



SPINDASYN
SEZ electric cylinder.

Precise power with energy efficiency.

AMK



Powerful. Precise. Energy-efficient.

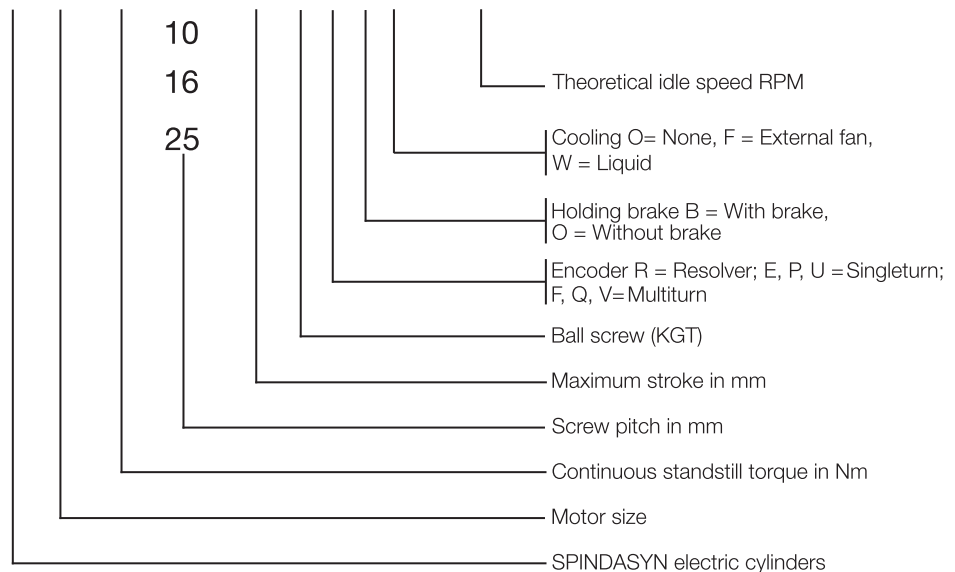
The SPINDASYN motor series is called for whenever high forces and high position accuracy are needed for linear motions.

The SEZ electric cylinders are a new addition to the product series. SEZ is an installation-ready system in which the rotor is pressed directly onto the screw. This provides you with an installation-ready system having high rigidity without additional wearing parts.

The closed-loop positioning and force control of the SEZ offers critical advantages compared to other linear technologies, such as pneumatic cylinders. In particular, the high energy efficiency of the electric cylinder and the minimal commissioning effort are positive factors.

Type key

SEZ 3 – x – 5 – 20 K R B O – 3500



Lead accuracy V300p

Tolerance class	5	7	10
Deviation mm	0.023	0.052	0.21

The lead accuracy V300p describes the maximum deviation from the position setpoint in a randomly set length of 300 mm within the effective length of the screw ball drive.

SEZ motors are delivered with tolerance class 7 as standard. Other tolerance classes are possible on request.

SEZ 3

Technical data

5 mm pitch

Motor type	Axial forces		Travel speed	Screw length 85 mm			Screw length 115 mm			Screw length 145 mm			Screw length 205 mm			Screw length 305 mm			Screw length 405 mm		
	F _{max} [kN]	F _N [kN]		v [m/s]	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI
	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]
SEZ 3-0,5	2.1	0.7	0.37	40	0.19	10	70	0.21	9	100	0.22	8	160	0.25	7	260	0.3	5.5	360	0.35	4.6
SEZ 3-1	3.1* (4.8)	1.7	0.37	40	0.31	24	70	0.33	21	100	0.34	19	160	0.37	16	260	0.42	13	360	0.47	11

* limited by C_{stat}

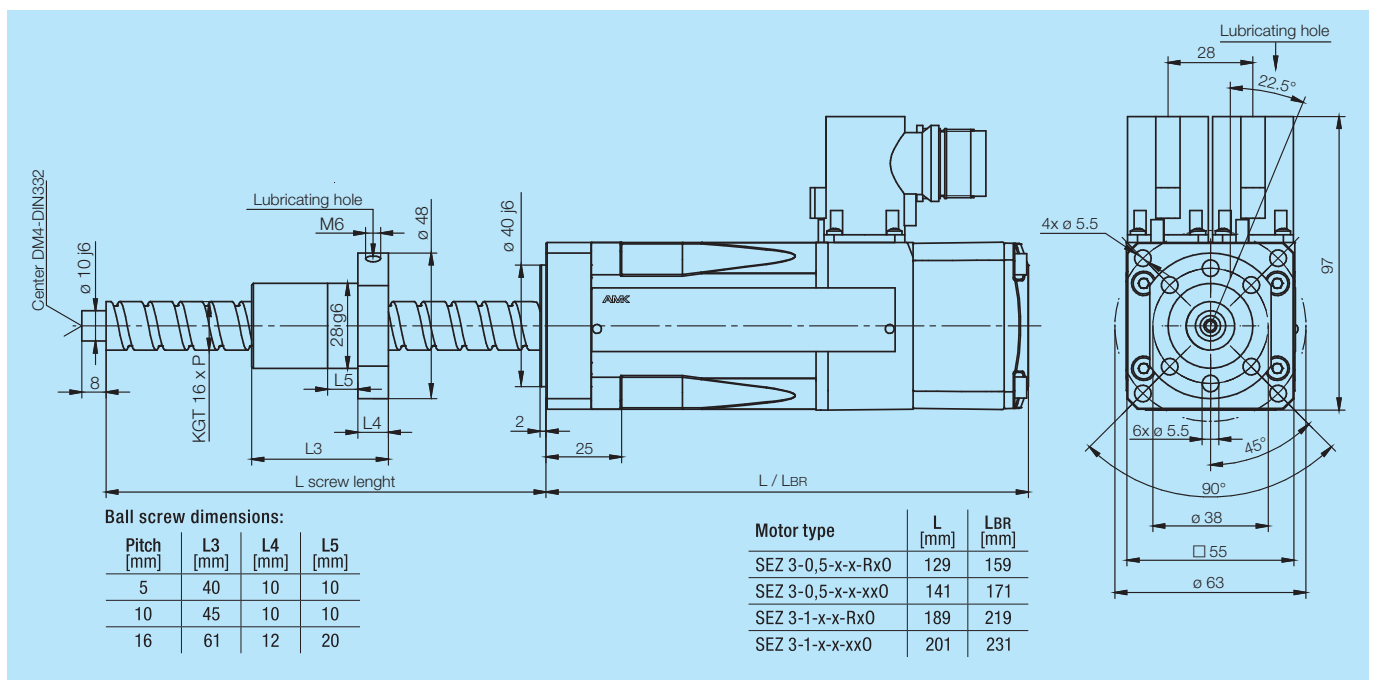
10 mm pitch

Motor type	Axial forces		Travel speed	Screw length 85 mm			Screw length 115 mm			Screw length 145 mm			Screw length 205 mm			Screw length 305 mm			Screw length 405 mm		
	F _{max} [kN]	F _N [kN]		v [m/s]	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI
	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]
SEZ 3-0,5	1.1	0.34	0.73	35	0.19	20	65	0.21	18	95	0.22	16	155	0.25	14	255	0.3	11	355	0.35	9
SEZ 3-1	2.4	0.8	0.73	35	0.31	48	65	0.33	42	95	0.34	38	155	0.37	32	255	0.42	26	355	0.47	22

16 mm pitch

Motor type	Axial forces		Travel speed	Screw length 85 mm			Screw length 115 mm			Screw length 145 mm			Screw length 205 mm			Screw length 305 mm			Screw length 405 mm		
	F _{max} [kN]	F _N [kN]		v [m/s]	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI
	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]
SEZ 3-0,5	0.6	0.2	1.17	20	0.19	32	50	0.21	29	80	0.22	26	140	0.25	22	240	0.3	18	340	0.35	15
SEZ 3-1	1.5	0.5	1.17	20	0.31	77	50	0.33	67	80	0.34	61	140	0.37	51	240	0.42	42	340	0.47	35

Dimensions



SEZ 4

Technical data

5 mm pitch

Motor type	Axial forces			Travel speed	Screw length 85 mm			Screw length 115 mm			Screw length 145 mm			Screw length 205 mm			Screw length 305 mm			Screw length 405 mm		
	F _{max}	F _N	v		max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.
	[kN]	[kN]	[m/s]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	
SEZ 4-1	4.2	1.3	0.23	30	0.61	4.7	60	0.7	4.1	90	0.79	3.6	150	0.98	3	250	1.28	2.3	350	1.58	1.8	
SEZ 4-2	8.3	2.5	0.23	30	0.93	6.2	60	1.02	5.7	90	1.11	5.2	150	1.3	4.5	250	1.6	3.6	350	1.9	3.0	

10 mm pitch

Motor type	Axial forces			Travel speed	Screw length 85 mm			Screw length 115 mm			Screw length 145 mm			Screw length 205 mm			Screw length 305 mm			Screw length 405 mm		
	F _{max}	F _N	v		max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.
	[kN]	[kN]	[m/s]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	
SEZ 4-1	2.1	0.7	0.46	20	0.61	9.5	50	0.7	8.2	80	0.79	7.3	140	0.98	5.9	240	1.28	4.5	340	1.58	3.7	
SEZ 4-2	4.1	1.3	0.46	20	0.93	12.4	50	1.02	11.3	80	1.11	10.4	140	1.3	8.9	240	1.6	7.2	340	1.9	6.1	

25 mm pitch

Motor type	Axial forces			Travel speed	Screw length 85 mm			Screw length 115 mm			Screw length 145 mm			Screw length 205 mm			Screw length 305 mm			Screw length 405 mm		
	F _{max}	F _N	v		max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.	max. Stroke	MOI	Accel.
	[kN]	[kN]	[m/s]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	Stroke [mm]	J [kgcm ²]	a [m/s ²]	
SEZ 4-1	0.8	0.3	1.15	-	-	-	40	0.7	20.6	70	0.79	18.2	130	0.98	14.8	230	1.28	11.3	330	1.58	9.1	
SEZ 4-2	1.6	0.5	1.15	-	-	-	40	1.02	28.3	70	1.11	26	130	1.3	22.3	230	1.6	18.1	330	1.9	15.2	

Dimensions

Center DM6-DIN332

Lubricating hole

M6

ø 62

ø 60 I6

ø 40 g6

12

KGT25x P

L3

L4

L5

L screw length

2

10

L / LBR

Lubricating hole

35

22.5°

4 x ø 5.5

6 x ø 6.6

45°

90°

ø 51

□ 70

ø 75

112

Ball screw dimensions:

Pitch [mm]	L3 [mm]	L4 [mm]	L5 [mm]
5	43	10	12
10	61	10	16
25	70	10	16

Motor type	L [mm]	LBR [mm]
SEZ 4-1-x-x-Rx0	144.5	177.5
SEZ 4-1-x-x-xx0	165.5	198.5
SEZ 4-2-x-x-Rx0	176	209
SEZ 4-2-x-x-xx0	197	230

Our know-how – Your benefits.



Special features of SEZ

- Direct mounting of the rotor on the screw
- No belts
- No couplings
- Very rigid connection
- Statically determinate system
- No additional wearing parts
- Installation-ready system

Advantages of SEZ

The SEZ stands out from other linear technologies, such as pneumatic cylinders, through its considerably higher efficiencies and high positioning accuracy. Multiple travel profiles can be set, and the SEZ can be integrated easily into automation processes. Generally, you achieve greater energy efficiency with the SEZ.

At a glance:

- ▶ High and constant force
- ▶ High precision
- ▶ High energy efficiency

The comparison.

	SPINDASYN	Toothed belt	Rack	Crank mechanism	Hydraulic cylinder	Pneumatic cylinder	Linear motor
Force	+++	-	○	--	++++	-	-
Speed	+	++	++	+++	--	○	+++
Investment costs	○	++	○	+++	○	+++	---
Operating costs	+	○	+	+++	---	---	++
Positioning accuracy	+++	+	○	-	-	---	+++
Size	+	○	○	-	+++	+	○
Dynamic response	+	+	++	+++	○	--	+++
Energy efficiency	+++	+++	+++	+++	--	---	○
Commissioning effort	+	+	+	--	--	--	+
Reliability	++	++	++	+	○	--	+++
Scalability (stroke)	+	○	+++	---	---	---	○

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AMK Arnold Müller GmbH & Co. KG
Drives and Controls

PO Box 1355
73221 Kirchheim/Teck, Germany

Gaußstraße 37–39
73230 Kirchheim/Teck
Germany

Phone: +49 (0)7021/5005-0
Fax: +49 (0)7021/5005-199

info@amk-antriebe.de
www.amk-antriebe.de

The information in this brochure serves only as a product description for a series of products. Deviations are possible due to specific product features and ongoing development activities. Before using data for calculation or design purposes, please inquire about the current status and request product-specific dimension drawings and data sheets.