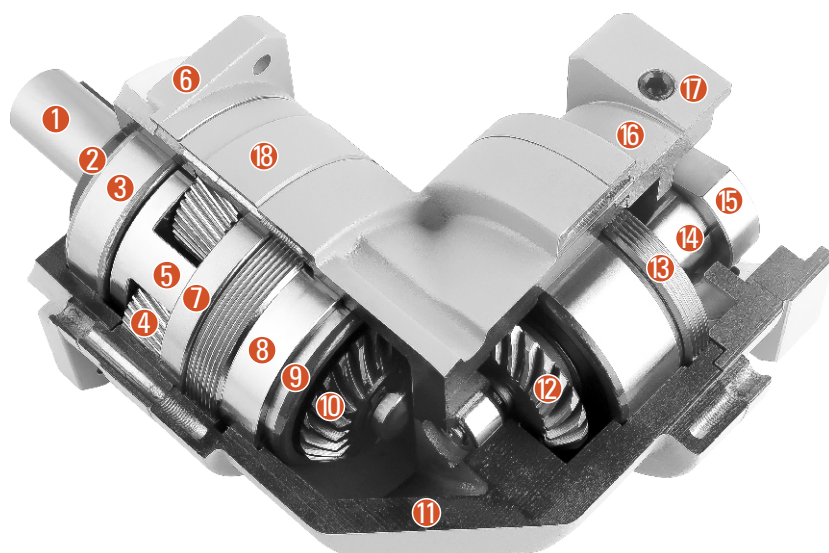


SBFWR/SAE/FWR SERIES GEAR BOX

Sectional drawing



- ① Output shaft
- ② Oil seal
- ③ Output shaft front bearing
- ④ Planetary gear
- ⑤ Solar wheel
- ⑥ Front cover
- ⑦ Output shaft rear bearing
- ⑧ Adjusting nut
- ⑨ Double row angular contact bearing
- ⑩ Output bevel gear
- ⑪ Right angle box
- ⑫ Input bevel gear
- ⑬ Lock nut
- ⑭ Input coupling
- ⑮ Locking device
- ⑯ Rear cover
- ⑰ Rear cover gasket
- ⑱ Inner ring gear

Type and model number

SBFW Reducers				Servo motor		
060	SBFWR	10	()	(S)	-	400 T1
①	②	③	④	⑤	⑥	⑦

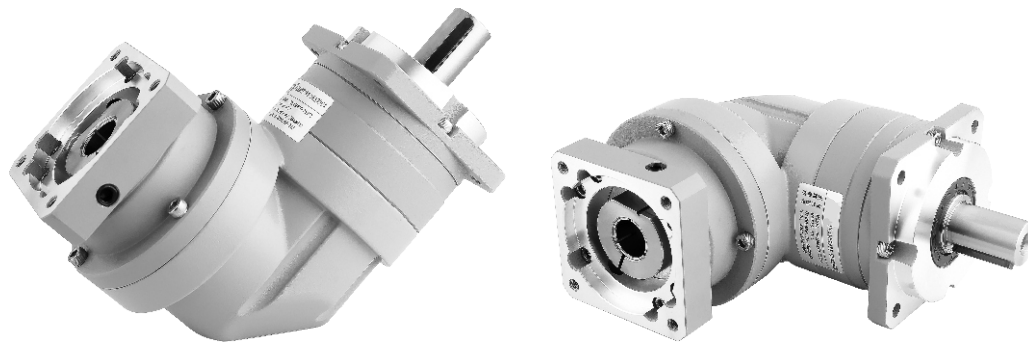
① Gear head frame size: 060/090/60/90			
② Gear head series code: SBFWR: Square mounting flange series			
③ Gear ratio: Single stage 10			
④ Accuracy Output shaft load value at $\pm 3\%$ of allowable output torque	Cabin seat	Stage	Standard (omitted)
		1	8
	060SBFWR	2	12
		1	8
	090SBFWR	2	12
		1	10
	60SAE/FWR	2	15
		1	10
	90SAE/FWR	2	15

Input shaft type			
S: Overall locking (Omitted) (Can be used regardless of whether the motor has a keyway)			
S1: Locking with locking ring (Can be used regardless of whether the motor has a keyway)			
S2: Lock with keyway (Input shaft with key)			
K: With keyway			
A: Other adapters (Please contact us)			

⑤	Applicable servo motor power (W)		
⑦	Corresponding dimension table of input flange and servo motor ()		

SBFWR/SAE/FWR PLANETARY GEAR BOX

Product diagram



Technical information

Product type		060SBFWR	090SBFWR	60SAE/FWR	90SAE/FWR	Reduction ratio	Stage
Rated output torque	N.M	45	120	31	85	3	1
		40	130	50	95	4	
		50	150	41	105	5	
		40	130	30	93	7	
		35	110	23	83	8	
		30	90	18	70	10	
		45	120	31	115	15	2
		40	130	50	130	20	
		50	150	41	135	25	
		40	150	41	125	35	
		35	150	41	115	40	
		50	150	41	135	50	
		45	110	23	83	64	
		40	120	30	110	70	
		35	110	23	83	80	
		30	90	18	73	100	
Life	Hour	20000					
Instant emergency stop torque	N.M	3 times rated output torque		2 times rated output torque		-	

Product type	060SBFWR	090SBFWR	60SAE/FWR	90SAE/FWR	Unit	Stage
Radial force	1100	3000	750	2100	N	-
Axial force	630	1230	375	1050	N	-
Full load efficiency	≥97				%	1
	≥94					2
Weight	1.6	5.6	1.5	5.6	Kg	1
	1.9	6.3	1.8	6.3		2
Operating temperature	-10~+90				℃	-
Protection level	IP65					
Lubrication method	Lifetime lubrication					
Installation method	Any					

Maximum radial force and maximum axial force, when the output is 100RPM, it acts on the center position (L/2) of the output shaft.

SBFWR/SAE/FWR PLANETARY GEAR BOX

Technical information

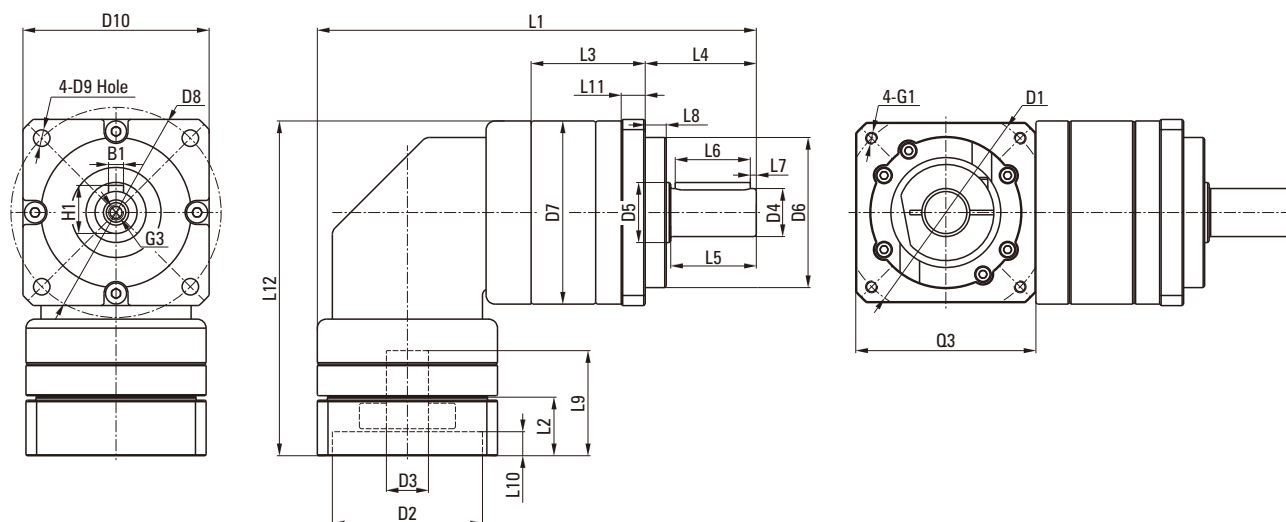
Product type		060SBFWR	090SBFWR	60SAE/FWR	90SAE/FWR	Reduction ratio	Stage
Moment of inertia	Kgcm ²	0.3	2.3	0.3	2.3	3	1
		0.3	2.3	0.3	2.3	4	
		0.3	2.3	0.3	2.3	5	
		0.3	2.3	0.3	2.3	7	
		0.3	2.3	0.3	2.3	8	
		0.3	2.3	0.3	2.3	10	
		0.07	0.3	0.07	0.3	15	2
		0.07	0.3	0.07	0.3	20	
		0.07	0.3	0.07	0.3	25	
		0.07	0.3	0.07	0.3	35	
		0.07	0.3	0.07	0.3	40	
		0.07	0.3	0.07	0.3	50	
		0.07	0.3	0.07	0.3	64	
		0.07	0.3	0.07	0.3	70	
		0.07	0.3	0.07	0.3	80	
		0.07	0.3	0.07	0.3	100	

Product type		060SBFWR	090SBFWR	60SAE/FWR	90SAE/FWR	Stage
Backlash	arcmin	≤8	≤8	≤10	≤10	1
		≤12	≤12	≤15	≤15	2
Torsion resistance	N.M/arcmin	7	14	1.8	4.5	-
Noise	dB(A)	≤65		≤73		-
Output speed	min ⁻¹	6000	6000	4500	4500	-
Recommended input speed	min ⁻¹	3000	3000	3000	3000	-

1. Moment of inertia is related to input shaft.
2. Noise detection standard, distance 1m, measured at input speed of 3000 rpm with no load.

SBFWR/SAFWR PLANETARY GEAR BOX-MECHANICAL PARAMETER

Dimensional drawing



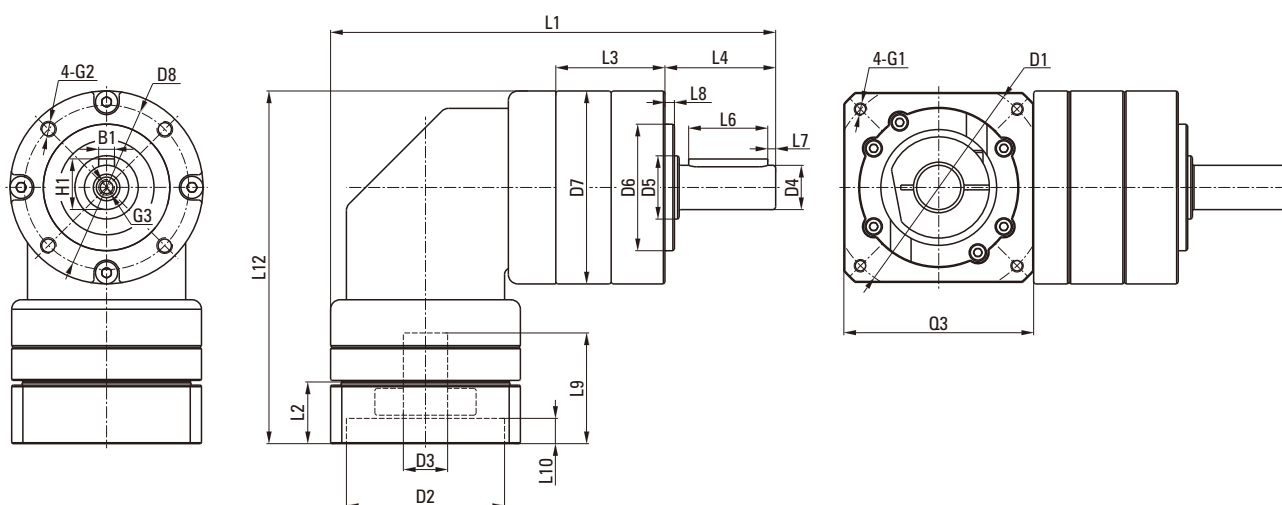
Dimensional table

Unit: mm

Product type	060SBFWR		090SBFWR		60SAFWR		90SAFWR	
Number of stage	1	2	1	2	1	2	1	2
L1 overall length	146.2	165.7	206.5	229.9	140.7	160.2	204.5	227.9
L3 body length	38	57.5	45.5	68.9	34.5	54	51.5	74.9
Output								
L4 output shaft length	37		48		35		40	
L5 output length to the shaft shoulder	28.5		36		30.5		36	
L6 key length	25		32		25		28	
L7 key length to shaft end	2		2		2.5		4	
L8 boss thickness	7		10		3		3	
L11 output flange thickness	8		10		8		10	
D4 output shaft diameter	Φ16h7		Φ22h7		Φ14h7		Φ20h7	
D5 shaft shoulder diameter	Φ20		Φ30		Φ20		Φ30	
D6 spigot diameter	Φ50h7		Φ80h7		Φ50h7		Φ80h7	
D7 body diameter	Φ61		Φ90		Φ61		Φ90	
D8 hole circle	Φ70		Φ100		Φ70		Φ100	
D9 mounting hole	Φ5.5		Φ6.5		Φ5.5		Φ6.5	
D10 mounting width	□62		□90		□62		□90	
B1 key width	5		6		5		6	
H1 key height	18		24.5		16		22.5	
G3 center screw hole	M5X15		M8X18		M5X15		M6X18	
Input								
L2 input flange length	19.5		20.5		19.5		20.5	
L9 motor shaft length	30		40		30		40	
L10 spigot depth	8		7		8		7	
D1 mounting hole distribution circle	Φ70		Φ90		Φ70		Φ90	
D2 spigot diameter	Φ50G7		Φ70G7		Φ50G7		Φ70G7	
D3 input shaft diameter	≤Φ14G7		≤Φ19G7		≤Φ14G7		≤Φ19G7	
G1 mounting threads X depth	M4X10		M5X12		M4X10		M5X12	
Q3 input flange	□60		□80		□60		□80	

SAEWR PLANETARY GEAR BOX-MECHANICAL PARAMETER

Dimensional drawing



Dimensional table

Unit: mm

Product type	60SAEWR		90SAEWR	
Number of stage	1	2	1	2
L1 overall length	140.7	160.2	204.5	227.9
L3 body length	34.5	54	51.5	74.9
Output				
L4 output shaft length	35		40	
L5 output length to the shaft shoulder	30.5		36	
L6 key length	25		28	
L7 key length to shaft end	2.5		4	
L8 boss thickness	3		3	
D4 output shaft diameter	Φ14h7		Φ20h7	
D5 shaft shoulder diameter	Φ20		Φ30	
D6 spigot diameter	Φ40h7		Φ60h7	
D7 body diameter	Φ61		Φ90	
D8 hole circle	Φ52		Φ70	
B1 key width	5		6	
H1 key height	16		22.5	
G2 mounting screw hole	M5X10		M6X12	
G3 center screw hole	M5X15		M6X18	
Input				
L2 input flange length	19.5		20.5	
L9 motor shaft length	30		40	
L10 spigot depth	8		7	
D1 mounting hole distribution circle	Φ70		Φ90	
D2 spigot diameter	Φ50G7		Φ70G7	
D3 input shaft diameter	≤Φ14G7		≤Φ19G7	
G1 mounting threads X depth	M4X10		M5X12	
Q3 input flange	□60		□80	