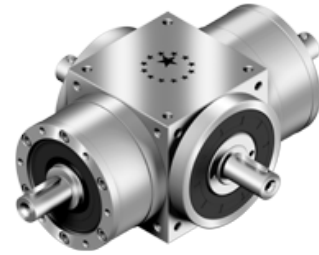


# AT-LM/RM series



## Overview

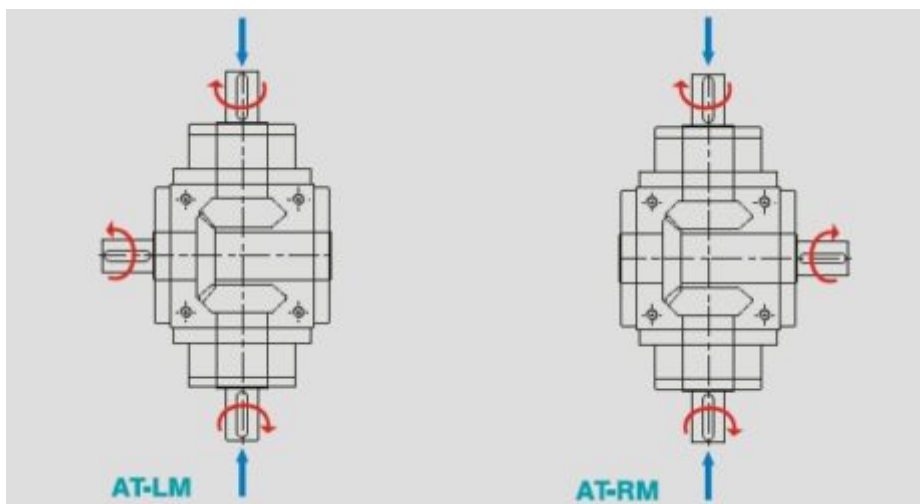
- Spiral bevel gearbox with three gears inside. Both ends can be use for input and output shaft on left or right.
- Stainless steel housing
- Stainless steel input and output shafts with ot without key
- Nominal torques:
  - $T_{2N}$  : 12 Nm – 3.200 Nm
- Ratios
  - 1-stage : 1
- Low backlash
  - 1-stage :  $\leq 6$  arcmin
- High efficiency
  - 1-stage :  $\geq 98\%$
- Easy mountEasy mount
- Low Noise
- Compact structure
- Sizes available:
  - AT065LM / AT075LM / AT090LM / AT110LM / AT140LM / AT170LM / AT210LM / AT240LM / AT280LM
  - AT065RM / AT075RM / AT090RM / AT110RM / AT140RM / AT170RM / AT210RM / AT240RM / AT280RM

# Specifications

Model No.		Stage Ratio <sup>1</sup>		AT065 AT075 AT090 AT110 AT140 AT170 AT210 AT240 AT280									
				LM/RMLM/RMLM/RMLM/RMLM/RMLM/RMLM/RMLM/RMLM/RM									
Nominal Output Torque $T_{2N}$	Nm	1	1	25	45	78	150	360	585	1,300	2,150	3,200	
Max Acceleration Torque $T_{2B}$	Nm	1	1	1.5 times Nominal Output Torque $T_{2N}$									
Max. Acceleration Input Speed $n_{1B}$	rpm	1	1	7,500	6,500	5,500	4,500	3,500	3,000	2,200	2,000	1,700	
Backlash*	arcmin	1	1	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	≤ 6	
Max. Radial Load $F_{1rB}$ Input d1	N	1	1	700	950	1,450	2,100	2,700	3,800	7,800	9,600	10,500	
Max. Radial Load $F_{2rB}$ Output d2	N	1	1	900	1,100	1,700	2,700	4,800	6,600	11,500	16,000	18,000	
Max. Axial Load $F_{1aB}$ Input d1	N	1	1	350	425	725	1,050	1,350	1,900	3,900	4,800	5,250	
Max. Axial Load $F_{2aB}$ Output d2	N	1	1	450	550	850	1,350	2,400	3,300	5,750	8,500	9,000	
Service Life	hr	1	1	20,000*									
Efficiency	%	1	1	≥ 98 %									
Weight	kg	1	1	3.5	5.6	9.0	15.2	24.1	42.4	81.4	122.0	190.9	
Operating Temp	°C	1	1	-10°C~+90°C									
Lubrication		1	1	Synthetic lubrication oils, ISO VG 150									
Noise Level ( $n_1=1500$ rpm, No Load)	dB(A)	1	1	≤68	≤70	≤74	≤76	≤77	≤78	≤80	≤82	≤83	

1. Ratio ( $i=N$  in /  $N$  out )
  2. Apply to the input shaft center @ 100 rpm
  3. Apply to the output shaft center @ 100 rpm
- \* S1 service life 10,000 hrs.
- \* Backlash is measured at 2% Nominal Output Torque  $T_{2N}$

## Rotation direction



# Inertia

Model No.	Stage	Ratio <sup>1</sup>	AT065L1 AT065R1	AT075L1 AT075R1	AT090L1 AT090R1	AT110L1 AT110R1	AT140L1 AT140R1	AT170L1 AT170R1	AT210L1 AT210R1	AT240L1 AT240R1	AT280L1 AT280R1			
Massa Moments of inertia $J_1$			kg*cm <sup>2</sup>	1	1	0.51	1.30	3.16	7.70	23.57	58.99	195.40	369.34	799.12

# Sizes

## AT-LM/RM series 1-stage



	AT065LM AT065RM	AT075LM AT075RM	AT090LM AT090RM	AT110LM AT110RM	AT140LM AT140RM	AT170LM AT170RM	AT210LM AT210RM	AT240LM AT240RM	AT280LM AT280RM
D1	M4	M6	M6	M8	M10	M12	M16	M16	M16
D3 <sub>k6</sub>	13	16	18	22	32	40	50	55	60
D4 <sub>h7</sub>	63	73	88	108	135	165	205	235	275
D5	31	35	43	53	68	83	104	124	144
D6	M4	M5	M5	M8	M12	M16	M16	M16	M20
D7	21	22	28	33	47	55	75	85	110
D8	53	62	76	95	92	114	142	160	176
D9	4xM4xL7	4xM5xL8	4xM5xL8	6xM6xL10	6xM6xL10	6xM8xL12.5	6xM8xL12.5	6xM8xL12.5	6xM10xL15
D10	15.4	20.4	25.8	35.8	49.8	59.3	79.3	92.3	102.3
D11 <sub>g6</sub>	62.9	72.9	87	107	103	127	158	178	198
D12	62	72	86	106	104	128	160	180	200
D13 <sub>k6</sub>	13	16	18	22	32	40	50	55	60
D14 <sub>h7</sub>	63	73	88	108	135	165	205	235	275
D16	M4	M5	M5	M8	M12	M16	M16	M16	M20
L1	65	75	90	110	140	170	210	240	280
L2	19.5	30	35	40	50	60	75	85	110
L3	13	14.5	15	15	15	15	20	25	25
L4	2	2	2	2	2	2	2	2	2
L5	16	25	28	32	45	50	70	80	100
L6	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L7	47.5	54	62	72	87	102	127	147	167
L8	67	84	97	112	137	162	202	232	277
L9	4.5	4.8	4.8	7.2	10	12	12	12	15
L10	10	12.5	12.5	19	28	36	36	36	42
L11	27	30	36	44	55	67	85	95	110
L12	19.5	30	35	40	50	60	75	85	110
L13	13	15	15	15	15	15	20	25	25
L14	2	2	2	2	2	2	2	2	2
L15	16	25	28	32	45	50	70	80	100
L16	2	2.5	3.5	4	2.5	5	2.5	2.5	5
L17	6	8	8	8	10	10	10	10	10
L18	43	52.5	55	60	60	70	90	105	120
L19	4.5	4.8	4.8	7.2	10	12	12	12	15
L20	10	12.5	12.5	19	28	36	36	36	42
L21	75.5	90	100	115	130	155	195	225	260
L22	95	120	135	155	180	215	270	310	370
B1 <sub>h9</sub>	5	5	6	6	10	12	14	16	18
B2 <sub>h9</sub>	5	5	6	6	10	12	14	16	18
H1	15	18	20.5	24.5	35	43	53.5	59	64
H2	15	18	20.5	24.5	35	43	53.5	59	64