

## Servo Planetary Gearbox



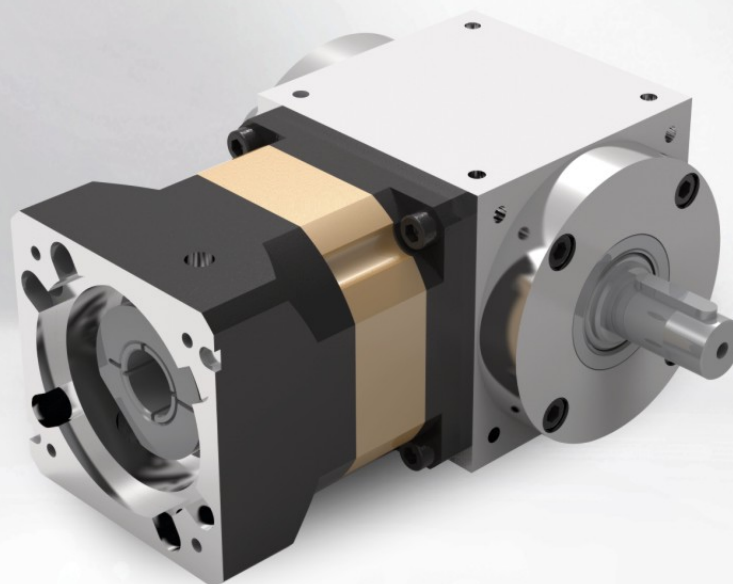
*The Perpetual Motion  
to Drive the World*

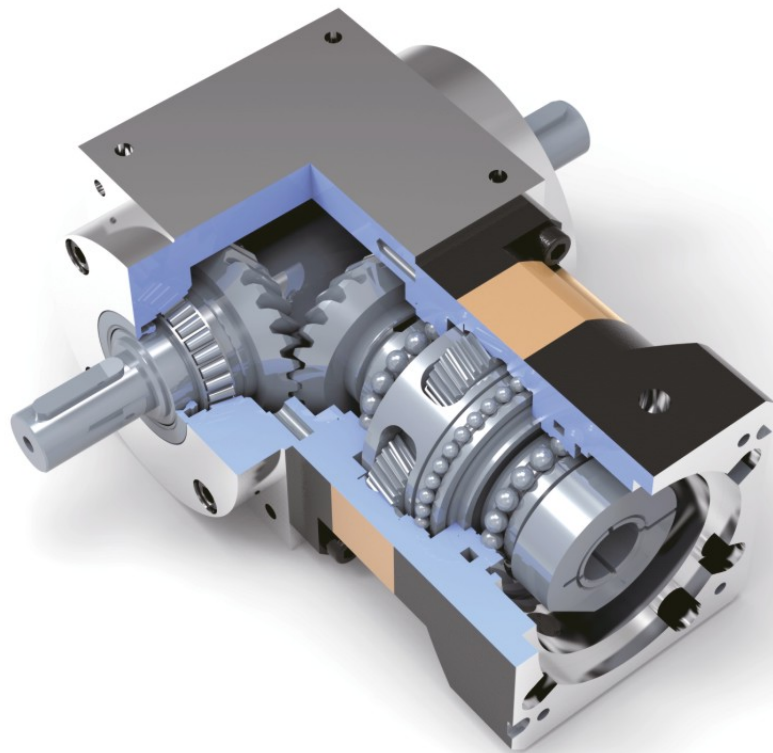
# KTFL

Powerful. High Precision. Reliable

▶ Servo Planetary Gearbox

Advanced Gearbox Solution





## Gearbox Features

- High precision gearbox line
- Helical gear for gearing system
- Full caged planetary carrier
- Super gear grinding technology
- Lifetime grease lubrication
- Maintenance free for service lifetime

## KTFL Technical Data

Model		KT070FL	KT090FL	KT110FL	KT140FL	KT170FL	KT210FL	KT240FL	Ratio	Stage
Rated Output Torque	Nm	45	78	150	360	585	1300	2150	1	1
		42	68	150	330	544	1220	2010	2	
		33	54	120	270	450	1020	1650	3	
		28	48	100	224	376	860	1410	4	
		25	40	85	196	320	740	1200	5	
		20	35	65	150	260	600	950	6	
		42	68	150	330	544	1220	2010	8	2
		42	68	150	330	544	1220	2010	10	
		42	68	150	330	544	1220	2010	16	
		42	54	150	330	544	1220	1650	20	
		33	54	120	270	450	1020	1650	24	
		33	68	120	270	450	1020	2010	30	
		42	68	150	330	544	1220	2010	32	3
		42	68	150	330	544	1220	2010	40	
		42	68	150	330	544	1220	2010	50	
		42	68	150	330	544	1220	2010	60	
		42	68	150	330	544	1220	2010	80	
		42	68	150	330	544	1220	2010	100	
		33	54	120	270	450	1020	1650	120	4
		42	68	150	330	544	1220	2010	160	
42	68	150	330	544	1220	2010	200			
42	68	150	330	544	1220	2010	250			
42	68	150	330	544	1220	2010	320			
42	68	150	330	544	1220	2010	400			
Fault stop torque <sup>1</sup>	Nm	Double rated output torque						1~400	1~4	
Backlash	arcmin	≤6	≤6	≤6	≤6	≤6	≤8	≤10	1~6	1
		≤8	≤8	≤8	≤8	≤8	≤10	≤12	8~30	2
		≤10	≤10	≤10	≤10	≤10	≤15	≤15	32~120	3
		≤15	≤15	≤15	≤15	≤20	≤20	≤20	160~400	4
Output maximum radial force <sup>2</sup>	N	1100	1700	2700	4800	6600	11500	16000	1~400	1~4
Output maximum axial force <sup>2</sup>	N	550	850	1350	2400	3300	5750	8500	1~400	1~4
Average life span	hr	20000						1~4	1	
Single stage efficiency	%	≥96%						1~4	1	

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Model		KT070FL	KT090FL	KT110FL	KT140FL	KT170FL	KT210FL	KT240FL	Ratio	Stage
Noise <sup>3</sup>	dB(A)	≤72	≤76	≤77	≤78	≤79	≤81	≤83	1~4	1
Max input speed <sup>4</sup>	rpm	3500	3500	3000	3000	2500	2000	1800	1~4	1
		6000	6000	6000	6000	6000	6000	4000	8~400	2~4
Rated input speed <sup>4</sup>	rpm	2500	2500	2000	2000	1500	1500	1200	1~4	1
		3000	3000	3000	3000	3000	3000	2000	8~400	2~4
Moment of inertia	kgcm <sup>2</sup>	1.3	3.16	7.7	23.57	58.99	195.4	369.34	1	1
		1.11	2.7	6.31	17.75	45.35	140.24	149.74	2	1
		1.09	2.66	6.17	17.18	44.01	134.95	237.71	3	1
		1.09	2.65	6.13	17.06	43.7	133.58	234.72	4	1
		0.91	2.52	5.8	16.08	40.25	130.2	230.52	5	1
		0.82	2.4	5.2	15.32	38.56	120.53	220.45	6	1
		0.15	0.5	2.79	2.79	2.79	9.91	29.26	8~30	2
		0.14	0.48	2.8	2.8	2.8	9.96	29.43	32~120	3
		0.13	0.46	2.8	2.8	2.8	9.96	29.43	160~400	4
Weight	kg	4.4	7.1	12.1	20.9	36.1	69.4	101.2	1~6	1
		4.8	8.1	14.3	24.2	38.5	74.1	112.4	8~30	2
		5.5	9.8	16.9	27.7	38.8	73.4	115.2	32~120	3
		6.5	10.5	18.6	29.5	40.6	76.9	120.6	160~400	4

1 the subscript "1" maximum acceleration torque is equal to the failure to stop torque 50%

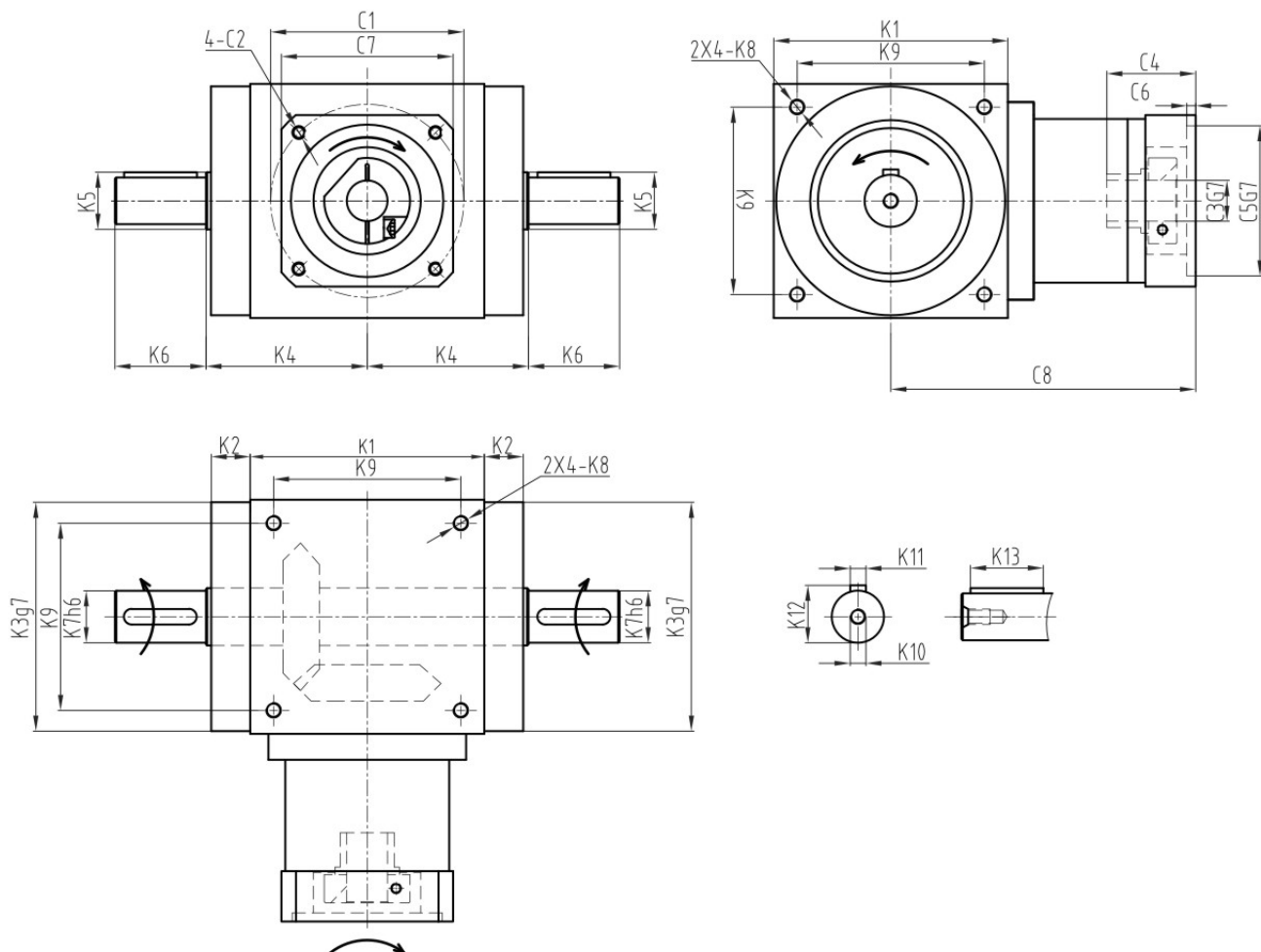
1 the subscript "2" at the speed of 100RPM, acting on the center axis (L/2) permissible radial force and axial force

1 the subscript "3" noise in n1=3000min<sup>-1</sup>, measured at 1 m

1 the subscript "4" the environment temperature is 20 DEG C



## KTFL Dimensions



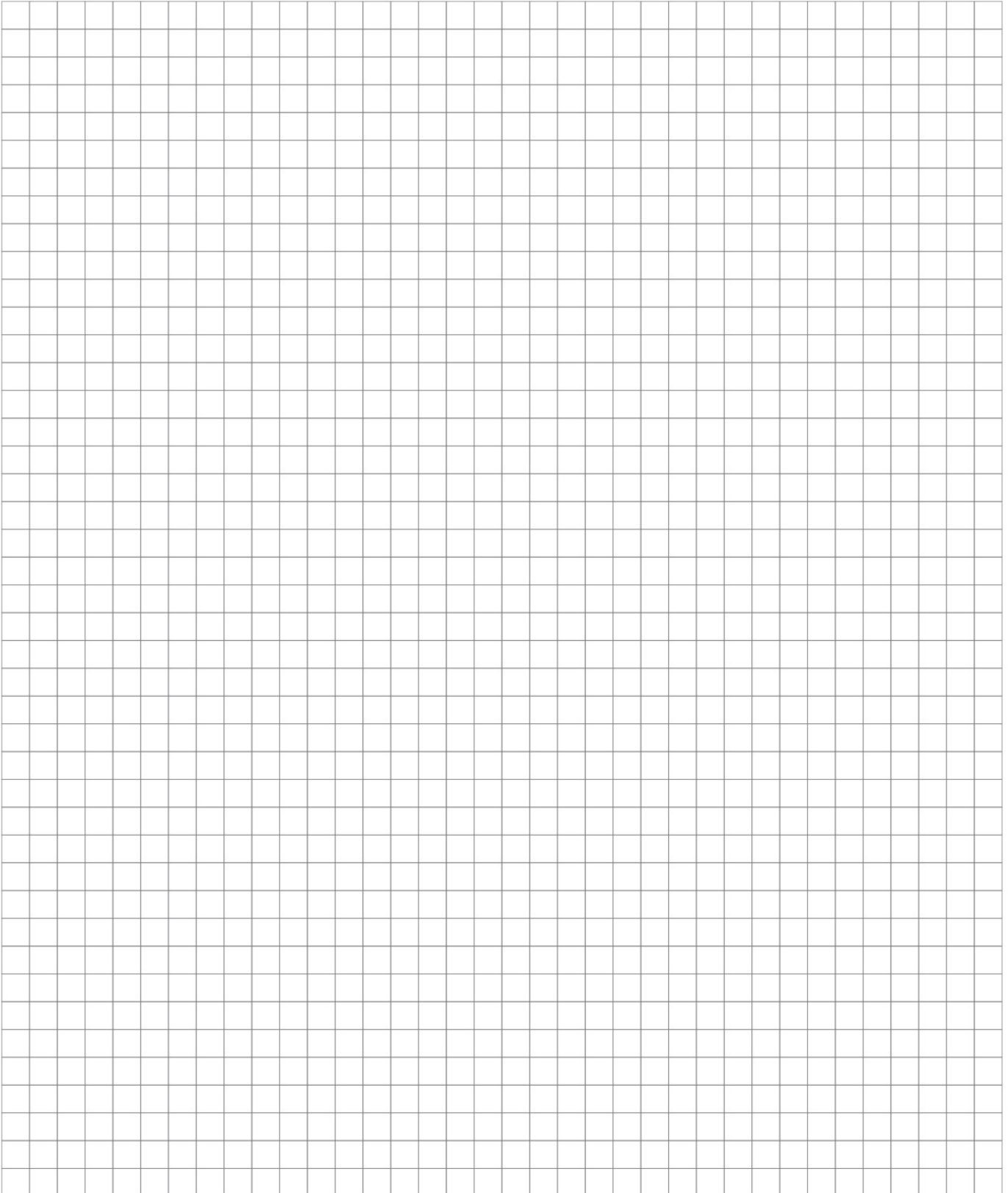
Size	KT070FL	KT090FL	KT110FL	KT140FL	KT170FL	KT210FL	KT240FL
K1	75	90	110	140	170	210	240
K2	14.5	15	15	15	15	20	25
K3	Φ73	Φ88	Φ108	Φ135	Φ165	Φ205	Φ235
K4	54	62	72	87	102	127	147
K5	Φ22	Φ25	Φ30	Φ47	Φ55	Φ75	Φ85
K6	30	35	40	50	60	75	85
K7	Φ16	Φ18	Φ22	Φ32	Φ40	Φ50	Φ55
K8	M6X8	M6X15	M8X10	M10X13	M12X20	M16X25	M16X35
K9	60	72	88	110	134	170	190
K10	M5X12.5	M5X12.5	M8X19	M12X28	M16X36	M16X36	M16X36
K11	5	6	6	10	12	14	16
K12	18	20.5	24.5	35	43	53.5	59
K13	25	28	32	45	50	70	80

The dimensions modified as per the applied motor flange.

You can get the specific gearbox drawing solution by our KDP (Kofon Design Programme) online from our website: [www.kofon-motion.com](http://www.kofon-motion.com)

Size	KT070FL	KT090FL	KT110FL	KT140FL	KT170FL	KT210FL	KT240FL
Connection Dimensions of Single Stage Reduction Motor							
C1	Φ70	Φ90	Φ90	Φ145	Φ145	Φ200	Φ215
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	Φ14	Φ19	Φ19	Φ24	Φ24	Φ35	Φ42
C4	32.1	41.6	41.6	61.3	61.3	82	116
C5	Φ50	Φ70	Φ70	Φ110	Φ110	Φ114.3	Φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	190
C8	93	103	143	172.2	248.5	318	355
Connection Dimensions of Two-stage Reduction Motor							
C1	Φ70	Φ90	Φ90	Φ145	Φ145	Φ200	Φ215
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	Φ14	Φ19	Φ19	Φ24	Φ24	Φ35	Φ42
C4	32.1	41.6	41.6	61.3	61.3	82	82.5
C5	Φ50	Φ70	Φ70	Φ110	Φ110	Φ114.3	Φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	70	85	89	120	120	175	190
C8	115.5	135	145	203	218	283.5	308
Connection Dimensions of Three-stage Reduction Motor							
C1	Φ70	Φ90	Φ90	Φ145	Φ145	Φ200	Φ200
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	Φ14	Φ19	Φ19	Φ24	Φ24	Φ35	Φ35
C4	32.1	41.6	41.6	61.3	61.3	82	82.5
C5	Φ50	Φ70	Φ70	Φ110	Φ110	Φ114.3	Φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	70	85	89	120	120	175	190
C8	139.2	166.3	176.3	244.8	259.8	344.5	368
Connection Dimensions of Four-stage Reduction Motor							
C1	Φ70	Φ90	Φ90	Φ145	Φ145	Φ200	Φ200
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	Φ14	Φ19	Φ19	Φ24	Φ24	Φ24	Φ35
C4	32.1	41.6	41.6	61.3	61.3	82	82
C5	Φ50	Φ70	Φ70	Φ110	Φ110	Φ143.3	Φ114.3
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	175
C8	138.2	168	178.3	249.8	309.5	358	399

Technical Memo





# Servo Planetary Gearbox

## 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**

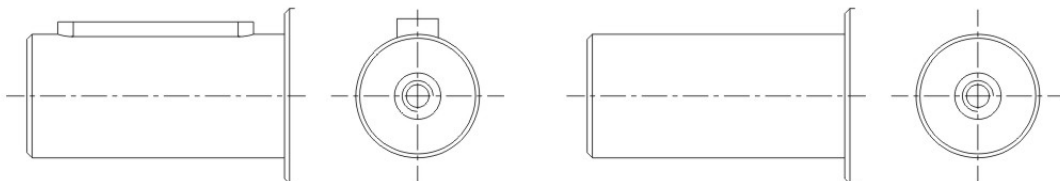
Gearbox Precision



**Servo Motor**

Motor Manufacturer and model

## Output Shaft Key Option



S1: Output shaft with key

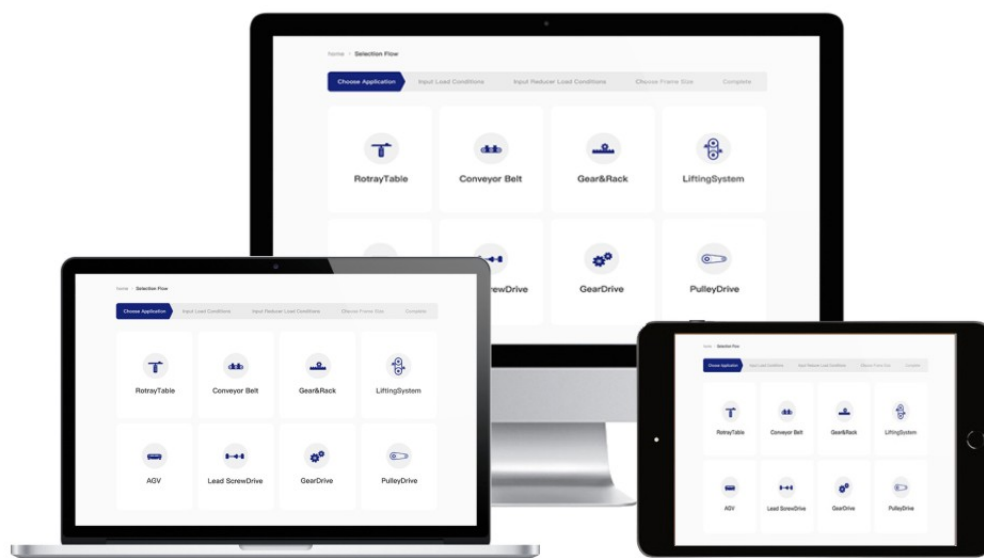
S2: Output shaft without key

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

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

## Benefit with Powerful Gearbox Design Programme (KDP)

- The Kofon Design Programme (KDP) support you to realize the optimal portfolio of servo motor and gearbox by few steps.
- The KDP makes it available to get access to almost servo motors in the global market, and huge numbers of applications like pinions, spindles, belts, conveyors, rotary tables.
- You can also find the solutions by different industrial application sections from KDP online.
- The drawings could be download free from KDP online and the available drawing in format pdf, dwg and step.



# Servo Planetary Gearbox

## The Company

The **KOFON**<sup>®</sup> possesses expertise for the mastery of high precision motion control technologies. The company group established in 1998.

Now it employs over 650 staffs worldwide. We focus on the development, manufacturing and sales of the high precision planetary gearbox, spiral bevel gearbox and industrial automation integration solutions. Our reliable competence industry including high precision machine tools, intelligent logistic systems, robotics and new energy.

Kofon Motion aim to be dedicated to serve global customer with the reliable precision motion solution.



