

Specifications / AFXR Series

Gearbox Performance

Model No.	Stages	Ratio ^A	AFXR042 ^F	AFXR060	AFXR060A	AFXR075	AFXR075A	AFXR100	AFXR100A	AFXR140	AFXR140A	AFXR180	
Nominal Output Torque T_{2N}	1	3	9	36	-	90	-	195	-	342	-	588	
		4	12	48	-	120	-	260	-	520	-	1,040	
		5	15	60	-	150	-	325	-	650	-	1,200	
		6	18	55	-	150	-	310	-	600	-	1,100	
		7	19	50	-	140	-	300	-	550	-	1,100	
		8	17	45	-	120	-	260	-	500	-	1,000	
		9	14	40	-	100	-	230	-	450	-	900	
		10	14	40	-	150	-	325	-	650	-	1,200	
		12	-	-	-	150	-	310	-	600	-	1,100	
		14	-	42	-	140	-	300	-	550	-	1,100	
		16	-	-	-	120	-	260	-	500	-	1,000	
	20	-	40	-	100	-	230	-	450	-	900		
	2	12	12	-	-	-	-	-	-	-	-	-	-
		15	14	-	-	-	-	-	-	-	-	-	-
		16	15	-	-	-	-	-	-	-	-	-	-
		20	14	-	-	-	-	-	-	-	-	-	-
		25	15	60	60	150	150	325	325	650	650	1,200	
		28	19	-	-	140	140	300	300	550	550	1,100	
		30	20	55	55	150	150	310	310	600	600	1,100	
		32	17	-	-	120	120	260	260	500	500	1,000	
		35	19	50	50	140	140	300	300	550	550	1,100	
		40	17	45	45	120	120	260	260	500	500	1,100	
		45	14	40	40	100	100	230	230	450	450	900	
		48	-	-	-	150	150	310	310	600	600	1,100	
		50	14	60	60	100	100	230	230	650	650	1,200	
		60	20	55	55	150	150	310	310	600	600	1,100	
		64	-	-	-	120	120	260	260	500	500	1,000	
		70	19	50	50	140	140	300	300	550	550	1,100	
		80	17	45	45	120	120	260	260	500	500	1,000	
		90	14	40	40	100	100	230	230	450	450	900	
		100	14	40	60	150	150	325	325	650	650	1,200	
	120	-	-	55	150	150	310	310	600	600	1,100		
	140	-	-	50	140	140	300	300	550	550	1,100		
	160	-	-	45	120	120	260	260	550	550	1,000		
180	-	-	40	100	100	230	230	450	450	900			
200	-	-	40	100	100	230	230	450	450	900			
Emergency Stop Torque T_{2NOT}^B	Nm	1,2	3~200	3 times of Nominal Output Torque									
Nominal Input Speed n_{1N}	rpm	1,2	3~200	5,000	5,000	5,000	4,000	4,000	4,000	4,000	3,000	3,000	3,000
Max. Input Speed n_{1B}	rpm	1,2	3~200	10,000	10,000	10,000	8,000	8,000	8,000	8,000	6,000	6,000	6,000
Micro Backlash P0	arcmin	1	3~20	-	-	-	≤2	-	≤2	-	≤2	-	≤2
		2	12~200	-	-	-	≤4	≤4	≤4	≤4	≤4	≤4	≤4
Reduced Backlash P1	arcmin	1	3~20	≤4	≤4	-	≤4	-	≤4	-	≤4	-	≤4
		2	12~200	≤7	≤7	≤7	≤7	≤7	≤7	≤7	≤7	≤7	≤7
Standard Backlash P2	arcmin	1	3~20	≤6	≤6	-	≤6	-	≤6	-	≤6	-	≤6
		2	12~200	≤9	≤9	≤9	≤9	≤9	≤9	≤9	≤9	≤9	≤9
Torsional Rigidity	Nm/arcmin	1,2	3~200	3	7	7	14	14	25	25	50	50	145
Max. Radial Load F_{2B}^C	N	1,2	3~200	610	2,900	2,900	4,500	4,500	7,800	7,800	9,450	9,450	15,600
Max. Axial Load F_{2AB}^C	N	1,2	3~200	320	1,450	1,450	2,250	2,250	3,900	3,900	4,725	4,725	7,800
Service Life ^D	hr	1,2	3~200	30,000									
Efficiency η	%	1	3~20	≥95%									
		2	12~200	≥92%									
Weight	kg	1	3~20	0.9	2.7	-	6.1	-	12.2	-	25.3	-	50.2
		2	12~200	1.2	2.4	3.7	4.8	7.9	11.6	16	24	32	47.4
Operating Temperature	°C	1,2	3~200	-10°C~+90°C									
Lubrication		1,2	3~200	Synthetic lubrication oils									
Degree of Gearbox Protection		1,2	3~200	IP65									
Mounting Position		1,2	3~200	all directions									
Noise ($n_1=3000\text{rpm}, i=10, \text{No load}$) ^E	dB	1,2	3~200	≤61	≤63	≤65	≤65	≤68	≤68	≤70	≤70	≤72	≤72

A. Ratio ($i=N_{in}/N_{out}$)B. Max. acceleration torque $T_{2B} = 60\%$ of T_{2NOT}

C. Applied to the output shaft center at 100 rpm

D. For continuous operation, the service life time is reduced

E. These values are measured by gearbox with ratio = 10 (1-stage) or 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.

F. Continuous operation is not supported.

Gearbox Inertia

Model No.	Stages	Ratio ^A	AFXR042	AFXR060	AFXR060A	AFXR075	AFXR075A	AFXR100	AFXR100A	AFXR140	AFXR140A	AFXR180	
Mass Moments of Inertia J,	1	3~10	0.09	0.35	—	2.25	—	6.84	—	23.4	—	68.9	
		12~20	—	0.07	—	1.87	—	6.25	—	21.8	—	65.6	
	2	12~20	0.09	—	—	—	—	—	—	—	—	—	—
		25~90	0.09	0.09	0.35	0.35	2.25	2.25	6.84	6.84	23.4	23.4	
		48, 64	—	—	0.07	0.31	1.87	1.87	6.25	6.25	21.8	21.8	
		100	0.09	0.09	0.07	0.31	1.87	1.87	6.25	6.25	21.8	21.8	
		120~200	—	—	0.07	0.31	1.87	1.87	6.25	6.25	21.8	21.8	