

# Specifications

## AT / ATB Shaft Type Series

### Gearbox Performance

(The performance and specification of ATB series are identical to AT series.)

Model No.	Stage	Ratio <sup>A</sup>	AT065 L	AT075 L	AT090 L	AT110 L	AT140 L	AT170 L	AT210 L	AT240 L	AT280 L	
			AT065 L1	AT075 L1	AT090 L1	AT110 L1	AT140 L1	AT170 L1	AT210 L1	AT240 L1	AT280 L1	
			AT065 H	AT075 H	AT090 H	AT110 H	AT140 H	AT170 H	AT210 H	AT240 H	AT280 H	
			AT065 C	AT075 C	AT090 C	AT110 C	AT140 C	AT170 C	AT210 C	AT240 C	AT280 C	
			AT065 R1	AT075 R1	AT090 R1	AT110 R1	AT140 R1	AT170 R1	AT210 R1	AT240 R1	AT280 R1	
			AT065 LM	AT075 LM	AT090 LM	AT110 LM	AT140 LM	AT170 LM	AT210 LM	AT240 LM	AT280 LM	
			AT065 RM	AT075 RM	AT090 RM	AT110 RM	AT140 RM	AT170 RM	AT210 RM	AT240 RM	AT280 RM	
			AT065 4M	AT075 4M	AT090 4M	AT110 4M	AT140 4M	AT170 4M	AT210 4M	AT240 4M	AT280 4M	
Nominal Output Torque $T_{2N}$	Nm	1	25	45	78	150	360	585	1,300	2,150	3,200	
		1.5	25	45	78	150	360	585	1,300	2,150	3,200	
		2	24	42	68	150	330	544	1,220	2,010	3,050	
		3	18	33	54	120	270	450	1,020	1,650	2,850	
		4	13	28	48	100	224	376	860	1,410	2,300	
		5	12	25	40	85	196	320	740	1,210	2,000	
Max. Acceleration Torque $T_{2B}$	Nm	1	1~5	1.5 times of Nominal Output Torque								
Max. Acceleration Input Speed $n_{1B}$	rpm	1	1~5	7,500	6,500	5,500	4,500	3,500	3,000	2,200	2,000	1,700
Standard Backlash <sup>B</sup>	arcmin	1	1~5	≤6	≤6	≤6	≤6	≤6	≤6	≤6	≤6	≤6
Max. Radial Load $F_{1B}$ <sup>C</sup> Input d1	N	1	1~5	700	950	1,450	2,100	2,700	3,800	7,800	9,600	10,500
Max. Radial Load $F_{2B}$ <sup>D</sup> Output d2	N	1	1~5	900	1,100	1,700	2,700	4,800	6,600	11,500	16,000	18,000
Max. Axial Load $F_{1aB}$ <sup>C</sup> Input d1	N	1	1~5	350	425	725	1,050	1,350	1,900	3,900	4,800	5,250
Max. Axial Load $F_{2aB}$ <sup>D</sup> Output d2	N	1	1~5	450	550	850	1,350	2,400	3,300	5,750	8,500	9,000
Efficiency $\eta$	%	1	1~5	≥98%								
Operating Temp	°C	1	1~5	-10°C ~ 90°C								
Lubrication				Synthetic lubrication oils								
Noise Level <sup>E</sup>	dB (A)	1	1~5	≤68	≤70	≤74	≤76	≤77	≤78	≤80	≤82	≤83

### Gearbox Inertia

(The performance and specification of ATB series are identical to AT series.)

Model No.	Stage	Ratio <sup>A</sup>	AT065 L	AT075 L	AT090 L	AT110 L	AT140 L	AT170 L	AT210 L	AT240 L	AT280 L
			AT065 L1	AT075 L1	AT090 L1	AT110 L1	AT140 L1	AT170 L1	AT210 L1	AT240 L1	AT280 L1
			AT065 H	AT075 H	AT090 H	AT110 H	AT140 H	AT170 H	AT210 H	AT240 H	AT280 H
			AT065 C	AT075 C	AT090 C	AT110 C	AT140 C	AT170 C	AT210 C	AT240 C	AT280 C
			AT065 R1	AT075 R1	AT090 R1	AT110 R1	AT140 R1	AT170 R1	AT210 R1	AT240 R1	AT280 R1
			AT065 LM	AT075 LM	AT090 LM	AT110 LM	AT140 LM	AT170 LM	AT210 LM	AT240 LM	AT280 LM
			AT065 RM	AT075 RM	AT090 RM	AT110 RM	AT140 RM	AT170 RM	AT210 RM	AT240 RM	AT280 RM
			AT065 4M	AT075 4M	AT090 4M	AT110 4M	AT140 4M	AT170 4M	AT210 4M	AT240 4M	AT280 4M
Mass Moments of Inertia $J_1$	kg · cm <sup>2</sup>	1	0.51	1.30	3.16	7.70	23.57	58.99	195.40	369.34	799.12
		1.5	0.64	1.16	2.82	6.74	19.37	49.28	155.45	283.58	595.78
		2	0.44	1.11	2.70	6.31	17.75	45.35	140.24	249.74	511.76
		3	0.43	1.09	2.66	6.17	17.18	44.01	134.95	237.71	483.06
		4	0.43	1.09	2.65	6.13	17.06	43.70	133.58	234.72	476.26
		5	0.43	1.09	2.65	6.12	17.02	43.60	133.14	233.67	473.58

### Weight

Model No.	Stage	Ratio <sup>A</sup>	AT065	AT075	AT090	AT110	AT140	AT170	AT210	AT240	AT280
L Series	1	1~5	2.6	4.2	6.8	11.6	19.8	34.8	66.2	98.1	155.7
L1 Series	1	1~5	2.6	4.1	6.7	11.5	19.5	34.2	65.1	96.6	153.4
H Series	1	1~5	2.5	3.9	6.4	11.0	18.1	31.6	60.0	89.4	143.4
C Series	1	1~5	2.8	4.2	6.9	11.4	19.6	33.7	63.3	97.9	149.1
R1 Series	1	1~5	2.6	4.1	6.7	11.5	19.5	34.2	65.1	96.6	153.4
LM Series	1	1	3.5	5.6	9.0	15.2	24.1	42.4	81.4	122.0	190.9
RM Series	1	1	3.5	5.6	9.0	15.2	24.1	42.4	81.4	122.0	190.9
4M Series	1	1	3.5	5.6	9.1	15.4	24.8	42.6	82.5	123.5	193.3

A. Ratio ( $i = N_{in} / N_{out}$ ). AT-LM / RM / 4M offer ratio 1 : 1 only.

B. Backlash is measured at 2% Nominal Torque  $T_{2N}$ .

C. Apply to the Input shaft center at  $n_{1B}$ .

D. Apply to the output shaft center at  $n_{1B}$ .

E. The dB values are measured by gearbox with ratio 5 (1-stage), no loading at 1,500 RPM or at the respective Nominal Input Speed by bigger model size.

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

F. 5 years warranty.