

Linear Actuator with Trapezoidal Screw and Extending Rod Series OSP-E..SR



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ELECTRIC LINEAR ACTUATOR FOR INTERMITTENT APPLICATIONS

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

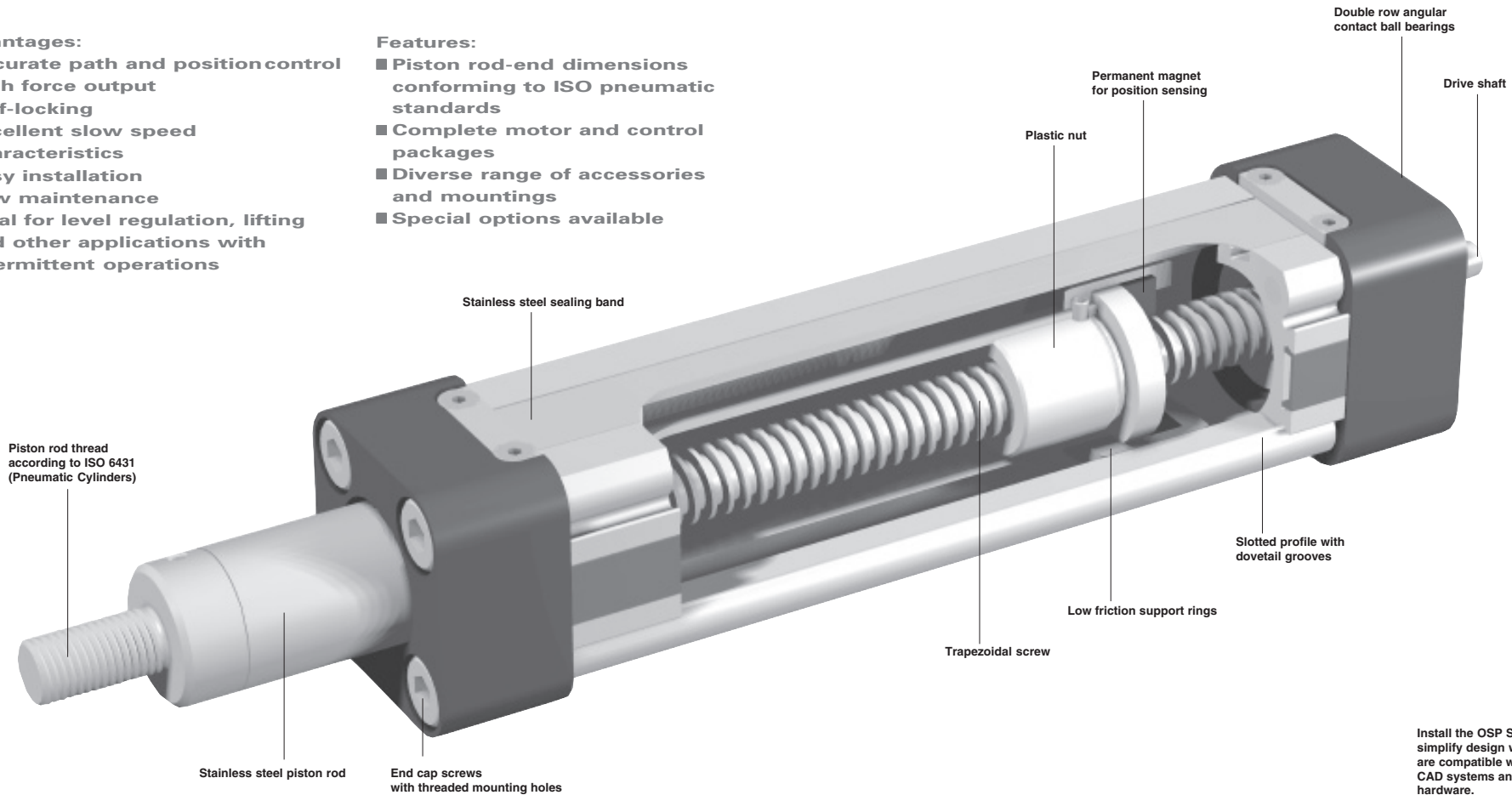
Linear Actuator with Trapezoidal Screw and Extending Rod

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:

- Piston rod-end dimensions conforming to ISO pneumatic standards
- Complete motor and control packages
- Diverse range of accessories and mountings
- Special options available



Install the OSP System to simplify design work! The files are compatible with all popular CAD systems and package hardware.



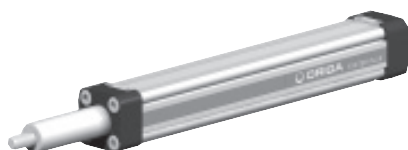
OPTIONS AND ACCESSORIES

SERIES OSP-E, TRAPEZOIDAL SCREW DRIVEN AND EXTENDING ROD

STANDARD VERSIONS OSP-E..SR

Data Sheet 1.35.011E-1,-2,-3,-4

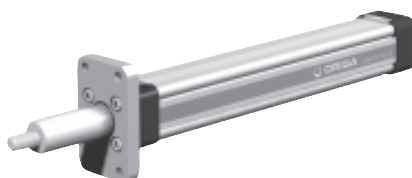
Standard carrier with integral guidance. Dovetail profile for mounting of accessories and the actuator itself.



FLANGE MOUNTING C

Data Sheet 1.45.022E

For end-mounting the actuator on the extending rod side



PISTON ROD EYE

Data Sheet 1.45.030E



MOUNTINGS FOR OSP-E25SR BIS E50SR

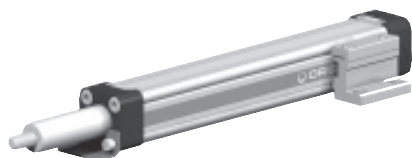
END CAP MOUNTING

Data Sheet 1.45.022E

For end-mounting the actuator on the extending rod side

Data Sheet 1.45.023E

For mounting the actuator on the dovetail grooves and on the motor end



TRUNNION MOUNTING EN

Data Sheet 1.45.022E

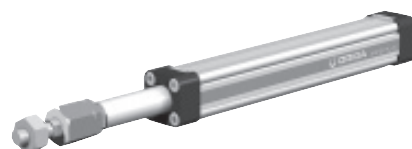
For pivoted support
Trunnion mounting with pivot – steplessly adjustable in axial direction.
For supporting long drives or for mounting the drive on its dovetail slots.



PISTON ROD COMPENSATING COUPLING

Data Sheet 1.45.030E

For compensating of radial and angular misalignments



ACCESSORIES

PROXIMITY SENSOR SERIES RS AND ES

Data Sheet 1.45.101E

For electrical sensing of end and intermediate carrier positions.

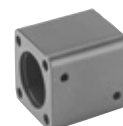
PISTON ROD CLEVIS

Data Sheet 1.45.030E



MOTOR MOUNTINGS

Data Sheet 1.45.029E



A3P154E001Z50X

The right to introduce technical modifications is reserved

Linear Actuator with Trapezoidal Screw and Extending Rod

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



Characteristics			
Characteristics	Symbol	Unit	Description
General Features			
Type			Linear Actuator with Trapezoidal Screw with extended Rod
Series			OSP-E..SR
Mounting			See drawings
Operating 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
	Piston rod		Stainless steel
	Sealing band		Hardened stainless steel
	Guide bearings		Low friction plastic
	Screws, nuts		Zinc plated steel
	Mountings		Zinc plated steel and aluminium
Encapsulation class		IP	54

Weight (mass) kg and Inertia						
Series	Weight (mass)[kg]		Moving mass [kg]		Inertia [$\times 10^{-6}$ 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
OSP-E25SR	0.4	2.9	0.1	0.7	1.1	10.3
OSP-E32SR	0.9	5.4	0.2	1.2	3.9	29.6
OSP-E50SR	2.4	10.6	0.8	1.6	24.6	150

Standard Version:

- Dovetail grooves for mounting accessories and the drive itself
- Travel per rotation of threaded spindle:
Type OSP-E25SR: 3 mm
Type OSP-E32SR: 4 mm
Type OSP-E50SR: 5 mm

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. We recommend a check and lubrication of the linear actuator, and if necessary a change of worn parts, after every 24th month or 300 km travel of distance, depending on the type of application. Please see separate instructions.

Commissioning

The products in this datasheet should not be operated until the machine/application in which they are used has passed necessary inspection.



For **proximity sensors** see 1.45.101E
For **mountings** and **accessories** see 1.45.020E to 030E

A1P640E00IZ00X

The right to introduce technical modifications is reserved

Sizing Performance Overview Maximum Loadings

Sizing of Linear Actuator

The following steps are recommended for selection :

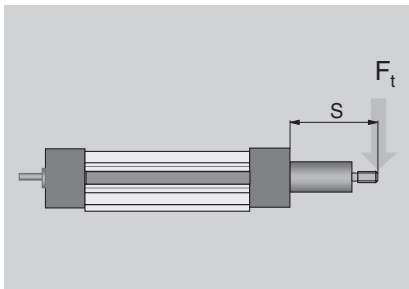
1. Check that the maximum values in the adjacent chart and transverse force/stroke graph below are not exceeded.
2. Check the lifetime/travel distance in graph below.
3. When sizing and specifying the motor, the RMS-average torque must be calculated using the cycle time in application

Performance Overview				
Characteristics	Unit	Description		
Series		OSP-E25SR	OSP-E32SR	OSP-E50SR
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 ⁻¹]	1500 ²⁾	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

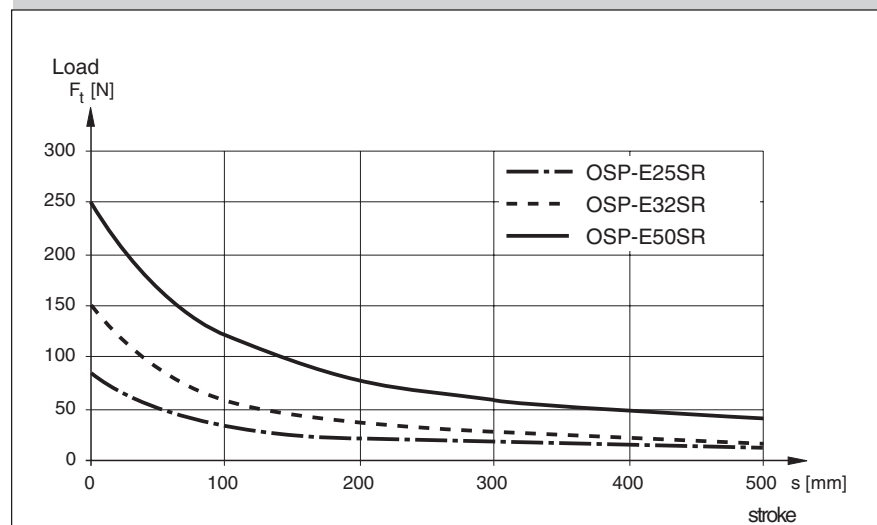
¹⁾ Related to screw types Tr 12x3, Tr 16x4, TR 24x5
see data sheet 1.35.011E-1 – for inertia

²⁾ from 0,4 m stroke max. 1200 min⁻¹ permissible

Transverse Force/stroke



Transverse Force/Stroke

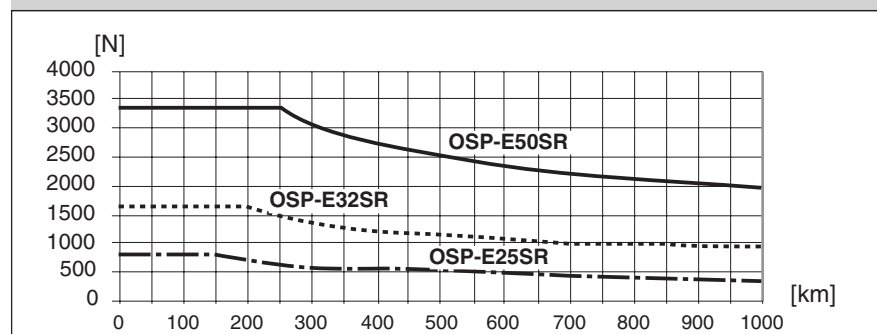


The graph is based upon 10% intermittent usage

Action Force v. Intermittent Travel Distance

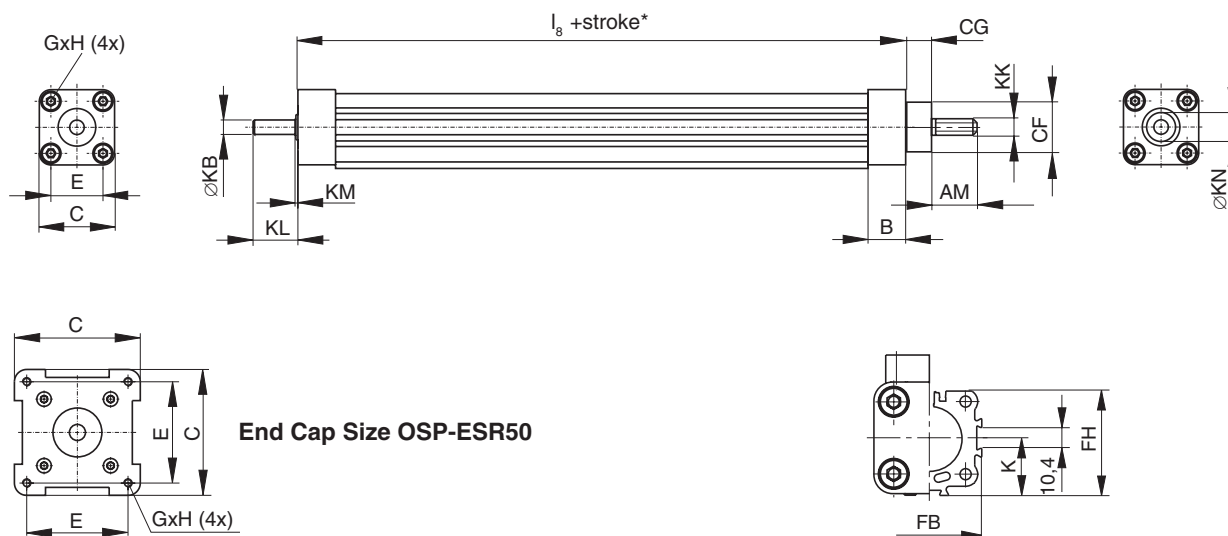
The actuators are designed for a 10% intermittent usage. A more frequent usage will decrease lifetime depending on load and internal temperature conditions.

Action Force v. Intermittent Travel Distance



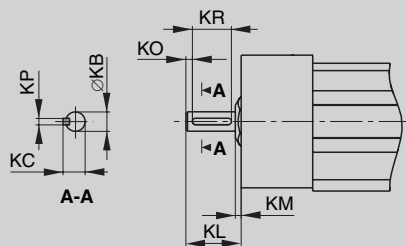
The graph is based upon 10% intermittent usage

Linear Actuator with Trapezoidal Screw and Extending Rod – Basic Unit
Series OSP-E25SR, OSP-E32SR, OSP-E50SR



End Cap Size OSP-ESR50

Hollow shaft with keyway (option)



Dimension Table (mm)

Series	$\varnothing KB_{h7}$	KC	KL Opt.3	Opt.4	KM	KO	KP ^{P9}	KR
OSP-E25S	6	6.8	17	24	2	2	2	12
OSP-E32S	10	11.2	31	41	2	5	3	16
OSP-E50S	15	17	43	58	3	6	5	28

Option 3: Keyway
 Option 4: Keyway, long version

* 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 HOERBIGER-ORIGA technical support department.

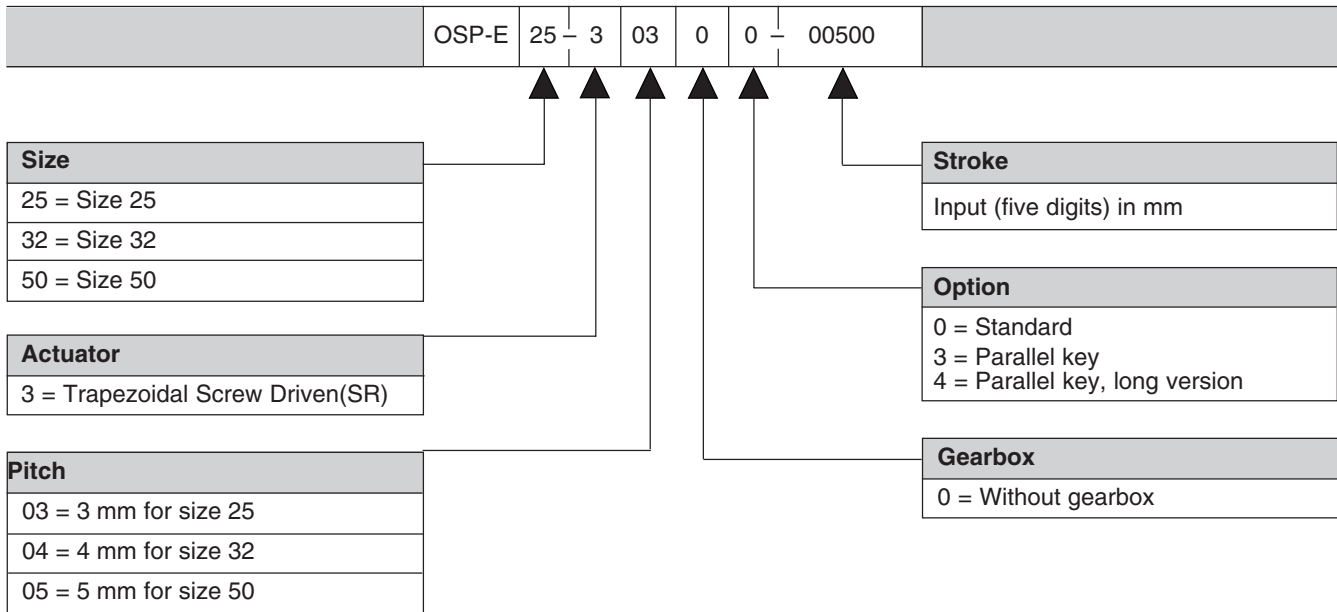
Stroke Length:
 The stroke lengths of the linear actuators are as standard available in multiples of 1 mm up to 500 mm. Other stroke lengths on request.

Dimension Table (mm)

Series	B	C	E	G	H	K	I_8	AM	CF	CG	FB	FH	KB	KK	KL	KM	KN
OSP-E25SR	22	41	27	M5	10	21.5	83	20	22	26	40	39.5	6_{h7}	M10x1.25	17	2	13
OSP-E32SR	25.5	52	36	M6	12	28.5	94	20	28	26	52	51.7	10_{h7}	M10x1.25	31	2	20
OSP-E50SR	33	87	70	M6	12	43	120	32	38	37	76	77	15_{h7}	M16x1.5	43	3	28

Order Instructions – Basic Electric Linear Actuator OSP-E..SR

Electric Linear Actuator



Accessories - please order separately

Description	Data Sheet No.
End Cap Mountings	1.45.022E
Mid-Section Support	1.45.023E
Adaptor Profile	1.45.026E-1
T-Nut Profile	1.45.026E-2
Coupling Housing (for motor)	1.45.029E
Flange Mounting C	1.45.022E
Trunnion Mounting	1.45.022E
Piston Rod Clevis according to ISO 8140	1.45.022E
Piston Rod Eye according to ISO 8139	1.45.022E
Piston Rod Compensating Coupling	1.45.022E
Proximity Sensors	1.45.101E
Stepper Motor and Controller	1.60.001E-1.60.004E
Servo Motor and Controller	1.60.001E-1.60.004E