

Electric cylinders CASM-100



High modularity



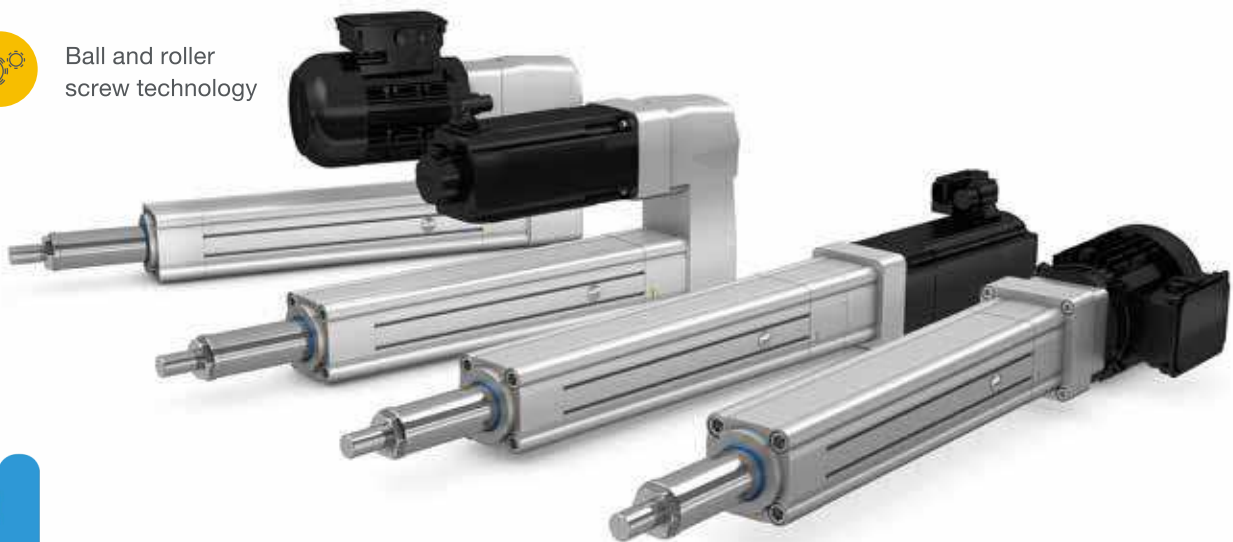
Long strokes



Parallel spur gear box

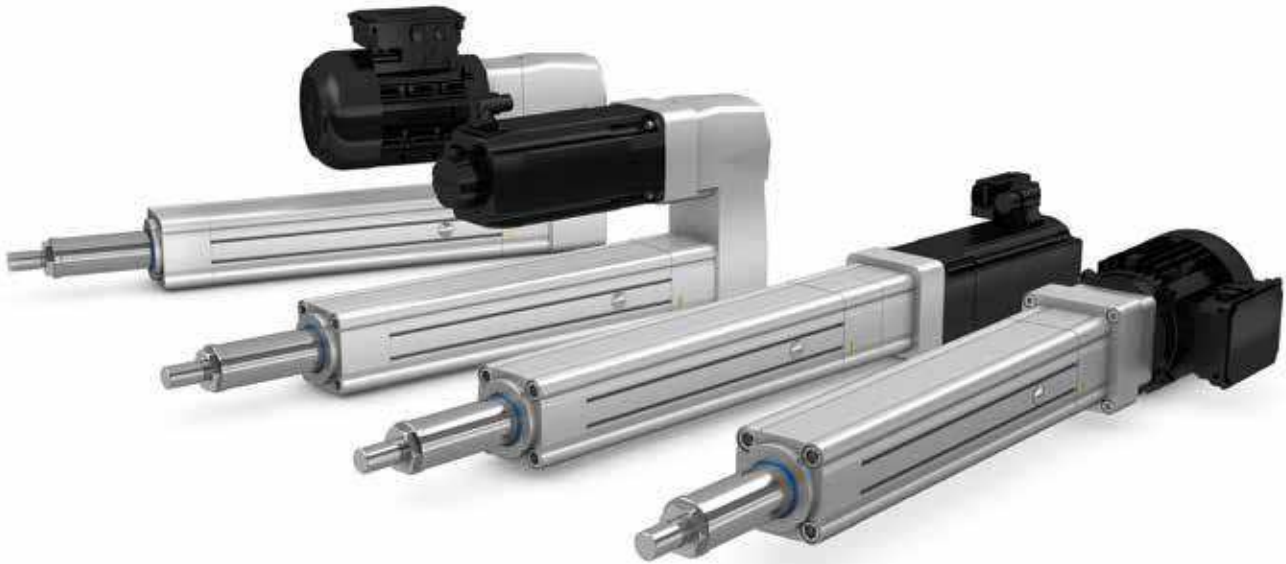


Ball and roller
screw technology



Electric cylinders

CASM-100



Features

- Electric cylinder with high modularity
- Ball-screws or roller-screws
- Inline and parallel gearboxes
- Standardized interfaces
- High level of precision and repeatability
- Wide range of accessories

Benefits

- For a wide range of applications with different performance and lifetime requirements
- Optimal lifetime even at very high forces
- High level of flexibility with variance of body assembly fitting most of the applications.
- Fits AC motors and servo motors
- Accurate positioning

CASM-100

Linear unit



Technical data

Designation	Symbol	Unit	CASM-100-BA	CASM-100-BB	CASM-100-BC	CASM-100-RA
Performance Data						
Max. dynamic axial force ¹⁾	F_{max}	kN	23	48	60	82
Max. dynamic axial force L10 ²⁾	F_{L10}	kN	22	47	60	50
Max. static axial force	F_{0max}	kN	52	60	60	82
Dynamic load capacity	C	kN	27,1	61,5	41,3	106
Maximum torque to reach F_{max}	T_{max}	Nm	43	90	225	163
Max. linear speed	v_{max}	mm/s	260	210	750	890
Max. rotational speed	n_{max}	1/min	1 560	1 260	2 250	5 340
Max. acceleration	a_{max}	m/s ²	6	6	12	12
Duty cycle	D_{unit}	%	100	100	100	100
Mechanical Data						
Screw type	–	–	Ball screw	Ball screw	Ball screw	Roller screw
Screw diameter	d_{screw}	mm	32	40	40	30
Screw lead	p_{screw}	mm	10	10	20	10
Lead accuracy	–	–	G9	G9	G9	G5
Stroke ^{3) 4)}	s	mm	50...2 000	50...2 000	50...2 000	50...2 000
Internal overstroke each side	s_0	mm	2	2	2	2
Backlash	$s_{backlash}$	mm	0,2	0,2	0,2	0,2
Efficiency	η_{lu}	%	> 85	> 85	> 85	> 80
Inertia @ 0 mm stroke	J_{lu}	kgm ²	0,00041	0,00051	0,00051	0,00045
Δ Inertia per 100 mm	ΔJ	kgm ²	0,000064	0,000144	0,000138	0,000063
Weight @ 0 mm stroke	m_{lu}	kg	11	12,7	12,3	12,5
Δ weight per 100 mm	Δm	kg	2,4	2,7	2,7	2,4
Environment						
Ambient temperature	$T_{ambient}$	°C	-20...+50	-20...+50	-20...+50	-10...+50
Max. humidity	ϕ	%	95	95	95	95
Degree of protection	IP	–	54S	54S	54S	54S

¹⁾ Buckling limitation for long strokes, also limited by accessories and configurations. Please check the CASM-100 configuration tool on ewellix.com

²⁾ Maximum dynamic axial force usable to apply the theoretical lifetime calculation (L10)

³⁾ Preferred stroke range:

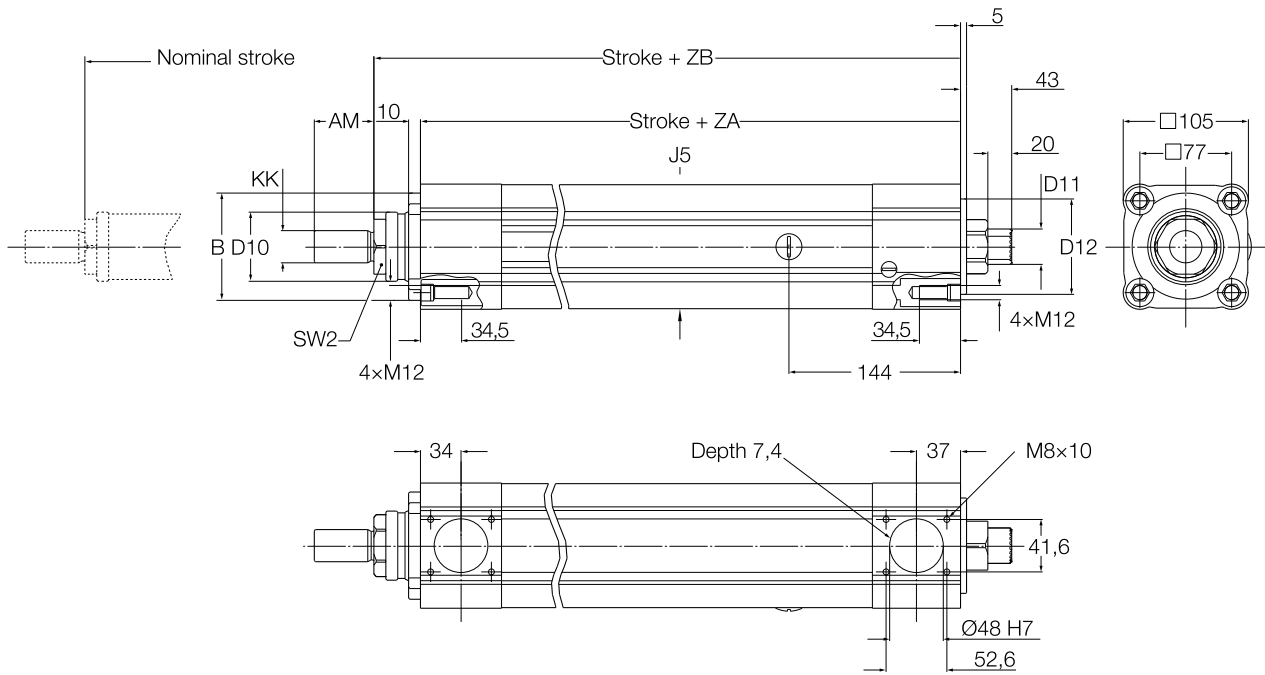
from 50 to 1 000 mm stroke is by 50 mm step (50, 100, 150, ..., 900, 950, 1 000)

from 1 000 to 2 000 mm stroke is by 100 mm step (1 100, 1 200, ..., 1 900, 2 000, valid for BA, BB and BC screw type excluding RA one)

For all other strokes, out of the preferred range, consider an additional 1 week on standard leadtime. Please contact Ewellix

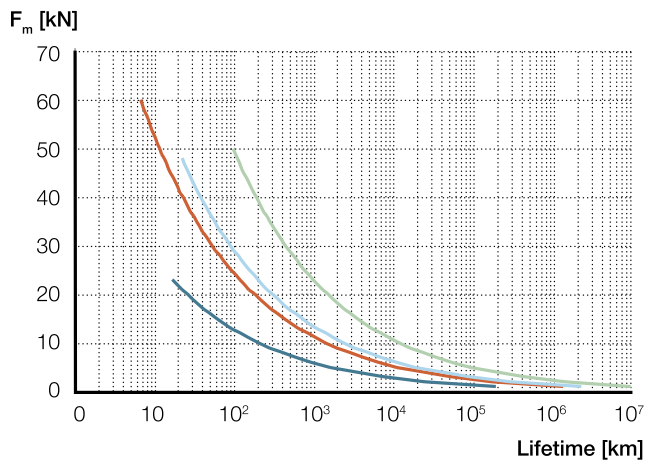
⁴⁾ On CASM-100-RA and stroke > 1000 mm, please contact Ewellix

Dimensional drawing



Linear Unit	KK	SW2	J5	ZA	ZB	B	D10	AM	D12	D11		
-	-	-	mm							-		
CASM-100-xx-xxxx-A...	M27 x 2	AF 46	□ 104	287±1,5	326±2	Ø90	^{-0,10} _{-0,35}	Ø58	50	Ø80	⁻⁰ _{-0,05}	Spline DIN 5480 W 30x1,25x22x8f

Performance diagram



- CASM-100-BA
- CASM-100-BC
- CASM-100-BB
- CASM-100-RA

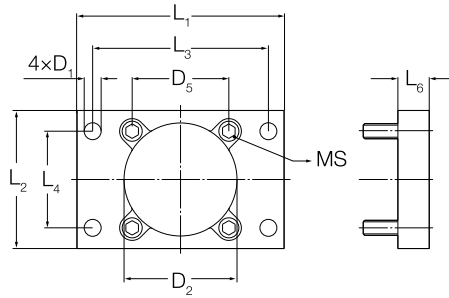
Ordering key

See page 21

Options

The following parts are available as options and can be ordered directly through the typekey. It is not necessary (but optional) to order as extra lines if already configured and selected in the typekey.

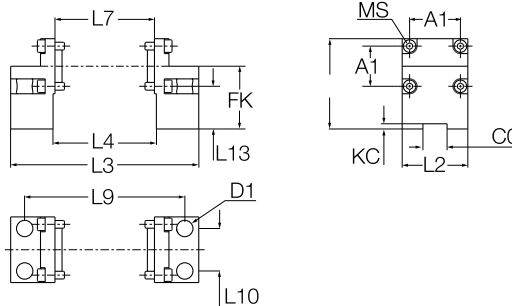
Front Plate



Ordering key
ZBE-377918

Type	MS	L ₁	L ₂	L ₃	L ₄	D ₁	D ₅	D ₂	L ₆	m
-	-	mm								kg
ZBE-377918	M12 × 40	165	109	140	77	Ø13,5	□ 77	Ø90	25	2,1

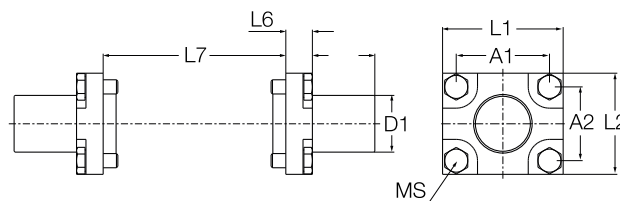
Foot Mount



Ordering key
ZBE-377920

Type	MS	L ₁	L ₂	L ₃	L ₄	L ₇	FK	A ₁	A ₂	L ₉	L ₁₀	KC	C0	L ₁₃	D ₁	m
-	-	mm														kg
ZBE-377920	M8 × 20	93,5	68	194,8	107	103	65	52,6	41,6	165,8	44	5,4	25	50	Ø17	2,8

Mounting kits Pivot Attachment

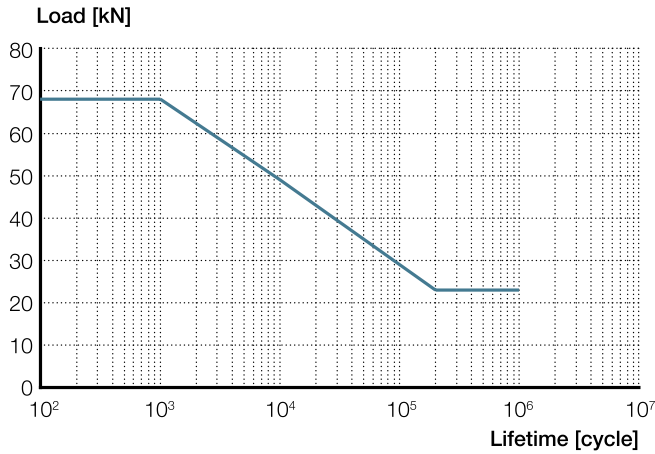


Ordering key
ZBE-377919

Type	MS	L ₁	L ₂	A ₁	A ₂	L ₅	L ₆	L ₇	D ₁	m
-	-	mm								kg
ZBE-377919	M8 × 18	68	57	52,6	41,6	35,2	15	103	Ø32	1,5

Pivot attachment

Load rating and lifetime limitation on the pivot mount, see graph below.



Ingress protection

The linear unit is available with the following ingress protection options (note that IP ratings are valid if the bearing housing is sealed by Ewellix gearbox or others with similar sealing performances):

Option B: IP54S

Protected against dust and water spray if standing still.

Option C: IP65 with sinter filter

Requiring sinter filter to be protected from dust and water. As a consequence it is required to face sinter filter downwards to protect it from rain. If not possible to protect the sinter filter, and to ensure ingress protection level, please take option D (see below).

In addition, and due to the use of solid oil ring and single lip wiper on the front, performances are restricted to avoid premature wear on the sealing. It restricts performances to the following:

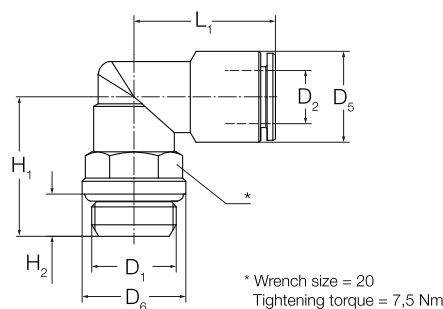
Max linear speed	Vmax	35 mm/s
Lifetime distance driven	L	100 km

Option D: IP65 with hose

If selected, a dedicated interface valve is provided and mounted on the linear unit, allowing the actuator to breath. A hose (not provided by Ewellix) need to be connected to this interface valve in order to supply it with clean air.

It still restricts performances as indicated for Option C.

Interface valve



G thread with sealing ring

Connections	Tubing O.D.						Weight/ piece
D1	D2	D5	D6	H1	H2	L1	
-	Ø	Ø	Ø				g
G 1/4	12	19,0	16,0	25,5	6,5	28,5	58,5

Ordering key

Linear unit

C A S M - 1 0 0 - B C - 0 1 0 0 - A A 0 C 1 0 A - B A 1 1 0 0 - 0 0 0

Size

Screw type

- BA Ball screw 32 × 10
- BB Ball screw 40 × 10
- BC Ball screw 40 × 20
- RA Roller screw 30 × 10

Stroke

- Stroke in mm

Push tube

- A E355 chrome plated, Ø55

Front housing and attachments

- A Aluminium, no mounting option
- B Aluminium, with body attachment

Front housing attachment

- 0 None
- A Front plate 90° mounting position
- B Front plate 0° mounting position
- C Pivot attachment (trunnion brackets to be ordered separately)
- D Foot mount, 0° mounting position
- E Foot mount, 180° mounting position

Rear housing

- A1 Aluminium, no mounting option, reduced static load, for screw type BA¹⁾
- B1 Aluminium, no mounting option, reduced static load, for screw type BA¹⁾
- C1 Aluminium, no mounting option, for all screw types
- D1 Aluminium, prepared for pivot or foot mounting, for all screw types

Rear housing attachment

- 0 None
- C Pivot attachment (trunnion brackets to be ordered separately)
- D Foot mount, 0° mounting position
- E Foot mount, 180° mounting position

Protection tube

- A Aluminium, 90°, recommended for parallel
- B Aluminium, 180°
- C Aluminium, 270°
- D Aluminium, 0°, recommended for inline

¹⁾Maximum static axial force limited to 31 kN

C A S M - 1 0 0 - B C - 0 1 0 0 - A A 0 C 1 0 A - B A 1 1 0 0 - 0 0 0

Sealing

- B IP54S
- C IP65 with sinter filter
- D IP65 with hose

Lubrication

- A Standard Lubrication for ball screws
- B Standard Lubrication for roller screws

Relubrication

- 0 No relubrication possibility
- 1 With relubrication possibility

Anti-rotation

- 0 No anti-rotation
- 1 With anti-rotation

Free parameter

- 00 Empty

Customer option

- 000 No option

Mounting position front plate and foot mount

The 0° reference for the linear unit is the sinter filter position. The front plate can be turned in 90° steps clockwise. The foot mount can be turned in 180° steps clockwise.

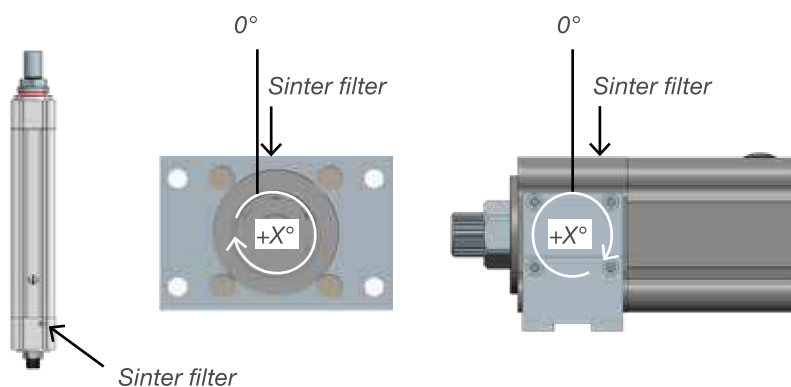


Fig. 5