

# Performance - AFHKB (3-Stage) Gearbox

Model No.		Stage	Ratio <sup>(1)</sup>	AFHKB 075	AFHKB 100	AFHKB 140	AFHKB 180	AFHKB 210	AFHKB 240	
Nominal Output Torque $T_{2N}$	Nm	3	48	-	-	-	-	-	-	3,280
			64	200	360	615	1,325	1,680	3,280	
			84	200	360	620	1,325	1,680	-	
			100	200	360	620	1,330	1,780	3,345	
			125	170	310	535	1,170	1,780	3,345	
			140	200	360	620	1,330	1,780	3,345	
			175	170	310	535	1,170	1,780	3,345	
			200	200	360	620	1,330	1,780	3,345	
			250	170	310	535	1,170	1,780	3,345	
			280	200	360	620	1,330	1,510	3,000	
			350	170	310	535	1,170	1,775	3,345	
			400	160	340	620	1,330	1,440	2,400	
			500	170	310	535	1,170	1,780	3,000	
700	130	250	440	990	1,510	2,555				
1,000	55	160	290	640	980	1,655				
Emergency Stop Torque $T_{2NOT}$	Nm	3	48~1,000	2 times $T_{2N}$						
Max. Acceleration Torque $T_{2B}$	Nm	3	48~1,000	1.5 times $T_{2N}$						
No Load Running Torque <sup>(2)</sup>	Nm	3	48~1,000	0.2	0.2	0.3	0.4	1	1.2	
Backlash <sup>(3)</sup>	arcmin	3	48~1,000	$\leq 2$	$\leq 2$	$\leq 2$	$\leq 2$	$\leq 2$	$\leq 2$	
Torsional Rigidity	Nm/arcmin	3	48~1,000	10	30	55	175	300	510	
Nominal Input Speed $n_{1N}$	rpm	3	48~1,000	5,500	4,600	4,600	4,000	3,700	3,400	
Max. Input Speed $n_{1B}$	rpm	3	48~1,000	7,000	7,000	7,000	6,000	5,500	5,000	
Max. Radial Load $F_{2r}$ <sup>(4)</sup>	N	3	48~1,000	4,500	6,700	10,000	15,000	22,000	30,000	
Max. Axial Load $F_{2a}$ <sup>(4)</sup>	N	3	48~1,000	2,250	3,350	5,000	7,500	11,000	15,000	
Max. Tilting Moment $M_{2k}$ <sup>(4)</sup>	Nm	3	48~1,000	270	550	1,050	1,740	3,350	5,420	
Service Life <sup>(5)</sup>	hr	3	48~1,000	20,000						
Operating Temp.	°C	3	48~1,000	-10° C ~ 90° C						
Degree of Gearbox Protection		3	48~1,000	IP65						
Lubrication		3	48~1,000	Synthetic lubrication grease						
Mounting Position		3	48~1,000	All directions						
Running Noise <sup>(6)</sup>	dB(A)	3	48~1,000	$\leq 66$	$\leq 68$	$\leq 68$	$\leq 70$	$\leq 70$	$\leq 72$	
Efficiency $\eta$	%	3	48~1,000	$\geq 92\%$						

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

(2) These values are measured by gearbox with ratio 1,000 (3-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 1,000 (3-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 - AFHKB (3-Stage) Gearbox

Model No.		AFHKB 075	AFHKB 100	AFHKB 140	AFHKB 180	AFHKB 210	AFHKB 240
(C3) $\emptyset^{(A)}$							
8	kg.cm <sup>2</sup>	0.17	-	-	-	-	-
11		0.17	0.42	-	-	-	-
14		0.21	0.42	1.83	-	-	-
19		-	0.66	1.83	4.61	-	-
24		-	-	4.11	4.61	4.61	-
28		-	-	-	6.14	6.14	-
32		-	-	-	8.17	8.17	10.55
35		-	-	-	15.56	15.56	17.76
38		-	-	-	18.19	18.19	20.17
42		-	-	-	-	23.2	25.4
48	-	-	-	-	52.42	55.18	

(A)  $\emptyset$  = Input shaft diameter.