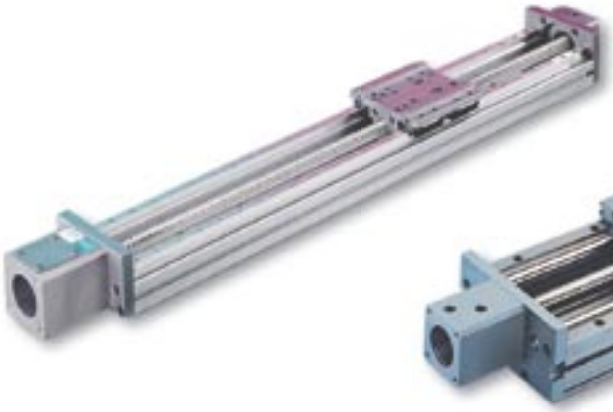
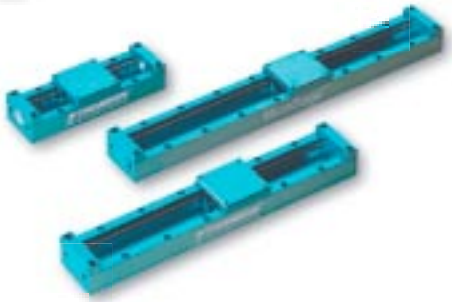
THOMSON TOLLO™

www.LinearActuators.com

Automation Components





EUROPEAN PRODUCTS
THOMSON
EUROPEAN STANDARDS

MovoZ
Movopart
Accuslide
Superslide
Microstage
Precision Actuators

Conventions

- Drawings are made to European standard.
- Comma (,) instead of a point (.) is used as separator between integers and decimals (e.g. 40,5).
- All dimensions are metric unless otherwise stated. For conversion to imperial measures, please use the chart below.

To obtain	Multiply	By
inches	mm	0,0393701
feet	mm	0,00328084
inches	m	39,3701
feet	m	3,28084
lb. -force	N	0,224809
lb ft	Nm	0,737562
lb	kg	2,20462
feet/sec	m/s	3,28084





Large variety of models

The rodless actuator product range from Thomson Tollo are designed to provide a fast, yet accurate movement in one or multiple axes. All units are based on beams of aluminium with one or multiple integrated saddles driven by a ball screw or a belt.

The large variety of models makes it possible to select an actuator that perfectly match the demands of your application. Choose between prism guided units for quiet and smooth operation and ball guided units for low friction and high accuracy, or between ball screw driven units for high forces and belt driven units for high speeds.

All our linear drive units are also available with a broad range of accessories such as mounting kits, gears and flanges.

Modular design

Due to the modular design a few standardised components can easily be combined to create an almost infinite number of customer specific systems.

Already from the initial development our products have been designed to operate in industrial environment. For the toughest applications there are non-corrosive and chemical resistant units available.

Choice of accuracy

The actuators can be divided into two ranges of accuracy.

First there are the **Movopart** and **MovoZ** product families which are used in systems where the needed accuracy is down to a few tenths of a mm and the repeatability down to 0,05 mm. These units can also operate in very harsh environments.

Secondly there are the **Microstage**, **Accuslide** and **Superslide** family that manage accuracy down to a few hundreds of a mm and repeatability down to 0,01 mm. These units are perfect for machining and measuring tasks.

Typical applications

Areas where you will find rodless actuators useful are:

- In the loading and unloading of parts to and from machines, in conveyor lines, at work- and inspection stations, etc.
- In X-Y tables, printing, cutting, scanning and labelling equipment
- Circuit board production
- In pick and place applications and for palletising and packaging equipment
- Integrated in machines for internal handling of parts
- In positioning and measuring equipment
- For supervision equipment in hazardous areas.

	Movopart M55				Movopart M75				Movopart M100				Movopart CB	Movopart M50
Drive type	Screw		Belt		Screw		Belt		Screw		Belt		Belt	Belt
Guide type	Prism	Ball	Prism	Ball	Prism	Ball	Prism	Ball	Prism	Ball	Prism	Ball	Wheel	Slide
Max. stroke [m]	3	3	7	7	4	4	12	12	6	6	12	12	12	5
Max. load Fx [N]	1000	1000	400	400	2500	2500	900	900	5000	5000	1250	1250	1100	400
Max. load Fy [N]	600	1350	600	1100	2200	3000	2200	2600	4500	7500	4500	6000	4200	350
Max. load Fz [N]	600	1350	600	1100	2200	3000	2200	2600	4500	7500	4500	6000	2400	350
Max. speed [m/s]	1,6	1,6	5	5	1	1	5	5	1,25	1,25	5	5	5	5

	Microstage MS25	Microstage MS33	Accuslide E10		Accuslide E20		Superslide E12		Superslide E16	
Drive type	Screw	Screw	Screw	Belt	Screw	Belt	Screw	Belt	Screw	Belt
Guide type	Ball	Ball	Ball	Ball	Ball	Ball	Ball	Ball	Ball	Ball
Max. stroke [m]	0,283	0,3	0,85	0,85	2,8	2,8	1,9	2,8	2,8	2,8
Max. load Fx [N]	20	45	2000	485	4500	1488	2000	485	3000	1488
Max. load Fy [N]	100	150	4000	4000	15 000	15 000	800	800	2100	2100
Max. load Fz [N]	100	150	8000	8000	30 000	30 000	1600	1600	4300	4300
Max. speed [m/s	0,15	0,1	0,5	3	1,25	3	0,5	3	1	3

	MovoZ Z2	MovoZ Z3	MovoZ ZB
Drive type	Screw	Screw	Belt
Guide type	Slide	Slide	Ball
Max. stroke [m]	1,5	1,5	2,5
Max. load Fz [N]	7500	7500	500
Max. speed [m/s]	1	1	3

	T90	T130
Drive type	Screw	Screw
Max. stroke [m]	1,5	2
Max. load Fx [N]	10 000	40 000
Max. speed [m/s]	1,25	2

Industrial rodless actuators - Movopart

- Robust and reliable
- Enclosed design
- Ball screw or belt drive
- Ball, wheel or Prism guides
- Stroke up to 12 m
- Speed up to 5 m/s
- Load up to 5000 N
- Repeatability down to ± 0,05 mm

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Precision rodless actuators - Microstage, Accuslide, Superslide

- Compact design
- Ball screw or belt drive
- Round rail or Profile rail ball guides
- Stroke up to 2,8 m
- Speed up to 3 m/s
- Load up to 30 000 N
- Repeatability down to ± 0,01 mm

PAGE 25

Industrial lifting actuators - MovoZ

- Telescopic versions available
- Ball screw or belt drive
- Slide guides
- Stroke up to 2,5 m
- Speed up to 3 m/s
- Load up to 7500 N
- Repeatability down to ± 0,1 mm

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Precision actuators - T-series

- Perfect for hydraulics replacement
- Ball screw drive
- Slide guides
- Stroke up to 2 m
- Speed up to 2 m/s
- Load up to 40 000 N
- Repeatability down to ± 0,1 mm

PAGE 49

Multi axis system kits

- Kits to build 2 and 3 axis gantry robots
- Quick mounting
- Minimum of parts
- Space saving

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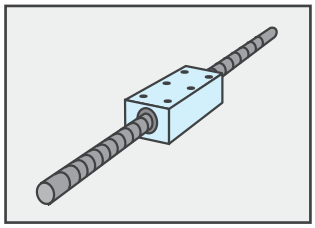
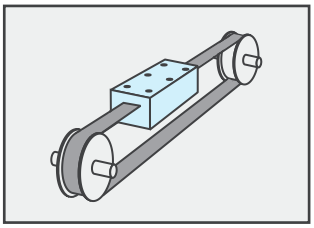
Drive types

Screw drive
- High load at low speed
- High position accuracy
- High repeatability
- Safety nut available
- Screw supports available
- Low drive torque
- High vertical load

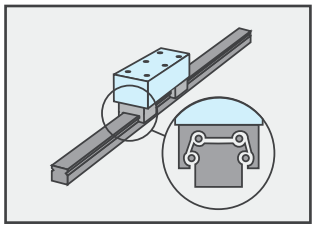


Belt drive
- High speed
- High repeatability
- Long stroke
- Low noise level
- Minimum maintenance
- Play-free operation

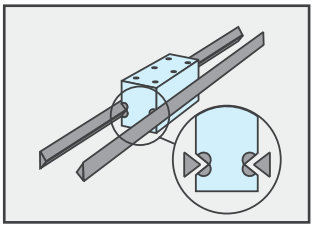


Guide types

Ball and wheel guides
- High speed
- Play-free versions
- Low friction
- Low drive torque
- No stick-slip

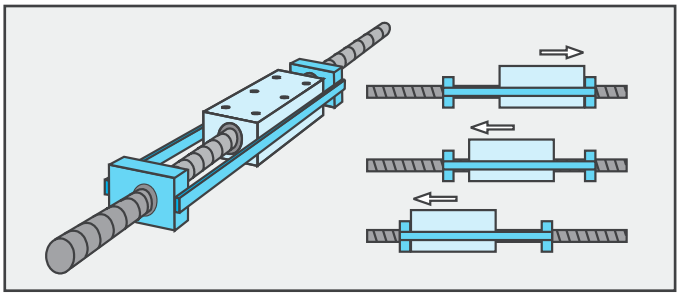


Prism and sliding guides
- High speed
- Silent
- Pollution resistant
- Adjustable
- Long life and low wear
- Resistant to shock and vibration
- Lubricated for life



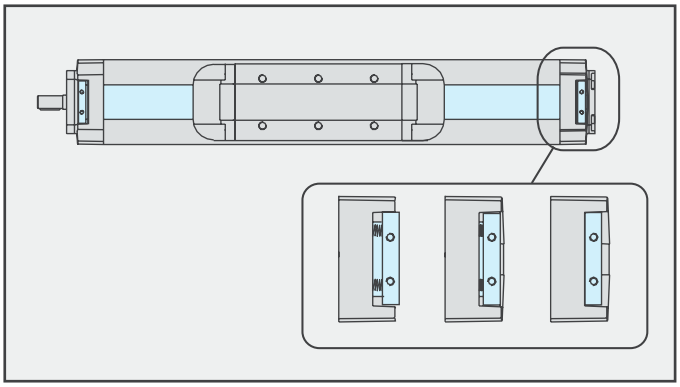
Screw support (Movopart)

Option for screw driven M55, M75 and M100 units
- Allows screw driven units with high speed and long stroke (reduces screw vibrations)
- Single or double screw supports available
- Require no extra maintenance

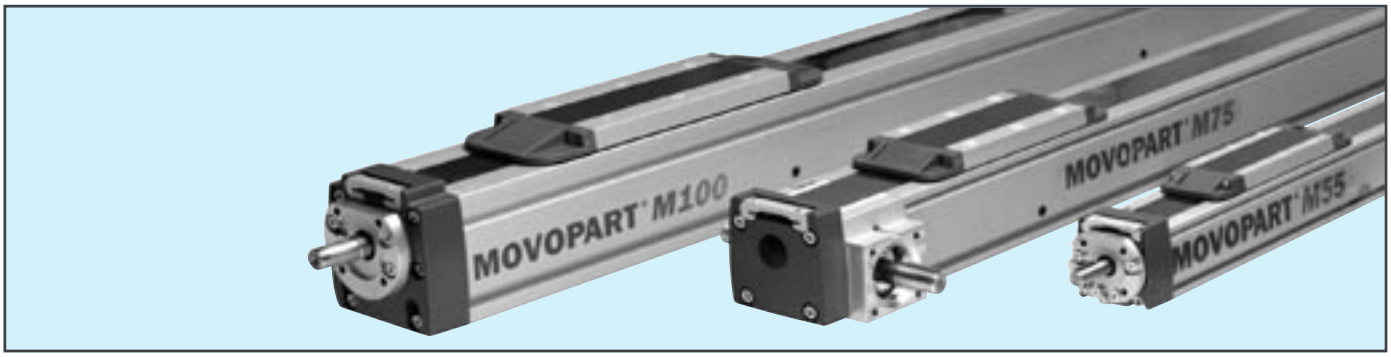


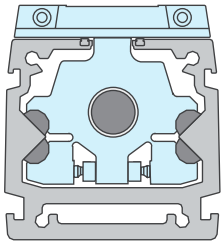
Cover band (Movopart)

Standard feature on all M55, M75 and M100 units
- Magnetically sealed protection
- Cover band does not reduce available stroke
- Cover band in stainless steel
- Protects internal parts from dust and dirt
- The uniqe cover band stretcher function increase life of cover band



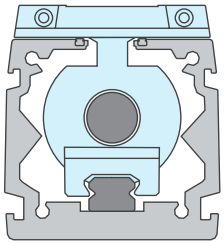
Movopart M55, M75, M100





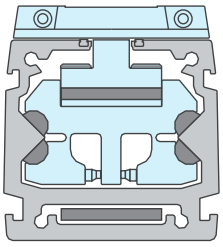
Screw drive, prism guide

- High repeatability
- Adjustable guides
- Resistant to shock loads and vibrations
- Guides lubricated for life



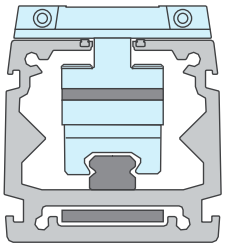
Screw drive, ball guide

- High precision
- Playfree guide
- Low friction
- Low drive torque
- No stick-slip



Belt drive, prism guide

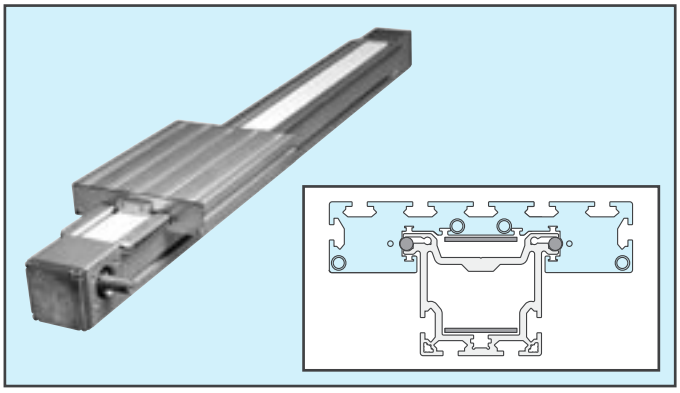
- High speed
- Resistant to shock loads and vibrations
- Long life
- Silent
- Corrosion free
- Lubricated for life
- Adjustable guides



Belt drive, ball guide

- High speed
- Playfree guide
- Low friction
- Low drive torque
- No stick-slip

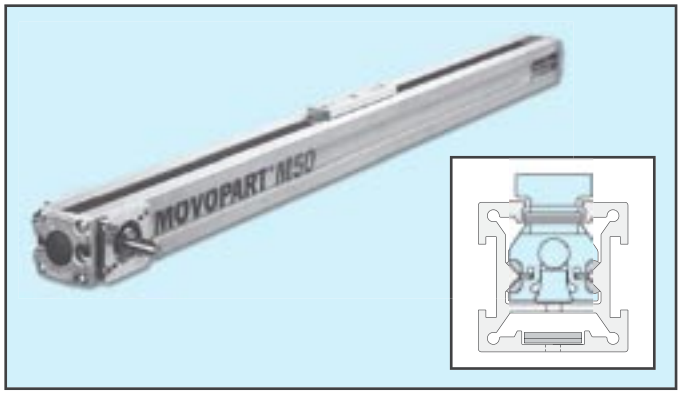
Movopart CB



Belt drive, wheel guide

- High speed
- High moment capability
- No stick-slip
- Low friction
- Low maintenance level

Movopart M50



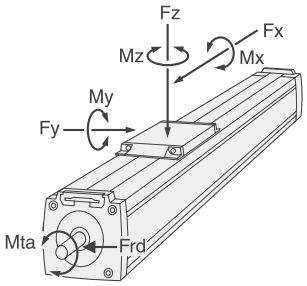
Belt drive, prism guide

- Compact design
- High speed
- Resistant to shock loads and vibrations
- Long life
- Silent
- Corrosion free
- Lubricated for life
- T-slot for magnetic sensors

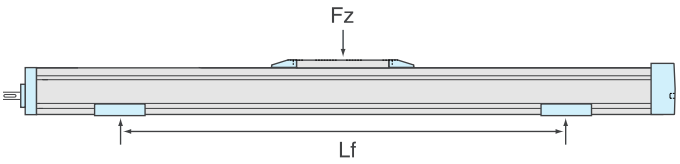
Technical data

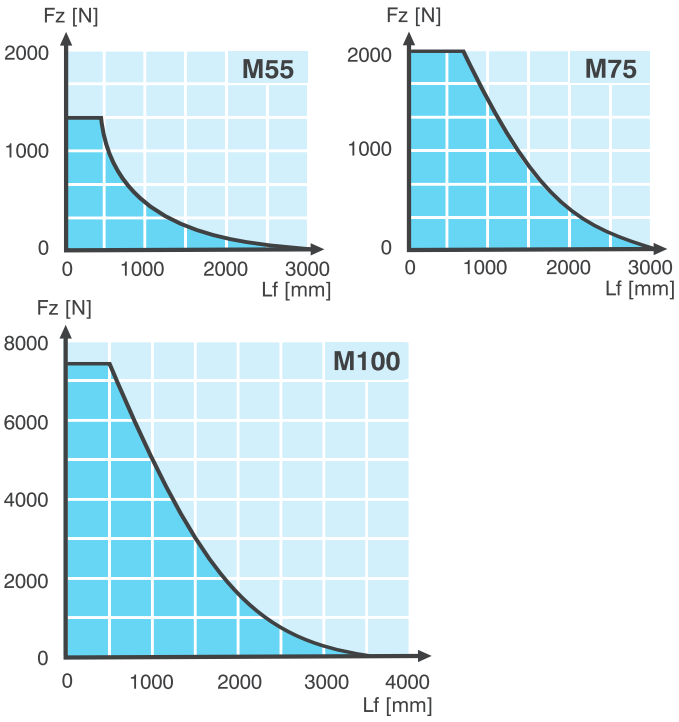
	M55	M75	M100
Designation	MG06K(C)	MG07K(C)	MG10K(C)
Max. stroke [m]	3	4	6
Max. speed [m/s]	1,6	1,0	1,25
Max. input speed [rpm]	3000	3000	3000
Temperature range [°C]	-20 – +70	-20 – +70	-20 – +70
Weight [kg] with A-saddle (L in m) with C-saddle (L in m)	 2,2 + L × 4,4 3,4 + L × 4,4	 4,2 + L × 8,2 5,9 + L × 8,2	 8,5 + L × 14,2 12 + L × 14,2
Saddle weight [kg]	1,2	1,7	3,5
Screw support [kg]	0,6	0,8	1,0
Max. load Fx [N] with ball nut with composite nut	 1000 500	 2500 1250	 5000 2000
Max. load Fy [N] with A-saddle with C-saddle	 400 600	 1450 2200	 3000 4500
Max. load Fz [N] with A-saddle with C-saddle	 400 600	 1450 2200	 3000 4500
Max. load torque Mx [Nm]	9	45	120
Max. load torque My [Nm] with A-saddle (Lc in m) with C-saddle (Lc in m)	 23 Lc × 300	 80 Lc × 1100	 275 Lc × 2250
Max. load torque Mz [Nm] with A-saddle with C-saddle	 23 Lc × 300	 80 Lc × 1100	 275 Lc × 2250
Max. tourqe Mta [Nm]	12	30	45
Max. force Frd [N]	200	600	1000
Scew diameter [mm]	16	20	25
Screw lead [mm/rev.]	5/5,08/10 20/32	5/12,7/20	5/10/25
Repeatability [± mm]	0,05	0,05	0,05
Resolution [mm]	0,1	0,1	0,1

Forces

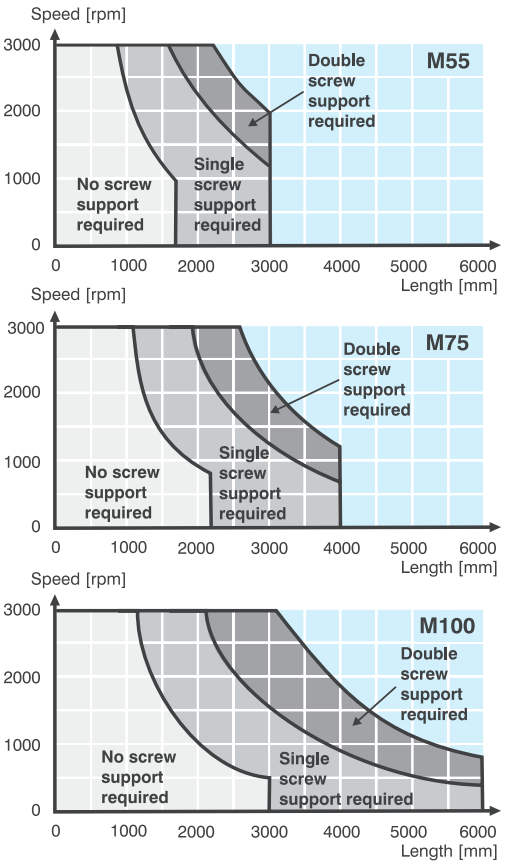


Deflection

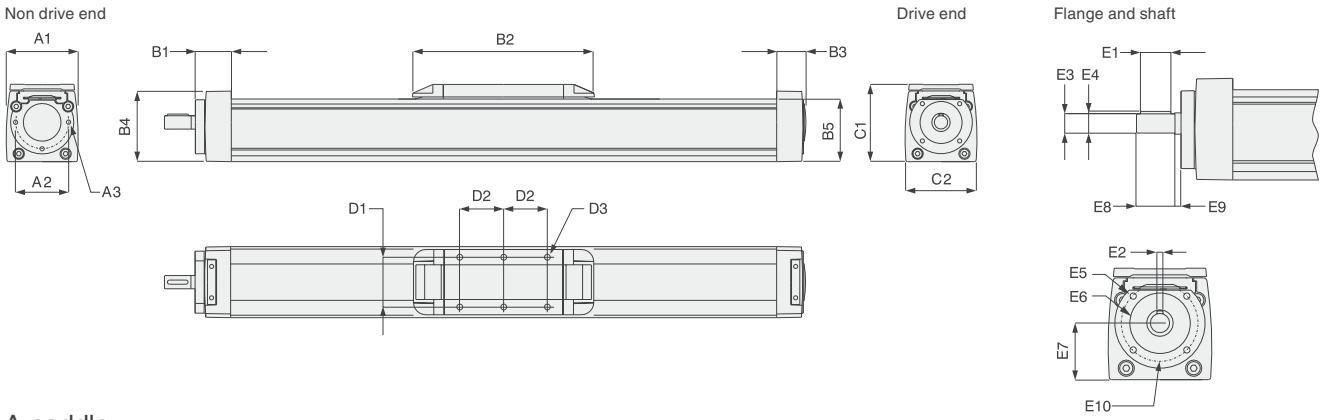




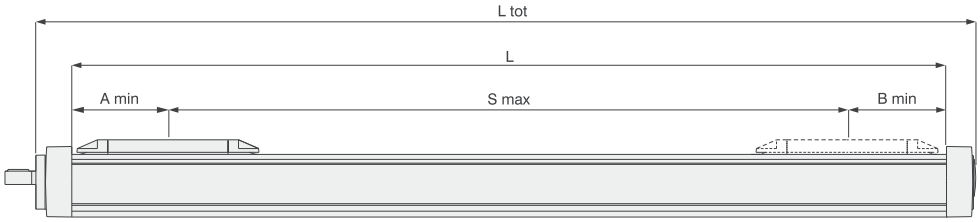
Critical speed



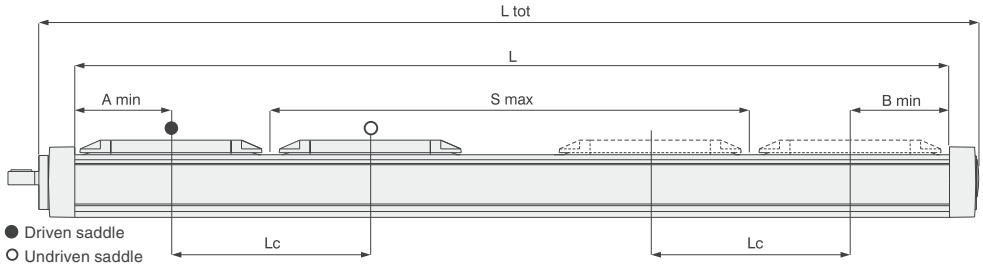
Dimensions



A-saddle



C-saddle



	M55	M75	M100		M55	M75	M100
	MG06K(C)	MG07K(C)	MG10K(C)		MG06K(C)	MG07K(C)	MG10K(C)
A1	58	86	108	**D3**	M5 (6×)	M8 (6×)	M10 (6×)
A2	HCø43	HCø63	HCø63	**E1**	20	25	25
A3	M5 (3×)	M6 (3×)	M8 (3×)	**E2**	4	5	5
B1	38	43	47	**E3**	ø11k6	ø16k6	ø16k6
B2	184	218	306	**E4**	12,5	18	18
B3	31,5	35	41	**E5**	M5 (4×)	M6 (4×)	M6 (4×)
B4	62,5	85	109,5	**E6**	ø32H8	ø50H8	ø50H8
B5	55	75	100	**E7**	32	47	64
C1	69	92,5	118,5	**E8**	25	32	32
C2	56	84	103	**E9**	5	5	5
D1	41	60	60	**E10**	HCø43	HCø63	HCø63
D2	38	53	71				

Ordering length in millimetres

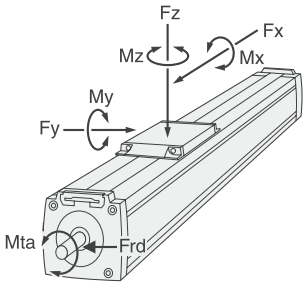
Model	Designation	No screw support		Single screw support		Double screw support		Minimum saddle c/c distance*	Total length	Length to order
		A min	B min	A min	B min	A min	B min	Lc min	L tot	L
M55	MG06K(C)•••A(C)	98	98	124	124	175	175	200	L tot = L + 68	L = S max + Lc + A min + B min
M75	MG07K(C)•••A(C)	114	114	169	169	235	235	250	L tot = L + 78	L = S max + Lc + A min + B min
M100	MG10K(C)•••A(C)	154	154	184	184	239	239	350	L tot = L + 88	L = S max + Lc + A min + B min

* Lc = 0 mm for A-saddles

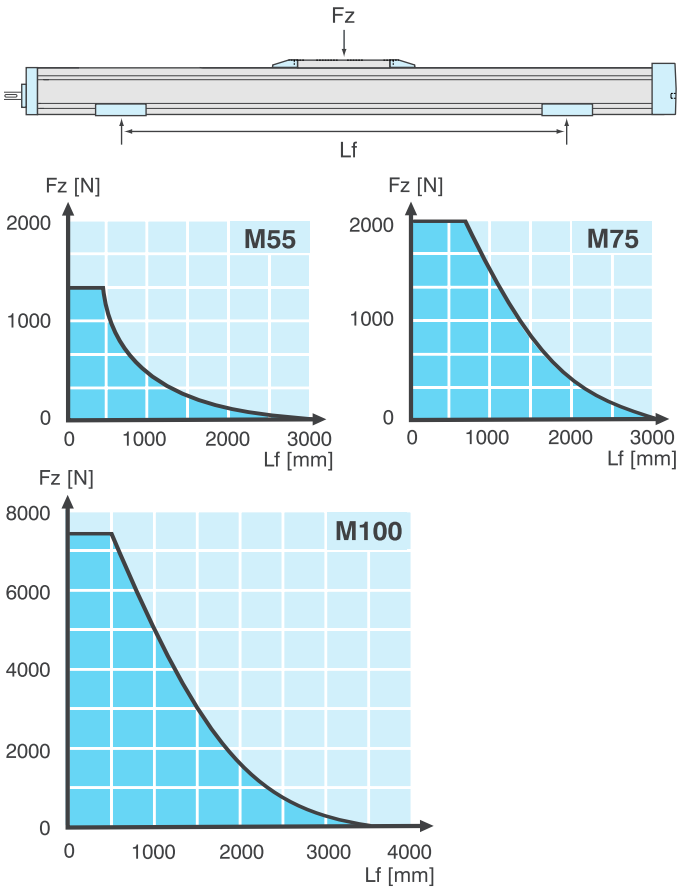
Technical data

	M55	M75	M100
Designation	MF06K(C)	MF07K(C)	MF10K(C)
Max. stroke [m]	3	4	6
Max. speed [m/s]	1,6	1,0	1,25
Max. input speed [rpm]	3000	3000	3000
Temperature range [°C]	-20 – +70	-20 – +70	-20 – +70
Weight [kg] with A-saddle (L in m) with C-saddle (L in m)	 2,2 + L × 4,1 6,6 + L × 4,1	 4,5 + L × 10,5 9,5 + L × 10,5	 9 + L × 17,2 17 + L × 17,2
Saddle weight [kg]	1,2	2,5	4
Screw support [kg]	0,6	0,8	1,0
Max. load Fx [N] with ball nut with composite nut	 1000 500	 2500 1250	 5000 2000
Max. load Fy [N] with A-saddle with C-saddle	 900 1350	 2000 3000	 5000 7500
Max. load Fz [N] with A-saddle with C-saddle	 900 1350	 2000 3000	 5000 7500
Max. load torque Mx [Nm]	6,4	18	60
Max. load torque My [Nm] with A-saddle (Lc in m) with C-saddle (Lc in m)	 48 Lc × 675	 130 Lc × 1500	 400 Lc × 3750
Max. load torque Mz [Nm] with A-saddle with C-saddle	 48 Lc × 675	 130 Lc × 1500	 400 Lc × 3750
Max. tourqe Mta [Nm]	12	30	45
Max. force Frd [N]	200	600	1000
Scew diameter [mm]	16	20	25
Screw lead [mm/rev.]	5/5,08/10 20/32	5/12,7/20	5/10/25
Repeatability [± mm]	0,05	0,05	0,05
Resolution [mm]	0,1	0,1	0,1

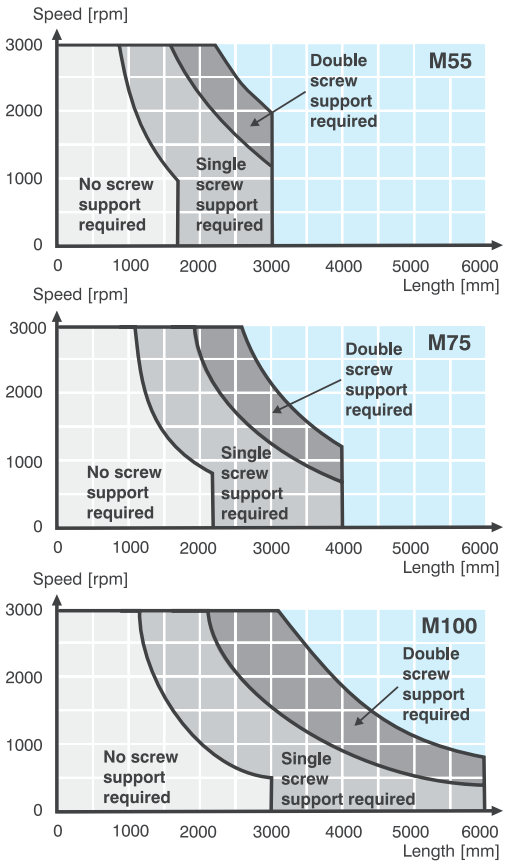
Forces



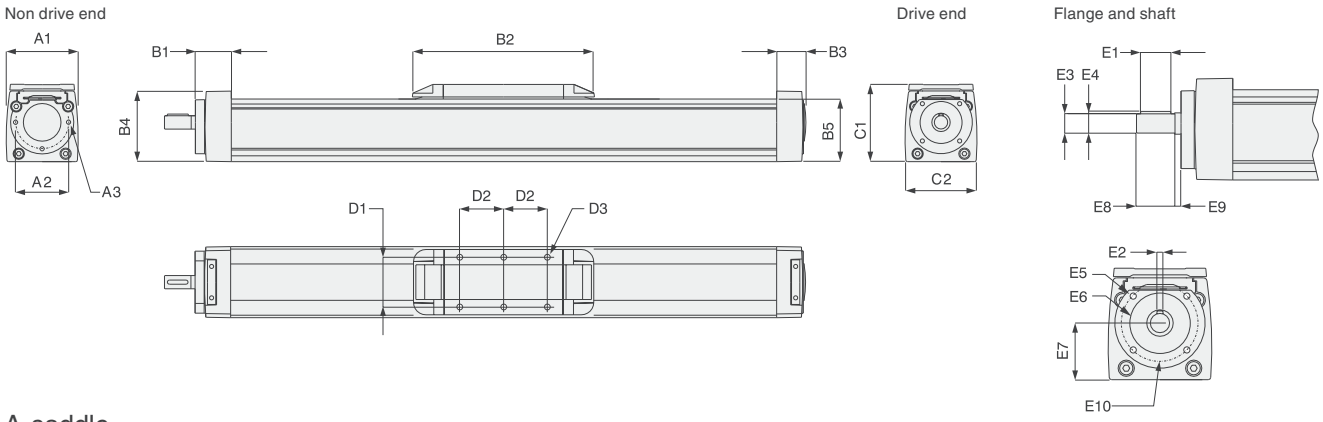
Deflection



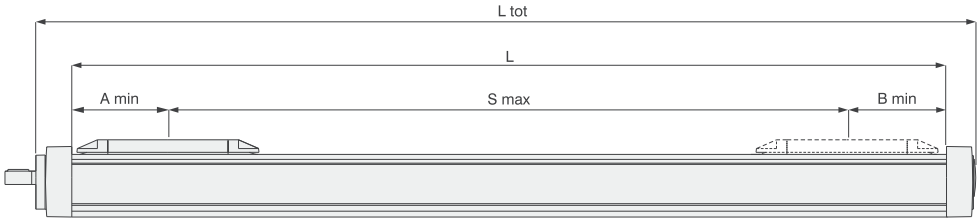
Critical speed



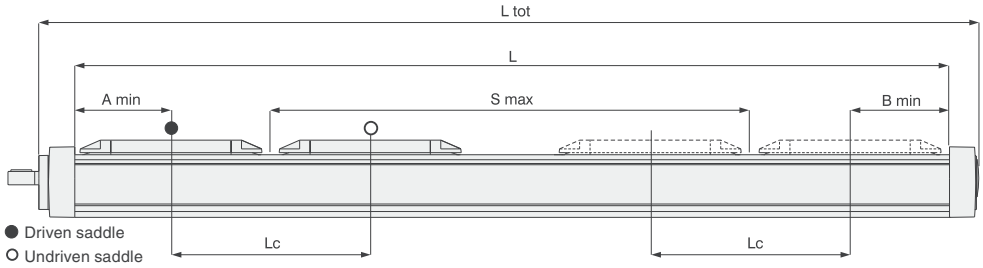
Dimensions



A-saddle



C-saddle



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B4	62,5	85	109,5	**E6**	ø32H8	ø50H8	ø50H8
B5	55	75	100	**E7**	32	47	64
C1	69	92,5	118,5	**E8**	25	32	32
C2	56	84	103	**E9**	5	5	5
D1	41	60	60	**E10**	HCø43	HCø63	HCø63
D2	38	53	71				

Ordering length in millimetres

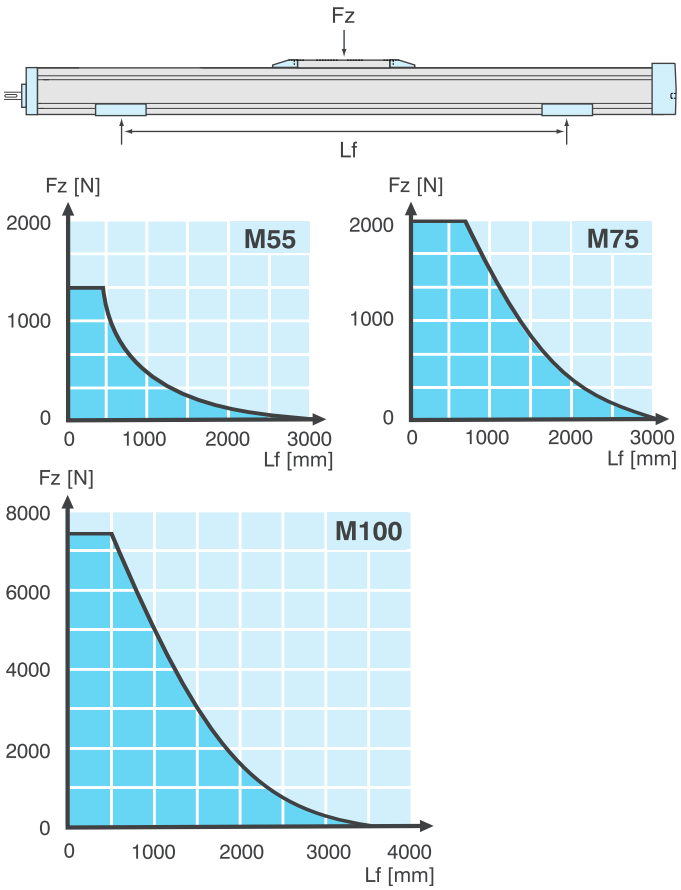
Model	Designation	No screw support		Single screw support		Double screw support		Minimum saddle c/c distance*	Total length	Length to order
		A min	B min	A min	B min	A min	B min	Lc min	L tot	L
M55	MF06K(C)•••A(C)	98	98	132	132	184	184	200	L tot = L + 68	L = S max + Lc + A min + B min
M75	MF07K(C)•••A(C)	114	114	169	169	235	235	250	L tot = L + 78	L = S max + Lc + A min + B min
M100	MF10K(C)•••A(C)	154	154	184	184	239	239	350	L tot = L + 88	L = S max + Lc + A min + B min

* Lc = 0 mm for A-saddles

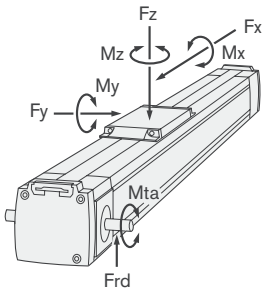
Technical data

	M55	M75	M100
Designation	MG06B	MG07B	MG10B
Max. stroke [m]	7	12	12
Max. speed [m/s]	5	5	5
Max. input speed [rpm]	2850	2300	1700
Temperature range [°C]	-20 – +70	-20 – +70	-20 – +70
Weight [kg] with A-saddle (L in m) with C-saddle (L in m)	 3 + L × 4,1 4,1 + L × 4,1	 4,2 + L × 6,7 5,7 + L × 6,7	 5,9 + L × 11 8,3 + L × 11
Saddle weight [kg]	1,1	1,5	2,4
Max. load Fx [N] < 2,5 m/s > 2,5 m/s	 400 200	 900 450	 1250 625
Max. load Fy [N] with A-saddle with C-saddle	 400 600	 1450 2200	 3000 4500
Max. load Fz [N] with A-saddle with C-saddle	 400 600	 1450 2200	 3000 4500
Max. load torque Mx [Nm]	9	45	100
Max. load torque My [Nm] with A-saddle (Lc in m) with C-saddle (Lc in m)	 21 Lc × 300	 80 Lc × 1100	 240 Lc × 2250
Max. load torque Mz [Nm] with A-saddle with C-saddle	 21 Lc × 300	 80 Lc × 1100	 240 Lc × 2250
Max. tourqe Mta [Nm]	7	30	45
Max. force Frd [N]	200	600	1000
Move [mm/rev.]	105	130	176
Belt weight [kg/m belt]	0,09	0,16	0,31
Repeatability [± mm]	0,2	0,2	0,2
Resolution [mm]	1,5	1,5	1,5

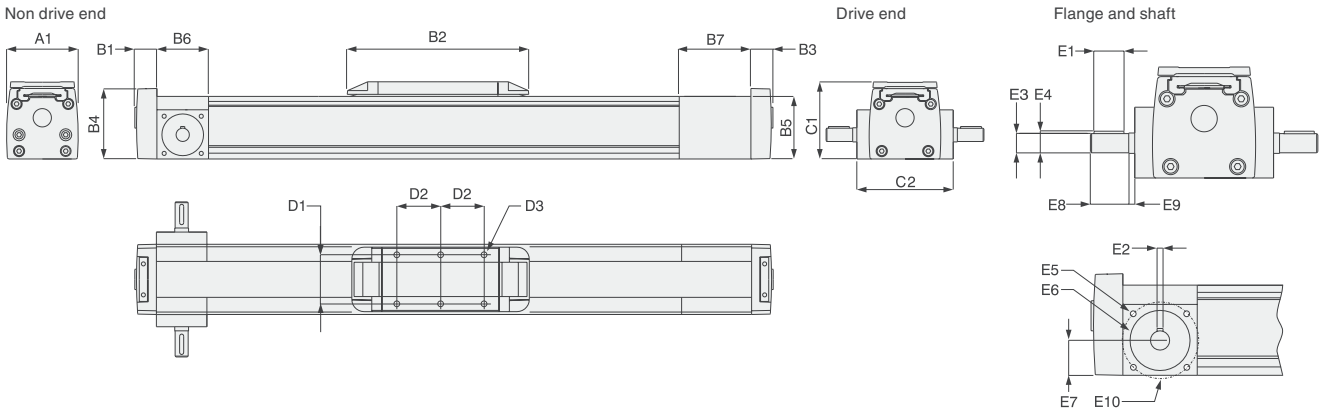
Deflection



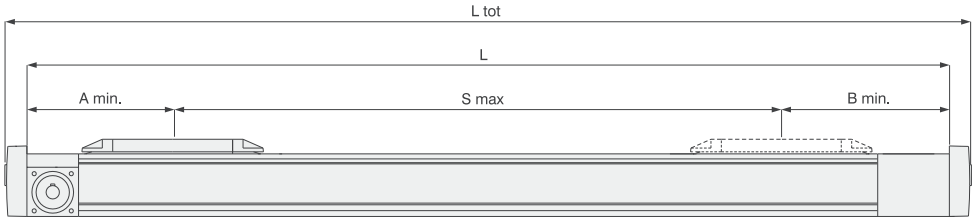
Forces



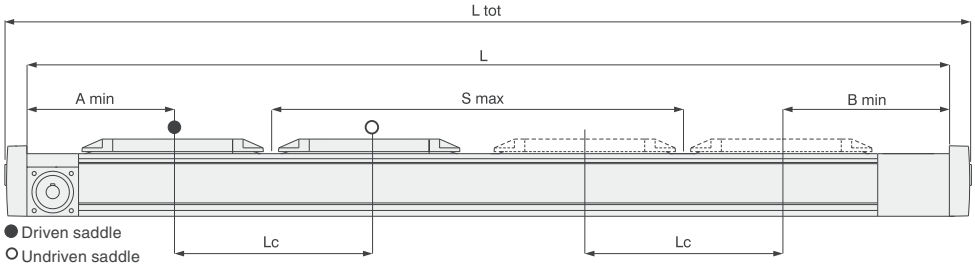
Dimensions



A-saddle



C-saddle



	M55	M75	M100		M55	M75	M100
	MG06B	MG07B	MG10B		MG06B	MG07B	MG10B
A1	58	86	108	**D3**	M5 (6×)	M8 (6×)	M10 (6×)
B1	26	26	29	**E1**	20	25	25
B2	184	218	306	**E2**	4	5	5
B3	26	26	29	**E3**	ø11k6	ø16k6	ø16k6
B4	62,5	85	109,5	**E4**	12,5	18	18
B5	55	75	100	**E5**	M5 (4×)	M6 (4×)	M6 (4×)
B6	50	62	70	**E6**	ø32H8	ø50H8	ø50H8
B7	70	86	86	**E7**	25	29	40
C1	69	92,5	118,5	**E8**	28	32	32
C2	86	116	120	**E9**	2	5	5
D1	41	60	60	**E10**	HCø43	HCø63	HCø63
D2	38	53	71				

Ordering length in millimetres

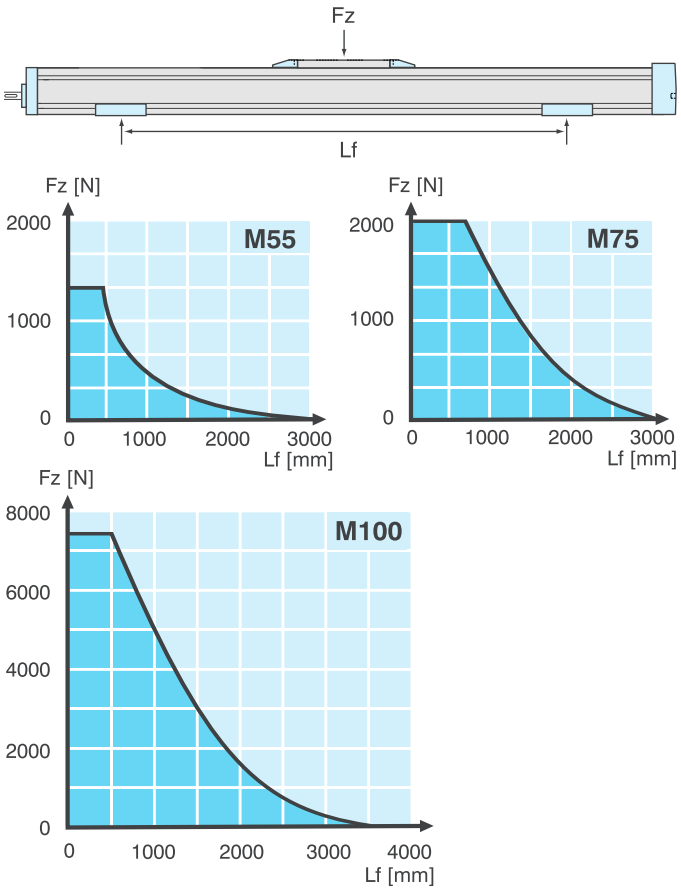
Model	Designation			Min. saddle c/c distance*	Total length	Length to order
		A min	B min	Lc min	L tot	L
M55	MG06B•••A(C)	120	140	200	L tot = L + 53	L = S max + Lc + A min + B min
M75	MG07B•••A(C)	145	170	250	L tot = L + 54	L = S max + Lc + A min + B min
M100	MG10B•••A(C)	180	195	350	L tot = L + 58	L = S max + Lc + A min + B min

* Lc = 0 mm for A-saddles

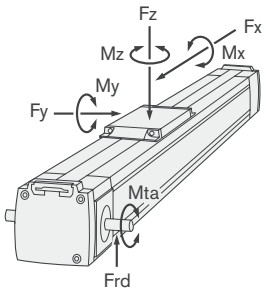
Technical data

	M55	M75	M100
Designation	MF06B	MF07B	MF10B
Max. stroke [m]	7	12	12
Max. speed [m/s]	5	5	5
Max. input speed [rpm]	2850	2300	1700
Temperature range [°C]	-20 – +70	-20 – +70	-20 – +70
Weight [kg]			
with A-saddle (L in m)	3,1 + L × 5,3	4,7 + L × 8,8	5,7 + L × 14,6
with C-saddle (L in m)	4,3 + L × 5,3	6,7 + L × 8,8	7,9 + L × 14,6
Saddle weight [kg]	1,2	2,0	2,2
Max. load Fx [N]			
< 2,5 m/s	400	900	1250
> 2,5 m/s	200	450	625
Max. load Fy [N]			
with A-saddle	750	1700	4000
with C-saddle	1100	2600	6000
Max. load Fz [N]			
with A-saddle	750	1700	4000
with C-saddle	1100	2600	6000
Max. load torque Mx [Nm]	5	18	50
Max. load torque My [Nm]			
with A-saddle (Lc in m)	29	80	280
with C-saddle (Lc in m)	Lc × 560	Lc × 1310	Lc × 3000
Max. load torque Mz [Nm]			
with A-saddle	29	80	280
with C-saddle	Lc × 560	Lc × 1310	Lc × 3000
Max. tourqe Mta [Nm]	7	30	45
Max. force Frd [N]	200	600	1000
Move [mm/rev.]	105	130	176
Belt weight [kg/m belt]	0,09	0,16	0,31
Repeatability [± mm]	0,1	0,1	0,1
Resolution [mm]	0,2	0,2	0,2

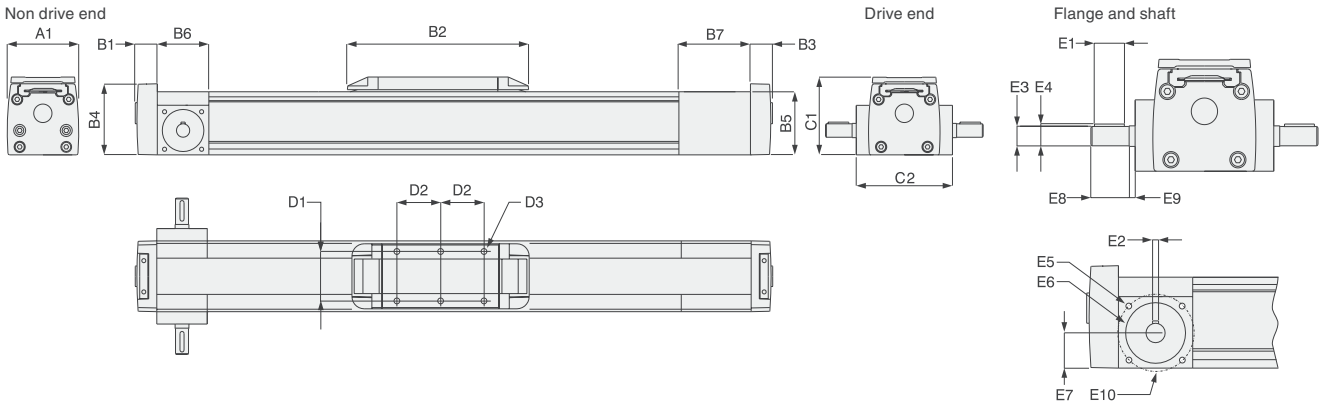
Deflection



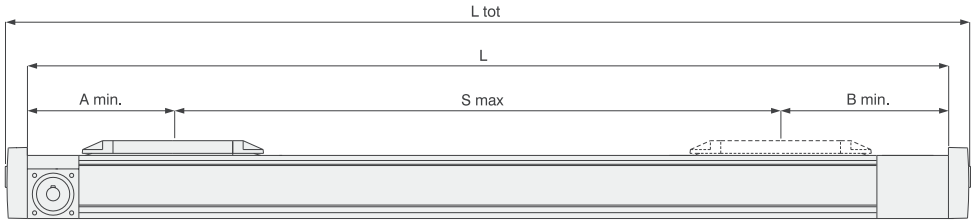
Forces



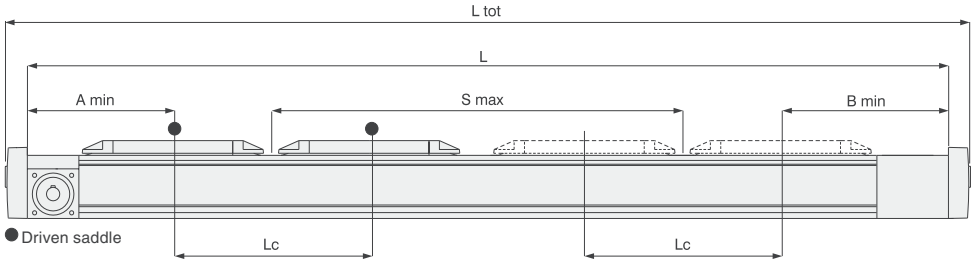
Dimensions



A-saddle



C-saddle



	M55	M75	M100		M55	M75	M100
	MF06B	MF07B	MF10B		MF06B	MF07B	MF10B
A1	58	86	108	**D3**	M5 (6×)	M8 (6×)	M10 (6×)
B1	26	26	29	**E1**	20	25	25
B2	234	218	306	**E2**	4	5	5
B3	26	26	29	**E3**	ø11k6	ø16k6	ø16k6
B4	62,5	85	109,5	**E4**	12,5	18	18
B5	55	75	100	**E5**	M5 (4×)	M6 (4×)	M6 (4×)
B6	50	62	70	**E6**	ø32H8	ø50H8	ø50H8
B7	70	86	86	**E7**	25	29	40
C1	69	92,5	118,5	**E8**	28	32	32
C2	86	116	120	**E9**	2	5	5
D1	41	60	60	**E10**	HCø43	HCø63	HCø63
D2	38	53	71				

Ordering length in millimetres

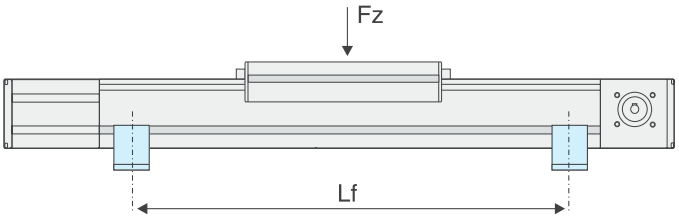
Model	Designation			Min. saddle c/c distance*	Total length	Length to order
		A min	B min	Lc min	L tot	L
M55	MF06B•••A(C)	155	165	200	L tot = L + 53	L = S max + Lc + A min + B min
M75	MF07B•••A(C)	145	170	250	L tot = L + 54	L = S max + Lc + A min + B min
M100	MF10B•••A(C)	195	210	350	L tot = L + 58	L = S max + Lc + A min + B min

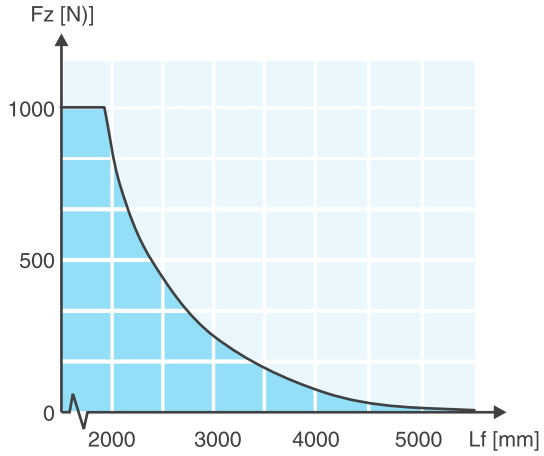
* Lc = 0 mm for A-saddles

Technical data

	CB
Designation	MR-CB
Max. stroke [m]	12
Max. speed [m/s]	5
Max. input speed [rpm]	1500
Temperature range [°C]	-20 – +70
Weight [kg] with A-saddle (L in m) with C-saddle (L in m)	 7,8 + L × 8,2 13,3 + L × 8,2
Saddle weight [kg]	5,5
Max. load Fx [N]	1000
Max. load Fy [N] with A-saddle with C-saddle	 1000 2000
Max. load Fz [N] with A-saddle with C-saddle	 1000 2000
Max. load torque Mx [Nm]	110
Max. load torque My [Nm] with A-saddle (Lc in m) with C-saddle (Lc in m)	 230 Lc × 1200
Max. load torque Mz [Nm] with A-saddle with C-saddle	 253 Lc × 2100
Max. tourqe Mta [Nm]	34
Max. force Frd [N]	600
Move [mm/rev.]	200
Belt weight [kg/m belt]	0,56
Repeatability [± mm]	0,1
Resolution [mm]	0,2

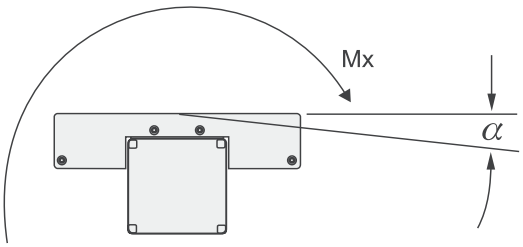
Deflection





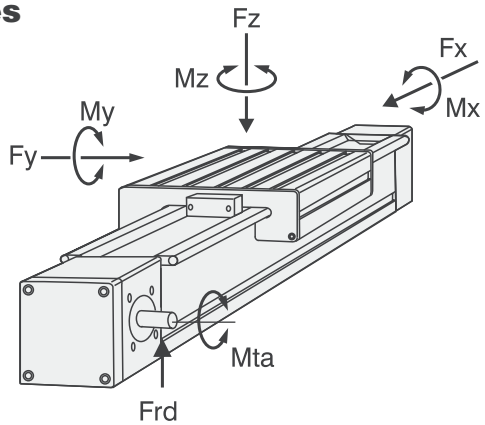
Torsion

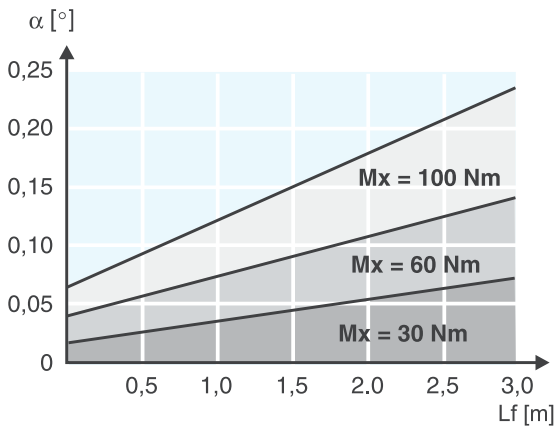
Parameter	Definition
Mx [Nm]	Torque parallel to profile
α [°]	Torsion of the profile
Lf [m]	Distance between supports



$$\alpha = Mx \times (0{,}00042 \times Lf + 0{,}001)$$

Forces





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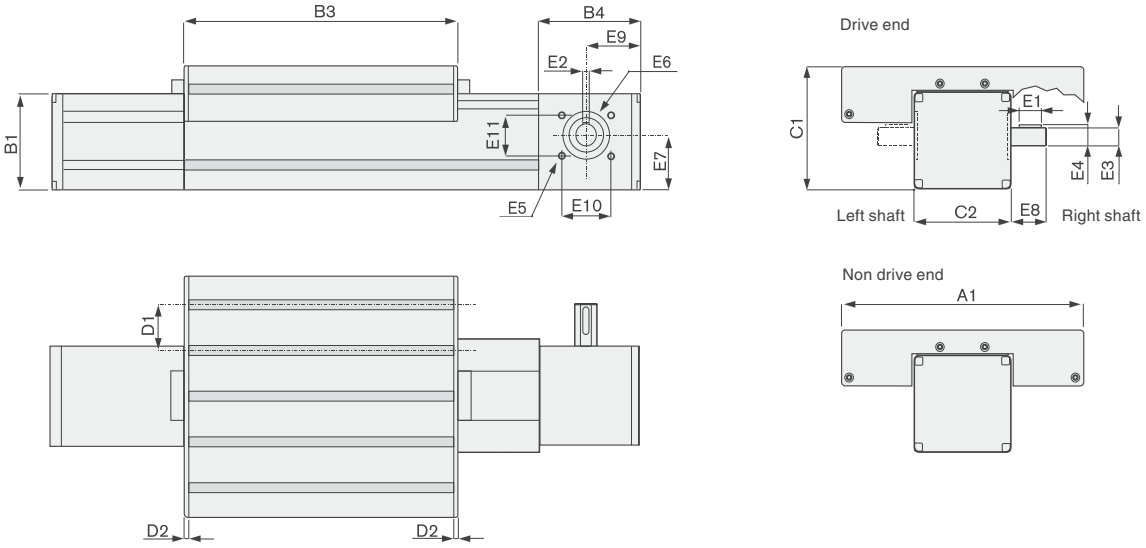
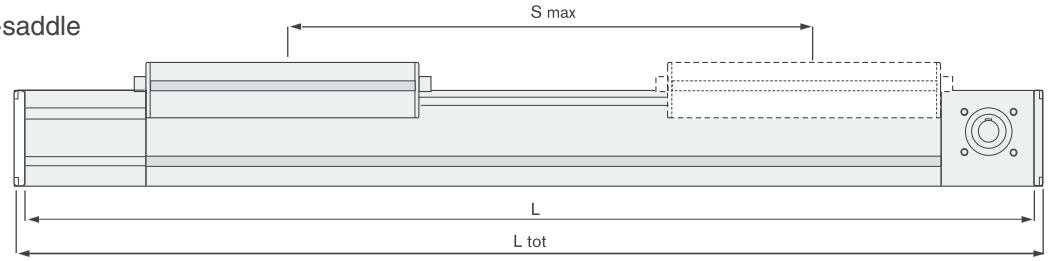
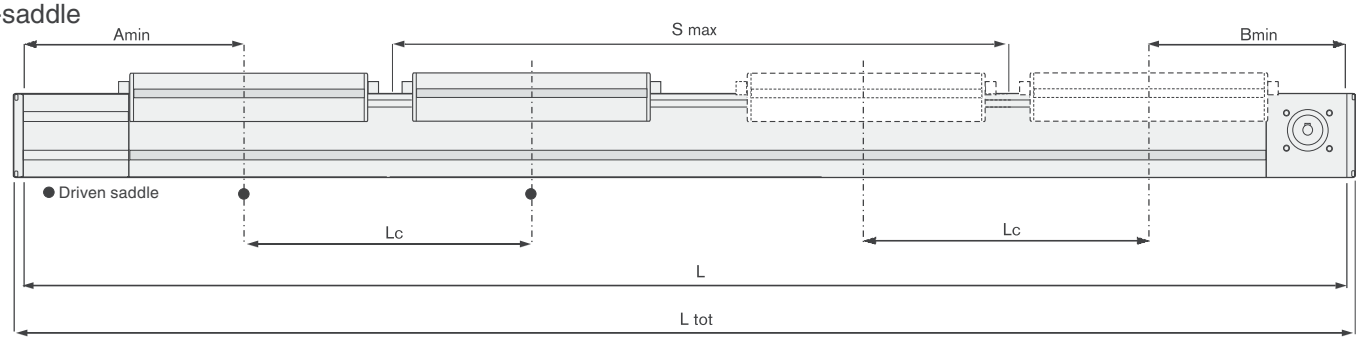


A-saddle



C-saddle



A1	220	**C2**	88	**E3**	ø20j6	**E8**	40
B1	88	**D1**	44	**E4**	22,5	**E9**	54
B3	306	**D2**	3	**E5**	M8 (4×)	**E10**	52
B4	93	**E1**	25	**E6**	ø45H8	**E11**	36
C1	111	**E2**	6	**E7**	49,5		

Ordering length in millimetres

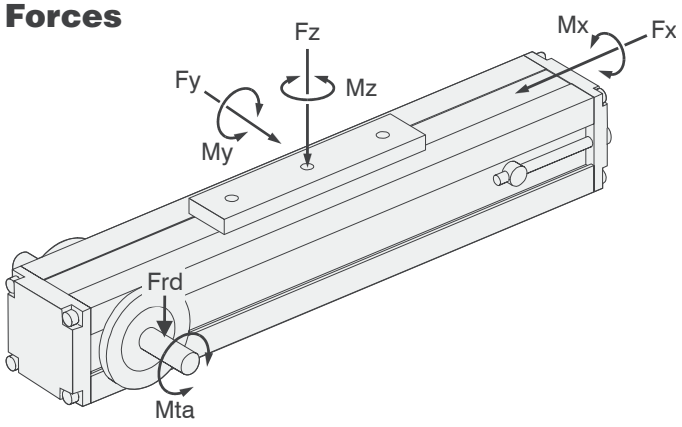
Model	Designation			Min. saddle c/c distance*	Length to order	Total length
		A min	B min	Lc min	L	L tot
CB	MR-CB•••A(C)	258	241	356	L = S max + Lc + 499	L tot = L + 30

* Lc = 0 mm for A-saddles

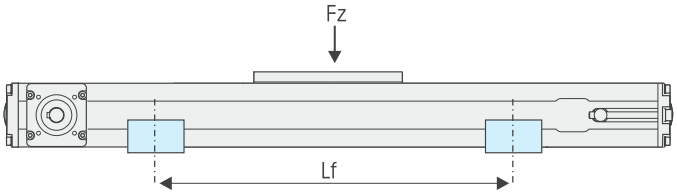
Technical data

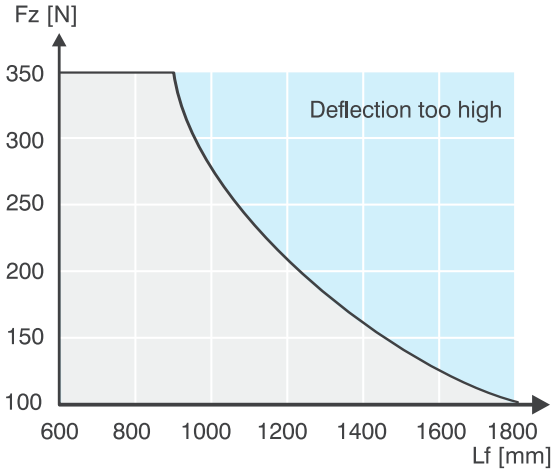
	M50
Designation	MG05B
Max. stroke [m]	5
Max. speed [m/s]	5
Max. input speed [rpm]	2300
Temperature range [°C]	-20 – +70
Weight (L in m) [kg]	0,71 + L × 2,5
Saddle weight [kg]	0,33
Max. load Fx [N]	400
Max. load Fy [N]	350
Max. load Fz [N]	350
Max. load torque Mx [Nm]	5
Max. load torque My [Nm]	19
Max. load torque Mz [Nm]	19
Max. tourqe Mta [Nm]	10
Max. force Frd [N]	350
Move [mm/rev.]	130
Belt weight [kg/m belt]	0,086
Repeatability [± mm]	0,2
Resolution [mm]	1,5

Forces

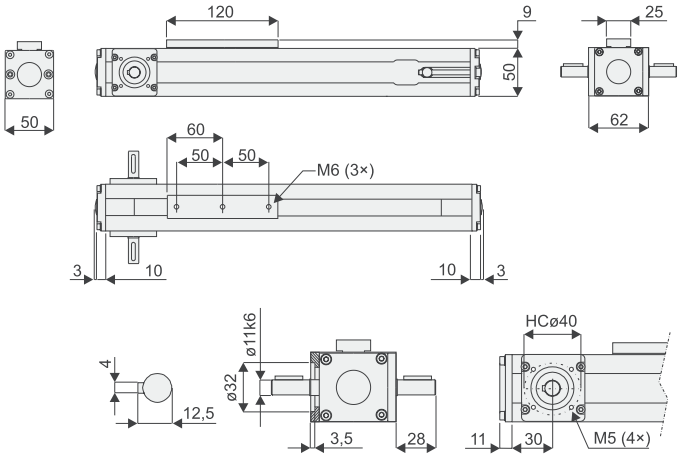


Deflection

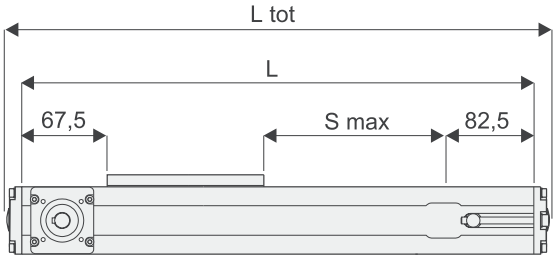




Dimensions

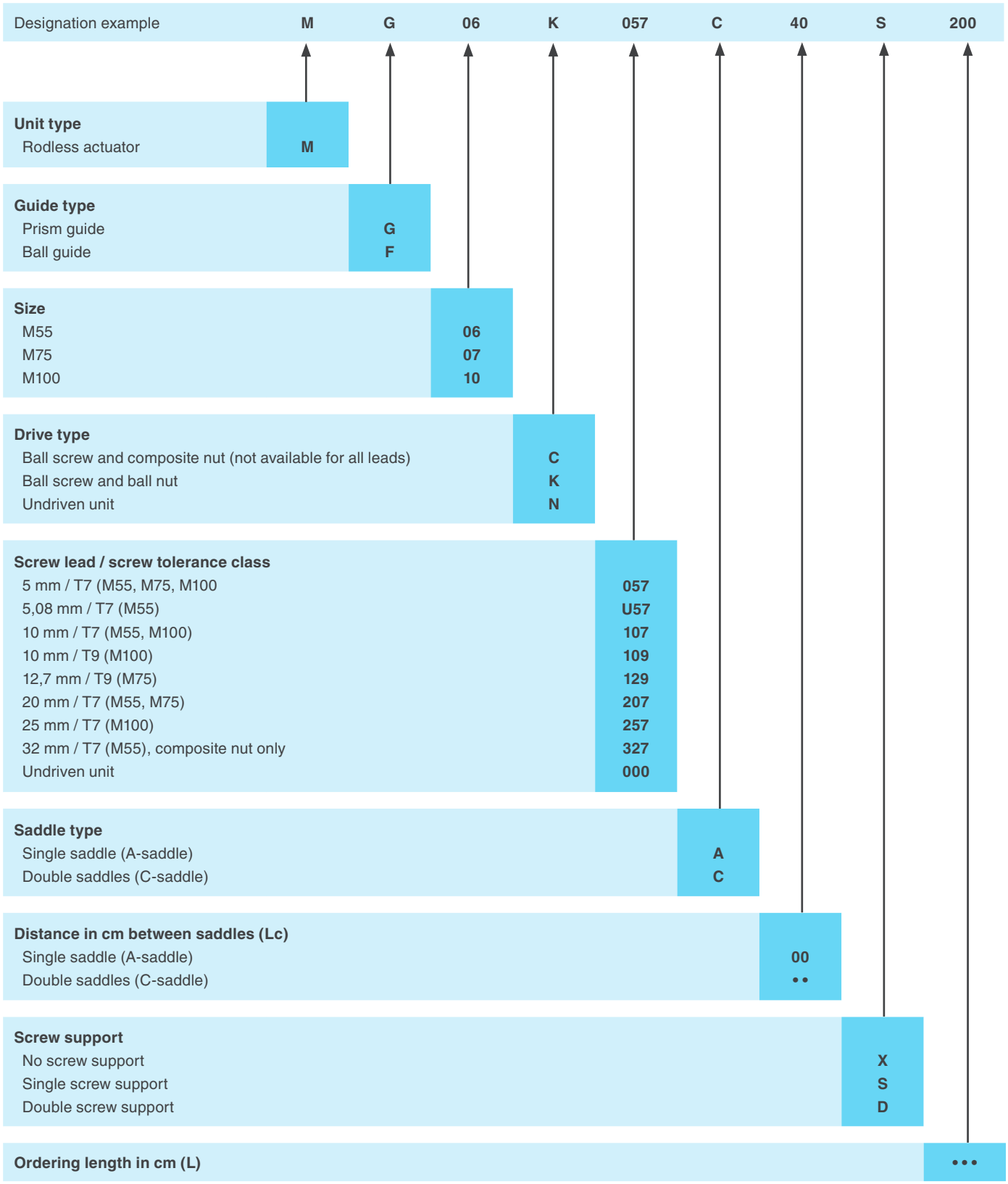


Ordering length in millimetres

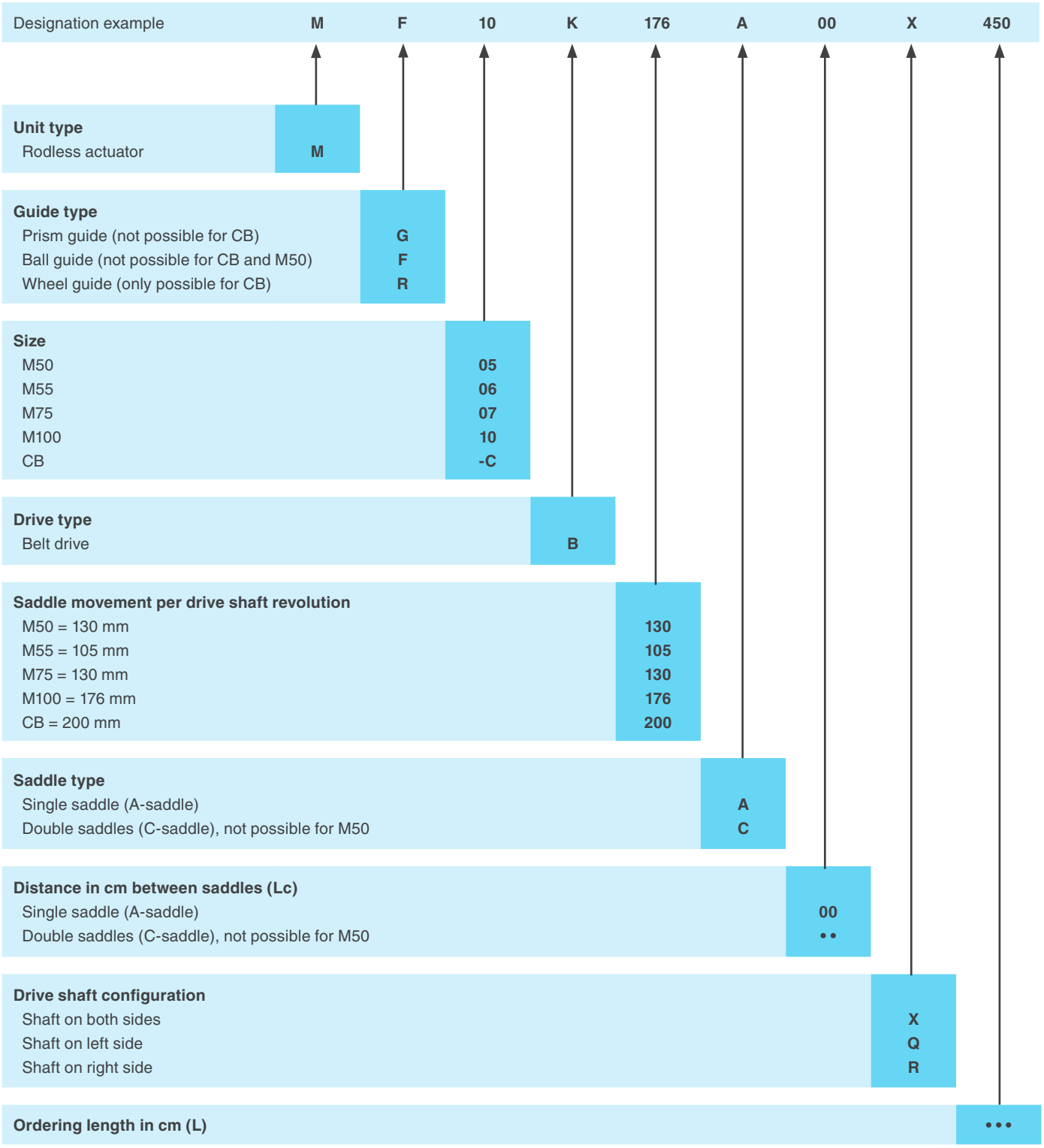


Model	Designation	Total length	Length to order
		L tot	L
M50	MGO5B	L tot = L + 22	L = S max + 270

Movopart M100, M75, M55 - screw driven units

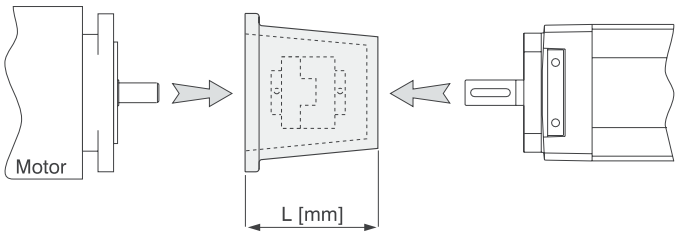


Movopart M100, M75, M55, M50 - belt driven units



Bell house flange

Bell houses are used when the motor shall drive the actuator directly without any gear in between. The bell house includes a coupling that match the selected motor/rodless actuator combination.

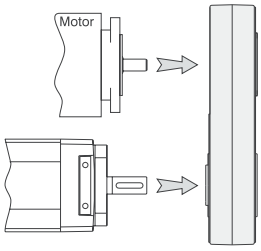


Part number table

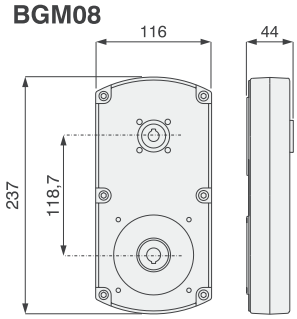
	Motor size											
	IEC 63 B14	L	IEC 71 B14	L	IEC 80 B14	L	IEC 90 B14	L	Servo 80	L	Servo 90	L
M50, M55	D390 820	64	D390 821	71					D390 822	71		
M75, M100			D390 823	83	D390 824	93	D390 825	103	D390 832	83	D390 826	93
CB			D390 827	86	D390 828	96	D390 829	106	D390 830	86	D390 831	96

Belt gear type BGM

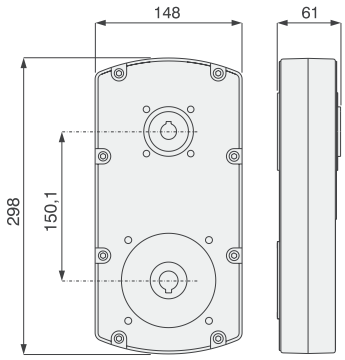
The belt gear is installed directly on to the shafts of the motor and the rodless actuator. No couplings are required. The belt gears are maintenance free.



BGM08



BGM40



Ordering keys

Example: **BGM08-** **2** **–KK** **063** **P** **07**

Gear ratio	
1,04	**1**
1,85	**2**
2,73	**3**

Motor size	
IEC 63 B14	**063**
IEC 71 B14	**071**
Servo 80	**S80**

Matching rodless actuator	
M50	**05**
M55	**06**
M75	**07**

Example: **BGM40-** **2** **–KK** **080** **P** **-C**

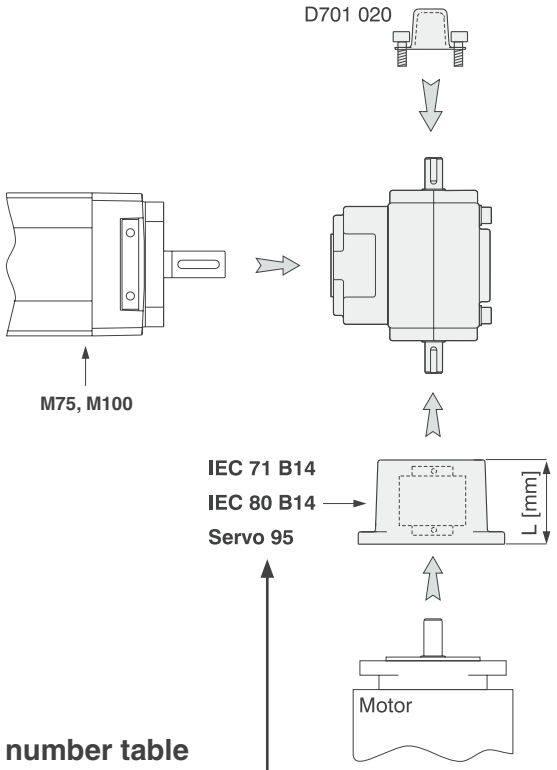
Gear ratio	
1,00	**1**
2,14	**2**
3,00	**3**

Motor size	
IEC 71 B14	**071**
IEC 80 B14	**080**
Servo 80	**S80**
Servo 95	**S95**

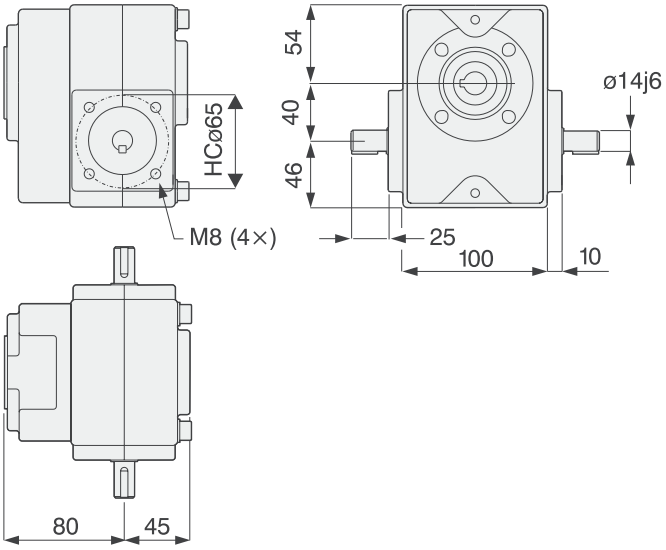
Matching rodless actuator	
M75	**07**
M100	**10**
CB	**-C**

Worm gear type TBS40

The worm gear is installed directly to the actuator while the motor has to be installed to an intermediate bell house flange which includes a matching coupling. The gear and the bell house are ordered seperately.



TBS40



Part number table for bell house

Bell house		
IEC 71 B14	**IEC 80 B14**	**Servo 95**
L = 58	L = 68	L = 78
D701 011	D701 015	D389 825

Ordering key for worm gear TBS40

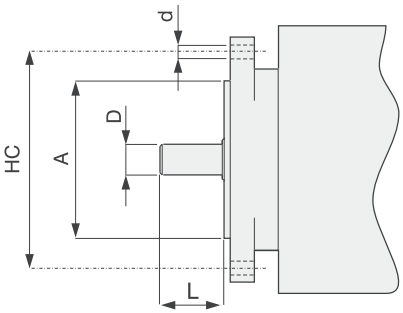
Example:	TBS40–	5,5	–216

Gear ratio	
3	**3**
5,5	**5,5**
7,5	**7,5**
10	**10**
15	**15**
20	**20**
24	**24**
30	**30**
40	**40**
48	**48**
60	**60**

Motor size table

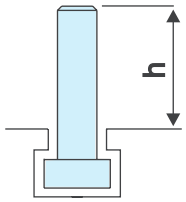
Keep in mind that heavy motors will need extra support in order not to break the flange or gear due to the load torque created.

Motor size	A	D	L	HC	d
IEC 63 B14	60	11	23	75	M5
IEC 71 B14	70	14	30	85	M6
IEC 80 B14	80	19	40	100	M6
IEC 90 B14	95	24	50	115	M8
IEC 100/112 B14	110	28	60	130	M8
Servo 80*	80	14	30	100	ø7
Servo 95*	95	19	40	115	ø9
Servo A200	130	24	50	165	ø11



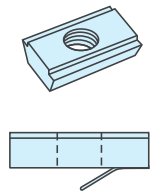
* Measures according to DIN 42950.

T-slot bolts



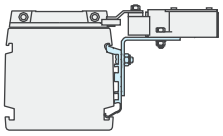
M50
M5, h = 14 D312 221

T-slot nuts

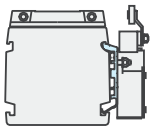


CB
M6 D900 151
M8 D900 150

Limit switch brackets*



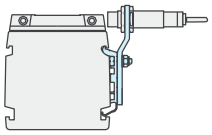
M50	M55	M75	M100
D393 035	D313 427	D312 860	D312 330



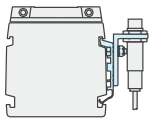
M55	M75	M100
D313 428	D312 861	D312 331

* Suitable limit switch: Telemecanique XCK-M115 (XCM-A115 for M50).

Sensor brackets

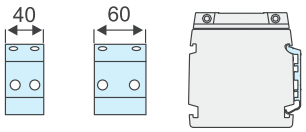


M55	M75	M100
ø 12 D313 429	ø 18 D312 862	ø 18 D312 332



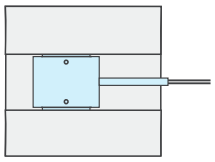
M55	M75	M100
ø 12 D313 430	ø 18 D312 863	ø 18 D312 333

Adapter plates



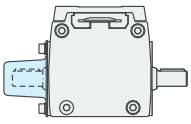
M55	M75	M100
L = 40 D313 422	L = 40 D312 746	L = 40 D312 338
L = 60 D313 423	L = 60 D312 745	L = 60 D312 337

Magnetic sensors



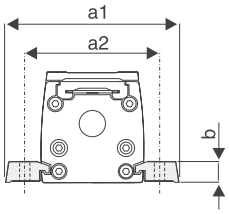
M50	
Max. power: 10 W Max. voltage: 100 Vdc Max. current: 0,5 A Lead data: 2× 0,12 mm²	
Normally open D535 070	Normally closed D535 071

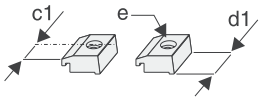
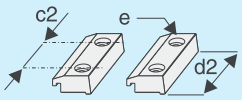
Drive shaft covers



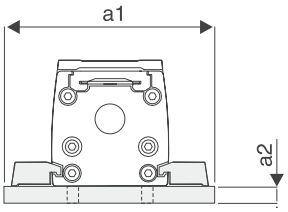
M50	M55	M75	M100
D312 201	D312 201	D700 178	D700 178

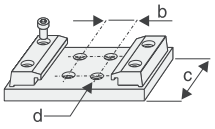
Clamps



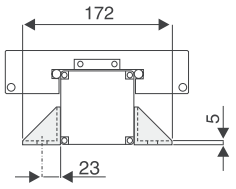
	M50	M55	M75	M100
	D312 104	D313 447	D312 756	D313 296
	–	D313 448	D312 757	D313 297
a1/a2	98/70	96/76	128,6/106,5	182/142
b	20	11	15	22
c1/c2	12,5/–	12,5/41	15/60	22,5/60
d1/d2	25/–	25/56	30/75	45/92
e	ø5,5	ø5,5	ø8,5	ø10,5

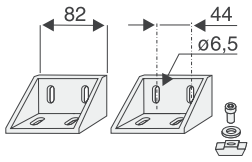
Clamps with foot plate



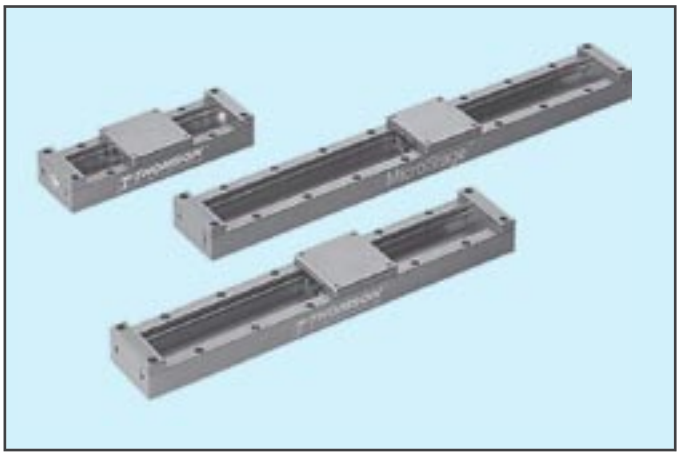
	M50	M55	M75	M100
	D312 117	D313 474	D312 718	D312 317
a1/a2	105/20	100/15	134/15	190/20
b	35	44 × 44	44 × 44	44 × 44
c	30	70	80	100
d	ø6,5	ø8,5	ø8,5	ø8,5

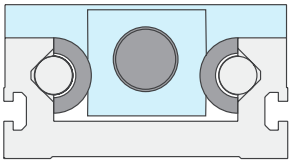
CB mounting bracket



	CB
	D320 003

Microstage

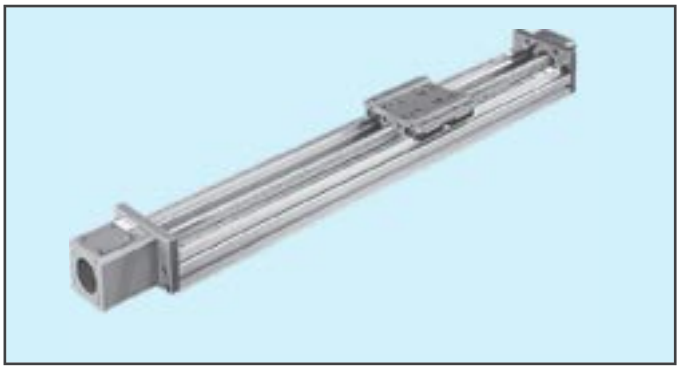


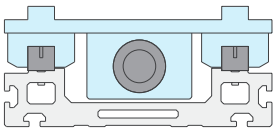


Screw drive, ball guides with round rail

- High precision
- High precision guide
- Low friction
- Low drive torque
- No stick-slip
- Play free lead screw
- Require very little space

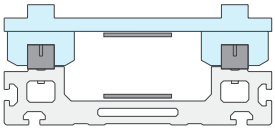
Accuslide





Screw drive, ball guides with square rail

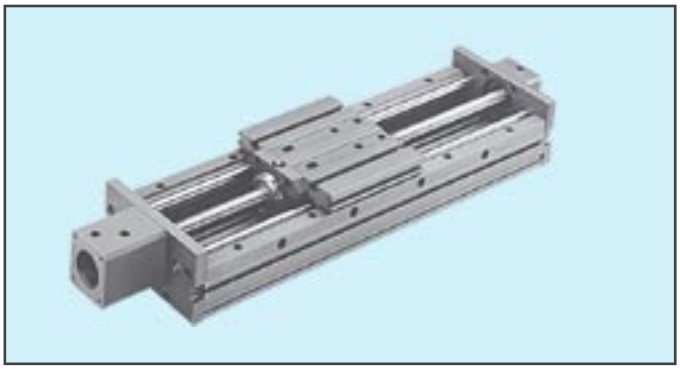
- Very high precision
- High precision guide
- Low friction
- Low drive torque
- No stick-slip
- Play free ball screw

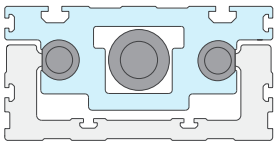


Belt drive, ball guides with square rail

- High precision
- Playfree guide
- Low friction
- Low drive torque
- No stick-slip
- High speed

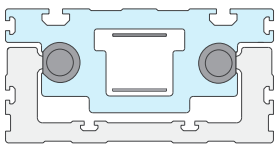
Superslide





Screw drive, ball guides with round rail

- Very high precision
- High precision guide
- Low friction
- Low drive torque
- No stick-slip
- Play free ball screw



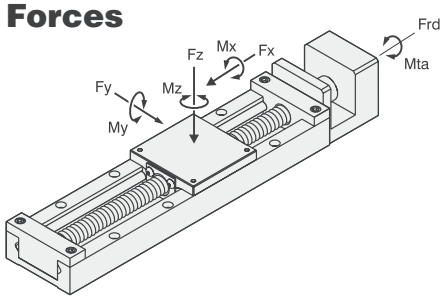
Belt drive, ball guides with round rail

- High precision
- Playfree guide
- Low friction
- Low drive torque
- No stick-slip
- High speed

Technical data

	Microstage
Designation	MS25
Max. stroke [m]	0,283
Max. speed [m/s]	0,15
Max. input speed [rpm]	3000
Temperature range [°C]	- 20 – +70
Weight [kg] MS25 – L • • – L120 MS25 – L • • – L204 MS25 – L • • – L288 MS25 – L • • – L372	 0,45 0,60 0,75 0.89
Max. load Fx [N]	20
Max. load Fy [N]	100
Max. load Fz [N]	100
Repeatability [± mm]	0,01

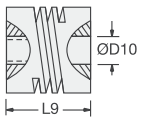
Forces



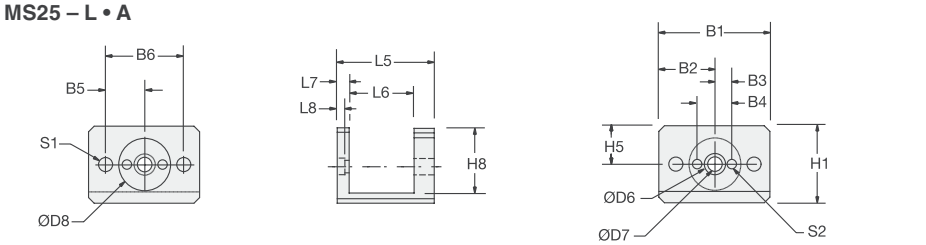
Ordering length

Stroke	Total length	Length to order
S	L tot	L
S = L - 88,5	L tot = L + L5	120, 204, 288, 372 mm

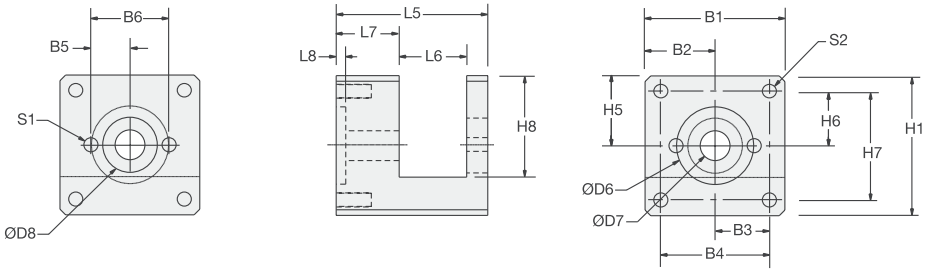
Dimensions



MS25 – L • A



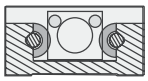
MS25 – L • B

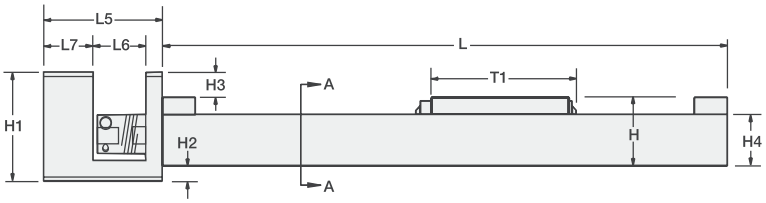


MS25 – L • A / B

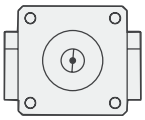
End View

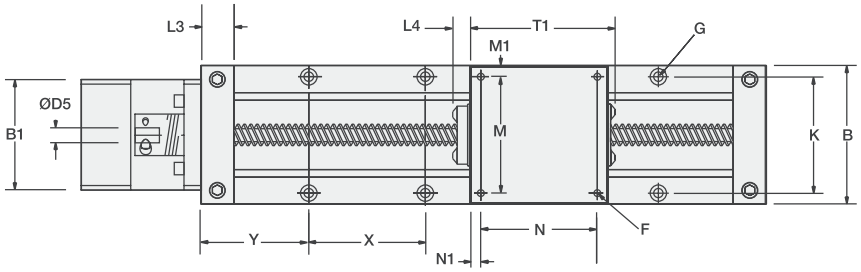
Cross Section A – A





End View of Adaptor Block*





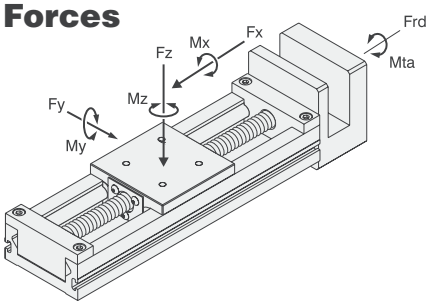
	A / B		A / B		A / B		A / B		A / B		A / B		A / B
B	50	**B6**	22,75	**F**	M3 × 0,5	**H4**	18,6	**L3**	12	**M**	42	**T1**	52,5
B1	32 / 39,9	**ØD5**	3 / 6,35	**G**	M3	**H5**	11 / 19,5	**L4**	12	**M1**	4	**X**	42
B2	16 / 19,95	**ØD6**	6,02 / 22,03	**H**	25	**H6**	– / 15,5	**L5**	27,75 / 43,25	**N**	42	**Y**	39
B3	5 / 15,5	**ØD7**	4 / 8,5	**H1**	22 / 39,9	**H7**	– / 31	**L6**	18,75 / 19,25	**N1**	4		
B4	10 / 31	**ØD8**	14,5 / 16,4	**H2**	3,25 / 5,7 *	**H8**	18,75 / 29	**L7**	3 / 18	**S1**	4,6		
B5	11,38	**ØD10**	to suit motor	**H3**	0,45 / 9,4	**K**	42	**L8**	1,7 / 2,75	**S2**	2,4 / M4		

* Adaptor block extends below the mounting surface of the profile of the unit.

Technical data

	Microstage
Designation	MS33
Max. stroke [m]	0,3
Max. speed [m/s]	0,1
Max. input speed [rpm]	3000
Temperature range [°C]	- 20 – +70
Weight [kg] MS33 – L • • – L200 MS33 – L • • – L300 MS33 – L • • – L400	 1,07 1,37 1,68
Max. load Fx [N]	45
Max. load Fy [N]	150
Max. load Fz [N]	150
Repeatability [± mm]	0,01

Forces

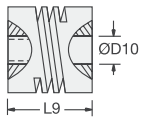


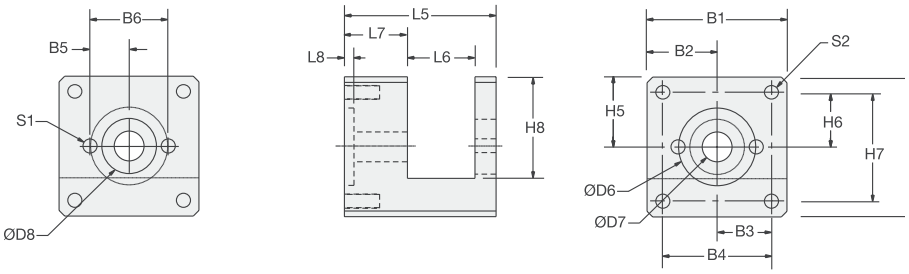
Ordering length

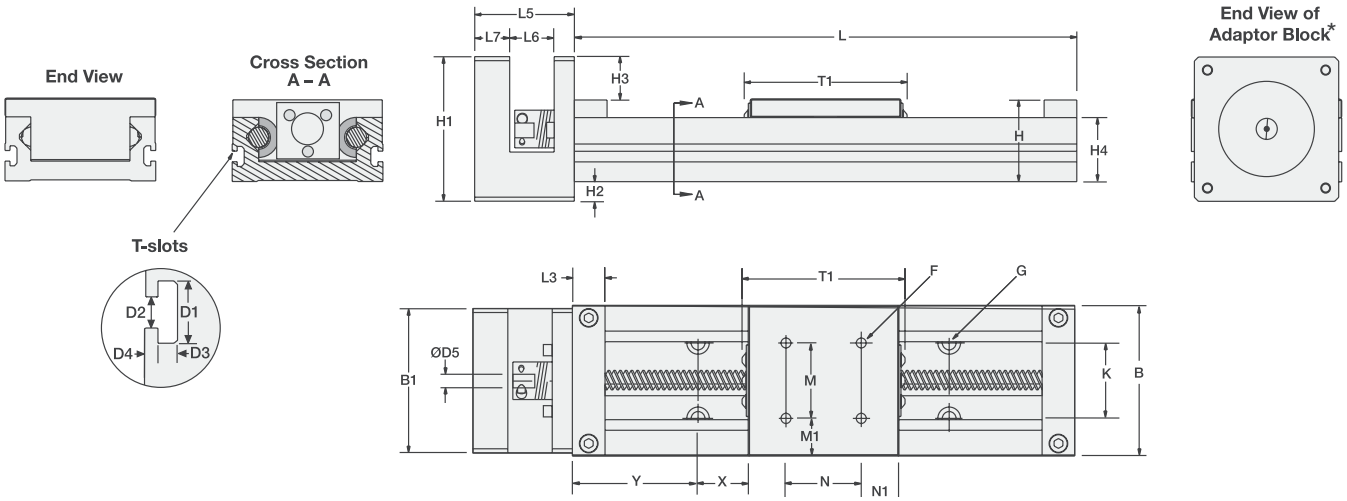
Stroke	Total length	Length to order
S	L tot	L
S = L - 100	L tot = L + L5	200, 300, 400 mm

Dimensions

MS33 – L • A / B







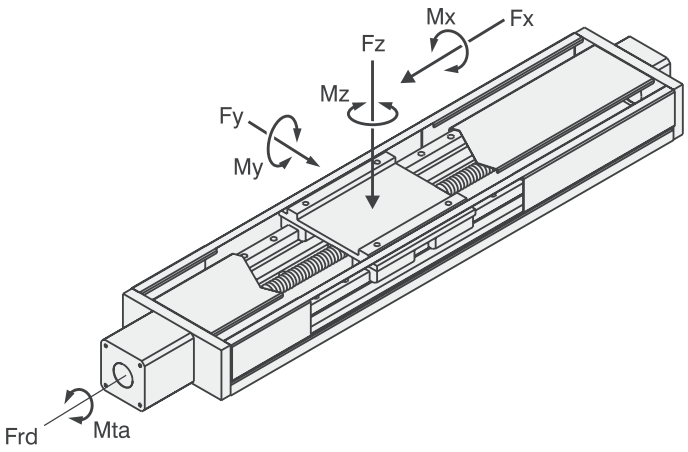
	A / B		A / B		A / B		A / B		A / B		A / B		A / B
B	60	**B6**	22,3	**ØD6**	22,03 / 38,18	**H**	33	**H6**	15,5 / 23,57	**L6**	19,25 / 17,75	**N1**	15
B1	39,9 / 57,66	**ØD1**	8	**ØD7**	8,5	**H1**	39,9 / 57,66	**H7**	31 / 47,14	**L7**	18 / 14	**S1**	M4
B2	19,95 / 28,83	**ØD2**	4,2	**ØD8**	16,4	**H2**	1,05 / 7,83 *	**H8**	29 / 38	**L8**	2,75 / 4	**S2**	M4
B3	15,5 / 23,57	**ØD3**	2,75	**ØD10**	to suit motor	**H3**	8,45 / 17,33	**K**	30	**M**	30	**T1**	65
B4	31 / 47,14	**ØD4**	2	**F**	M5 × 0,8	**H4**	25,5	**L3**	13	**M1**	15	**X**	100
B5	11,15	**ØD5**	6,35	**G**	M5	**H5**	19,95 / 28,83	**L5**	43,25 / 39,75	**N**	30	**Y**	50

* Adaptor block extends below the mounting surface of the profile of the unit.

Technical data

	Accuslide	
Designation	2HBE10	2HBE20
Max. stroke [m]	0,85	2,8
Max. speed [m/s]	0,5	1,25
Max. input speed [rpm]	3000	3000
Temperature range [°C]	-20 – +70	- 20 – +70
Saddle weight [kg]	0,4	2,7
Max. load Fx [N]	2000	4500
Max. load Fy [N]	4000	15 000
Max. load Fz [N]	8000	30 000
Max. load torque Mx [Nm]	200	1900
Max. load torque My [Nm]	290	2450
Max. load torque Mz [Nm]	100	950
Screw lead [mm/rev.]	5 / 10	5 / 10 / 25
Repeatability [± mm]	0,005	0,005
Accuracy over 300 mm of travel [mm]	0,025	0,025

Forces



Ordering length in millimetres

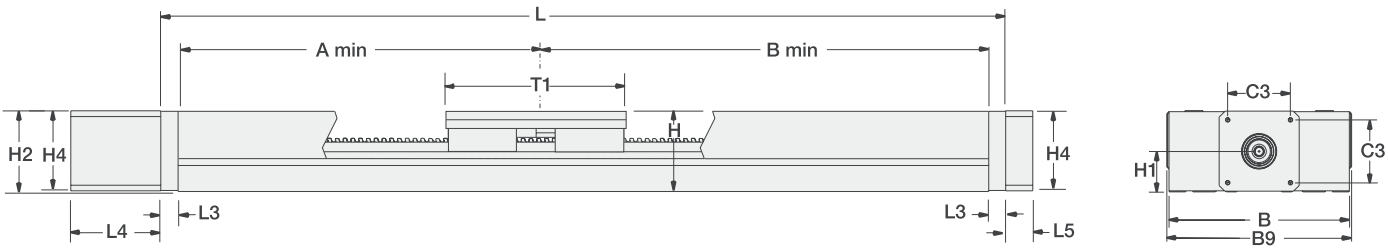
Model	Designation	Total length	Length to order
		L tot	L
Accuslide	2HBE10	L tot = L + 96,5	L = stroke + 125
Accuslide	2HBE20	L tot = L + 145	L = stroke + 240

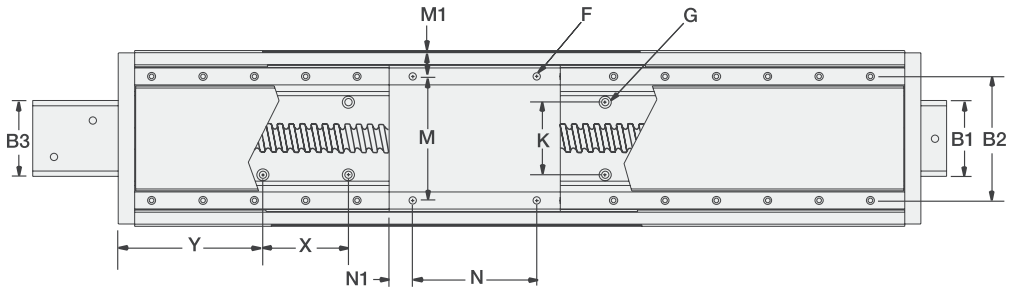
Standard ordering lengths

Model	Designation	Standard lengths*
Accuslide	2HBE10	150 – 975 mm in increments of 75 mm
Accuslide	2HBE20	325 – 2965 mm in increments of 120 mm

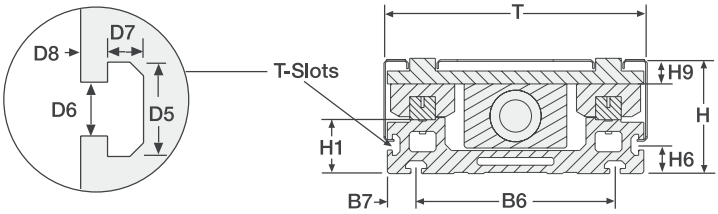
* Custom lengths are available but require longer delivery.

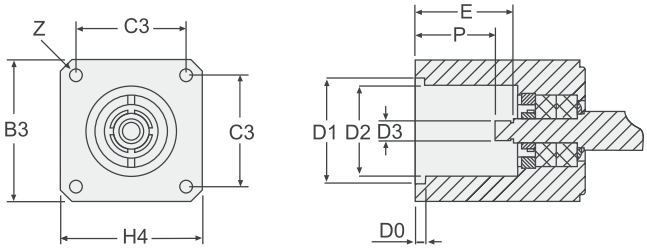
Dimensions





Drawing show the unit with option shrouds.





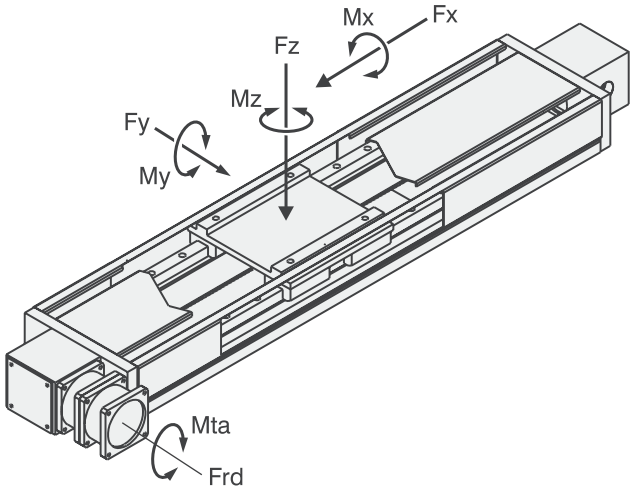
Model	Designation	A min.	B min.
Accuslide	2HBE10	60	50
Accuslide	2HBE20	110	100

	2HBE10	2HBE20		2HBE10	2HBE20		2HBE10	2HBE20		2HBE10	2HBE20		2HBE10	2HBE20
B	100	200	**D2**	38,2	50,8	**G**	M5	M8	**L3**	12,5	19	**T**	100	200
B1	60	88	**D3**	8	14	**H**	60	90	**L4**	70	105	**T1**	100	200
B2	70	145	**D5**	10,5	16,5	**H1**	31	45	**L5**	26,6	43	**X**	75	120
B3	60	88	**D6**	6	8,1	**H2**	61	89	**M**	70	145	**Y**	37,5	42,5
B9	105	205	**D7**	3	6	**H4**	60	88	**M1**	15	27,5	**Z**	M5	M5
C3	47,15	69,6	**D8**	2,5	4	**H6**	15	22,5	**N**	70	145		NEMA23	NEMA34
D0	–	5	**E**	42	66	**H9**	13	19	**N1**	15	27,5			
D1	38,2	73,1	**F**	M5	M10	**K**	35	35	**P**	34	52			

Technical data

	Accuslide	
Designation	2HEE10	2HEE20
Max. stroke [m]	0,85	2,8
Max. speed [m/s]	3	3
Temperature range [°C]	- 20 – +70	- 20 – +70
Saddle weight [kg]	0,4	2,7
Max. load Fx [N]	485	1488
Max. load Fy [N]	4000	15 000
Max. load Fz [N]	8000	30 000
Max. load torque Mx [Nm]	200	1900
Max. load torque My [Nm]	290	2450
Max. load torque Mz [Nm]	100	950
Move [mm/rev.]	84	150
Belt weight [kg/m belt]	0,04	0,18
Repeatability [± mm]	0,05	0,05
Accuracy over 300 mm of travel [mm]	0,2	0,2

Forces



Ordering length in millimetres

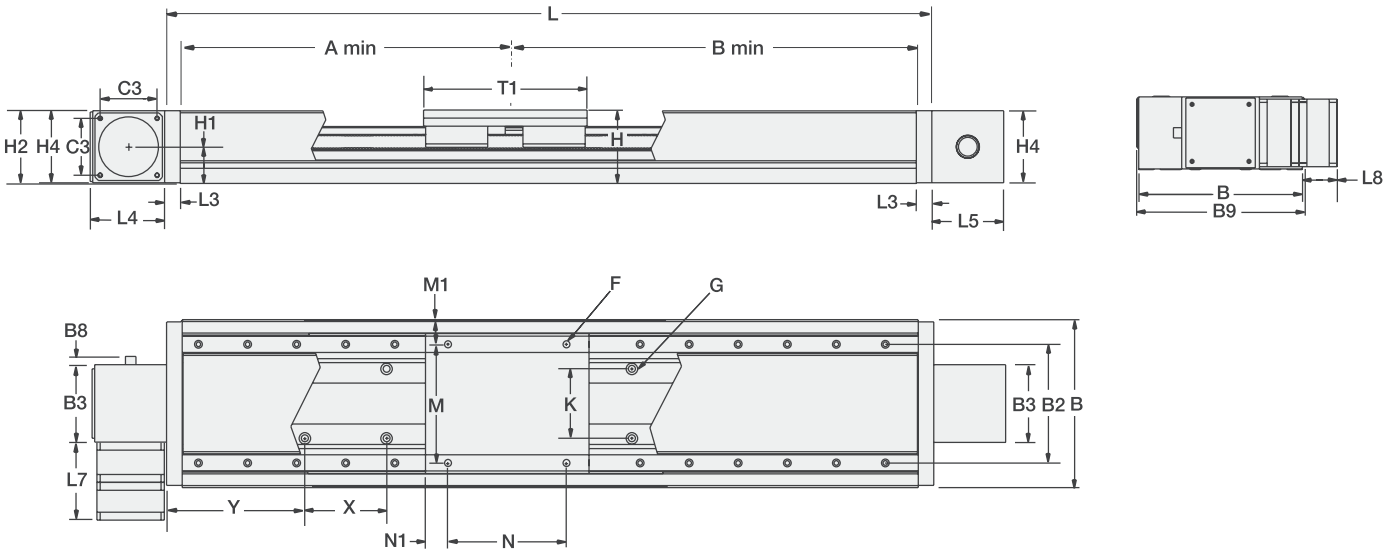
Model	Designation	Total length	Length to order
		L tot	L
Accuslide	2HEE10	L tot = L + 123	L = stroke + 125
Accuslide	2HEE20	L tot = L + 203	L = stroke + 240

Standard ordering lengths

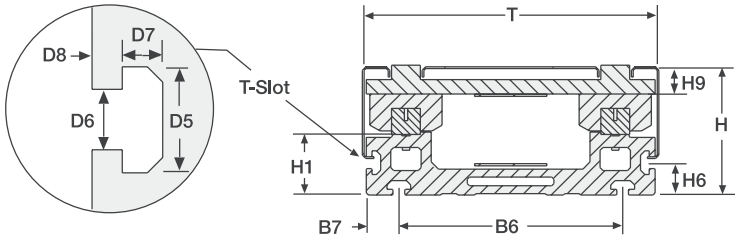
Model	Designation	Standard lengths*
Accuslide	2HEE10	150 – 975 mm in increments of 75 mm
Accuslide	2HEE20	325 – 2965 mm in increments of 120 mm

* Custom lengths are available but require longer delivery.

Dimensions



Drawing show the unit with option shrouds.



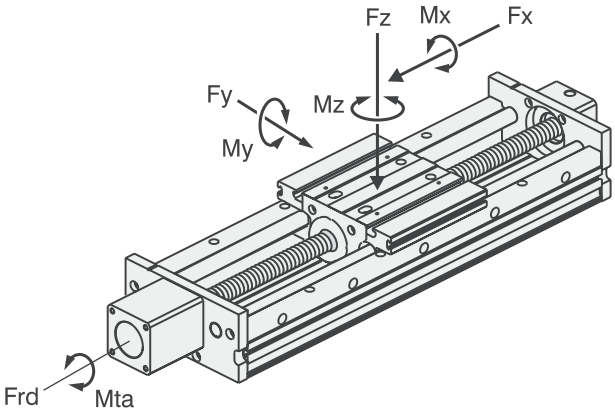
Model	Designation	A min.	B min.
Accuslide	2HEE10	50	50
Accuslide	2HEE20	100	100

	2HEE10	2HEE20		2HEE10	2HEE20		2HEE10	2HEE20		2HEE10	2HEE20		2HEE10	2HEE20
B	100	200	**C3**	47,15	69,5	**H**	60	90	**L3**	12,5	19	**N1**	15	27,5
B2	70	145	**D5**	10,5	16,5	**H1**	31	45	**L4**	61,5	101,5	**T**	100	200
B3	65	95	**D6**	6	8,1	**H2**	61	89	**L5**	61,5	101,5	**T1**	100	200
B6	70	155	**D7**	3	6	**H4**	60	88	**L7**	71,6	95	**X**	75	120
B7	15	22,5	**D8**	2,5	4	**H6**	15	22,5	**M**	70	145	**Y**	37,5	42,5
B8	6,6	10	**F**	M5	M10	**H9**	13	19	**M1**	15	27,5			
B9	105	205	**G**	M5	M8	**K**	35	85	**N**	70	145			

Technical data

	Superslide	
Designation	2RBE12	2RBE16
Max. stroke [m]	1,9	2,8
Max. speed [m/s]	0,5	1
Max. input speed [rpm]	3000	3000
Temperature range [°C]	-20 – +70	-20 – +70
Saddle weight [kg]	0,9	1,7
Max. load Fx [N]	2000	3000
Max. load Fy [N]	800	2100
Max. load Fz [N]	1600	4300
Max. load torque Mx [Nm]	70	250
Max. load torque My [Nm]	60	200
Max. load torque Mz [Nm]	35	125
Screw lead [mm/rev.]	5 / 10	5 / 10 / 20
Repeatability [± mm]	0,005	0,005
Accuracy over 300 mm of travel [mm]	0,025	0,025

Forces



Ordering length in millimetres

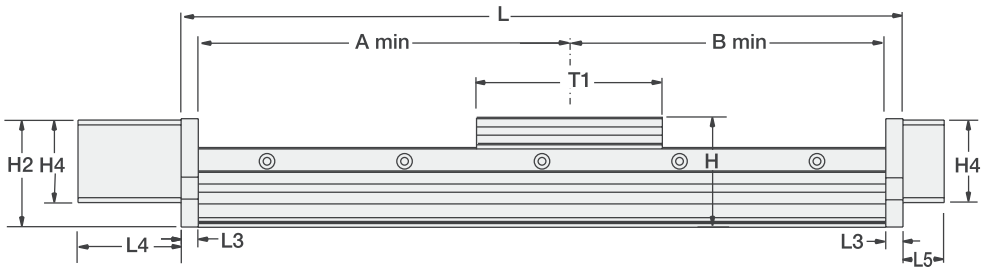
Model	Designation	Total length	Length to order
		L tot	L
Superslide	2RBE12	L tot = L + 96,5	L = stroke + 149
Superslide	2RBE16	L tot = L + 106,5	L = stroke + 185

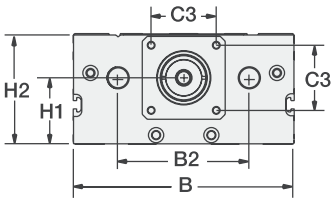
Standard ordering lengths

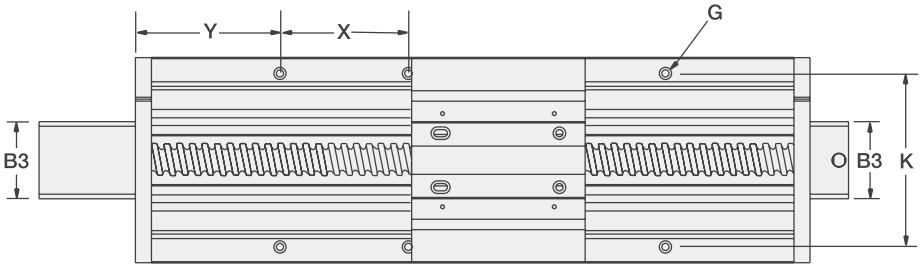
Model	Designation	Standard lengths*
Superslide	2RBE12	225 – 2100 mm in increments of 75 mm
Superslide	2RBE16	300 – 3000 mm in increments of 100 mm

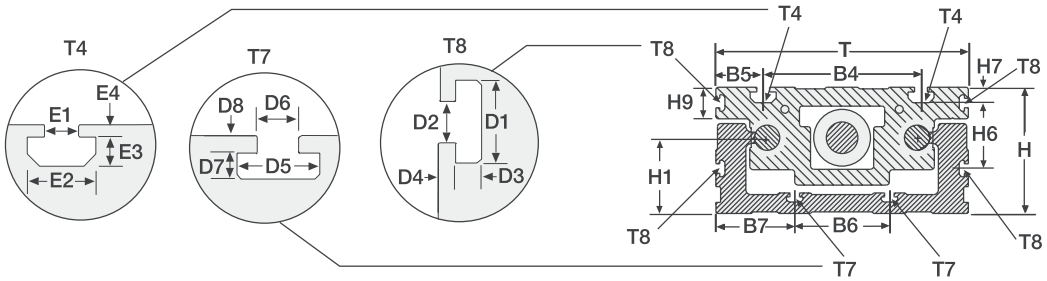
* Custom lengths are available but require longer delivery.

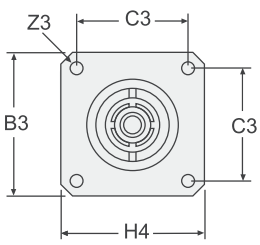
Dimensions

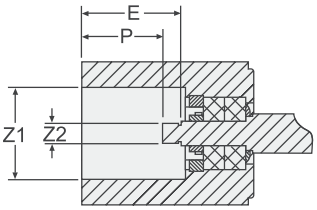












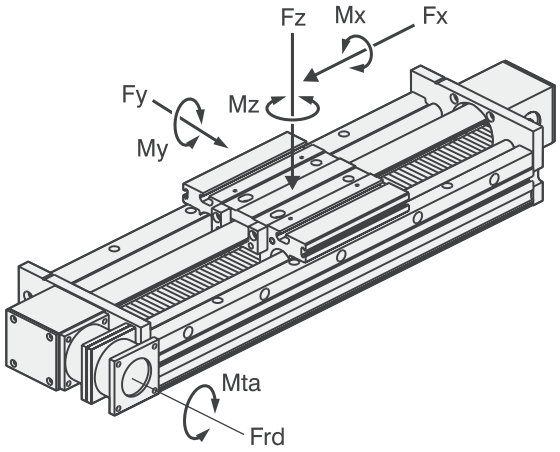
Model	Designation	A min.	B min.
Superslide	2RBE12	75	75
Superslide	2RBE16	90	90

	2RBE12	2RBE16		2RBE12	2RBE16		2RBE12	2RBE16		2RBE12	2RBE16		2RBE12	2RBE16
B	130	160	**D2**	4,2	6	**E2**	13	16,5	**H7**	7	10	**X**	75	100
B2	75	95	**D3**	2,75	3,5	**E3**	4	6,8	**H9**	14	20	**Y**	75	100
B3	60	60	**D4**	2	2,5	**E4**	3	3	**K**	110	135	**Z1**	38,2	38,2
B4	75	100	**D5**	8	10,5	**G**	M4	M5	**L3**	9,5	12,5	**Z2**	8	10
B5	27,5	30	**D6**	4,2	6	**H**	65	80	**L4**	70	75	**Z3**	M5	M5
B6	65	80	**D7**	2,75	3,5	**H1**	40	48	**L5**	26,5	31,5			
B7	32,5	40	**D8**	2	2,5	**H2**	75	79	**P**	34	32,5			
C3	47,15	47,15	**E**	42	42,5	**H4**	60	60	**T**	130	160			
D1	8	10,5	**E1**	7,5	8,1	**H6**	35	41,5	**T1**	130	160			

Technical data

	Superslide	
Designation	2REE12	2REE16
Max. stroke [m]	2,8	2,8
Max. speed [m/s]	3	3
Temperature range [°C]	-20 – +70	-20 – +70
Saddle weight [kg]	0,9	1,7
Max. load Fx [N]	485	1488
Max. load Fy [N]	800	2100
Max. load Fz [N]	1600	4300
Max. load torque Mx [Nm]	70	250
Max. load torque My [Nm]	60	200
Max. load torque Mz [Nm]	35	125
Move [mm/rev.]	84	110
Belt weight [kg/m belt]	0,04	0,11
Repeatability [± mm]	0,05	0,05
Accuracy over 300 mm of travel [mm]	0,2	0,2

Forces



Ordering length in millimetres

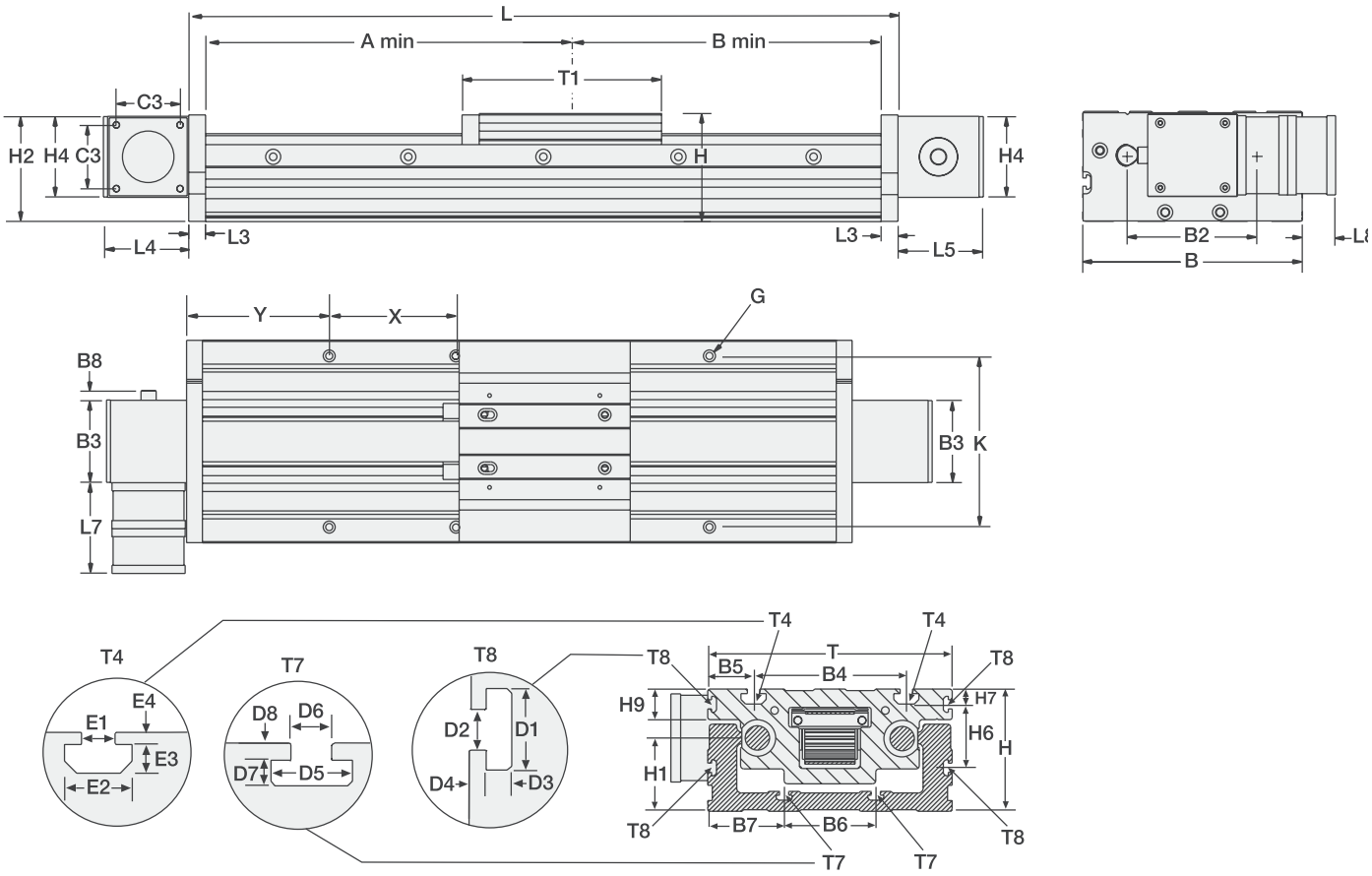
Model	Designation	Total length	Length to order
		L tot	L
Superslide	2REE12	L tot = L + 123	L = stroke + 149
Superslide	2REE16	L tot = L + 123	L = stroke + 185

Standard ordering lengths

Model	Designation	Standard lengths*
Superslide	2REE12	300 – 3000 mm in increments of 75 mm
Superslide	2REE16	300 – 3000 mm in increments of 100 mm

* Custom lengths are available but require longer delivery.

Dimensions



Model	Designation	A min.	B min.
Superslide	2REE12	65	65
Superslide	2REE16	80	80

	2REE12	2REE16		2REE12	2REE16		2REE12	2REE16		2REE12	2REE16		2REE12	2REE16
B	130	160	**D1**	8	10,5	**E1**	7,5	8,1	**H4**	60	60	**L7**	71,6	71,6
B2	75	95	**D2**	4,2	6	**E2**	13	16,5	**H6**	35	41,5	**T**	130	160
B3	65	65	**D3**	2,75	3,5	**E3**	4	6,8	**H7**	7	10	**T1**	130	160
B4	75	100	**D4**	2	2,5	**E4**	3	3	**H9**	14	20	**X**	75	100
B5	27,5	30	**D5**	8	10,5	**G**	M4	M5	**K**	110	135	**Y**	75	100
B6	65	80	**D6**	4,2	6	**H**	65	80	**L3**	9,5	12,5			
B7	32,5	40	**D7**	2,75	3,5	**H1**	40	48	**L4**	61,5	61,5			
C3	47,15	47,15	**D8**	2	2,5	**H2**	75	79	**L5**	61,5	61,5			

Microstage MS25

Designation example	MS	25	–LD	A	–L288

Unit type
Microstage — **MS**

Size
25 — **25**

Screw lead / screw diameter

0,025" / 0,250"	**–LA**
0,050" / 0,250"	**–LB**
0,062" / 0,250"	**–LC**
0,200" / 0,250"	**–LD**
0,250" / 0,250"	**–LE**
0,500" / 0,250"	**–LF**
1,000" / 0,250"	**–LG**
1,5 mm / 0,250"	**–LH**
2,0 mm / 0,250"	**–LI**
3,0 mm / 0,250"	**–LJ**

Type of motor mount block and coupling

Type A (only for size 22 DC gearmotor)	**A**
Type B (only for size 17 stepper motor)	**B**

Ordering length (L)

120 mm	**–L120**
204 mm	**–L204**
288 mm	**–L288**
372 mm	**–L372**

Microstage MS33

Designation example	MS	33	–LH	B	–L200

Unit type
Microstage — **MS**

Size
33 — **33**

Screw lead / screw diameter

0,0625" / 0,375"	**–LA**
0,100" / 0,375"	**–LB**
0,125" / 0,375"	**–LC**
0,200" / 0,375"	**–LD**
0,250" / 0,375"	**–LE**
0,375" / 0,375"	**–LF**
0,500" / 0,375"	**–LG**
1,000" / 0,375"	**–LH**
1,200" / 0,375"	**–LI**
2,0 mm / 0,375"	**–LJ**

Type of motor mount block and coupling

Type A (only for size 17 servo motor)	**A**
Type B (only for size NEMA 23 motor)	**B**

Ordering length (L)

200 mm	**–L200**
300 mm	**–L300**
400 mm	**–L400**

Accuslide, Superslide - screw driven units

Designation example	2H	B	E	20	–YP	K	–	N	B	L0525

Unit type
- Accuslide — **2H**
- Superslide — **2R**

Drive type
- Ball screw — **B**
- Non driven — **A**

Engineering unit and origin
- Metric version produced in the EU — **E**

Size
- Accuslide profile width 100 mm, ball guide size 10 — **10**
- Accuslide profile width 200 mm, ball guide size 20 — **20**
- Superslide profile width 130 mm, ball bushing diam. 12 — **12**
- Superslide profile width 160 mm, ball bushing diam. 16 — **16**

Bearing block, type of support and carriage type
- All 2HB and 2HA models — **–YP**
- All 2RB and 2RA models — **–DM**

Screw diameter / screw lead
- 16 mm / 5 mm (only possible for 2HBE10 and 2RBE12) — **G**
- 16 mm / 10 mm (only possible for 2HBE10 and 2RBE12) — **H**
- 20 mm / 5 mm (only possible for 2RBE16) — **I**
- 20 mm / 10 mm (only possible for 2RBE16) — **J**
- 20 mm / 20 mm (only possible for 2RBE16) — **K**
- 25 mm / 5 mm (only possible for 2HBE20) — **L**
- 25 mm / 10 mm (only possible for 2HBE20) — **M**
- 25 mm / 25 mm (only possible for 2HBE20) — **N**
- For non driven units — **W**

Hyphen — **–**

Drive shaft configuration
- NEMA configuration — **N**
- For non driven units — **W**

Options
- None — **–**
- Bellows (bellows reduce the stroke by app. 28 %). — **B**
- Shrouds (only possible for 2HB and 2HA) — **S**

Ordering length in mm (L) (for available standard lengths, see Standard order length tables on the product data pages). — **L ••••**

Accuslide, Superslide - belt driven units

Designation example	2H	E	E	20	–ZP	X	–	Q	–	L1405

Unit type
- Accuslide: **2H**
- Superslide: **2R**

Drive type
- Belt: **E**

Engineering unit and origin
- Metric version produced in the EU: **E**

Size
- Accuslide profile width 100 mm, ball guide size 10: **10**
- Accuslide profile width 200 mm, ball guide size 20: **20**
- Superslide profile width 130 mm, ball bushing diam. 12: **12**
- Superslide profile width 160 mm, ball bushing diam. 16: **16**

Bearing block, type of support and carriage type
- All 2HE models: **–ZP**
- All 2RE models: **–EM**

Gear head type / gear ratio
- Without gear head / ratio 1:1 (standard for EU produced units): **X**
- Micron gear NEMA 23 / 1:1 (only possible for 2HEE10, 2REE12 and 2REE16)*: **A**
- Micron gear NEMA 23 / 3:1 (only possible for 2HEE10, 2REE12 and 2REE16)*: **B**
- Micron gear NEMA 23 / 5:1 (only possible for 2HEE10, 2REE12 and 2REE16)*: **C**
- Micron gear NEMA 23 / 10:1 (only possible for 2HEE10, 2REE12 and 2REE16)*: **D**
- Micron gear NEMA 34 / 1:1 (only possible for 2HEE20)*: **E**
- Micron gear NEMA 34 / 3:1 (only possible for 2HEE20)*: **F**
- Micron gear NEMA 34 / 5:1 (only possible for 2HEE20)*: **G**
- Micron gear NEMA 34 / 10:1 (only possible for 2HEE20)*: **H**

Hyphen: **–**

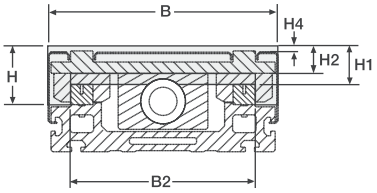
Drive shaft configuration
- Shaft on left side: **Q**
- Shaft on right side: **R**

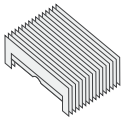
Options
- None: **–**
- Bellows (bellows reduce the stroke by app. 28 %).: **B**
- Shrouds (only possible for 2HE): **S**

Ordering length in mm (L) (for available standard lengths, see Standard order length tables on the product data pages). **L••••**

* Please specify your motor when ordering a unit equipped with Micron gear.

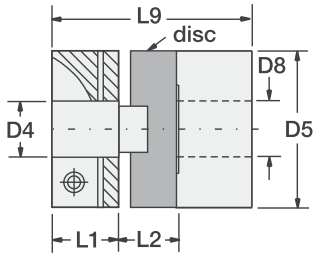
Protective bellows for Accuslide units*



	2H•E10	2H•E20
	BEL-2H-10	BEL-2H-20
B	103	199
B2	81	167
H	26	48
H1	11	30
H2	10	15
H4	0	5

* Belows normally comes assembled from the factory and is then ordered by stating the proper designation code at the order of the unit. If ordering belows separately, please state above part number and the lenght (L) of the unit to get correct lenght of the belows. Keep in mind that belows reduce the available stroke by app. 28 %.

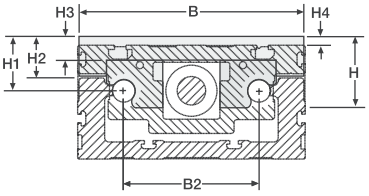
Aluminium coupling with clamp attachment and Acetal disc (Oldham type)

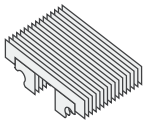


Couplings used to mount NEMA frame size motors to metric Accuslide and Superslide units.

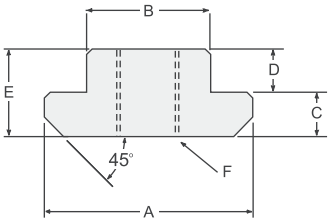
p/n	MCM-OLD-08-23	MCM-OLD-10-23	MCM-OLD-14-34
D5	25,4	25,4	41,3
D4	6,35	6,35	9,53
D8	8	10	14
L1	11,6	11,6	15,0
L2	9,2	9,2	18,0
L9	32,4	32,4	48,0
Max. torque [Nm]	3,4	3,4	9,0

Protective bellows for Superslide units*



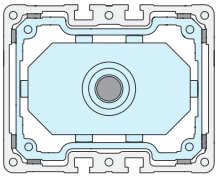
	2R•E12	2R•E16
	BEL-2R-12	BEL-2R-16
B	128	158
B2	75	95
H	48	52
H1	37	42,6
H2	29	30
H3	15	15
H4	12	10

T-nuts



For unit type	2R•E12 2H•E10 2H•E20	2R•E16 2H•E10	2R•E12 2R•E16	2R•E12 2R•E16	2R•E16 2H•E20
p/n	D16965-A-01	D16965-A-02-M4	D16965-A-03-M4	D16965-A-03-M5	D18063-A-04-M6
A	7	9,5	12	12	16,5
B	4	5,5	7	7	7,9
C	1,75	2,25	2,5	2,5	4,8
D	1,25	1,75	2,5	2,5	1,2
E	3	4	5	5	6
F	M3	M4	M4	M5	M6

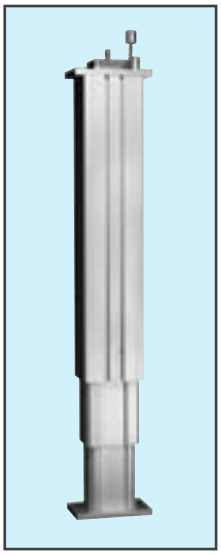
MovoZ Z2

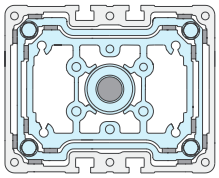


Screw drive, sliding guide

- Telescopic movement (double profiles)
- Can be installed in any desired direction
- Built in end of stroke limit switches
- Short retracted length
- High load
- High side load capacity
- Space-saving
- High torsion strength

MovoZ Z3

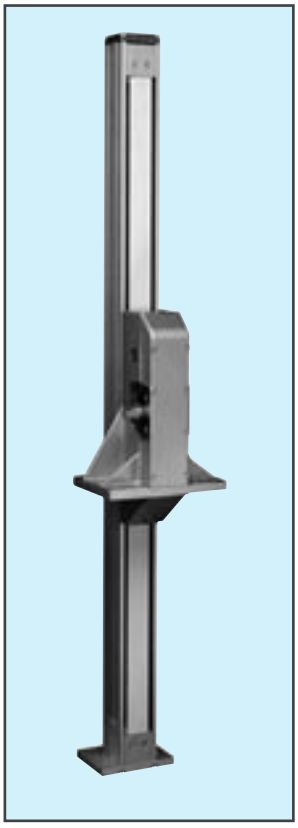


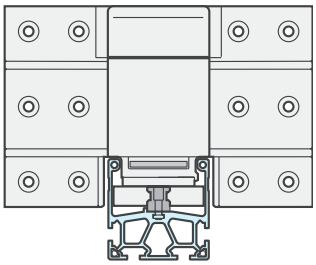


Screw drive, sliding guide

- Telescopic movement (triple profiles)
- Only for lifting applications
- Very short retracted length
- High load
- High side load capacity
- Space-saving
- High torsion strength

MovoZ ZB





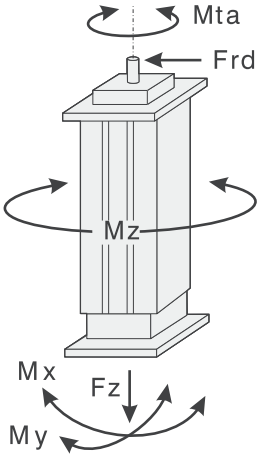
Belt drive, ball guide

- Movement along the Z-axis
- High side load capacity
- High speed
- Low friction
- Silent
- No stick-slip
- Space-saving

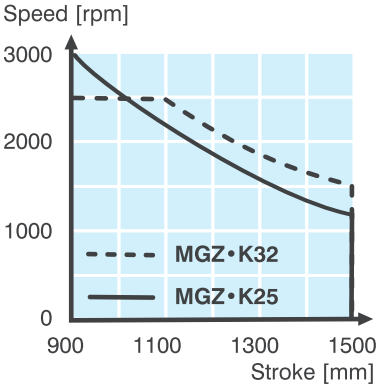
Technical data

	Z2		
Designation	MGZ2K2510	MGZ2K2525	MGZ2K3220
Max. stroke Smax [m]	1,5	1,5	1,5
Max. length Lmax [m]	4000	4000	4000
Max. speed [m/s]	0,5	1	1
Max. input speed [rpm]	3000	2400	3000
Temperature range [°C]	-20 – +70	-20 – +70	-20 – +70
Weight [kg] (Lmin in cm)	9,5 + 0,25 × Lmin	9,5 + 0,25 × Lmin	13 + 0,28 × Lmin
Max. load Fz [N]	5000	5000	7500
Max. load torque Mx [Nm]	700	700	700
Max. load torque My [Nm]	700	700	700
Max. load torque Mz [Nm]	330	330	330
Max. tourqe Mta [Nm]	45	45	93
Max. force Frd [N]	1000	1000	1200
Screw diameter [mm]	25	25	32
Screw lead [mm/rev.]	10	25	20
Repeatability [± mm]	0,1	0,1	0,1
Resolution [mm]	0,1	0,1	0,1

Forces



Critical speed

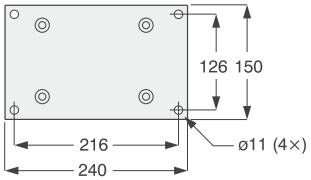


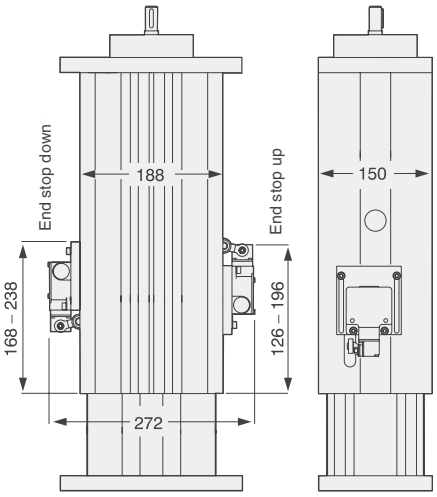
Ordering length in millimetres

		Min. retracted length	Max. extended length
Z2	MGZ2K	Lmin = Smax + 380 + Lx*	Lmax = L min. + Smax

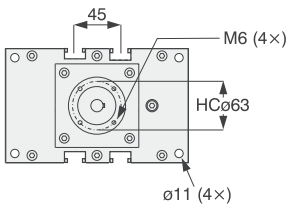
* Lx = optional extra length which makes the unit longer but does not add to the stroke.
** Smax = maximun stroke between the mechanical stops ot the unit (theoretical stroke). Safe stroke is normally 100 mm shorter (practical stroke).

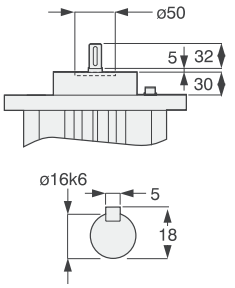
Dimensions



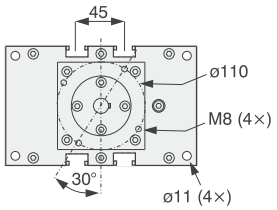


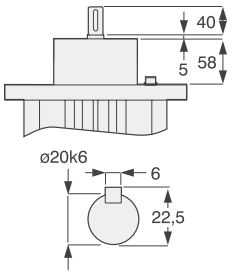
MGZ2K2510(25)



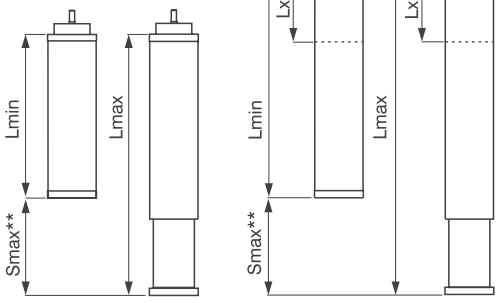


MGZ2K3220





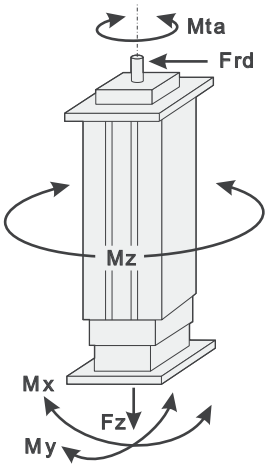
Standard version **Elongated version**



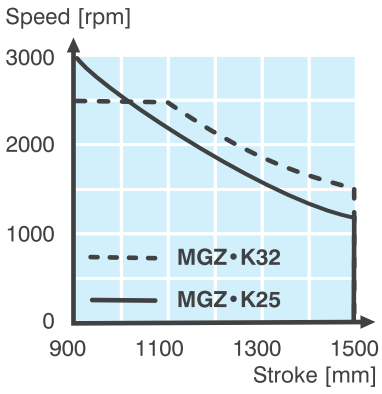
Technical data

	Z3		
Designation	MGZ3K2510	MGZ3K2525	MGZ3K3220
Max. stroke Smax [m]	1,5	1,5	1,5
Max. length Lmax [m]	4000	4000	4000
Max. speed [m/s]	0,5	1	1
Max. input speed [rpm]	3000	2400	3000
Temperature range [°C]	-20 – +70	-20 – +70	-20 – +70
Weight [kg] (Lmin in cm)	14 + 0,42 × Lmin	14 + 0,42 × Lmin	15 + 0,45 × Lmin
Max. load Fz [N]	5000	5000	7500
Max. load torque Mx [Nm]	2000	2000	2000
Max. load torque My [Nm]	2000	2000	2000
Max. load torque Mz [Nm]	330	330	330
Max. tourqe Mta [Nm]	45	45	93
Max. force Frd [N]	1000	1000	1200
Screw diameter [mm]	25	25	32
Screw lead [mm/rev.]	10	25	20
Repeatability [± mm]	0,1	0,1	0,1
Resolution [mm]	0,1	0,1	0,1

Forces



Critical speed

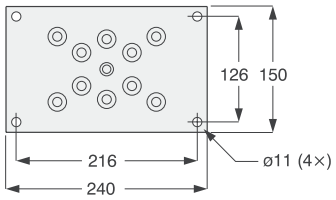


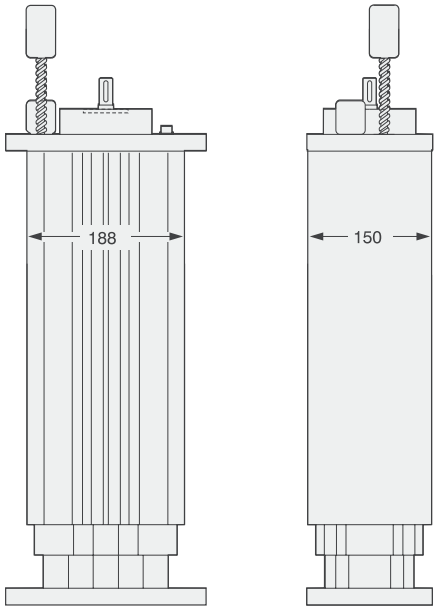
Ordering length in millimetres

		Min. retracted length	Max. extended length
Z3	MGZ3K	Lmin = Smax + Lx* + 170	Lmax = 2 × Smax + Lx* + 170

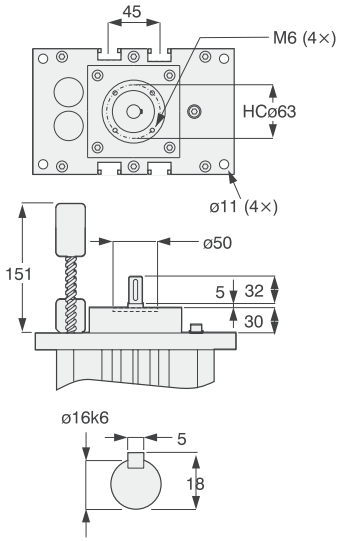
* Lx = optional extra length which makes the unit longer but does not add to the stroke.
** Smax = maximun stroke between the mechanical stops ot the unit (theoretical stroke). Safe stroke is normally 100 mm shorter (practical stroke).

Dimensions

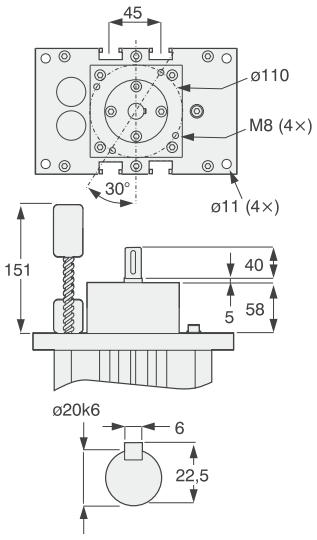




MGZ3K2510(25)

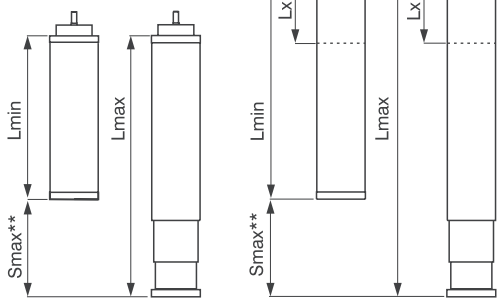


MGZ3K3220



Standard version

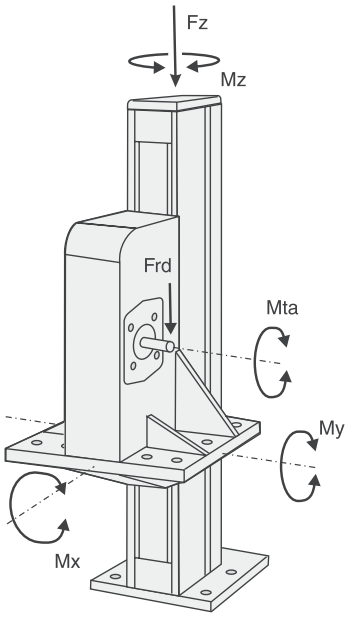
Elongated version



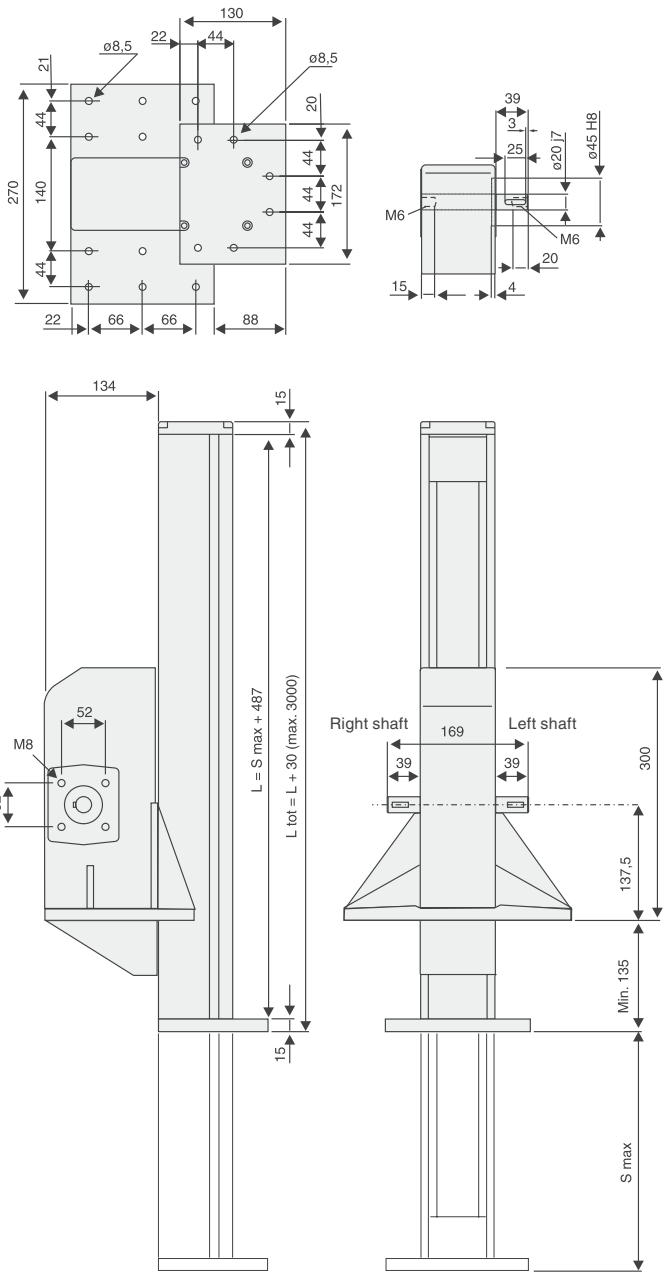
Technical data

	ZB
Designation	MF-ZB
Max. stroke [m]	2,5
Max. speed [m/s]	3
Max. input speed [rpm]	900
Temperature range [°C]	-20 – +70
Weight (L in m) [kg]	11,3 + 8,6 × L
Weight lift profile [kg]	8,6 × L
Max. load Fz [N]	500
Max. load torque Mx [Nm]	700
Max. load torque My [Nm]	700
Max. load torque Mz [Nm]	80
Max. tourqe Mta [Nm]	34
Max. force Frd [N]	600
Move [mm/rev.]	200
Belt weight [kg/m belt]	0,56
Repeatability [± mm]	0,1
Resolution [mm]	0,2

Forces



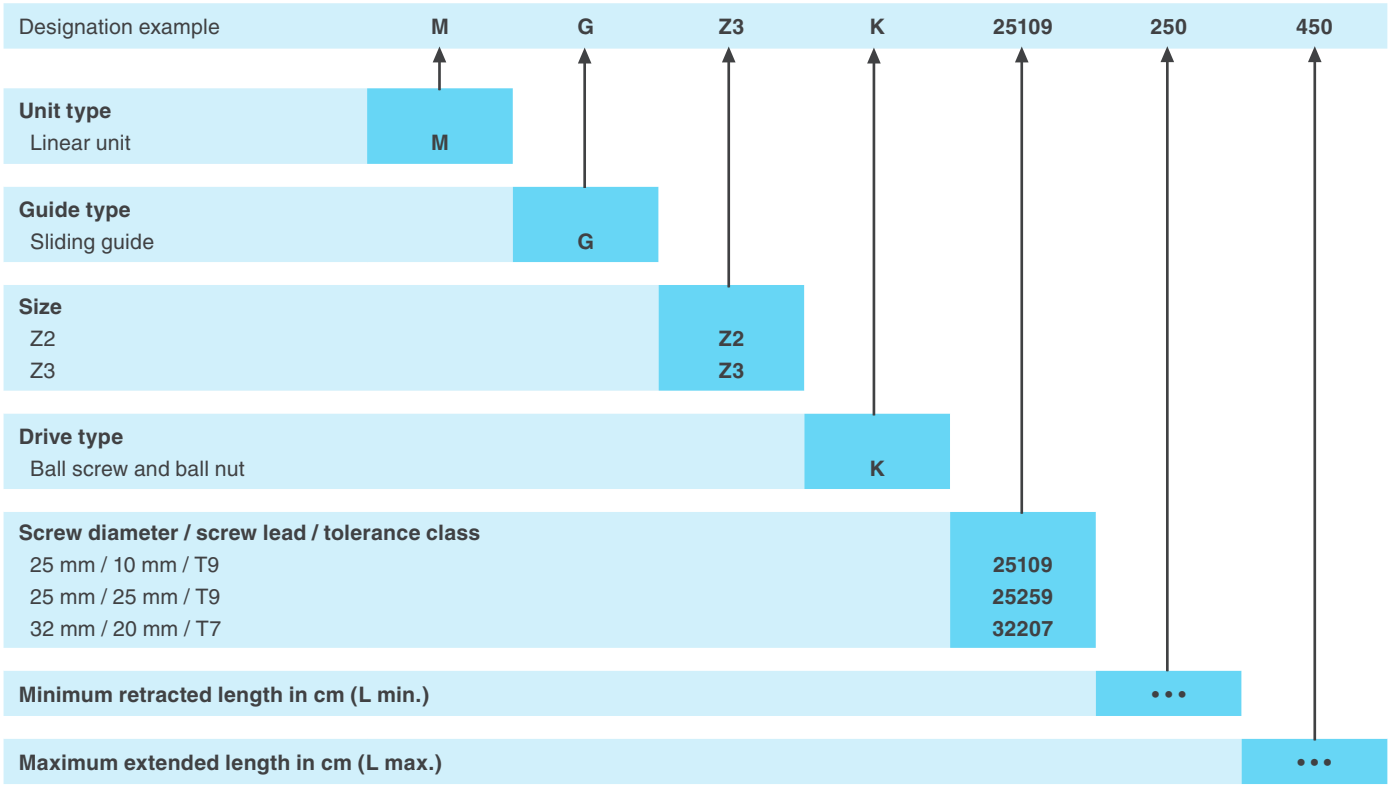
Dimensions



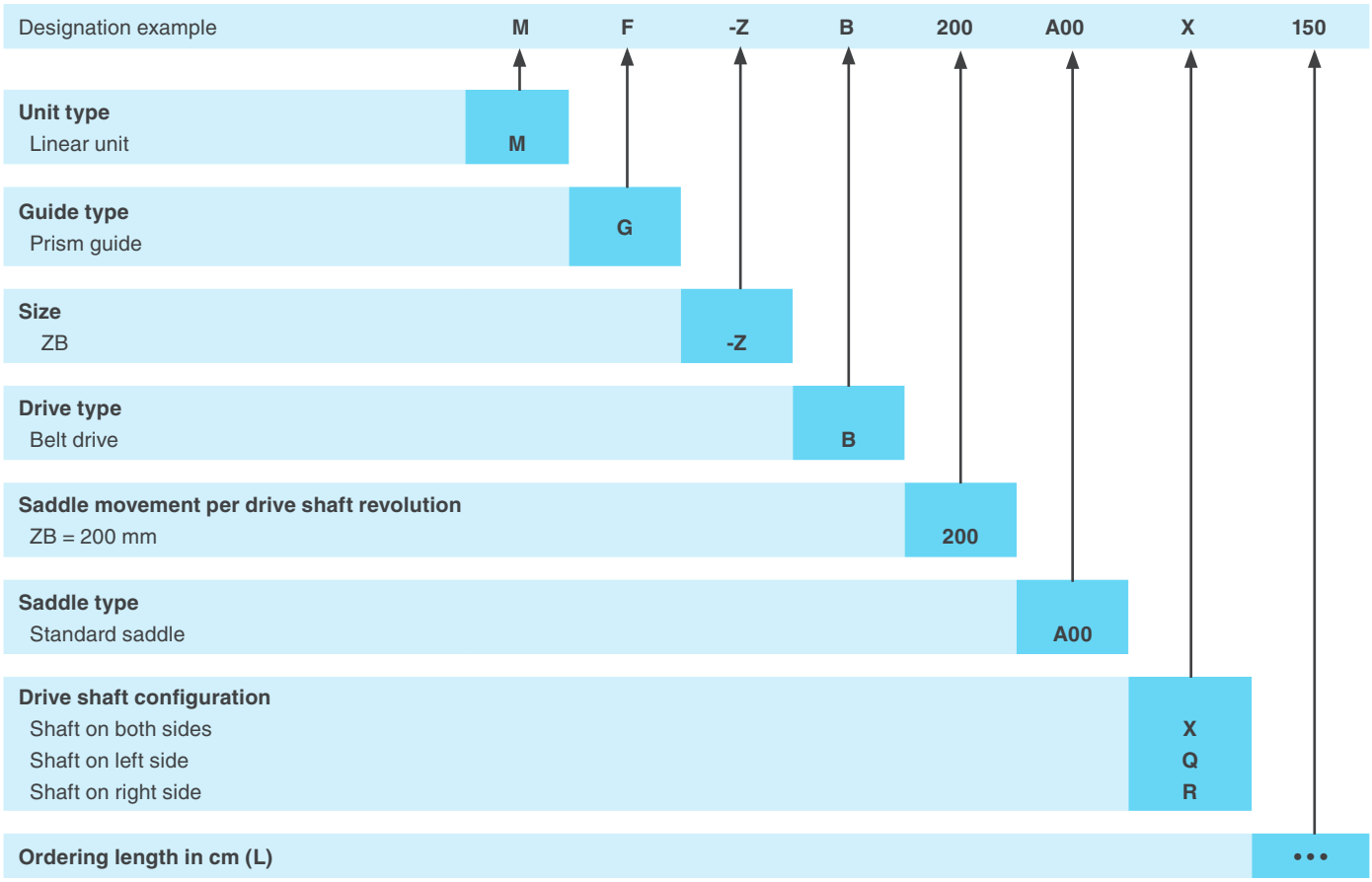
Ordering length in millimetres

Model	Designation	Total length	Length to order
		L tot	L
ZB	MF-ZB	L tot = L + 30	L = S max + 487

MovoZ Z2, Z3

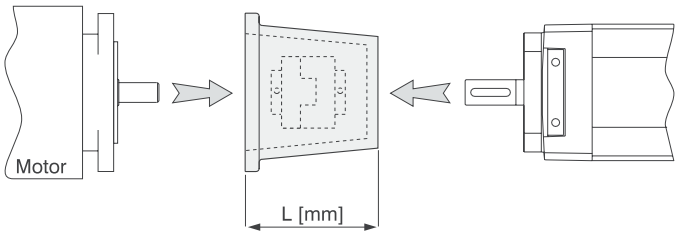


MovoZ ZB



Bell house flange

Bell houses are used when the motor shall drive the actuator directly without any gear in between. The bell house includes a coupling that match the selected motor/lifting actuator combination.

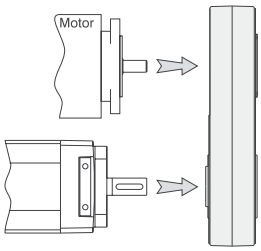


Part number table

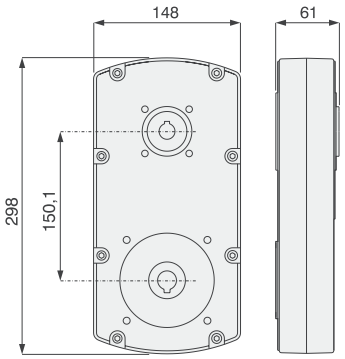
	Motor size											
	IEC 63 B14	L	IEC 71 B14	L	IEC 80 B14	L	IEC 90 B14	L	Servo 80	L	Servo 90	L
ZB			D390 827	86	D390 828	96	D390 829	106	D390 830	86	D390 831	96

Belt gear type BGM

The belt gear is installed directly on to the shafts of the motor and the actuator. No couplings are required. The belt gears are maintenance free.



BGM40



Ordering key

Example:	BGM40-	2	–KK	080	P	07

Gear ratio

1,00	**1**
2,14	**2**
3,00	**3**

Motor size

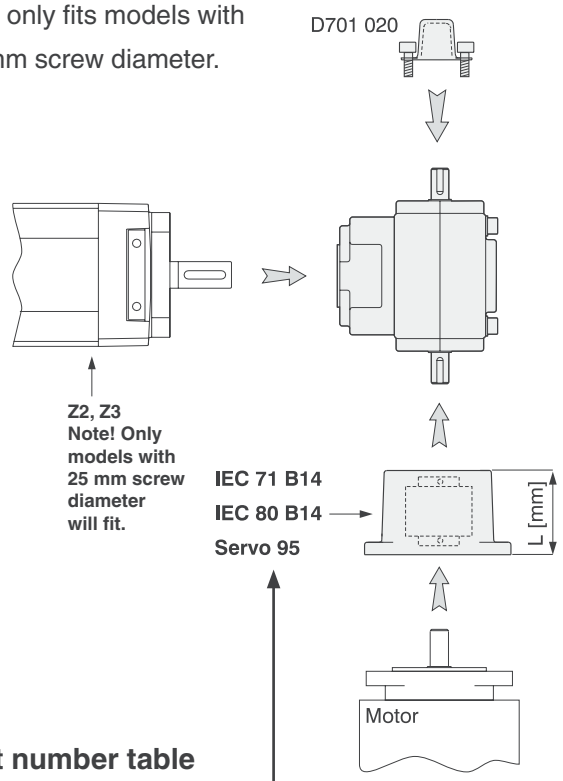
IEC 71 B14	**071**
IEC 80 B14	**080**
Servo 80	**S80**
Servo 95	**S95**

Linear drive unit

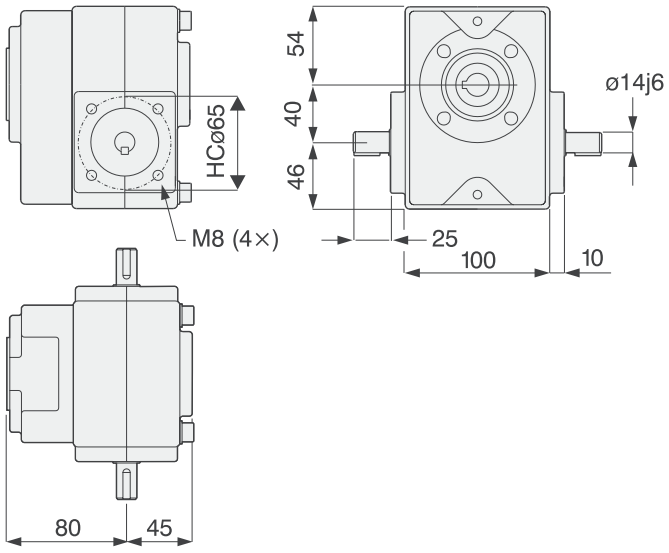
Z2 (only models with 25 mm screw diameter)	**07**

Worm gear type TBS40

The worm gear is installed directly to the unit while the motor has to be installed to an intermediate bell house flange which includes a matching coupling. The gear and the bell house are ordered seperately. Note! The worm gear only fits models with 25 mm screw diameter.



TBS40



Part number table for bell house

Bell house		
IEC 71 B14	**IEC 80 B14**	**Servo 95**
L = 58	L = 68	L = 78
D701 011	D701 015	D389 825

Ordering key for worm gear TBS40

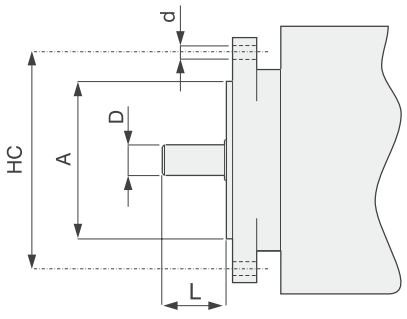
Example:	TBS40–	5,5	–216

Gear ratio	
3	**3**
5,5	**5,5**
7,5	**7,5**
10	**10**
15	**15**
20	**20**
24	**24**
30	**30**
40	**40**
48	**48**
60	**60**

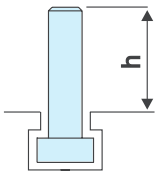
Motor size table

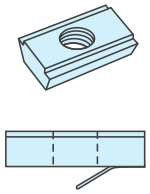
Keep in mind that heavy motors will need extra support in order not to break the flange or gear due to the load torque created.

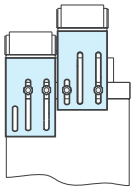
Motor size	A	D	L	HC	d
IEC 63 B14	60	11	23	75	M5
IEC 71 B14	70	14	30	85	M6
IEC 80 B14	80	19	40	100	M6
IEC 90 B14	95	24	50	115	M8
IEC 100/112 B14	110	28	60	130	M8
Servo 80*	80	14	30	100	ø7
Servo 95*	95	19	40	115	ø9
Servo A200	130	24	50	165	ø11



* Measures according to DIN 42950.

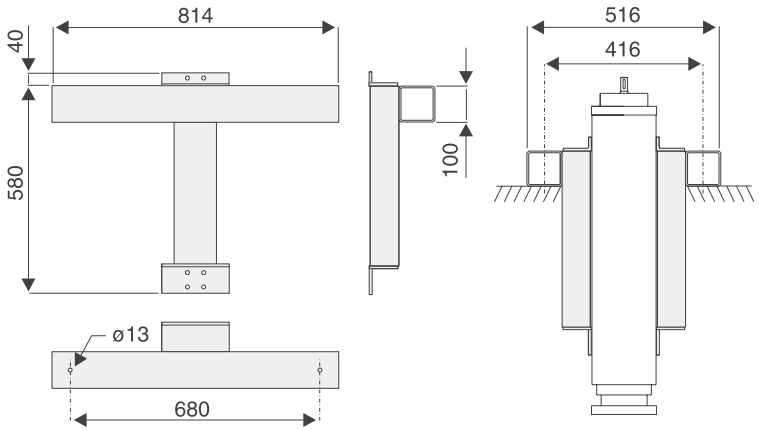
T-slot bolts	Z2/Z3
	M10, h = 28 D800 089

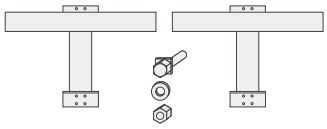
T-slot nuts	ZB
	M6 D900 151
	M8 D900 150

Limit switch bracket*	Z3
	D800 042

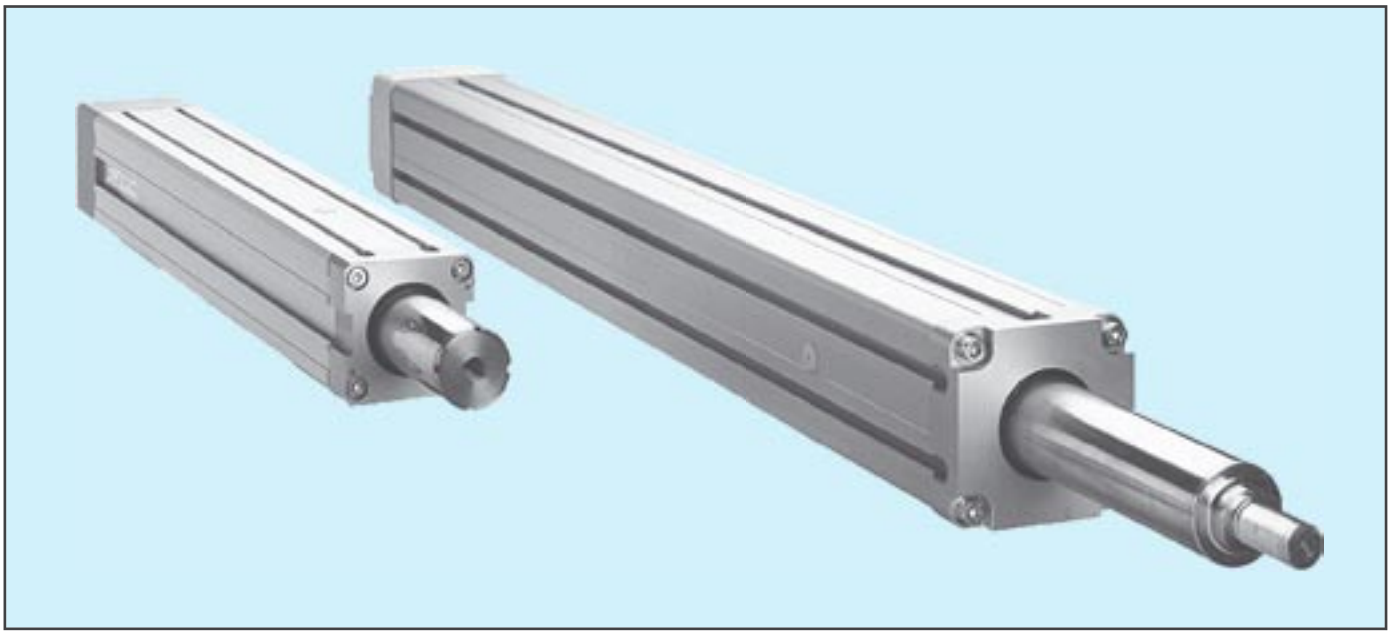
* Suitable limit switch: Telemecanique XCK-M115 (XCM-A115 for M50).

Z2 and Z3 mounting frame



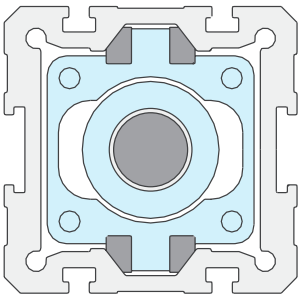
	Z2/Z3
	D800 250

Precision actuators T90 and T130



Screw drive, sliding guide

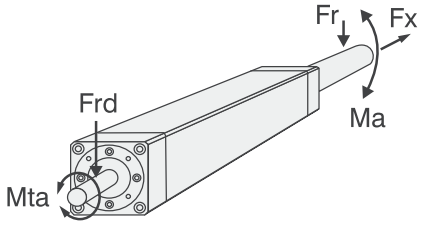
- Hard-chromed extension tube
- High load
- High speed
- 100% duty cycle
- Push or pull operation
- High sealing degree
- Extension tube anti rotation mechanism
- Resistant to shock loads and vibrations
- Silent
- Lubricated for life
- T-slot for magnetic sensor



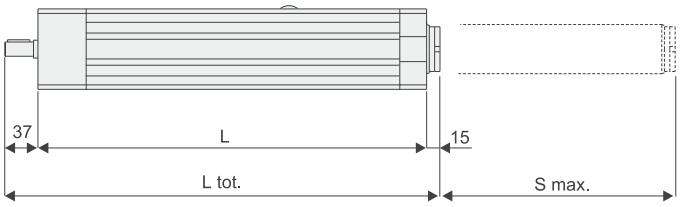
Technical data

	LA90	
Designation	LA09-B2510	LA09-B2525
Max. stroke [m]	1,5	1,5
Max. speed [m/s]	0,5	1,25
Max. input speed [rpm]	3000	3000
Temperature range [°C]	-20 – +70	-20 – +70
Weight (L in m) [kg]	4 + 16,2 × L	4 + 16,2 × L
Weight extension tube [kg]	5,5 × L	5,5 × L
Max. load Fx [N]	10000	10000
Max. load Fr [N]	60	60
Max. tourqe Mta [Nm]	35	35
Max. force Frd [N]	800	800
Screw diameter [mm]	25	25
Screw lead [mm/revolution]	10	25
Repeatability [± mm]	0,05	0,05
Resolution [mm]	0,1	0,1

Forces

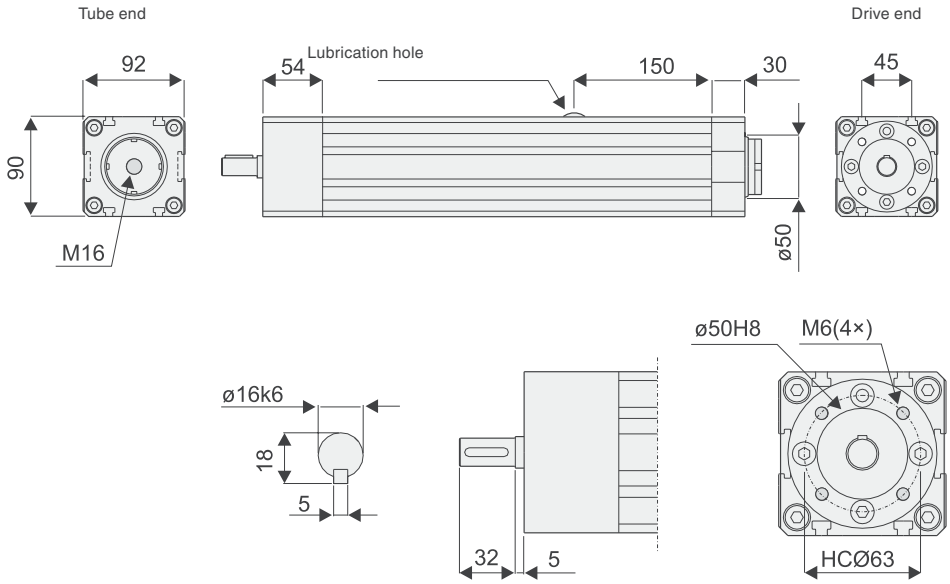


Ordering length in millimetres



Model	Designation	Total length	Length to order
		L tot	L
LA90	LA09-B	L tot = L + 52	L = S max + 195

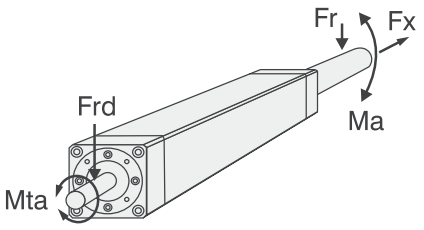
Dimensions



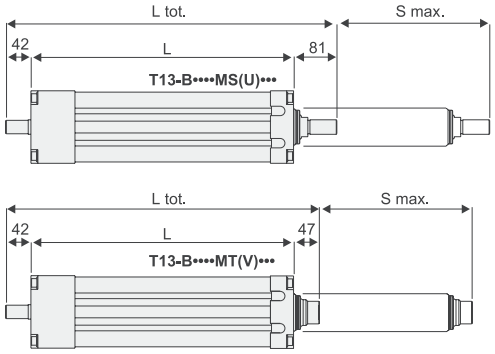
Technical data

	T130	T130	T130
Designation	T13-B4010M••••	T13-B4020M••••	T13-B4040M••••
Max. stroke [m]	2	2	2
Max. speed [m/s]	0,4	1	2
Max. input speed [rpm]	2500	3000	3000
Temperature range [°C]	-20 – +70	-20 – +70	-20 – +70
Weight (L in m) [kg]	18,5 + (30 × (L - 0,293))	18,5 + (30 × (L - 0,293))	18,5 + (30 × (L - 0,293))
Max. dynamic load Fx [N]	40000	35000	15000
Max. static load Fx [N]	45000	45000	45000
Max. load Fr [N]	800	800	800
Max. torque Ma [Nm]	300	300	300
Max. tourqe Mta [Nm]	140	140	140
Max. force Frd [N]	2000	2000	2000
Screw diameter [mm]	40	40	40
Screw lead [mm/revolution]	10	20	40
Repeatability [± mm]	0,05	0,05	0,05
Resolution [mm]	0,1	0,1	0,1

Forces

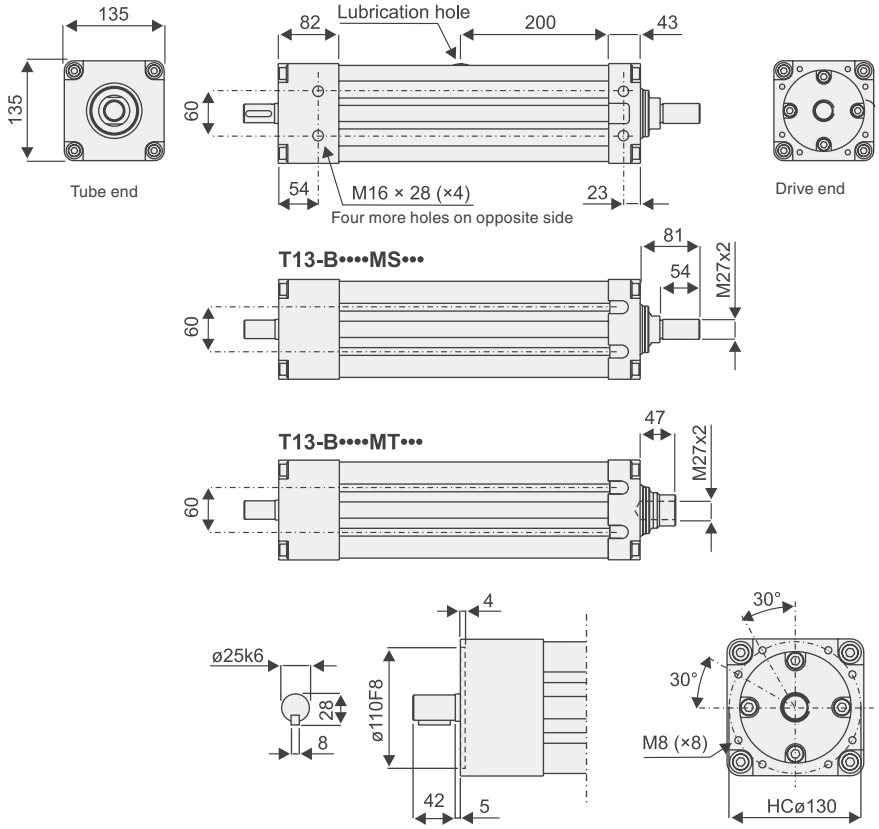


Ordering length in millimetres

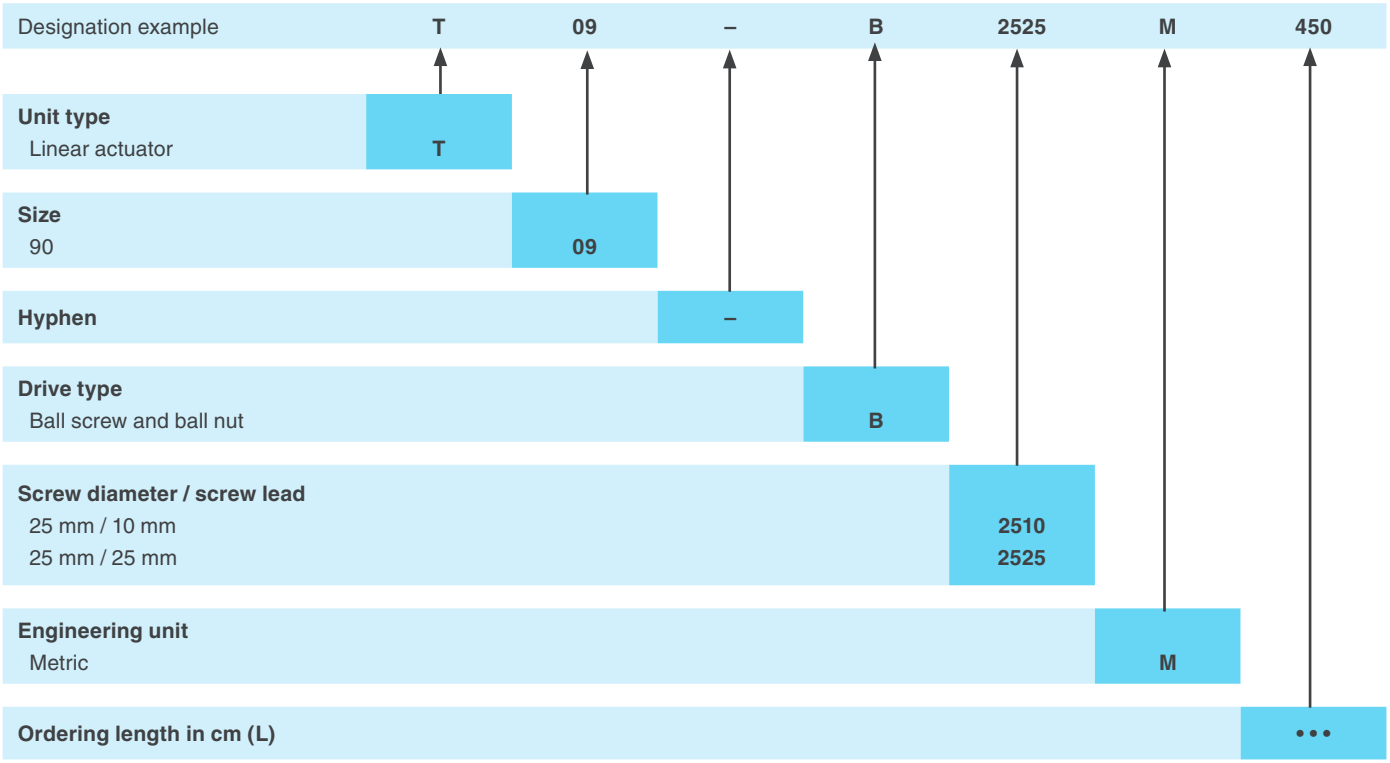


Designation	Total length	Length to order
T13-B••••MS(U)•••	L tot. = L + 123	L = S max. + 293
T13-B••••MT(V)•••	L tot. = L + 89	L = S max. + 293

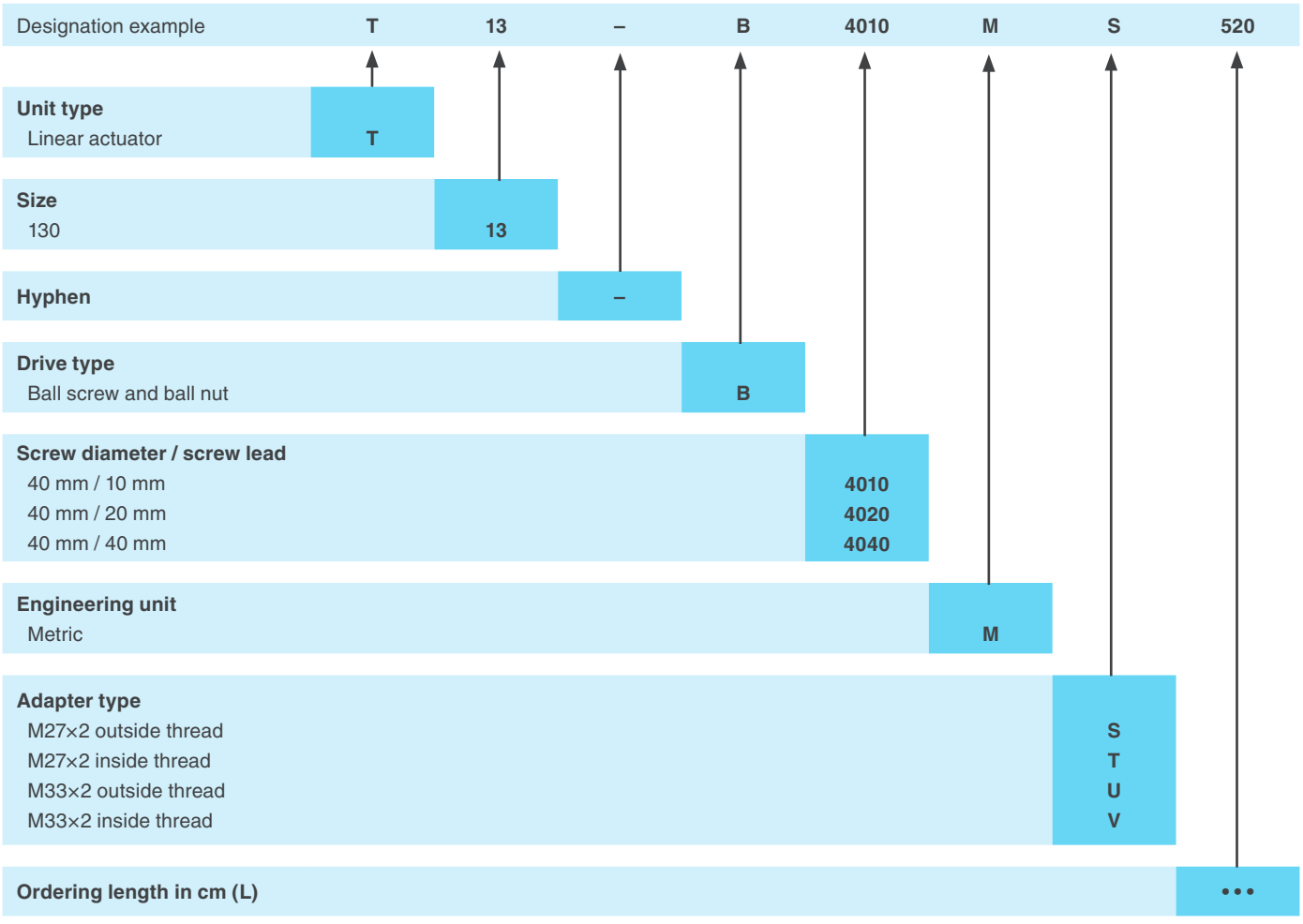
Dimensions



T90

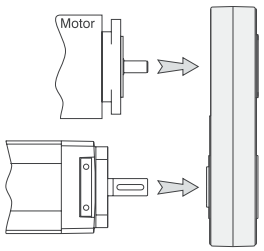

Designation example
T
09
–
B
2525
M
450
Unit type
Linear actuator
T
Size
90
09
Hyphen
–
Drive type
Ball screw and ball nut
B
Screw diameter / screw lead
25 mm / 10 mm
25 mm / 25 mm
2510
2525
Engineering unit
Metric
M
Ordering length in cm (L)
•••

T130


Designation example
T
13
–
B
4010
M
S
520
Unit type
Linear actuator
T
Size
130
13
Hyphen
–
Drive type
Ball screw and ball nut
B
Screw diameter / screw lead
40 mm / 10 mm
40 mm / 20 mm
40 mm / 40 mm
4010
4020
4040
Engineering unit
Metric
M
Adapter type
M27×2 outside thread
M27×2 inside thread
M33×2 outside thread
M33×2 inside thread
S
T
U
V
Ordering length in cm (L)
•••

Belt gear type BGM

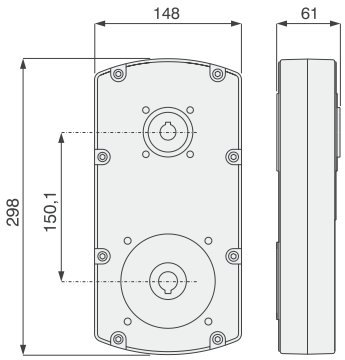
The belt gear is installed directly on to the shafts of the motor and the actuator. No couplings are required. The belt gears are maintenance free.



Example:	BGM40-	2	–KK	080	P	-C

Gear ratio	
1,00	**1**
2,14	**2**
3,00	**3**
Motor size	
IEC 71 B14	**071**
IEC 80 B14	**080**
Servo 80	**S80**
Servo 95	**S95**
Matching actuator type	
T90	**09**

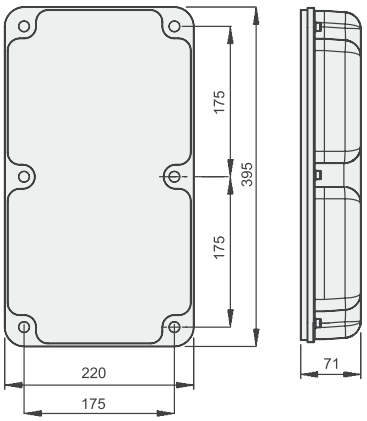
BGM40

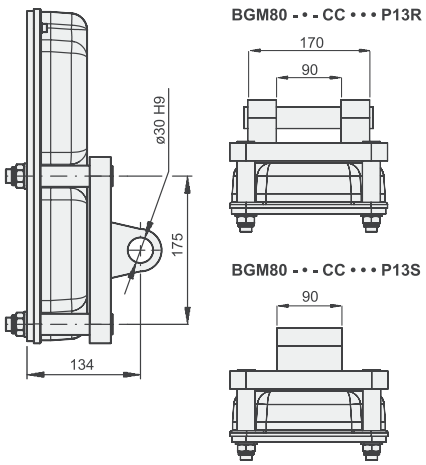


Example:	BGM80-	2	–CC	090	P	13	X

Gear ratio	
1,00	**1**
2,25	**2**
3,13	**3**
Motor size	
IEC 90 B14	**090**
IEC 100/112 B14	**100**
Servo A200	**A20**
Matching actuator type	
T130	**13**
Mounting option	
No option	**X**
Clevis, double pin holders	**R**
Clevis, single pin holder	**S**

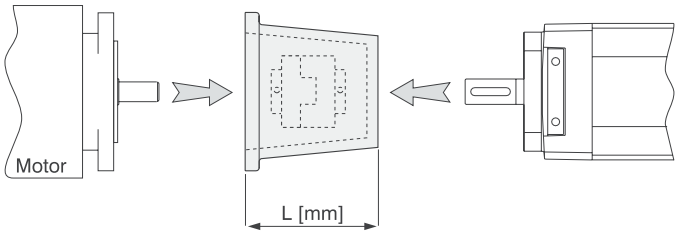
BGM80





Bell house flange

Bell houses are used when the motor shall drive the unit directly without any gear in between. The bell house includes a coupling that match the selected motor/actuator combination.



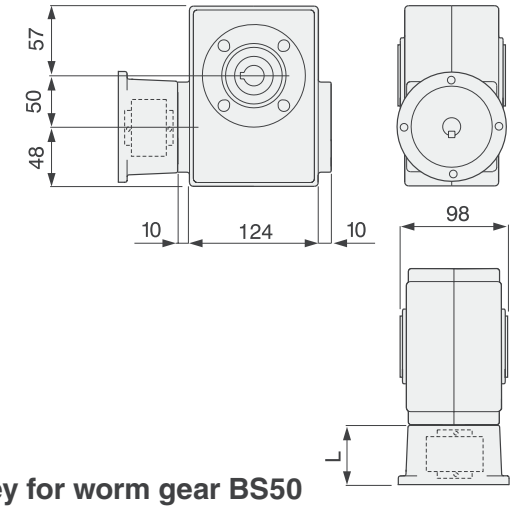
Part number table

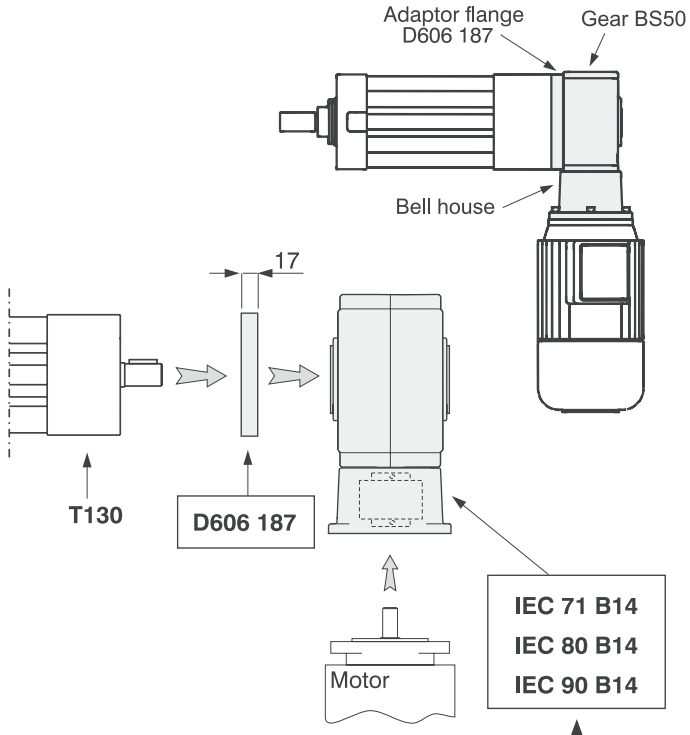
	Motor size													
	IEC 71 B14	L	IEC 80 B14	L	IEC 90 B14	L	IEC 100/112 B14	L	Servo 80	L	Servo 90	L	Servo A200	L
T90	D390 823	83	D390 824	93	D390 825	103			D390 832	83	D390 826	93		
T130					D606 180	115	D606 181	125					D606 182	115

Worm gear type BS50

The worm gear is installed to the T130 actuator by an adaptor flange while the motor is installed to a bell house flange which includes a matching coupling. The complete worm gear box includes the gear box, a bell house flange and a coupling while the adaptor flange are ordered seperately.

BS50





Ordering key for worm gear BS50

Example:	BS50–	10,5	–71

Gear ratio	
8	8
10,5	10,5
14	14
21	21
24	24
32	32
37	37
42	42
54	54
64	64
81	81

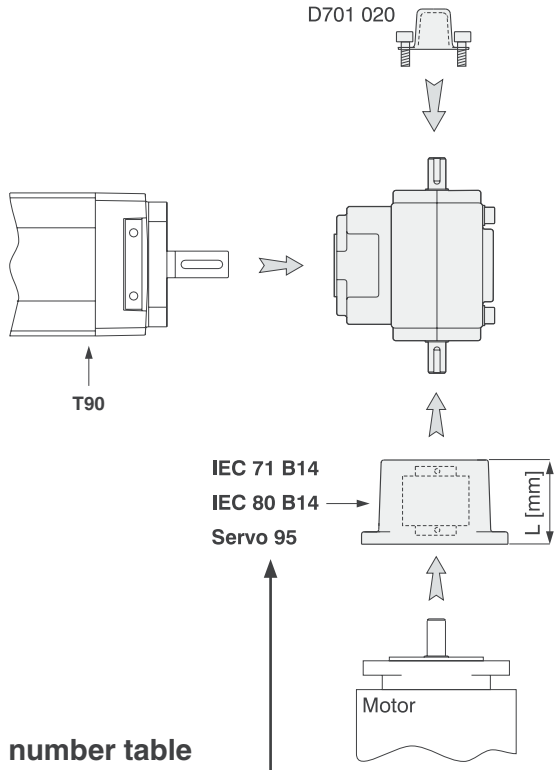
Bell house size	
IEC 71 B14	–71
IEC 80 B14	–80
IEC 90 B14	–90

Bell house sizes

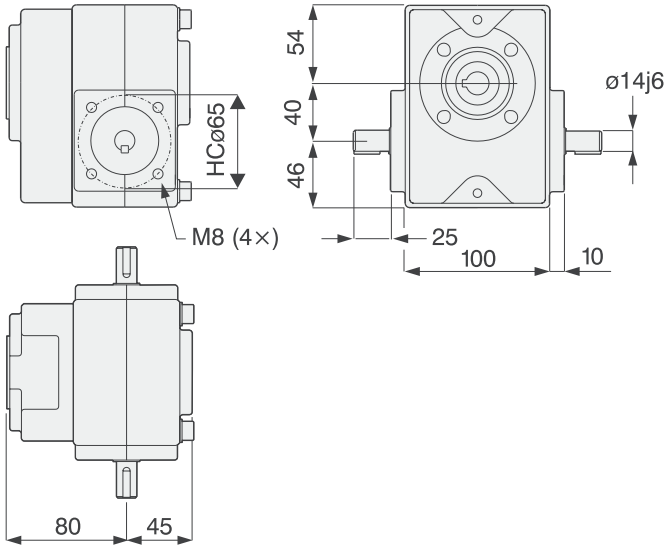
Bell house		
IEC 71 B14	IEC 80 B14	IEC 90 B14
L = 78	L = 88	L = 98

Worm gear type TBS40

The worm gear is installed directly to the T90 actuator while the motor has to be installed to an intermediate bell house flange which includes a matching coupling. The gear and the bell house are ordered seperately.



TBS40



Part number table for bell house

Bell house		
IEC 71 B14	**IEC 80 B14**	**Servo 95**
L = 58	L = 68	L = 78
D701 011	D701 015	D389 825

Ordering key for worm gear TBS40

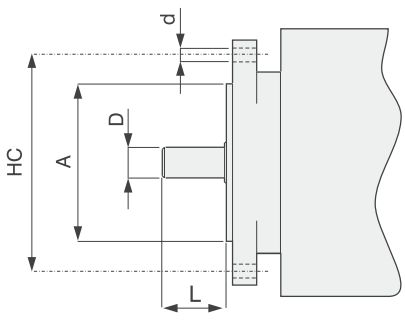
Example:	TBS40–	5,5	–216

Gear ratio	
3	**3**
5,5	**5,5**
7,5	**7,5**
10	**10**
15	**15**
20	**20**
24	**24**
30	**30**
40	**40**
48	**48**
60	**60**

Motor size table

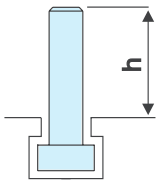
Keep in mind that heavy motors will need extra support in order not to break the flange or gear due to the load torque created.

Motor size	A	D	L	HC	d
IEC 63 B14	60	11	23	75	M5
IEC 71 B14	70	14	30	85	M6
IEC 80 B14	80	19	40	100	M6
IEC 90 B14	95	24	50	115	M8
IEC 100/112 B14	110	28	60	130	M8
Servo 80*	80	14	30	100	ø7
Servo 95*	95	19	40	115	ø9
Servo A200	130	24	50	165	ø11



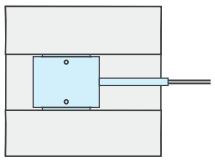
* Measures according to DIN 42950.

T-slot bolts



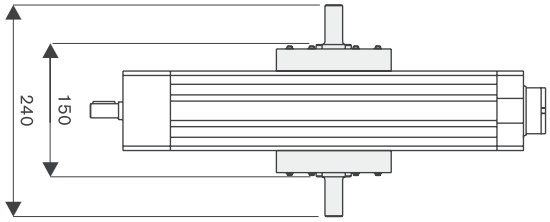
T90/T130
M6, h = 18 D310 314
M6, h = 26 D310 311

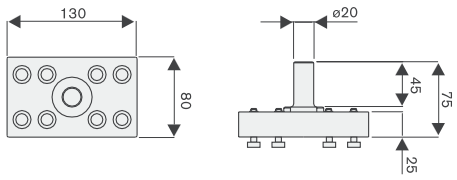
Magnetic sensors



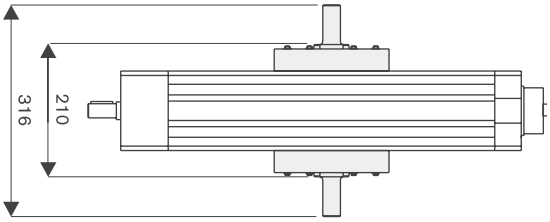
T90/T130	
Max. power: 10 W Max. voltage: 100 Vdc Max. current: 0,5 A Lead data: 2× 0,12 mm²	
Normally open D535 070	Normally closed D535 071

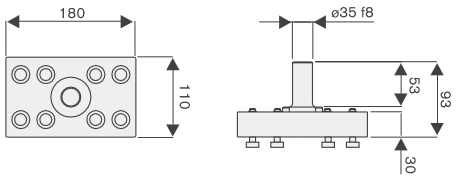
T90 trunnions, pair



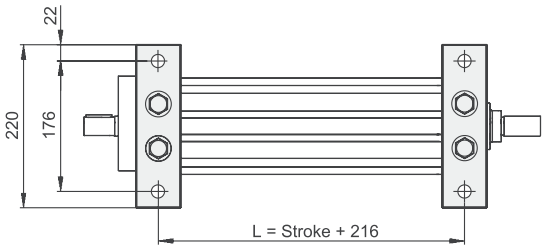
T90
 D606 030

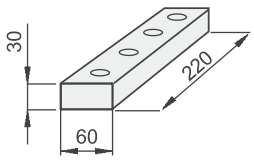
T130 trunnions, pair



T130
 D606 155

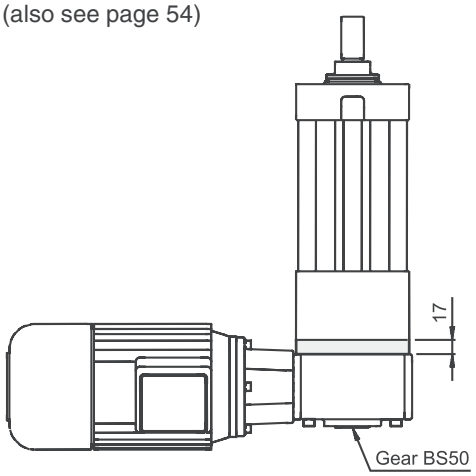
T130 foot plates, pair



T130
 D606 157

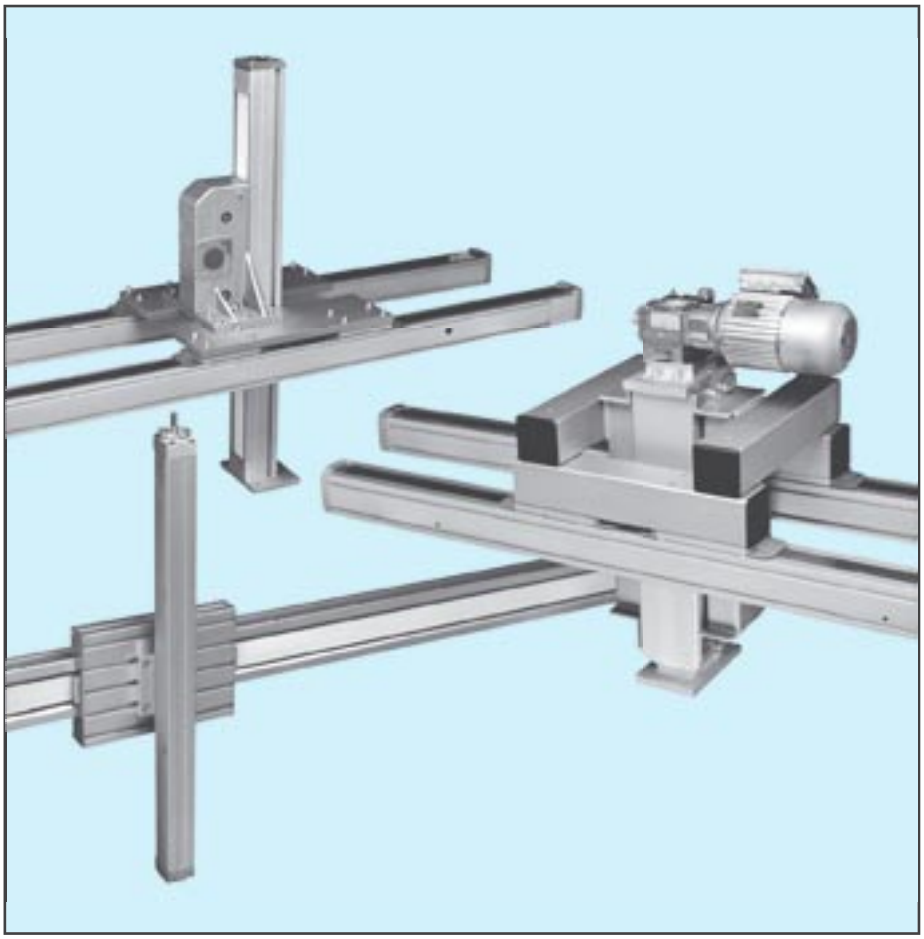
BS50 worm gear connection interface

(also see page 54)



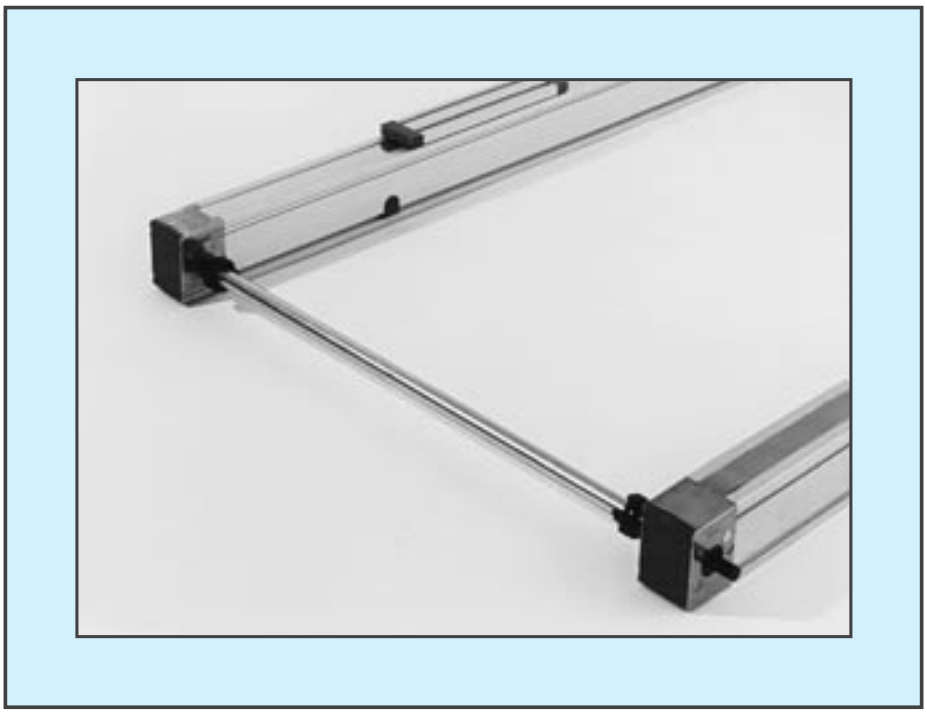
T130
D606 187

Multi axis mounting kits



- Create two or three axis gantry robots
- Quick and easy mounting
- Space saving
- Minimum of parts
- Designed to match the performance of the actuators.

Intermediate shafts

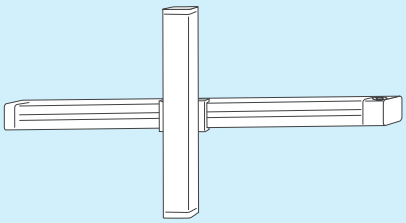


- Easy mounting
- Designed to match the performance of the actuators.

Creating a multi axis system is easy due to the comprehensive range of accessories. A few of all the possible configurations are shown here to give an idea of what can be done.

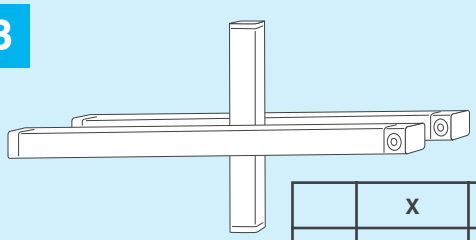
For more information, please contact your nearest sales office.

A



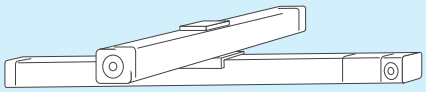
	X	Z
1	CB	M55

B



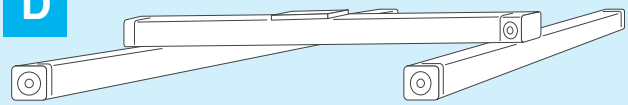
	X	Z
1	M100	Z2
2	M100	Z3
3	M100	ZB
4	M75	ZB

C



	X	Y
1	CB	M55
2	CB	M75

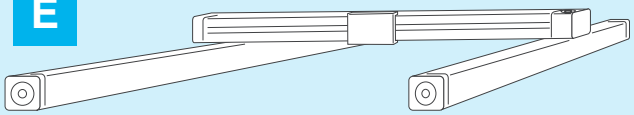
D



	X	Y
1	M100	M100
2	M100	M75
3	M100	CB
4	M75	M100

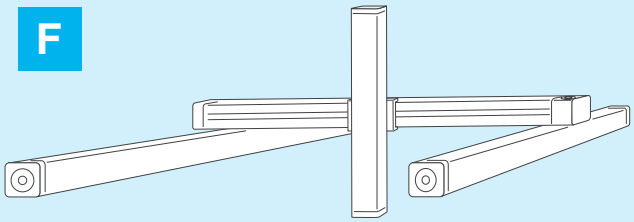
	X	Y
5	M75	M75
6	M75	M55
7	M75	CB
8	M55	M55

E



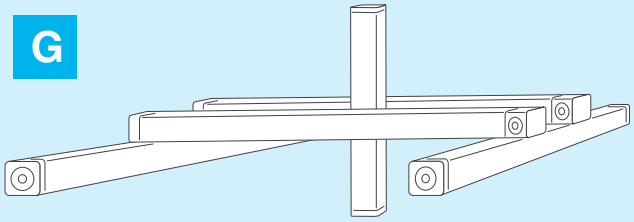
	X	Y
1	M100	CB
2	M75	CB

F



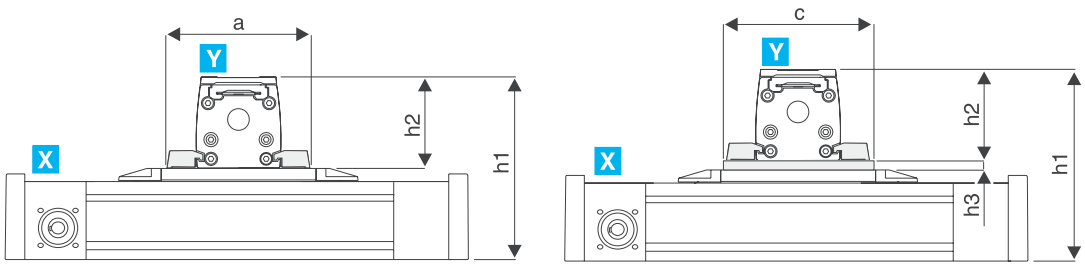
	X	Y	Z
1	M100	CB	M55
2	M75	CB	M55

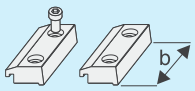
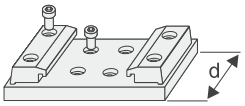
G



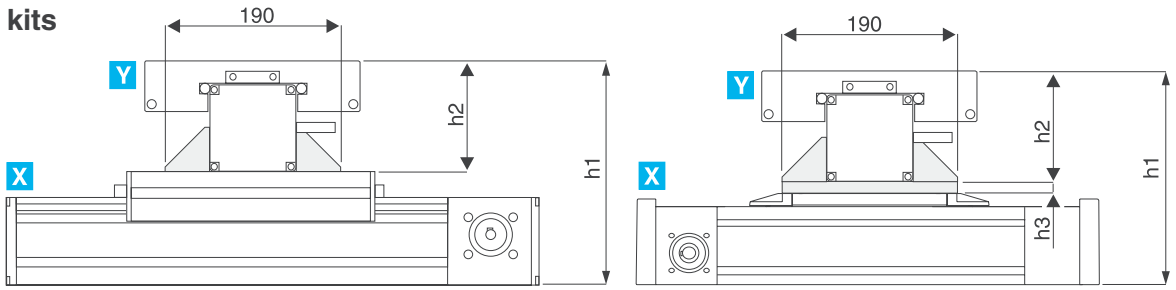
	X	Y	Z
1	M100	M100	Z2
2	M100	M100	Z3
3	M100	M100	ZB
4	M100	M75	ZB
5	M75	M100	ZB

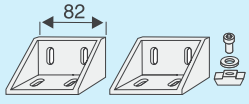
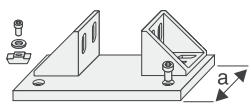
X/Y clamp kits



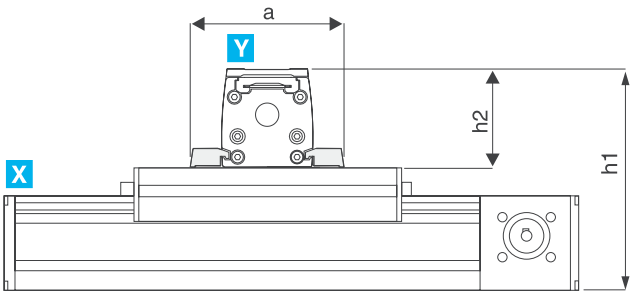
X	M55	M55	M75	M75	M75	M100	M100
Y	M55	M75	M55	M75	M100	M75	M100
	D313 424	–	–	D312 719	–	–	D312 304
	–	D313 470	D313 060	–	D313 062	D313 292	–
a	96	–	–	129	–	–	182
b	56	–	–	75	–	–	92
c	–	134	80	–	190	190	–
d	–	80	134	–	100	100	–
h1	138	176,5	176,5	185	231	231	237
h2	69	92,5	69	92,5	118,5	92,5	118,5
h3	–	15	15	–	20	20	–

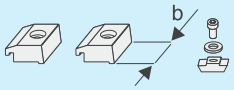
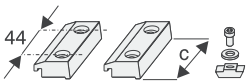
X/Y bracket kits



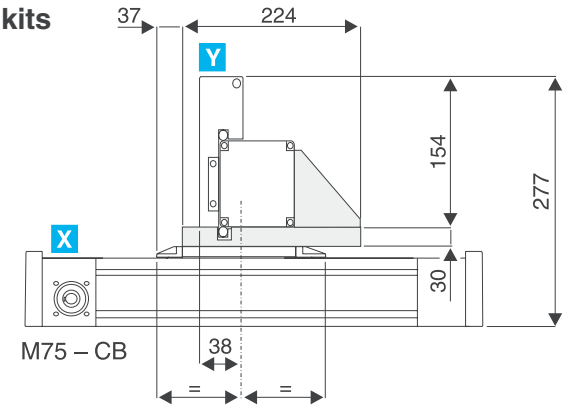
X	CB	M75	M100
Y	CB	CB	CB
	D320 004	–	–
	–	D313 064	D313 294
a	–	100	120
h1	222	218	249
h2	111	110,5	110,5
h3	–	15	20

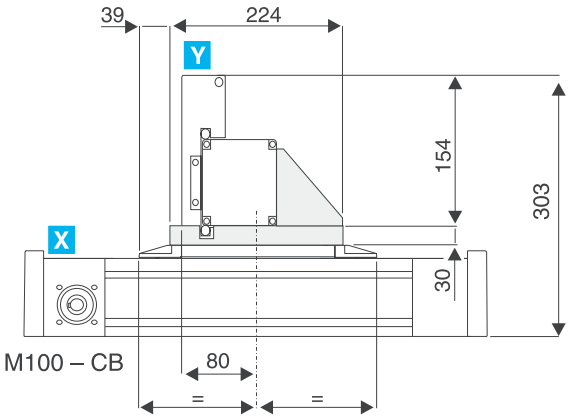
X/Y clamp kits

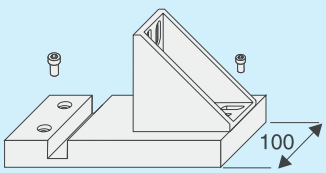


X	CB	CB	CB
Y	**M55**	**M75**	**M100**
	D313 490	D312 759	D313 290
	D313 491	D312 762	D313 299
a	96	129	182
b	25	30	40
c	60	75	75
h1	180	204	230
h2	69	92,5	118,5

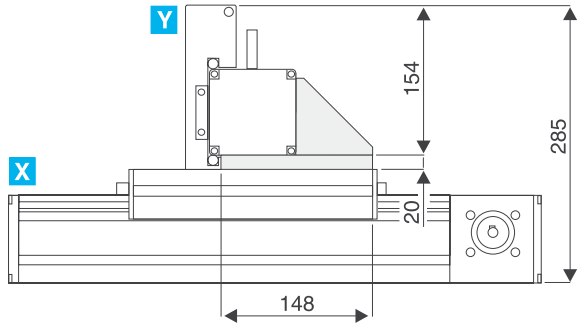
X/Y bracket kits

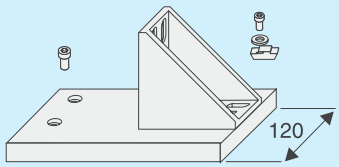




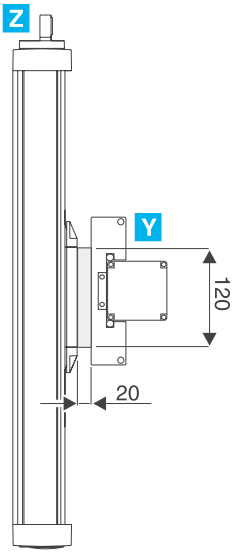
X	M75	M100
Y	**CB**	**CB**
	D313 066	D313 066

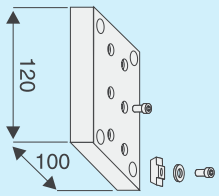
X/Y bracket kits



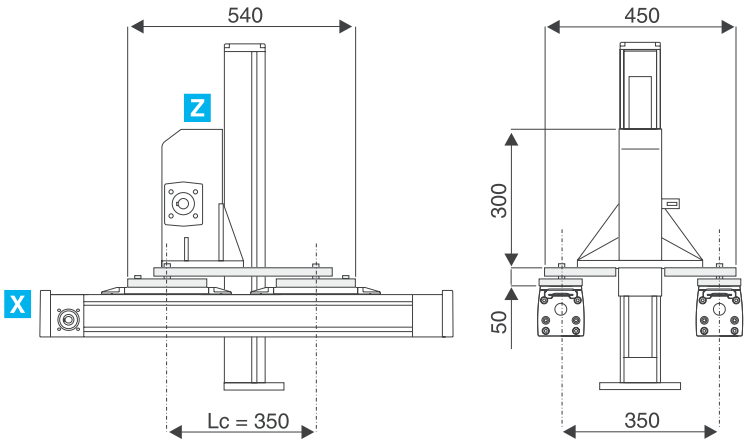
X	CB
Y	CB
	D320 001

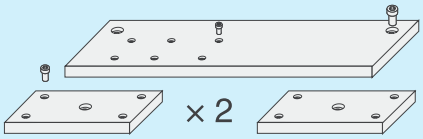
X/Z saddle plate



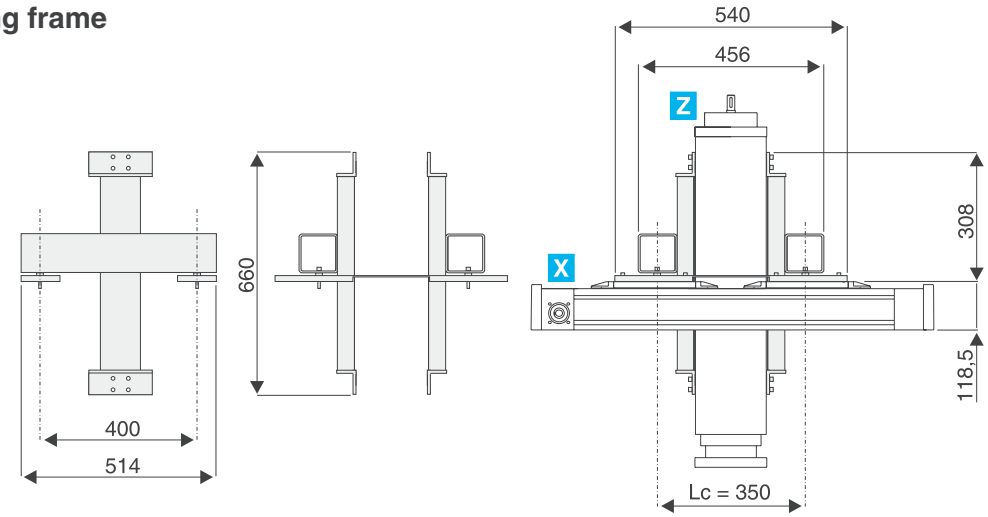
Y	CB
Z	M55
	D313 472

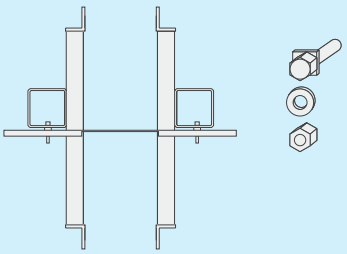
X/Z saddle plates



X	2 × M75	2 × M100
Z	ZB	ZB
	D320 201	D320 202

X/Z mounting frame



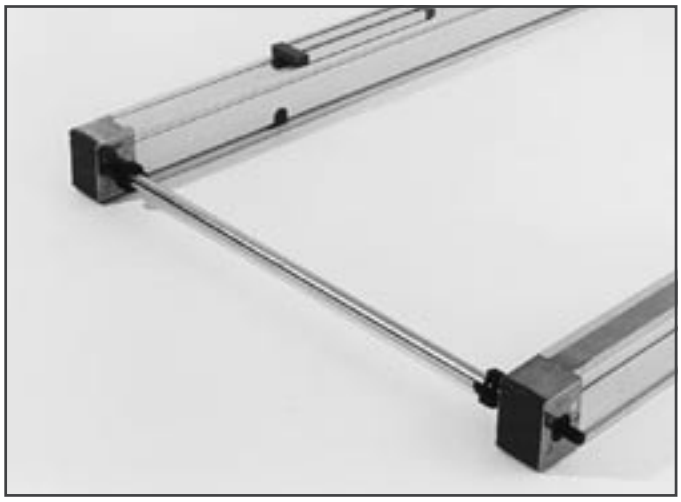
X	**2 × M100**
Z	**Z2/Z3**
	D800 251

Intermediate shaft

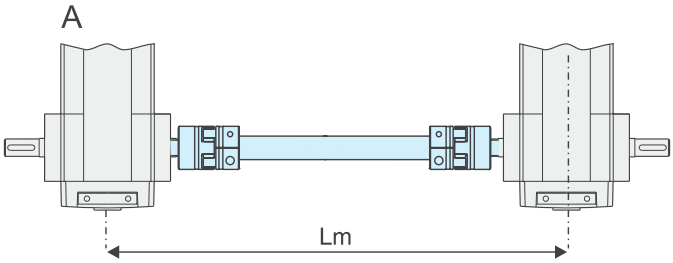
The intermediate shaft provides synchronous drive of multiple units with a single motor.

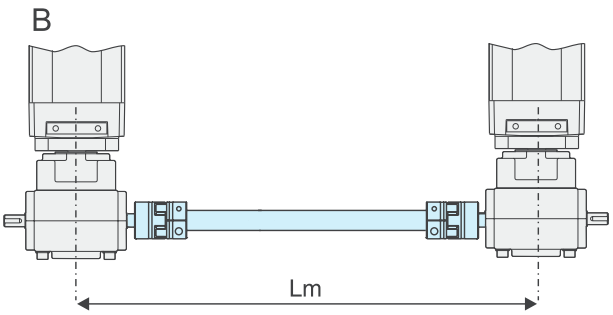
The intermediate shaft consists of couplings matching the rodless actuators (A) or worm gears (B) being used and a high precision tube with customer defined length.

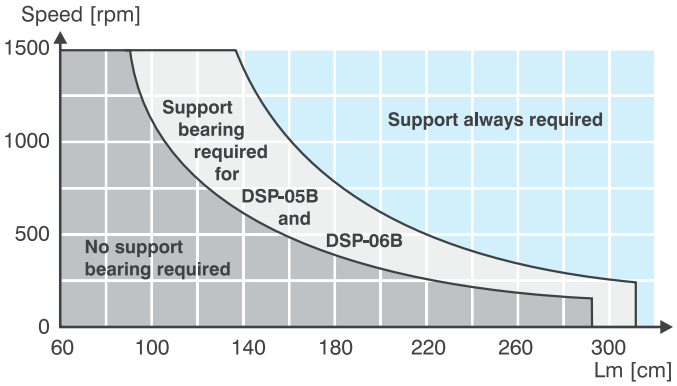
The intermediate shaft has a critical speed which may not be exceeded. The critical speed is a function of the length of the tube, as shown in the diagram below. Higher speeds or longer shafts require additional support bearings to be installed along the shaft. Support bearings can be ordered from your local bearings supplier.



Critical speed







Ordering key

Example:	DSP–	06B	–	305

For Linear drive unit	
M50	05B
M55	06B
M75	07B
M100	10B
CB	–CB
ZB	–ZB
For Worm gear	
TBS40	TBS

Lm (C/C distance between units in cm)	•••

Technical data

	DSP	
Model	DSP-05B DSP-06B	DSP-07B DSP-10B DSP--CB DSP--ZB DSP-TBS
Weight [kg]	0,3 + 1,3 × Lm	0,6 + 2,6 × Lm
Max. speed [rpm]	1500	1500
Tube diameter [mm]	20	30

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