

Performance - AFHK (2-Stage) Gearbox

Model No.	Stage	Ratio ⁽¹⁾	AFHK 060	AFHK 075	AFHK 100	AFHK 140	AFHK 180	AFHK 210	AFHK 240	
Nominal Output Torque T_{2N}	Nm	2	12	95	195	360	615	1,315	1,680	3,280
			16	95	200	360	615	1,320	1,680	3,280
			20	95	200	360	615	1,320	1,775	3,335
			25	80	170	310	535	1,165	1,775	3,335
			28	92	200	360	615	1,325	1,560	3,000
			35	80	170	310	535	1,170	1,775	3,340
			40	60	160	340	615	1,325	1,440	2,400
			50	50	170	310	535	1,170	1,775	3,000
			70	60	130	250	440	990	1,510	2,550
		100	24	55	160	290	655	1,005	1,685	
Emergency Stop Torque T_{2NOT}	Nm	2	12~100		2 times T_{2N}					
Max. Acceleration Torque T_{2B}	Nm	2	12~100		1.5 times T_{2N}					
No Load Running Torque ⁽²⁾	Nm	2	12~100	1	1.3	2	3.1	6	13	16
Backlash ⁽³⁾	arcmin	2	12~100	≤ 3	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2	≤ 2
Torsional Rigidity	Nm/arcmin	2	12~100	4.6	10	30	55	175	300	510
Nominal Input Speed n_{1N}	rpm	2	12~100	3,000	3,000	2,800	2,700	2,200	2,100	2,000
Max. Input Speed n_{1B}	rpm	2	12~100	6,000	6,000	6,000	4,500	4,500	4,000	3,000
Max. Radial Load F_{2r} ⁽⁴⁾	N	2	12~100	3,000	4,500	6,700	10,000	15,000	22,000	30,000
Max. Axial Load F_{2a} ⁽⁴⁾	N	2	12~100	1,500	2,250	3,350	5,000	7,500	11,000	15,000
Max. Tilting Moment M_{2k} ⁽⁴⁾	Nm	2	12~100	160	270	550	1,050	1,740	3,350	5,420
Service Life ⁽⁵⁾	hr	2	12~100	20,000						
Operating Temp.	°C	2	12~100	-10° C ~ 90° C						
Degree of Gearbox Protection		2	12~100	IP65						
Lubrication		2	12~100	Synthetic lubrication grease						
Mounting Position		2	12~100	All directions						
Running Noise ⁽⁶⁾	dB(A)	2	12~100	≤ 64	≤ 66	≤ 68	≤ 68	≤ 70	≤ 70	≤ 72
Efficiency η	%	2	12~100	≥ 94%						

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

(2) These values are measured by gearbox with ratio 100 (2-stage) at 3,000 rpm no loading.

(3) Backlash is measured at 2% of Nominal Output Torque T_{2N} .

(4) Applied to the output shaft center at 100 rpm.

(5) Continuous operation is not recommended.

(6) These values are measured by gearbox with ratio 100 (2-stage) at 3,000 rpm no loading.

By lower ratio and/or higher RPM, the noise level could be 3 to 5 dB higher.

Inertia - AFHK (2-Stage) Gearbox

Model No.	AFHK 060	AFHK 075	AFHK 100	AFHK 140	AFHK 180	AFHK 210	AFHK 240
(C3) $\emptyset^{(A)}$							
8	0.1	-	-	-	-	-	-
11	0.16	0.17	-	-	-	-	-
14	0.2	0.37	0.41	-	-	-	-
19	-	0.6	1.61	1.61	-	-	-
24	-	-	3.9	4.01	5.62	-	-
28	-	-	-	5.53	5.62	-	-
32	-	-	-	7.57	8.11	8.11	-
35	-	-	-	14.95	15.32	15.32	15.68
38	-	-	-	17.58	17.72	17.72	18.52
42	-	-	-	-	22.95	22.95	23.74
48	-	-	-	-	52.74	52.74	53.49
55	-	-	-	-	-	-	87.34

(A) \emptyset = Input shaft diameter.

Performance - AFHK (4-Stage) Gearbox

Model No.		Stage	Ratio ⁽¹⁾	AFHK 240
Nominal Output Torque T_{2N}	Nm	4	1,225	3,350
			1,400	3,800
			1,750	3,350
			2,000	3,800
			2,800	2,555
			3,500	3,350
			5,000	3,350
			7,000	2,625
			10,000	1,975
Emergency Stop Torque T_{2NOT}	Nm	4	1,225~10,000	2 times T_{2N}
Max. Acceleration Torque T_{2B}	Nm	4	1,225~10,000	1.5 times T_{2N}
No Load Running Torque ⁽²⁾	Nm	4	1,225~10,000	0.4
Backlash ⁽³⁾	arcmin	4	1,225~10,000	≤ 2
Torsional Rigidity	Nm/arcmin	4	1,225~10,000	510
Nominal Input Speed n_{1N}	rpm	4	1,225~10,000	3,700
Max. Input Speed n_{1B}	rpm	4	1,225~10,000	5,500
Max. Radial Load F_{2r} ⁽⁴⁾	N	4	1,225~10,000	30,000
Max. Axial Load F_{2a} ⁽⁴⁾	N	4	1,225~10,000	15,000
Max. Tilting Moment M_{2k} ⁽⁴⁾	Nm	4	1,225~10,000	5,420
Service Life ⁽⁵⁾	hr	4	1,225~10,000	20,000
Operating Temp.	°C	4	1,225~10,000	-10° C ~ 90° C
Degree of Gearbox Protection		4	1,225~10,000	IP65
Lubrication		4	1,225~10,000	Synthetic lubrication grease
Mounting Position		4	1,225~10,000	All directions
Running Noise ⁽⁶⁾	dB(A)	4	1,225~10,000	≤ 72
Efficiency η	%	4	1,225~10,000	$\geq 90\%$

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

(2) These values are measured by gearbox with ratio 10,000 (4-stage) at 3,000 rpm no loading.

(3) Backlash is measured at 2% of Nominal Output Torque T_{2N} .

(4) Applied to the output shaft center at 100 rpm.

(5) Continuous operation is not recommended.

(6) These values are measured by gearbox with ratio 10,000 (4-stage) at 3,000 rpm no loading.

By lower ratio and/or higher RPM, the noise level could be 3 to 5 dB higher.

Inertia - AFHK (4-Stage) Gearbox

Model No.		AFHK 240
(C3) \emptyset ^(A)		
24	kg.cm ²	4.61
28		6.14
32		8.17
35		15.56
38		18.19

(A) \emptyset = Input shaft diameter.