KFB Series

- 1-Stage Backlash ≦ 8 arcmin
- 2-Stage Backlash ≦ 12 arcmin

Indication of Model Numbers

KFB	-	90	-	10	Key Type	-	MOTOR
Type KFB KFE		Model 50 70 90 120 145 180		Ratio 1-Stage 3, 4, 5, 7, 10 2-Stage 15, 20, 25, 30, 35, 40, 50, 70, 100	Output Shaft Keyway □ : 무표기 Standard (Keyway) N : 표기 Solid Output Shaft (No Keyway)		Motor Type Motor Brand & Model No.

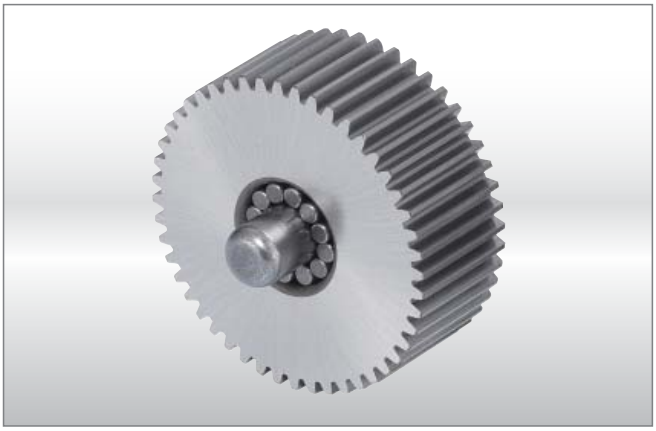
Features of KFB Series

KFB Series 제품 특성

Integrated Planetary Arm Bracket

Planetary arm bracket와 출력 Shaft는 일체형 구조로 한번에 정밀 가공되어 비틀림 강도와 정밀도를 향상 시켰습니다.

The planetary arm bracket and the output shaft are one-piece constructed to increase torsional rigidity and accuracy. The entire structure is integrated machined for controlling accuracy in the specified tolerance.



Full Needle Roller Bearings Design

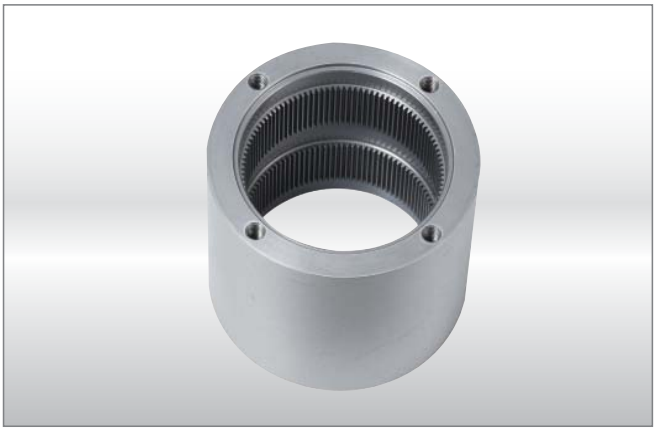
ATG 감속기의 유성기어는 구조적 강도와 출력 향상을 위하여 Full needle bearing을 적용하였습니다.

The planetary gear transmission employs full needle roller bearings without retainer to increase the contact surface, which greatly upgrades structural rigidity and service life.

High Precision Gear Machining

감속기 내부의 유성 기어와 선 기어는 기어 제작 용도의 크롬 몰리브덴 합금강으로 제조 되었습니다. 기어의 강도는 57~60HRC이며 정밀도 향상을 위해 열처리 후 스카이빙 연마 공정을 적용하여 DIN 6 class(JIS 2급) 이내의 등급을 유지합니다.

The planetary gear and sun gear are manufactured from high quality Ni-Cr-Mo alloy steel (SNCM420), precision machined and carburizing heat treatment to hardness 57-60HRC. Precision teeth grinding or skiving assures gear accuracy reaches DIN6 class.



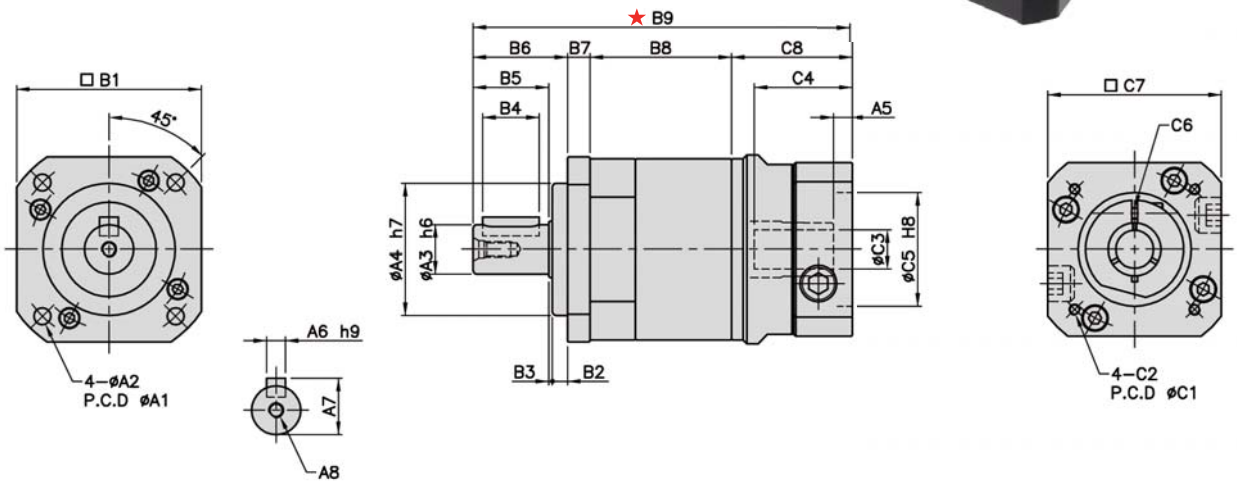
One-piece Gearbox Housing

감속기 케이스에 내치기어를 일체형으로 정밀 가공하여 견고함과 정밀도를 향상 하였습니다.

The gearbox and internal gear are one-piece constructed. High gear accuracy meets DIN6 class.

MODEL : KFB

RATIO : 3, 4, 5, 7, 10 (1-Stage)



unit : mm

Code \ Model		50	70	90	120	145	180
A	A1	50	70	100	130	165	215
	A2	4.5	6	6.8	9	11	13
	A3	13	16	22	32	40	55
	A4	35	50	80	110	130	160
	A5	5	6	9, 23.5	10	10	13, 15
	A6	5	5	6	10	12	16
	A7	15	18	24.5	35	43	59
	A8	M4 x P0.7	M5 x P0.8	M8 x P1.25	M10 x P1.5	M12 x P1.75	M14 x P2.0
B	B1	50	70	90	120	145	180
	B2	4	5	6	8	10	20
	B3	1	1	2	2	3	4
	B4	15	20	30	40	65	70
	B5	20	28	36	50	74	82
	B6	25	34	44	60	87	106
	B7	6	8	9	12	15	16
	B8	37.5	49.5	59	86	95	69.5
	B9	100.5	132.5, 140.5	170.5, 185	227.5	291	325, 327
C	C1	46, 60, 63	70, 75, 90	90, 100, 115, 145	115, 145, 165	145, 165, 215	200, 215, 265
	C2	M3, M4, M5	M4, M5, M6	M5, M6, M8	M6, M8, M10	M8, M10, M12	M10, M12
	C3	8, (11)	14, (19)	19, (24)	24, (32)	35, (38)	38, 42, 48
	C4	26	33.5, 41.5	51, 65.5	63	81.5	115, 117
	C5	30, 40, 50	50, 60, 70	70, 80, 95, 110	95, 110, 130	110, 130, 180	114.3, 180, 230
	C6	M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5
	C7	46, 55	64, 70, 80	92, 110, 130	122, 130, 150	146, 150, 190	182, 200, 250
	C8	32	41, 49	58.5, 73	69.5	94	133.5, 135.5

* ( ) 안은 주문형입니다 . * A5, ★은 적용 모터에 따라 달라질 수 있습니다 .

Characteristic of KFB 1-Stage

Model No.		Unit	Ratio	50	70	90	120	145	180
Rated Output Torque (Nominal output torque)	T_{2N}	Nm	3	17	50	125	268	482	940
			4	15	45	111	238	426	860
			5	14	42	104	223	401	835
			7	13	39	98	208	373	790
			10	12	37	92	198	356	760
Max. Acceleration Torque	T_{2B}	Nm	3~10	1.8 Times of Rated Output Torque					
Max. Output Torque Emergency Stop Torque	T_{2NOT}	Nm	3~10	3 Times of Rated Output Torque					
Rated Input Speed	n_{1N}	rpm	3~10	3,000	3,000	3,000	3,000	3,000	2,000
Max. Input Speed	n_{1B}	rpm	3~10	5,000	5,000	5,000	5,000	5,000	3,000
Backlash	j_t	arcmin	3~10	≦8	≦8	≦8	≦8	≦8	≦8
Torsional Rigidity		Nm/arcmin	3~10	2.3	5	15	45	69	140
Max. Radial Force	F_{2rB}	N	3~10	750	1,180	3,000	6,500	9,100	11,150
Max. Axial Force	F_{2aB}	N	3~10	375	590	1,500	3,250	4,550	5,575
Service Life	L_H	hr	3~10	S5 Cycle Operation: >20,000 (S1 Continuous Operation: >10,000 hrs)					
Efficiency	n	%	3~10	≧97%					
Operating Temperature		℃	3~10	−25°C ~ +90°C					
Lubrication			3~10	VIGO GREASE RE #0					
Protection Class			3~10	IP65					
Mounting Position			3~10	Any					
Noise Level		dB	3~10	≦62	≦62	≦65	≦68	≦70	≦70
Weight ±3%		kg	3~10	0.63	1.57	3.22	8	16	33

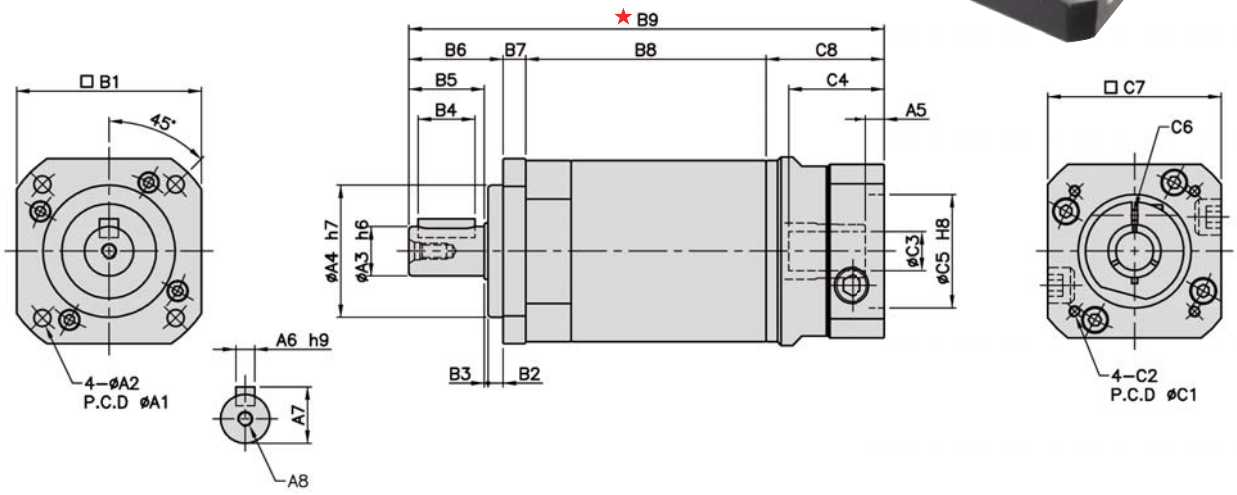
Mass Moments of Inertia ($kg.cm^2$)

Ratio	50	70	90	120	145	180
3	0.04	0.14	0.61	3.25	8.75	24.63
4	0.04	0.13	0.48	2.74	7.16	20.12
5	0.04	0.11	0.47	2.74	6.84	19.80
7	0.04	0.11	0.44	2.58	6.78	19.21
10	0.04	0.11	0.44	2.57	6.68	19.13

* 연속운전 사용시 본사와 상담 후 선정바랍니다 .

MODEL : KFB

RATIO : 15, 20, 25, 30, 35, 40, 50, 70, 100 (2-Stage)



unit : mm

Code \ Model		50	70	90	120	145	180
A	A1	50	70	100	130	165	215
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	A3	13	16	22	32	40	55
	A4	35	50	80	110	130	160
	A5	5	6	9, 23.5	10	10	13, 15
	A6	5	5	6	10	12	16
	A7	15	18	24.5	35	43	59
	A8	M4 x P0.7	M5 x P0.8	M8 x P1.25	M10 x P1.5	M12 x P1.75	M14 x P2.0
B	B1	50	70	90	120	145	180
	B2	4	5	6	8	10	20
	B3	1	1	2	2	3	4
	B4	15	20	30	40	65	70
	B5	20	28	36	50	74	82
	B6	25	34	44	60	87	106
	B7	6	8	9	12	15	16
	B8	63.7	83.5	98.7	140	158.7	139
	B9	126.7	166.5, 174.5	210.2, 224.7	281.5	354.7	394.5, 396.5
C	C1	46, 60, 63	70, 75, 90	90, 100, 115, 145	115, 145, 165	145, 165, 215	200, 215, 265
	C2	M3, M4, M5	M4, M5, M6	M5, M6, M8	M6, M8, M10	M8, M10, M12	M10, M12
	C3	8, (11)	14, (19)	19, (24)	24, (32)	35, (38)	38, 42, 48
	C4	26	33.5, 41.5	51, 65.5	63	81.5	115, 117
	C5	30, 40, 50	50, 60, 70	70, 80, 95, 110	95, 110, 130	110, 130, 180	114.3, 180, 230
	C6	M4 x P0.7	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5
	C7	46, 55	64, 70, 80	92, 110, 130	122, 130, 150	146, 150, 190	182, 200, 250
	C8	32	41, 49	58.5, 73	69.5	94	133.5, 135.5

* ( ) 안은 주문형입니다 . * A5, ★은 적용 모터에 따라 달라질 수 있습니다 .

Characteristic of KFB 2-Stage

Model No.		Unit	Ratio	50	70	90	120	145	180
Rated Output Torque (Nominal output torque)	T_{2N}	Nm	15	17	50	125	268	482	940
			20	15	45	111	238	426	860
			25	14	42	104	223	401	835
			30	17	50	125	268	482	940
			35	13	39	98	208	373	790
			40	15	45	111	238	427	860
			50	14	42	104	223	402	835
			70	13	40	98	208	373	790
			100	12	37	92	198	357	760
Max. Acceleration Torque	T_{2B}	Nm	15~100	1.8 Times of Rated Output Torque					
Max. Output Torque Emergency Stop Torque	T_{2NOT}	Nm	15~100	3 Times of Rated Output Torque					
Rated Input Speed	n_{1N}	rpm	15~100	3,000	3,000	3,000	3,000	3,000	2,000
Max. Input Speed	n_{1B}	rpm	15~100	5,000	5,000	5,000	5,000	5,000	3,000
Backlash	j_t	arcmin	15~100	≦12	≦12	≦12	≦12	≦12	≦12
Torsional Rigidity		Nm/arcmin	15~100	2.3	5	15	45	69	140
Max. Radial Force	F_{2rB}	N	15~100	750	1,180	3,000	6,500	9,100	11,150
Max. Axial Force	F_{2aB}	N	15~100	375	590	1,500	3,250	4,550	5,575
Service Life	L_H	hr	15~100	S5 Cycle Operation: >20,000 (S1 Continuous Operation: >10,000 hrs)					
Efficiency	n	%	15~100	≧94%					
Operating Temperature		℃	15~100	−25°C ~ +90°C					
Lubrication			15~100	VIGO GREASE RE #0					
Protection Class			15~100	IP65					
Mounting Position			15~100	Any					
Noise Level		dB	15~100	≦65	≦65	≦68	≦70	≦72	≦72
Weight ±3%		kg	15~100	0.9	2.24	4.59	11.22	22.5	46.4

Mass Moments of Inertia (kg.cm²)

Ratio	50	70	90	120	145	180
15	0.04	0.14	0.61	3.25	8.75	24.63
20	0.04	0.13	0.48	2.74	7.16	20.12
25	0.04	0.11	0.47	2.74	6.84	19.80
30	0.04	0.14	0.61	3.25	8.75	24.63
35	0.04	0.11	0.44	2.74	6.78	19.21
40	0.04	0.11	0.48	2.74	7.16	20.12
50	0.04	0.11	0.47	2.74	6.84	19.80
70	0.04	0.11	0.44	2.58	6.78	19.21
100	0.04	0.11	0.44	2.57	6.68	19.13

* 연속운전 사용시 본사와 상담 후 선정바랍니다 .