KSD Series

Indication of Model Numbers

KSD	90	–	10	□	–	P0	–	Motor

Type	Model	Ratio	Output Bearing	Backlash Class	Motor Type
KSD	47 64 90 110 140 200 255	1-STAGE 4, 5, 7, 10 2-STAGE 20, 25, 35, 40, 50, 70, 100	□: STANDARD Ball Bearing T : Taper Bearing 90, 110, 140 200, 255	1-Stage 2-Stage Ps ≦ 1 ≦ 3 P0 ≦ 3 ≦ 5 P1 ≦ 5 ≦ 7 P2 ≦ 7 ≦ 9	Motor Brand & Model No
KSDL	47 64 90 110 140 200 255	1-STAGE 4, 5, 7, 10, 14, 20 2-STAGE 20, 25, 35, 40, 50, 70, 100, 140, 200		1-Stage 2-Stage Ps ≦ 2 ≦ 4 P0 ≦ 4 ≦ 7 P1 ≦ 6 ≦ 9 P2 ≦ 8 ≦ 12	

저 소음
헬리컬 기어 사용으로 부드럽고 조용한 운전가능.

고 정밀도
백래쉬 3분, 정밀제어에 이상적.

고 강성과 높은 토오크
uncage needle bearings사용 강성과 토오크를 높임

모터플레이트의 모듈 디자인
모듈 디자인을 통하여 어떠한 써보모터에도 적용 가능

오일 누유 방지와 편리한 유지보수
쉽게 분리되지 않는 고점도의 윤활유 사용
효과적인 오일 누유 방지, 어떠한 위치에서도 부착 가능.

Quiet operation
Helical gears contribute to reduce vibration and noise.

High precision
Backlash 3 arc-min is ideal for precision control.

High rigidity & high torque
High rigidity & high torque are achived by uncage needle bearings.

Modular Design of Motor Connection Plate
The special modular design of motor connection plate is suitable for any flange mounting servo motors.

No grease leakage & Maintenance-free
Perfect solution using high viscosity anti-separation grease. No need to replace the grease for the life of the unit. Can be attached in any position.

Features of KSD Series

KSD Series 제품 특성

Integrated Planetary Arm Bracket

Planetary arm bracket과 출력 Shaft는 일체형 구조로 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.

Full Needle Bearing Design

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

The planetary gear transmission employs full needle beaning without retainer to increase the contact surface, which greatly upgrades structural rigidity and output torque.

Collet Chuck Locking Mechanism

감속기의 입력 부분과 Motor output shaft를 연결하기 위한 방식으로 역학상 확실한 체결력과 높은 속도에서 구동 할 때에도 백래쉬가 발생하지 않고 동력을 전달합니다.

The input-end and the motor are 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 Helical Gear Box

감속기 케이스와 링기어를 일체형으로 가공, 기어 맞물림이 스퍼기어의 2배이상인 Helical gear 적용으로 동작 소음을 최소화하여 고출력 저소음, 저백래쉬를 실현하였습니다.

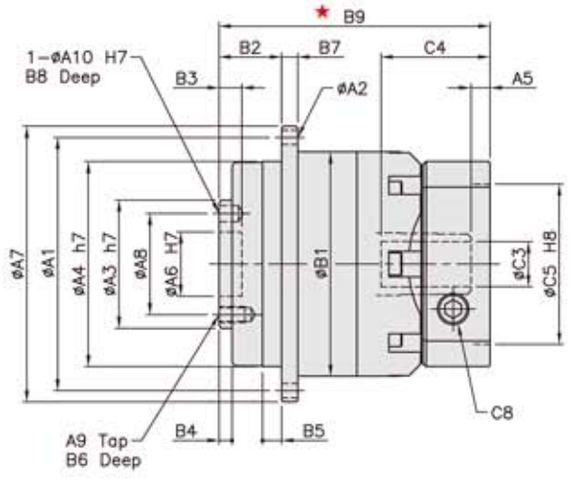
The gear box and internal gear ring are one-piece constructed, the speed reduction mechanism employs helical gears, which provides two times meshing rate of teeth when comparing with regular spur gears. In addition, it also features extremely smooth running, low noise, high torque and low backlash.

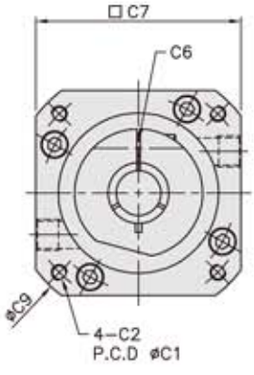
ATG SERVOBOX Planetary Reducers

MODEL : KSD

Single Reduction

RATIO : 4.5.7.10





*Output Dimensions P.60 참조

unit:mm

code \ Model	47	64	90	110	140	200	255
A1	67	79	109	135	168	233	280
A2	8-3.4	8-4.5	8-5.5	8-5.5	12-6.6	12-9	16-13.5
A3	28	40	63	80	100	160	180
A4	47	64	90	110	140	200	255
A5	6	6	7.5, 22	10	10	11.5	12.5
A6	12	20	31.5	40	50	80	100
A7	72	86	118	146	179	248	300
A8	20	31.5	50	63	80	125	140
A9	4-M3 x P0.5	7-M5 x P0.8	7-M6 x P1.0	11-M6 x P1.0	11-M8 x P1.25	11-M10 x P1.5	12-M16 x P2.0
A10	3	5	6	6	8	10	12
B1	59	70	98	125	156	212	255
B2	19.5	19.5	30	29	38	50	66
B3	5	7	12	12	12	16	20
B4	3	4	6	6	6	8	12
B5	5	6	10	10	15	15	20
B6	6.5	10	12	12	16	22	32
B7	4	5	7	8	10	12	18
B8	4	6	6	7	7	10	10
B9	73	84.5, 92.5	118, 132.5	153	186.5	250.5	263
C1	46, 60, 63	70, 75, 90	90, 100, 115, 145	115, 145, 165	145, 165, 215	200, 215, 265	200, 265, 300
C2	M3, M4, M5	M4, M5, M6	M5, M6, M8	M6, M8, M10	M8, M10, M12	M10, M12	M12, M16
C3	8, (11)	14, (19)	19, (24)	24, (32)	28, 35	38, 42, 48, 55	42, 48, 55
C4	30.5	33.5, 41.5	43.5, 58	67	84.5	114.5	115.5
C5	30, 40, 50	50, 60, 70	70, 80, 95, 110	95, 110, 130	110, 130, 180	114.3, 180, 230	114.3, 230, 250
C6	M3 x P0.5	M5 x P0.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	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	222, 250, 265
C8	1/8"PT	1/8"PT	1/8"PT	1/4"PT	1/4"PT	3/8"PT	3/8"PT
C9	58, 74	80, 90, 105	116, 140, 165	138, 165, 190	170, 190, 245	230, 250, 300	254, 300, 340

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

■ Mass Moments of Inertia (kg · cm²)

Ratio	47	64	90	110	140	200	255
4	0.03	0.13	0.47	2.75	7.46	24.00	55.00
5	0.03	0.12	0.45	2.70	7.41	23.23	53.19
7	0.03	0.12	0.45	2.64	7.12	22.11	50.78
10	0.03	0.12	0.43	2.56	7.01	22.21	50.50

Model No.		Unit	Ratio	47	64	90	110	140	200	255
Rated Output Torque (Nominal Output Torque)	T_{2N}	Nm	4	22	60	160	335	650	1,200	2,020
			5	20	50	155	333	618	1,189	2,010
			7	19	47	142	309	573	1,108	1,870
			10	16	43	136	294	549	1,059	1,779
Max. Acceleration Torque	T_{2B}	Nm	4~10	1.8 Times of Rated Output Torque						
Max. Output Torque Emergency Stop Torque	T_{2NOT}	Nm	4~10	3 Times of Rated Output Torque						
Rated Input Speed	n_{1N}	rpm	4~10	3,000	3,000	3,000	3,000	3,000	3,000	2,000
Max. Input Speed	n_{1B}	rpm	4~10	6,000	6,000	6,000	6,000	5,000	4,000	3,000
Backlash Ps		arcmin	4~10	–	≦1	≦1	≦1	≦1	≦1	≦1
Backlash P0		arcmin	4~10	≦3	≦3	≦3	≦3	≦3	≦3	≦3
Backlash P1		arcmin	4~10	≦5	≦5	≦5	≦5	≦5	≦5	≦5
Backlash P2		arcmin	4~10	≦7	≦7	≦7	≦7	≦7	≦7	≦7
Torsional Rigidity		Nm/arcmin	4~10	6	14	30	86	155	450	1,126
Max. Axial Force Ball Bearing	F_{2aB}	N	4~10	1,020	1,260	4,230	6,360	7,035	17,600	19,800
Max. Axial Force Taper Bearing	F_{2aB}	N	4~10	–	–	7,330	11,500	18,600	36,800	53,600
Service LIfe	L_H	hr	4~10	20,000(Continuous Operation 10,000hrs)						
Efficiency	η	%	4~10	≧97						
Operating Temperature		℃	4~10	-25℃~ +90℃						
Lubrication			4~10	VIGO GREASE RE #0						
Protection Class			4~10	IP65						
Mounting Position			4~10	ANY						
Noise Level		dB	4~10	≦56	≦58	≦60	≦63	≦65	≦67	≦70
Weight ±3%		Kg	4~10	0.7	1.4	4.2	7.4	13.9	33.1	58.9

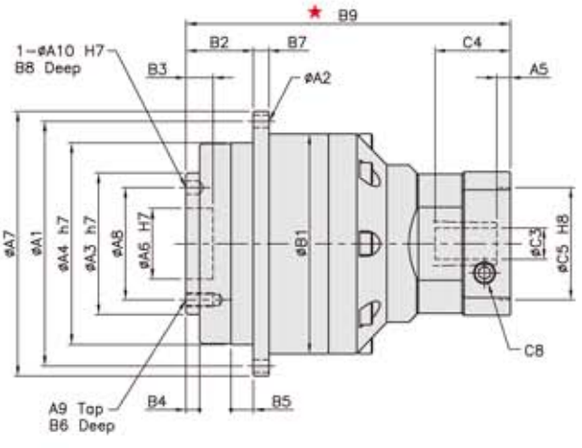
＊연속운전 사용시 본사와 상담후 선정바랍니다.

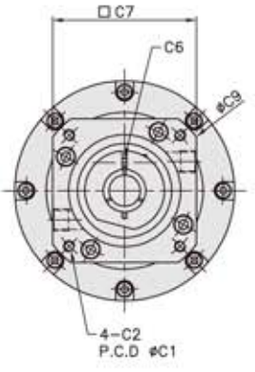
ATG SERVOBOX Planetary Reducers

MODEL : KSD

Double Reduction

RATIO : 20. 25. 35. 50. 70. 100





*Output Dimensions P 60 참조

unit:mm

	Model / code	47	64	90	110	140	200	255
A	A1	67	79	109	135	168	233	280
	A2	8-3.4	8-4.5	8-5.5	8-5.5	12-6.6	12-9	16-13.5
	A3	28	40	63	80	100	160	180
	A4	47	64	90	110	140	200	255
	A5	6	6	6	9, 23.5	10	10	11.5
	A6	12	20	31.5	40	50	80	100
	A7	72	86	118	146	179	248	300
	A8	20	31.5	50	63	80	125	140
	A9	4-M3 x P0.5	7-M5 x P0.8	7-M6 x P1.0	11-M6 x P1.0	11-M8 x P1.25	11-M10 x P1.5	12-M16 x P2.0
	A10	3	5	6	6	8	10	12
B	B1	59	70	98	125	156	212	255
	B2	19.5	19.5	30	29	38	50	66
	B3	5	7	12	12	12	16	20
	B4	3	4	6	6	6	8	12
	B5	5	6	10	10	15	15	20
	B6	6.5	10	12	12	16	22	32
	B7	4	5	7	8	10	12	18
	B8	4	6	6	7	7	10	10
	B9	99	109	144.5, 152.5	189, 203.5	224.5	290.5	349
C	C1	46, 60, 63	46, 60, 63	70, 75, 90	90,100,115,145	115, 145, 165	145, 165, 215	200, 215, 265
	C2	M3, M4, M5	M3, M4, M5	M4, M5, M6	M5, M6, M8	M6, M8, M10	M8, M10, M12	M10, M12
	C3	8, (11)	8, (11)	14, (19)	19, (24)	24, (32)	35, (38)	38, 42, 48, 55
	C4	30.5	32	33.5, 41.5	59, 73.5	67	84.5	114.5
	C5	30, 40, 50	30, 40, 50	50, 60, 70	70, 80, 95, 110	95, 110, 130	110, 130,180	114.3, 180, 230
	C6	M3 x P0.5	M3 x P0.5	M5 x P1.8	M6 x P1.0	M8 x P1.25	M10 x P1.5	M10 x P1.5
	C7	46, 55	46, 55	64, 70, 80	92, 110, 130	122, 130, 150	146, 150, 190	182, 200, 250
	C8	1/8"PT	1/8"PT	1/8"PT	1/8"PT	1/4"PT	1/4"PT	3/8"PT
	C9	58, 74	58, 74	80, 90, 105	116, 140, 165	138, 165, 190	170, 190, 245	230, 250, 300

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

■ Mass Moments of Inertia (kg · cm²)

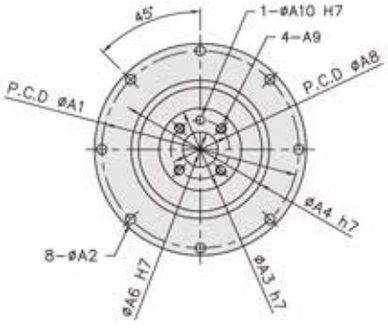
Ratio	47	64	90	110	140	200	255
20	0.03	0.03	0.15	0.45	2.7	7.22	23.22
25	0.03	0.03	0.15	0.45	2.7	7.22	23.22
35	0.03	0.03	0.15	0.45	2.7	7.22	23.22
40	0.03	0.03	0.15	0.45	2.7	7.22	23.22
50	0.03	0.03	0.14	0.40	2.6	7.05	23.07
70	0.03	0.03	0.14	0.40	2.6	7.05	23.07
100	0.03	0.03	0.14	0.40	2.6	7.01	22.67

Model No.		Unit	Ratio	47	64	90	110	140	200	255
Rated Output Torque (Nominal Output Torque)	T_{2N}	Nm	20	22	60	160	335	650	1,200	2,020
			25	20	50	155	333	618	1,189	2,010
			35	19	47	142	309	573	1,108	1,870
			40	22	60	160	335	650	1,200	2,020
			50	20	50	155	333	618	1,189	2,010
			70	19	47	142	309	573	1,108	1,870
			100	16	43	136	294	549	1,059	1,779
Max. Acceleration Torque	T_{2B}	Nm	20~100	1.8 Times of Rated Output Torque						
Max. Output Torque Emergency Stop Torque	T_{2NOT}	Nm	20~100	3 Times of Rated Output Torque						
Rated Input Speed	n_{1N}	rpm	20~100	3,000	3,000	3,000	3,000	3,000	3,000	2,000
Max. Input Speed	n_{1B}	rpm	20~100	6,000	6,000	6,000	6,000	5,000	4,000	3,000
Backlash Ps		arcmin	20~100	–	–	≦3	≦3	≦3	≦3	≦3
Backlash P0		arcmin	20~100	≦5	≦5	≦5	≦5	≦5	≦5	≦5
Backlash P1		arcmin	20~100	≦7	≦7	≦7	≦7	≦7	≦7	≦7
Backlash P2		arcmin	20~100	≦9	≦9	≦9	≦9	≦9	≦9	≦9
Torsional Rigidity		Nm/arcmin	20~100	6	14	30	86	155	450	1,126
Max. Axial Force Ball Bearing	F_{2aB}	N	20~100	1,020	1,260	4,230	6,360	7,035	17,600	19,800
Max. Axial Force Taper Bearing	F_{2aB}	N	20~100	–	–	7,330	11,500	18,600	36,800	53,600
Service LIfe	L_H	hr	20~100	20,000(Continuous Operation 10,000hrs)						
Efficiency	η	%	20~100	≧94						
Operating Temperature		℃	20~100	-25℃~ +90℃						
Lubrication			20~100	VIGO GREASE RE #0						
Protection Class			20~100	IP65						
Mounting Position			20~100	ANY						
Noise Level		dB	20~100	≦56	≦58	≦60	≦63	≦65	≦67	≦70
Weight ±3%		Kg	20~100	1	1.9	4.8	9.4	16.7	38.7	73.9

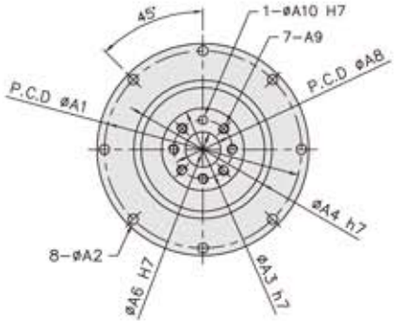
* 연속운전 사용시 본사와 상담후 선정바랍니다.

KSD Output Frame Dimension

KSD47
KSDL47



KSD64/90
KSDL64/90



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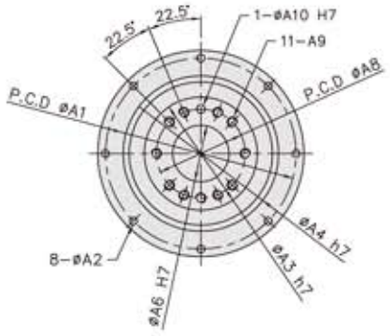

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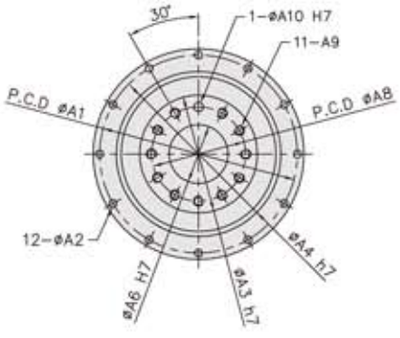
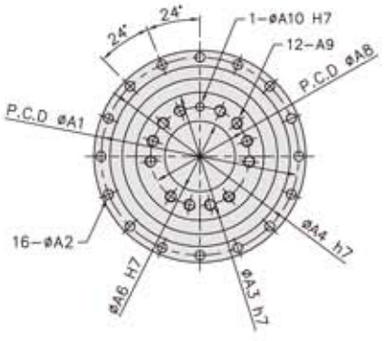
KSDL140/200



KSD255
KSDL255



unit:mm

Model / code	KSD47 KSDL47	KSD64 KSDL64	KSD90 KSDL90	KSD110 KSDL110	KSD140 KSDL140	KSD200 KSDL200	KSD255 KSDL255
A1	67	79	109	135	168	233	280
A2	3.4	4.5	5.5	5.5	6.6	9	13.5
A3	28	40	63	80	100	160	180
A4	47	64	90	110	140	200	255
A6	12	20	31.5	40	50	80	100
A8	20	31.5	50	63	80	125	140
A9	M3 x P0.5	M5 x P0.8	M6 x P1.0	M6 x P1.0	M8 x P1.25	M10 x P1.5	M16 x P2.0
A10	3	5	6	6	8	10	12