

VRT 110 1-Stage Specifications

Frame Size	110					
Ratio	Unit	Note	4	5	7	10
Nominal Output Torque	[Nm]	*1	146	190	190	190
Maximum Acceleration Torque	[Nm]	*2	390	390	390	292
Maximum Torque	[Nm]	*3	490	490	480	370
Emergency Stop Torque	[Nm]	*4	625	625	625	500
Nominal Input Speed	[rpm]	*5	2800	2800	2800	2800
Maximum Input Speed	[rpm]	*6	5500	5500	5500	5500
No Load Running Torque	[Nm]	*7	0.77			
Maximum Radial Load	[N]	*8	12000			
Maximum Axial Load	[N]	*9	8800			
Maximum Tilting Moment	[Nm]	*10	990			
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	3.1	2.1	1.3	0.99
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.8	3.8	3.1	2.7
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	11	10	9.5	9.0
Efficiency	[%]	*11	95			
Torsional Rigidity	[Nm/arcmin]	*12	80	86	76	62
Maximum Torsional Backlash	[Arc-min]	--	Standard ≤ 3 / Reduced ≤ 1			
Noise Level	dB [A]	*13	≤ 71			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	7.8			

VRT 110 2-Stage Specifications

Frame Size	110					
Ratio	Unit	Note	16	20	25	28
Nominal Output Torque	[Nm]	*1	200	220	280	280
Maximum Acceleration Torque	[Nm]	*2	390	390	390	390
Maximum Torque	[Nm]	*3	390	390	390	390
Emergency Stop Torque	[Nm]	*4	625	625	625	625
Nominal Input Speed	[rpm]	*5	3100	3100	3100	3100
Maximum Input Speed	[rpm]	*6	6500	6500	6500	6500
No Load Running Torque	[Nm]	*7	0.17			
Maximum Radial Load	[N]	*8	12000			
Maximum Axial Load	[N]	*9	8800			
Maximum Tilting Moment	[Nm]	*10	990			
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	-	--	--	--
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	1.0	0.76	0.73	0.94
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.4	1.1	1.1	1.3
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	3.2	2.9	2.9	3.1
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	9.5	9.2	9.1	9.4
Efficiency	[%]	*11	90			
Torsional Rigidity	[Nm/arcmin]	*12	81	81	83	80
Maximum Torsional Backlash	[Arc-min]	--	Standard ≤ 3 / Reduced ≤ 1			
Noise Level	dB [A]	*13	≤ 71			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	8.6			

VRT 110 2-Stage Specifications

Frame Size	110							
Ratio	Unit	Note	35	40	50	70	100	
Nominal Output Torque	[Nm]	*1	280	270	280	280	220	
Maximum Acceleration Torque	[Nm]	*2	390	390	390	390	292	
Maximum Torque	[Nm]	*3	390	390	390	390	292	
Emergency Stop Torque	[Nm]	*4	625	625	625	625	500	
Nominal Input Speed	[rpm]	*5	3100	3100	3500	4200	4200	
Maximum Input Speed	[rpm]	*6	6500	6500	6500	6500	6500	
No Load Running Torque	[Nm]	*7	0.17					
Maximum Radial Load	[N]	*8	12000					
Maximum Axial Load	[N]	*9	8800					
Maximum Tilting Moment	[Nm]	*10	990					
Moment of Inertia (≤ Ø 8)	[kgcm ²]	--	--	--	0.20	0.19	0.19	
Moment of Inertia (≤ Ø 14)	[kgcm ²]	--	0.70	0.38	0.37	0.36	0.36	
Moment of Inertia (≤ Ø 19)	[kgcm ²]	--	1.1	0.78	0.77	0.76	0.76	
Moment of Inertia (≤ Ø 28)	[kgcm ²]	--	2.8	2.5	2.5	2.5	2.5	
Moment of Inertia (≤ Ø 38)	[kgcm ²]	--	9.1	8.8	8.8	8.8	8.8	
Efficiency	[%]	*11	90					
Torsional Rigidity	[Nm/arcmin]	*12	82	76	80	71	60	
Maximum Torsional Backlash	[Arc-min]	--	Standard ≤ 3 / Reduced ≤ 1					
Noise Level	dB [A]	*13	≤ 71					
Protection Class	--	*14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0 - 40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*15	8.6					

- *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 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) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details
- *15) Weight may vary slightly between models