ATG Planetary Reducers

Full needle bearings design

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

The Planetary gear transmission employs full needle beanings wirhout retainer to increase the contact surface, which greatly upgrades structural rigidity and output torque.

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 one-time machined for controlling accuracy in the specified tolerance.
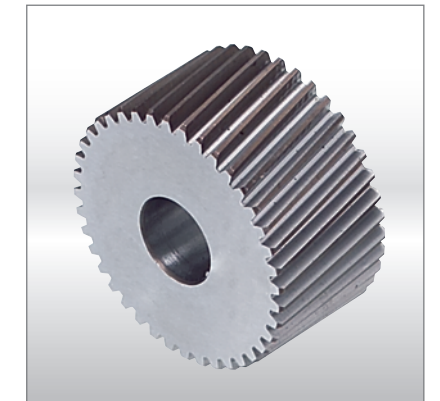
High precision gear machining

감속기 내부의 유성기어와 선기어는 기어제작 용도의 크롬 몰리브덴 합금강으로 제조되었습니다. 기어의 강도는 57~60HRC이며 정밀도 향상을 위해 열처리 후 스카이빙 연마 공정을 적용하여 DIN 6 class(JIS 2급) 이내의 등급을 유지합니다. 특히 니트라이딩 열처리 공법에 비하여 보다 깊은 조직 강화를 통한 기어강도 및 제품 수명을 향상 하였습니다.

The Planetary gear and sun gear are manufactured from high quality Cr-Mo alloy steel(SNCM220), precision machined and carbunzed to ardness 57-60 HRC. Precision teeth grinding assures gear accuracy reaches DIN6 CLASS. It provides better wear resistance, impact resistance and longer service life than gears with only surface nitrided.

Helical gear design

기어 맞물림이 평기어의 2배 이상인 Helical gear 적용으로 동작 소음을 최소화하고 고출력, 저소음, 저백래시를 실현하였습니다.

The speed reduction mechanism employs helical gears, which provides two times of teeth profile engagement percentage when comparing with common spur gears. In addition, it also features extremely smooth running low noise, high torque output and low backlash.

Synthetic lubrication grease

누유 방지를 위하여 IP 65등급의 밀폐 설계와 첨단 합성 윤활 시스템을 적용 하였습니다.

Employs synthetic lubrication. The class IP65 protective sealing design fully avoiods leaking problem without maintenance.

Collet chuck locking mechanism

감속기의 입력과 Motor의 출력 shaft를 연결하기 위한 기계 구조입니다. 이는 역학상 확실한 체결력과 높은 속도에서 구동할 때 접촉의 균형을 이룰 수 있는 구조입니다.

The input end and the motor is coupled through a collet chuck locking meshanism. It is dynamically balanced to assure concentricity and balance on the connection when running at high speed. No backlash for power transmission.
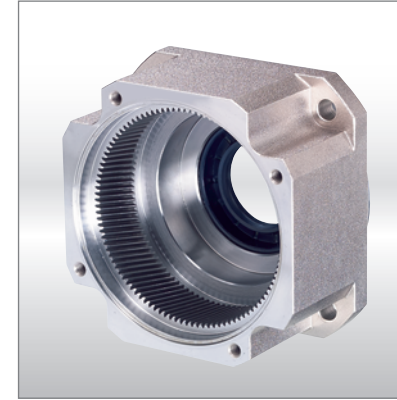
One-piece gear box body & advanced surface treatment

기어 제작용 합금강을 사용하여 적합한 열처리 공정 후 감속기 케이스에 내치기어를 직접 가공하여 고정밀, 고 강도를 실현하며 부식방지를 위한 내환경 표면처리를 하였습니다.

The gear box and internal ring are one-piece constructed, which is manufactured from Cr-Moalloy steel(SCM435), and tempered for high torque output. High gear accuracy meets DIN6 class standard. Gear surface is anti-corrosive treated for upgrading environmental-resistant and corrosion-resistant capability.
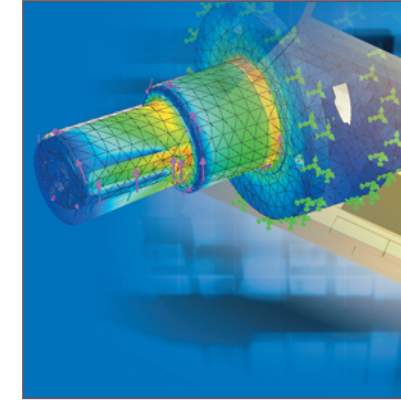
3D-CAE design and analysis

기어 전문 3D-CAE 툴을 통한 모의 실험으로 최적의 구동조건 분석 후 완성되어진 디자인 입니다.

Employs 3D-CAE software for analysis and design. The software allows for analyzing the strength of the entire gear reducer and modifying the gelical teeth profile and lead. The reduces iomact and noise dunng teeth engage and disengage, while increasing the service life of gears and the gear reducer.
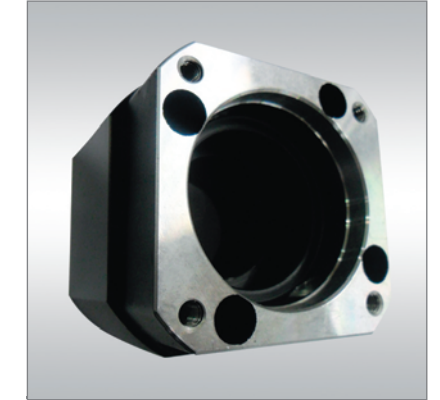
Modular design of motor connection plate

Motor connection plate의 스페셜 모듈 디자인은 모든 서보모터 적용이 가능하며 알루미늄 합금소재에 산화방지 및 부식방지를 위한 내환경 표면처리를 하였습니다.

The special modular design of motor connection plate is suitable for any brand and any type of servomotor. Manufactured from aluminum alloy, its surface is anti-oxidant treated for upgrading environmental-resistant and corrosion-resistant capability.
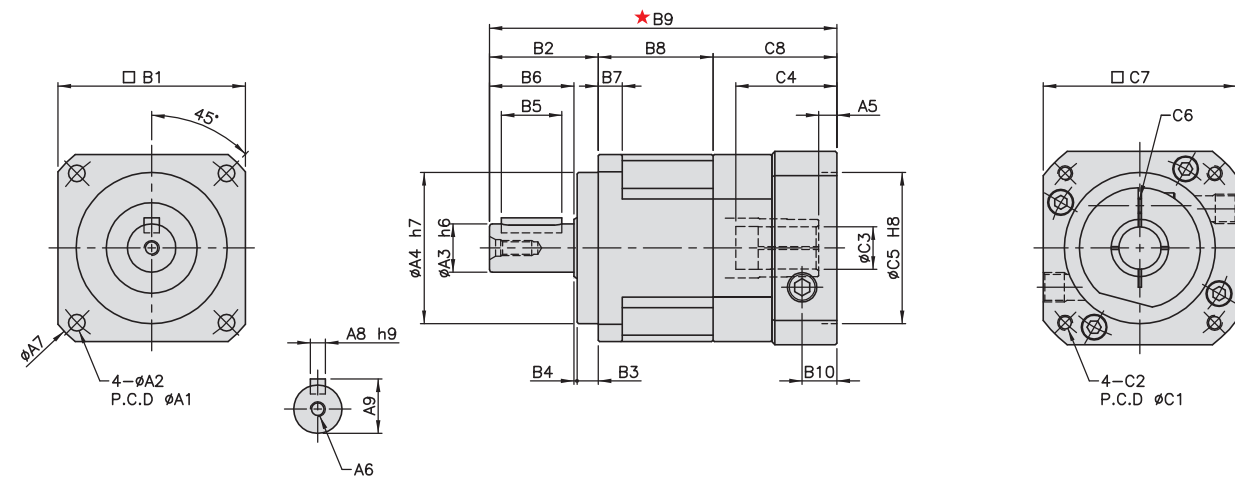
ATG SERVOBOX Planetary Reducers

LIMING · ATG

MODEL : KSB

Single Reduction
RATIO : 3.4.5.6.7.8.9.10
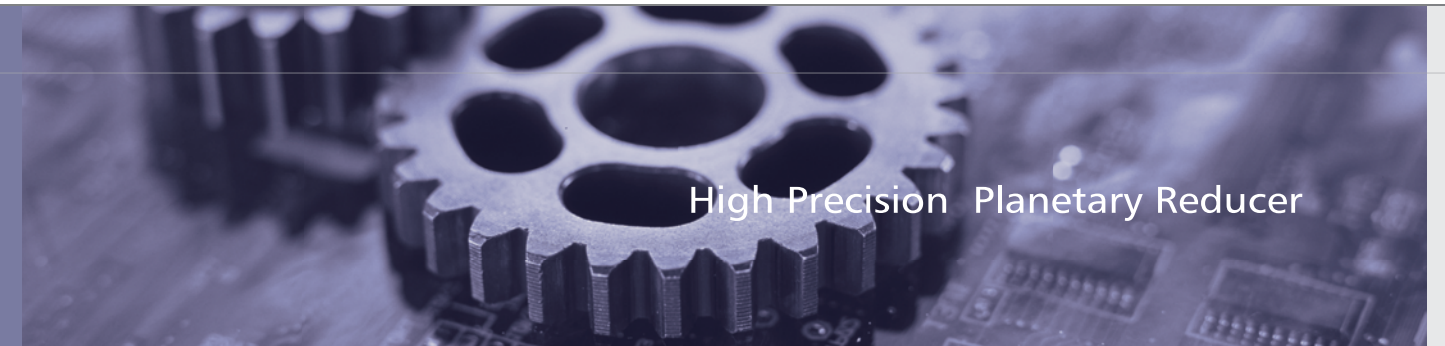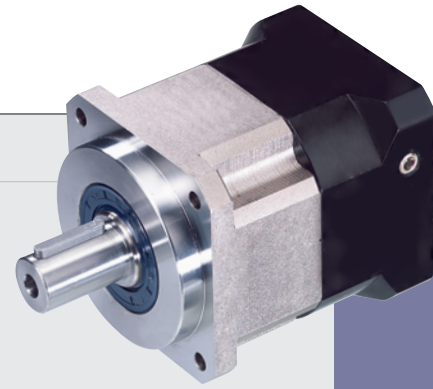
High Precision Planetary Reducer

unit:mm

Model code	44	62	90	120	142	180	220
A A1	50	70	100	130	165	215	250
A2	4.5	5.5	6.8	9	11	13	17
A3	13	16	22	32	40	55	75
A4	35	50	80	110	130	160	180
A5	5	6	9	10	10	11.5	12.5
A6	M4×P0.7	M5×P0.8	M8×P1.25	M10×P1.5	M12×P1.75	M14×P2.0	M16×P2.0
A7	58	80	116	148	186	238	288
A8	5	5	6	10	12	16	20
A9	15	18	24.5	35	43	59	79.5
B B1	44	62	90	120	142	180	220
B2	26	36	48	65	92	106	139
B3	5	7	10	12	15	20	30
B4	1	1	2	3	3	4	5
B5	15	20	30	40	65	70	90
B6	20	28	36	50	74	82	104
B7	5	8	10	12	15	16	20
B8	31.5	38	49	61	70	85	93
B9	95	115, 123	151.5, 164.5	205	260.5	323.5	367
B10	9	11.5	16	19.5	20	23.5	23.5
C C1	46, 60, 63, 70	70, 75, 90	70, 90, 100 115, 145, 165	90, 100 115, 145, 165	145, 165 200, 215	200, 215 235, 265, 300	215, 235 265, 300
C2	M4, M5	M4, M5, M6	M6, M8, M10	M6, M8, M10	M8, M12	M12, M16	M12, M16
C3	5, 6.35, 8,(11)	6.35, 8, 11 12, 14,(16, 19)	14, 16, 19 (22, 24)	19, 22 24,(28, 32)	22, 24, 28 32, 35,(38)	38, 42, 48, 55	42, 48, 55
C4	26	33.5, 41.5	46, 59	67	84.5	114.5	117.5
C5	30, 40, 50	50, 60, 70	50, 70, 80 95, 110, 130	70, 80 95, 110, 130	110, 114.3 130, 180	114.3, 180 200, 230	180, 200 230, 250
C6	M3	M5	M6	M8	M10	M10	M10
C7	46, 55, 60	64, 70, 80	92, 110 130, 142	130, 150	146, 150 180, 190	182, 200 220, 250, 265	220, 250, 265
C8	37.5	41, 49	54.5, 67.5	79	98.5	132.5	135.5

■ Mass Moments of Inertia (kg · cm²)

Ratio	44	62	90	120	142	180	220
3	0.03	0.16	0.61	3.25	9.21	28.98	59.61
4	0.03	0.14	0.48	2.74	7.54	23.67	54.37
5	0.03	0.13	0.47	2.71	7.42	23.29	53.27
6	0.03	0.13	0.45	2.65	7.25	22.75	51.72
7	0.03	0.13	0.45	2.62	7.14	22.48	50.97
8	0.03	0.13	0.44	2.58	7.07	22.59	50.84
9	0.03	0.13	0.44	2.57	7.04	22.53	50.63
10	0.03	0.13	0.44	2.57	7.03	22.51	50.56

Model No.	Unit	Ratio	44	62	90	120	142	180	220
Rated Output Torque	Nm	3	19	59	165	335	625	1206	2030
		4	16	51	146	300	555	1069	1804
		5	16	48	160	333	618	1189	2010
		6	15	45	151	311	583	1118	1911
		7	15	45	149	309	573	1108	1870
		8	14	43	143	298	553	1070	1824
		9	13	44	145	278	516	993	1694
		10	14	43	141	294	549	1059	1779
Max. Output Torque	Nm	3~10	3 Times of Rated Output Torque						
Rated Input Speed	rpm	3~10	5,000	5,000	4,000	4,000	3,000	3,000	2,000
Max. Input Speed	rpm	3~10	10,000	10,000	8,000	8,000	6,000	6,000	4,000
Backlash PS	arc min	3~10			≦1	≦1	≦1	≦1	≦1
Backlash P0	arc min	3~10	≦3	≦3	≦3	≦3	≦3	≦3	≦3
Backlash P1	arc min	3~10	≦5	≦5	≦5	≦5	≦5	≦5	≦5
Torsional Rigidity	Nm/arc min	3~10	3	6	14	27	60	140	240
Max. Radial Load	N	3~10	760	1,180	3,200	6,800	9,300	15,600	51,000
Max. Axial Load	N	3~10	380	590	1,600	3,400	4,650	7,800	25,500
Service Life	hr	3~10	20,000 (4,000 / Continuous Operation)						
Efficiency	%	3~10	≧97						
Operating Temperature	℃	3~10	-25℃ ~ +90℃						
Lubrication		3~10	VIGO GREASE RE #0						
Degree of Gearbox Protection		3~10	IP65						
Mounting Position		3~10	Any						
Noise Level	dB	3~10	≦56	≦58	≦60	≦63	≦65	≦67	≦70
Weight ±3%	kg	3~10	0.6	1.37	3.9	8	14.2	29.3	39.2

＊( )안은 주문형입니다. ＊A5, ★:적용모터에 따라 달라질 수 있습니다. ＊연속운전 사용시 본사와 상담후 선정바랍니다.

ATG SERVOBOX Planetary Reducers
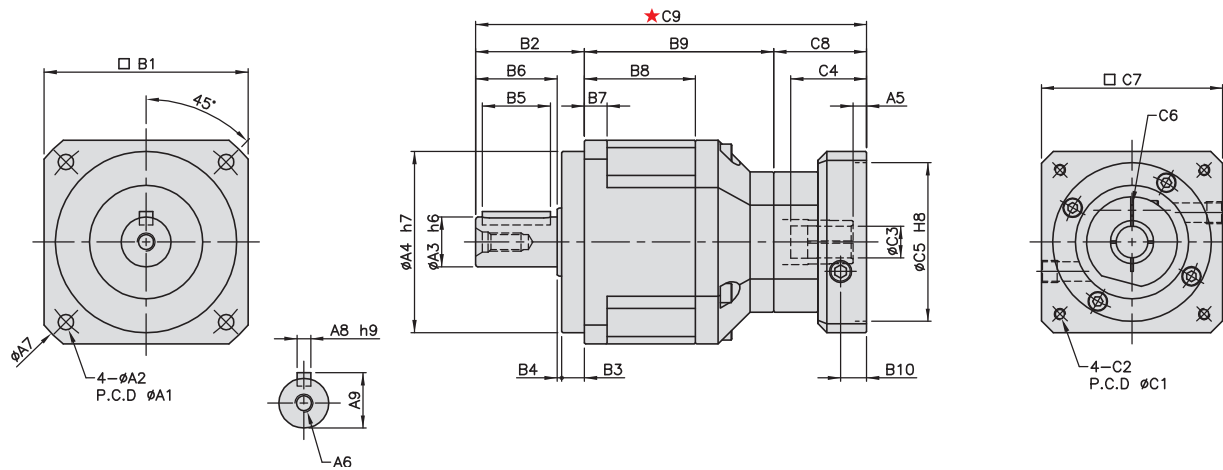
LIMING ATG

MODEL : KSB

Double Reduction

RATIO : 15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100

High Precision Planetary Reducer

unit:mm

	Model code	62	90	120	142	180	220
A	A1	70	100	130	165	215	250
	A2	5.5	6.8	9	11	13	17
	A3	16	22	32	40	55	75
	A4	50	80	110	130	160	180
	A5	5	6	9	10	10	11.5
	A6	M5×P0.8	M8×P1.25	M10×P1.5	M12×P1.75	M14×P2.0	M16×P2.0
	A7	80	116	148	186	238	288
	A8	5	6	10	12	16	20
	A9	18	24.5	35	43	59	79.5
B	B1	62	90	120	142	180	220
	B2	36	48	65	92	106	139
	B3	7	10	12	15	20	30
	B4	1	2	3	3	4	5
	B5	20	30	40	65	70	90
	B6	28	36	50	74	82	104
	B7	8	10	12	15	16	20
	B8	38	49	61	70	85	93
	B9	66	83.5	108.5	127.5	154	175
	B10	9	11.5	16, 30.5	19.5, 27.5	20	23.5
C	C1	46, 60, 63, 70	70, 75, 90	70, 90, 100 115, 145, 165	90, 100 115, 145, 165	145, 165, 200, 215	200, 215 235, 265, 300
	C2	M4, M5	M4, M5, M6	M6, M8, M10	M6, M8, M10	M8, M12	M12, M16
	C3	5, 6.35, 8,(11)	6.35, 8, 11 12, 14,(16, 19)	14, 16, 19,(22, 24)	19, 22, 24,(28, 32)	22, 24, 28 32, 35,(38)	38, 42, 48, 55
	C4	26	33.5, 41.5	59	67	84.5	114.5
	C5	30, 40, 50	50, 60, 70	50, 70, 80 95, 110, 130	70, 80 95, 110, 130	110, 114.3, 130, 180	114.3, 180, 200, 230
	C6	M3	M5	M6	M8	M10	M10
	C7	46, 55, 60	64, 70, 80	92, 110, 130, 142	130, 150	146, 150, 180, 190	182, 200, 220, 250, 265
	C8	37.5	41, 49	67.5	79	98.5	132.5
	C9	139.5	172.5, 180.5	241	298.5	358.5	446.5

■ Mass Moments of Inertia (kg · cm²)

Ratio	62	90	120	142	180	220
15	0.03	0.14	0.46	2.63	7.3	22.79
20	0.03	0.14	0.46	2.63	7.3	22.79
25	0.03	0.14	0.46	2.63	7.1	22.79
30	0.03	0.14	0.46	2.43	7.1	22.59
35	0.03	0.14	0.44	2.43	7.1	22.59
40	0.03	0.14	0.44	2.43	6.92	22.59
50	0.03	0.14	0.44	2.43	6.92	22.59
60	0.03	0.14	0.43	2.39	6.72	21.83
70	0.03	0.14	0.43	2.39	6.72	21.83
80	0.03	0.14	0.43	2.39	6.72	21.83
90	0.03	0.14	0.40	2.39	6.72	21.60
100	0.03	0.14	0.40	2.39	6.72	21.60

Model No.	Unit	Ratio	62	90	120	142	180	220
Rated Output Torque	Nm	15	59	165	335	625	1206	2030
		20	51	146	300	555	1069	1804
		25	48	160	333	618	1189	2010
		30	45	151	311	583	1118	1911
		35	45	149	309	573	1108	1870
		40	43	143	298	553	1070	1824
		50	48	160	333	618	1189	2010
		60	45	151	311	583	1118	1911
		70	45	149	309	573	1108	1870
		80	43	143	298	553	1070	1824
		90	44	145	278	516	993	1694
		100	43	141	294	549	1059	1779
Max. Output Torque	Nm	15~100	3 Times of Rated Output Torque					
Rated Input Speed	rpm	15~100	5,000	4,000	4,000	3,000	3,000	2,000
Max. Input Speed	rpm	15~100	10,000	8,000	8,000	6,000	6,000	4,000
Backlash PS	arc min	15~100			≦3	≦3	≦3	≦3
Backlash P0	arc min	15~100	≦5	≦5	≦5	≦5	≦5	≦5
Backlash P1	arc min	15~100	≦7	≦7	≦7	≦7	≦7	≦7
Torsional Rigidity	Nm/arc min	15~100	6	14	27	60	140	240
Max. Radial Load	N	15~100	1,180	3,200	6,800	9,300	15,600	51,000
Max. Axial Load	N	15~100	590	1,600	3,400	4,650	7,800	25,500
Service Life	hr	15~100	20,000 (4,000 / Continuous Operation)					
Efficiency	%	15~100	≧94%					
Operating Temperature	℃	15~100	-25℃ ~ +90℃					
Lubrication		15~100	VIGO GREASE RE #0					
Degree of Gearbox Protection		15~100	IP65					
Mounting Position		15~100	Any					
Noise Level	dB	15~100	≦58	≦60	≦63	≦65	≦67	≦70
Weight ±3%	kg	15~100	1.73	4.6	9.42	20.5	39.14	54.2

PGX-H PBL KSB KSBL KSE KSEL KFB KFE KSD KSDL KWE
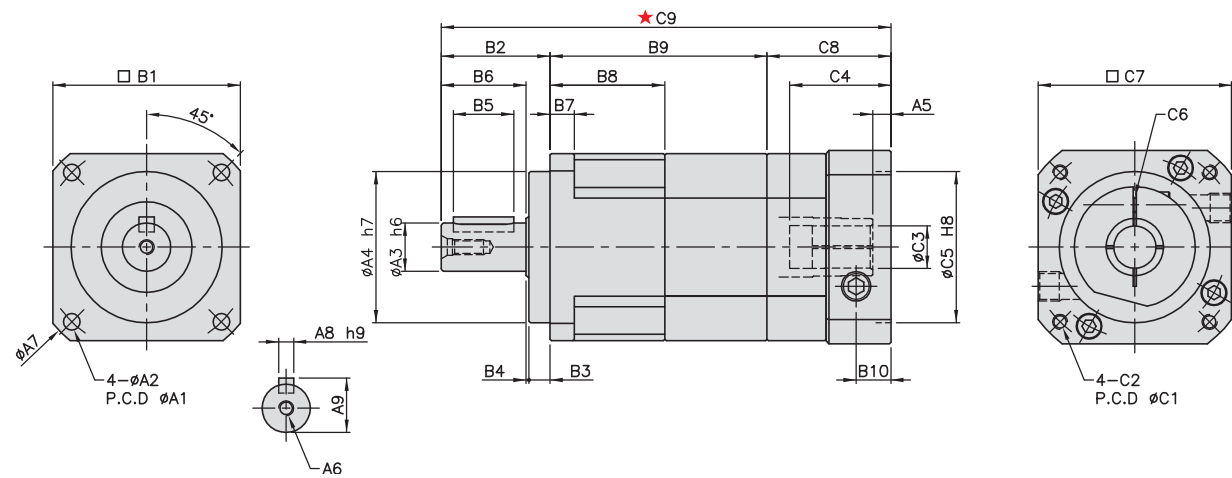
ATG SERVOBOX Planetary Reducers

MODEL : KSB-A

Double Reduction

RATIO : 15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 90, 100

High Precision Planetary Reducer

unit:mm

Model code		44A	62A	90A	120A	142A	180A	220A
A	A1	50	70	100	130	165	215	250
	A2	4.5	5.5	6.8	9	11	13	17
	A3	13	16	22	32	40	55	75
	A4	35	50	80	110	130	160	180
	A5	5	6	9, 23.5	10	10	11.5	12.5
	A6	M4×P0.7	M5×P0.8	M8×P1.25	M10×P1.5	M12×P1.75	M14×P2.0	M16×P2.0
	A7	58	80	116	148	186	238	288
	A8	5	5	6	10	12	16	20
	A9	15	18	24.5	35	43	59	79.5
B	B1	44	62	90	120	142	180	220
	B2	26	36	48	65	92	106	139
	B3	5	7	10	12	15	20	30
	B4	1	1	2	3	3	4	5
	B5	15	20	30	40	65	70	90
	B6	20	28	36	50	74	82	104
	B7	5	8	10	12	15	16	20
	B8	31.5	38	49	61	70	85	93
	B9	57.5	71.8	92.5	117	136.5	166	186
	B10	9	11.5	16	19.5	20	23.5	23.5
C	C1	46, 60, 63, 70	70, 75, 90	70, 90, 100 115, 145, 165	90, 100 115, 145, 165	145, 165, 200, 215	200, 215 235, 265, 300	215, 235, 265, 300
	C2	M4, M5	M4, M5, M6	M6, M8, M10	M6, M8, M10	M8, M12	M12, M16	M12, M16
	C3	5, 6.35, 8,(11)	6.35, 8, 11 12, 14,(16, 19)	14, 16, 19,(22, 24)	19, 22, 24,(28, 32)	22, 24, 28 32, 35,(38)	38, 42, 48, 55	42, 48, 55
	C4	26	33.5, 41.5	46, 59	67	84.5	114.5	117.5
	C5	30, 40, 50	50, 60, 70	50, 70, 80 95, 110, 130	70, 80 95, 110, 130	110, 114.3, 130, 180	114.3, 180 200, 230	180, 200, 230, 250
	C6	M3	M5	M6	M8	M10	M10	M10
	C7	46, 55, 60	64, 70, 80	92, 110, 130, 142	130, 150	146, 150, 180, 190	182, 200, 220, 250, 265	220, 250, 265
	C8	37.5	41, 49	54.5, 67.5	79	98.5	132.5	135.5
	C9	121	148.8, 156.8	195, 208	261	327	404.5	460.5

■ Mass Moments of Inertia (kg · cm²)

Ratio	44A	62A	90A	120A	142A	180A	220A
15	0.03	0.03	0.14	0.46	2.63	7.3	22.79
20	0.03	0.03	0.14	0.46	2.63	7.3	22.79
25	0.03	0.03	0.14	0.46	2.63	7.1	22.79
30	0.03	0.03	0.14	0.46	2.43	7.1	22.59
35	0.03	0.03	0.14	0.44	2.43	7.1	22.59
40	0.03	0.03	0.14	0.44	2.43	6.92	22.59
50	0.03	0.03	0.14	0.44	2.43	6.92	22.59
60	0.03	0.03	0.14	0.43	2.39	6.72	21.83
70	0.03	0.03	0.14	0.43	2.39	6.72	21.83
80	0.03	0.03	0.14	0.43	2.39	6.72	21.83
90	0.03	0.03	0.14	0.40	2.39	6.72	21.60
100	0.03	0.03	0.14	0.43	2.39	6.72	21.83

Model No.	Unit	Ratio	44A	62A	90A	120A	142A	180A	220A
Rated Output Torque	Nm	15	19	59	165	335	625	1206	2030
		20	16	51	146	300	555	1069	1804
		25	16	48	160	333	618	1189	2010
		30	15	45	151	311	583	1118	1911
		35	15	45	149	309	573	1108	1870
		40	14	43	143	298	553	1070	1824
		50	16	48	160	333	618	1189	2010
		60	15	45	151	311	583	1118	1911
		70	15	45	149	309	573	1108	1870
		80	14	43	143	298	553	1070	1824
		90	13	44	145	278	516	993	1694
		100	14	43	141	294	549	1059	1779
Max. Output Torque	Nm	15~100	3 Times of Rated Output Torque						
Rated Input Speed	rpm	15~100	5,000	5,000	4,000	4,000	3,000	3,000	2,000
Max. Input Speed	rpm	15~100	10,000	10,000	8,000	8,000	6,000	6,000	4,000
Backlash PS	arc min	15~100			≦3	≦3	≦3	≦3	≦3
Backlash P0	arc min	15~100	≦5	≦5	≦5	≦5	≦5	≦5	≦5
Backlash P1	arc min	15~100	≦7	≦7	≦7	≦7	≦7	≦7	≦7
Torsional Rigidity	Nm/arc min	15~100	3	6	14	27	60	140	240
Max. Radial Load	N	15~100	760	1,180	3,200	6,800	9,300	15,600	51,000
Max. Axial Load	N	15~100	380	590	1,600	3,400	4,650	7,800	25,500
Service Life	hr	15~100	20,000 (4,000 / Continuous Operation)						
Efficiency	%	15~100	≧94%						
Operating Temperature	℃	15~100	-25℃ ~ +90℃						
Lubrication		15~100	VIGO GREASE RE #0						
Degree of Gearbox Protection		15~100	IP65						
Mounting Position		15~100	Any						
Noise Level	dB	15~100	≦56	≦58	≦60	≦63	≦65	≦67	≦70
Weight ±3%	kg	15~100	0.86	2.1	5.48	12.9	22.8	42.5	59.5

* ( ) 안은 주문형입니다. * A5, ★:적용모터에 따라 달라질 수 있습니다. * 연속운전 사용시 본사와 상담후 선정바랍니다. ATG

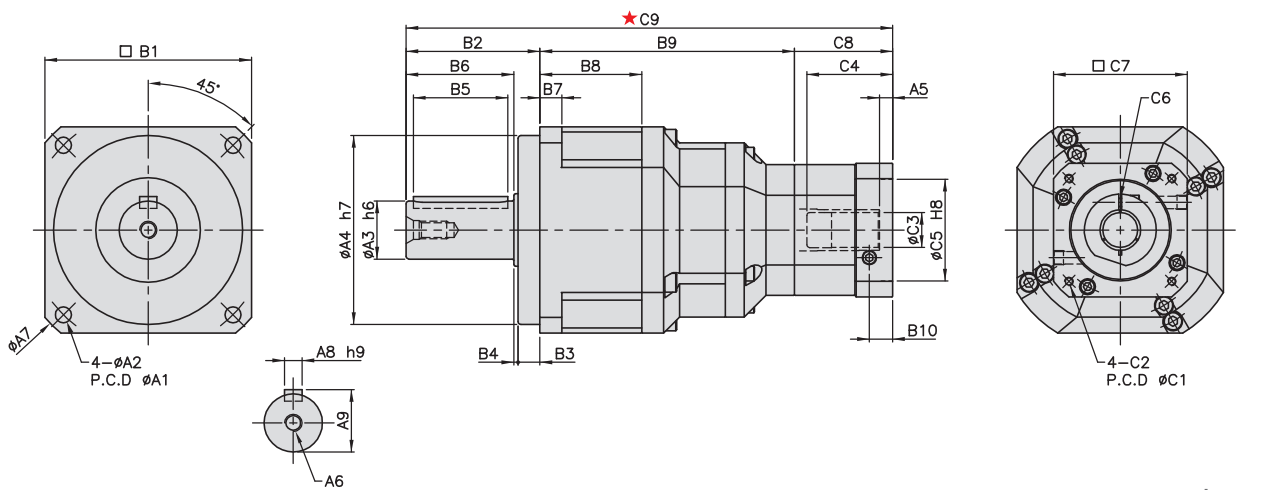# ATG SERVOBOX Planetary Reducers

LIMING
ATG

MODEL : KSB

Triple Reduction

RATIO : 125.150.175.200.250.300.350.
400.450.500.600.700.800.900.1000
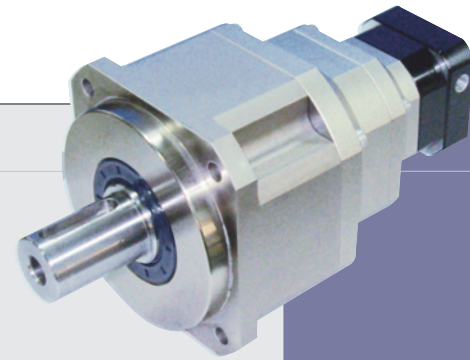
High Precision Planetary Reducer

unit:mm

Model code		90	120	142	180	220
A	A1	100	130	165	215	250
	A2	6.8	9	11	13	17
	A3	22	32	40	55	75
	A4	80	110	130	160	180
	A5	5	6	9, 23.5	10, 20	10
	A6	M8×P1.25	M10×P1.5	M12×P1.75	M14×P2.0	M16×P2.0
	A7	116	148	186	238	288
	A8	6	10	12	16	20
	A9	24.5	35	43	59	79.5
B	B1	90	120	142	180	220
	B2	48	65	92	106	139
	B3	10	12	15	20	30
	B4	2	3	3	4	5
	B5	30	40	65	70	90
	B6	36	50	74	82	104
	B7	10	12	15	16	20
	B8	49	61	70	85	93
	B9	111.5	143	175	211.5	244
	B10	9	11.5	16	19.5	20
C	C1	46, 60, 63, 70	70, 75, 90	70, 90, 100 115, 145, 165	90, 100 115, 145, 165	145, 165 200, 215
	C2	M4, M5	M4, M5, M6	M6, M8, M10	M6, M8, M10	M8, M12
	C3	5, 6.35, 8,(11)	6.35, 8, 11 12, 14,(16, 19)	14, 16 19,(22, 24)	19, 22 24,(28, 32)	22, 24, 28 32, 35,(38)
	C4	26	33.5, 41.5	59	67	84.5
	C5	30, 40, 50	50, 60, 70	50, 70, 80 95, 110, 130	70, 80 95, 110, 130	110, 114.3 130, 180
	C6	M3	M5	M6	M8	M10
	C7	46, 55, 60	64, 70, 80	92, 110, 130, 142	130, 150	146, 150, 180, 190
	C8	37.5	41, 49	67.5	79	98.5
	C9	197	249, 257	334.5	396.5	481.5

■ Mass Moments of Inertia (kg · cm²)

Ratio	90	120	142	180	220
125	0.01	0.04	0.71	1.42	3.29
150	0.01	0.04	0.51	0.92	2.15
175	0.01	0.04	0.40	0.83	1.26
200	0.01	0.04	0.21	0.65	0.98
250	0.01	0.04	0.11	0.52	0.82
300	0.01	0.04	0.09	0.21	0.82
350	0.01	0.04	0.09	0.21	0.82
400	0.01	0.04	0.09	0.21	0.82
450	0.01	0.04	0.09	0.21	0.51
500	0.01	0.04	0.08	0.12	0.51
600	0.01	0.04	0.08	0.12	0.25
700	0.01	0.04	0.08	0.12	0.25
800	0.01	0.04	0.08	0.12	0.25
900	0.01	0.04	0.08	0.12	0.25
1000	0.01	0.04	0.08	0.12	0.25

Model No.	Unit	Ratio	90	120	142	180	220
Rated Output Torque	Nm	125	160	333	618	1189	2010
		150	165	335	625	1206	2030
		175	149	309	573	1108	1870
		200	146	300	555	1069	1804
		250	160	333	618	1189	2010
		300	151	311	583	1118	1911
		350	149	309	573	1108	1870
		400	143	298	553	1070	1824
		450	145	278	516	993	1694
		500	160	333	618	1189	2010
		600	151	311	583	1118	1911
		700	149	309	573	1108	1870
		800	143	298	553	1070	1824
		900	145	278	516	993	1694
		1000	141	294	549	1059	1779
Max. Output Torque	Nm	125~1000	3 Times of Rated Output Torque				
Rated Input Speed	rpm	125~1000	4,000	4,000	3,000	3,000	2,000
Max. Input Speed	rpm	125~1000	8,000	8,000	6,000	6,000	4,000
Backlash PS	arc min	125~1000		≦5	≦5	≦5	≦5
Backlash P0	arc min	125~1000	≦7	≦7	≦7	≦7	≦7
Backlash P1	arc min	125~1000	≦9	≦9	≦9	≦9	≦9
Torsional Rigidity	Nm/arc min	125~1000	14	27	60	140	240
Max. Radial Load	N	125~1000	3,200	6,800	9,300	15,600	51,000
Max. Axial Load	N	125~1000	1,600	3,400	4,650	7,800	25,500
Service Life	hr	125~1000	20,000 (4,000 / Continuous Operation)				
Efficiency	%	125~1000	≧90%				
Operating Temperature	℃	125~1000	-25℃ ~ +90℃				
Lubrication		125~1000	VIGO GREASE RE #0				
Degree of Gearbox Protection		125~1000	IP65				
Mounting Position		125~1000	Any				
Noise Level	dB	125~1000	≦60	≦63	≦65	≦67	≦70
Weight ±3%	kg	125~1000	5.3	12.6	24.9	49.8	78.6

＊( )안은 주문형입니다. ＊A5, ★:적용모터에 따라 달라질 수 있습니다.

＊연속운전 사용시 본사와 상담후 선정바랍니다. **ATG** 035

ATG SERVOBOX Planetary Reducers

LIMING
ATG HEUNGJIN AT

MODEL ： KSB-A
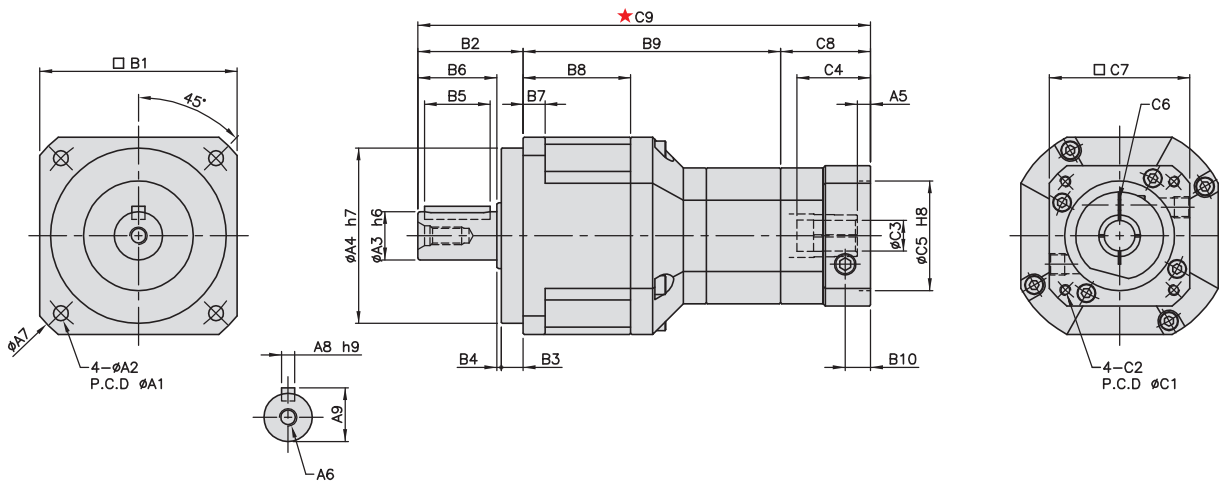
Triple Reduction

RATIO ： 125.150.175.200.250.300.350.
　　　　400.450.500.600.700.800.900.1000

High Precision Planetary Reducer

unit:mm

■ Mass Moments of Inertia (kg · cm²)

Ratio	62A	90A	120A	142A	180A	220A
125	0.01	0.01	0.04	0.71	1.42	3.29
150	0.01	0.01	0.04	0.51	0.92	2.15
175	0.01	0.01	0.04	0.40	0.83	1.26
200	0.01	0.01	0.04	0.21	0.65	0.98
250	0.01	0.01	0.04	0.11	0.52	0.82
300	0.01	0.01	0.04	0.09	0.21	0.82
350	0.01	0.01	0.04	0.09	0.21	0.82
400	0.01	0.01	0.04	0.09	0.21	0.82
450	0.01	0.01	0.04	0.09	0.21	0.51
500	0.01	0.01	0.04	0.08	0.12	0.51
600	0.01	0.01	0.04	0.08	0.12	0.25
700	0.01	0.01	0.04	0.08	0.12	0.25
800	0.01	0.01	0.04	0.08	0.12	0.25
900	0.01	0.01	0.04	0.08	0.12	0.25
1000	0.01	0.01	0.04	0.08	0.12	0.25
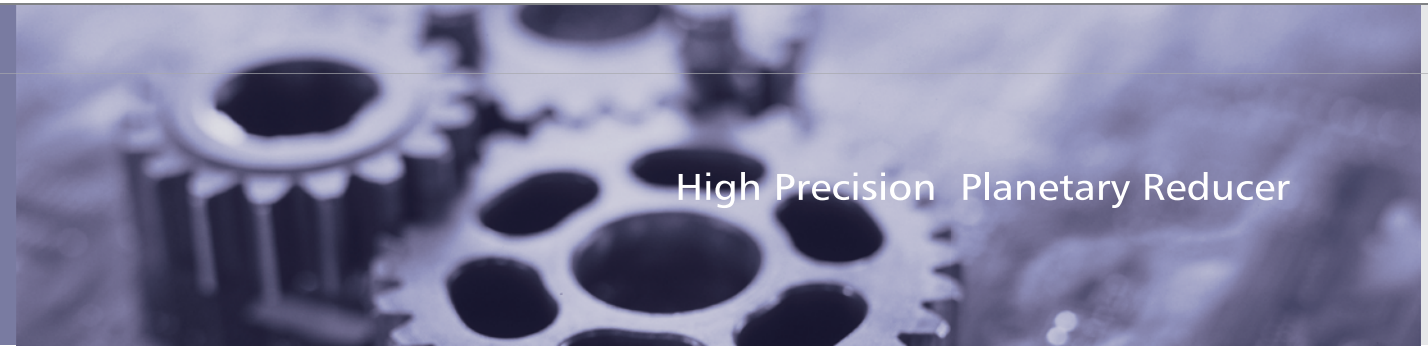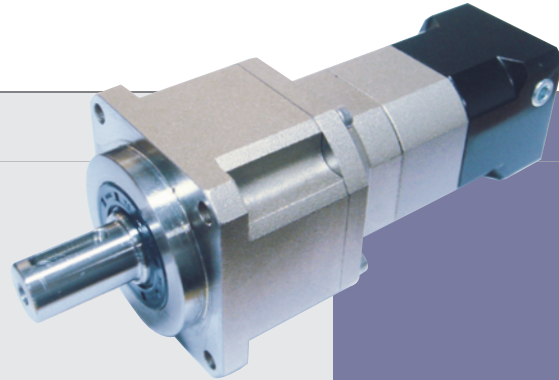
	Model code	62A	90A	120A	142A	180A	220A
A	A1	70	100	130	165	215	250
	A2	5.5	6.8	9	11	13	17
	A3	16	22	32	40	55	75
	A4	50	80	110	130	160	180
	A5	5	6	9, 23.5	10, 20	10	11.5
	A6	M5×P0.8	M8×P1.25	M10×P1.5	M12×P1.75	M14×P2.0	M16×P2.0
	A7	80	116	148	186	238	288
	A8	5	6	10	12	16	20
	A9	18	24.5	35	43	59	79.5
B	B1	62	90	120	142	180	220
	B2	36	48	65	92	106	139
	B3	7	10	12	15	20	30
	B4	1	2	3	3	4	5
	B5	20	30	40	65	70	90
	B6	28	36	50	74	82	104
	B7	8	10	12	15	16	20
	B8	38	49	61	70	85	93
	B9	92	117.3	152	183.5	220.5	256
	B10	9	11.5	16, 30.5	19.5, 27.5	20	23.5
C	C1	46, 60, 63, 70	70, 75, 90	70, 90, 100 115, 145, 165	90, 100 115, 145, 165	145, 165, 200, 215	200, 215 235, 265, 300
	C2	M4, M5	M4, M5, M6	M6, M8, M10	M6, M8, M10	M8, M12	M12, M16
	C3	5, 6.35, 8,(11)	6.35, 8, 11 12, 14,(16, 19)	14, 16, 19,(22, 24)	19, 22, 24,(28, 32)	22, 24, 28 32, 35,(38)	38, 42, 48, 55
	C4	26	33.5, 41.5	46, 59	67	84.5	114.5
	C5	30, 40, 50	50, 60, 70	50, 70, 80 95, 110, 130	70, 80 95, 110, 130	110, 114.3 130, 180	114.3, 180 200, 230
	C6	M3	M5	M6	M8	M10	M10
	C7	46, 55, 60	64, 70, 80	92, 110, 130, 142	130, 150	146, 150, 180, 190	182, 200, 220, 250, 265
	C8	37.5	41, 49	54.5, 67.5	79	98.5	132.5
	C9	165.5	206.3, 214.3	271.5, 284.5	354.5	425	527.5

Model No.	Unit	Ratio	62A	90A	120A	142A	180A	220A
Rated Output Torque	Nm	125	48	160	333	618	1189	2010
		150	59	165	335	625	1206	2030
		175	45	149	309	573	1108	1870
		200	51	146	300	555	1069	1804
		250	48	160	333	618	1189	2010
		300	45	151	311	583	1118	1911
		350	45	149	309	573	1108	1870
		400	43	143	298	553	1070	1824
		450	44	145	278	516	993	1694
		500	48	160	333	618	1189	2010
		600	45	151	311	583	1118	1911
		700	45	149	309	573	1108	1870
		800	43	143	298	553	1070	1824
		900	44	145	278	516	993	1694
		1000	43	141	294	549	1059	1779
Max. Output Torque	Nm	125~1000	3 Times of Rated Output Torque					
Rated Input Speed	rpm	125~1000	5,000	4,000	4,000	3,000	3,000	2,000
Max. Input Speed	rpm	125~1000	10,000	8,000	8,000	6,000	6,000	4,000
Backlash PS	arcmin	125~1000			≦5	≦5	≦5	≦5
Backlash P0	arcmin	125~1000	≦7	≦7	≦7	≦7	≦7	≦7
Backlash P1	arcmin	125~1000	≦9	≦9	≦9	≦9	≦9	≦9
Torsional Rigidity	Nm/arc min	125~1000	6	14	27	60	140	240
Max. Radial Load	N	125~1000	1,180	3,200	6,800	9,300	15,600	51,000
Max. Axial Load	N	125~1000	590	1,600	3,400	4,650	7,800	25,500
Service Life	hr	125~1000	20,000 (4,000 / Continuous Operation)					
Efficiency	%	125~1000	≧90%					
Operating Temperature	℃	125~1000	-25℃ ～ +90℃					
Lubrication		125~1000	VIGO GREASE RE #0					
Degree of Gearbox Protection		125~1000	IP65					
Mounting Position		125~1000	Any					
Noise Level	dB	125~1000	≦58	≦60	≦63	≦65	≦67	≦70
Weight ±3%	kg	125~1000	1.93	5.4	12.8	25.5	52.1	81.7