

## VRT 047 1-Stage Specifications

Frame Size	047										
Ratio	Unit	Notes	4	5	6	7	8	9	10		
Nominal Output Torque	[Nm]	*1	9	10	10	10	10	10	10		
Maximum Acceleration Torque	[Nm]	*2	21	21	21	21	21	14	14		
Maximum Torque	[Nm]	*3	25	25	25	25	25	17	17		
Emergency Stop Torque	[Nm]	*4	35	35	35	35	35	30	30		
Nominal Input Speed	[rpm]	*5	4000	4000	4000	4000	4000	4000	4000		
Maximum Input Speed	[rpm]	*6	8000	8000	8000	8000	8000	8000	8000		
No Load Running Torque	[Nm]	*7	0.03								
Maximum Radial Load	[N]	*8	1100								
Maximum Axial Load	[N]	*9	550								
Maximum Tilting Moment	[Nm]	*10	32								
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.052	0.043	0.038	0.036	0.034	0.033	0.032		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.17	0.16	0.15	0.15	0.15	0.15	0.15		
Efficiency	[%]	*11	95								
Torsional Rigidity	[Nm/arc-min]	*12	2								
Maximum Torsional Backlash	[arc-min]	--	$\leq 3$								
Noise Level	dB [A]	*13	$\leq 61$								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0 - 40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	0.7								

## VRT 047 2-Stage Specifications

Frame Size	047										
Ratio	Unit	Notes	16	20	25	28	35	40	45		
Nominal Output Torque	[Nm]	*1	14	14	15	15	15	15	11		
Maximum Acceleration Torque	[Nm]	*2	21	21	21	21	21	21	14		
Maximum Torque	[Nm]	*3	21	21	21	21	21	21	14		
Emergency Stop Torque	[Nm]	*4	35	35	35	35	35	35	30		
Nominal Input Speed	[rpm]	*5	4000	4000	4000	4000	4000	4000	4000		
Maximum Input Speed	[rpm]	*6	8500	8500	8500	8500	8500	8500	8500		
No Load Running Torque	[Nm]	*7	0.01								
Maximum Radial Load	[N]	*8	1100								
Maximum Axial Load	[N]	*9	550								
Maximum Tilting Moment	[Nm]	*10	32								
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.039	0.035	0.034	0.038	0.034	0.030	0.034		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	2								
Maximum Torsional Backlash	[arc-min]	--	$\leq 5$								
Noise Level	dB [A]	*13	$\leq 61$								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0 - 40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	0.8								

## VRT 047 2-Stage Specifications

Frame Size	047							
Ratio	Unit	Notes	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	15	15	15	15	11	11
Maximum Acceleration Torque	[Nm]	*2	21	21	21	21	14	14
Maximum Torque	[Nm]	*3	21	21	21	21	14	14
Emergency Stop Torque	[Nm]	*4	35	35	35	35	30	30
Nominal Input Speed	[rpm]	*5	4000	4000	4000	4000	4000	4000
Maximum Input Speed	[rpm]	*6	8500	8500	8500	8500	8500	8500
No Load Running Torque	[Nm]	*7	0.01					
Maximum Radial Load	[N]	*8	1100					
Maximum Axial Load	[N]	*9	550					
Maximum Tilting Moment	[Nm]	*10	32					
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.030	0.030	0.030	0.030	0.030	0.030
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--
Efficiency	[%]	*11	90					
Torsional Rigidity	[Nm/arc-min]	*12	2					
Maximum Torsional Backlash	[arc-min]	--	$\leq 5$					
Noise Level	dB [A]	*13	$\leq 61$					
Protection Class	--	*14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0 - 40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*15	0.8					

\*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 Drive Technology for the testing conditions and environment

\*14 IP65 (wash-down) is available as an option. Contact Nidec Drive Technology for more details

\*15 Weight may vary slightly between models

VRSF

PRE

PRF

VR

VRB

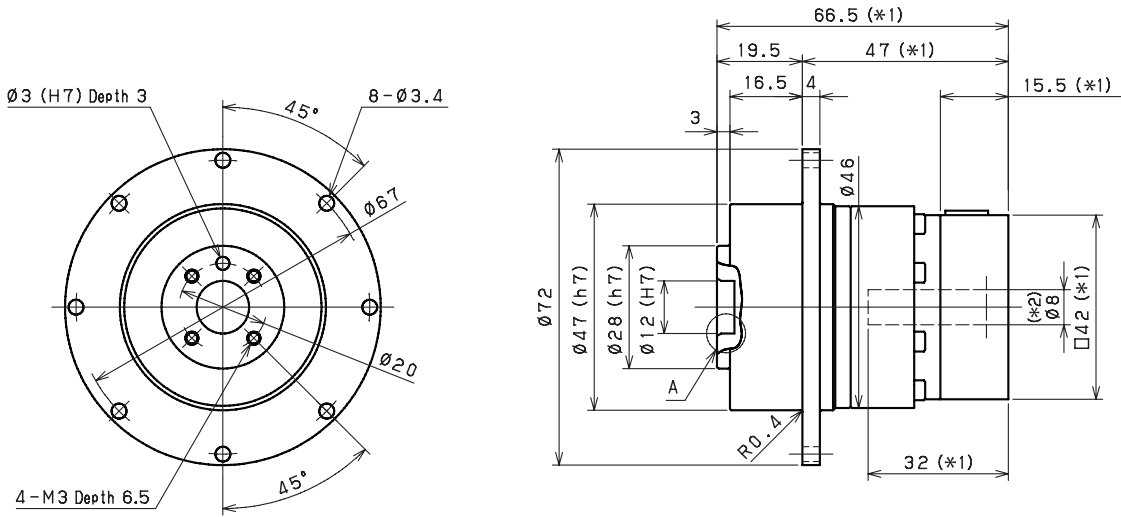
VR

VRT

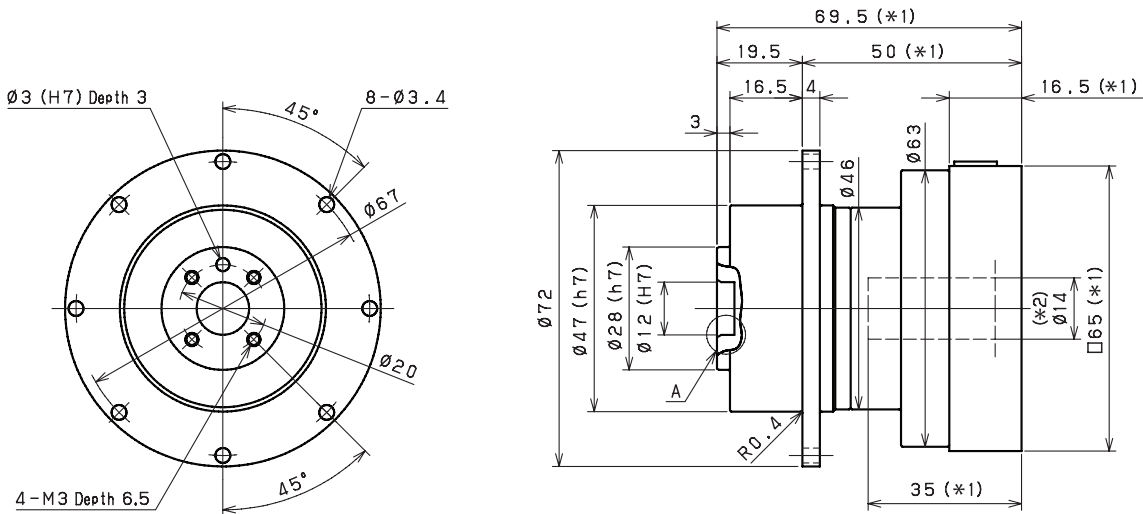
# PLANETARY Inline Gear Reducers

## VRT 047 1-Stage Dimensions

Input bore size  $\leq \varnothing 8$  mm

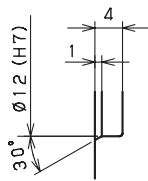


Input bore size  $\leq \varnothing 14$  mm



\*1 Length will vary depending on motor

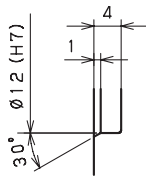
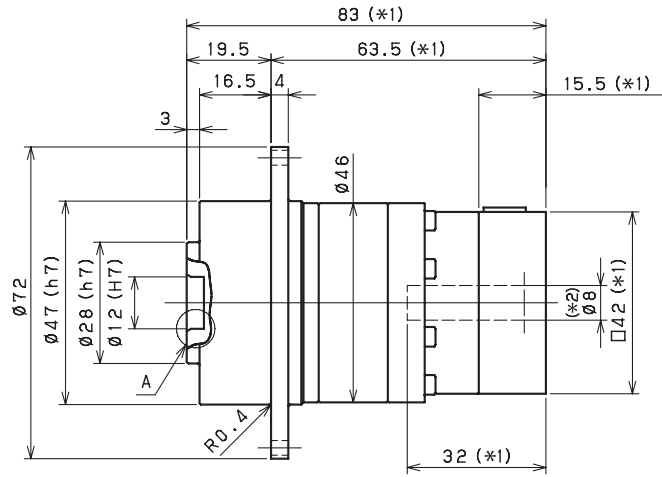
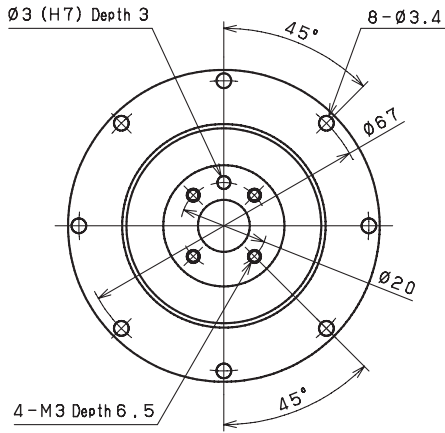
\*2 Bushing will be inserted to adapt to motor shaft



Enlarged detail A

## VRT 047 2-Stage Dimensions

Input bore size  $\leq \varnothing 8$  mm



Enlarged detail A

- \*1 Length will vary depending on motor
- \*2 Bushing will be inserted to adapt to motor shaft

VRSF

PRE

PRF

VRL

VRB

VRS

VRT