

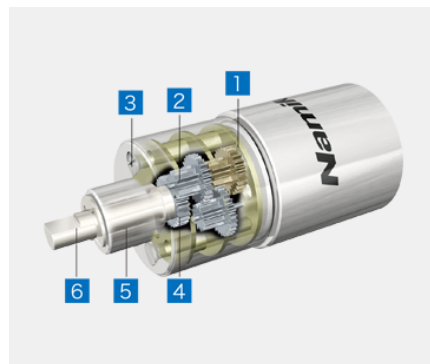
Geared Motor

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The motor can be used in a wide variety of applications by combining it with a reduction gear.

With the precision processing technology cultivated in watchmaking, Adamant Namiki provides geared motors equipped with high-precision gear heads that are quiet and have high transmission efficiency.

Gerahead Types



Spur gearhead

- | | | |
|--------------------------|-------------------------|----------------|
| 1 base-plate | 2 kana (drive sprocket) | 3 guide |
| 4 spur (driven sprocket) | 5 bearing | 6 output shaft |

- Most popular gearhead
- Gear shaft is aligned in parallel with the output shaft
- No thrust force is generated
- Rotating direction may differ between input shaft and output shaft depending on the stages.

Spur gear: Gear train using spur wheel, relatively simple structured with fewer number of parts, advantage is less mechanical noise.



Planetary gearhead

- | | | |
|-----------------|------------------|----------------|
| 1 base-plate | 2 planetary gear | 3 career plate |
| 4 internal gear | 5 bearing | 6 output shaft |

- Large reduction ratio can be achieved
- Considerable torque transmission
- Input shaft (motor shaft) and output shaft (gear shaft) are aligned in one straight line.
- Torque is distributed evenly to each planetary gear, so the gear is relatively strong in durability.

Planetary gear: It is called a planetary gear because it orbits around the sun gear.
Due to large number of teeth, it is suited for high torque transfer.

* Gear head is sellable only in combination with motor.

By attaching a reduction gear mechanism on the motor output shaft, it can generate high torque/low speed, which motor alone cannot achieve.

Compact motors usually feature high speed, but this speed can be reduced to requested level by combining with a gear head. Because torque increases in proportion to gear ratio, high torque can be easily achieved even in a compact motor.

While a gear head can help generate high torque, it may influence durability and characteristics failure depending on its accuracy.

Using the precision processing technology nurtured in diamond processing/watch part processing, Namiki manufactures and delivers low noise, high efficiency precision gear heads.

Spur Gear

Products	Dia.φ [mm]	Reduction Ratio (absolute value)	Number of stage	Allowable Torque		Efficiency [%]	Length [m]	Weight [g]	Rotation direction	Motor Combination
				Continous [mNm]	Intermittent [mNm]					
SSG10-15	10	15.4:1	3	12	30	73	14	5.4	≠	CMS10 series CMS10-13XX with Spur gear
SSG10-29		29.25:1	4	12	30	66	16	6.2	=	
SSG10-49		48.75:1	5	12	30	59	18	7.0	≠	BMS10 series BMS10-10XX with Spur gear
SSG10-49		72.29:1	5	12	30	59	18	7.0	≠	
SSG10-93		93.43:1	5	12	30	59	18	7.0	≠	BMS10-18XX with Spur gear

Products	Dia.φ [mm]	Reduction Ratio (absolute value)	Number of stage	Allowable Torque		Efficiency [%]	Length [m]	Weight [g]	Rotation direction	Motor Combination
				Continous [mNm]	Intermittent [mNm]					
SSG10-156	12	155.56:1	6	12	30	53	20	7.9	=	CMS12 series CMS12-15XX with Spur gear CMS12-20XX with Spur gear CMS12-30XX with Spur gear BMS12 series BMS12-15XX with Spur gear BMS12-21XX with Spur gear
SSG10-200		199.64:1	6	12	30	53	20	7.9	=	
SSG10-262		261.6:1	6	12	30	53	20	7.9	=	
SSG12-16		15.78:1	3	12	30	73	14	8.3	≠	
SSG12-25		24.7:1	3	12	30	73	14	8.3	≠	
SSG12-47		47.35:1	4	15	30	66	16	9.2	=	
SSG12-74		74.1:1	4	15	30	66	16	9.2	=	
SSG12-94		93.86:1	4	15	30	66	16	9.2	=	
SSG12-176		175.5:1	5	15	30	59	18	10.2	≠	
SSG12-222		222.3:1	5	15	30	59	18	10.2	≠	
SSG12-282		281.58	5	15	30	59	18	10.2	≠	
SSG15-29	15	29.07:1	3	15	30	73	9.6	8.9	≠	CMS16 series CMS16-23XX withSuper gear CMS16-28XX withSuper gear
SSG15-49		48.58:1	4	24	60	66	11.6	10.3	=	

Products	Dia.φ [mm]	Reduction Ratio (absolute value)	Number of stage	Allowable Torque		Efficiency [%]	Length [m]	Weight [g]	Rotation direction	Motor Combination
				Continous [mNm]	Intermittent [mNm]					
SSG15-71		71.35:1	4	24	60	66	11.6	10.3	=	
SSG15-94		93.68:1	4	24	60	66	11.6	10.3	=	
SSG15-152		152.2:1	5	24	60	59	13.6	10.3	=	CMS16-33XX withSuper gear
SSG15-198		198.06:1	5	24	60	59	13.6	11.5	≠	BMS16 series BMS16-20XX withSuper gear
SSG15-302		301.84:1	5	24	60	59	13.6	10.3	≠	BMS16-30XX withSuper gear
SSG15-438		438.31:1	6	24	60	53	15.6	12.9	=	
SSG15-638		638.18:1	6	24	60	53	15.6	12.9	=	

Written in RED LETTERS are non-standard gears. For further support, please inquire our sales representatives accordingly.

Planetary Gear

Products	Dia.φ [mm]	Reduction Ratio (absolute value)	Number of stage	Length [m]	Weight [g]	Rotation direction	Motor Combination
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Products	Dia.φ [mm]	Reduction Ratio (absolute value)	Number of stage	Length [m]	Weight [g]	Rotation direction	Motor Combination
SPG07-4.7	7	4.71:1	1	7.4	2.0	=	CMS07-17XX with Planetary gear
SPG07-22		22.22:1	2	9.6	2.5	=	
SPG07-105		104.77:1	3	11.8	3.0	=	BMN07-12XX with Planetary gear
SPG07-494		493.93:1	4	14.1	3.5	=	
SPG10-3.6	10	3.6:1	1	10.5	5.8	=	CMS10 series CMS10-13XX with Planetary gear
SPG10-4.7		4.7:1	1	10.5	5.8	=	
SPG10-13		12.96:1	2	13.5	7.1	=	
SPG10-22		22.22:1	2	13.5	7.1	=	CMS10-18XX with Planetary gear
SPG10-47		46.66:1	3	16.5	8.4	=	
SPG10-61		61.1:1	3	16.5	8.4	=	BMS10 series BMS10-10XX with Planetary gear
SPG10-80		80.01:1	3	16.5	8.4	=	
SPG10-105		104.77:1	3	16.5	8.4	=	
SPG10-168		167.96:1	4	19.6	9.7	=	

Products	Dia.φ [mm]	Reduction Ratio (absolute value)	Number of stage	Length [m]	Weight [g]	Rotation direction	Motor Combination
SPG10-220	12	219.95:1	4	19.6	9.7	=	
SPG10-288		288.03:1	4	19.6	9.7	=	
SPG10-377		377.18:1	4	19.6	9.7	=	
SPG10-493		493.93:1	4	19.6	9.7	=	
SPG12-3.5		3.5:1	1	14.2	11.6	=	CMS12 series CMS12-15XX with Planetary gear
SPG12-4.8		4.8:1	1	14.2	11.6	=	
SPG12-12		12.25:1	2	18.0	14.1	=	
SPG12-23		22.56:1	2	18.0	14.1	=	
SPG12-43		22.56:1	2	18.0	16.6	=	CMS12-30XX with Planetary gear
SPG12-58		42.88:1	3	21.8	16.6	=	BMS12 series BMS12-15XX with Planetary gear
SPG12-79		42.88:1	3	21.8	16.6	=	
SPG12-107		107.17:1	3	21.8	16.6	=	
SPG12-150		107.17:1	3	21.8	19.1	=	

Products	Dia.φ [mm]	Reduction Ratio (absolute value)	Number of stage	Length [m]	Weight [g]	Rotation direction	Motor Combination
SPG12-204	16	107.17:1	3	21.8	19.1	=	
SPG12-375		107.17:1	3	21.8	19.1	=	
SPG12-509		509.07:1	4	25.7	20	=	
SPG16-3.6		3.6:1	1	15.3	20	=	
SPG16-4.7		4.71:1	1	15.3	20	=	
SPG16-13		12.96:1	2	19.5	24.5	=	CMS16 series CMS16-23XX with Planetary gear
SPG16-22		22.22:1	2	19.5	24.5	=	CMS16-28XX with Planetary gear
SPG16-46		46.66:1	3	19.5	29	=	CMS16-33XX with Planetary gear
SPG16-61		61.1:1	3	23.7	29	=	BMS16 series BMS16-20XX with Planetary gear
SPG16-80		80.01:1	3	23.7	29	=	BMS16-30XX with Planetary gear
SPG16-105		104.7:1	3	23.7	29	=	
SPG16-168		167.96:1	4	28	33.5	=	
SPG16-220		219.95:1	4	28	33.5	=	

Products	Dia.φ [mm]	Reduction Ratio (absolute value)	Number of stage	Length [m]	Weight [g]	Rotation direction	Motor Combination
SPG16-288		288.03:1	4	28	33.5	=	
SPG16-377		377.18:1	4	28	33.5	=	
SPG16-493		493.93:1	4	28	33.5	=	

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