VRL-070 – 1-Stage Specifications

Frame Size	**070**									
Stage	**1-Stage**									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	27	18	18
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	50	35	35
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	100	80	80
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.15							
Permitted Radial Load	[N]	*7	430	470	510	540	570	600	620	640
Permitted Axial Load	[N]	*8	310	360	390	430	460	480	510	530
Maximum Radial Load	[N]	*9	1200							
Maximum Axial Load	[N]	*10	1100							
Moment of Inertia (≤Ø 8)	[kgcm2]	--	0.140	0.095	0.077	0.068	0.062	0.059	0.057	0.056
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	0.220	0.170	0.160	0.150	0.140	0.140	0.140	0.140
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	0.430	0.380	0.360	0.360	0.350	0.350	0.340	0.340
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	3							
Maximum Torsional Backlash	[arc-min]	--	≤ 5							
Noise Level	[dB]	*13	66							
Protection Class	--	*14	IP 55 (IP 65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	1.5							

VRL-070 – 2-Stage Specifications

Frame Size	**070**									
Stage	**2-Stage**									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	18	27	27
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	35	50	50
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	80	100	100
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.04							
Permitted Radial Load	[N]	*7	740	750	810	870	910	930	980	1000
Permitted Axial Load	[N]	*8	630	650	720	790	830	860	920	970
Maximum Radial Load	[N]	*9	1200							
Maximum Axial Load	[N]	*10	1100							
Moment of Inertia (≤Ø 8)	[kgcm2]	--	0.055	0.057	0.054	0.053	0.055	0.049	0.053	0.049
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	0.140	0.140	0.130	0.130	0.140	0.130	0.130	0.130
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	3							
Maximum Torsional Backlash	[arc-min]	--	≤ 5							
Noise Level	[dB]	*13	66							
Protection Class	--	*14	IP 55 (IP 65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	1.7							

VRL-070 – 2-Stage Specifications

Frame Size	**070**								
Stage	**2-Stage**								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	18	27	27	27	27	18	18
Maximum Acceleration Torque	[Nm]	*2	35	50	50	50	50	35	35
Emergency Stop Torque	[Nm]	*3	80	100	100	100	100	80	80
Nominal Input Speed	[rpm]	*4	3000						
Maximum Input Speed	[rpm]	*5	6000						
No Load Running Torque	[Nm]	*6	0.04						
Permitted Radial Load	[N]	*7	1100	1100	1200	1200	1200	1200	1200
Permitted Axial Load	[N]	*8	1000	1100	1100	1100	1100	1100	1100
Maximum Radial Load	[N]	*9	1200						
Maximum Axial Load	[N]	*10	1100						
Moment of Inertia (≤Ø 8)	[kgcm2]	--	0.053	0.049	0.049	0.049	0.049	0.049	0.049
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	0.130	0.130	0.130	0.130	0.130	0.13	0.13
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*11	90						
Torsional Rigidity	[Nm/arc-min]	*12	3						
Maximum Torsional Backlash	[arc-min]	--	≤ 5						
Noise Level	[dB]	*13	66						
Protection Class	--	*14	IP 55 (IP 65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	1.7						

*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 maximum 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 as follows; 3,000 rpm for VRL070/090/120; 2,000 rpm for VRL155; 1,500 rpm for VRL205; 1,000 rpm for VRL235

*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