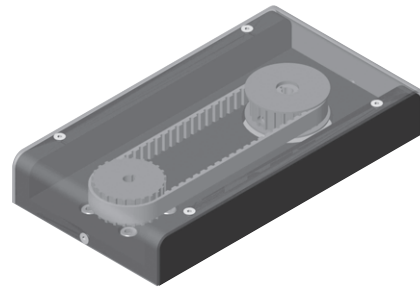
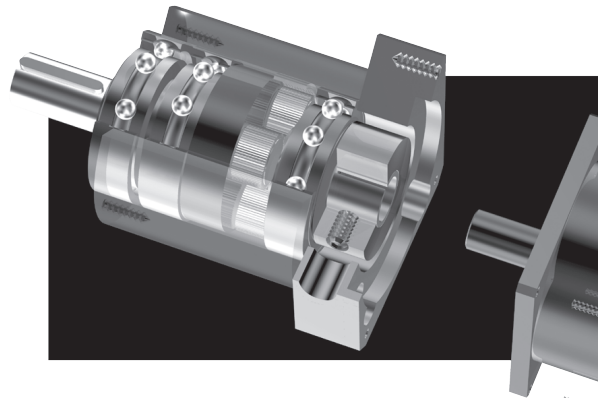


Gearboxes & Motor Mounts



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Belt Gear for OSP-E..S, SBR	143

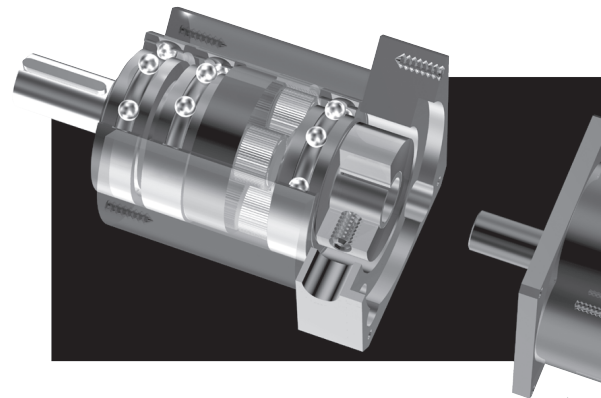
PLANETARY GEARBOX FOR THE OSP-E BHD HEAVY DUTY ACTUATOR

A gearbox-mounting flange allows the LP series gearbox to be mounted directly to the actuator, eliminating the need for a coupling.

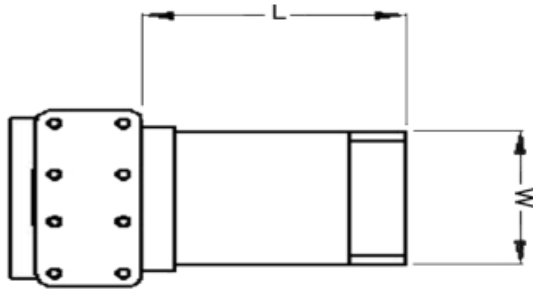
Motor mounting flange and reducing bush are custom made to suit the motor.

Please specify the motor manufacturer and model when ordering.

Note maximum shaft diameter below!



OSP-E BHD Heavy Duty Belt Gearbox				LP070 (BHD25)	Series LP090 (BHD32)	LP120 (BHD50)
Nominal Output Torque	T2n	Nm (lb-in)	5:1, 25:1, 50:1	32 (283)	80 (708)	200 (1770)
			3:1, 10:1, 15:1, 30:1, 100:1	15 (133)	35 (310)	90 (797)
Maximum Acceleration Torque	T2B	Nm (lb-in)	5:1, 25:1, 50:1	32 (283)	80 (708)	200 (1770)
			3:1, 10:1, 15:1, 30:1, 100:1	29 (257)	72 (637)	180 (1593)
Nominal Speed	n1max	RPM		3700	3400	2600
Maximum Speed	n1n	RPM		6000	6000	4800
Standard Output Backlash	j	arcmin	1-stage: 3, 5, 10	< 12		
			2-stage: 15, 25, 30, 50, 100	< 15		
Weight	m	kg (lb)	1-stage	1.9 (4.2)	4.1 (9)	9 (19.8)
			2-stage	2.2 (4.9)	5.1 (11.2)	11.2 (24.7)
Mass Moment of Inertia	J1	kgcm ² (lb-in ²)	1-stage	0.28 (0.096)	1.77 (0.604)	5.42 (1.85)
			2-stage	0.28 (0.096)	1.78 (0.608)	5.49 (1.874)
Maximum Motor Shaft Diameter		mm (ins)		16 0.6299	24 0.9448	32 1.2598
Ratios Available			1-stage: 3, 5, 10 2-stage: 15, 25, 30, 50, 100			
Efficiency at Load			1-stage: >97% 2-stage: >95%			
Average Lifetime			20,000 hours			
Lubrication			Flow Grease			
Protection Rating			IP 64			



Type	Available Ratio	L*	W*	Weight Kg
LP 070				
Single Stage	3, 5, 10	96/103	70	3.3
Double Stage	15, 25, 30, 50, 100	116/123	70	3.6
LP 090				
Single Stage	3, 5, 10	115/125	90	5.5
Double Stage	15, 25, 30, 50, 100	141.5/151.5	90	6.5
LP 120				
Single Stage	3, 5, 10	148/158	120	10.4
Double Stage	15, 25, 30, 50, 100	180.5/190.5	120	12.6

L* Overall length will vary depending on the motor

W* Standard dimension may vary depending on the motor

Above dimensions are for reference only. Consult factory for further information on all Gear Heads.

Order Number for OSP-E BHD Gearbox

ALWAYS STATE EXACT MOTORTYPE WHEN ORDERING GEAR!

Description		Reduction	Order Number
Planetary Gear LP70 for BHD25	LP 070 1-stage	i=3:1	80001240
	LP 070 1-stage	i=5:1	80001252
	LP 070 1-stage	i=10:1	80001253
	LP 070 2-stage	i=15:1	80001242
	LP 070 2-stage	i=25:1	80001254
	LP 070 2-stage	i=30:1	80001243
	LP 070 2-stage	i=50:1	80001255
	LP 070 2-stage	i=100:1	80001256
LP90 for BHD32	LP 090 1-stage	i=3:1	80001244
	LP 090 1-stage	i=5:1	80001216
	LP 090 1-stage	i=10:1	80001257
	LP 090 2-stage	i=15:1	80001245
	LP 090 2-stage	i=25:1	80001258
	LP 090 2-stage	i=30:1	80001246
	LP 090 2-stage	i=50:1	80001259
	LP 090 2-stage	i=100:1	80001260
LP120 for BHD50	LP 120 1-stage	i=3:1	80001247
	LP 120 1-stage	i=5:1	80001250
	LP 120 1-stage	i=10:1	80001261
	LP 120 2-stage	i=15:1	80001248
	LP 120 2-stage	i=25:1	80001262
	LP 120 2-stage	i=30:1	80001249
	LP 120 2-stage	i=50:1	80001263
	LP 120 2-stage	i=100:1	80001264

Gearbox Mounting Flanges - See New Ordering Instructions Position 4 for Shaft Type

		Shaft Type	
Gearbox flange to mount the LP series to BHD	LP70 for BHD25	K,L,M,N	12311
	LP90 for BHD32	K,L,M,N	12312
	LP120 for BHD50	K,L,M,N	12313

PLANETARY GEARBOX FOR THE OSP-E BELT ACTUATOR

A gearbox mounts directly to the actuator, eliminating the need for a coupling.

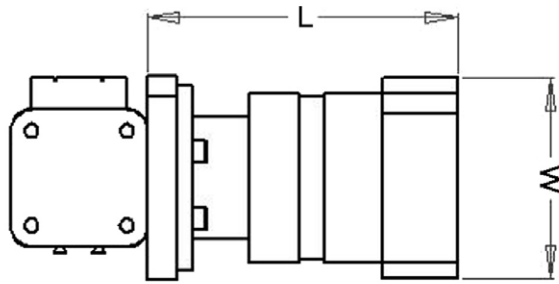
A simple adaptor flange and bushing allows NEMA 23 and 34 frame motors to be fitted.

The gearbox input shaft connects directly to the motor shaft and is secured using a split-clamping ring.



OSP-E Belt Gearbox			Series EG	
Nominal Output Torque	T2n	Nm (lb-in)	3:1, 10:1	14 (124)
			5:1, 7:1	26 (230)
Maximum Acceleration Torque	T2B	Nm (lb-in)	3:1, 10:1	25 (221)
			5:1, 7:1	40 (354)
Nominal Speed	n1max	RPM		3500
Maximum Speed	n1n	RPM		6000
Standard Output Backlash	j	arcmin	3:1 - 10:1	< 10
Weight	m	kg (lb)	1-stage	1.0 (2.2)
Mass Moment of Inertia	J1	kgcm ² (lb-in ²)	i = 3	0.176 (0.06)
			i = 5	0.15 (0.051)
			i = 7,10	0.138 (0.047)
Ratios Available			1-stage: 3, 4, 5, 7, 10	
Efficiency at Load			1-stage: 90%	
Average Lifetime			> 20,000 hours	
Lubrication			Mineral Grease EP0	
Protection Rating			IP 64	
Operating Temperature			-20°C to 90°C	

Planetary Gearbox Dimensions



Actuator and Type	Available Ratio	L Max	W Max	Weight Kg
25 Belt/Ballscrew				
Nema 23	3, 5, 7, 10	108.3	70	1.3
Nema 34	3, 5, 7, 10	115.8	85	1.46
SGMPH 01	3, 5, 7, 10	110.8	70	1.3
SGMPH 02/04	3, 5, 7, 10	115.8	85	1.46
32 Belt/Ballscrew				
Nema 23	3, 5, 7, 10	109.8	70	1.3
Nema 34	3, 5, 7, 10	117.3	85	1.46
SGMPH 01	3, 5, 7, 10	112.3	70	1.3
SGMPH 02/04	3, 5, 7, 10	117.3	85	1.46
50 Belt/Ballscrew				
Nema 23	3, 5, 7, 10	111.8	70	1.3
Nema 34	3, 5, 7, 10	119.3	85	1.46
SGMPH 01	3, 5, 7, 10	114.3	70	1.3
SGMPH 02/04	3, 5, 7, 10	119.3	85	1.46

Gam Gear Heads have hollow shafts and do not require gearbox mounts

Gam Gear Heads are not to be used with BHD model actuators

Above dimensions are for reference only. Consult factory for further information on all Gear Heads.

Order Number for OSP-E Belt and Ballscrew Gearbox

Order Numbers	Description
25 Belt Actuator	
EG00003-B2523A	Gearbox 3:1 Ratio 25 Belt .250 motor shaft
EG00005-B2523A	Gearbox 5:1 Ratio 25 Belt .250 motor shaft
EG00007-B2523A	Gearbox 7:1 Ratio 25 Belt .250 motor shaft
EG00010-B2523A	Gearbox 10:1 Ratio 25 Belt .250 motor shaft
EG00003-B2523	Gearbox 3:1 Ratio 25 Belt .375 motor shaft
EG00005-B2523	Gearbox 5:1 Ratio 25 Belt .375 motor shaft
EG00007-B2523	Gearbox 7:1 Ratio 25 Belt .375 motor shaft
EG00010-B2523	Gearbox 10:1 Ratio 25 Belt .375 motor shaft
EG00003-B2534	Gearbox 3:1 Ratio 25 Belt .375 motor shaft
EG00005-B2534	Gearbox 5:1 Ratio 25 Belt .375 motor shaft
EG00007-B2534	Gearbox 7:1 Ratio 25 Belt .375 motor shaft
EG00010-B2534	Gearbox 10:1 Ratio 25 Belt .375 motor shaft
32 Belt Actuator	
EG00003-B3223A	Gearbox 3:1 Ratio 32 Belt .250 motor shaft
EG00005-B3223A	Gearbox 5:1 Ratio 32 Belt .250 motor shaft
EG00007-B3223A	Gearbox 7:1 Ratio 32 Belt .250 motor shaft
EG00010-B3223A	Gearbox 10:1 Ratio 32 Belt .250 motor shaft
EG00003-B3223	Gearbox 3:1 Ratio 32 Belt .375 motor shaft
EG00005-B3223	Gearbox 5:1 Ratio 32 Belt .375 motor shaft
EG00007-B3223	Gearbox 7:1 Ratio 32 Belt .375 motor shaft
EG00010-B3223	Gearbox 10:1 Ratio 32 Belt .375 motor shaft
EG00003-B3234	Gearbox 3:1 Ratio 32 Belt .375 motor shaft
EG00005-B3234	Gearbox 5:1 Ratio 32 Belt .375 motor shaft
EG00007-B3234	Gearbox 7:1 Ratio 32 Belt .375 motor shaft
EG00010-B3234	Gearbox 10:1 Ratio 32 Belt .375 motor shaft
50 Belt Actuator	
EG00003-B5023	Gearbox 3:1 Ratio 50 Belt .375 motor shaft
EG00005-B5023	Gearbox 5:1 Ratio 50 Belt .375 motor shaft
EG00007-B5023	Gearbox 7:1 Ratio 50 Belt .375 motor shaft
EG00010-B5023	Gearbox 10:1 Ratio 50 Belt .375 motor shaft
EG00003-B5034	Gearbox 3:1 Ratio 50 Belt .375 motor shaft
EG00005-B5034	Gearbox 5:1 Ratio 50 Belt .375 motor shaft
EG00007-B5034	Gearbox 7:1 Ratio 50 Belt .375 motor shaft
EG00010-B5034	Gearbox 10:1 Ratio 50 Belt .375 motor shaft

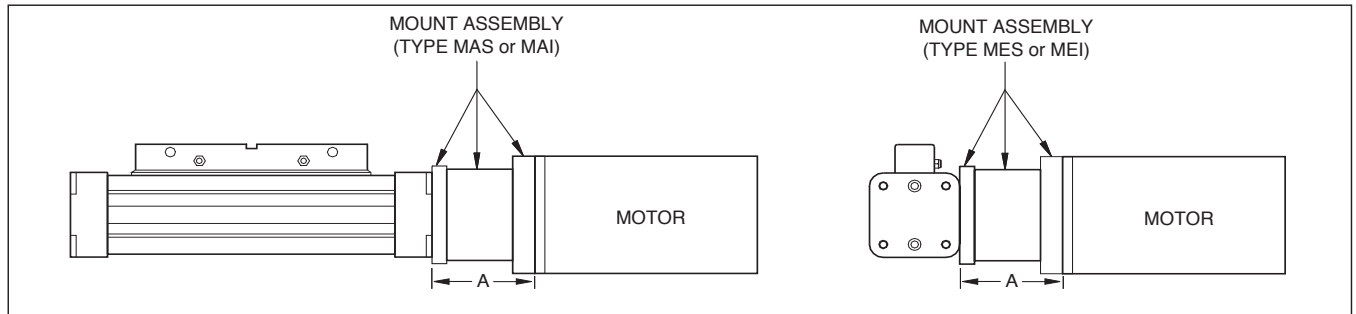
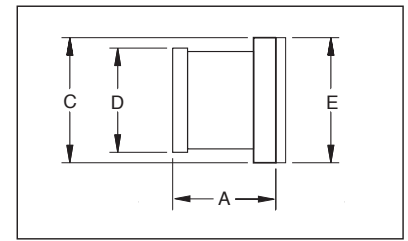
Order Number for Yaskawa Metric Frame Motors Gearbox

Order Numbers	Description
25 Belt Actuator	
EG00003-B2501	Gearbox 3:1 Ratio 25 Belt SGMPH01 Motor
EG00005-B2501	Gearbox 5:1 Ratio 25 Belt SGMPH01 Motor
EG00007-B2501	Gearbox 7:1 Ratio 25 Belt SGMPH01 Motor
EG00010-B2501	Gearbox 10:1 Ratio 25 Belt SGMPH01 Motor
EG00003-B2504	Gearbox 3:1 Ratio 25 Belt SGMPH02/04 Motor
EG00005-B2504	Gearbox 5:1 Ratio 25 Belt SGMPH02/04 Motor
EG00007-B2504	Gearbox 7:1 Ratio 25 Belt SGMPH02/04 Motor
EG00010-B2504	Gearbox 10:1 Ratio 25 Belt SGMPH02/04 Motor
32 Belt Actuator	
EG00003-B3201	Gearbox 3:1 Ratio 32 Belt SGMPH01 Motor
EG00005-B3201	Gearbox 5:1 Ratio 32 Belt SGMPH01 Motor
EG00007-B3201	Gearbox 7:1 Ratio 32 Belt SGMPH01 Motor
EG00010-B3201	Gearbox 10:1 Ratio 32 Belt SGMPH01 Motor
EG00003-B3204	Gearbox 3:1 Ratio 32 Belt SGMPH02/04 Motor
EG00005-B3204	Gearbox 5:1 Ratio 32 Belt SGMPH02/04 Motor
EG00007-B3204	Gearbox 7:1 Ratio 32 Belt SGMPH02/04 Motor
EG00010-B3204	Gearbox 10:1 Ratio 32 Belt SGMPH02/04 Motor
50 Belt Actuator	
EG00003-B5001	Gearbox 3:1 Ratio 50 Belt SGMPH01 Motor
EG00005-B5001	Gearbox 5:1 Ratio 50 Belt SGMPH01 Motor
EG00007-B5001	Gearbox 7:1 Ratio 50 Belt SGMPH01 Motor
EG00010-B5001	Gearbox 10:1 Ratio 50 Belt SGMPH01 Motor
EG00003-B5004	Gearbox 3:1 Ratio 50 Belt SGMPH02/04 Motor
EG00005-B5004	Gearbox 5:1 Ratio 50 Belt SGMPH02/04 Motor
EG00007-B5004	Gearbox 7:1 Ratio 50 Belt SGMPH02/04 Motor
EG00010-B5004	Gearbox 10:1 Ratio 50 Belt SGMPH02/04 Motor

MOTOR MOUNTS FOR OSP-E BELT & BALLSCREW

The coupling housing is the mounting base for the motor and includes a self aligning coupling.

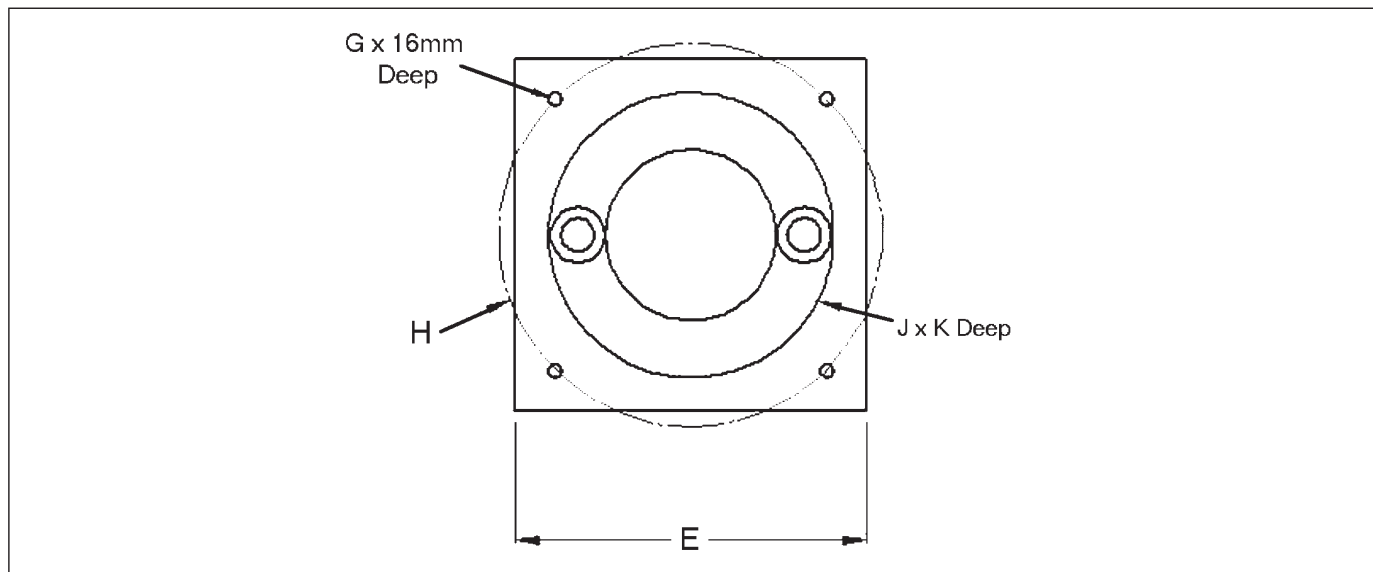
Motor flanges and couplings suitable for the available range of servo and stepper motors will be found together with technical data and dimensions on motors and drives, see separate data sheet.



Motor Mount	Size	Type	Motor Type	A	C	D	E
MES-2504	25	Belt	Metric 04	95.7	70	70	70
MES-3204	32	Belt	Metric 04	86.7	70	70	70
MES-5004	50	Belt	Metric 04	86.7	70	90	70
MES-5008	50	Belt	Metric 08	114.7	90	90	90
MEI-2523	25	Belt	Nema 23	76.7	70	70	70
MEI-3234	32	Belt	Nema 34	88.7	90	70	90
MEI-5034	50	Belt	Nema 34	83	90	90	90
MGM-3234	32	Belt	Nema 34	88.7	90	70	90
MGM-5034	50	Belt	Nema 34	88.7	90	90	90
MAS-2501	25	Screw	Metric 01	51.4	42	42	42
MAS-3204	32	Screw	Metric 04	86.7	70	70	70
MAS-5004P	50	Screw	Metric 04P**	88.7	90	90	90
MAS-5008	50	Screw	Metric 08	88.7	90	90	90
MAI-2517	25	Screw	Nema 17	51.4	42	42	42
MAI-3223	32	Screw	Nema 23	76.7	70	70	70
MAI-5034	50	Screw	Nema 34	88.7	90	90	90
MAS-5008P	50	Screw	Metric 08P**	88.7	120	90	120
MEI-5042	50	Belt	Nema 42	88.7	120	90	120
MAI-3101	32	Screw	Nema 34	86.7	90	70	90
MAI-3234	32	Screw	Nema 34	86.7	90	70	90
MEI-3223	32	Belt	Nema 23	76.7	70	70	70
MAI-2523	25	Screw	Nema 23	51.4	70	42	70
MGM-3223	32	Belt	Nema 23	76.7	70	70	70
MGM-5034S	50	Screw	Nema 34	88.7	90	90	90
MGM-3223S	32	Screw	Nema 23	86.7	70	70	70
MES-3208	32	Belt	Metric 08	88.7	90	90	90

Dimensions are for reference purposes only
 Nema mounts match IMS stepper motors or equivalent
 Metric mounts match Yaskawa SGM Servo motors or equivalent
 *Drilled & counterbored for 4-40 socket head cap screw from opposite side
 MGM = Gearbox mount

MOTOR MOUNTING PLATE DIMENSIONS



Motor Mount	Size	Type	Motor Type	G	H	J	K
MES-2504	25	Belt	Metric 04	10-32 UNF	70	50	3.5
MES-3204	32	Belt	Metric 04	10-32 UNF	70	50	3.5
MES-5004	50	Belt	Metric 04	10-32 UNF	70	50	3.5
MES-5008	50	Belt	Metric 08	10-32 UNF	90	70	3.5
MEI-2523	25	Belt	Nema 23	10-32 UNF	66.68	38.1	2
MEI-3234	32	Belt	Nema 34	10-32 UNF	98.42	73.08	2
MEI-5034	50	Belt	Nema 34	10-32 UNF	98.42	73.08	2
MGM-3234	32	Belt	Nema 34	10-32 UNF	98.42	73.08	2
MGM-5034	50	Belt	Nema 34	10-32 UNF	98.42	73.08	2
MAS-2501	25	Screw	Metric 01	M4	46	30	3
MAS-3204	32	Screw	Metric 04	10-32 UNF	70	50	3.5
MAS-5004P	50	Screw	Metric 04P**	10-32 UNF	90	70	3.5
MAS-5008	50	Screw	Metric 08	10-32 UNF	90	70	3.5
MAI-2517	25	Screw	Nema 17	*	43.8	22	2.5
MAI-3223	32	Screw	Nema 23	10-32 UNF	66.68	38.1	2
MAI-5034	50	Screw	Nema 34	10-32 UNF	98.42	73.08	2
MAS-5008P	50	Screw	Metric 08P**	M8 X125	145	110	4
MEI-5042	50	Belt	Nema 42	.25-20 UNC	127	55.58	2
MAI-3101	32	Screw	Nema 34	10-32 UNF	98.42	73.08	2
MAI-3234	32	Screw	Nema 34	10-32 UNF	98.42	73.08	2
MEI-3223	32	Belt	Nema 23	10-32 UNF	66.68	38.1	2
MAI-2523	25	Screw	Nema 23	10-32 UNF	66.68	38.1	2
MGM-3223	32	Belt	Nema 23	10-32 UNF	66.68	38.1	2
MGM-5034S	50	Screw	Nema 34	10-32 UNF	98.42	73.08	2
MGM-3223S	32	Screw	Nema 23	10-32 UNF	66.68	38.1	2
MES-3208	32	Belt	Metric 08	10-32 UNF	90	70	3.5

Dimensions are for reference purposes only
 Nema mounts match IMS stepper motors or equivalent
 Metric mounts match Yaskawa SGM Servo motors or equivalent
 *Drilled & counterbored for 4-40 socket head cap screw from opposite side
 MGM = Gearbox mount

Linear Drive Accessories

Belt Gear

Size 25, 32, 50



• For Series OSP-E..S, ST, SR, SBR

Belt Gear with freely selectable dimensions for Motor Mounting – see dimension table with min.- and max. dimensions.

Note:

This gearbox is, as standard, designed for OSP-E-shaft with keyway.

Option:

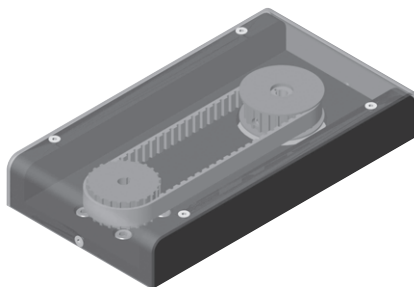
With plain shaft (with clamping sleeve on the drive side).

Please note the corresponding OSP-E-shaft.

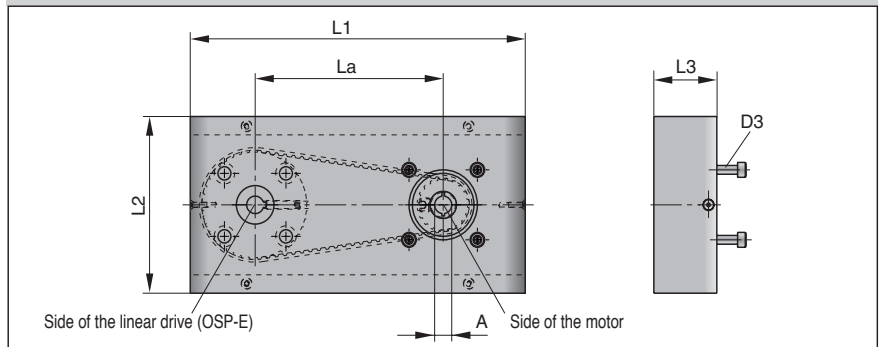
OSP-E Shaft for Belt Drive Unit (standard)		
Size	Option	Description
25	4	with keyway long version
32	3	with keyway
50	3	with keyway

Max. allowed Moments M [Nm] for Belt Gear		
Size	Transmission ratio	
	1:1	2:1
25	5	5
32	10	10
50	20	20

Beware of the max. allowed moments of the corresponding linear drive.



Dimensions

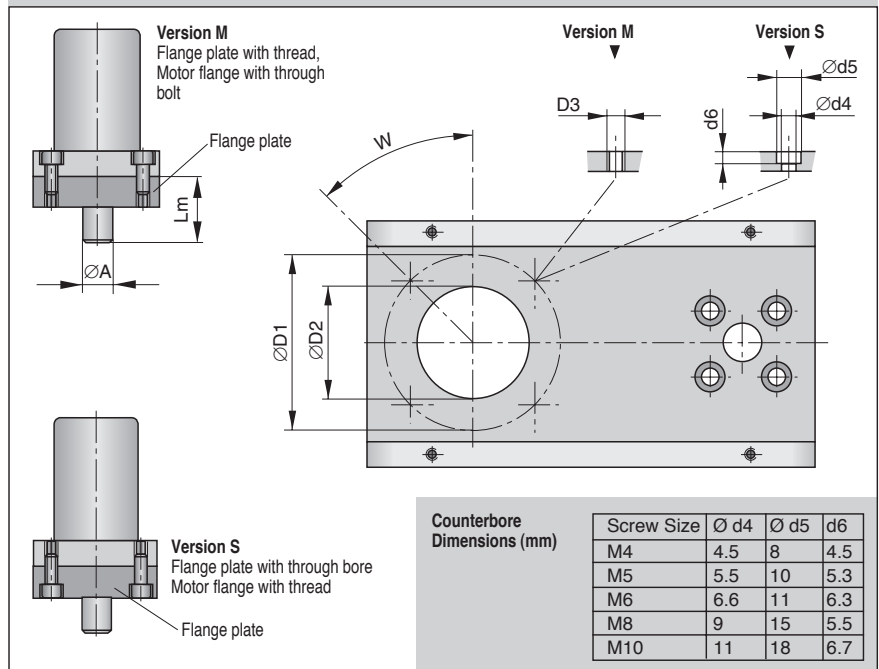


Dimension Table (mm)

Series	L1	L2	L3	La		D3	Ø A*	Order-No.
				1:1	2:1			
OSP-E25	186	101	30	110	109.3	M4 – M10	6, 7, 8, 9, 10, 11	15576
OSP-E32	196	101	37	110	111.4		8, 9, 10, 11, 12, 14	15576
OSP-E50	234	101	50	135	133.7		12, 14, 16, 19	15576

* other diameters on request

Variable Dimensions for Motor Mounting



Dimension Table for motor mounting dimensions (mm)

Dimension	Size	25S		32S		50S	
		W=45°	W=90°	W=45°	W=90°	W=45°	W=90°
Ø D1	min.	40		40		40	
	max. "M"	100	85	110	85	115	85
	max. "S"	106 – Ød5	80 – Ød5	106 – Ød5	80 – Ød5	106 – Ød5	80 – Ød5
Ø D2	min.	25		25		25	
	max.	80		80		80	
Ø D3	max.	M10		M10		M10	
Ø A		6, 7, 8, 9, 10, 11		8, 9, 10, 11, 12, 14		12, 14, 16, 19	
Lm	min.	16		20		30	
	max.	23		30		40	