SPINDASYN

Powerful. Precise. Energy-

The SPINDASYN series of motors is always a good choice when powerful forces and exceptional accuracy are required on linear movements.

The SEZ electric cylinder is an expansion of the series. The SEZ is a pre-installed system where the rotor is pressed directly onto the spindle. This means you receive a pre-installed system that is extremely rigid and without additional wear parts.

The positioning and force control of the SEZ provide fundamental advantages against other linear technologies, such as pneumatic cylinders. These include, above all, the high energy efficiency of the electric cylinder and the low commissioning costs.

Comparison	SPINDASYN	Toothed belt	Toothed rack	Crank drive	hydr. cylinder	pneum. cylinder	Linear motor
Force	+++	-	0	--	++++	-	-
Speed	+	++	++	+++	--	0	+++
Investment costs	0	++	0	+++	0	+++	---
Operating costs	+	0	+	+++	---	---	++
Positioning accuracy	+++	+	0	-	-	---	+++
Construction size	+	0	0	-	+++	+	0
Dynamism	+	+	++	+++	0	--	+++
Energy efficiency	+++	+++	+++	+++	--	---	0
Commissioning costs	+	+	+	--	--	--	+
Reliability	++	++	++	+	0	--	+++
Scalability (stroke)	+	0	+++	---	---	---	0

Type code

SEZ	3	–	X	–	5 10 16 25	–	X	K	R	B	O	–	3500

- SEZ: SPINDASYN electric cylinder
- 3: Motor construction size
- X: Permanent stall torque in Nm
- 5 / 10 / 16 / 25: Spindle pitch in mm
- X: maximum stroke in mm
- K: Ball screw (KGT)
- R: Encoder R: Resolver; U: Single-turn; V: Multi-turn; S and T
- B: Holding brake B: with brake, O: without brake)
- O: Cooling O: without, F: external fan, W: Liquid
- 3500: theoretical idle speed 1/min

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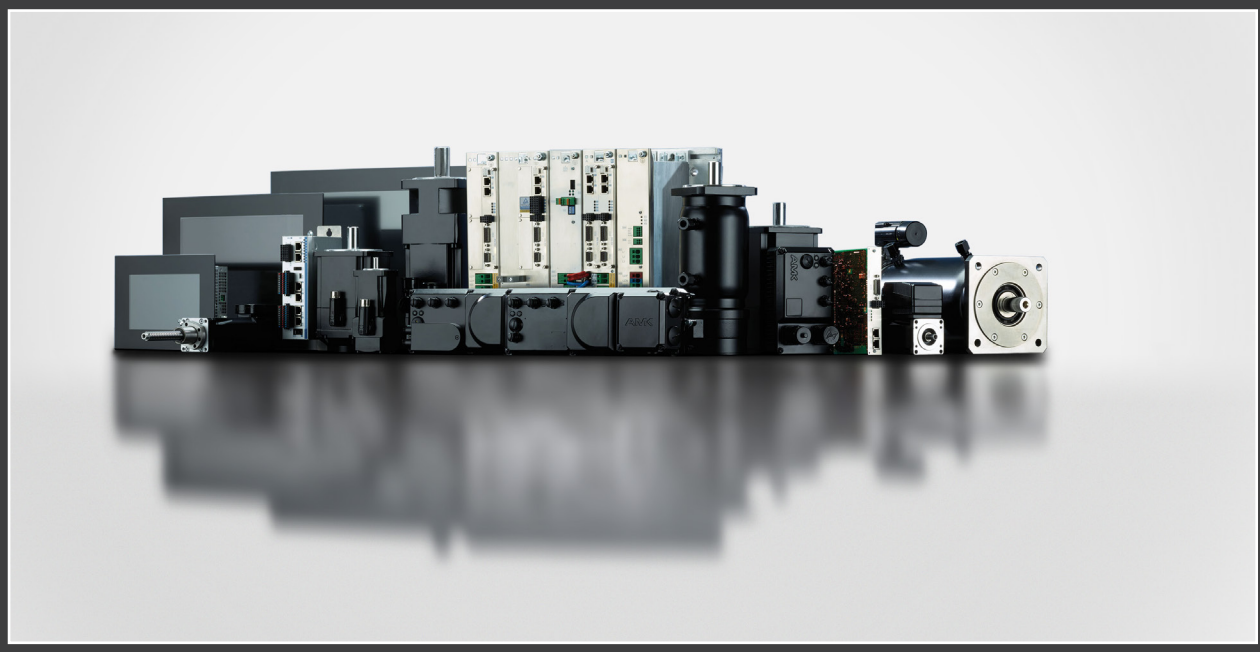
Control your Motion



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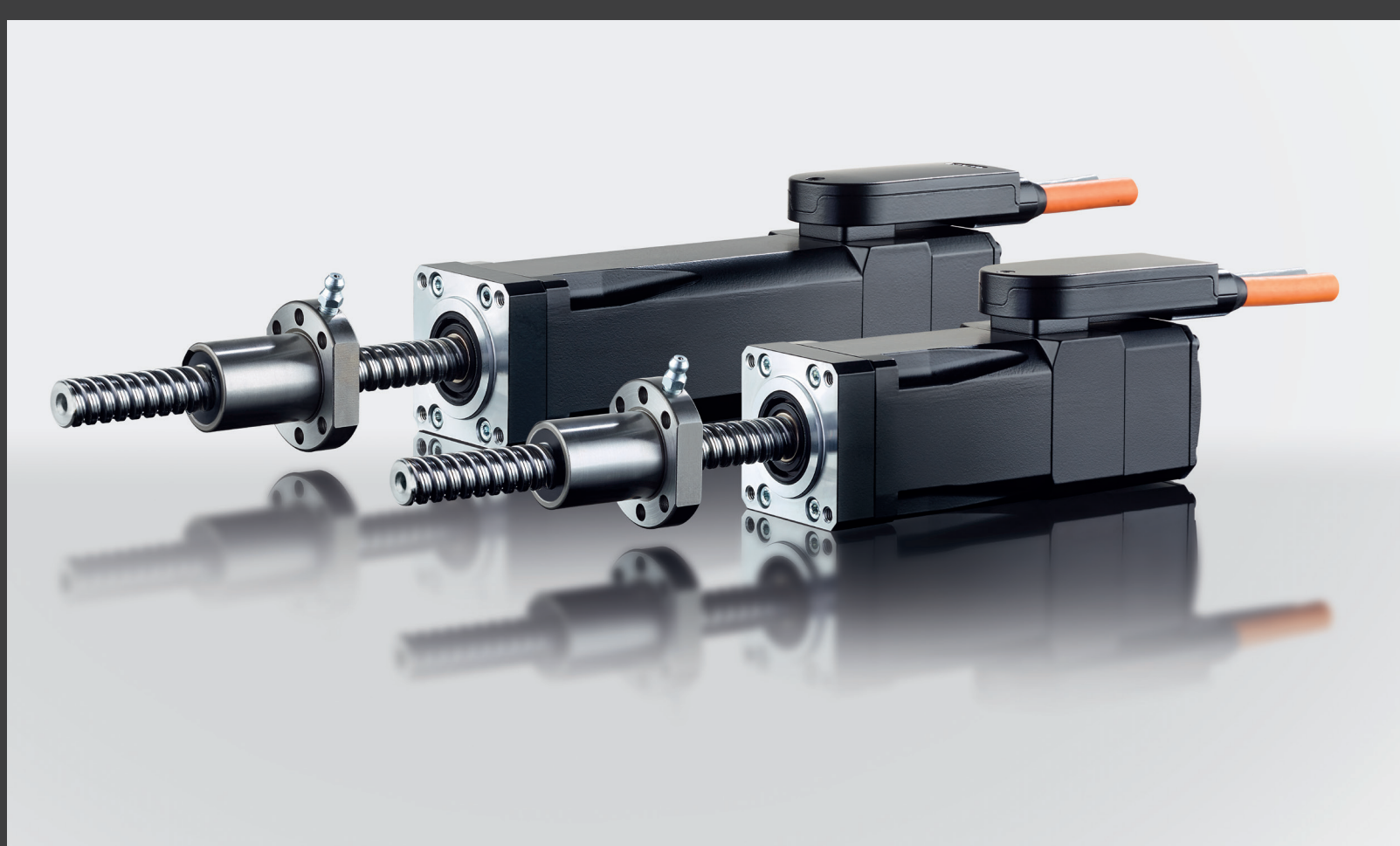
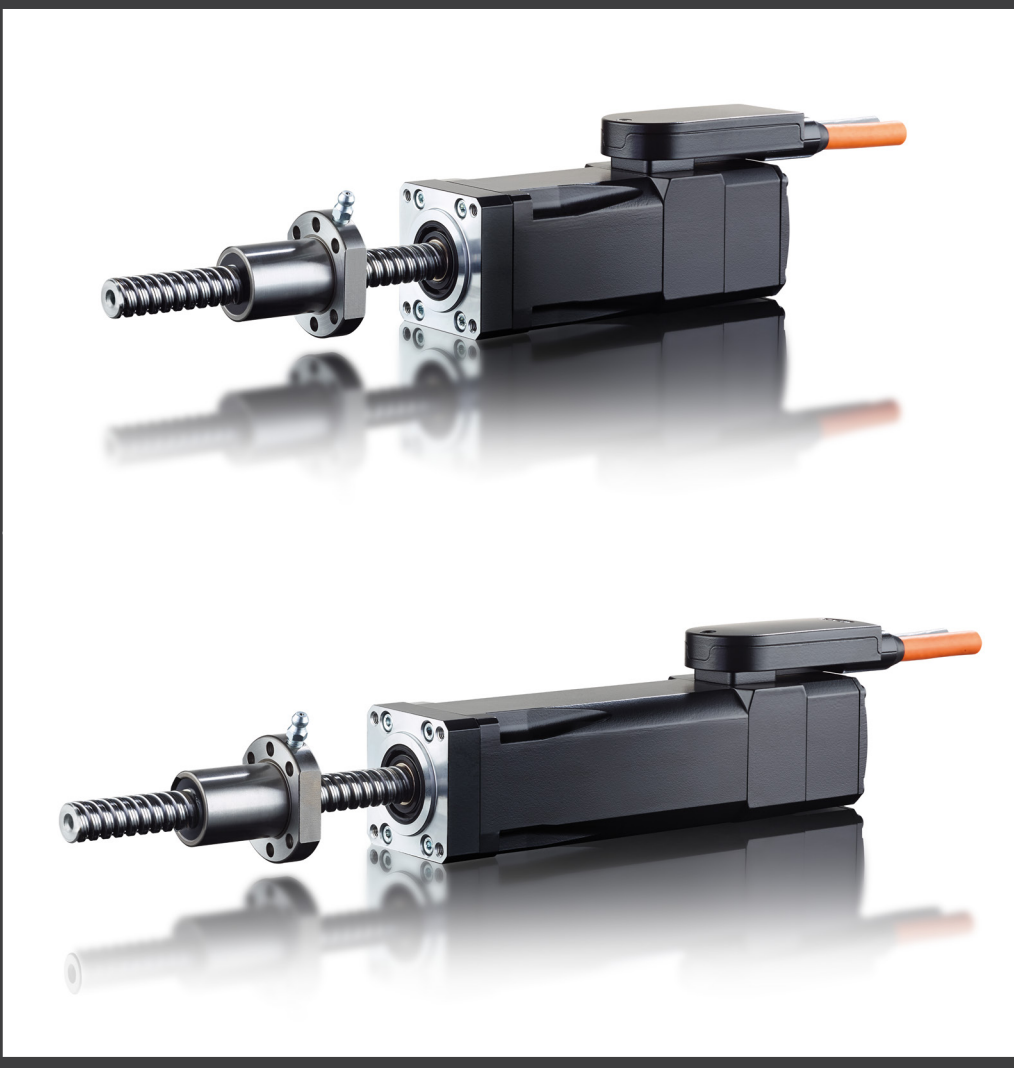
MEMBER OF THE ARBURG FAMILY

SPINDASYN SEZ ELECTRIC CYLINDER

Precise power and energy-efficiency



LINEAR



BENEFITS

- **High, consistent force**
- **High precision**
- **High energy efficiency**

Special features of the SEZ

- Rotor is directly assembled onto the spindle
- No belts
- No couplings
- Extremely rigid connection
- Statically determined system
- No additional wear parts
- Pre-installed

Compared to other linear technologies such as the pneumatic cylinder, the SEZ is significantly more effective and provides greater positional accuracy. Several traversing profiles can be set up and the SEZ can be readily integrated into automation processes. The SEZ also generally achieves higher levels of energy efficiency.

SEZ 3

Technical data

5-degree pitch

Motor type	Axial forces		Traversing speed	Spindle length 85 mm			Spindle length 115 mm			Spindle length 145 mm			Spindle length 205 mm			Spindle length 305 mm			Spindle length 405 mm		
				max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration
	Fmax [kN]	FN [kN]	v [m/s]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]
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

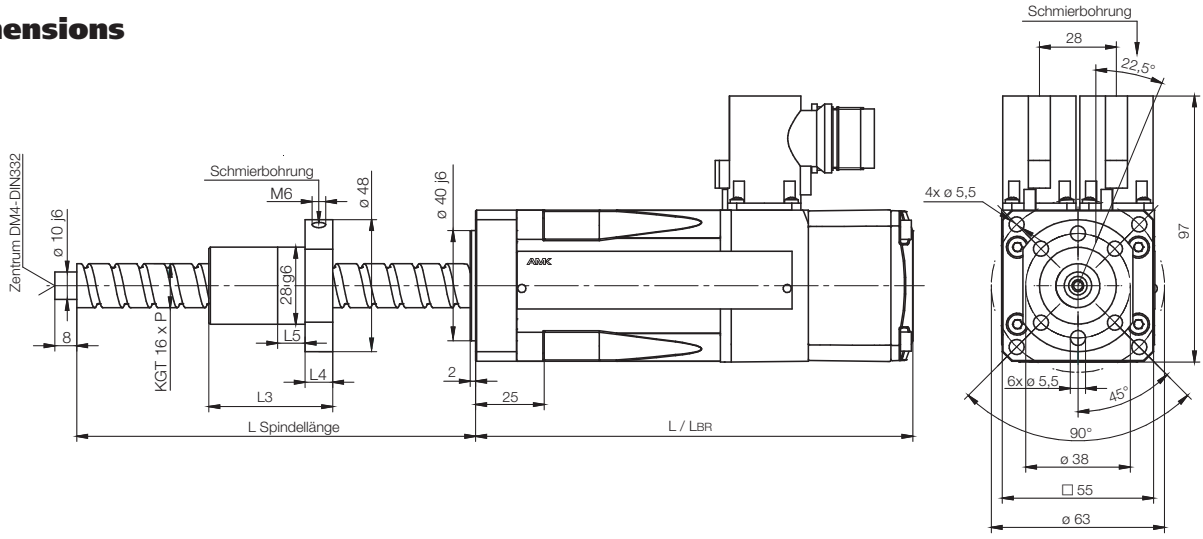
10-degree pitch

Motor type	Axial forces		Traversing speed	Spindle length 85 mm			Spindle length 115 mm			Spindle length 145 mm			Spindle length 205 mm			Spindle length 305 mm			Spindle length 405 mm		
				max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration
	Fmax [kN]	FN [kN]	v [m/s]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]
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-degree pitch

Motor type	Axial forces		Traversing	Spindle length 85 mm			Spindle length 115 mm			Spindle length 145 mm			Spindle length 205 mm			Spindle length 305 mm			Spindle length 405 mm		
				max. stroke	inertia	acceleration	max. stroke	inertia	acceleration	max. stroke	inertia	acceleration	max. stroke	inertia	acceleration	max. stroke	inertia	acceleration	max. stroke	inertia	acceleration
	Fmax [kN]	FN [kN]	v [m/s]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]
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



Spindle dimensions

Pitch [mm]	L3 [mm]	L4 [mm]	L5 [mm]
5	40	10	10
10	45	10	10
16	61	12	20

Motor type	L [mm]	LBR [mm]
SEZ 3-0.5-x-x-RxO	129	159
SEZ 3-0.5-x-x-xxO	141	171
SEZ 3-1-x-x-RxO	189	219
SEZ 3-1-x-x-xxO	201	231

SEZ 4

Technical data

5-degree pitch

Motor type	Axial forces		Traversing speed	Spindle length 85 mm			Spindle length 115 mm			Spindle length 145 mm			Spindle length 205 mm			Spindle length 305 mm			Spindle length 405 mm		
				max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration
	Fmax [kN]	FN [kN]	v [m/s]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]
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

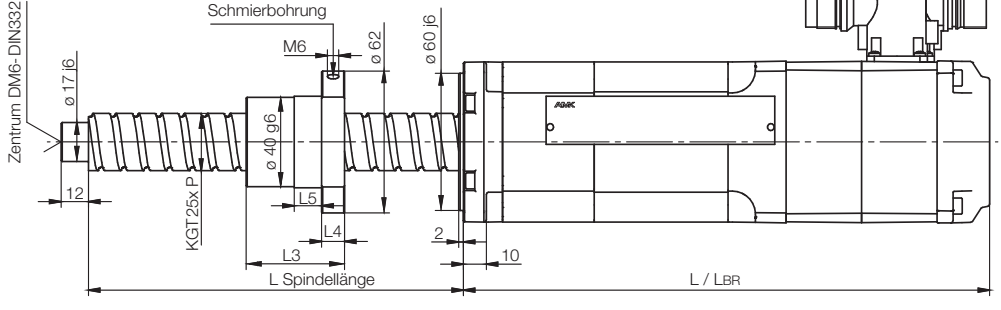
10-degree pitch

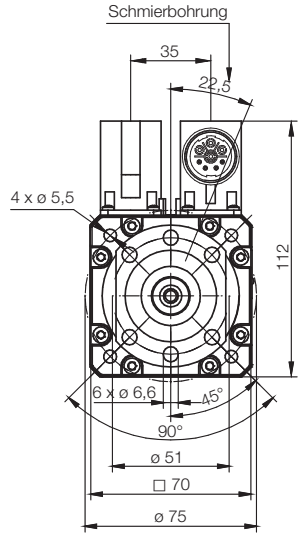
Motor type	Axial forces		Traversing speed	Spindle length 85 mm			Spindle length 115 mm			Spindle length 145 mm			Spindle length 205 mm			Spindle length 305 mm			Spindle length 405 mm		
				max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration
	Fmax [kN]	FN [kN]	v [m/s]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]
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-degree pitch

Motor type	Axial forces		Traversing speed	Spindle length 85 mm			Spindle length 115 mm			Spindle length 145 mm			Spindle length 205 mm			Spindle length 305 mm			Spindle length 405 mm		
				max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration	max. stroke length	inertia	acceleration
	Fmax [kN]	FN [kN]	v [m/s]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]	Stroke [mm]	J [kgcm2]	a [m/s2]
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 4-2w	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





Spindle 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-RxO	144.5	177.5
SEZ 4-1-x-x-xxO	165.5	198.5
SEZ 4-2-x-x-RxO	176	209
SEZ 4-2-x-x-xxO	197	230

Pitch accuracy V300p:

The pitch accuracy V300p describes the maximum deviation from the target for a randomly selected length of 300 mm within the working length of the ball screw. SEZ motors are equipped with a tolerance class 7 spindle as standard. Other tolerance classes are available on request.

Tolerance class	5	7	10
Travel deviation (mm)	0.023	0.052	0.21