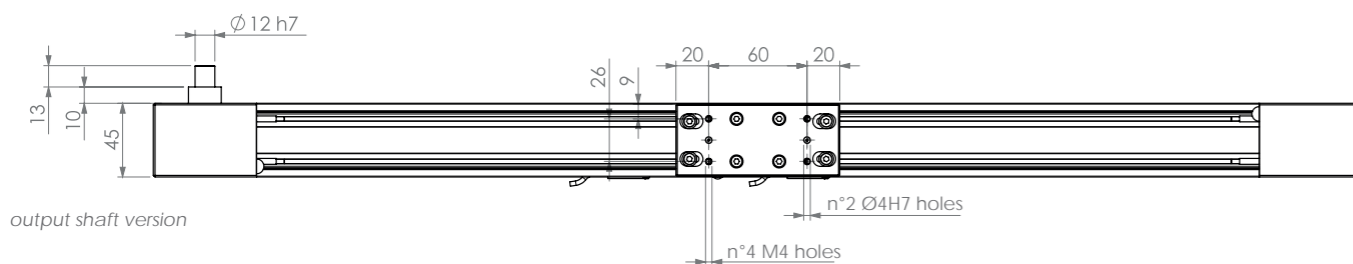
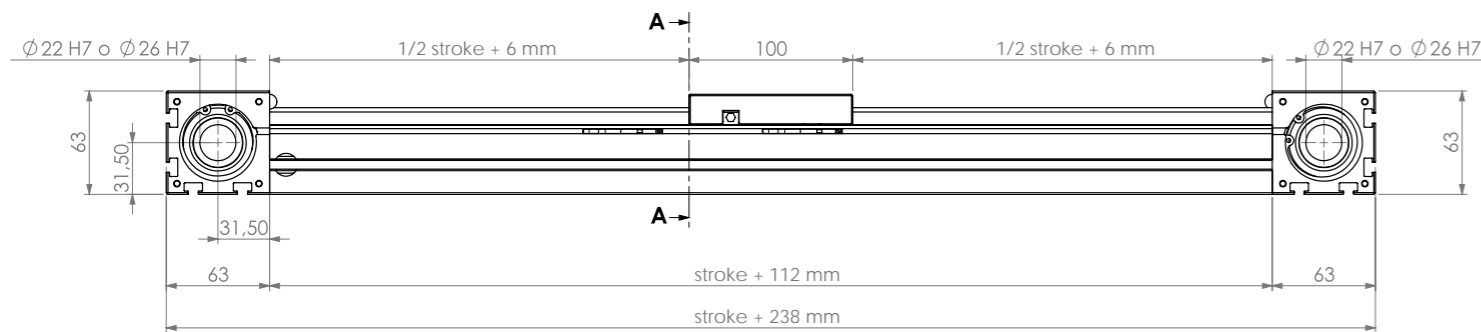
## Combinable motors

<b>M60SH65-Txx</b>	Combinable with belt gear or gearbox
<b>M60SH86-Txx</b>	

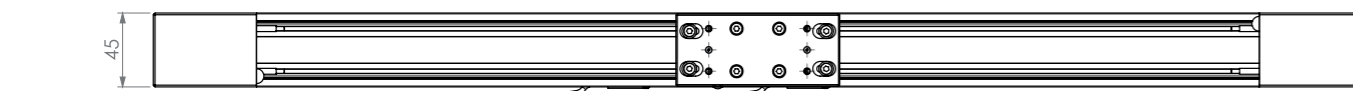
\*Torque curves on page 12



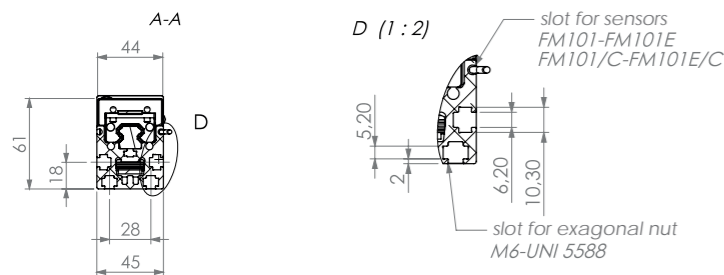
## Mechanical dimensions



output shaft version



bored pulleys version



The headers of the axes are not load-bearing. The fixing of the units must be executed through the sockets on the profile.

Dimensions are expressed in mm.

## Technical specifications

Moment of inertia Ix	cm4	9,9
Moment of inertia Iy	cm4	17,4
Maximum speed	m/sec	5
Maximum acceleration	m/sec <sup>2</sup>	30
Stroke per pulley revolution	mm	125
Maximum working stroke	mm	5900
Positioning repeatability	mm	0,1
Type of belt		16 AT 5 PAZ
Guideway type		HGR 15
Number of runners	nr	1

## Recommended maximum loads

Fx thrust force	N	1120
Fy dynamic force	N	1350
Fz dynamic force	N	1350
Mx dynamic moment	Nm	6,5
My dynamic moment	Nm	10
Mz dynamic moment	Nm	10

## Weights

Zero stroke unit weight	Kg	1,1
Weight for every 100mm of stroke	Kg	0,35
Slide weight	Kg	0,3

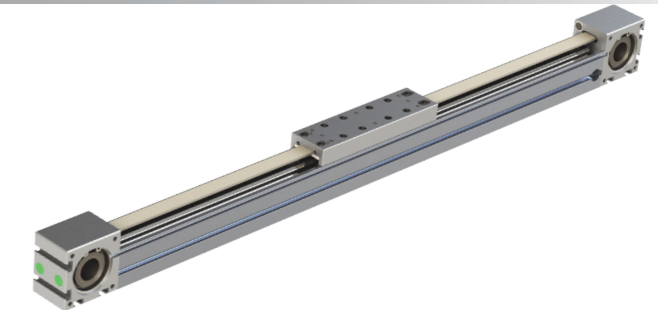
# A045B

Toothed belt axis, size 45, long slide

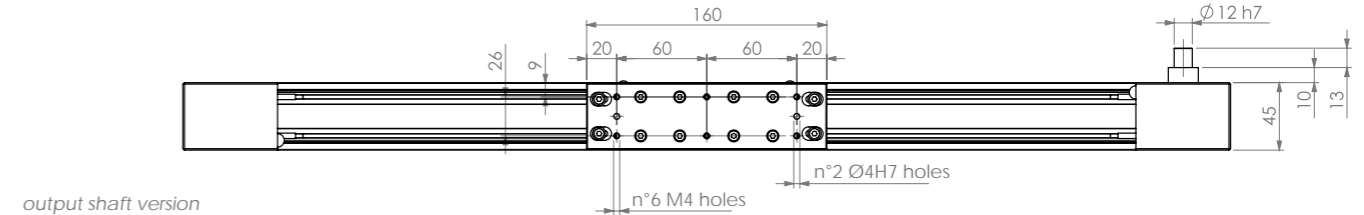
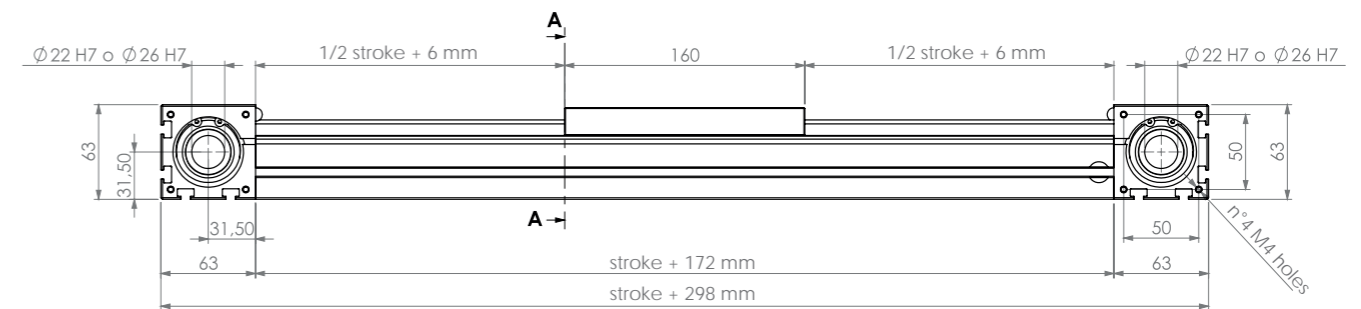
## Combinable motors

<b>M60SH65-Txx</b>	Combinable with belt gear or gearbox
<b>M60SH86-Txx</b>	

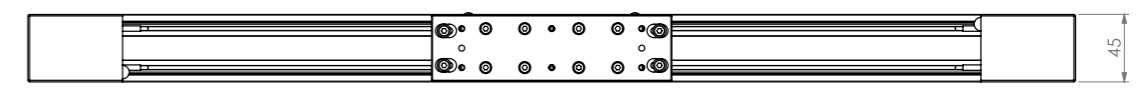
\*Torque curves on page 12



## Mechanical dimensions



output shaft version



bored pulleys version



The headers of the axes are not load-bearing. The fixing of the units must be executed through the sockets on the profile.

Dimensions are expressed in mm.

## Technical specifications

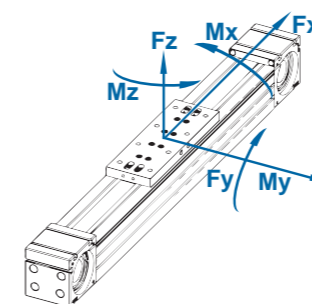
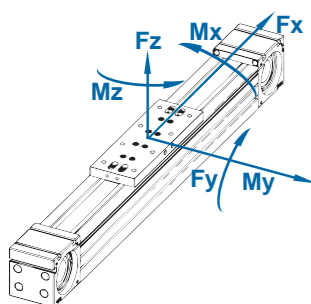
Moment of inertia Ix	cm4	9,9
Moment of inertia Iy	cm4	17,4
Maximum speed	m/sec	5
Maximum acceleration	m/sec <sup>2</sup>	30
Stroke per pulley revolution	mm	125
Maximum working stroke	mm	5850
Positioning repeatability	mm	0,1
Type of belt		16 AT 5 PAZ
Guideway type		HGR 15
Number of runners	nr	2

## Recommended maximum loads

Fx thrust force	N	1120
Fy dynamic force	N	2650
Fz dynamic force	N	2650
Mx dynamic moment	Nm	13
My dynamic moment	Nm	70
Mz dynamic moment	Nm	70

## Weights

Zero stroke unit weight	Kg	1,68
Weight for every 100mm of stroke	Kg	0,35
Slide weight	Kg	0,52



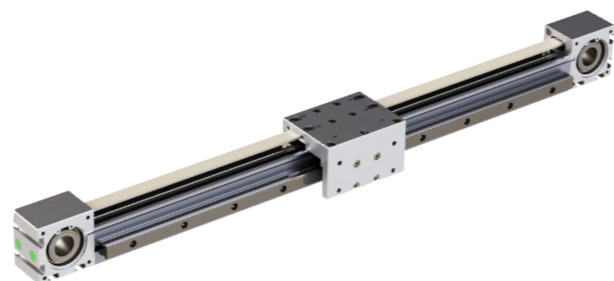
# A045C

Toothed belt axis, size 45, orthogonal short slide

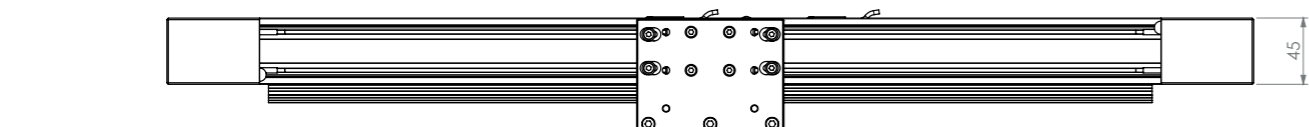
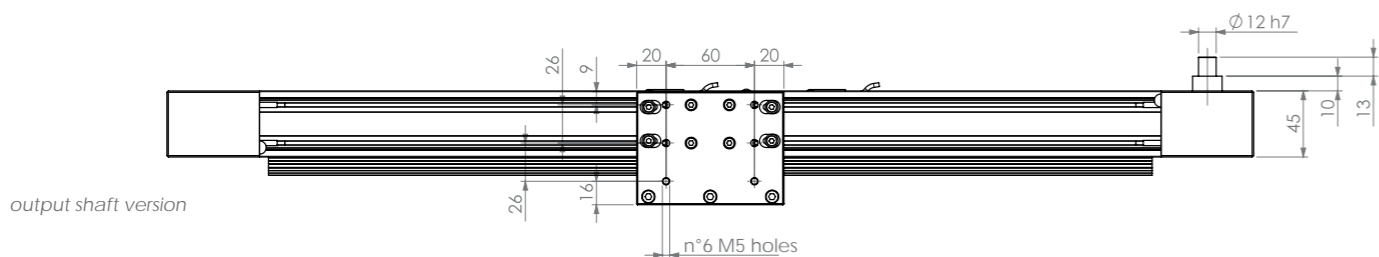
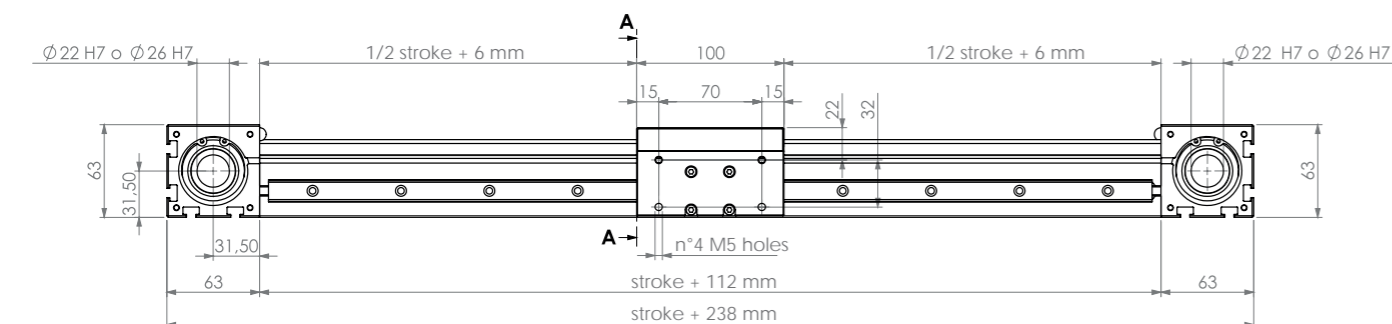
## Combinable motors

<b>M60SH65-Txx</b>	Combinable with belt gear or gearbox
<b>M60SH86-Txx</b>	

\*Torque curves on page 12



## Mechanical dimensions



The headers of the axes are not load-bearing. The fixing of the units must be executed through the sockets on the profile.

Dimensions are expressed in mm.

## Technical specifications

Moment of inertia Ix	cm4	9,9
Moment of inertia Iy	cm4	17,4
Maximum speed	m/sec	5
Maximum acceleration	m/sec <sup>2</sup>	30
Stroke per pulley revolution	mm	125
Maximum working stroke	mm	5900
Positioning repeatability	mm	0,1
Type of belt		16 AT 5 PAZ
Guideway type		HGR 15
Number of runners	nr	2

## Recommended maximum loads

Fx thrust force	N	1120
Fy dynamic force	N	2680
Fz dynamic force	N	2680
Mx dynamic moment	Nm	70
My dynamic moment	Nm	25
Mz dynamic moment	Nm	25

## Weights

Zero stroke unit weight	Kg	1,75
Weight for every 100mm of stroke	Kg	0,47
Slide weight	Kg	0,67

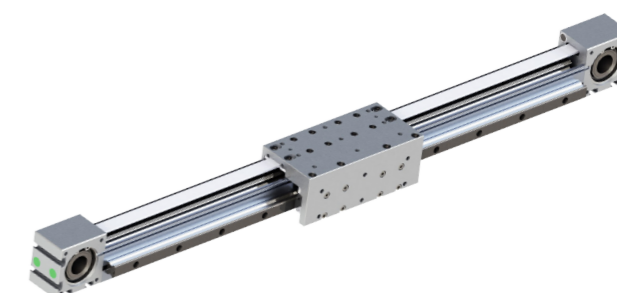
# A045D

Toothed belt axis, size 45, orthogonal long slide

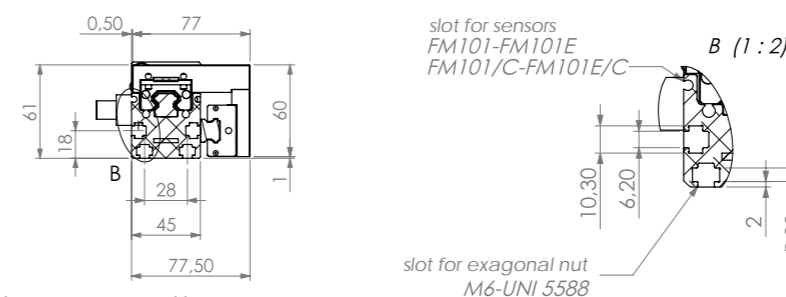
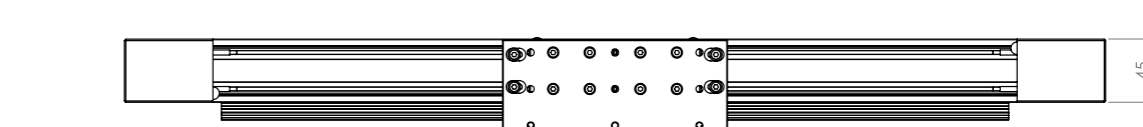
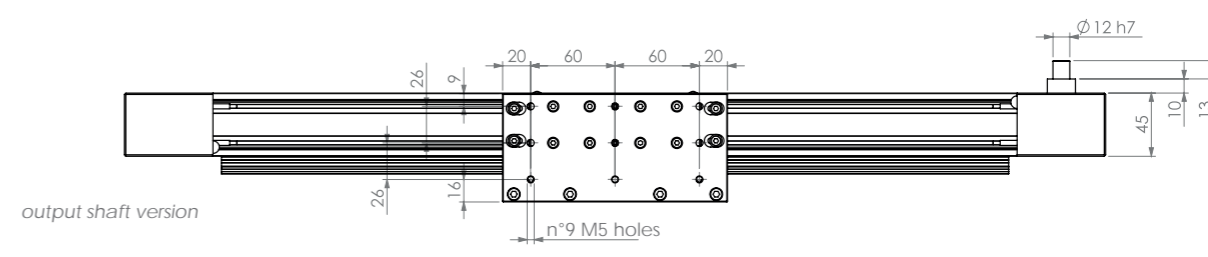
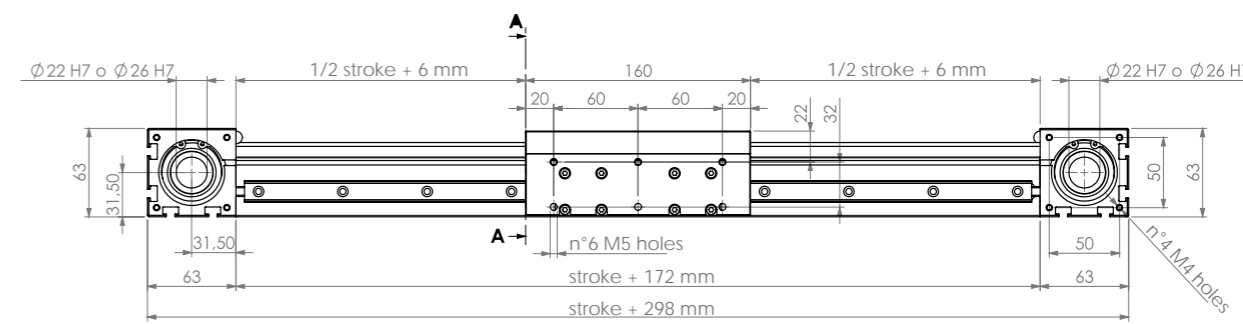
## Combinable motors

<b>M60SH65-Txx</b>	Combinable with belt gear or gearbox
<b>M60SH86-Txx</b>	

\*Torque curves on page 12



## Mechanical dimensions



The headers of the axes are not load-bearing. The fixing of the units must be executed through the sockets on the profile.

Dimensions are expressed in mm.

## Technical specifications

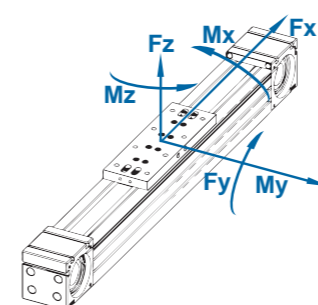
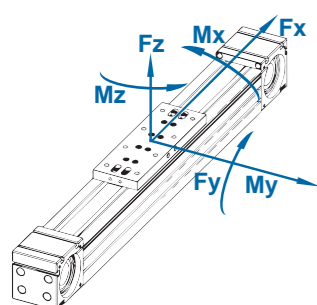
Moment of inertia Ix	cm4	9,9
Moment of inertia Iy	cm4	17,4
Maximum speed	m/sec	5
Maximum acceleration	m/sec <sup>2</sup>	30
Stroke per pulley revolution	mm	125
Maximum working stroke	mm	5850
Positioning repeatability	mm	0,1
Type of belt		16 AT 5 PAZ
Guideway type		HGR 15
Number of runners	nr	4

## Recommended maximum loads

Fx thrust force	N	1120
Fy dynamic force	N	3500
Fz dynamic force	N	3500
Mx dynamic moment	Nm	103
My dynamic moment	Nm	105
Mz dynamic moment	Nm	105

## Weights

Zero stroke unit weight	Kg	2,75
Weight for every 100mm of stroke	Kg	0,47
Slide weight	Kg	1,35

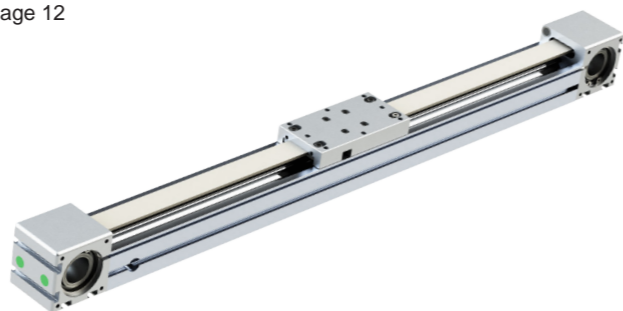


# A060A

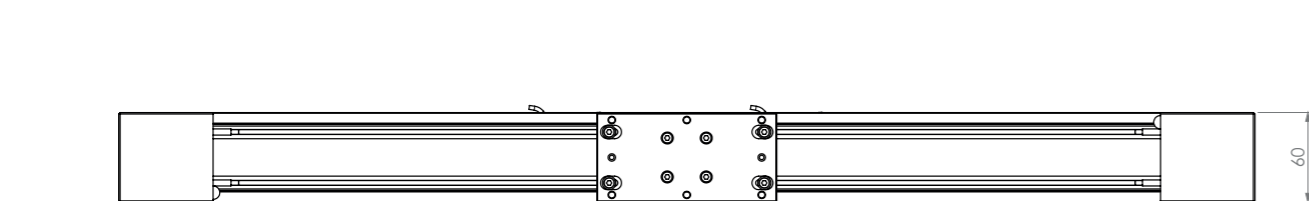
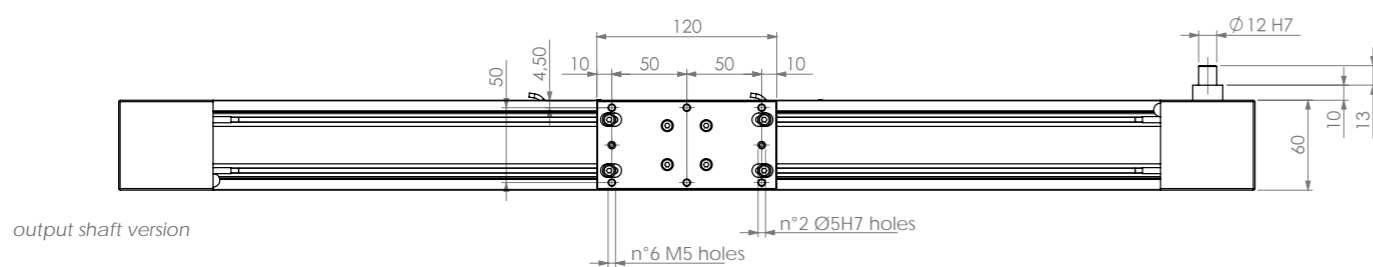
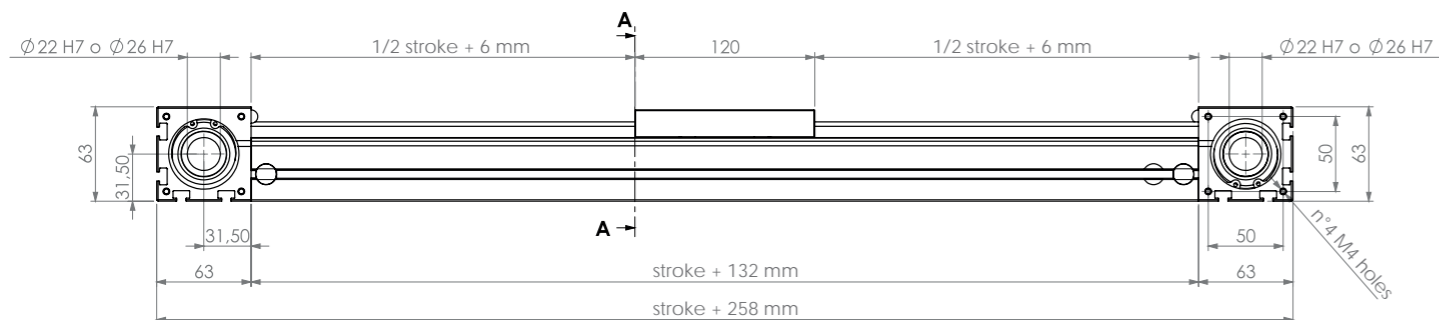
## Toothed belt axis, size 60, short slide

Combinable motors	
M60SH65-Txx	Combinable with belt gear or gearbox
M60SH86-Txx	
M86SH80-Txx	
M86SH96-Txx	
M86SH118-Txx	
M86SH156-Txx	

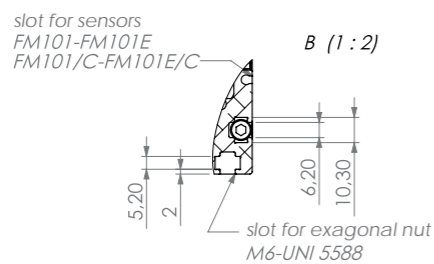
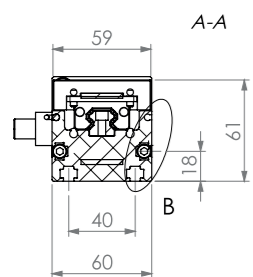
\*Torque curves on page 12



### Mechanical dimensions

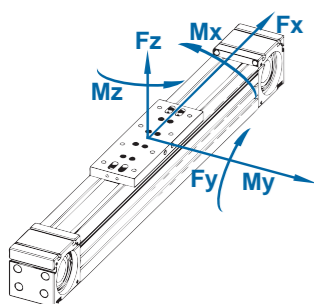


bored pulleys version version



The headers of the axes are not load-bearing. The fixing of the units must be executed through the sockets on the profile.

Dimensions are expressed in mm.



### Technical specifications

Moment of inertia Ix	cm4	14,7
Moment of inertia Iy	cm4	45,1
Maximum speed	m/sec	5
Maximum acceleration	m/sec <sup>2</sup>	30
Stroke per pulley revolution	mm	125
Maximum working stroke	mm	5900
Positioning repeatability	mm	0,1
Type of belt		25 AT 5 PAZ
Guideway type		HGR 15
Number of runners	nr	1

### Recommended maximum loads

Fx thrust force	N	1820
Fy dynamic force	N	1500
Fz dynamic force	N	1500
Mx dynamic moment	Nm	7
My dynamic moment	Nm	10
Mz dynamic moment	Nm	10

### Weights

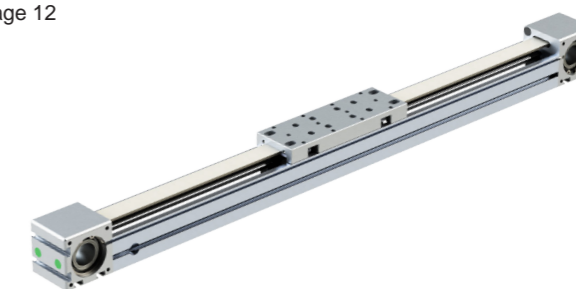
Zero stroke unit weight	Kg	1,79
Weight for every 100mm of stroke	Kg	0,47
Slide weight	Kg	0,5

# A060B

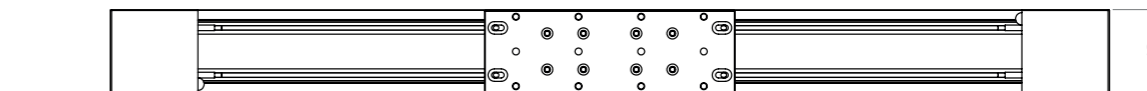
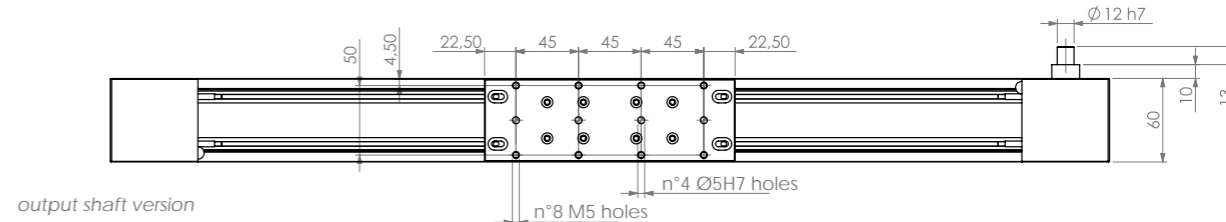
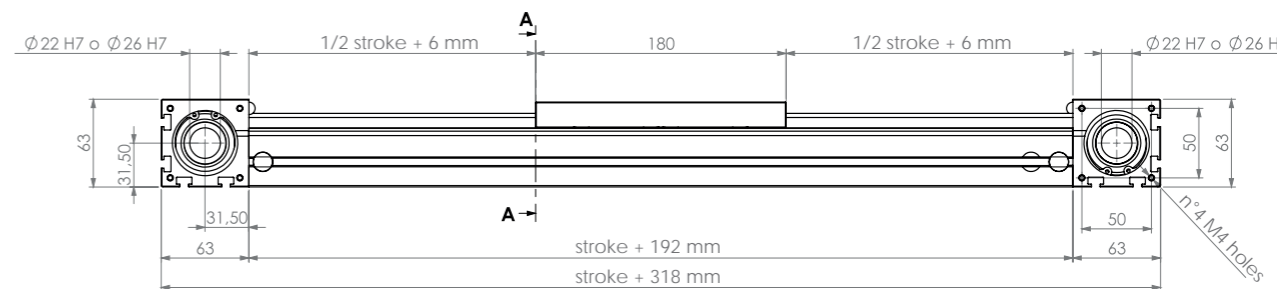
## Toothed belt axis, size 60, long slide

Combinable motors	
M60SH65-Txx	Combinable with belt gear or gearbox
M60SH86-Txx	
M86SH80-Txx	
M86SH96-Txx	
M86SH118-Txx	
M86SH156-Txx	

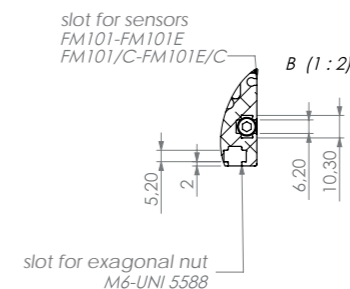
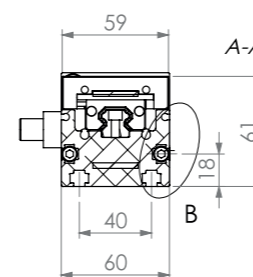
\*Torque curves on page 12



### Mechanical dimensions

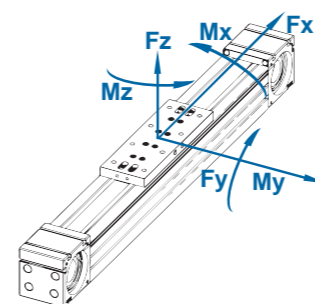


bored pulleys version version



The headers of the axes are not load-bearing. The fixing of the units must be executed through the sockets on the profile.

Dimensions are expressed in mm.



### Technical specifications

Moment of inertia Ix	cm4	14,7
Moment of inertia Iy	cm4	45,1
Maximum speed	m/sec	5
Maximum acceleration	m/sec <sup>2</sup>	30
Stroke per pulley revolution	mm	125
Maximum working stroke	mm	5800
Positioning repeatability	mm	0,1
Type of belt		25 AT 5 PAZ
Guideway type		HGR 15
Number of runners	nr	2

### Recommended maximum loads

Fx thrust force	N	1820
Fy dynamic force	N	2800
Fz dynamic force	N	2800
Mx dynamic moment	Nm	13
My dynamic moment	Nm	90
Mz dynamic moment	Nm	90

### Weights

Zero stroke unit weight	Kg	2,47
Weight for every 100mm of stroke	Kg	0,47
Slide weight	Kg	0,89



# A060C

Toothed belt axis, size 60, orthogonal short slide

# A060D

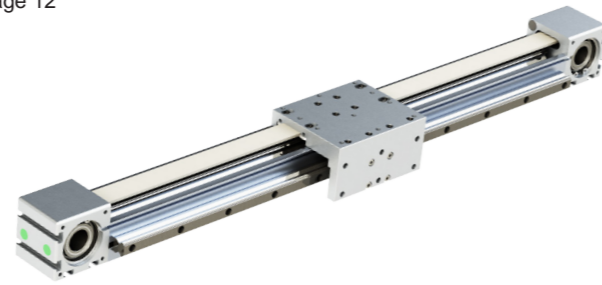
Toothed belt axis, size 60, orthogonal long slide

## Combinable motors

M60SH65-Txx  
M60SH86-Txx  
M86SH80-Txx  
M86SH96-Txx  
M86SH118-Txx  
M86SH156-Txx

Combinable with belt gear or gearbox

\*Torque curves on page 12

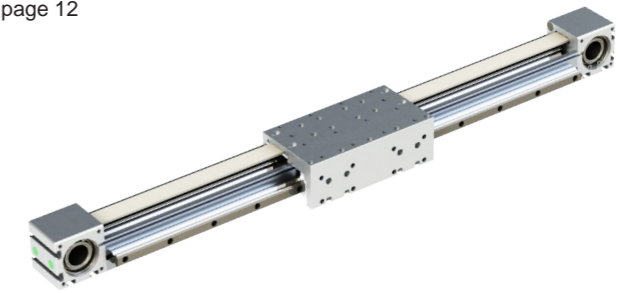


## Combinable motors

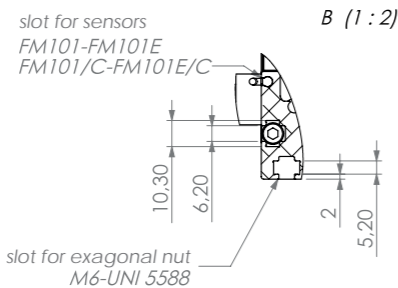
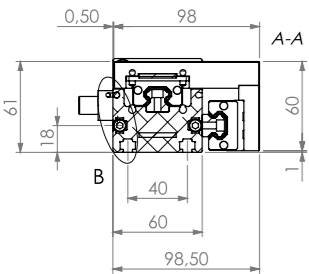
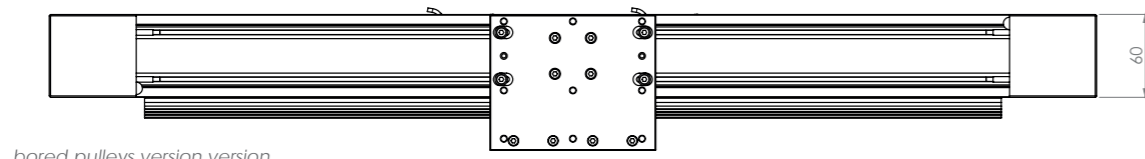
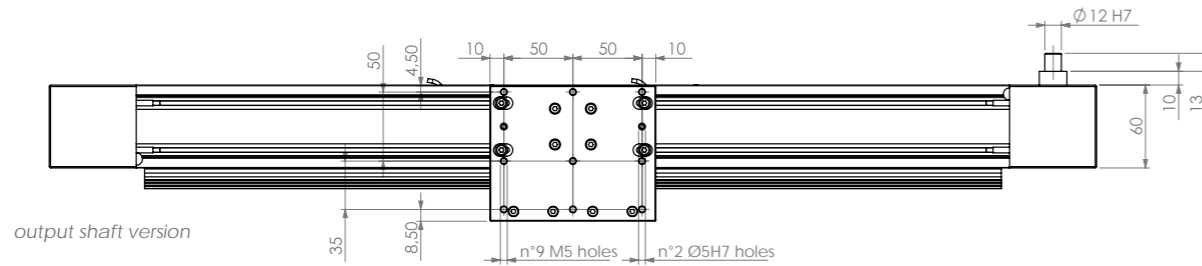
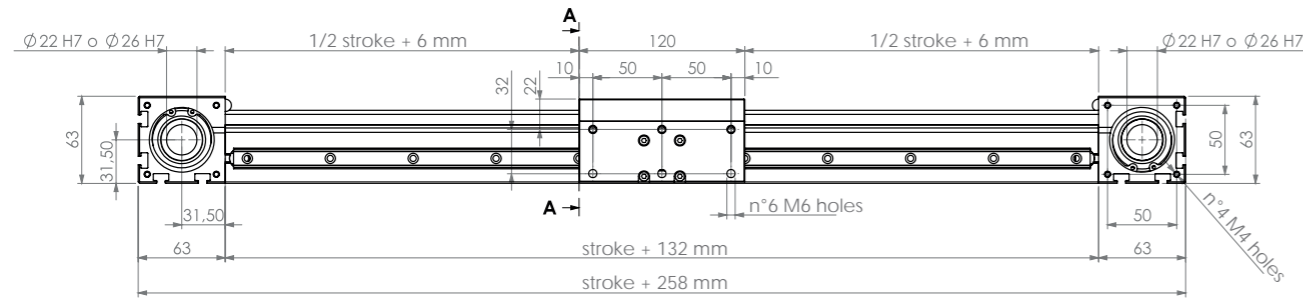
M60SH65-Txx  
M60SH86-Txx  
M86SH80-Txx  
M86SH96-Txx  
M86SH118-Txx  
M86SH156-Txx

Combinable with belt gear or gearbox

\*Torque curves on page 12



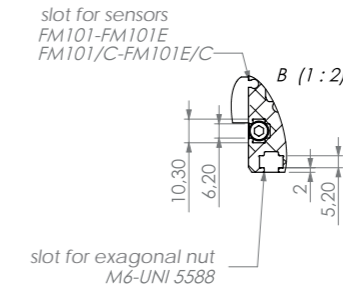
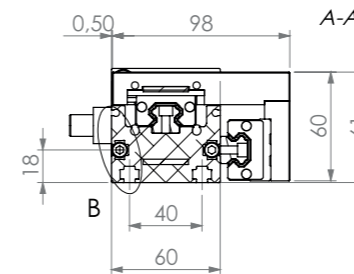
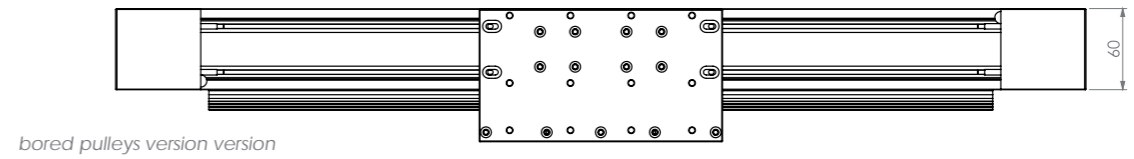
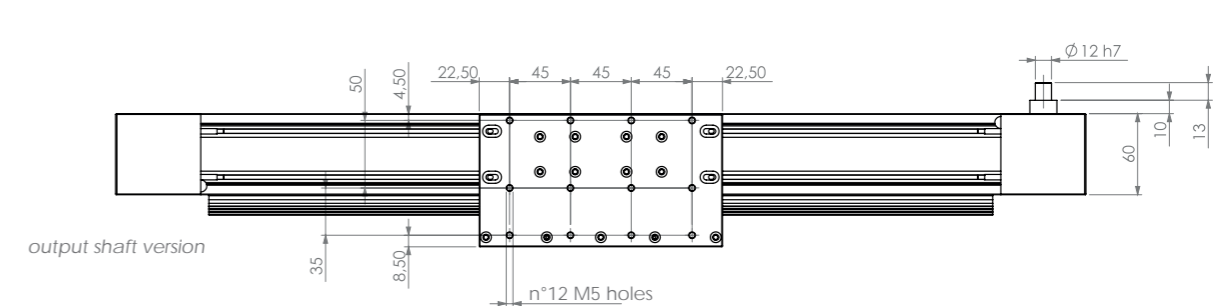
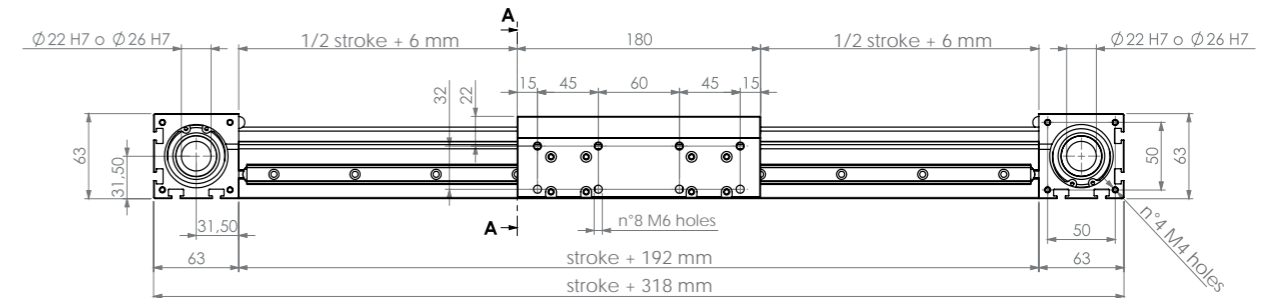
## Mechanical dimensions



The headers of the axes are not load-bearing. The fixing of the units must be executed through the sockets on the profile.

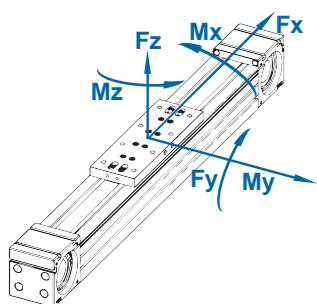
Dimensions are expressed in mm.

## Mechanical dimensions



The headers of the axes are not load-bearing. The fixing of the units must be executed through the sockets on the profile.

Dimensions are expressed in mm.



## Technical specifications

Moment of inertia Ix	cm4	14,7
Moment of inertia Iy	cm4	45,1
Maximum speed	m/sec	5
Maximum acceleration	m/sec <sup>2</sup>	30
Stroke per pulley revolution	mm	125
Maximum working stroke	mm	5900
Positioning repeatability	mm	0,1
Type of belt		25 AT 5 PAZ
Guideway type		HGR 15
Number of runners	nr	2

## Recommended maximum loads

Fx thrust force	N	1820
Fy dynamic force	N	2800
Fz dynamic force	N	2800
Mx dynamic moment	Nm	80
My dynamic moment	Nm	25
Mz dynamic moment	Nm	25

## Weights

Zero stroke unit weight	Kg	3,02
Weight for every 100mm of stroke	Kg	0,7
Slide weight	Kg	1,17

## Technical specifications

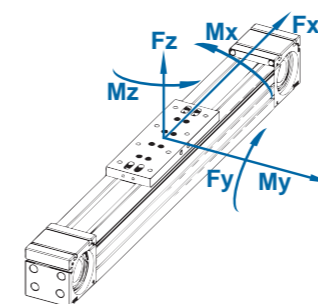
Moment of inertia Ix	cm4	14,7
Moment of inertia Iy	cm4	45,1
Maximum speed	m/sec	5
Maximum acceleration	m/sec <sup>2</sup>	30
Stroke per pulley revolution	mm	125
Maximum working stroke	mm	5800
Positioning repeatability	mm	0,1
Type of belt		25 AT 5 PAZ
Guideway type		HGR 15
Number of runners	nr	4

## Recommended

Fx thrust force	N	1820
Fy dynamic force	N	3800
Fz dynamic force	N	3800
Mx dynamic moment	Nm	130
My dynamic moment	Nm	160
Mz dynamic moment	Nm	160

## Weights

Zero stroke unit weight	Kg	4,2
Weight for every 100mm of stroke	Kg	0,7
Slide weight	Kg	2,1



# C060B

Toothed belt axis, size 60, long slide, protected version

# C060D

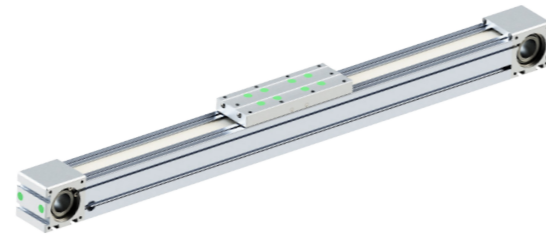
Toothed belt axis, size 60, orthogonal long slide, protected version

## Combinable motors

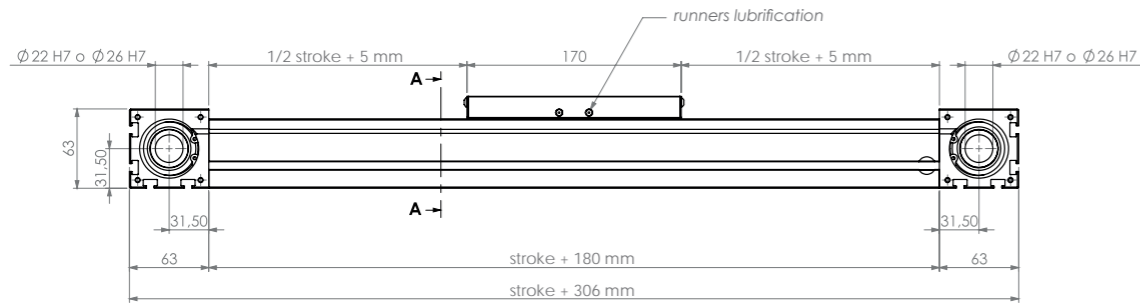
M60SH65-Txx  
M60SH86-Txx  
M86SH80-Txx  
M86SH96-Txx  
M86SH118-Txx  
M86SH156-Txx

Combinable with belt gear or gearbox

\*Torque curves on page 12

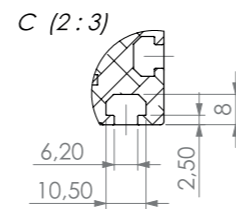
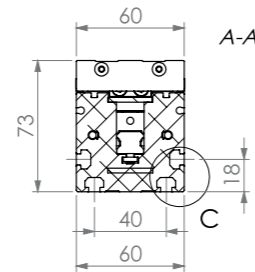
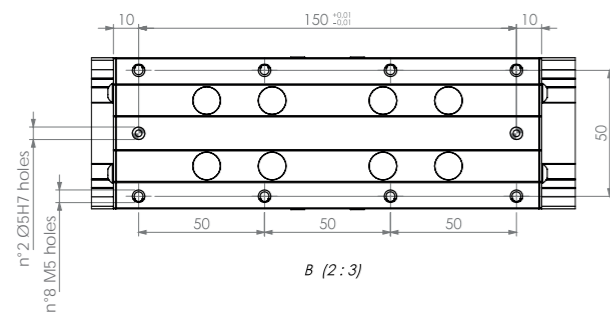


## Mechanical dimensions



bored pulleys version version

output shaft version



The headers of the axes are not load-bearing. The fixing of the units must be executed through the sockets on the profile.

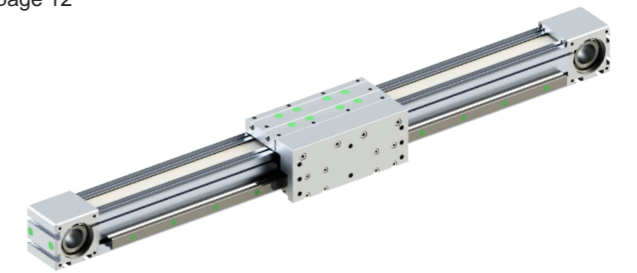
Dimensions are expressed in mm.

## Combinable motors

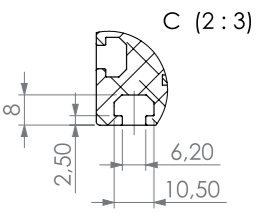
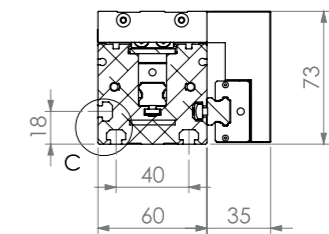
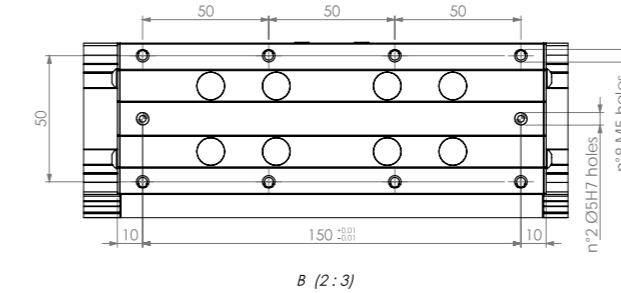
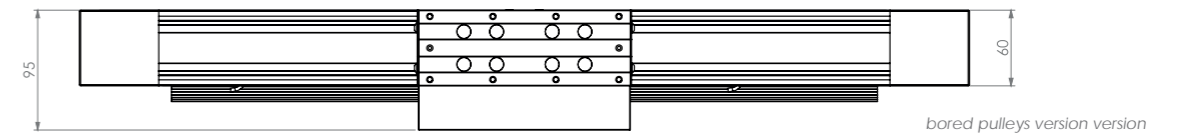
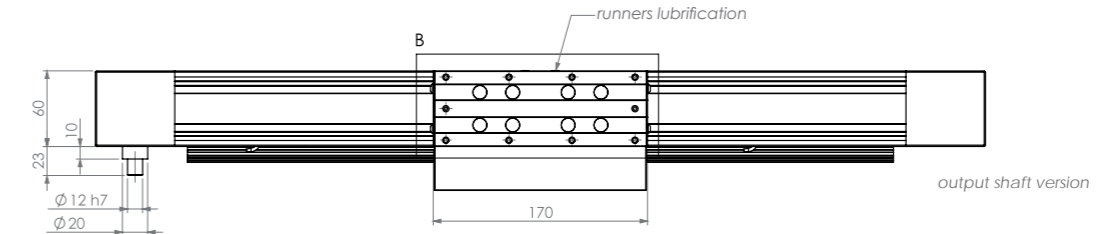
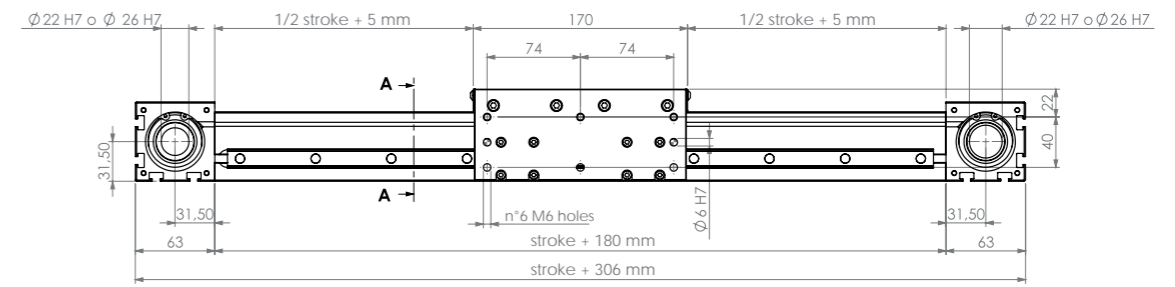
M60SH65-Txx  
M60SH86-Txx  
M86SH80-Txx  
M86SH96-Txx  
M86SH118-Txx  
M86SH156-Txx

Combinable with belt gear or gearbox

\*Torque curves on page 12

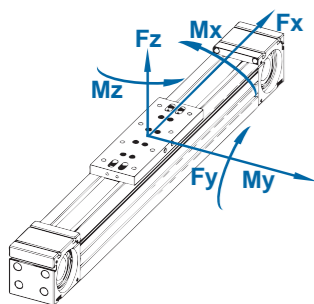


## Mechanical dimensions



The headers of the axes are not load-bearing. The fixing of the units must be executed through the sockets on the profile.

Dimensions are expressed in mm.



## Technical specifications

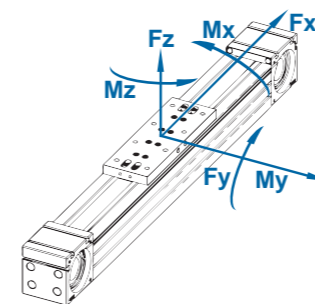
Moment of inertia Ix	cm4	39,6
Moment of inertia Iy	cm4	62,7
Maximum speed	m/sec	5
Maximum acceleration	m/sec <sup>2</sup>	30
Stroke per pulley revolution	mm	125
Maximum working stroke	mm	5800
Positioning repeatability	mm	0,1
Type of belt		25 AT 5 PAZ
Guideway type		EGR 15
Number of runners	nr	2

## Recommended maximum loads

Fx thrust force	N	1820
Fy dynamic force	N	1800
Fz dynamic force	N	1800
Mx dynamic moment	Nm	13
My dynamic moment	Nm	62
Mz dynamic moment	Nm	62

## Weights

Zero stroke unit weight	Kg	2,65
Weight for every 100mm of stroke	Kg	0,55
Slide weight	Kg	0,8



## Technical specifications

Moment of inertia Ix	cm4	39,6
Moment of inertia Iy	cm4	62,7
Maximum speed	m/sec	5
Maximum acceleration	m/sec <sup>2</sup>	30
Stroke per pulley revolution	mm	125
Maximum working stroke	mm	5800
Positioning repeatability	mm	0,1
Type of belt		25 AT 5 PAZ
Guideway type		EGR 15
Number of runners	nr	4

## Recommended maximum loads

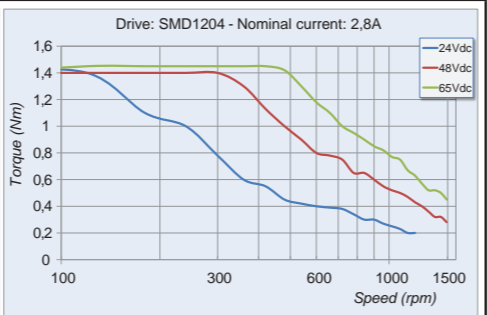
Fx thrust force	N	1820
Fy dynamic force	N	3500
Fz dynamic force	N	3500
Mx dynamic moment	Nm	58
My dynamic moment	Nm	175
Mz dynamic moment	Nm	175

## Weights

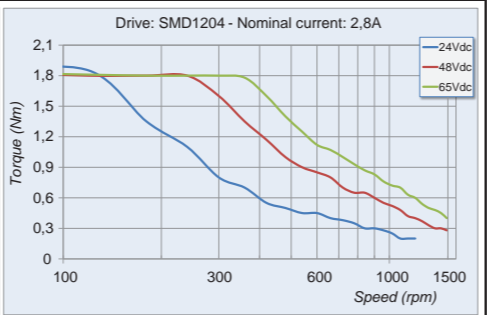
Zero stroke unit weight	Kg	4,25
Weight for every 100mm of stroke	Kg	0,62
Slide weight	Kg	2,15

# Motors table

M60SH65-Tx	Motor code	Phase current	Holding torque	Encoder	Encoder pulse/revolution
M60SH65-T-C	M02	2,8 A	2,1 Nm	-	-
M60SH65-TO0512P24C	M90	2,8 A	2,1 Nm	Push-pull	512
M60SH65-TO0512L05C	M81	2,8 A	2,1 Nm	Line-driver	512



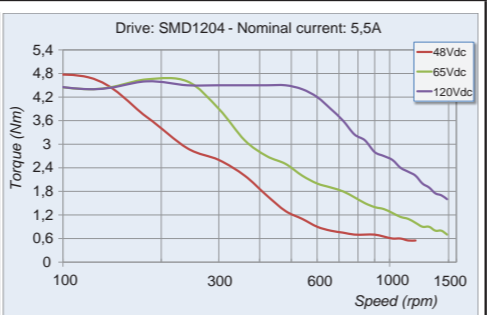
M60SH86-Tx	Motor code	Phase current	Holding torque	Encoder	Encoder pulse/revolution
M60SH86-T-C	M06	2,8 A	3,1 Nm	-	-
M60SH86-TO0512P24C	M91	2,8 A	3,1 Nm	Push-pull	512
M60SH86-TO0512L05C	M82	2,8 A	3,1 Nm	Line-driver	512



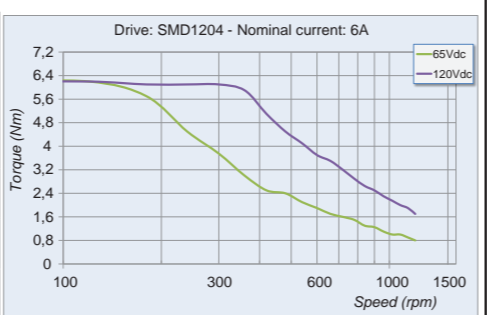
M86SH80-Tx	Motor code	Phase current	Holding torque	Encoder	Encoder pulse/revolution
M86SH80-T-C	M15	5,5 A	4,6 Nm	-	-
M86SH80-TO0512P24C	M92	5,5 A	4,6 Nm	Push-pull	512
M86SH80-TO0512L05C	M83	5,5 A	4,6 Nm	Line-driver	512



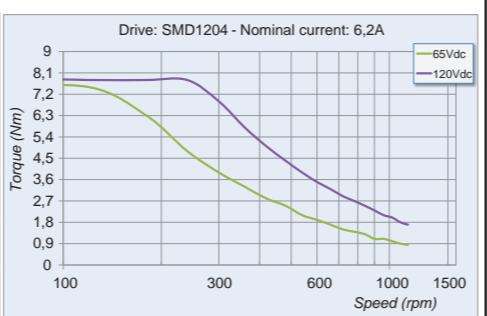
M86SH96-Tx	Motor code	Phase current	Holding torque	Encoder	Encoder pulse/revolution
M86SH96-T-C	M216	5,6 A	6,5 Nm	-	-
M86SH96-TO0512P24C	M217	5,6 A	6,5 Nm	Push-pull	512
M86SH96-TO0512L05C	M218	5,6 A	6,5 Nm	Line-driver	512



M86SH118-Tx	Motor code	Phase current	Holding torque	Encoder	Encoder pulse/revolution
M86SH118-T-C	M18	6,0 A	8,7 Nm	-	-
M86SH118-TO0512P24C	M93	6,0 A	8,7 Nm	Push-pull	512
M86SH118-TO0512L05C	M84	6,0 A	8,7 Nm	Line-driver	512



M86SH156-Tx	Motor code	Phase current	Holding torque	Encoder	Encoder pulse/revolution
M86SH156-T-C	M22	6,2 A	12,8 Nm	-	-
M86SH156-TO0512P24C	M94	6,2 A	12,8 Nm	Push-pull	512
M86SH156-TO0512L05C	M85	6,2 A	12,8 Nm	Line-driver	512



### Codice Parlante

**X T T T Y W W W W S D R P M M M B**  
**A 0 4 5 B 0 1 0 0 A B 2 B M 0 6 B**

<b>X</b>	<b>Version</b>
A	Standard axis
C	Protected axis

<b>TTT</b>	<b>Size</b>
045	045
060	060

<b>WWW</b>	<b>Stroke (mm)</b>
0100	100
1000	1000
----	----

<b>Y</b>	<b>Type of slide</b>
A	Single guide short slide
B	Single guide long slide
C	Orthogonal short slide
D	Orthogonal long slide

<b>BBBB</b>	<b>Reduction type</b>
ABxB	Belt gear
IPGxx	Planetary gearbox
IWGxx	Worm gearbox

<b>B</b>	<b>Connectors orientation</b>
A	Upward
S	Leftward
D	Rightward
B	Downward

<b>MMM</b>	<b>Motor code</b>
Mxx	See codes on page 12

### LIMIT SWITCHES

Type	Circuit	Model	Code
		Hall effect sensor	SENH-A-M8

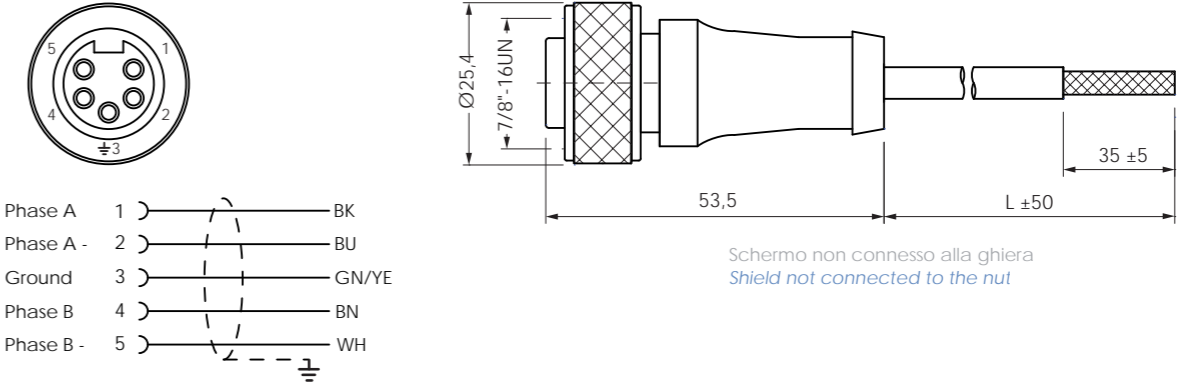
The torque curves are made with AEP torque transducer mod. MRT250NM



# Dynamic laying cables

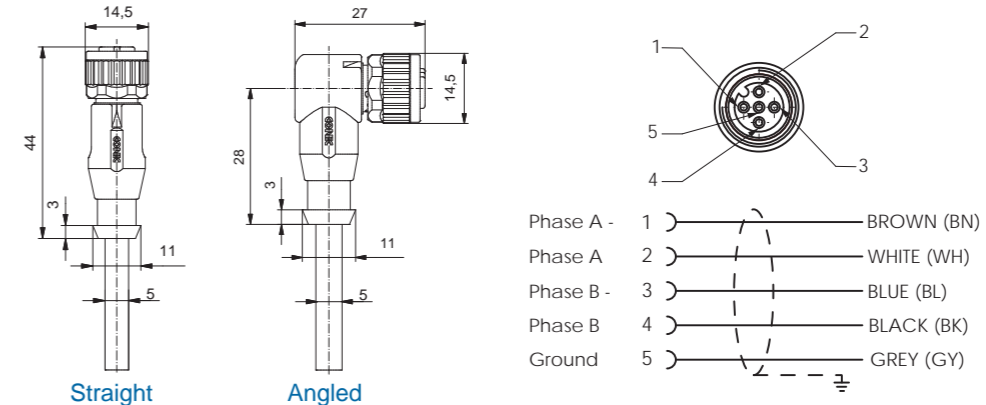
## Cables for M86SH and M110SH motors with 7/8" pre-wired connector

Model	Nr. of wires	Section	Characteristics	Sheat material	Insulation material	Outer diameter	Length
	N	mm <sup>2</sup>				mm	m
CONV05FDR78C04SU100	4 + 1	1,00	UL-CSA 300 V 80°C	PUR	PP 9Y	7,4	4
CONV05FDR78C12SU100	4 + 1	1,00	UL-CSA 300 V 80°C	PUR	PP 9Y	7,4	12



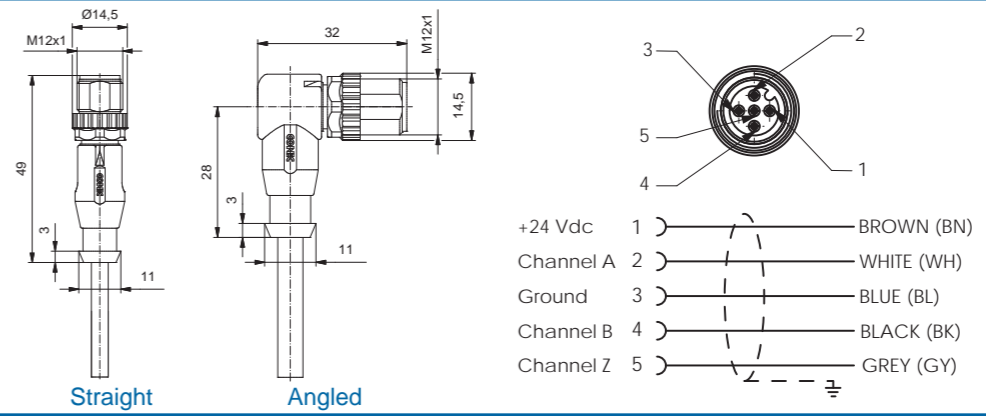
## Cables for M42SH, M57SH and M60SH motors with M12 pre-wired connector

Model	Connector	Nr. of wires	Section	Characteristics	Sheat material	Insulation material	Outer diameter	Length
		N	mm <sup>2</sup>				mm	m
CONV05FDRM12C04SU034	Straight	5	0,34	UL20549	PUR	PP 9Y	5,8	4
CONV05FDRM12C12SU034	Straight	5	0,34	UL20549	PUR	PP 9Y	5,8	12
CONV05F90M12C04SU034	Angled	5	0,34	UL20549	PUR	PP 9Y	5,8	4



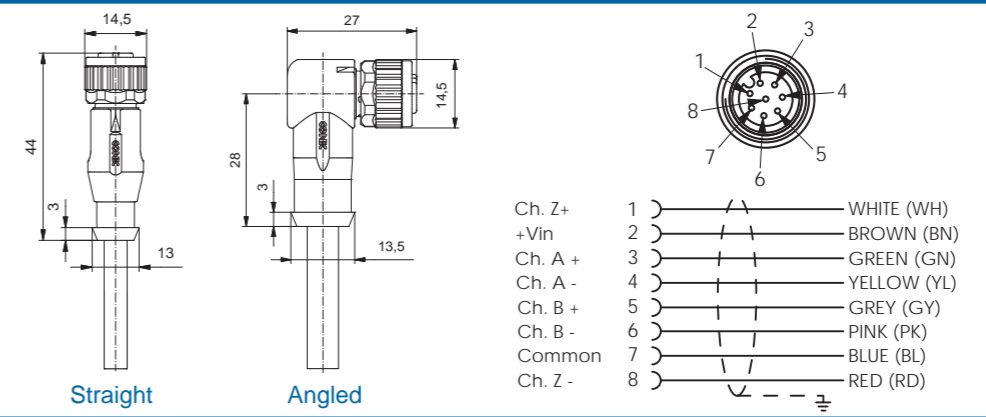
## Cables for Push Pull encoder with M12 pre-wired connector

Modello - model	Connector	Nr. of wires	Section	Characteristics	Sheat material	Insulation material	Outer diameter	Length
		N	mm <sup>2</sup>				mm	m
CONV05MDRM12C04SU025	Straight	5	0,25	UL20549	PUR	PP 9Y	5,5	4
CONV05MDRM12C12SU025	Straight	5	0,25	UL20549	PUR	PP 9Y	5,5	12
CONV05M90M12C04SU025	Angled	5	0,25	UL20549	PUR	PP 9Y	5,5	4



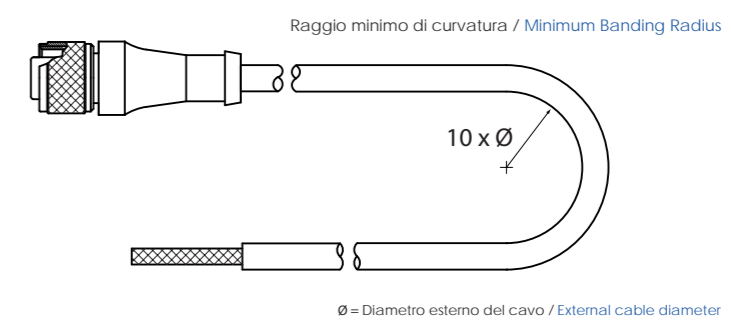
## Cables for Line Driver encoder with M12 pre-wired connector

Modello - model	Connector	nr. of wires	Section	Characteristics	Sheat material	Insulation material	Outer diameter	Length
		N	mm <sup>2</sup>				mm	m
CONV08FDRM12C04SU025	Straight	8	0,25	UL20549	PUR	PP 9Y	6,4	4
CONV08FDRM12C12SU025	Straight	8	0,25	UL20549	PUR	PP 9Y	6,4	12
CONV08F90M12C04SU025	Angled	8	0,25	UL20549	PUR	PP 9Y	6,4	4

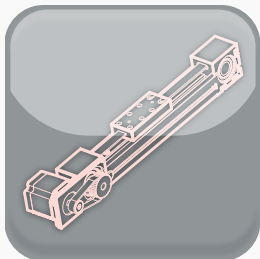


Specifications	UM	CONV05Fxx78CxxSU100	CONV05FxxM12CxxSU034	CONV05MxxM12CxxSU025	CONV08FxxM12CxxSU025
Dynamic laying temperature	°C	-30 .. +80	-25 .. +80	-25 .. +80	-25 .. +80
Static laying temperature	°C	-30 .. +80	-25 .. +80	-25 .. +80	-25 .. +80
Stranding	N x mm	cl 6	32 x 0,10	42 x 0,10	32 x 0,10
Banding radius min	mm	10 x Ø	10 x Ø	10 x Ø	10 x Ø
Nominale voltage	V	300	300	300	300
Testing voltage	V	2000	2000	2000	2000
Sheat material notes		Halogen free	Halogen free	Halogen free	Halogen free
Insulation material notes		Halogen free	Halogen free	Halogen free	Halogen free
Colour		Black	Black	Black	Black

CODE	DESCRIPTION
BK	Black
BN	Brown
BU	Blue
GN	Green
GY	Grey
PK	Pink
RD	Red
YE	Yellow
WH	White

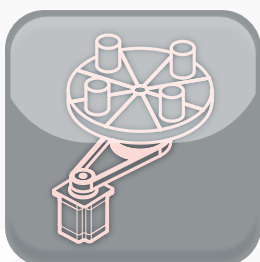






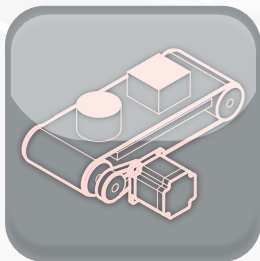
## Linear actuators

- *Ball-screw linear axes*
- *Belt linear axes*
- *ISO electric cylinders*
- *Pick and Place*



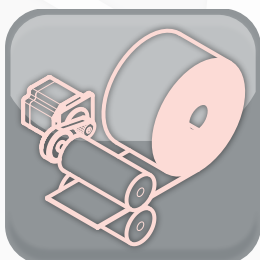
## Rotary actuators

- *Self-supporting programmable rotary tables*
- *Format changeover*
- *Parts orientation*



## Transport systems

- *Variable pitch conveyors*
- *Controlled speed roller tables*
- *Reduced backlash motorgearboxes*



## Unwinding systems

- *Label applicators*
- *Variable or constant pitch unwinding machines*
- *Sheeter machines*

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