

AE Series

Specifications

Gearbox Performance

Model No.		Stage	Ratio ¹	AE050	AE070	AE090	AE120	AE155	AE205	AE235
Nominal output torque T_{2N}	Nm	1	3	20	55	130	208	342	588	1,140
			4	19	50	140	290	542	1,050	1,700
			5	22	60	160	330	650	1,200	2,000
			6	20	55	150	310	600	1,100	1,900
			7	19	50	140	300	550	1,100	1,800
			8	17	45	120	260	500	1,000	1,600
			9	14	40	100	230	450	900	1,500
			10	14	40	100	230	450	900	1,500
		2	15	20	55	130	208	342	588	1,140
			20	19	50	140	290	542	1,050	1,700
			25	22	60	160	330	650	1,200	2,000
			30	20	55	150	310	600	1,100	1,900
			35	19	50	140	300	550	1,100	1,800
			40	17	45	120	260	500	1,000	1,600
			45	14	40	100	230	450	900	1,500
			50	22	60	160	330	650	1,200	2,000
			60	20	55	150	310	600	1,100	1,900
			70	19	50	140	300	550	1,100	1,800
			80	17	45	120	260	500	1,000	1,600
			90	14	40	100	230	450	900	1,500
			100	14	40	100	230	450	900	1,500
Emergency Stop Torque T_{2NOT} ²	Nm	1,2	3~100	3 times of nominal output torque						
Nominal input speed n_{1N}	rpm	1,2	3~100	5,000	5,000	4,000	4,000	3,000	3,000	2,000
Max. input speed n_{1B}	rpm	1,2	3~100	10,000	10,000	8,000	8,000	6,000	6,000	4,000
Backlash	arcmin	1	3~10	≤8	≤8	≤8	≤8	≤8	≤8	≤8
		2	15~100	≤12	≤12	≤12	≤12	≤12	≤12	≤12
Torsional rigidity	Nm/arcmin	1,2	3~100	3	7	14	25	50	145	225
Max. Radial Load F_{2rB} ³	N	1,2	3~100	702	1,377	2,985	6,100	8,460	13,050	8,700
Max. Axial Load F_{2aB} ³	N	1,2	3~100	390	765	1,625	3,350	4,700	7,250	18,000
Service life	hr	1,2	3~100	20,000*						
Efficiency η	%	1	3~10	≥97%						
		2	15~100	≥94%						
Weight	kg	1	3~10	0.6	1.4	3.3	6.9	13	31	53
		2	15~100	0.9	1.6	4.7	8.7	17	35	66
Operating temp	°C	1,2	3~100	-10°C~90°C						
Lubrication				Synthetic lubrication oils						
Degree of gearbox protection		1,2	3~100	IP65						
Mounting position		1,2	3~100	all directions						
Noise Level ($n_1=3000\text{rpm}$, No Load)	dB(A)	1,2	3~100	≤56	≤58	≤60	≤63	≤65	≤67	≤70

Gearbox Inertia

Model No.		Stage	Ratio ¹	AE050	AE070	AE090	AE120	AE155	AE205	AE235
Mass moments of inertia J ,	kg · cm ²	1	3	0.03	0.16	0.61	3.25	9.21	28.98	69.61
			4	0.03	0.14	0.48	2.74	7.54	23.67	54.37
			5	0.03	0.13	0.47	2.71	7.42	23.29	53.27
			6	0.03	0.13	0.45	2.65	7.25	22.75	51.72
			7	0.03	0.13	0.45	2.62	7.14	22.48	50.97
			8	0.03	0.13	0.44	2.58	7.07	22.59	50.84
			9	0.03	0.13	0.44	2.57	7.04	22.53	50.63
			10	0.03	0.13	0.44	2.57	7.03	22.51	50.56
		2	15	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			20	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			25	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			30	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			35	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			40	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			45	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			50	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			60	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			70	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			80	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			90	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			100	0.03	0.03	0.13	0.44	2.57	7.03	22.51

1. Ratio ($i=N_1/N_{out}$)

2. T_{2B} = 60% of T_{2NOT}

3. Applied to the output shaft center @ 100 rpm

★ S1 service life 10,000 hrs (Consult us)