KPL

SERIES SERVO PLANETARY GEARBOX

KPL is our highly successful high precision gearbox series. All KPL gears adopt the alloy forged steel as the raw material, the powerful heat treatment, the latest helical gear design, full needle roller bearings, and global top level gear grinding craft. Perfect integrated design of caged planetary carrier and output shaft to realize high rigidity. For any high precision applications, KPL would be your great option for gearbox.



Gearbox Options

- Output shaft key way, without key be available.
- Synthetic Lubrication Grease, low temperature grease available.
- Adaptor flange solution available.

Gearbox Features

- Extremely high precision gearing and powerful stability.
- High efficiency and low noise control.
- Long constant operation service lifetime.
- Optimized inertia moment.
- Limited temperature rise.
- Flexible input mounting dimensions.
- Maintenance free for whole service lifetime.

KPL Technical Data

Model		KPL050	KPL070	KPL090	KPL120	KPL160	KPL205	KPL235	Ratio	Stage
Nominal Output Torque	Nm	20	46	125	210	350	650	1200	3	1
		21	52	145	300	550	1250	1800	4	
		21	55	155	320	650	1200	2050	5	
		20*	50*	145*	300*	610*	1000*	1850*	6	
		19	50*	135	290*	540	1000	1750*	7	
		18*	45	115	255	510*	1000*	1550	8	
		14	42	105*	220*	440	910	1500*	9	
		14	42	105	220	440	910	1500	10	
		20	56	125	310	500	650	1200	12	2
		20	50	125	310	500	850	1200	15	
		21	52	145	300	550	1250	1800	16	
		21	55	145	300	650	1200	2050	20	
		21	55	155	320	650	1200	2050	25	
		--	52	145	305	550*	1250*	1800*	32	
		21	55*	155	320*	650	1200	2050	35	
		--	55	155	320	550*	1200*	2050*	40	
		21	55*	155	320*	650	1200	2050	45	
		21	55	155	320	650	1200	2050	50	
		18/63	45	115	255	510/63	1000/63	1550	64	
		21	52	155	320	650	1200	2050	80	3
		21	52	155	320	650	1200	2050	100	
		21	52	155	320	650	1200	2050	125	
		21/140	52	155	320	650	1200/140	2050/140	160	
		21/180	52	155	320	650	1200/180	2050/180	200	
		21/252	52	155	320	650/224	1200/252	2050/252	256	
		21/315	52	155	320	650/280	1200/315	2050/315	320	
		18/441	45	115	255	510/504	1000/441	1550/504	512	
Emergency Stop Torque	Nm	Triple Rated Output Torque								
Max Radial Force[1]	N	770	1500	3200	6700	9600	14000	16000		
Max Axial Force[1]	N	380	760	1600	3300	4800	7000	8000		
Operating Temperature	℃	-25~90								
Mouting Position		Any Directions								
Lubrication		Synthetic Lubrication Grease								
Protection Class		IP65								
Efficiency at full load	%	97								1
		95								2
		93								3
Service Lifetime	h	20,000 (Continuous Operation)								
Unit Weight	kg	0.6	1.4	3.3	5.5	20	31	53		1
		0.9	1.6	4.5	8	25	39	66		2
		1.1	1.8	5.5	10	30	48	75		3

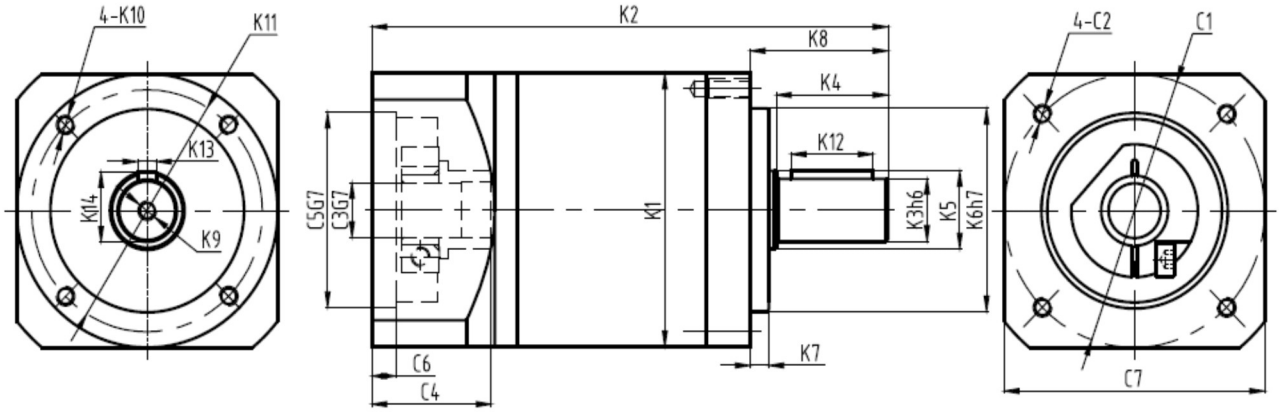
1. Values based on the output shaft speed n2=100 RPM

KPL Technical Data

Model		KPL050	KP0L70	KPL090	KPL120	KPL160	KPL205	KPL235	Ratio	Stage
Mass Moment of Inertia	$kgcm^2$	0.031	0.16	0.61	3.25	12.31	28.98	69.61	3	1
		0.022	0.14	0.48	2.74	7.54	23.67	54.37	4	
		0.019	0.13	0.47	2.71	7.42	22.75	53.27	5	
		0.017	0.13	0.47	2.62	7.25	22.48	50.84	6	
		0.017	0.13	0.47	2.62	7.25	22.48	50.84	7	
		0.017	0.13	0.45	2.62	7.14	22.59	50.84	8	
		0.017	0.13	0.44	2.62	7.14	22.59	50.84	9	
		0.017	0.13	0.44	2.57	7.14	22.55	50.56	10	
		0.029	0.127	0.44	2.56	12.35	12.35	28.98	12	2
		0.027	0.124	0.44	2.58	12.35	12.30	28.92	15	
		0.022	0.12	0.43	1.75	7.47	7.54	23.67	16	
		0.019	0.075	0.44	1.5	6.65	7.42	22.75	20	
		0.017	0.075	0.44	1.49	5.81	7.54	22.75	25	
		--	0.064	0.39	1.3	6.34	7.14	22.59	32	
		0.016	0.064	0.39	1.3	5.36	7.14	22.59	35	
		--	0.064	0.39	1.3	4.08	7.14	22.59	40	
		0.016	0.064	0.39	1.3	5.36	7.14	22.59	45	
		0.016	0.064	0.39	1.3	4.08	7.14	22.59	50	
		0.016	0.075	0.39	1.5	7.5	7.54	22.59	64	
		0.019	0.075	0.44	1.49	7.4	7.54	22.75	80	3
		0.019	0.064	0.44	1.45	7.3	7.42	22.59	100	
		0.019	0.064	0.44	1.3	7.3	7.42	22.75	125	
		0.016	0.064	0.39	1.3	6.5	7.14	22.75	160	
		0.016	0.064	0.39	1.3	6.2	7.14	22.75	200	
		0.016	0.064	0.39	1.3	5.7	7.14	22.75	256	
		0.016	0.064	0.39	1.3	5.4	7.14	22.75	320	
		0.016	0.064	0.39	1.3	5.4	7.14	22.59	512	
Backlash	arcmin	--	<3	<3	<3	<3	<3	<3	P0	1
		<6	<6	<6	<6	<6	<6	<6	P1	
		--	<5	<5	<5	<5	<5	<5	P0	2
		<8	<8	<8	<8	<8	<8	<8	P1	
		--	<7	<7	<7	<7	<7	<7	P0	3
		<12	<10	<10	<10	<10	<10	<10	P1	
Torsional Rigidity	Nm/arcmin	3	7	14	25	50	140	220		
Running Noise[1]	dB(A)	<56	<58	<60	<63	<65	<67	<70		
Max Input Speed	min^{-1}	8000	6000	6000	6000	6000	4000	4000		
Rated Input Speed	min^{-1}	4000	3000	3000	3000	3000	3000	2000		

1. Measured on input running speed at n1=3000 RPM without loading, 1m distance.

KPL Dimensions



Model	KPL050			KPL070			KPL090			KPL120			KPL160			KPL205			KPL235		
Stage	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
K1	Φ50			Φ70			Φ89			Φ120			Φ160			Φ205			Φ235		
K2	88.5	103.5	118.8	115	138.7	162.4	138	169.3	200.6	198	239.8	248	275.5	336.5	356	288	348	409	358	402	462
K3	Φ12			Φ16			Φ22			Φ32			Φ40			Φ55			Φ75		
K4	23			30			36			50			80			82			105		
K5	Φ15			Φ20			Φ30			Φ40			Φ50			Φ60			Φ85		
K6	Φ35			Φ52			Φ68			Φ90			Φ130			Φ160			Φ180		
K7	4			5			10			12			15			15			18		
K8	28			37			48			65			97			105			126		
K9	M3X9			M5X12			M6X16			M10X22			M12X25			M20X40			M20X40		
K10	M4X10			M5X11			M6X15			M8X19			M12X20			M12X22			M16X28		
K11	Φ44			Φ62			Φ80			Φ108			Φ145			Φ184			Φ210		
K12	16			22			28			40			70			70			90		
K13	4			5			6			10			12			16			20		
K14	13.5			18			24.5			35			43			59			79.5		
C1	Φ46			Φ70			Φ90			Φ145		Φ90	Φ200		Φ145	Φ215		Φ200	Φ235	Φ215	Φ200
C2	M4X10			M5X12			M6X15			M8X20		M6X15	M12X25		M8X20	M12X25		M12X25	M12X25	M12X25	M12X25
C3	Φ8			Φ14			Φ19			Φ24		Φ19	Φ35		Φ24	Φ42		Φ35	Φ55	Φ42	Φ35
C4	26.1			32.1			41.6			61.3		41.6	82		61.3	82.5		82	116	82.5	82
C5	Φ30			Φ50			Φ70			Φ110		Φ70	Φ114.3		Φ110	Φ180		Φ114.3	Φ200	Φ180	Φ114.3
C6	5			6.5			6.5			8		6.5	8		8	8		8	8	8	8
C7	50			70			89			120		89	175		120	190		175	220	190	175

Order Instructions

Order Code: KPL – 120 – 2 – 15 – S1 – P0 – Servo Motor

KPL

Gearbox Series: KPL

120

Gearbox Size

2

Gearbox Stage

15

Gearbox Ratio

S1

S1: Output shaft with key
S2: Output shaft without key

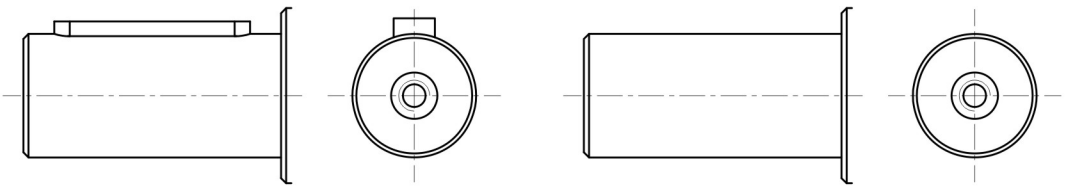
P0

Gearbox Precision

Servo Motor

Motor Manufacturer and model

Output Shaft Key Option



S1: Output shaft with key

S2: Output shaft without key

Ordering Example: KPL120-2-15-S1-P2-ABB-8M1230

If there is any question, please ask our engineering sales for solutions.

Solution Memo



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www.kofon-motion.com