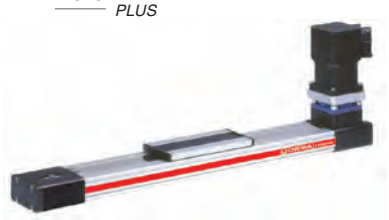
OSP-E..BH2

Linear Drive with Toothed Belt

Integrated Recirculating Ball Bearing Guide

Size 20 to 50

OSP
ORIGA SYSTEM PLUS

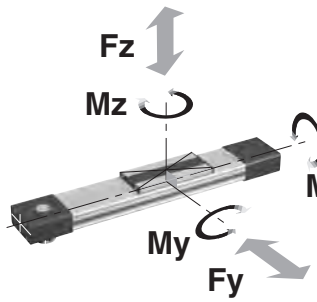


Standard Versions

- Toothed Belt Drive with integrated Recirculating Ball Bearing Guide
- Drive Shaft with clamp shaft or plain shaft
- Choice of motor mounting side
- Dovetail profile for mounting of accessories and the drive itself

Options

- Tandem version for higher moments
- Bi-parting version for synchronised movements
- Integrated planetary gearbox
- Drive shaft with
  – clamp shaft and plain shaft
  – hollow shaft with keyway
- Special drive shaft versions on request



$M = F \cdot l$ [Nm]

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

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

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

The distance (l_x, l_y, l_z) for calculation of moments relates to the centre axis of the linear drive. Bending moments are calculated from the centre of the linear drive and F indicates actual force.

Performance Overview T1

Characteristics		Unit	Description			
Series			OSP-E20BHD	OSP-E25BHD	OSP-E32BHD	OSP-E50BHD
Max. speed		[m/s]	3[1)]	5[1)]	5[1)]	5[1)]
Linear motion per revolution of drive shaft		[mm]	125	180	240	350
Max. rpm on drive shaft		[min^{-1}]	2000	1700	1250	860
Max. effective Action force F_A at speed	< 1 m/s:	[N]	550	1070	1870	3120
	1-3 m/s:	[N]	450	890	1560	2660
	> 3 m/s:	[N]	–	550	1030	1940
No-load torque		[Nm]	0.6	1.2	2.2	3.2
Max. acceleration/deceleration		[m/s^2]	50	50	50	50
Repeatability		[mm/m]	±0.05	±0.05	±0.05	±0.05
Max. standard stroke length		[mm]	5760[2)]	5700[2)]	5600[2)]	5500[2)]

[1)] up to 10 m/s on request
[2)] longer strokes on request

Maximum Permissible Torque on Drive Shaft Speed / Stroke T2

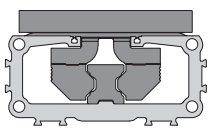
OSP-E20BHD				OSP-E25BHD				OSP-E32BHD				OSP-E50BHD			
Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]	Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]	Speed [m/s]	Torque [Nm]	Stroke [m]	Moment [Nm]	Speed [m/s]	Torque [Nm]	Stroke [m]	Torque [Nm]
1	11	1	11	1	31	1	31	1	71	1	71	1	174	1	174
2	10	2	11	2	28	2	31	2	65	2	71	2	159	2	174
3	9	3	8	3	(25)	3	31	3	59	3	60	3	153	3	138
4		4	7	4	23	4	25	4	56	4	47	4	143	4	108
5		5	5	5	22	5	(21)	5	52	5	38	5	135	5	89

Important:
The maximum permissible moment on the drive shaft is the lowest value of the speed- or stroke-dependent moment value.

Example above:
OSP-E25BHD, stroke 5 m, required speed 3 m/s from table T2
speed 3 m/s gives 25 Nm and stroke 5 m gives 21 Nm. Max. torque for this application is 21 Nm.
When sizing Bi-parting units: for ordering stroke see data sheet 1.15.002E-4.

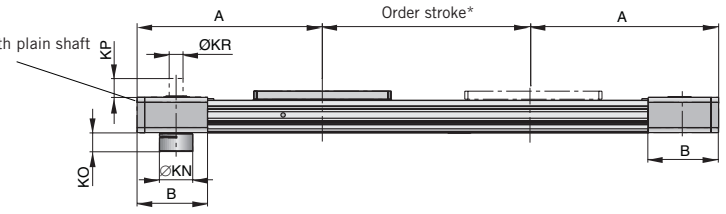
Maximum Permissible Loads T3

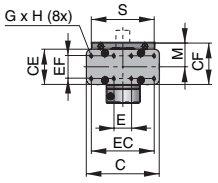
Series	Max. applied load Fy[N]	Fz[N]	Max. moments [Nm] Mx	My	Mz
OSP-E20BHD	1600	1600	21	150	150
OSP-E25BHD	2000	3000	50	500	500
OSP-E32BHD	5000	10000	120	1000	1400
OSP-E50BHD	12000	15000	180	1800	2500



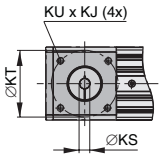
Linear Drive with Toothed Belt and integrated Recirculating Ball Bearing Guide – Basic Unit
Series OSP-E..BHD

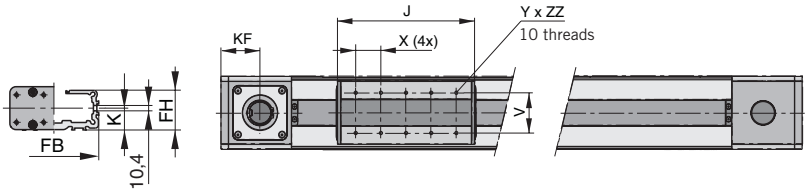
Drive Shaft versions with
- clamp shaft
- plain shaft or
- clamp shaft with plain shaft (Option)





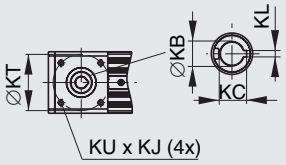
Mounting holes for motor flange or external planetary gearbox [1)]





Hollow shaft with keyway (Option)
Dimension Table [mm]

Series	KB*	KC	KL	KT	KU x KJ
OSP-E20BHD	12^{H7}	13.8	4	65,7	M6 x 8
OSP-E25BHD	16^{H7}	18.3	5	82	M8 x 8
OSP-E32BHD	22^{H7}	24.8	6	106	M10 x 12
OSP-E50BHD	32^{H7}	35.3	10	144	M12 x 19



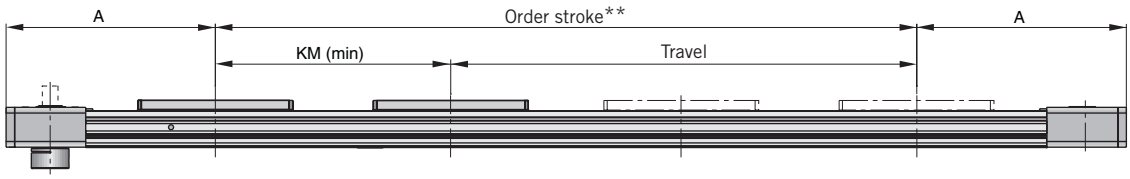
[1)] Note:
The mounting holes for the coupling housing / motor flange / gearbox are located on the opposite side to the carrier (motor mounting standard).
They also can be located on the same side as the carrier (motor mounting 180° standard).

*** Note:**
The mechanical end position must not be used as a mechancial 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 100 mm.

Order stroke = required travel + 2 x safety distance.

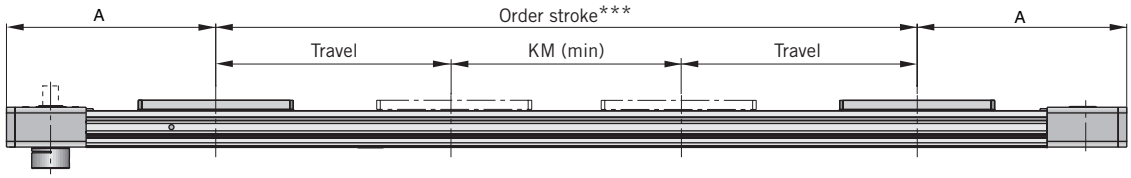
The use of an AC motor with frequency converter normally requires a larger safety clearance than that required for servo systems.
For further information please contact you local HOERBIGER-ORIGA representative.

Option – Tandem
Series OSP-E..BHD



** Order stroke = required travel + KM min + 2 x safety distance

Option – Bi-Parting
Series OSP-E..BHD



*** Order stroke = 2 x required travel + KM min + 2 x safety distance

Dimension Table [mm]

Series	A	B	C	E	GxH	J	K	M	S	V	X	YxZZ	CE	CF	EC	EF	FB	FH	KF	KM_{min}	$KM_{rec.}$	KN	KO	KP	KR	KS	KT	KUxKJ
OSP-E20BHD	185	76.5	73	18	M5x8.5	155	21.1	27.6	67	51	30	M5x8	38	49	60	27	73	36	42.5	180	220	27	18	25	12_{h7}	12^{H7}	65.7	M6x8
OSP-E25BHD	218	88	93	25	M5x10	178	21.5	31	85	64	40	M6x8	42	52.5	79	27	92	39.5	49	210	250	34	21.7	30	16_{h7}	16^{H7}	82	M8x8
OSP-E32BHD	262	112	116	28	M6x12	218	28.5	38	100	64	40	M6x10	56	66.5	100	36	116	51.7	62	250	300	53	30	30	22_{h7}	22^{H7}	106	M10x12
OSP-E50BHD	347	147	175	18	M6x12	288	43	49	124	90	60	M6x10	87	92.5	158	70	164	77	79.5	354	400	75	41	35	32_{h7}	32^{H7}	144	M12x19

(Other dimensions for KS and KB for special drive shafts on request – see order instructions.)