

# Linear Drive with Trapezoidal Screw Drive and Piston Rod Series OSP-E..STR



## Technical Data

Characteristics			
Characteristics	Symbol	Unit	Description
<b>General Features</b>			
Series			OSP-E..STR
Name			Linear Drive with Trapezoidal Screw Drive and Piston Rod
Mounting			See drawings
Temperature Range	$\varnothing_{\min}$ $\varnothing_{\max}$	°C °C	-20 +70
Weight (mass)		kg	See table
Installation			In any position
Material	Slotted profile		Extruded anodized aluminium
	Trapezoidal screw		Cold rolled steel
	Drive nut		Thermoplastic polyester
	Piston rod		Stainless steel
	Sealing band		Hardened, corrosion resistant steel
	Guide bearings		Low friction plastic
	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 <sup>-6</sup> kgm <sup>2</sup> ]	
	At stroke 0 m	Add per metre stroke	At stroke 0 m	Add per metre stroke	At stroke 0 m	Add per metre
OSP-E25STR	0.4	2.9	0.1	0.7	1.1	10.3
OSP-E32STR	0.9	5.4	0.2	1.2	3.9	29.6
OSP-E50STR	2.4	10.6	0.8	1.6	24.6	150

### 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.

The linear actuator can be fitted in any position. To prevent contamination such as fluid ingress, the actuator should be fitted with its sealing band facing downwards.

### 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 300 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.

### Contactless position sensing

Please use the magnetic switch mentioned below:

**KL3096** (Type RS-K, normally closed, Reed-contact, with cable)

**KL3098** (Type ES-S, Magnetic electronic, PNP-switch with DIN-plug)

# Linear Drive with Trapezoidal Screw Drive and Piston Rod

**Series OSP-E..STR  
Size 25, 32, 50**



### Standard Version:

- Dovetail profile for mounting of accessories and the actuator itself
- Pitch of Trapezoidal Spindle:  
Type OSP-E25STR: 3 mm  
Type OSP-E32STR: 4 mm  
Type OSP-E50STR: 5 mm



## Technical Data

# Sizing Performance Overview Maximum Loadings

### Sizing of Linear Drive

The following steps are recommended for selection :

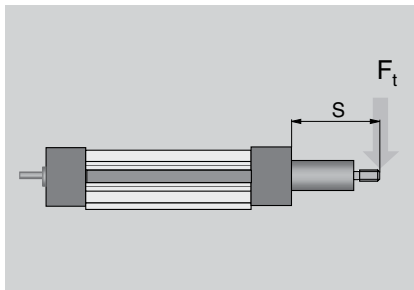
1. Check that the maximum values in the adjacent chart and transverse force/stroke graph below are not exceeded.
2. Check the lifetime/travel distance in graph below.
3. When sizing and specifying the motor, the RMS-average torque must be calculated using the cycle time in application

Performance Overview				
Characteristics	Unit	Description		
Size		OSP-E25STR	OSP-E32STR	OSP-E50STR
Pitch	[mm]	3	4	5
Max. speed	[m/s]	0.075	0.1	0.125
Linear motion per revolution, drive shaft	[mm]	3	4	5
Max. rpm, drive shaft	[min <sup>-1</sup> ]	1500 <sup>2)</sup>	1500	1500
Max. effective action force $F_A$	[N]	800	1600	3300
Corresponding torque on drive shaft	[Nm]	1.35	3.4	9.25
No-load torque	[Nm]	0.3	0.4	0.5
Max. allowable torque on drive shaft	[Nm]	1.7	4.4	12
Self-locking force $F_L^{1)}$	[N]	800	1600	3300
Typical repeatability	[mm/m]	±0,5	±0,5	±0,5
Max. Standard stroke length	[mm]	500	500	500

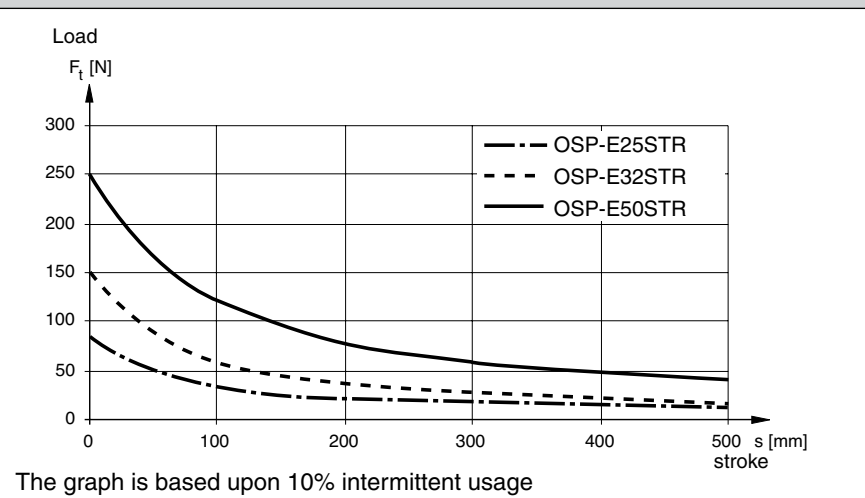
<sup>1)</sup> Related to screw types Tr 12x3, Tr 16x4, Tr 24x5  
see data sheet 1.35.011-1 – for inertia

<sup>2)</sup> from 0,4 m stroke max. 1200 min<sup>-1</sup> permissible

## Transverse Force / stroke



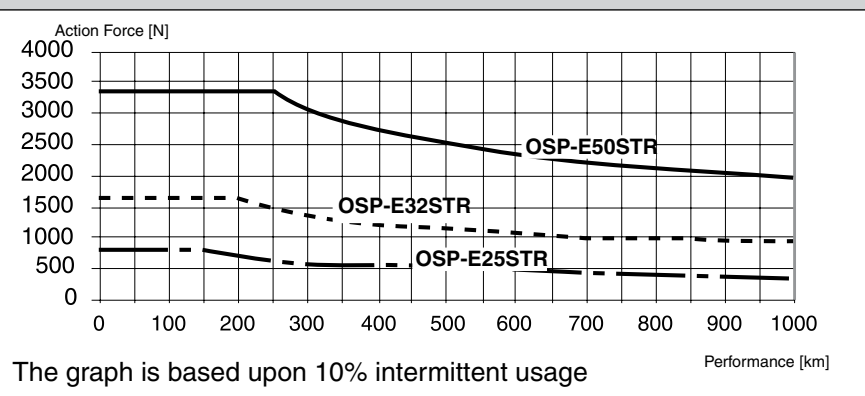
### Transverse Force / Stroke



## Performance / Action Force

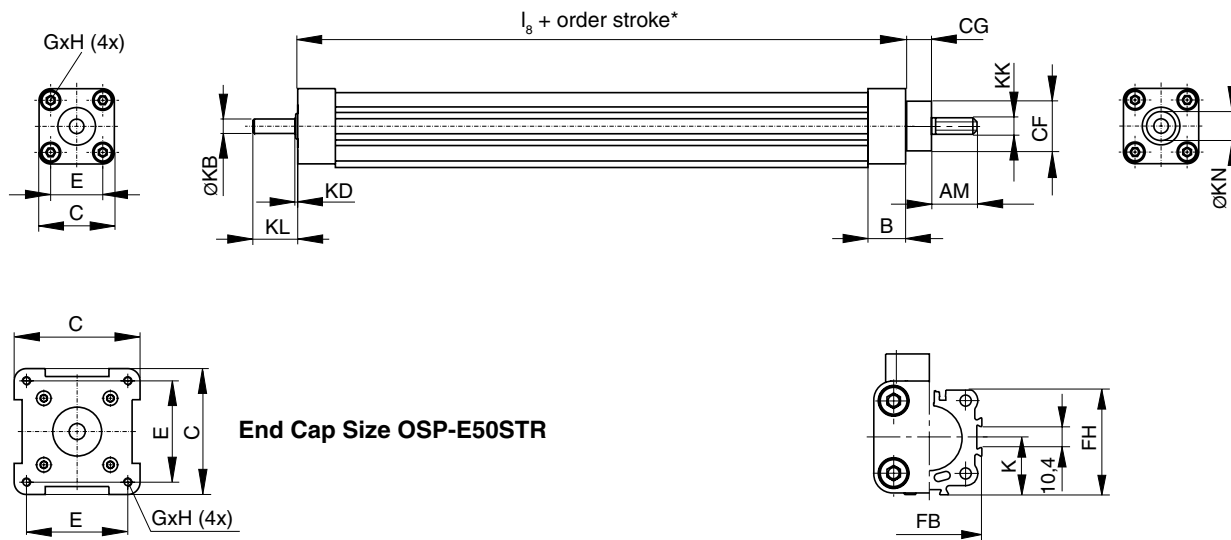
The Linear Drives are designed for a 10% intermittent usage. The performance to be expected depends on the maximum required actions force of the application. An increase of the action force will lead to a reduced performance.

### Performance as a function of the action force

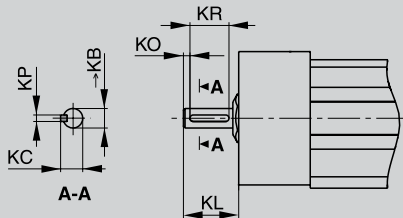


## Dimensions

### Linear Drive with Trapezoidal Screw Drive and Piston Rod – Basic Unit Series OSP-E..STR



#### Plain shaft with keyway (Option)



Dimension Table [mm]

Series	∅KB <sub>h7</sub>	KC	KL Opt.3	Opt.4	KO	KP <sup>P9</sup>	KR
OSP-E25STR	6	6.8	17	24	2	2	12
OSP-E32STR	10	11.2	31	41	5	3	16
OSP-E50STR	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	I <sub>8</sub>	AM	CF	CG	FB	FH	KB	KD	KK	KL	KN
OSP-E25STR	22	41	27	M5 x10	21.5	83	20	22	26	40	39.5	6 <sub>h7</sub>	2	M10x1.25	17	13
OSP-E32STR	25.5	52	36	M6 x12	28.5	94	20	28	26	52	51.7	10 <sub>h7</sub>	2	M10x1.25	31	20
OSP-E50STR	33	87	70	M6 x12	43	120	32	38	37	76	77	15 <sub>h7</sub>	3	M16x1,543	28	