VRS-140 – 1-Stage Specifications

Frame Size	**140**									
Stage	**1-Stage**									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	240	240	360	360	360	360	240	240
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	700	470	470
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1250	1000	1000
Nominal Input Speed	[rpm]	*4	2000							
Maximum Input Speed	[rpm]	*5	4000							
No Load Running Torque	[Nm]	*6	1.63							
Permitted Radial Load	[N]	*7	6700	7400	7900	8300	8700	9100	9400	9700
Permitted Axial Load	[N]	*8	9000	9000	9000	9000	9000	9000	9000	9000
Maximum Radial Load	[N]	*9	10000							
Maximum Axial Load	[N]	*10	9000							
Moment of Inertia (≤Ø 19)	[kgcm2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	12.000	7.400	5.800	4.900	4.100	3.800	3.600	3.400
Moment of Inertia (≤ Ø 38)	[kgcm2]	--	20.000	15.000	13.000	13.000	12.000	12.000	11.000	11.000
Moment of Inertia (≤ Ø 48)	[kgcm2]	--	42.000	37.000	36.000	35.000	34.000	34.000	34.000	33.000
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	60							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	17							

VRS-140 – 2-Stage Specifications

Frame Size	**140**									
Stage	**2-Stage**									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	240	360	360	360	360	240	360	360
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	470	700	700
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1000	1250	1250
Nominal Input Speed	[rpm]	*4	2000							
Maximum Input Speed	[rpm]	*5	4000							
No Load Running Torque	[Nm]	*6	0.56							
Permitted Radial Load	[N]	*7	10000	10000	10000	10000	10000	10000	10000	10000
Permitted Axial Load	[N]	*8	9000	9000	9000	9000	9000	9000	9000	9000
Maximum Radial Load	[N]	*9	10000							
Maximum Axial Load	[N]	*10	9000							
Moment of Inertia (≤Ø 19)	[kgcm2]	--	1.300	1.500	1.200	1.100	1.400	0.850	1.100	0.830
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	3.200	3.500	3.100	3.100	3.300	2.800	3.100	2.800
Moment of Inertia (≤ Ø 38)	[kgcm2]	--	11.000	11.000	11.000	11.000	11.000	10.000	11.000	10.000
Moment of Inertia (≤ Ø 48)	[kgcm2]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	60							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	[dB]	*13	67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	19							

VRS-140 – 2-Stage Specifications

Frame Size	**140**								
Stage	**2-Stage**								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	240	360	360	360	360	240	240
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	470	470
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1000	1000
Nominal Input Speed	[rpm]	*4	2000						
Maximum Input Speed	[rpm]	*5	4000						
No Load Running Torque	[Nm]	*6	0.56						
Permitted Radial Load	[N]	*7	10000	10000	10000	10000	10000	10000	10000
Permitted Axial Load	[N]	*8	9000	9000	9000	9000	9000	9000	9000
Maximum Radial Load	[N]	*9	10000						
Maximum Axial Load	[N]	*10	9000						
Moment of Inertia (≤Ø 19)	[kgcm2]	--	1.100	0.810	0.810	0.800	0.800	0.800	0.800
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	3.000	2.800	2.800	2.800	2.800	2.800	2.800
Moment of Inertia (≤ Ø 38)	[kgcm2]	--	11.000	10.000	10.000	10.000	10.000	10.000	10.000
Moment of Inertia (≤ Ø 48)	[kgcm2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc-min]	*12	60						
Maximum Torsional Backlash	[arc-min]	--	≤ 3						
Noise Level	[dB]	*13	67						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	19						

*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) This is the torque at no load applied on the input shaft. The input speed is 2,000 rpm for VRS140
*7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side bearing)
*8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output shaft center)
*9) The maximum radial load that the reducer can accept
*10) The maximum axial load that the reducer can accept
*11) The efficiency at the nominal torque rating
*12) This does not include the 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 and our food grade options
*15) The weight may vary slightly between models