

Linear Drive with Ball Screw Drive and Piston Rod Series OSP-E..SBR



Technical Data

Characteristics			
Characteristics	Symbol	Unit	Description
General Features			
Series			OSP-E..SBR
Name			Linear drive with ball screw drive and piston rod
Mounting			see drawings
Temperature range	ϑ_{\min} ϑ_{\max}	°C °C	-20 +80
Weight (Mass)		kg	see table
Installation			In any position
Material	Slotted profile		Al anodized
	Ball screw		Steel
	Ball nut		Steel
	Piston rod		Stainless steel
	Guide bearings		Low friction plastic
	Sealing band		Hardened, corrosion resistant steel
	Screws, nuts		Zinc plated steel
	Mountings		Zinc plated steel and aluminium
Encapsulation class		IP	54

Weight (Mass) and Inertia						
Series	Weight (Mass) [kg]		Moving Mass [kg]		Inertia [x 10 ⁻⁶ kgm ²]	
	At stroke 0 m	Add per metre stroke	At stroke 0 m	Add per metre stroke	At stroke 0 m	Add per metre stroke
OSP-E25SBR	0.7	3.0	0.2	0.9	1.2	11.3
OSP-E32SBR	1.7	5.6	0.6	1.8	5.9	32.0
OSP-E50SBR	4.5	10.8	1.1	2.6	50.0	225.0

Installation Instructions

Use the threaded holes in the free end cap and a mid-section support close to the motor end for mounting the linear actuator.

Maintenance

All moving parts are long-term lubricated for a normal operational environment. PARKER-ORIGA recommends a check and lubrication of the linear drive, and if necessary a change of wear parts, after an operation time of 12 months or 3000 km travel of distance. Please refer to the operating instructions supplied with the drive.

First service start-up

The maximum values specified in the technical data sheet for the different products must not be exceeded. Before taking the linear drive machine into service, the user must ensure the adherence to the EC Machine Directive 91/368/EEC.

Linear Drive with Ball Screw Drive and Piston Rod

Series OSP-E..SBR
Size 25, 32, 50



Standard Version:

- Standard carrier with internal plain bearing guide
- Pitches of Ball Screw Spindle:
Type OSP-E25SBR : 5 mm
Type OSP-E32SBR: 5, 10 mm
Type OSP-E50SBR: 5, 10, 25 mm

Option:

- Key way version



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The right to introduce technical modifications is reserved

Technical Data

Sizing Performance Overview Maximum Loadings

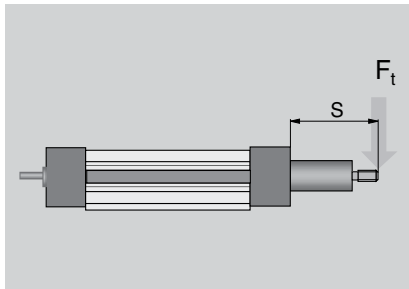
Sizing of Linear Drive

The following steps are recommended for selection :

1. Check that the maximum values in the adjacent chart and transverse force/stroke graph below are not exceeded.
2. Check the lifetime/travel distance in graph below.
3. When sizing and specifying the motor, the RMS-average torque must be calculated using the cycle time in application.

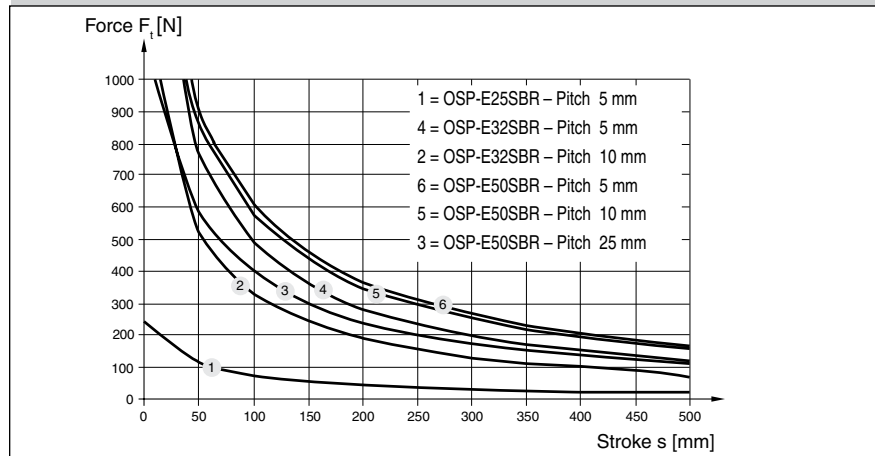
Transverse Force / Stroke

The permissible transverse force is reduced with increasing stroke length, according to the adjacent graphs.



Performance overview							
Characteristics	Unit	Description					
Series		OSP-E25SBR		OSP-E32SBR		OSP-E50SBR	
Pitch	[mm]	5	5	10	5	10	25
Max. speed	[m/s]	0.25	0.25	0.5	0.25	0.5	1.25
Linear motion per revolution drive shaft	[mm]	5	5	10	5	10	25
Max. rpm drive shaft	[min ⁻¹]	3000	3000		3000		
Max. effective action force F_A	[N]	260	900		1200		
Corresponding torque drive shaft	[Nm]	0.45	1.1	1.8	1.3	2.8	6.0
No-load torque	[Nm]	0.2	0.2	0.3	0.3	0.4	0.5
Max. allowable torque on drive shaft	[Nm]	0.6	1.5	2.8	4.2	7.5	20
Max. allowable acceleration	[m/s ²]	5	5		5		
Typical repeatability	[mm/m]	±0.05		±0.05		±0.05	
Max. Standard stroke length	[mm]	500	500		500		

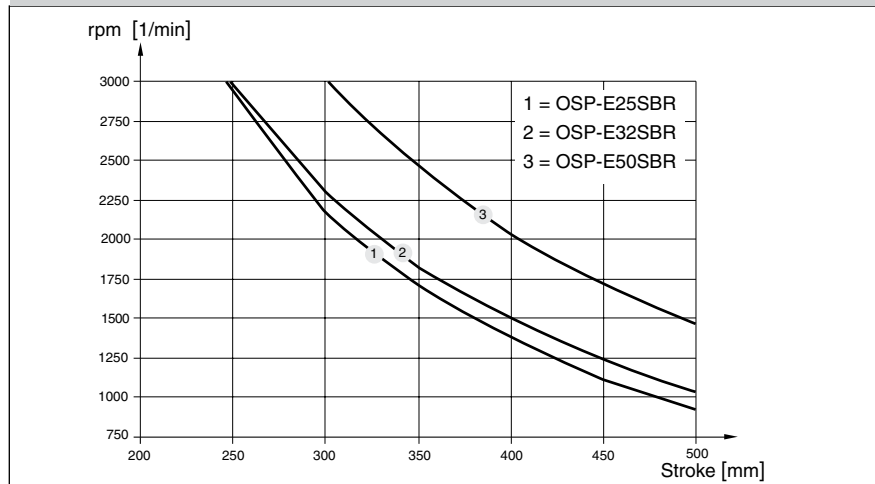
Transverse Force / Stroke



Maximum rpm / Stroke

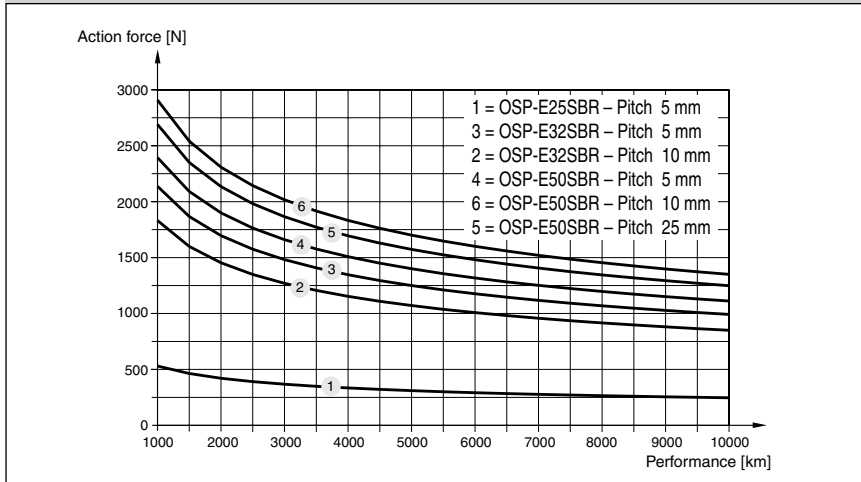
At longer strokes the speed has to be reduced according to the adjacent graphs.

Maximum rpm / Stroke



Technical Data

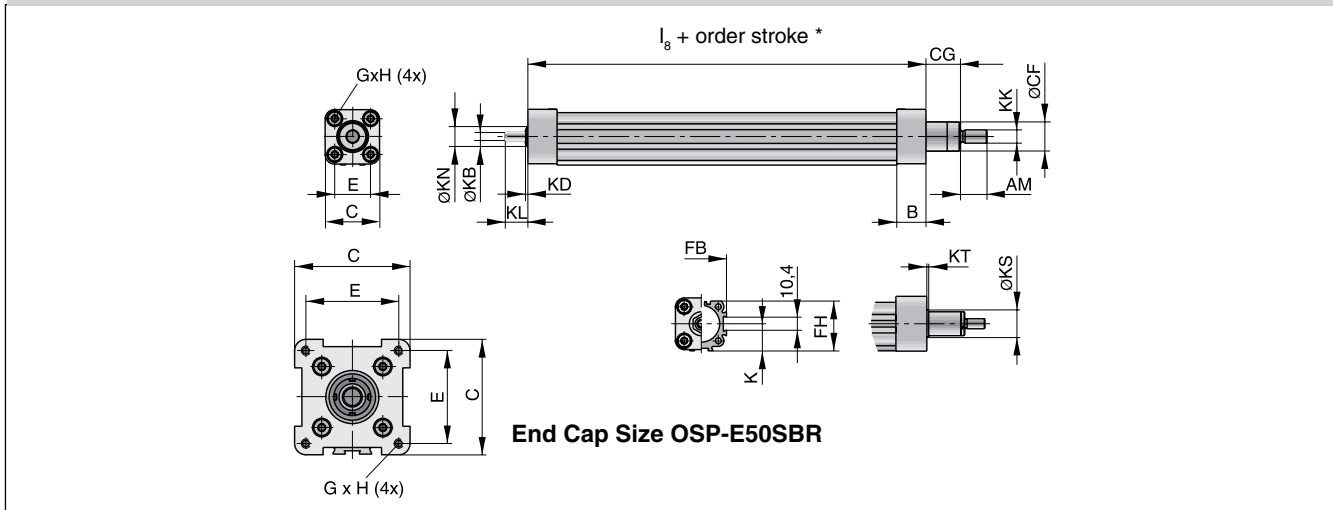
Performance as a function of the action force



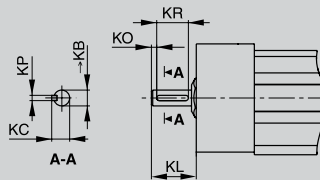
Performance / Action force

The performance to be expected depends on the maximum required actions force of the application. An increase of the action force will lead to a reduced performance.

Linear Drive with Ball Screw Drive and Piston Rod – Basic Unit Series OSP-E..SBR



Plain shaft with keyway (Option)



Dimension Table [mm]

Series	∅KB _{h7}	KC	KL Opt.3	Opt.4	KO	KP ^{P9}	KR
OSP-E25SBR	6	6.8	17	24	2	2	12
OSP-E32SBR	10	11.2	31	41	5	3	16
OSP-E50SBR	15	17	43	58	6	5	28

Option 3: Keyway
 Option 4: Keyway long version

* Note:

The mechanical end position must not be used as a mechanical end stop. Allow an additional safety clearance at both ends equivalent to the linear movement of one revolution of the drive shaft, but at least 25 mm.

Order stroke = required travel + 2 x safety distance.

The use of an AC motor with frequency converter normally requires a larger safety clearance than that required for servo systems. For further information, please contact your local PARKER-ORIGA representative.

Dimension Table [mm]

Series	B	C	E	G x H	K	l _g	AM	∅CF	CG	FB	FH	∅KB	KD	KK	KL	∅KN	∅KS	KT
OSP-E25SBR	22	41	27	M5 x 10	21.5	110	20	22	26	40	39.5	6 _{h7}	2	M10x1.25	17	13	–	–
OSP-E32SBR	25.5	52	36	M6 x 12	28.5	175.5	20	28	26	52	51.7	10 _{h7}	2	M10x1.25	31	20	33	2
OSP-E50SBR	33	87	70	M6 x 12	43	206	32	38	37	76	77	15 _{h7}	3	M16x1.5	43	28	44	3

