EasyDrive Packages

Microstepping Controller

The microstepping controller has outstanding characteristics, for both slow and fast movements. Its step resolution from 400 to 51,200 steps per revolution is freely programmable and allows ideal adjustment to requirements regarding speed and response characteristics.

Technical Data - Microstepping Controller

Characteristics	Symbol	Unit	
Output Voltage Motor	U_{bP}	VDC	48 - 80 (+5% to -15%)
Nominal Output Current	I_{nP}	A	5.6
Peak Output Current	I_{pP}	A	8
Motor Inductance		mH	0.5 to 20
Output Voltage Logic	U_{bL}	VDC	24 (+/- 12.5%)
Nominal Current Logic	I_{nL}	mA	250
Resolution Motor (freely selectable)		Inc./rev	400 to 51,200
Digital Inputs			5
Digital Outputs			3
Com Port			RS232
User Interface			EasyDrive
Certification			CE / UL (E194158)

Servo Controller

The servo controller should be selected for dynamic motion profiles, since it can deliver for the motor a peak current which is 3 times higher than the rated current. Optimising the closed loop parameters allows the system consistency to be adapted to the individual application's requirements and thus generate an excellent motion profile.

The EasyDrive user menue allows you to do commissioning quickly and easily without the need to go through user manuals.

Technical Data - Servo Controller

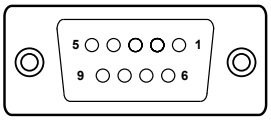
Characteristics	Symbol	Unit	
Output Voltage Motor	U_{bP}	VDC	48 - 80 (+5% to -15%)
Nominal Output Current	I_{nP}	A	5
Peak Output Current	I_{pP}	A	15
Motor Inductance		mH	0.5 to 10
Output Voltage Logic	U_{bL}	VDC	24 (+/- 12.5%)
Nominal Current Logic	I_{nL}	mA	250
Resolver		pulses/rev	4,096
Digital Inputs			5
Digital Outputs			3
Com Port			RS232
User Interface			EasyDrive
Certification			CE / UL (E194158)

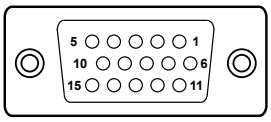
Supply and Motor Connector
Terminal Block X1

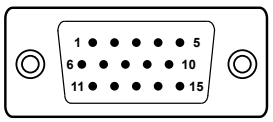
Pin	Connection	
	Microstepper	**Servo**
1	Motor Phase B-	Brake
2	Motor Phase B+	Motor Phase W
3	Motor Phase A-	Motor Phase V
4	Motor Phase A+	Motor Phase U
5	Motor Ground	
6	Logic 0VDC	
7	Logic +24VDC	
8	Ground	
9	Power 0VDC	
10	Power +48 to +80VDC	

RS232 Com-port
D-SUB 9-pole X3

Pin	Connection
1	-
2	Drive Clear (low activ)
3	Ground
4	Rx
5	Tx
6	-
7	Tx (D loop)
8	-
9	+ 5V Supply







Resolver Feedback
D-SUB 15-pole X2

Pin	Connection
1	-
2	-
3	Ground
4	REF. res +
5	+ 5V supply
6	Motor -
7	- Sin
8	+ Sin
9	-
10	Motor +
11	- Cos
12	+ Cos
13	-
14	-
15	REF.res -

Digital Inputs and Outputs
D-SUB 15-pole X5

Pin	Connection
1	0 V
2	0 V
3	0 V
4	Output 2
5	Output 1
6	Input 5
7	Input 4
8	Input 3 (Homing)
9	Input 2
10	Input 1 (Start / Stop)
11	+ 24 V
12	+ 24 V
13	+ 24 V
14	Output 3
15	Analog Monitor

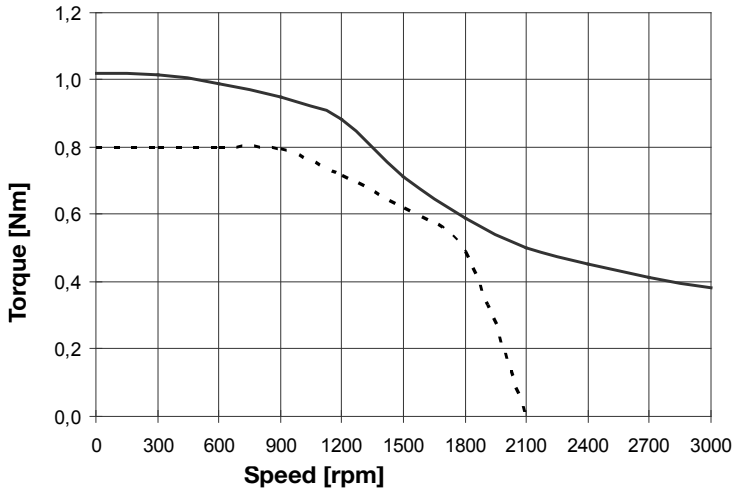
Stepper Motor

The 2-phase hybrid stepper motors were designed to suit most industrial applications that require special rigidity and reliability. The typical characteristic torque curve shows the maximum torque for the stepper motor, that must not be exceeded. For industrial applications motors usually are sized within the secure torque curve.

Technical Data - Stepper Motor

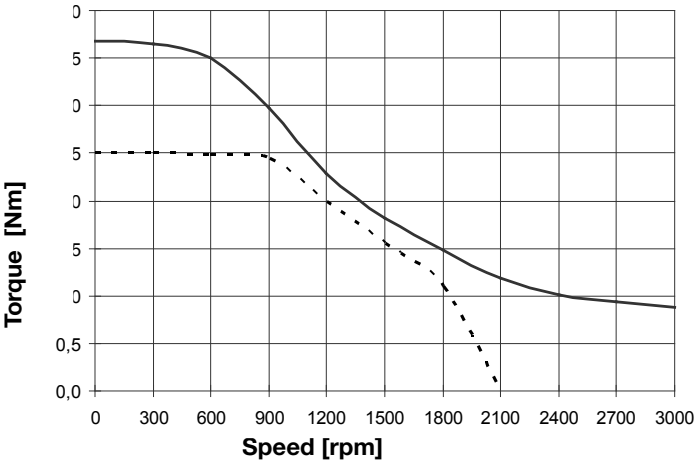
Characteristics	Symbol	Unit	SY563T	SY873T
Holding Torque	M_h	Nm	1.2	5.4
Nominal Speed	n_n	min^{-1}	900	900
Nominal Torque	M_n	Nm	0.8	2.5
Critical Speed	n_l	min^{-1}	1,800	1,800
Torque at Critical Speed	M_l	Nm	0.5	1.2
Current per Phase (parallel)	I_{ph}	A	6.5	8.4
Inductivity per Phase		mH	1.2	1.7
Inertia	J	$kgcm^2$	0.38	1.95
Weight	m	kg	1.4	3.7

Torque Curve SY563T

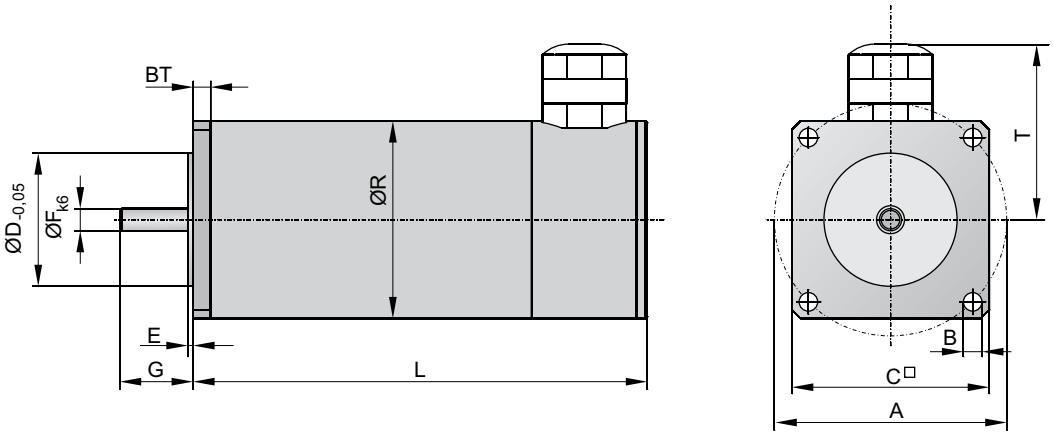


characteristic torque curve
secure torque curve

Torque Curve SY873T



Dimensions



DC Steppermotor SY

Dimension Table [mm]

Type	ø A	ø B	BT	□ C	ø D	E	ø F	G	L	R
SY563T	66.5	5.3	5	56.5	38.1	2.5	6.35	21.0	130.0	56.5
SY873T	99.0	6.5	6	86.0	73.0	3.0	9.52	31.5	149.5	86.0

Servo Motor

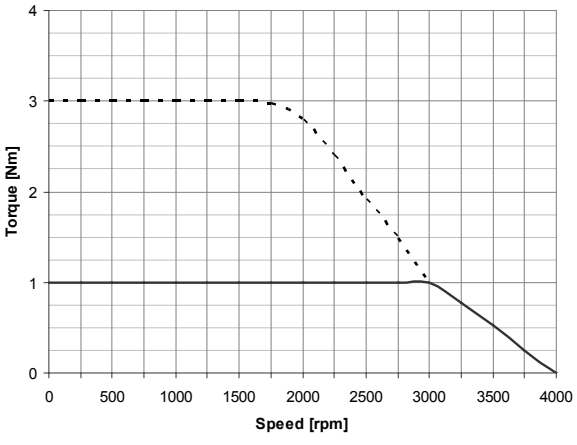
The dynamic, brushless SMB servomotors show excellent power density. With their high quality Neodym magnets they give outstanding values for torque and dynamics while they have a very compact design.

Technical Data

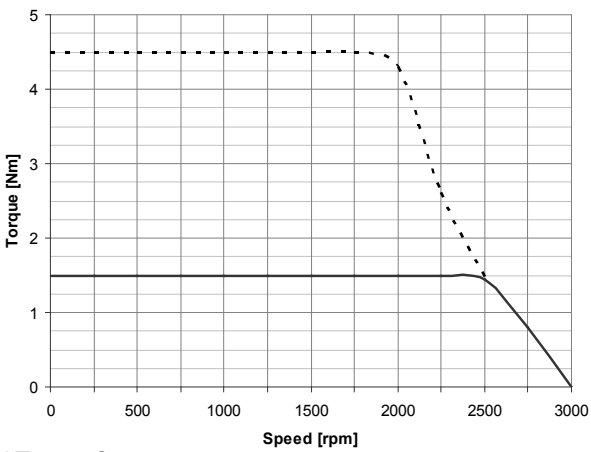
Characteristics	Symbol	Unit	SMB60-30	SMB82-25
Motor				
Stand Still Torque	M_{ss}	Nm	1.4	3.0
Stand Still Current	I_{ss}	A	1.0	1.2
Nominal Speed	$_{nn}$	min^{-1}	3,000	2,500
Nominal Torque	M_n	Nm	1.0	1.5
Nominal Current	I_n	A	0.9	1.1
Peak Torque	M_p	N_m	3.0	4.5
Peak Current	I_p	A	2.7	3.3
Torque constant	K	Nm/A	0.90	0.73
Rotor Inertia	J	$kgcm^2$	0.3	1.4
Weight	m	kg	1.5	3.5
Holding Brake				
Holding Torque	M_{BR}	N_m	2.2	5.0
Supply Voltage	U_{BR}	VDC	24.0	24.0
Supply Current	I_{BR}	A	0.34	0.50
Inertia	J_{BR}	$kgcm^2$	0.13	0.43
Weight	m_{BR}	kg	0.3	0.7

The typical torque curve of a servo motor shown in the graphic beside. Shortly the nominal torque curve can be exceeded to at maximum the peak torque curve. The RMS torque of the application must not exceed the nominal torque value of the motor.

Torque curve SMB60

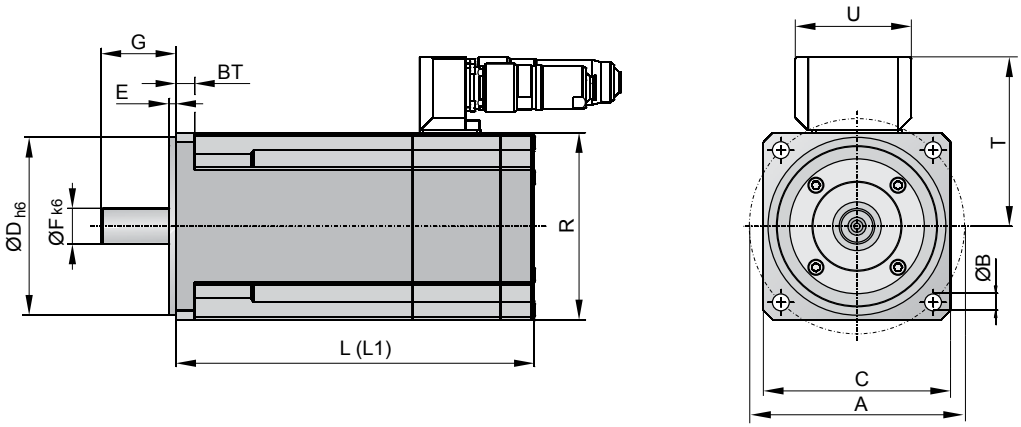


Torque curve SMB82



Nominal Torque Curve
Peak Torque Curve

Dimension



Dimension Table [mm]

Type	ø A	ø B	BT	□ C	ø D_{h6}	E	ø F_{k6}	G	L (without brake)	L1 (with brake)	R	T	U
SMx60	63	5.5	7	60	40	2.5	11	23	129.5	161.0	60	70	62
SMx82	100	6.5	10	82	80	3.5	14	30	163.5	206.5	82	81	62

OSP-E

EasyDrive Stepper packages

Type of drive		Coupling Housing	Motor Coupling	Motor Flange	
OSP-E25B		20606FIL	10802FIL	12020FIL	
			18284FIL	15021FIL	
OSP-E32B		20607FIL	12164FIL	16083FIL	
			10842FIL	12022FIL	
OSP-E50B		20608FIL	10845FIL	16072FIL	
OSP-E25S*		20137FIL	12071FIL	12058FIL	
			16004FIL	12181FIL	
OSP-E32S*		20138FIL	12164FIL	12163FIL	
			10842FIL	12063FIL	
OSP-E50S*		20139FIL	12079FIL	16072FIL	

EasyDrive Servo packages

Type of drive		Coupling Housing	Motor Coupling	Motor Flange	
OSP-E25B		20606FIL	10803FIL	16060FIL	
OSP-E32B		20607FIL	12074FIL	16021FIL	
			10801FIL	15293FIL	
OSP-E50B		20608FIL	10804FIL	12024FIL	
Type of Drive		**Coupling Housing**	**Motor Coupling**	**Motor Flange**	
OSP-E25S*		20137FIL	12070FIL	16068FIL	
OSP-E32S*		20138FIL	12074FIL	18315FIL	
			10801FIL	12134FIL	
OSP-E50S*		20139FIL	12075FIL	12065FIL	

* OSP-E, ..SB, ..ST, ..SBR, .. STR

** EasyDrive packages consisting of controller, motor and 5 m cable (motor/feedback)

Accessoiries

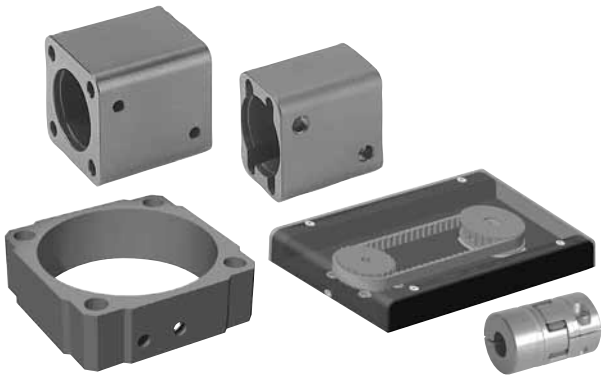
Description	Comment	Order No.
Power Supply	XLPSU 80VDC@3A / 24VDC@0,25A	**18356FIL**
I/O Connection Cable	D-SUB 15-pole flying leads, 5 m	**18357FIL**
Communication Cable	RS232 COM cable, 2 m	**18358FIL**

	EasyDrive Packages**
	18300FIL (EasyDrive Stepper SY563T)
	18301FIL (EasyDrive Stepper SY873T)
	18300FIL (EasyDrive Stepper SY563T)
	18301FIL (EasyDrive Stepper SY873T)
	18301FIL (EasyDrive Stepper SY873T)
	18300FIL (EasyDrive Stepper SY563T)
	18301FIL (EasyDrive Stepper SY873T)
	18300FIL (EasyDrive Stepper SY563T)
	18301FIL (EasyDrive Stepper SY873T)
	18301FIL (EasyDrive Stepper SY873T)

	EasyDrive Packages**
	18302FIL (EasyDrive Servo SMB60) 18312FIL (EasyDrive Servo SMBA60)
	18302FIL (EasyDrive Servo SMB60) 18312FIL (EasyDrive Servo SMBA60)
	18303FIL (EasyDrive Servo SMB82) 18304FIL (EasyDrive Servo SMBA82)
	18303FIL (EasyDrive Servo SMB82) 18304FIL (EasyDrive Servo SMBA82)
	EasyDrive Packages
	18302FIL (EasyDrive Servo SMB60) 18312FIL (EasyDrive Servo SMBA60)
	18302FIL (EasyDrive Servo SMB60) 18312FIL (EasyDrive Servo SMBA60)
	18303FIL (EasyDrive Servo SMB82) 18304FIL (EasyDrive Servo SMBA82)
	18303FIL (EasyDrive Servo SMB82) 18304FIL (EasyDrive Servo SMBA82)

Description	Illustration		Page
Motor Mountings		Coupling Housing, Motor Flange, Motor Coupling	133 ff
		Belt Gear	
End Cap Mountings			141 ff
		Flange C-E	
Profile Mountings		Mid Section Support Guide Mounting	147 ff
		Adapter Profile	
		Trunnion and Pivot Mounting	
Compensations		Clevis Mounting	155 ff
		Inversion Mounting	
		Piston Rod Eye, Piston Rod Clevis, Piston Rod Compensating Coupling	
Guide Mountings		End Cap Mounting Profile Mounting	161 ff
Magnetic Sensors			165 ff
Displacement Measuring System SFI-plus			171 ff
Cable Cover			175 ff

Motor Mountings



Content

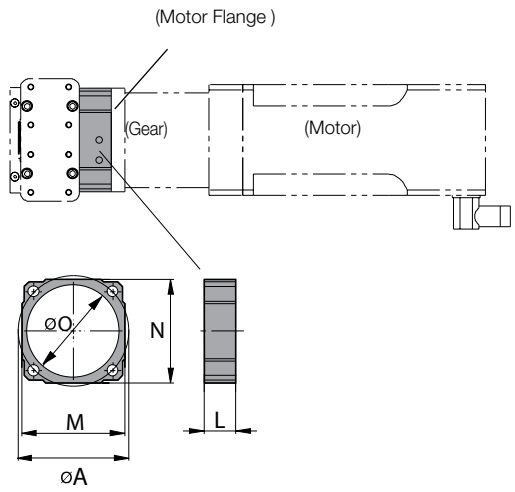
- **OSP-E..BHD Belt Actuator with Integrated Guide**

Via the coupling housing the gear or the motor can be fitted directly to the actuator and the drive shafts by means of a motor flange.

The motor flange matches the above mentioned coupling housing and has be reworked to match the respective type of motor.

Motor flanges for the available range of gears, servo and stepper motors are included in the respective data sheet, including technical data and dimensions. Please refer to the respective catalogues.

Coupling Housing (for gear or motor mounting)

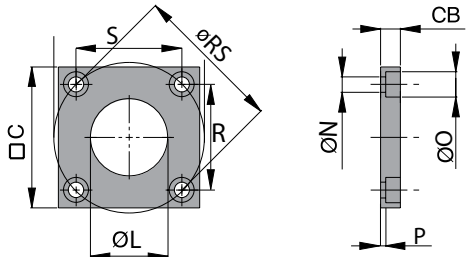


Coupling Housing (for gear or motor mounting)

Series	Ø A	L	M	N	Ø O	Order No.
OSP-E20BHD	65.8	19	60	60	48	**16215FIL**
OSP-E20BHD*	65.8	79	60	60	48	**16269FIL**
OSP-E25BHD	82.0	22	76	76	68	**12300FIL**
OSP-E32BHD	106.0	30	98	98	88	**12301FIL**
OSP-E50BHD	144.0	41	130	130	118	**12302FIL**

* Coupling housing for gear or motor mounting with a motor coupling

Motor Flange (semi-finished)



Motor Flange (semi-finished)

Series	□ C	CB	Ø L	Ø N	Ø O	P	R	S	Ø RS	Order No.
OSP-E20BHD	75	10	25	6.6	11	3.2	46.5	46.5	65.8	**16216FIL**
OSP-E25BHD	90	14	36	9.0	15	5.5	57.9	57.9	82.0	**12308FIL**
OSP-E32BHD	100	14	55	11.0	18	3.5	74.9	74.9	106.0	**12309FIL**
OSP-E50BHD	125	18	77	13.5	20	5.5	101.8	101.8	144.0	**12310FIL**

Motor Flange (finished)

Series	Comment	Order No. *
OSP-E20BHD	for PV40-TA / LP050	**16224FIL**
OSP-E20BHD	for PV60-TA / LP070 (with gear mounting 15166)	**16273FIL**
OSP-E20BHD	for PS60	**18283FIL**
OSP-E25BHD	for PV60-TA / LP070	**12311FIL**
OSP-E25BHD	for PS60	**18413FIL**
OSP-E32BHD	for PV90-TA / LP090	**12312FIL**
OSP-E32BHD	for PS90	**18419FIL**
OSP-E50BHD	for PV115-TA / LP120	**12313FIL**
OSP-E50BHD	for PS115	**18422FIL**

*Motor Coupling not included

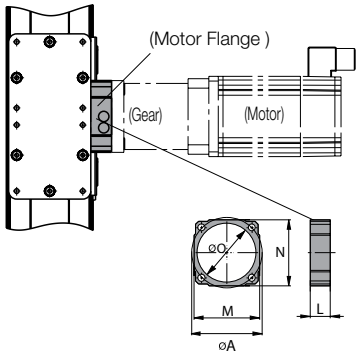
- **OSP-E..BV Vertical Belt Actuator with Integrated Ball Bearing Guide**

The coupling housing with suitable motor flange allows proper connection between the drive shaft of the actuator and the gear shaft or motor shaft. The gear or motor can either be fitted to the actuator directly or indirectly. If a Parker Origa gear is used, direct clamping of the gear shaft into to the drive shaft with clamping Stroke. As an alternative the gear or motor can be fitted to the actuator via a motor coupling.

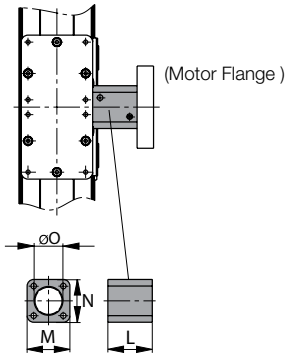
[1] **Hint:** when selecting the type of motor mounting please observe the respective drive shaft versions in accordance with the ordering code of the actuator (page 36).

Coupling Housing

for Direct Clamping



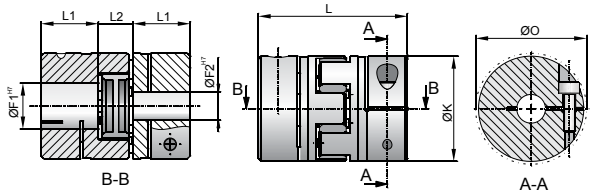
for Clamping with Motor Clamping



Series	Ø A	L	M	N	Ø O	Order No.
OSP-E20BV	65.8	19	60	60	48	**16215FIL**
OSP-E20BV*	65.8	79	60	60	48	**16269FIL**
OSP-E25BV	82.0	22	76	76	68	**12300FIL**
OSP-E25BV*	65.8	84	87	87	48	**20139FIL**

* Coupling housing for gear or motor mounting with a motor coupling

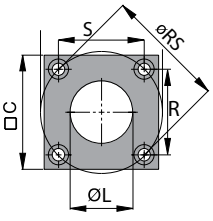
Universal Motor Coupling

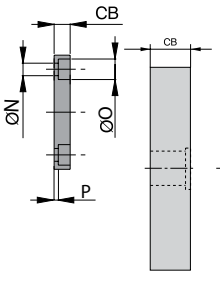


Series	Ø F_1^{H7}	Ø F_2^{H7}	Ø F^{H7}	Ø K	L	L_1	L_2	Ø O	Order No.
OSP-E20BV	12	9.5	8 - 24	40	66	25	16	46	**16268FIL**
OSP-E25BV	16	9.5	8 - 24	40	66	25	16	46	**10845FIL**

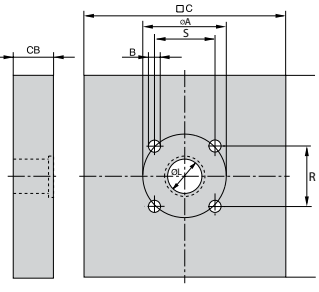
Motor Flange

(semi-finished)





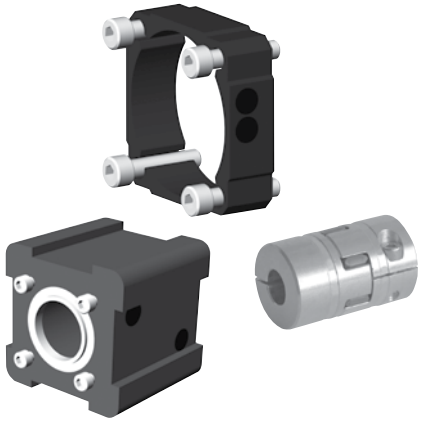
universal



Series	□C	CB	Ø L	Ø N	Ø O	P	R	S	Ø RS	Order No.
OSP-E20BV	75	10	25	6.6	11	3.2	46.5	46.5	65.8	**16216FIL**
OSP-E20BV*	120	15	25	6.6	11	3.0	46.5	46.5	65.8	**16267FIL**
OSP-E25BV	90	14	36	9.0	15	5.5	58.0	58.0	82.0	**12308FIL**
OSP-E25BV*	120	15	35	6.6	11	3.0	46.0	46.0	65.0	**12069FIL**

Motor Flange (finished)

Series	Comment	Order No.
OSP-E20BV	for PV40-TA / LP050 (for Standard Clamp Shaft)	**16224FIL**
OSP-E20BV	for PV60-TA / LP070 (for Plain Shaft)	**16273FIL**
OSP-E20BV	for PS60 (for Plain Shaft)	**18283FIL**
OSP-E25BV	for PV60-TA / LP070	**12311FIL**
OSP-E25BV	for PS60	**18413FIL**

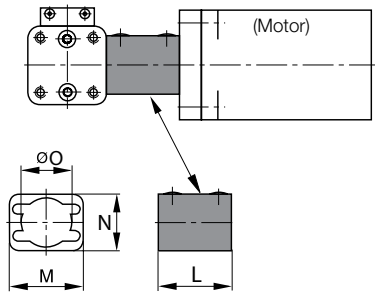


- **OSP-E..B Belt Actuator with Internal Plain Bearing Guide**

The coupling housing with suitable motor flange allows easy and inherently stable connection of the gear or the motor to the actuator.

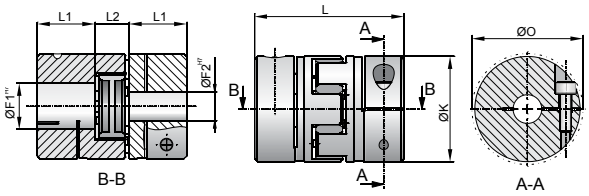
Hint: Let us know the mounting dimensio ns of your motor. Upon request we will be pleased to check and manufacture a motor flange that will come up to your individual needs. (Also see “motor flange for freely selectable mounting dimensions” page 126 ff)

Coupling Housing (for gear or motor mounting)



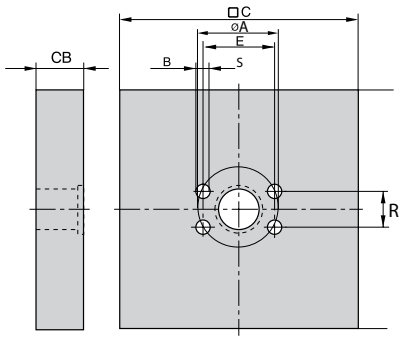
Series	Ø A	L	M	N	Ø O	Order No.
OSP-E25B	33.5	47	40	30	25	**20606FIL**
OSP-E32B	42.0	49	49	38	33	**20607FIL**
OSP-E50B	59.4	76	65	54	48	**20608FIL**

Motor Coupling Dimension [mm] and Order No.



Series	Ø F_1^{H7}	Ø F_2^{H7}	Ø F^{H7}	Ø K	L	L1	L2	Ø O	Order No.
OSP-E25B	10	4.0	4 - 11	20	30	10	10	23.4	**12073FIL**
OSP-E32B	10	6.0	5 - 16	30	35	11	13	32.2	**15197FIL**
OSP-E50B	16	9.5	8 - 24	40	66	25	16	46.0	**10845FIL**

Motor Flange (universal)



Series	□ C	CB	Ø L	Ø N	Ø O	P	R	S	Ø RS	Order No.
OSP-E25B	100	20	16	5.5	10	3.0	30.0	15.0	33.5	**12050FIL**
OSP-E32B	100	20	22	6.6	11	4.0	38.0	18.0	42.0	**12053FIL**
OSP-E50B	120	15	35	9.0	15	3.0	50.0	32.0	59.4	**12056FIL**

Motor Flange (finished)

Series	Comment	Order No. *
OSP-E25B	for PV40-TA / LP050 (Motor Coupling12080)	**16076FIL**
OSP-E32B	for PV40-TA / LP050 (Motor Coupling10841)	**16090FIL**
OSP-E32B	for PV60-TA / LP070 (Motor Coupling12980)	**15930FIL**
OSP-E32B	for PS60 (Motor Coupling12980)	**18272FIL**
OSP-E50B	for PV60-TA / LP070 (Motor Coupling12981)	**16057FIL**
OSP-E50B	for PS60 (Motor Coupling12981)	**18277FIL**

*Motor coupling not included