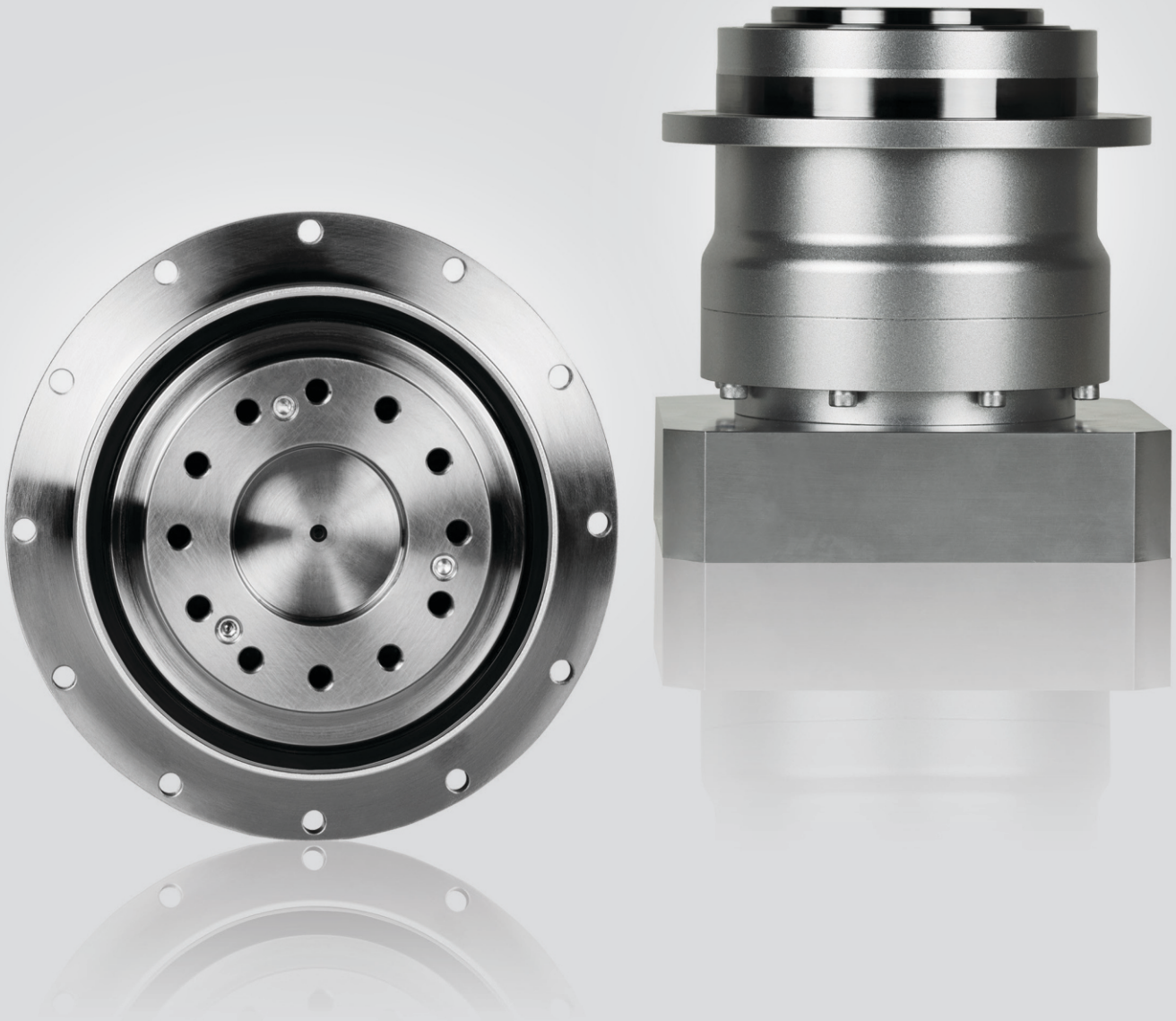
OBC
Oskoyi Ballbearing Company

Oskoyi Ballbearing

VRT SERIES



VRT

- The most compact and robust option for machine builders. Tapered roller bearings allow for high radial and axial loading
- ISO robotic mounting interface for superior flexibility and direct mounting of pinions, pulleys and turntables
- Exceptional torsional rigidity for high positional accuracy needs
- Best-In-class standard backlash (≤3 arc-min) with reduced backlash options available
- Broad range of mounting adapters offer a simple, precise attachment to any motor
- Maintenance-free solution that is lubricated for life. High performance grease allows flexible mounting in any orientation

site : www.1OBC.com
Email : Borhan772000@yahoo.com

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 (≤ Ø 8)	[kgcm2]	--	0.052	0.043	0.038	0.036	0.034	0.033	0.032
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	0.17	0.16	0.15	0.15	0.15	0.15	0.15
E ciency	[%]	11	95						
Torsional Rigidity	[Nm/arc-min]	12	2						
Maximum Torsional Backlash	[arc-min]	--	≤ 3						
Noise Level	dB [A]	13	≤ 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 (≤ Ø 8)	[kgcm2]	--	0.039	0.035	0.034	0.038	0.034	0.030	0.034
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	--	--	--	--	--	--	--
E ciency	[%]	11	90						
Torsional Rigidity	[Nm/arc-min]	12	2						
Maximum Torsional Backlash	[arc-min]	--	≤ 5						
Noise Level	dB [A]	13	≤ 61						
Protection Class	--	14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0 - 40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	15	0.8						

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فکس : (021) 33985603

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 (≤ Ø 8)	[kgcm2]	--	0.030	0.030	0.030	0.030	0.030	0.030
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	--	--	--	--	--	--
E ciency	[%]	11	90					
Torsional Rigidity	[Nm/arc-min]	12	2					
Maximum Torsional Backlash	[arc-min]	--	≤ 5					
Noise Level	dB [A]	13	≤ 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 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 e ciency at the nominal output torque rating

12) This does not include lost motion

13) Contact Nidec Drive Technology for the testing conditions and environment

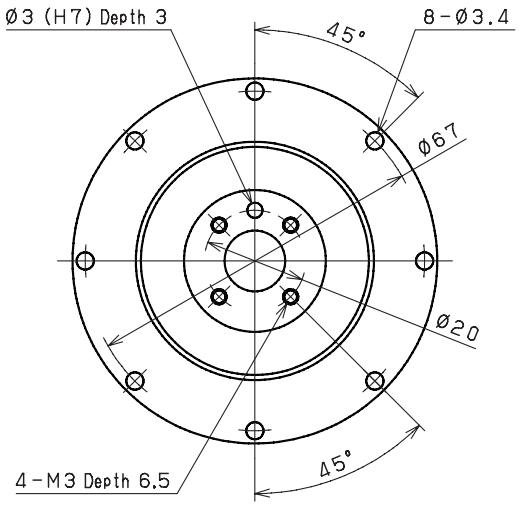
14) IP65 (wash-down) is available as an option. Contact Nidec Drive Technology for more details

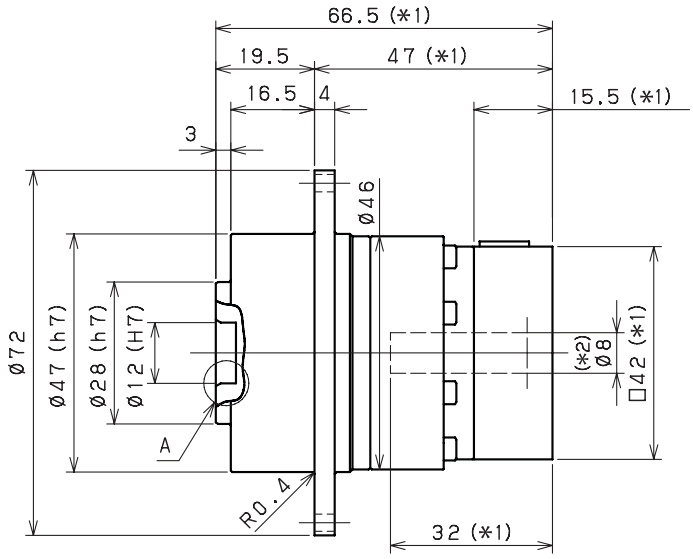
15) Weight may vary slightly between models

VRT 047 1-Stage Dimensions

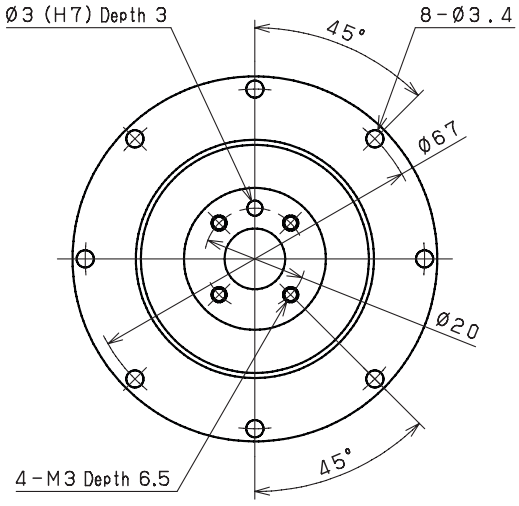
Length will vary depending on motor

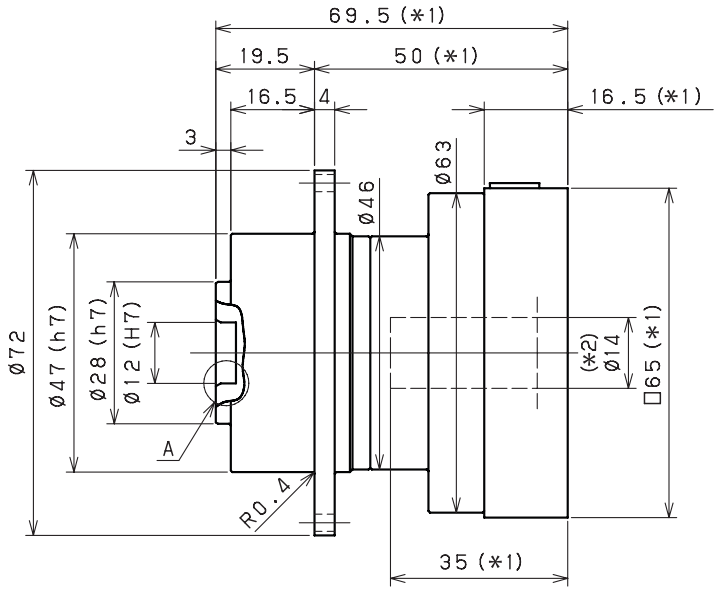
Input bore size ≦φ8 mm





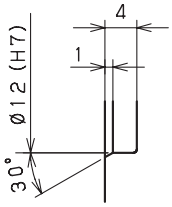
Input bore size ≦φ14 mm





1)

2) Bushing will be inserted to adapt to motor shaft



Enlarged detail A

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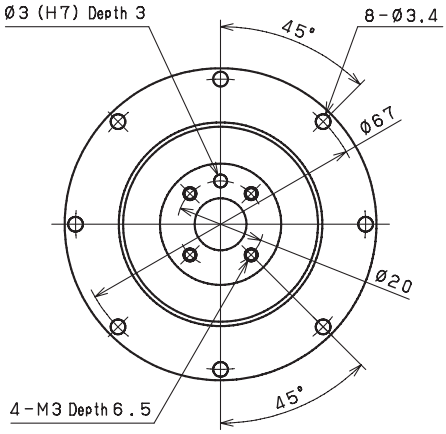
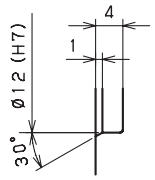
VRT 047 2-Stage Dimensions

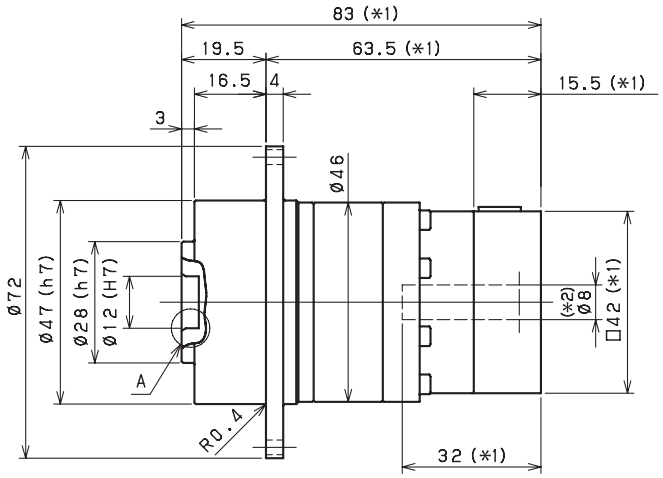
Length will vary depending on motor

Input bore size ≦φ8 mm





Enlarged detail A



1)

2) Bushing will be inserted to adapt to motor shaft

VRT 064 1-Stage Specifications

Frame Size			064						
Ratio	Unit	Note	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	1	27	28	28	28	28	28	28
Maximum Acceleration Torque	[Nm]	2	66	66	66	66	66	46	46
Maximum Torque	[Nm]	3	79	79	79	79	76	55	55
Emergency Stop Torque	[Nm]	4	100	100	100	100	100	80	80
Nominal Input Speed	[rpm]	5	3300	4000	4000	4000	4000	4000	4000
Maximum Input Speed	[rpm]	6	7500	7500	7500	7500	7500	7500	7500
No Load Running Torque	[Nm]	7	0.08						
Maximum Radial Load	[N]	8	1500						
Maximum Axial Load	[N]	9	750						
Maximum Tilting Moment	[Nm]	10	58						
Moment of Inertia (≤ Ø 8)	[kgcm2]	-	0.13	0.10	0.085	0.075	0.068	0.064	0.062
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	0.24	0.21	0.20	0.19	0.18	0.18	0.17
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	0.52	0.49	0.47	0.46	0.46	0.45	0.45
E ciency	[%]	11	95						
Torsional Rigidity	[Nm/arc-min]	12	12	12	11	11	8	8	8
Maximum Torsional Backlash	[arc-min]	--	≤ 3						
Noise Level	dB [A]	13	≤ 66						
Protection Class	--	14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0 - 40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	15	1.4						

VRT 064 2-Stage Specifications

Frame Size			064						
Ratio	Unit	Note	16	20	25	28	35	40	45
Nominal Output Torque	[Nm]	1	32	32	43	45	45	45	32
Maximum Acceleration Torque	[Nm]	2	66	66	66	66	66	66	46
Maximum Torque	[Nm]	3	66	66	66	66	66	66	46
Emergency Stop Torque	[Nm]	4	100	100	100	100	100	100	80
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	0.04						
Maximum Radial Load	[N]	8	1500						
Maximum Axial Load	[N]	9	750						
Maximum Tilting Moment	[Nm]	10	58						
Moment of Inertia (≤ Ø 8)	[kgcm2]	-	0.072	0.064	0.062	0.069	0.061	0.051	0.061
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	0.18	0.18	0.17	0.18	0.17	0.16	0.17
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	0.46	0.45	0.45	0.46	0.45	0.44	0.45
E ciency	[%]	11	90						
Torsional Rigidity	[Nm/arc-min]	12	12	12	12	12	12	11	11
Maximum Torsional Backlash	[arc-min]	--	≤ 3						
Noise Level	dB [A]	13	≤ 66						
Protection Class	--	14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0 - 40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	15	1.6						

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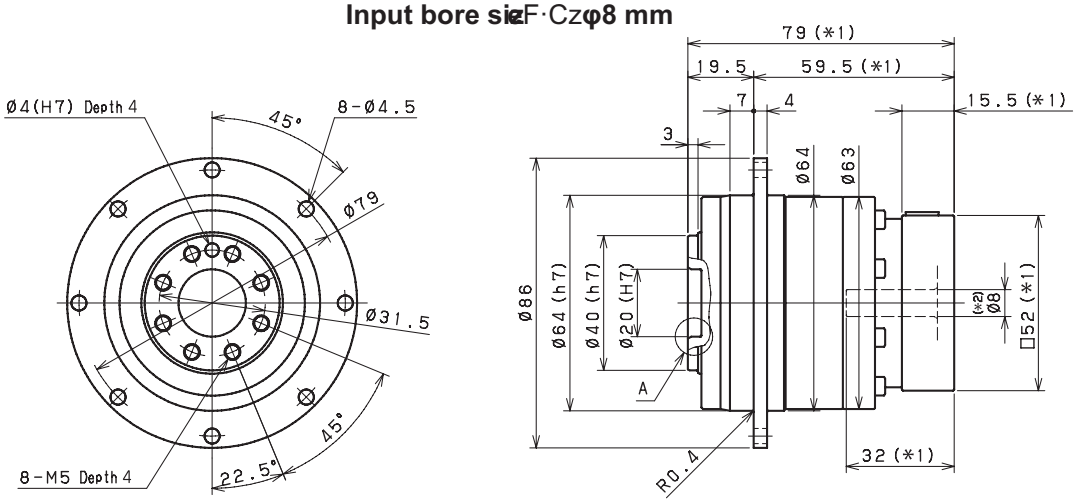
VRT 064 2-Stage Specifications

Frame Size			064					
Ratio	Unit	Note	50	60	70	80	90	100
Nominal Output Torque	[Nm]	1	45	45	45	45	32	32
Maximum Acceleration Torque	[Nm]	2	66	66	66	66	46	46
Maximum Torque	[Nm]	3	66	66	66	66	46	46
Emergency Stop Torque	[Nm]	4	100	100	100	100	80	80
Nominal Input Speed	[rpm]	5	4800	4800	5500	5500	5500	5500
Maximum Input Speed	[rpm]	6	8500	8500	8500	8500	8500	8500
No Load Running Torque	[Nm]	7	0.04					
Maximum Radial Load	[N]	8	1500					
Maximum Axial Load	[N]	9	750					
Maximum Tilting Moment	[Nm]	10	58					
Moment of Inertia (≤ Ø 8)	[kgcm2]	-	0.051	0.051	0.051	0.051	0.051	0.051
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	0.16	0.16	0.16	0.16	0.16	0.16
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	0.44	0.44	0.44	0.44	0.44	0.44
E ciency	[%]	11	90					
Torsional Rigidity	[Nm/arc-min]	12	12	9	11	7	7	8
Maximum Torsional Backlash	[arc-min]	--	≤ 3					
Noise Level	dB [A]	13	≤ 66					
Protection Class	--	14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0 - 40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	15	1.6					

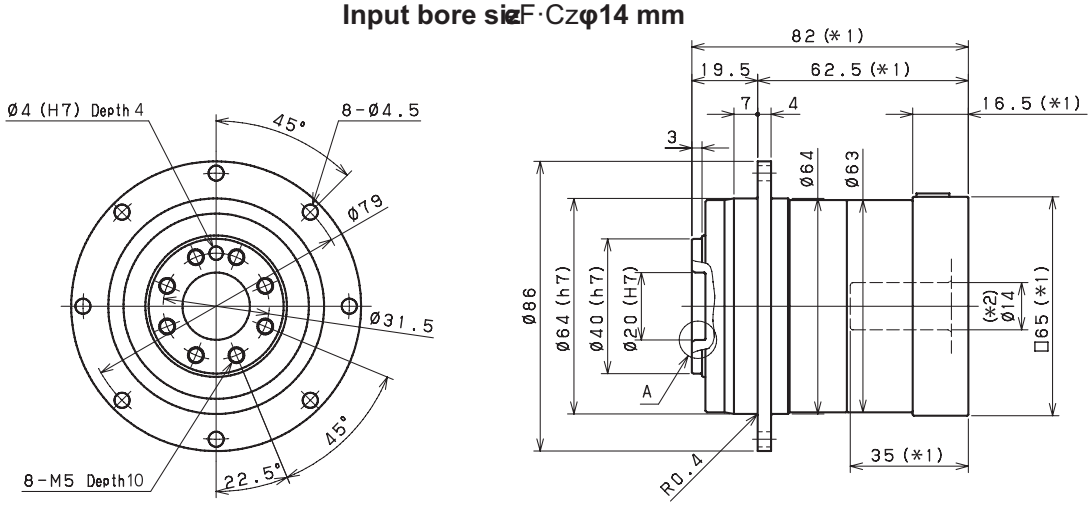
1) At nominal input speed, service life is 20,000 hours
2) The maximum torque when starting or stopping operation. Apply Cycle Factor found on page 468, for higher duty cycle applications
3) Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth output shaft
4) The 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 e ciency 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

VRT 064 1-Stage Dimensions

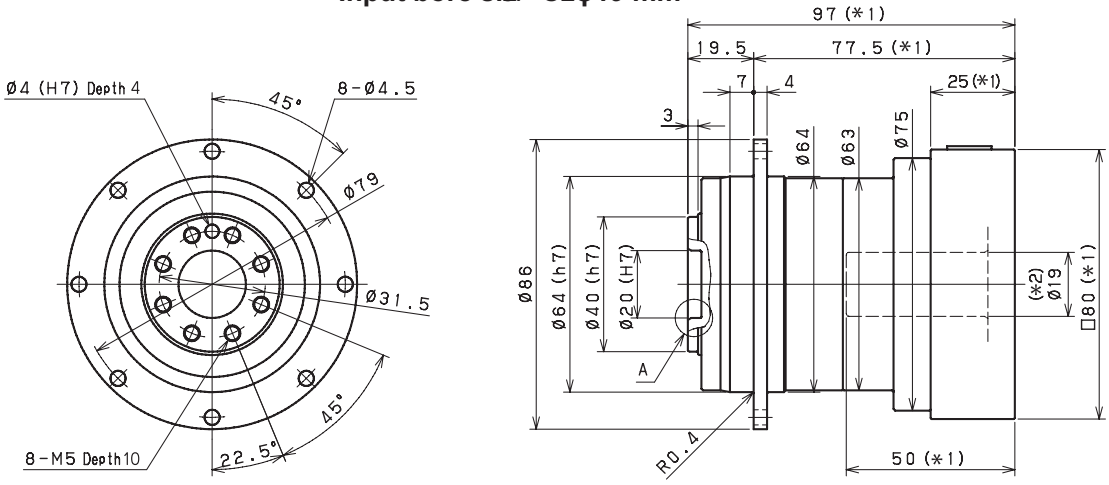
Input bore size F·Cz φ8 mm



Input bore size F·Cz φ14 mm

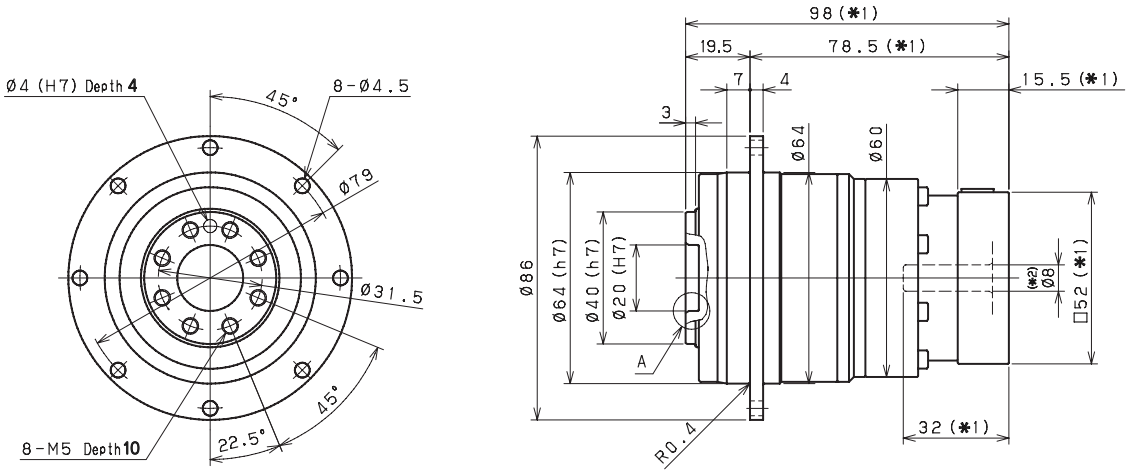


Input bore size F·Cz φ19 mm

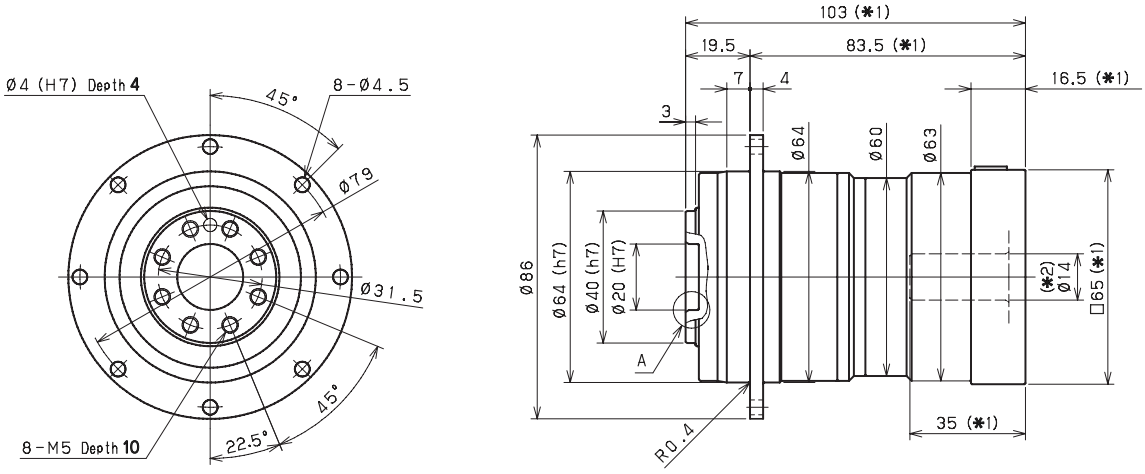


VRT 064 2-Stage Dimensions

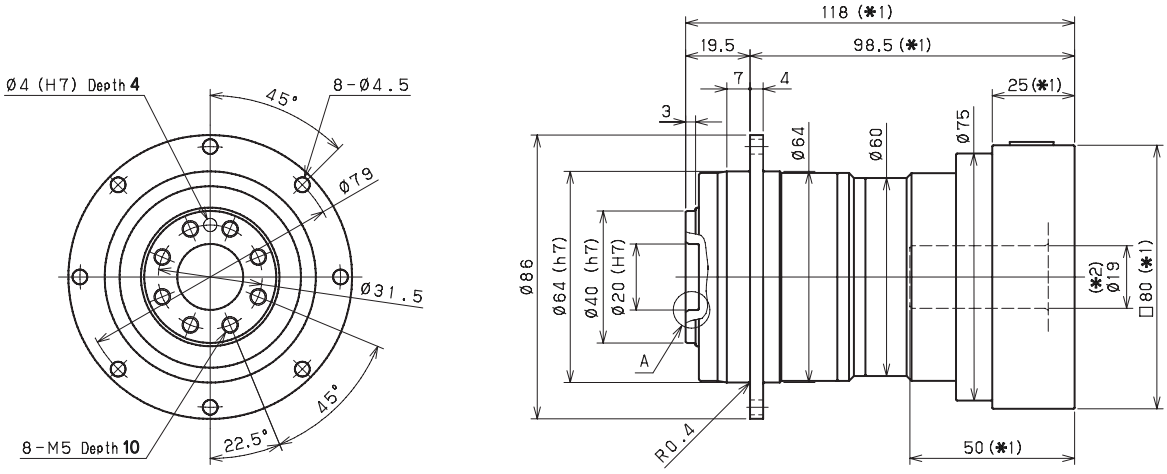
Input bore size F·Cφ8 mm



Input bore size F·Cφ14 mm



Input bore size Cφ19 mm



VRT 090 1-Stage Specifications

Frame Size			090						
Ratio	Unit	Note	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	1	77	84	84	84	84	84	84
Maximum Acceleration Torque	[Nm]	2	165	165	165	165	165	112	112
Maximum Torque	[Nm]	3	200	200	195	195	190	145	145
Emergency Stop Torque	[Nm]	4	250	250	250	250	250	200	200
Nominal Input Speed	[rpm]	5	2900	2900	2900	3100	3100	3100	3100
Maximum Input Speed	[rpm]	6	7500	7500	7500	7500	7500	7500	7500
No Load Running Torque	[Nm]	7	0.17						
Maximum Radial Load	[N]	8	3300						
Maximum Axial Load	[N]	9	1700						
Maximum Tilting Moment	[Nm]	10	170						
Moment of Inertia (≤ Ø 8)	[kgcm2]	--	--	--	--	--	--	--	--
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	0.78	0.58	0.48	0.42	0.38	0.36	0.34
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	1.2	0.98	0.87	0.82	0.78	0.75	0.74
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	2.9	2.7	2.6	2.6	2.5	2.5	2.5
E ciency	[%]	11	95						
Torsional Rigidity	[Nm/arc-min]	12	32	33	30	30	23	23	23
Maximum Torsional Backlash	[arc-min]	--	Standard ≤ 3 / Reduced ≤ 1						
Noise Level	dB [A]	13	≤ 67						
Protection Class	--	14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0 - 40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	15	3.6						

VRT 090 2-Stage Specifications

Frame Size			090						
Ratio	Unit	Note	16	20	25	28	35	40	45
Nominal Output Torque	[Nm]	1	80	86	106	118	118	118	88
Maximum Acceleration Torque	[Nm]	2	165	165	165	165	165	165	112
Maximum Torque	[Nm]	3	165	165	165	165	165	165	112
Emergency Stop Torque	[Nm]	4	250	250	250	250	250	250	200
Nominal Input Speed	[rpm]	5	3500	3500	3500	3500	3500	3500	3500
Maximum Input Speed	[rpm]	6	8500	8500	8500	8500	8500	8500	8500
No Load Running Torque	[Nm]	7	0.05						
Maximum Radial Load	[N]	8	3300						
Maximum Axial Load	[N]	9	1700						
Maximum Tilting Moment	[Nm]	10	170						
Moment of Inertia (≤ Ø 8)	[kgcm2]	--	0.26	0.20	0.19	0.24	0.19	0.12	0.19
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	0.43	0.36	0.36	0.40	0.35	0.28	0.35
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	0.81	0.75	0.74	0.79	0.74	0.67	0.73
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	2.5	2.5	2.5	2.5	2.5	2.4	2.5
E ciency	[%]	11	90						
Torsional Rigidity	[Nm/arc-min]	12	32	32	32	31	32	30	30
Maximum Torsional Backlash	[arc-min]	--	Standard ≤ 3 / Reduced ≤ 1						
Noise Level	dB [A]	13	≤ 67						
Protection Class	--	14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0 - 40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	15	4						

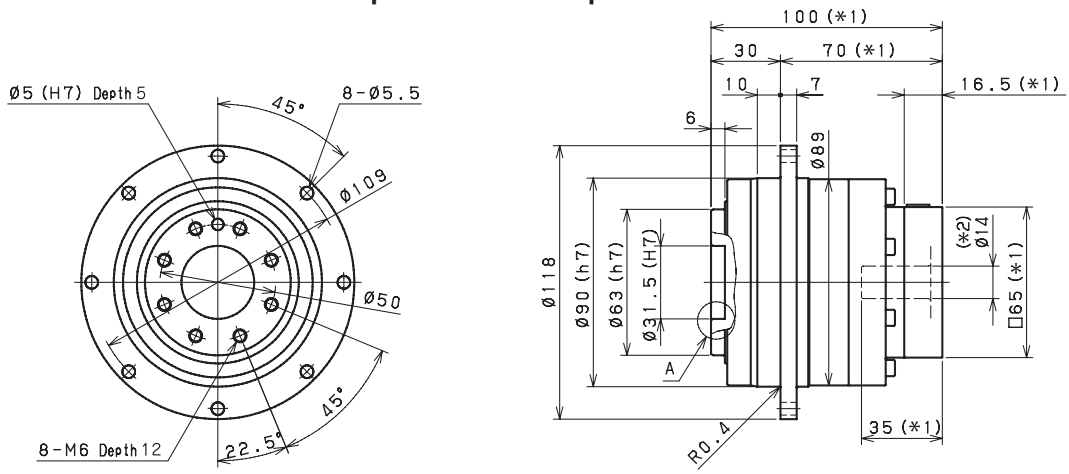
VRT 090 2-Stage Specifications

Frame Size			090					
Ratio	Unit	Note	50	60	70	80	90	100
Nominal Output Torque	[Nm]	1	118	118	118	118	88	88
Maximum Acceleration Torque	[Nm]	2	165	165	165	165	112	112
Maximum Torque	[Nm]	3	165	165	165	165	112	112
Emergency Stop Torque	[Nm]	4	250	250	250	250	200	200
Nominal Input Speed	[rpm]	5	3800	3800	4500	4500	4500	4500
Maximum Input Speed	[rpm]	6	8500	8500	8500	8500	8500	8500
No Load Running Torque	[Nm]	7	0.05					
Maximum Radial Load	[N]	8	3300					
Maximum Axial Load	[N]	9	1700					
Maximum Tilting Moment	[Nm]	10	170					
Moment of Inertia (≤ Ø 8)	[kgcm2]	--	0.12	0.11	0.11	0.11	0.11	0.11
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	0.28	0.27	0.27	0.27	0.27	0.27
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	0.67	0.67	0.67	0.67	0.67	0.67
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	2.4	2.4	2.4	2.4	2.4	2.4
E ciency	[%]	11	90					
Torsional Rigidity	[Nm/arc-min]	12	30	24	28	22	22	22
Maximum Torsional Backlash	[arc-min]	--	Standard ≤ 3 / Reduced ≤ 1					
Noise Level	dB [A]	13	≤ 67					
Protection Class	--	14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0 - 40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	15	4					

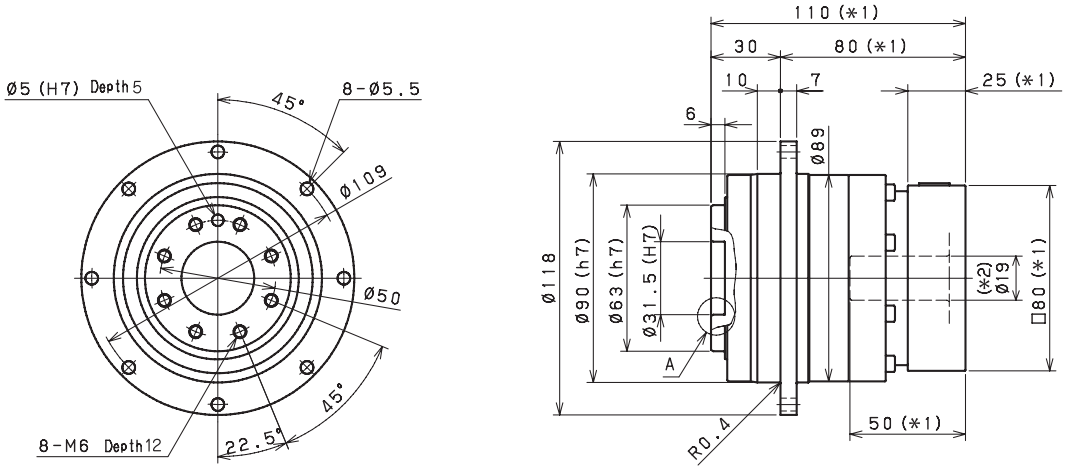
1) At nominal input speed, service life is 20,000 hours
2) The maximum torque when starting or stopping operation. Apply Cycle Factor found on page 468, for higher duty cycle applications
3) Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth output shaft
4) The 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 e ciency 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

VRT 090 1-Stage Dimensions

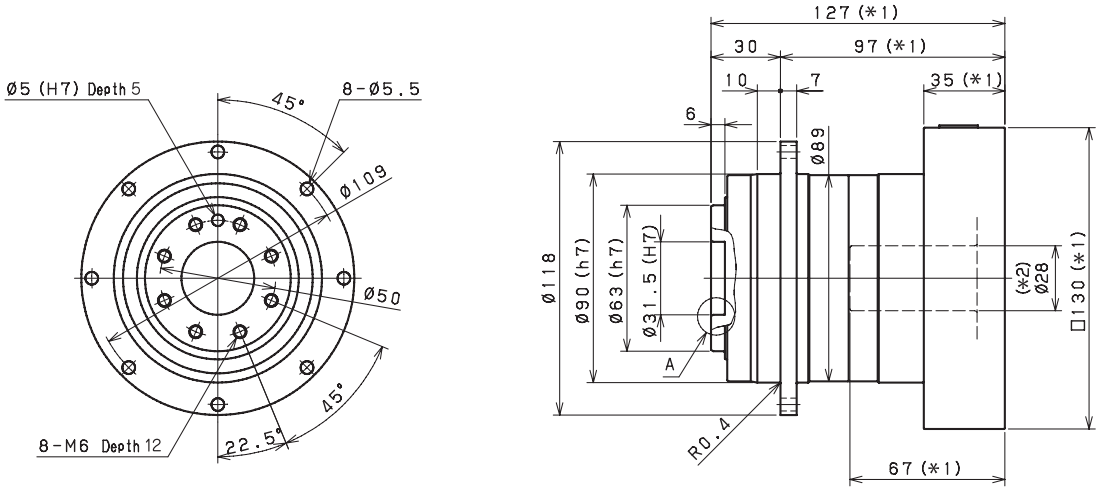
Input bore size F·Cz φ14 mm



Input bore size F·Cz φ19 mm



Input bore size F·Cz φ28 mm



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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 (≤ Ø 8)	[kgcm2]	--	--	--	--	--
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	--	--	--	--
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	3.1	2.1	1.3	0.99
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	4.8	3.8	3.1	2.7
Moment of Inertia (≤ Ø 38)	[kgcm2]	--	11	10	9.5	9.0
E ciency	[%]	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 (≤ Ø 8)	[kgcm2]	--	-	--	--	--
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	1.0	0.76	0.73	0.94
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	1.4	1.1	1.1	1.3
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	3.2	2.9	2.9	3.1
Moment of Inertia (≤ Ø 38)	[kgcm2]	--	9.5	9.2	9.1	9.4
E ciency	[%]	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)	[kgcm2]	--	--	--	0.20	0.19	0.19
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	0.70	0.38	0.37	0.36	0.36
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	1.1	0.78	0.77	0.76	0.76
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	2.8	2.5	2.5	2.5	2.5
Moment of Inertia (≤ Ø 38)	[kgcm2]	--	9.1	8.8	8.8	8.8	8.8
E ciency	[%]	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 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 e ciency 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

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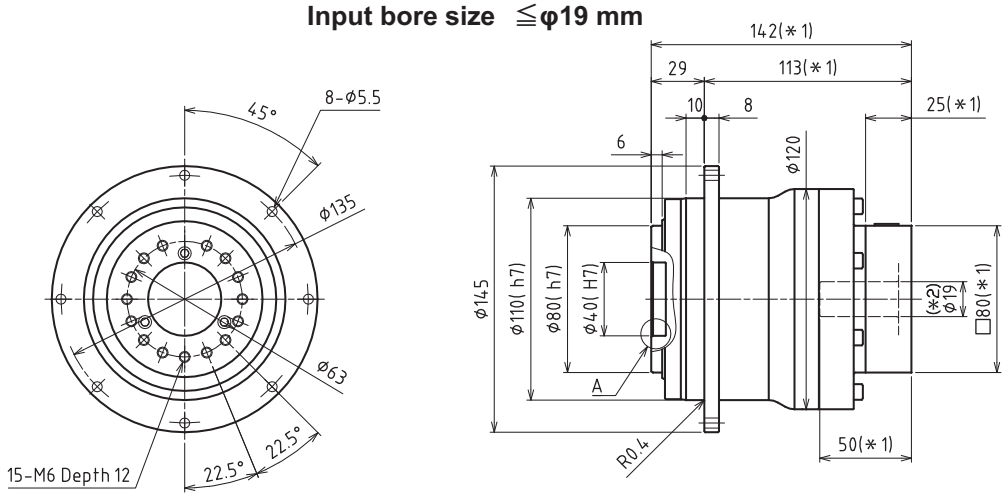
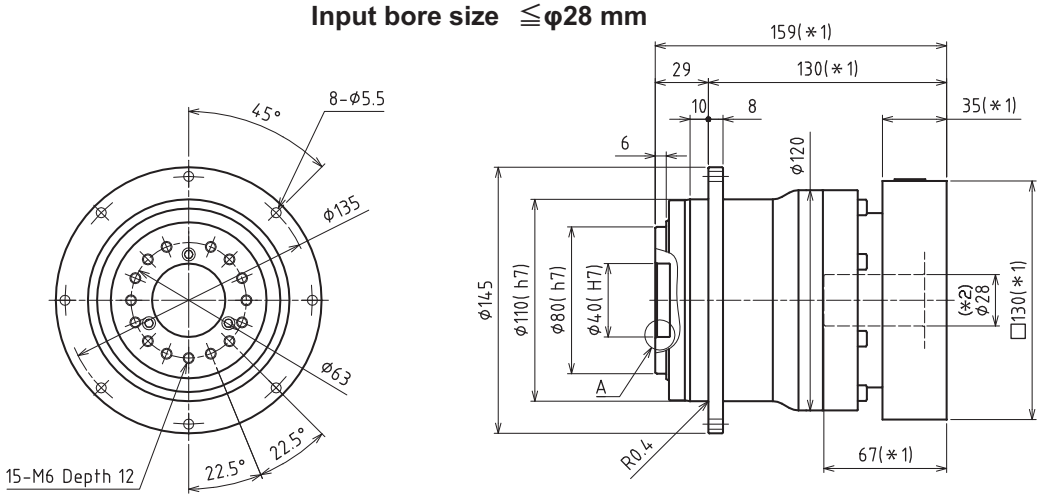
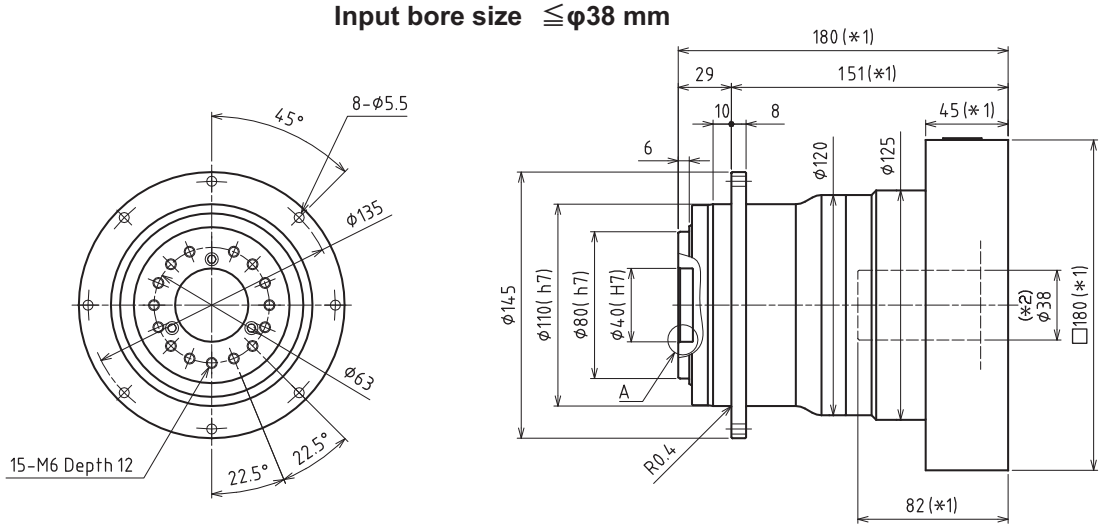
Input bore size ≦φ19 mm



Input bore size ≦φ28 mm



Input bore size ≦φ38 mm



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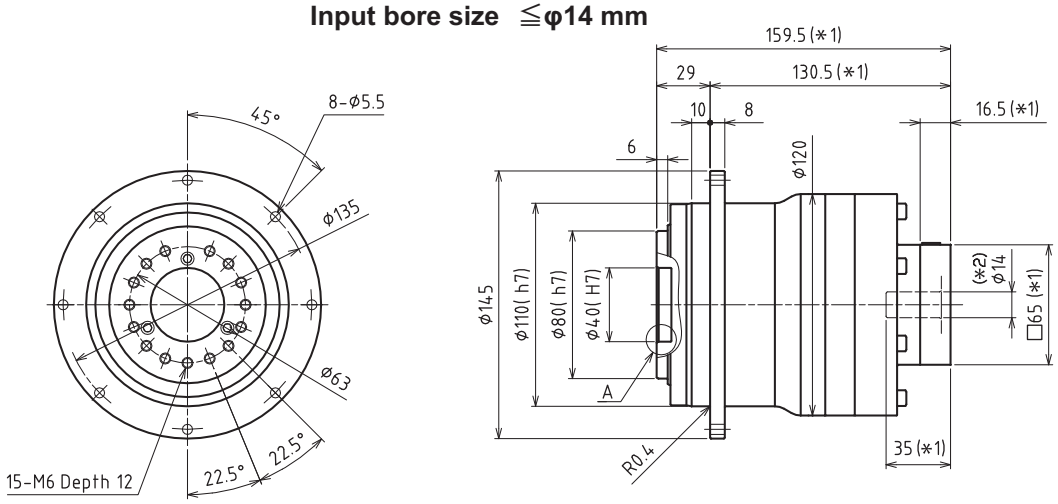
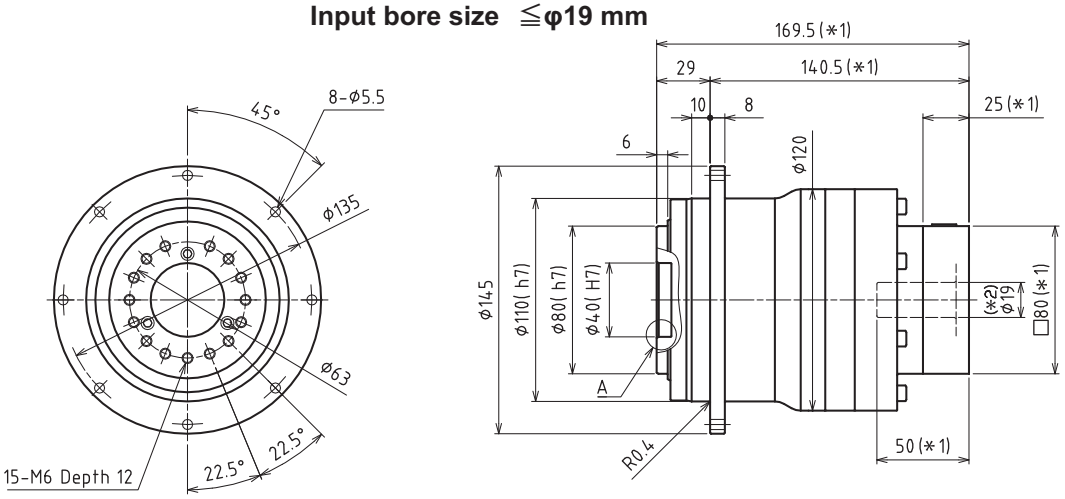
VRT 110 2-Stage Dimensions

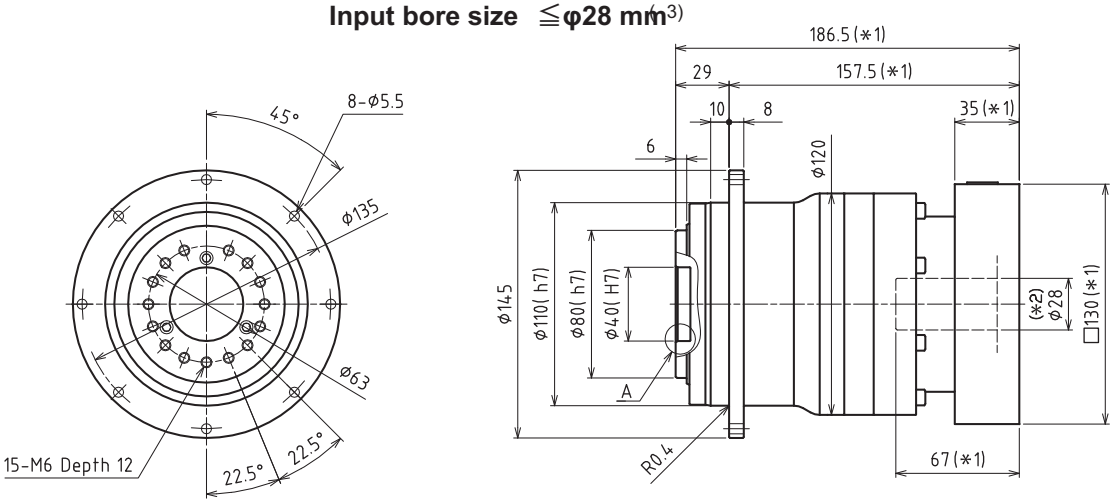
Input bore size ≦φ14 mm



Input bore size ≦φ19 mm



Input bore size ≦φ28 mm(*3)



VRT 140 1-Stage Specifications

Frame Size	140					
Ratio	Unit	Note	4	5	7	10
Nominal Output Torque	[Nm]	1	280	380	380	380
Maximum Acceleration Torque	[Nm]	2	840	840	840	610
Maximum Torque	[Nm]	3	1000	1000	950	730
Emergency Stop Torque	[Nm]	4	1250	1250	1250	1000
Nominal Input Speed	[rpm]	5	2100	2100	2600	2600
Maximum Input Speed	[rpm]	6	5000	5000	5000	5000
No Load Running Torque	[Nm]	7	1.00			
Maximum Radial Load	[N]	8	19000			
Maximum Axial Load	[N]	9	14000			
Maximum Tilting Moment	[Nm]	10	2000			
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	--	--	--	--
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	--	--	--	--
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	11	7.7	5.1	3.8
Moment of Inertia (≤ Ø 38)	[kgcm2]	--	18	14	12	10
Moment of Inertia (≤ Ø 48)	[kgcm2]	--	33	29	27	25
E ciency	[%]	11	95			
Torsional Rigidity	[Nm/arcmin]	12	190	187	159	140
Maximum Torsional Backlash	[Arc-min]	13	Standard ≤ 3 / Reduced ≤ 1			
Noise Level	dB [A]	--	≤ 67			
Protection Class	--	14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	15	15			

VRT 140 2-Stage Specifications

Frame Size	140					
Ratio	Unit	Note	16	20	25	28
Nominal Output Torque	[Nm]	1	380	410	590	590
Maximum Acceleration Torque	[Nm]	2	840	840	840	840
Maximum Torque	[Nm]	3	840	840	840	840
Emergency Stop Torque	[Nm]	4	1250	1250	1250	1250
Nominal Input Speed	[rpm]	5	2900	2900	2900	2900
Maximum Input Speed	[rpm]	6	6000	6000	6000	6000
No Load Running Torque	[Nm]	7	0.54			
Maximum Radial Load	[N]	8	19000			
Maximum Axial Load	[N]	9	14000			
Maximum Tilting Moment	[Nm]	10	2000			
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	--	--	--	--
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	3.8	2.6	2.5	3.4
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	5.5	4.3	4.2	5.1
Moment of Inertia (≤ Ø 38)	[kgcm2]	--	12	11	11	11
Moment of Inertia (≤ Ø 48)	[kgcm2]	--	27	26	25	26
E ciency	[%]	11	90			
Torsional Rigidity	[Nm/arcmin]	12	180	185	180	180
Maximum Torsional Backlash	[Arc-min]	13	Standard ≤ 3 / Reduced ≤ 1			
Noise Level	dB [A]	--	≤ 67			
Protection Class	--	14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	15	17			

VRT 140 2-Stage Specifications

Frame Size			140				
Ratio	Unit	Note	35	40	50	70	100
Nominal Output Torque	[Nm]	1	590	500	590	590	440
Maximum Acceleration Torque	[Nm]	2	840	840	840	840	610
Maximum Torque	[Nm]	3	840	840	840	840	610
Emergency Stop Torque	[Nm]	4	1250	1250	1250	1250	1000
Nominal Input Speed	[rpm]	5	2900	2900	3200	3900	3900
Maximum Input Speed	[rpm]	6	6000	6000	6000	6000	6000
No Load Running Torque	[Nm]	7	0.54				
Maximum Radial Load	[N]	8	19000				
Maximum Axial Load	[N]	9	14000				
Maximum Tilting Moment	[Nm]	10	2000				
Moment of Inertia (≤ Ø 14)	[kgcm2]	--	--	--	0.68	0.65	0.64
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	2.4	1.1	1.1	1.1	1.1
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	4.1	2.9	2.9	2.8	2.8
Moment of Inertia (≤ Ø 38)	[kgcm2]	--	10	9.2	9.1	9.1	9.1
Moment of Inertia (≤ Ø 48)	[kgcm2]	--	25	24	24	24	24
E ciency	[%]	11	90				
Torsional Rigidity	[Nm/arcmin]	12	175	175	175	145	140
Maximum Torsional Backlash	[Arc-min]	13	Standard ≤ 3 / Reduced ≤ 1				
Noise Level	dB [A]	--	≤ 67				
Protection Class	--	14	IP54 (IP65)				
Ambient Temperature	[°C]	--	0 - 40				
Permitted Housing Temperature	[°C]	--	90				
Weight	[kg]	15	17				

1) At nominal input speed, service life is 20,000 hours
2) The maximum torque when starting or stopping operation. Apply Cycle Factor 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 e ciency 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

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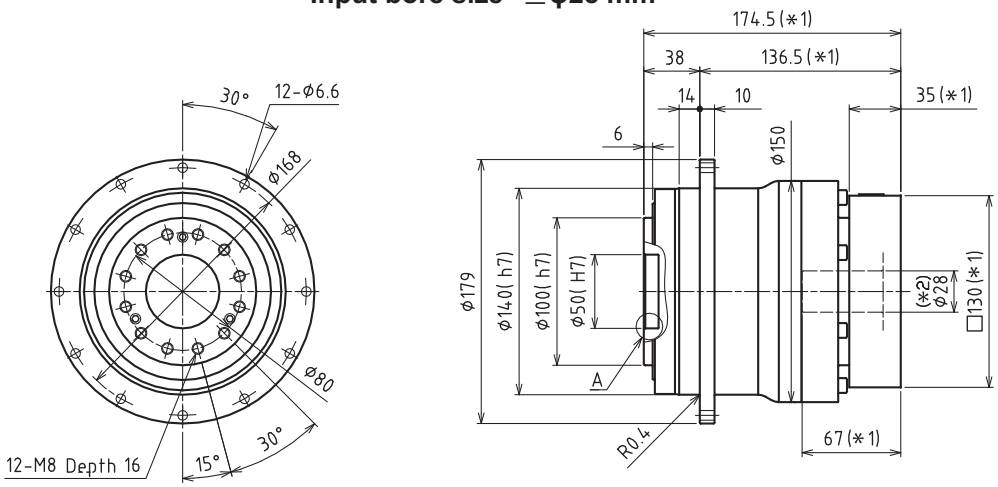
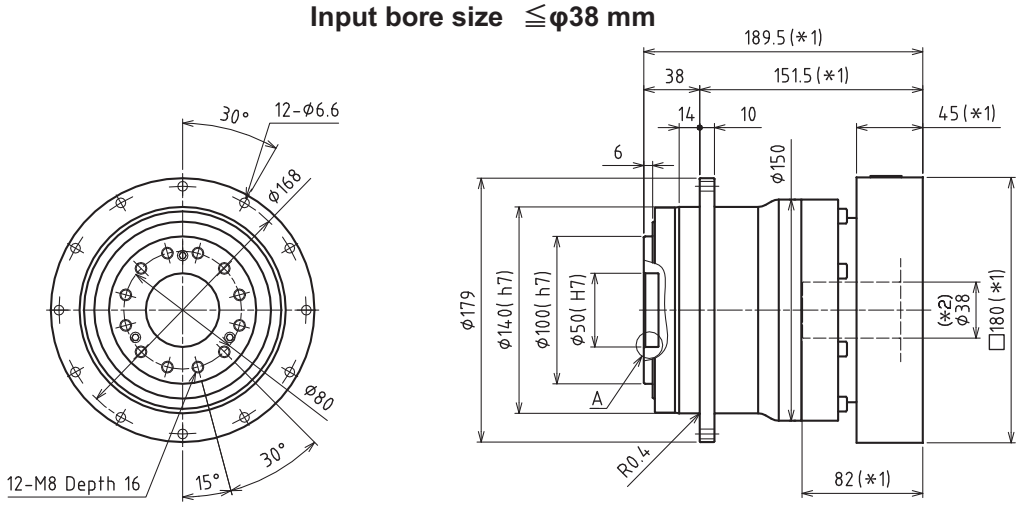
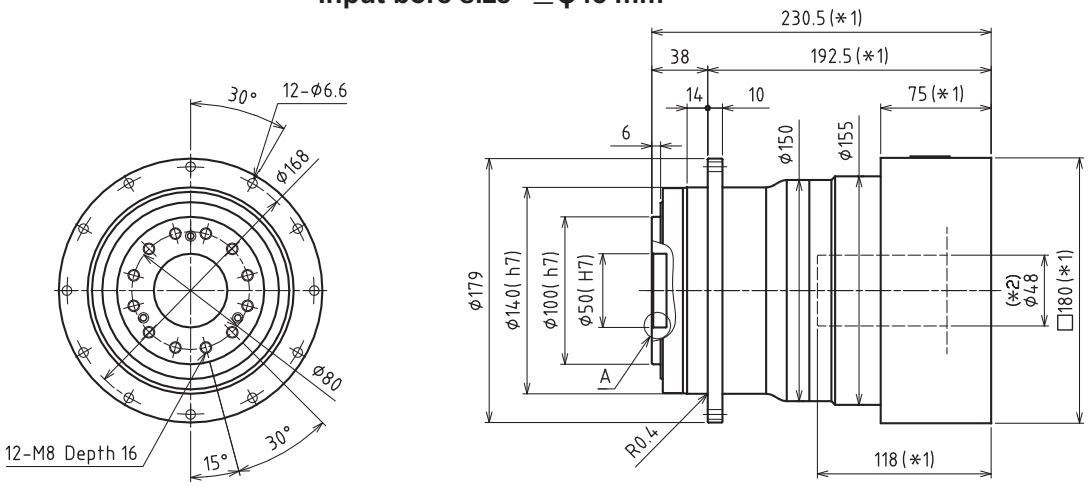
Input bore size ≦φ28 mm



Input bore size ≦φ38 mm



Input bore size ≦φ48 mm



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VRT 200 1-Stage Specifications

Frame Size	200					
Ratio	Unit	Note	4	5	7	10
Nominal Output Torque	[Nm]	1	850	910	910	910
Maximum Acceleration Torque	[Nm]	2	1850	1850	1850	1350
Maximum Torque	[Nm]	3	2250	2250	2150	1750
Emergency Stop Torque	[Nm]	4	2750	2750	2750	2200
Nominal Input Speed	[rpm]	5	1500	1500	2300	2300
Maximum Input Speed	[rpm]	6	4500	4500	4500	4500
No Load Running Torque	[Nm]	7	1.9			
Maximum Radial Load	[N]	8	40000			
Maximum Axial Load	[N]	9	30000			
Maximum Tilting Moment	[Nm]	10	5300			
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	--	--	--	--
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	--	--	--	--
Moment of Inertia (≤ Ø 38)	[kgcm2]	--	53	36	23	16
Moment of Inertia (≤ Ø 48)	[kgcm2]	--	68	51	37	31
Moment of Inertia (≤ Ø 65)	[kgcm2]	--	110	95	81	75
E ciency	[%]	11	95			
Torsional Rigidity	[Nm/arcmin]	12	610	610	550	445
Maximum Torsional Backlash	[Arc-min]	13	Standard ≤ 3 / Reduced ≤ 1			
Noise Level	dB [A]	--	≤ 67			
Protection Class	--	14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	15	42			

VRT 200 2-Stage Specifications

Frame Size	200					
Ratio	Unit	Note	16	20	25	28
Nominal Output Torque	[Nm]	1	850	910	1100	1300
Maximum Acceleration Torque	[Nm]	2	1850	1850	1850	1850
Maximum Torque	[Nm]	3	1850	1850	1850	1850
Emergency Stop Torque	[Nm]	4	2750	2750	2750	2750
Nominal Input Speed	[rpm]	5	2700	2700	2700	2700
Maximum Input Speed	[rpm]	6	5000	5000	5000	5000
No Load Running Torque	[Nm]	7	1.3			
Maximum Radial Load	[N]	8	40000			
Maximum Axial Load	[N]	9	30000			
Maximum Tilting Moment	[Nm]	10	5300			
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	--	--	--	--
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	13	9.2	8.6	11
Moment of Inertia (≤ Ø 38)	[kgcm2]	--	19	15	15	18
Moment of Inertia (≤ Ø 48)	[kgcm2]	--	34	30	30	32
Moment of Inertia (≤ Ø 65)	[kgcm2]	--	--	--	--	--
E ciency	[%]	11	90			
Torsional Rigidity	[Nm/arcmin]	12	585	580	570	560
Maximum Torsional Backlash	[Arc-min]	13	Standard ≤ 3 / Reduced ≤ 1			
Noise Level	dB [A]	--	≤ 67			
Protection Class	--	14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0 - 40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	15	43			

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VRT 200 2-Stage Specifications

Frame Size	200						
Ratio	Unit	Note	35	40	50	70	100
Nominal Output Torque	[Nm]	1	1300	1200	1300	1300	930
Maximum Acceleration Torque	[Nm]	2	1850	1850	1850	1850	1350
Maximum Torque	[Nm]	3	1850	1850	1850	1850	1350
Emergency Stop Torque	[Nm]	4	2750	2750	2750	2750	2200
Nominal Input Speed	[rpm]	5	2700	2700	2900	3400	3400
Maximum Input Speed	[rpm]	6	5000	5000	5000	5000	5000
No Load Running Torque	[Nm]	7	1.3				
Maximum Radial Load	[N]	8	40000				
Maximum Axial Load	[N]	9	30000				
Maximum Tilting Moment	[Nm]	10	5300				
Moment of Inertia (≤ Ø 19)	[kgcm2]	--	--	--	2.1	1.9	1.9
Moment of Inertia (≤ Ø 28)	[kgcm2]	--	8.0	4.1	4.0	3.8	3.8
Moment of Inertia (≤ Ø 38)	[kgcm2]	--	14	10	10	10	10
Moment of Inertia (≤ Ø 48)	[kgcm2]	--	29	25	25	25	25
Moment of Inertia (≤ Ø 65)	[kgcm2]	--	--	--	--	--	--
E ciency	[%]	11	90				
Torsional Rigidity	[Nm/arcmin]	12	560	520	525	480	395
Maximum Torsional Backlash	[Arc-min]	13	Standard ≤ 3 / Reduced ≤ 1				
Noise Level	dB [A]	--	≤ 67				
Protection Class	--	14	IP54 (IP65)				
Ambient Temperature	[°C]	--	0 - 40				
Permitted Housing Temperature	[°C]	--	90				
Weight	[kg]	15	43				

1) At nominal input speed, service life is 20,000 hours
2) The maximum torque when starting or stopping operation. Apply Cycle Factor 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 e ciency at the nominal output torque rating
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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

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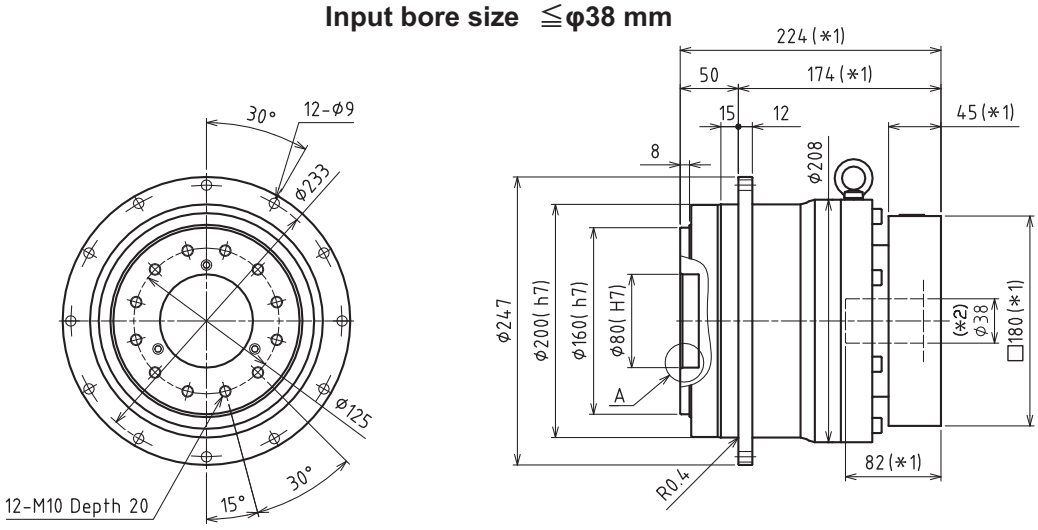
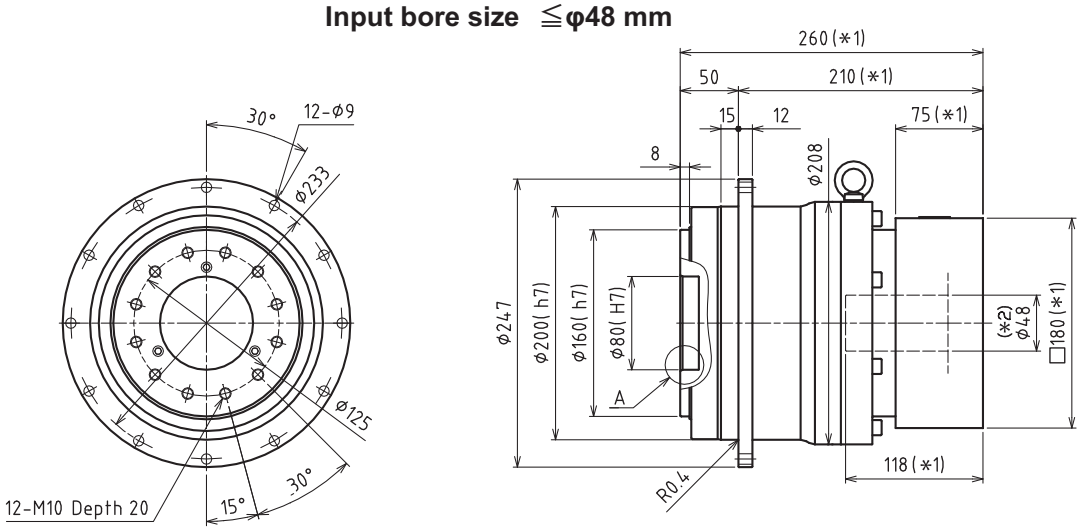
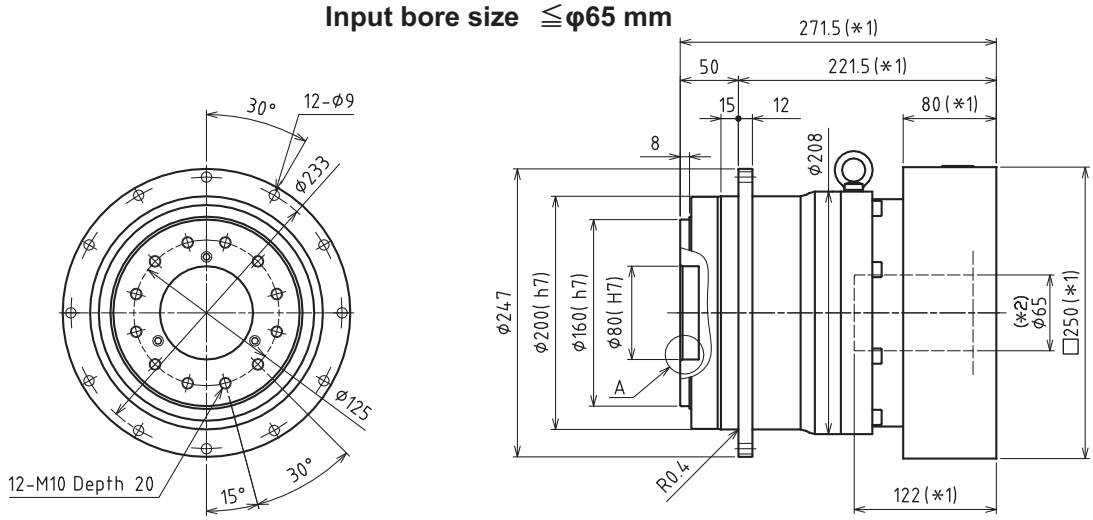
Input bore size ≦φ38 mm



Input bore size ≦φ48 mm



Input bore size ≦φ65 mm



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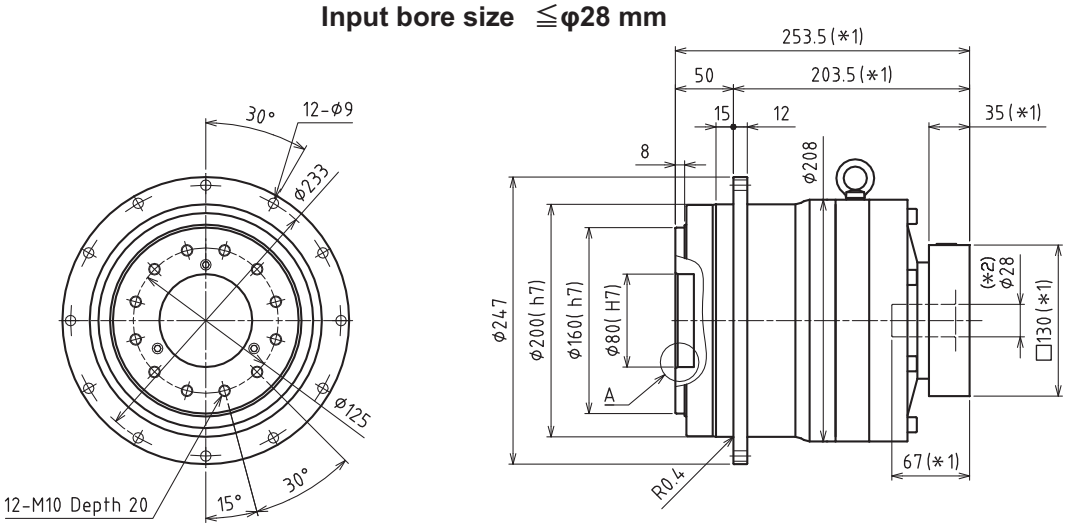
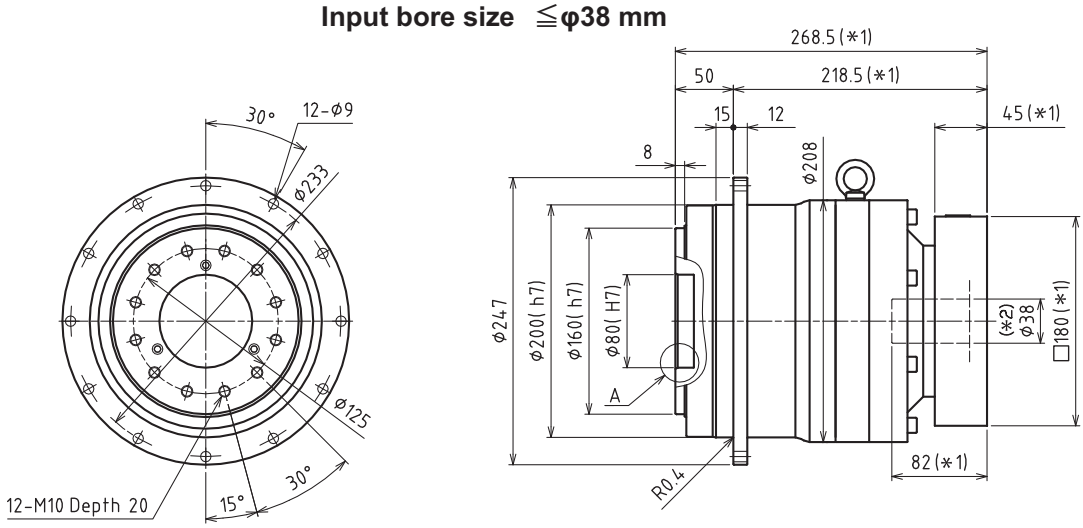
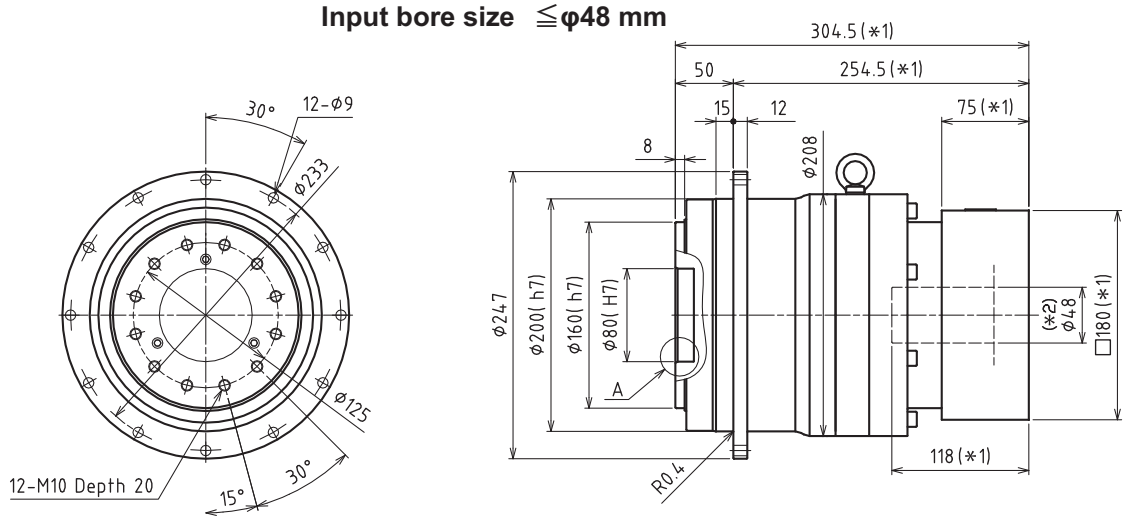
Input bore size ≦φ28 mm



Input bore size ≦φ38 mm



Input bore size ≦φ48 mm



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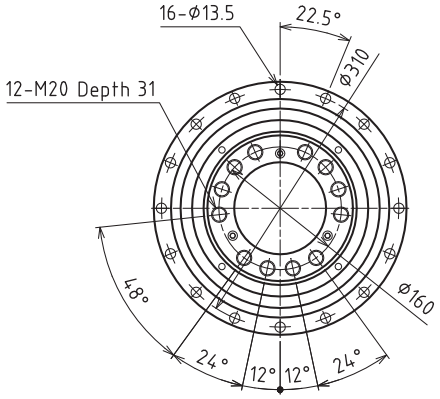
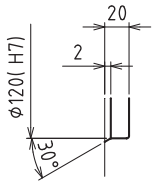
VRT 285 2-Stage Dimensions

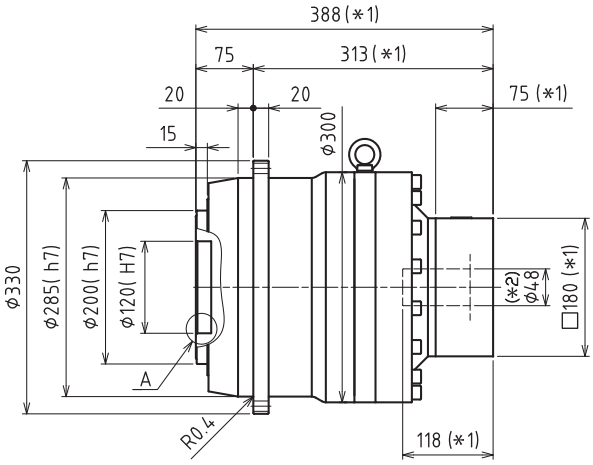
Length will vary depending on motor

Input bore size ≦φ48 mm





Enlarged detail A



1)

2) Bushing will be inserted to adapt to motor shaft

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