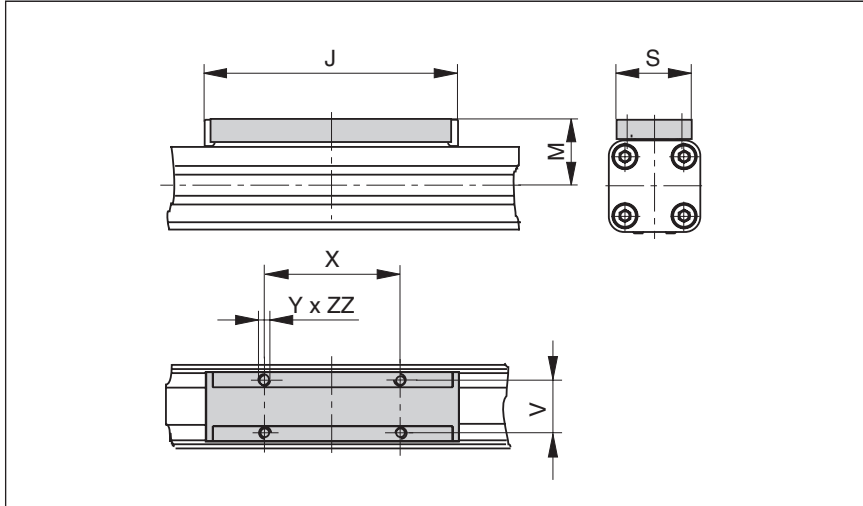


**Standard Carrier
Series OSP-E..SB**

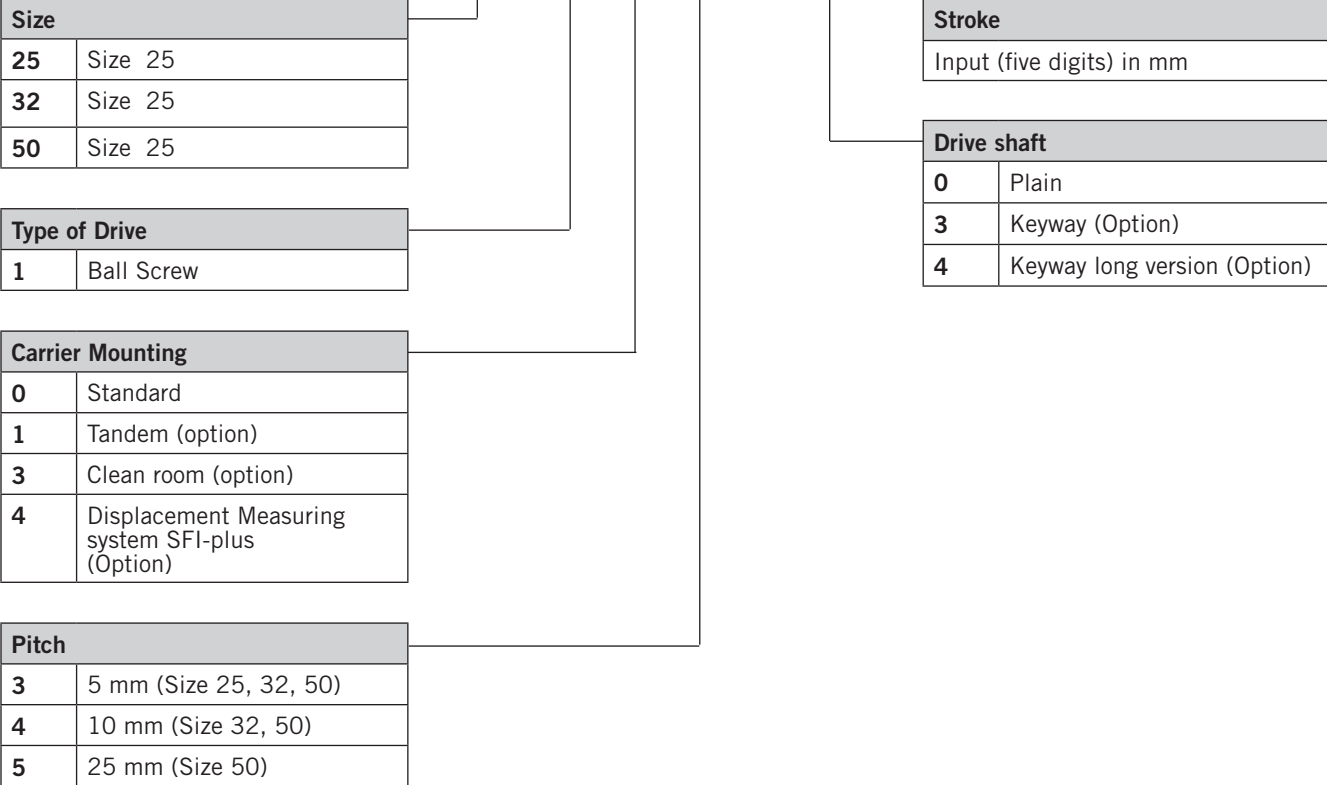


Dimension table [mm]

Series	A	B	C	E	G x H	J	K	M	S	V	X	Y	CF	FB	FH	KB	KD	KL	KM _{min}	KN	ZZ
OSP-E25SB	100	22	41	27	M5 x 10	117	21.5	31	33	25	65	M5	52.5	40	39.5	6 _{h7}	2	17	120	13	8
OSP-E32SB	125	25.5	52	36	M6 x 12	152	28.5	38	36	27	90	M6	66.5	52	51.7	10 _{h7}	2	31	165	20	10
OSP-E50SB	175	33	87	70	M6 x 12	200	43	49	36	27	110	M6	92.5	76	77	15 _{h7}	3	43	235	28	10

Order Instruction

OSP-E 25 - 1 0 3 0 0 - 00500



Accessories - please order separately

Description	For more informations see Data Sheet No.
Coupling Housing	1.44.006E-5
End Cap Mountings	1.44.010E-3
Mid-Section Support	1.44.010E-8
Adapter Profile	1.44.010E-9
T-Nut Profile	1.44.010E-10
Clevis Mounting	1.44.010E-13, -14
Inversion Mounting	1.44.010E-15
Magnetic Switches	1.44.030E
Drive systems and components for electric linear drives OSP-E	A4P019E

Linear Drive with Trapezoidal Screw Drive Series OSP-E..ST



Contents

Description	Data Sheet No.	Page
Overview	1.35.001E	59-62
Technical Data	1.35.002E-1 to 4	63-66
Dimensions	1.35.002E-5	67
Order Instructions	1.35.002E-6	68

ELECTRIC LINEAR DRIVE FOR INTERMITTENT APPLICATIONS

A completely new generation of linear drives which can be integrated into any machine layout neatly and simply.

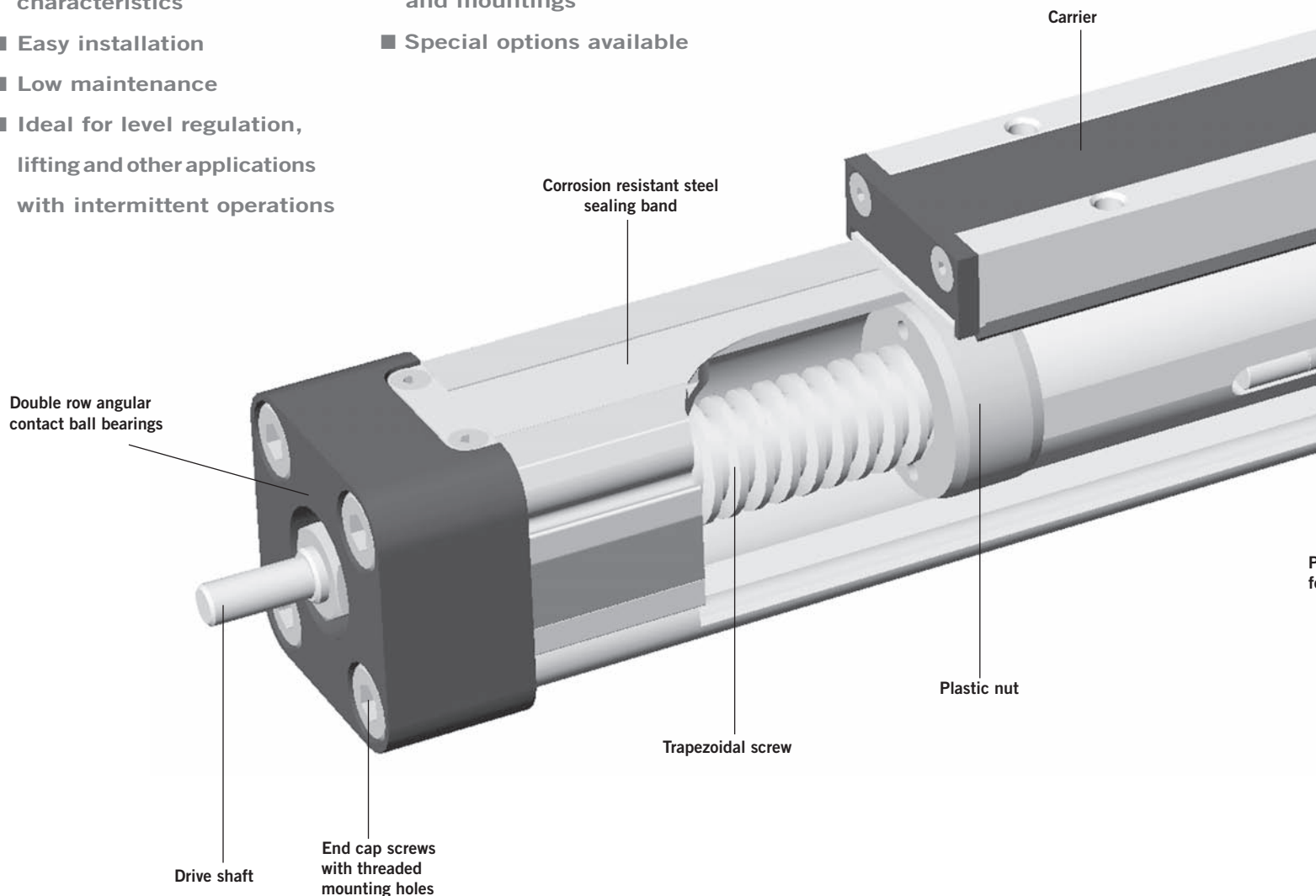
Linear Drive with Trapezoidal Screw Drive and internal Plain Bearing Guide

Advantages

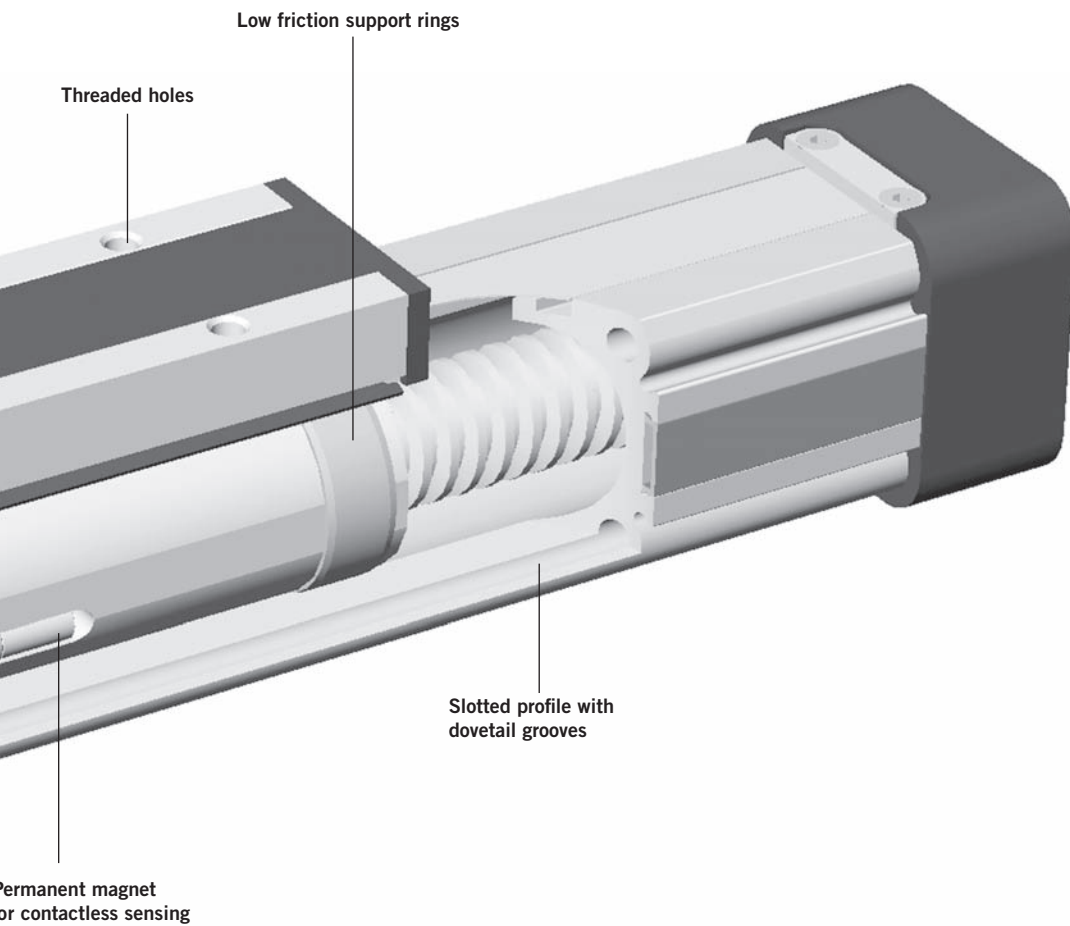
- Accurate path and position control
- High force output
- Self-locking
- Excellent slow speed characteristics
- Easy installation
- Low maintenance
- Ideal for level regulation, lifting and other applications with intermittent operations

Features

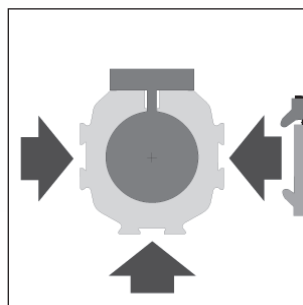
- Integrated drive and guidance system
- Complete motor and control packages
- Diverse range of accessories and mountings
- Special options available



Take the easy route and load all the dimensions into your system. The file is suitable for all current CAD systems – available on CD-Rom or at www.parker-origa.com



The dovetailed mounting rails of the new linear drive expand its function into that of a universal system carrier. Modular system components are simply clamped on.



SLIDELINE
Combination with sliding guide for heavy-duty operation



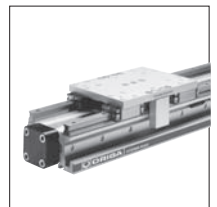
POWERSLIDE
Roller bearing precision guidance for smooth travel and high dynamic or static loads.



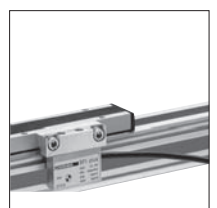
PROLINE
The compact aluminium roller guide for high loads and velocities.



Heavy Duty guide HD
linear guides for heavy duty applications



SFI-plus
displacement measuring system

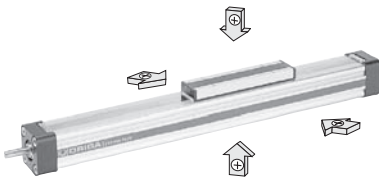


SERIES OSP-E, LINEAR DRIVE WITH TRAPEZOIDAL SCREW DRIVE AND INTERNAL PLAIN BEARING GUIDE

STANDARD VERSIONS OSP-E..ST

Data Sheet 1.35.002E-1, -2

Standard carrier with internal guidance and integrated magnet set for contactless position sensing. Dovetail profile for mounting of accessories and the actuator itself.



ACCESSORIES

MOTOR MOUNTINGS

Data Sheet 1.44.006E-5



END CAP MOUNTING

Data Sheet 1.44.010E-4

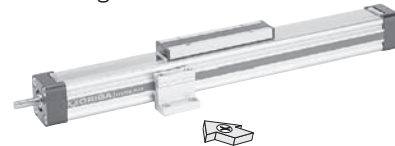
For end-mounting of the actuator



MID-SECTION SUPPORT

Data Sheet 1.44.010E-9

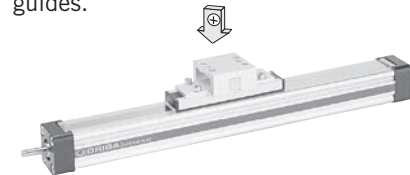
For supporting long drives or mounting the linear drive on the dovetail grooves.



CLEVIS MOUNTING

Data sheet 1.44.010E-14, -15

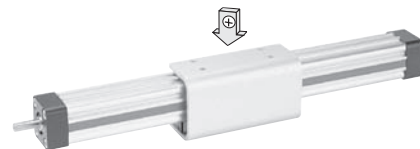
Carrier with tolerance and parallelism compensation to drive external linear guides.



INVERSION MOUNTING

Data Sheet 1.44.010E-16

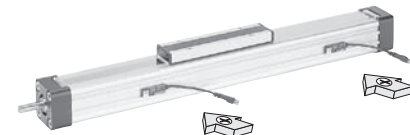
The inversion mounting, mounted on the carrier, transfers the driving force to the opposite side, e.g. for dirty environments.



MAGNETIC SWITCHES SERIES RS UND ES

Data sheet 1.44.030E

For contactless position sensing of end stop and intermediate carrier positions.



A3P154E00FAGOX

The right to introduce technical modifications is reserved

Linear Drive with Trapezoidal Screw Drive

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



Characteristics			
Characteristics	Symbol	Unit	Description
General Features			
Series			OSP-E..ST
Name			Linear Drive with Trapezoidal Screw Drive
Mounting			See drawings
Temperature Range	ϑ_{\min} ϑ_{\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
	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]			Inertia [x 10 ⁻⁶ kgm ²]	
	At stroke 0 m	Add per metre stroke	Moving mass	At stroke 0 m	Add per metre
OSP-E25ST	0.9	2.8	0.2	6	29.6
OSP-E32ST	2.1	5.0	0.5	21.7	81
OSP-E50ST	5.1	10.6	1.3	152	400

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 drive.

See if mid-section supports are needed using the maximum permissible unsupported length graph on data sheet 1.35.002E-3. At least one end cap must be secured to prevent axial sliding when mid-section support is used.

When the linear drive is moving an externally guided load, the clevis mounting must be used (see data sheet 1.44.010E-13,-14).

The linear drives can be fitted with the standard carrier mounting facing in any direction.

To prevent contamination such as fluid ingress, the drive should be fitted with its sealing band facing downwards.

The inversion mounting can be fitted to transfer the driving force to the opposite side (see data sheet 1.44.010E-15).

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.

Standard Versions:

- Standard carrier with internal plain bearing guide
- Dovetail profile for mounting of accessories and the actuator itself
- Pitch of Trapezoidal Spindle:
Type OSP-E25ST : 4 mm
Type OSP-E32ST: 4 mm
Type OSP-E50ST: 6 mm

Options:

- Displacement Measuring System SFI-plus (data sheet 1.44.035E)
- Keyway



Linear guides see 1.40.020E to 024E
Magnetic switches see 1.44.030E
Mountings and accessories see 1.44.006E, 1.44.010E

Sizing Performance Overview

Maximum Loadings

Sizing of Linear Drive

The following steps are recommended for selection :

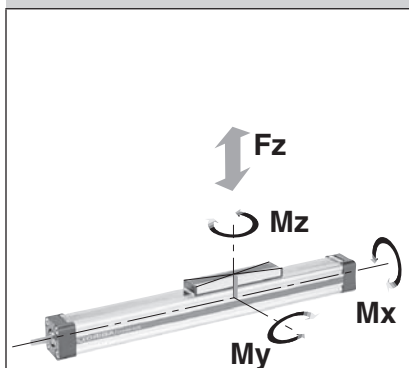
1. Check that maximum values in the table T3 are not exceeded.
2. Check the maximum values in graph on data sheet 1.35.002E-4 are not exceeded.
3. When sizing and specifying the motor, the RMS-average torque must be calculated using the cycle time of the application.
4. Check that the maximum allowable unsupported length is not exceeded (see on data sheet 1.35.002E-3).

Performance Overview				
Characteristics	Unit	Description		
Size		OSP-E25ST	OSP-E32ST	OSP-E50ST
Pitch	[mm]	4	4	6
Max. speed	[m/s]	0.1	0.1	0.15
Linear motion per revolution drive shaft	[mm]	4	4	6
Max. rpm, drive shaft	[min ⁻¹]	1500	1500	1500
Max. effective action force F _A	[N]	600	1300	2 500
Corresponding torque on drive shaft	[Nm]	1.35	3.2	8.8
No-load torque	[Nm]	0.3	0.4	0.5
Max. allowable torque on drive shaft	[Nm]	1.55	4.0	9.4
Self-locking force F _L ¹⁾	[N]	600	1300	2500
Repeatability	[mm/m]	±0.5	±0.5	±0.5
Max. Standard stroke length	[mm]	1100	2000	2500*

¹⁾ Related to screw types Tr 16x4, Tr 20x4, TR 30x6 see data sheet 1.35.002E-1 – for inertia.

* For strokes longer than 2000 mm in horizontal applications, please contact our customer support.

Forces, loads and moments



$$M = F \cdot l \text{ [Nm]}$$

$$M_x = M_{x \text{ static}} + M_{x \text{ dynamic}}$$

$$M_y = M_{y \text{ static}} + M_{y \text{ dynamic}}$$

$$M_z = M_{z \text{ static}} + M_{z \text{ dynamic}}$$

The distance l (lx, ly, lz) for calculation of the bending moments relates to the centre axis of the linear drive.

Combined Loads

If the linear drive is subjected to several forces, loads and moments at the same time, the maximum load is calculated with the equation shown here.

The maximum permissible loads must not be exceeded.

Maximum Permissible Loads

T3

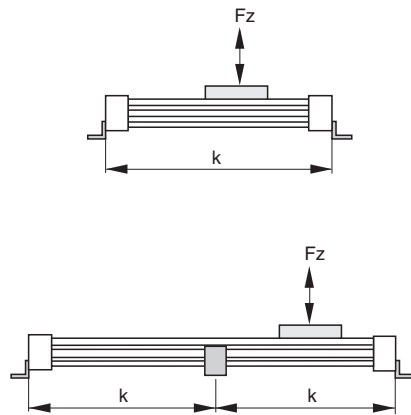
Size	Max. applied load [N] Fz	Max. moments [Nm]		
		Mx	My	Mz
OSP-E25ST	500	2	24	7
OSP-E32ST	1000	6	65	12
OSP-E50ST	1500	13	155	26

Equation for Combined Loads

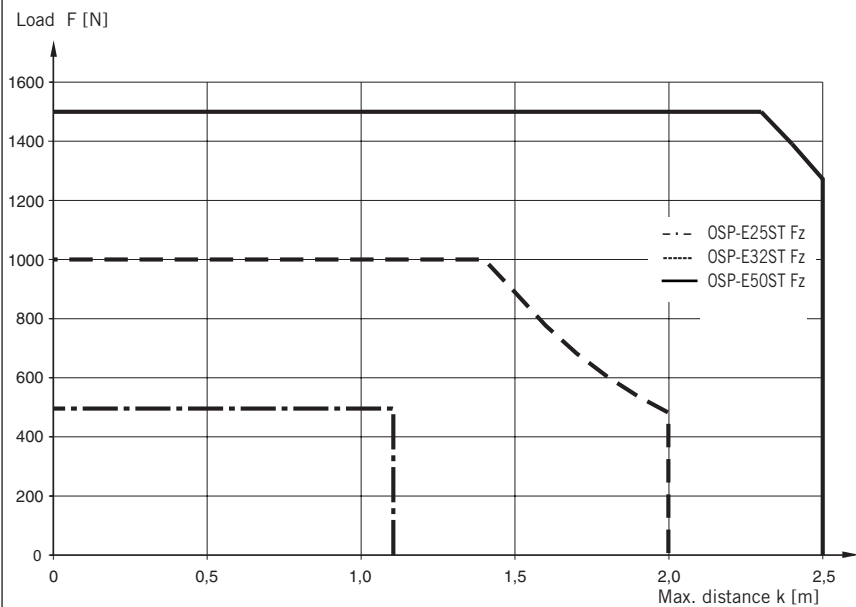
$$\frac{F_z}{F_z \text{ (max)}} + \frac{M_x}{M_x \text{ (max)}} + \frac{M_y}{M_y \text{ (max)}} + \frac{M_z}{M_z \text{ (max)}} \leq 1$$

The total of the loads must not exceed >1 under any circumstances.

Maximum Permissible Unsupported Length – Placing of Mid-Section Support



k = Maximum permissible distance between mountings/mid-section support for a given load F.



(Up to the curve in the above graph the deflection will be max. 0.2 % of distance k.)

Maximum Permissible Unsupported Length

Stroke Length

The stroke lengths of the linear drives are available in multiples of 1 mm up to the following maximum stroke lengths.

OSP-E25ST: max. 1100 mm

OSP-E32ST: max. 2000 mm

OSP-E50ST: max. 2500 mm *

Other stroke lengths are available on request.

* For strokes longer than 2000 mm in horizontal applications, please contact our customer support

The end of stroke must not be used as a mechanical stop.

Allow an additional safety clearance of minimum 25 mm at both ends.

The use of an AC motor with frequency converter normally requires a larger safety clearance than that required for servo systems.

For advise, please contact your local Parker Origa technical support department.

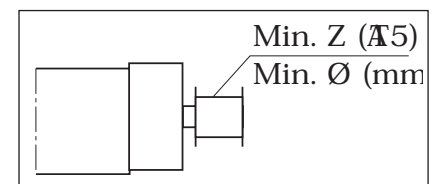
When mechanical stops are required, external shock absorbers should be used (see separate data sheet). Align the centreline of the shock absorber as closely as possible with the object's centre of gravity.

Mounting on the Drive Shaft

Do not expose the drive shaft to uncontrolled axial or radial forces when mounting coupling or belt wheel, a steadying block should be used.

Belt wheels

Minimum allowable number of teeth (AT5) and diameter of belt wheel at maximum applied torque.

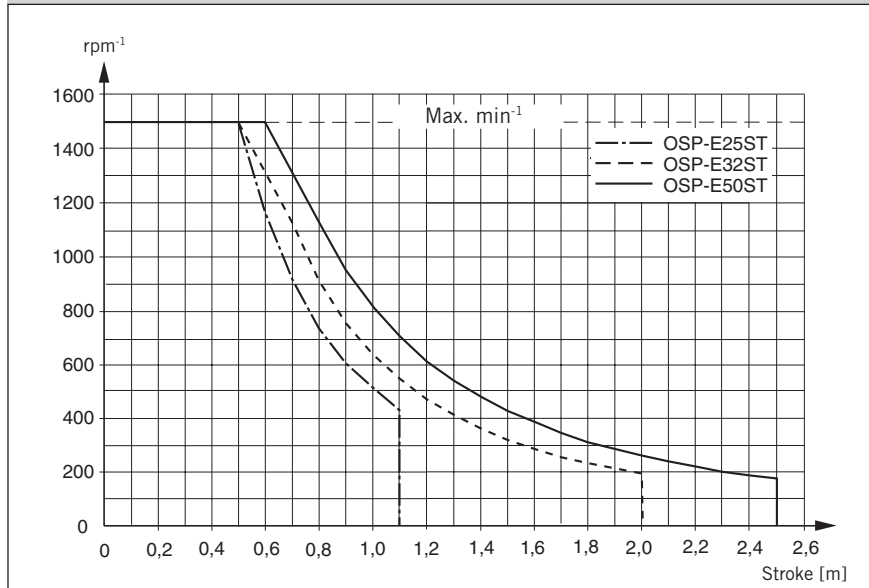


Size	Min. Z	Min. ϕ
OSP-E25ST	24	38
OSP-E32ST	24	38
OSP-E50ST	36	57

Maximum rpm / Stroke

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

Maximum rpm / Stroke



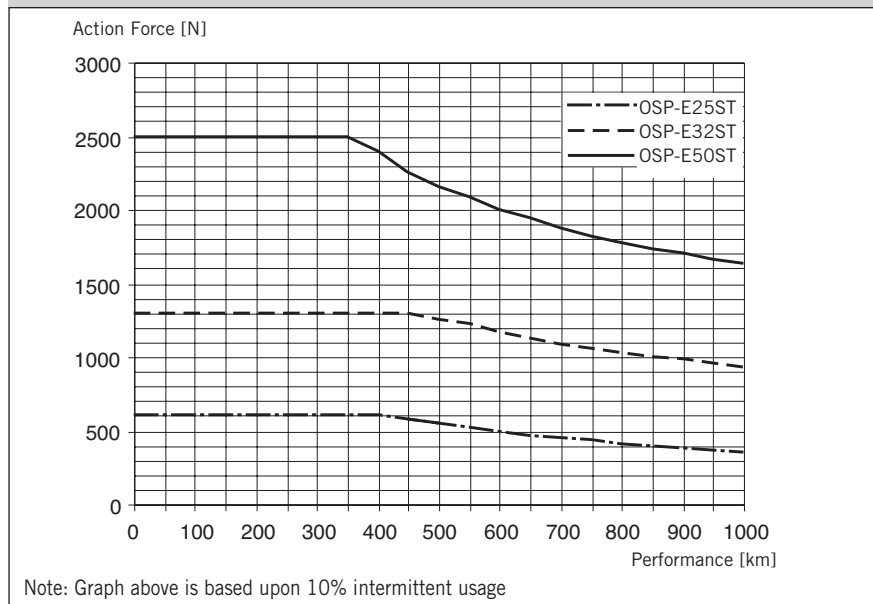
The maximum rpm shown in the graph, is 80% of the critical rpm.

Performance / Action Force

The Linear Drives are designed for a 10% intermittent usage.

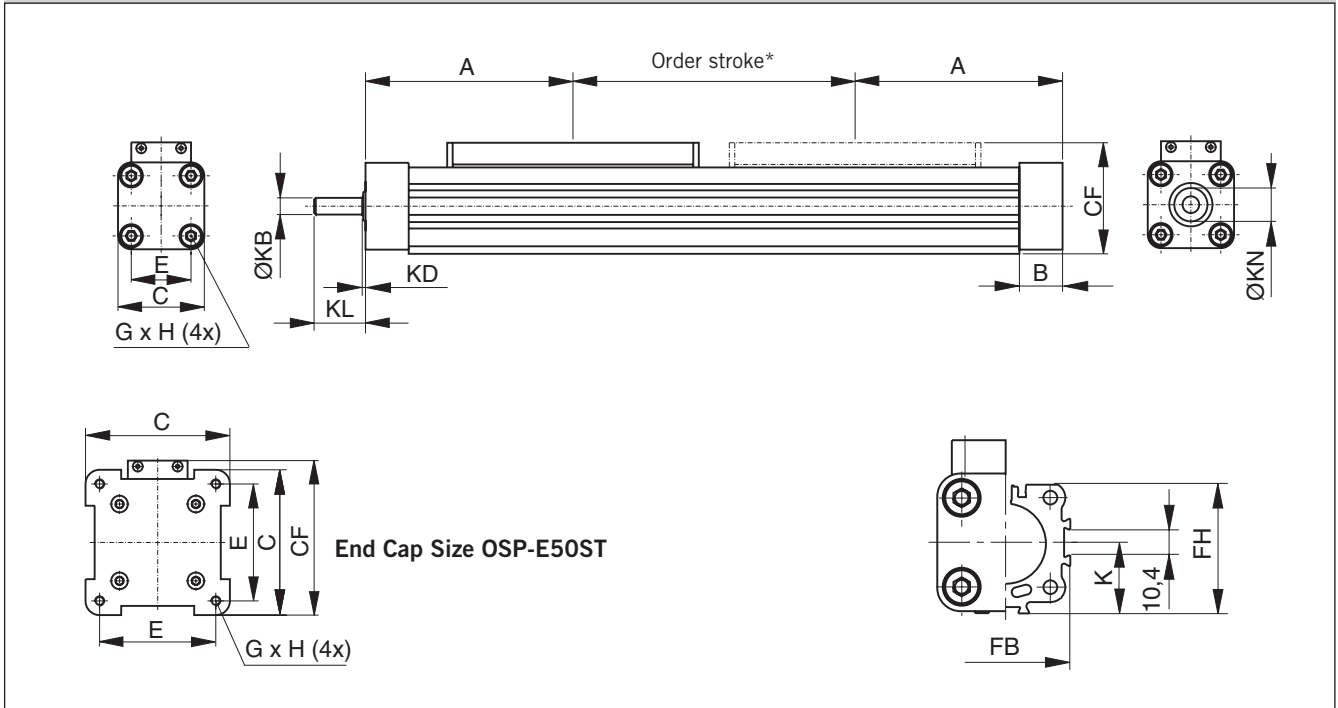
The performance to be expected depends on the maximum required actions force of the application. An increase of the action force will lead to a reduced performance.

Performance as a function of the action force

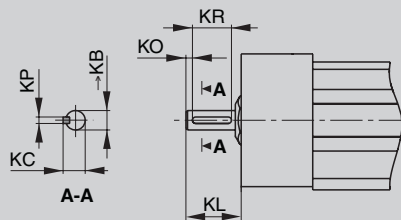


Note: Graph above is based upon 10% intermittent usage

**Linear Drive with Trapezoidal Screw Drive – Basic Unit
Series OSP-E..ST**



Plain Shaft with Keyway (Option)



Dimension Table [mm]

Series	∅KB _{h7}	KC	KL Opt.3	Opt.4	KO	KP ^{P9}	KR
OSP-E25ST	6	6.8	17	24	2	2	12
OSP-E32ST	10	11.2	31	41	5	3	16
OSP-E50ST	15	17	43	58	6	5	28

Option 3: Keyway
Option 4: Keyway long version

*** NOTE:**

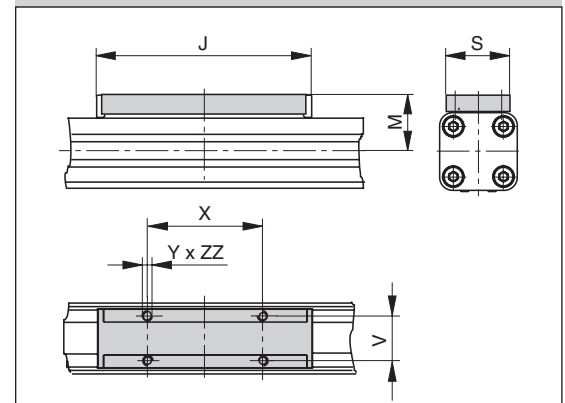
The mechanical end position must not be used as a mechanical end stop. Allow an additional safety clearance at both ends equivalent to the linear movement of one revolution of the drive shaft, but at least 25 mm.

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.

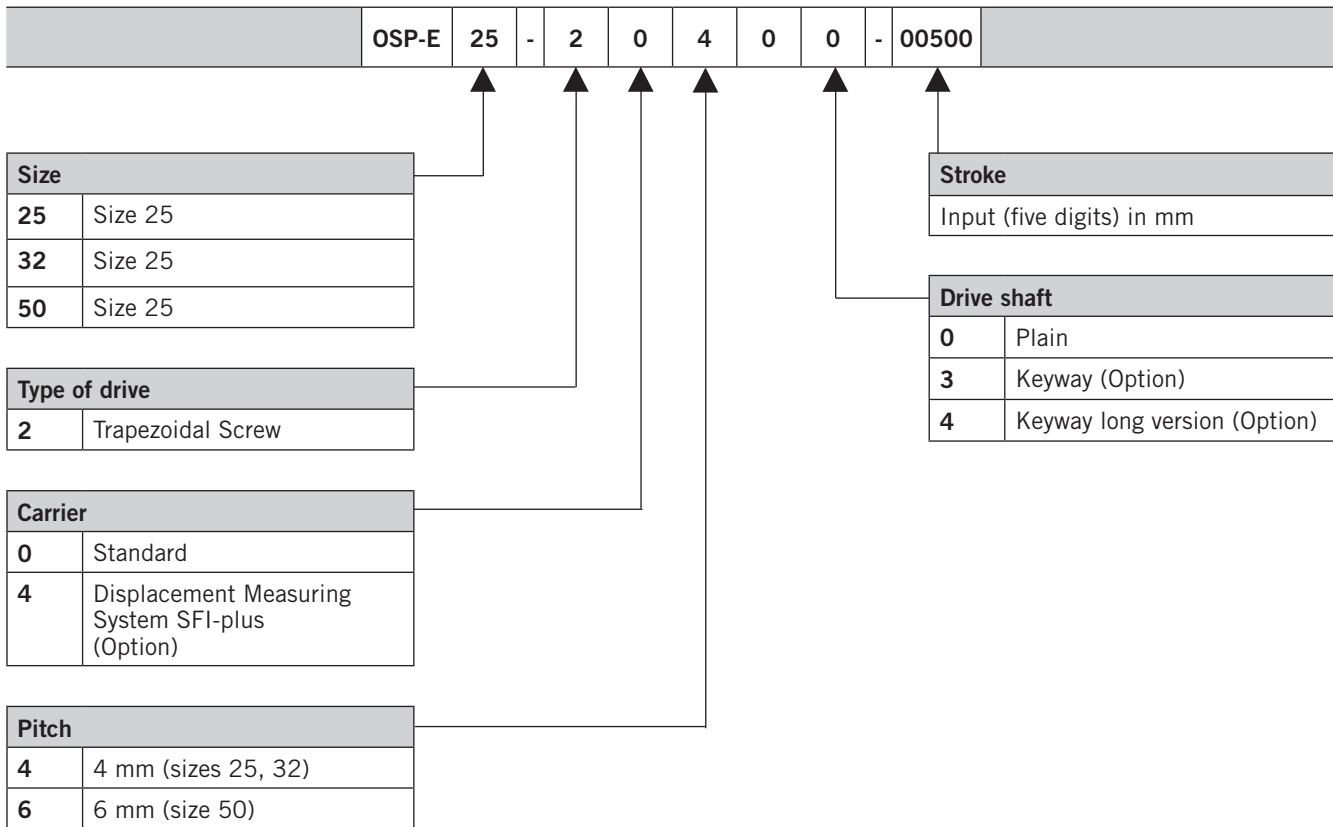
**Standard Carrier
Series OSP-E..ST**



Dimension Table [mm]

Series	A	B	C	E	G x H	J	K	M	S	V	X	Y	CF	FB	FH	KB	KD	KL	KN	ZZ
OSP-E25ST	100	22	41	27	M5 x 10	117	21.5	31	33	25	65	M5	52.5	40	39.5	6 _{h7}	2	17	13	8
OSP-E32ST	125	25.5	52	36	M6 x 12	152	28.5	38	36	27	90	M6	66.5	52	51.7	10 _{h7}	2	31	20	10
OSP-E50ST	175	33	87	70	M6 x 12	200	43	49	36	27	110	M6	92.5	76	77	15 _{h7}	3	43	28	10

Order Instructions



Accessories - please order separately

Description	For more informations see Data Sheet No.
Coupling Housing	1.44.006E-5
End Cap Mounting	1.44.010E-4
Mid-Section Support	1.44.010E-9
Adapter Profile	1.44.010E-10
T-Nut Profile	1.44.010E-11
Clevis Mounting	1.44.010E-14, -15
Inversion Mounting	1.44.010E-16
Magnetic Switches	1.44.030E
Drive systems and components for electric linear drives OSP-E	A4P019E