

# EVT SERIES Right-angle Planetary

## EVT 090 2-Stage Specifications

Frame Size	090										
Ratio	Unit	Note	4	5	6	7	8	9	10		
Nominal Output Torque	[Nm]	*1	61	67	67	67	74	51	51		
Maximum Acceleration Torque	[Nm]	*2	105	105	105	105	105	78	78		
Maximum Torque	[Nm]	*3	121	121	119	119	117	93	93		
Emergency Stop Torque	[Nm]	*4	170	220	220	220	220	170	170		
Nominal Input Speed	[rpm]	*5	3000								
Maximum Input Speed	[rpm]	*6	6000								
No Load Running Torque	[Nm]	*7	1.13								
Maximum Radial Load	[N]	*8	3300								
Maximum Axial Load	[N]	*9	1700								
Maximum Tilting Moment	[Nm]	*10	170								
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	2.17	1.98	1.88	1.81	1.78	1.75	1.73		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.50	2.31	2.21	2.14	2.10	2.08	2.06		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.63	4.43	4.33	4.27	4.23	4.21	4.19		
Efficiency	[%]	*11	93								
Torsional Rigidity	[Nm/arcmin]	*12	22								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 4$								
Noise Level	dB [A]	*13	$\leq 80$								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	5.1								

## EVT 090 3-Stage Specifications

Frame Size	090										
Ratio	Unit	Note	16	20	25	28	35	40	45		
Nominal Output Torque	[Nm]	*1	66	68	72	78	73	78	47		
Maximum Acceleration Torque	[Nm]	*2	128	128	128	128	128	128	78		
Maximum Torque	[Nm]	*3	128	128	128	128	128	128	78		
Emergency Stop Torque	[Nm]	*4	220	220	220	220	220	220	170		
Nominal Input Speed	[rpm]	*5	3300								
Maximum Input Speed	[rpm]	*6	6000								
No Load Running Torque	[Nm]	*7	0.55								
Maximum Radial Load	[N]	*8	3300								
Maximum Axial Load	[N]	*9	1700								
Maximum Tilting Moment	[Nm]	*10	170								
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.40	0.34	0.33	0.38	0.32	0.25	0.32		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.48	0.41	0.41	0.45	0.40	0.33	0.40		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.66	0.60	0.59	0.64	0.59	0.51	0.59		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	88								
Torsional Rigidity	[Nm/arcmin]	*12	22								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 7$								
Noise Level	dB [A]	*13	$\leq 80$								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	4.3								

## EVT 090 3-Stage Specifications

Frame Size	090							
Ratio	Unit	Note	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	73	73	73	78	52	52
Maximum Acceleration Torque	[Nm]	*2	128	128	128	128	78	78
Maximum Torque	[Nm]	*3	128	128	128	128	78	78
Emergency Stop Torque	[Nm]	*4	220	220	220	220	170	170
Nominal Input Speed	[rpm]	*5	3300					
Maximum Input Speed	[rpm]	*6	6000					
No Load Running Torque	[Nm]	*7	0.55					
Maximum Radial Load	[N]	*8	3300					
Maximum Axial Load	[N]	*9	1700					
Maximum Tilting Moment	[Nm]	*10	170					
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.25	0.25	0.25	0.25	0.25	0.25
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.32	0.32	0.32	0.32	0.32	0.32
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.51	0.51	0.51	0.51	0.51	0.51
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--
Efficiency	[%]	*11	88					
Torsional Rigidity	[Nm/arcmin]	*12	22					
Maximum Torsional Backlash	[Arc-min]	--	$\leq 7$					
Noise Level	dB [A]	*13	$\leq 80$					
Protection Class	--	*14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0-40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*15	4.3					

- \*1) At nominal input speed, service life is 20,000 hours
- \*2) The maximum torque when starting or stopping operation. Apply Cycle Factor  $f_0$ , found on page 468, for higher duty cycle applications
- \*3) Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth output shaft
- \*4) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- \*5) The average input speed at nominal input torque. Maintain housing temperature below permitted value
- \*6) The maximum intermittent input speed
- \*7) Torque at no load applied to the input shaft at nominal input speed
- \*8) The maximum radial load that the gearbox can accept
- \*9) The maximum axial load that the gearbox can accept
- \*10) The moment is the maximum load at output flange surface
- \*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) Various wash-down options are available. Contact NIDEC-SHIMPO for more details
- \*15) Weight may vary slightly between models