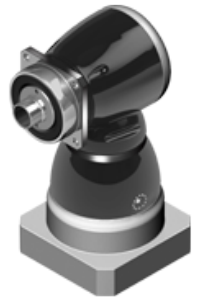


KF-S4 series

Overview

- Black coated steel housing, aluminum output and motor adapter flange
- Steel output hollow shaft
- Hypoid gear design
- Nominal torques:
 - T_{2N} : 18 Nm – 1.600 Nm
- Ratios
 - 1-stage : 3 / 4 / 5 / 7 / 10
- Low backlash
 - 1-stage : ≤ 3 arcmin
- High efficiency
 - 1-stage : $\geq 96\%$
- Easy mount
- High accuracy
- The output shaft rotates in the same direction as the servomotor
- Available sizes: KH 064 / KH 090 / KH 110 / KH 140 / KH 200 / KH 255 / KH 285



Specifications

KF	Stage	Ratio ⁽¹⁾	KF	KF	KF	KF	KF	KF	KF	KF
			064	090	110	140	200	255	285	
Nominal output torque T_{2N}	Nm	1	3	25	50	110	210	420	820	1.600
			4	25	60	110	210	420	820	1.600
			5	25	60	110	210	420	820	1.600
			7	23	50	100	200	390	750	1.400
			10	18	40	85	170	360	600	1.100
Emergency stop torque T_{2NOT}	Nm	1	3~10	2 times of nominal torque T_{2N}						
Max. Acceleration torque T_{2B}	Nm	1	3~10	1,5 times of nominal torque T_{2N}						
No load running torque ⁽⁴⁾	Nm	1	3~10	0,9	1,6	3,2	4,2	9,6	16,5	26,4
Backlash ⁽²⁾	arcminutes	1	3~10	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
Torsional rigidity	Nm/arcmin	1	3~10	1,1	4,5	10	23	54	90	170
Nominal input speed n_{1N}	rpm	1	3~10	3.000	2.800	2.700	2.000	2.000	2.000	1.500
Max. input speed n_{1B}	rpm	1	3~10	6.000	6.000	4.500	4.500	4.000	3.000	2.500
Max. radial load F_{2rB} ⁽³⁾	N	1	3~10	2.400	4.500	5.100	13.000	28.700	36.200	58.300
Max. axial load F_{2aB} ⁽³⁾	N	1	3~10	1.200	2.250	2.550	6.500	14.350	18.100	29.150
Service Life ⁽⁵⁾	hr	1	3~100	20.000						
Operating temperature	°C	1	3~100	0° C ~ +90° C						
Degree of Protection		1	3~100	IP65						
Lubrication		1	3~100	Synthetisch lubrication grease						
Mounting position		1	3~100	All directions						
Running noise ⁽⁴⁾	dB (A)	1	3~100	≤ 64	≤ 66	≤ 66	≤ 68	≤ 68	≤ 70	≤ 72
Efficiency η	%	1	3~10	≥ 96%						

(1) Ratio ($i = N_{in} / N_{out}$)

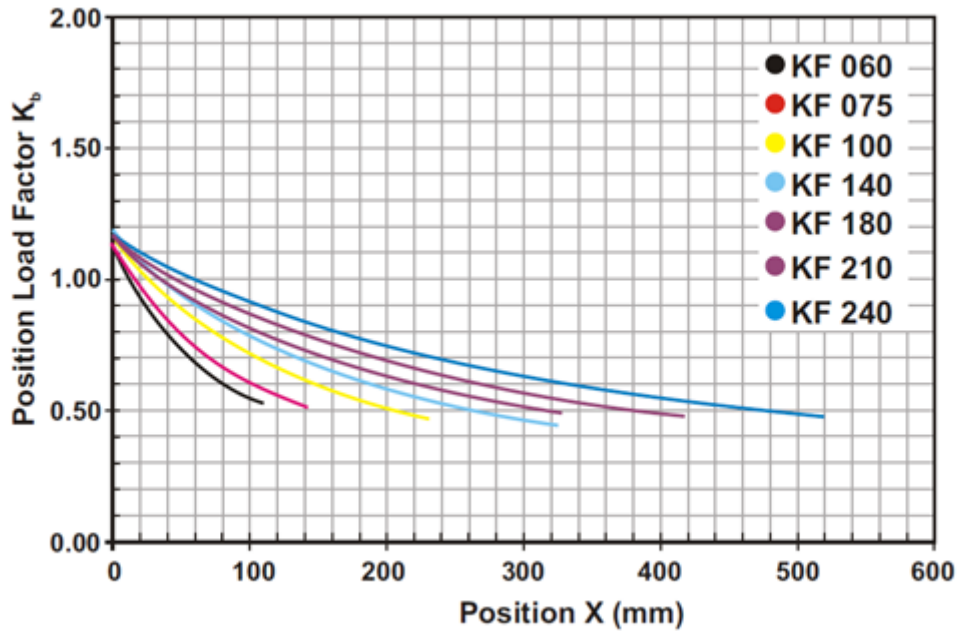
(2) Backlash is measured at 2% of Nominal output torque T_{2N} .

(3) Applied to the output shaft center @ 100 rpm .

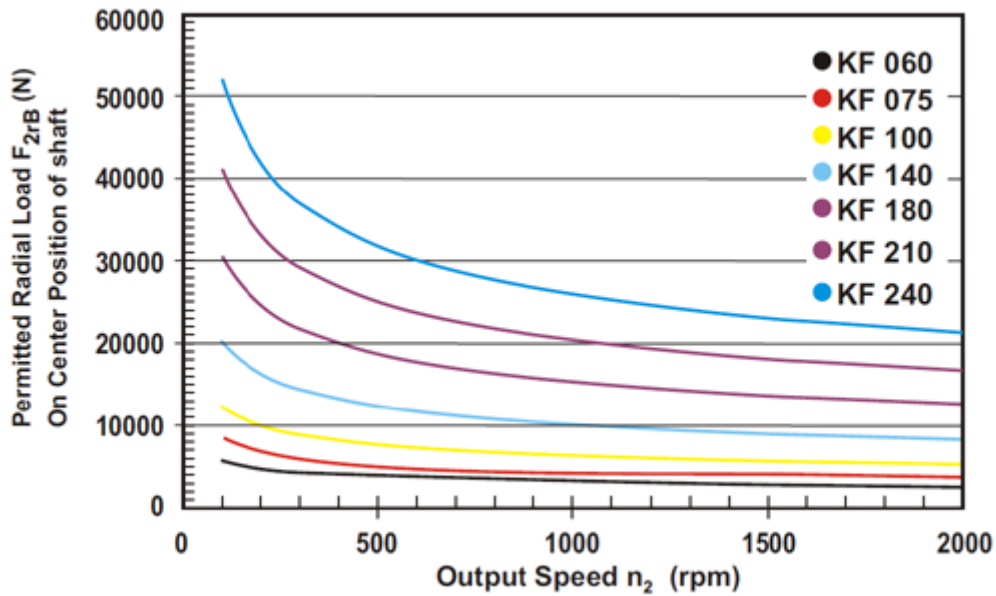
(4) These values are measured by gearbox with ratio = 10 (1-stage) or ratio = 100 (2-stage) at 3.000 rpm without load.

(5) For continuous operation, the service life is less than 10.000 hrs.

Permitted Radial And Axial Loads



If radial force F_{2r} is not exerted on the center of the output shaft $X < \frac{1}{2} \times L$ or $X > \frac{1}{2} \times L$, the permitted radial and axial loads can be calculated by the position load factor K_b on the above diagram.



Permitted radial load F_{2r} on center of output shaft $X = \frac{1}{2} \times L$ for various output speeds. Values provided are for 20.000 hours life.

(A) \emptyset Input shaft diameter

(B) Permitted loading values on the output shaft. Please contact Apex Dynamics for more details.

(C) For continue mode (S1), the service life is reduced to 50%.

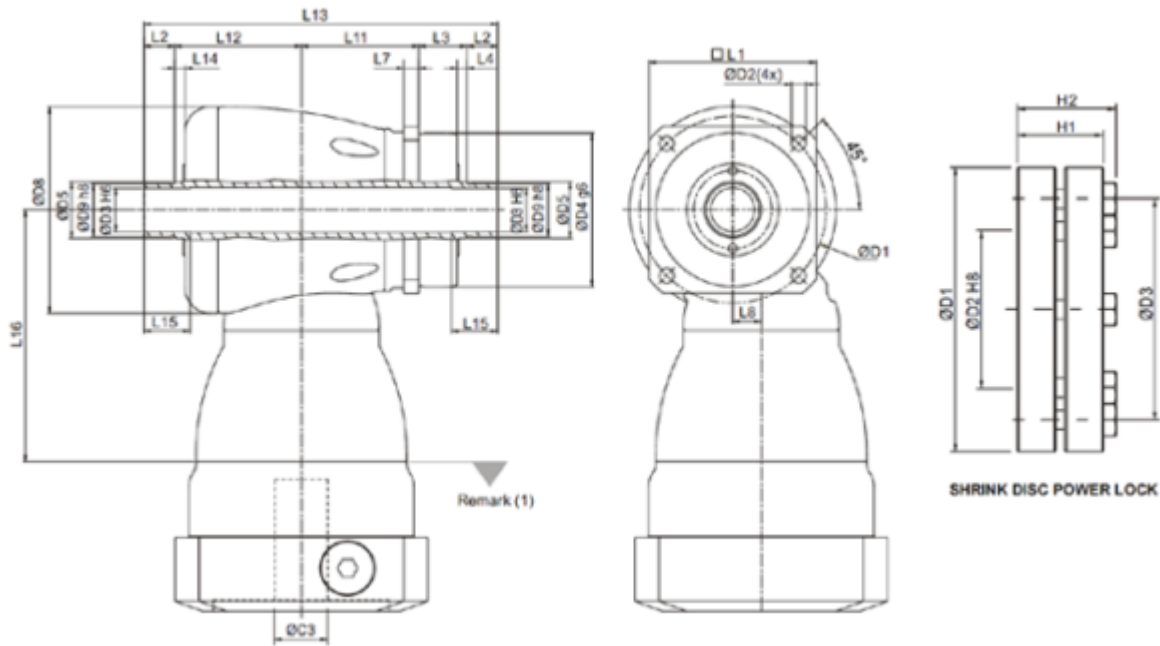
Inertia

Model No.	KF 064	KF 090	KF 110	KF 140	KF 200	KF 255	KF 285
$\emptyset^{(A)}$ (C3)	1-stage	1-stage	1-stage	1-stage	1-stage	1-stage	1-stage
8	0,10	-	-	-	-	-	-
11	0,17	0,18	-	-	-	-	-
14	0,20	0,50	-	-	-	-	-
19	-	0,63	1,66	-	-	-	-
24	-	4,42	4,82	4,96	-	-	-
28	-	-	6,05	6,00	-	-	-
32	-	-	8,38	8,70	9,93	-	-
35	-	-	13,86	14,23	15,15	15,62	23,34
38	kg*cm ²	-	18,87	19,88	20,69	21,61	23,34
42	-	-	-	21,75	22,26	23,36	24,97
48	-	-	-	53,91	55,55	58,28	60,43
55	-	-	-	-	-	86,65	88,67
60	-	-	-	-	-	-	111,89

(A) \emptyset Input shaft diameter

Sizes

KF-S4:



Dimensions	KF 060	KF 075	KF 100	KF 140	KF 180
	1-stage	1-stage	1-stage	1-stage	1-stage
D1	68	85	120	165	215
D2	5,5	6,6	9	11	13,5
D3 h6	15	20	30	40	55
D4 g6	60	70	90	130	160
D5	18,5	25,8	36,8	55,2	69,2
D8	73	94	116	163	210
D9 h8	18	24	36	50	68
L1	62	76	101	141	182
L2	12	14	18	22	23
L3	22	21,8	32	33	34
L4	4	4,3	5	6	7
L7	6	7	10	12	15
L8	10	13	17	25	31
L11	43	53,5	67	90	119
L12	48,5	57,7	73,3	95	122
L13	137,5	161	208,3	262	321
L14	4	4,7	5	6	7
L15	19	21	25	30	30
L16	94	114,5	129	173,5	228

(1) Dimensions are related to motor interface. Please contact Apex Dynamics for details.

Shrink Disc Power Lock

Dimensions	D1	D2	D3	H1	H2
SSD-d18xdw15	44	19,5	30	15	18,5
SSD-d18xdw15	50	26	36	18	21,5
SSD-d18xdw15	72	38	52	22	26
SSD-d18xdw15	90	54,6	70	27,5	31,5
SSD-d18xdw15	115	70,5	86	30,5	34,5