

# EVL SERIES Right-angle Planetary

## EVL 120 2-Stage Specifications

Frame Size	120									
Stage	2-Stage									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	75	100	120	150	150	150	110	110
Maximum Acceleration Torque	[Nm]	*2	150	200	240	300	300	300	200	200
Emergency Stop Torque	[Nm]	*3	320	430	500	550	550	550	450	450
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	1.88							
Permitted Radial Load	[N]	*7	1300	1500	1600	1700	1800	1900	1900	2000
Permitted Axial Load	[N]	*8	1500	1700	1900	2000	2100	2300	2400	2500
Maximum Radial Load	[N]	*9	4300							
Maximum Axial Load	[N]	*10	3900							
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	6.740	5.490	5.020	4.770	4.650	4.550	4.490	4.460
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	8.340	7.080	6.610	6.360	6.240	6.140	6.080	6.050
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	15.410	14.150	13.690	13.430	13.310	13.220	13.160	13.120
Efficiency	[%]	*11	93							
Torsional Rigidity	[Nm/arc-min]	*12	31							
Maximum Torsional Backlash	[arc-min]	--	$\leq 6$							
Noise Level	dB [A]	*13	$\leq 85$							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	10.2							

## EVL 120 3-Stage Specifications

Frame Size	120									
Stage	3-Stage									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	110	130	150	150	150	110	150	150
Maximum Acceleration Torque	[Nm]	*2	200	260	300	300	300	200	300	300
Emergency Stop Torque	[Nm]	*3	450	550	550	550	550	450	550	550
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	1.11							
Permitted Radial Load	[N]	*7	2300	2300	2500	2700	2800	2900	3000	3200
Permitted Axial Load	[N]	*8	3000	3100	3400	3700	3900	3900	3900	3900
Maximum Radial Load	[N]	*9	4300							
Maximum Axial Load	[N]	*10	3900							
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	2.250	2.460	2.200	2.180	2.400	1.870	2.160	1.860
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.580	2.790	2.530	2.510	2.730	2.200	2.490	2.190
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.700	4.910	4.650	4.640	4.860	4.330	4.620	4.320
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	88							
Torsional Rigidity	[Nm/arc-min]	*12	31							
Maximum Torsional Backlash	[arc-min]	--	$\leq 9$							
Noise Level	dB [A]	*13	$\leq 85$							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	10							

## EVL 120 3-Stage Specifications

Frame Size	120										
Stage	3-Stage										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	110	150	150	150	150	110	110		
Maximum Acceleration Torque	[Nm]	*2	200	300	300	300	300	200	200		
Emergency Stop Torque	[Nm]	*3	450	550	550	550	550	450	450		
Nominal Input Speed	[rpm]	*4	3000								
Maximum Input Speed	[rpm]	*5	6000								
No Load Running Torque	[Nm]	*6	1.11								
Permitted Radial Load	[N]	*7	3300	3400	3600	3800	4000	4200	4300		
Permitted Axial Load	[N]	*8	3900	3900	3900	3900	3900	3900	3900		
Maximum Radial Load	[N]	*9	4300								
Maximum Axial Load	[N]	*10	3900								
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	2.150	1.860	1.850	1.850	1.850	1.850	1.850		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.480	2.190	2.180	2.180	2.180	2.180	2.180		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.610	4.310	4.310	4.310	4.310	4.310	4.310		
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	88								
Torsional Rigidity	[Nm/arc-min]	*12	31								
Maximum Torsional Backlash	[arc-min]	--	$\leq 9$								
Noise Level	dB [A]	*13	$\leq 85$								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	10								

- \*1) At nominal input speed, service life is 20,000 hours
- \*2) The maximum torque when starting or stopping operation
- \*3) The maximum torque allowed under a stress situation (Permitted 1,000 times during service life)
- \*4) The average input speed
- \*5) The maximum intermittent input speed
- \*6) Torque at no load applied to the input shaft at nominal input speed
- \*7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side shaft center)
- \*8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output side bearing)
- \*9) The maximum radial load that the gearbox can accept
- \*10) The maximum axial load that the gearbox can accept
- \*11) The efficiency at the nominal output torque rating
- \*12) This does not include lost motion
- \*13) Contact NIDEC-SHIMPO for the testing conditions and environment
- \*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details
- \*15) The weight may vary slightly between models