

Type SBPE Ball Reducer gearbox

Technology – No gears. Speed reduction is due to non-slip, input torque induced, rolling of ball bearings in smooth accurate epicyclic tracks. Principles of operation can be viewed on several websites.

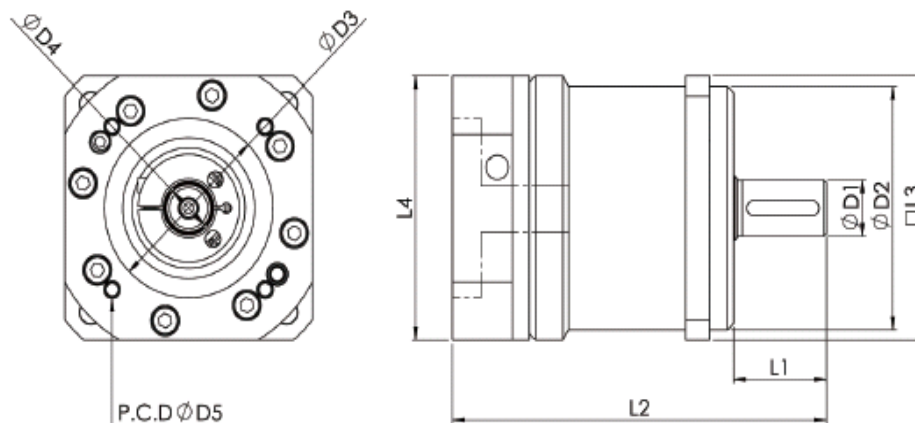
Standard ratios – 10 to 50/1 in one stage. In planetary, ratios greater than 10 would require 2 stages of gearing. Contact us for non-listed ratios.

Features-- Compared to planetary gearboxes of similar diameter or torque rating, this type of reducer is shorter and features inherent low backlash of less than 1 arc-min with relative quietness.



This ball reducer can be “**backlash**” (**tightness**) **adjusted** with recommended tools and suggested procedures. Upon request, we will provide information for gearbox owners to adjust backlash or tightness at their own risk.

Application --The SBPE is designed for demanding applications requiring close to zero backlash and an output shaft. Output face mounts via 4 through mounting holes in a square flange with short pilot diameter. Standard input contemplates your servo motor.



Selected dimensions (mm)	SBPE50	SBPE70	SBPE90	SBPE120
$\phi D1$ output shaft dia.	12	16	22	32
$\phi D2$ output pilot dia.	51	70	95	110
$\phi D3$ typ. input motor pilot	30	50	70	110
$\phi D4$ typical motor input shaft dia	8	14	14 - 19	19 - 24
$\phi D5$ typ. input motor B-C	46	70	90	145
L1 output shaft length	20.5	29.5	38.5	52.5
L2 Reducer total length	97.6	137.8	155.5	215
$\square L3$ output flange square	51	80	103	110
$\square L4$ Motor input side square	52	70	103	130

※ Please contact us to verify dimension to fit your motor

Performances		Ratio	SBPE50	SBPE70	SBPE90	SBPE120
Nominal Output Torque	Lb-in/ Nm	10	124 / 14	279 / 31.6	347 / 39.2	521 / 58.8
		15	-	183 / 20.7	241 / 27.2	492 / 55.6
		20	-	136 / 15.4	341 / 38.51	366 / 41.3
		30	101 / 11.4	190 / 21.5	156 / 17.6	424 / 48
		40	-	142 / 16.1	250 / 28.2	357 / 40.3
		50	-	-	301 / 34	313 / 35.4
Max Acceleration Torque	Lb-in/ Nm	10~50	3 times Nominal Output Torque			
Emergency Stop Torque (1)	Lb-in/ Nm	10~50	3.4 times Nominal Output Torque			
Permissible Input Speed	rpm	10~50	3000	3000	3000	
Standard max Backlash	Arc-secs	10~50	30 arc - secs	30 arc - secs	30 arc - secs	30 arc - secs
Max. radial force	Lbf/ N	10~50	44 / 196	88 / 392	176 / 784	242 / 1078
Max. axial force	Lbf/ N	10~50	22 / 98	44 / 196	88 / 392	141 / 539
Input Shaft Diameter	mm	10~50	8	14	14~19	19~24
Rated life (2)	H	10~50	> 10,000			
Operating Temperature Range	°C	10~50	-10°C to +40°C ambient -- 90°C max operating case temperature			
Sound level	dB (A)	10~50	59	61	63	64
Lubrication		10~50	Lubricated for life			
Protection class		10~50	IP54			
Gearhead Inertia	Kg- cm ²	10~50	0.06	0.14	0.92	2.15
Weight	Kg	10~50	0.46	3.4	4.3	10
Min no-load torque to rotate	Lbf-in/ Nm	10~50	0.9 / 0.1	2.2 / 0.25	4.7 / 0.53	8 / 0.9

- (1) For 1000 times max during life of gearhead
(2) At permissible input speed and Nominal Output Torque
(3) Nominal efficiency is 85% at full rated load
(4) All-position mounting.

How to order – Specify SBEE size and ratio. Provide motor torque and dimensions. We offer selection assistance and suggestions.