

## VRSF D Frame 1 Stage and 2 Stage Specifications

Frame Size	D										
Stage	1 Stage					2 Stage					
Ratio	Units	Note	3	5	9	15	20	25	35	45	81
Nominal Output Torque	[Nm]	*1	18.3	23.5	18.2	30.4	40.6	50.7	37	28.3	17.8
Maximum Acceleration Torque	[Nm]	*2	54.9	70.6	54.7	91.2	122	152	111	85.2	53.5
Emergency Stop Torque	[Nm]	--	--	--	--	--	--	--	--	--	--
Nominal Input Speed	[rpm]	*3	3000			3000					
Maximum Input Speed	[rpm]	*4	5000			5000					
No Load Running Torque	[Nm]	*5	0.51			0.26					
Permitted Radial Load	[N]	*6	882	1080	1470	1760	1910	2060	2060	2060	2060
Permitted Axial Load	[N]	*7	441	539	735	882	955	1030	1030	1030	1030
Maximum Radial Load	[N]	*8	2060N			2060N					
Maximum Axial Load	[N]	*9	1030N			1030N					
Moment of Inertia ( $\leq \emptyset 8$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--	0.10
Moment of Inertia ( $\leq \emptyset 14$ )	[kgcm <sup>2</sup> ]	--	1.30	0.59	0.38	0.37	0.35	0.34	0.30	0.29	0.29
Moment of Inertia ( $\leq \emptyset 19$ )	[kgcm <sup>2</sup> ]	--	1.80	1.10	0.90	0.86	0.84	0.83	0.79	0.78	0.77
Moment of Inertia ( $\leq \emptyset 28$ )	[kgcm <sup>2</sup> ]	--	3.60	2.90	2.70	2.70	2.70	2.70	--	--	--
Efficiency	[%]	*10	90			85					
Torsional Rigidity	[Nm/arcmin]	*11	6			6					
Backlash (Standard)	[Arc-min]	--	$\leq 15$			$\leq 15$					
Backlash (Low)	[Arc-min]	--	$\leq 5$			$\leq 5$					
Backlash (Precision)	[Arc-min]	--	$\leq 3$			$\leq 3$					
Noise Level	[dB]	*12	$\leq 72$			$\leq 65$					
Protection Class	--	*13	IP65			IP65					
Ambient Temperature	[°C]	--	0-40			0-40					
Permitted Housing Temperature	[°C]	--	90			90					
Weight ( $\leq \emptyset 8$ )	[kg]	*14	--			2.8					
Weight ( $\leq \emptyset 14$ )	[kg]	*14	2.8			3.3					
Weight ( $\leq \emptyset 19$ )	[kg]	*14	3.2			3.7					
Weight ( $\leq \emptyset 28$ )	[kg]	*14	4.0			4.8					

\*1 At nominal input speed, service life is 20,000 hours

\*2 The maximum torque when starting or stopping operation

\*3 The average input speed

\*4 The maximum intermittent input speed

\*5 Torque at no load applied to the input shaft at nominal input speed

\*6 At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side shaft center)

\*7 At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output side bearing)

\*8 The maximum radial load that the gearbox can accept

\*9 The maximum axial load that the gearbox can accept

\*10 The efficiency at the nominal output torque rating

\*11 This does not include lost motion

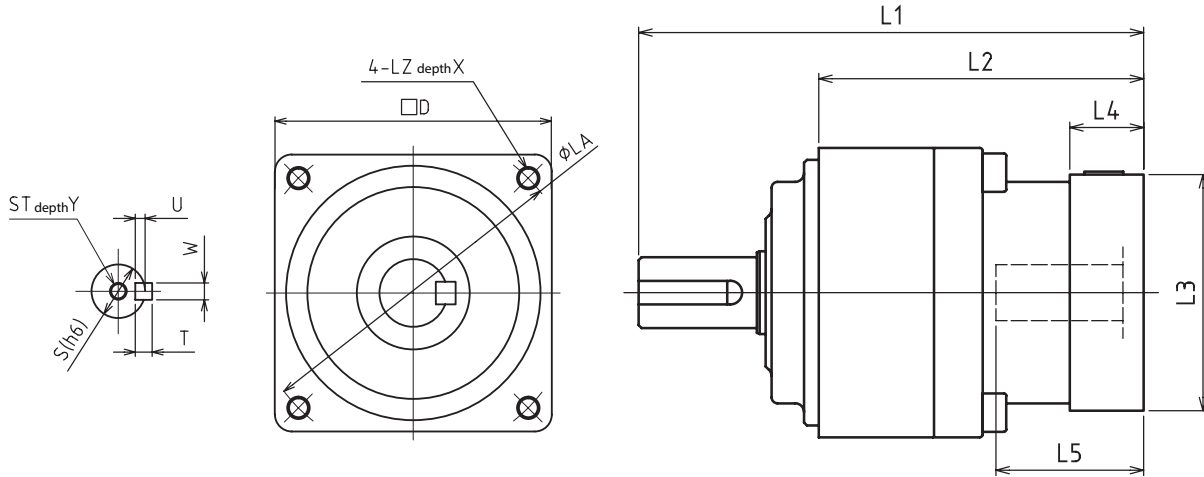
\*12 Contact Nidec Drive Technology for the testing conditions and environment

\*13 IP65 (wash-down) is available as an option. Contact Nidec Drive Technology for more details

\*14 The weight may vary slightly between models

# PLANETARY Inline Gear Reducers

## VRSF D Frame 1 Stage and 2 Stage Dimensions



Frame Size	Ratio	Input Bore Dia. E	Dimensions															
			L	LR	S	ST	Y	Q	QM	QK	W×U	T	D	LB	LE	LA	LZ	X
D	1 Stage	≅ Ø14	155	61	24	M8	16	40	35	30	8×4	7	98	90	5	115	M8	20
		≅ Ø19	171															
		≅ Ø28	186															
	2 Stage	≅ Ø8	163															
		≅ Ø14	169															
		≅ Ø19	184															
		≅ Ø28	200.5															