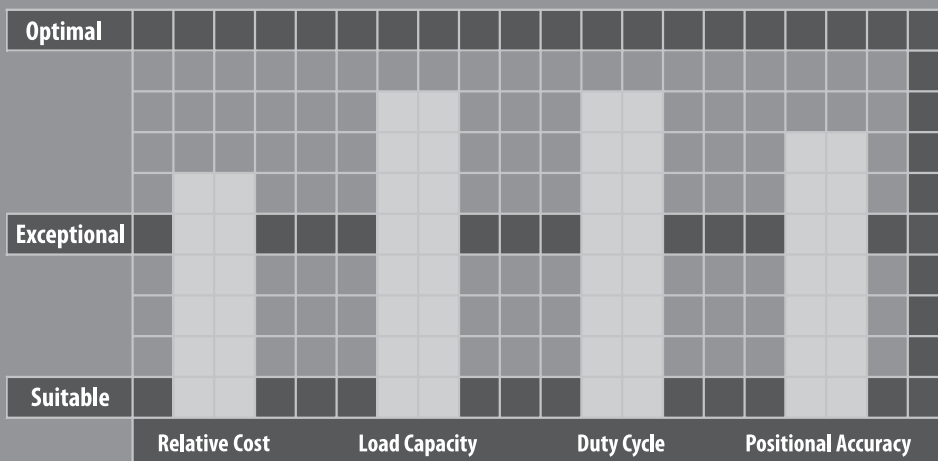


VRS SERIES

Compact and precise, the VRS is the ideal solution for demanding positioning accuracy and speed requirements. This product is a proven performer in higher speed, continuous duty applications where heat reduction is critical. Equipped with two rows of robust tapered roller bearings, the VRS runs smoothly and quietly even with the most challenging dynamic and static forces.

The VRS is available with reduced backlash, less than 2 arc-min, to handle dynamic machine tool and robotic applications with ease. With maximum acceleration torques up to 3700Nm, this product is an excellent partner to higher capacity servomotor models. Our customers specify this product when the industry standard is simply not good enough.





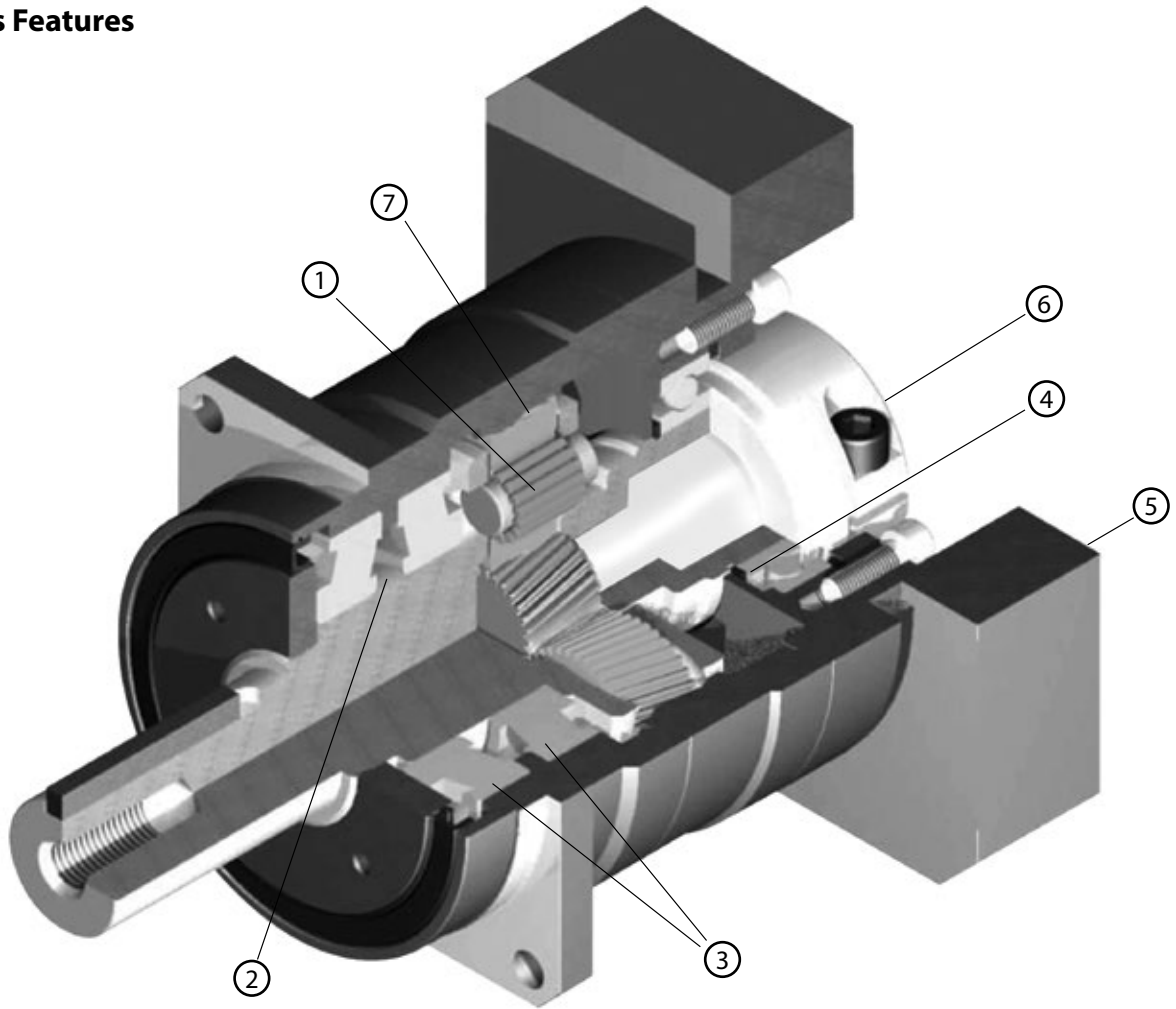
VRS

VRS SERIES

- Proven performer in high end motion control applications with demanding accuracy requirements
- Excellent fit for difficult overhung load situations or continuous duty cycles
- The widest range of frame sizes and ratios available in the market
- 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
- Industry standard through-bolt mounting style
- Assembled in the USA

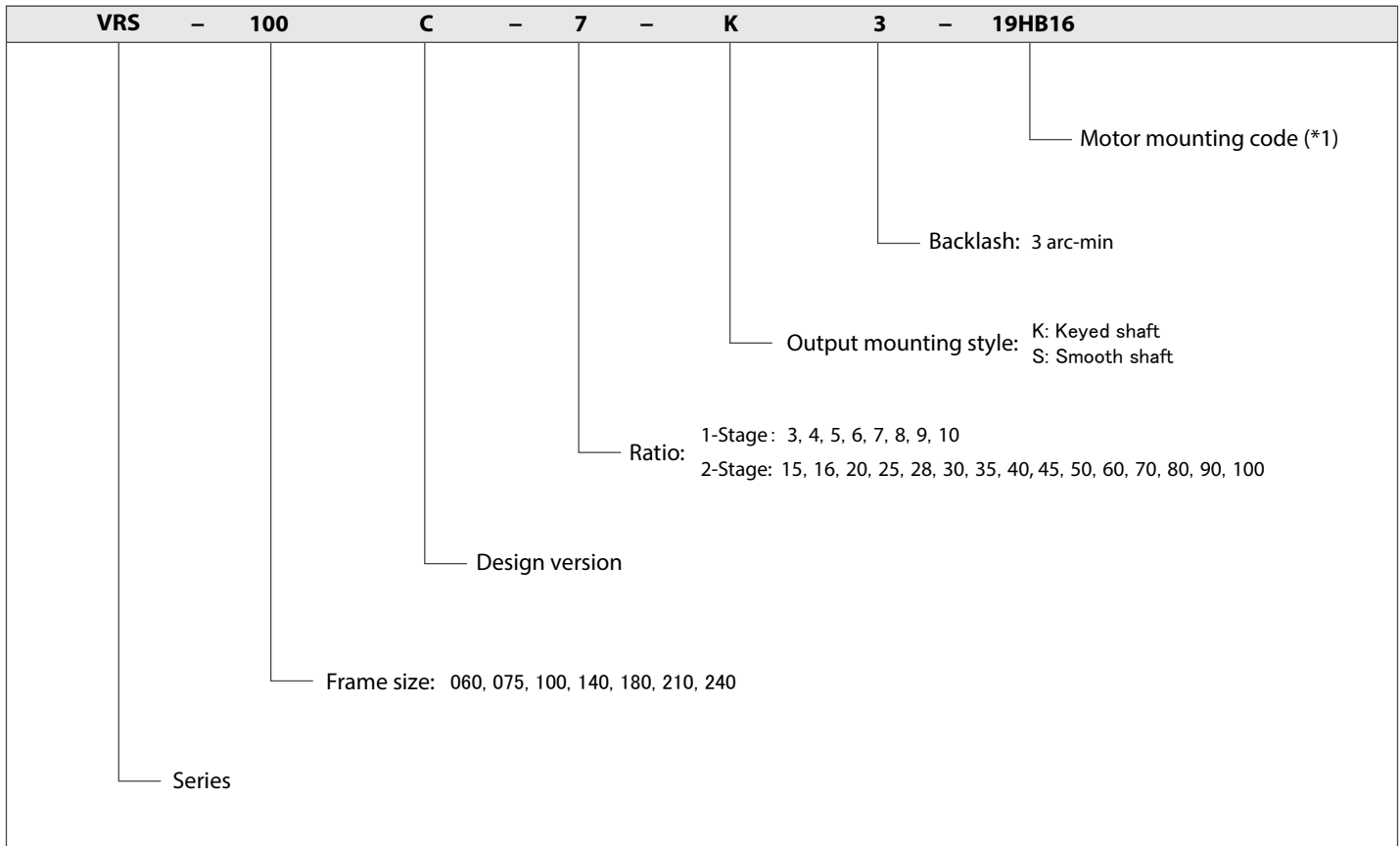
VRS SERIES Inline Planetary

VRS Series Features



- ① Carburized, case hardened helical gears with proprietary secondary finishing process for higher accuracy and smooth, quiet operation
- ② One piece output shaft and planet carrier with two robust tapered bearings straddling the planet gears. Higher radial/axial load capacity, stiffness, torque density and safety factor, with guaranteed alignment of gearing
- ③ Uncaged needle roller bearings provide excellent torque density and torsional rigidity
- ④ Unique labyrinth input seal design greatly reduces heat and increases system efficiency. IP65 protection is available for wash down applications
- ⑤ Optimized mounting system with active centering on motor pilot diameter guarantees alignment of motor. Motor can be installed in any orientation
- ⑥ True concentric motor shaft clamping connection, optimized for your specific motor. Reduced inertia for dynamic performance and balanced for high speed operation
- ⑦ Ring gear machined directly into the housing, not welded or pressed in. Provides greater concentricity and elimination of speed fluctuation

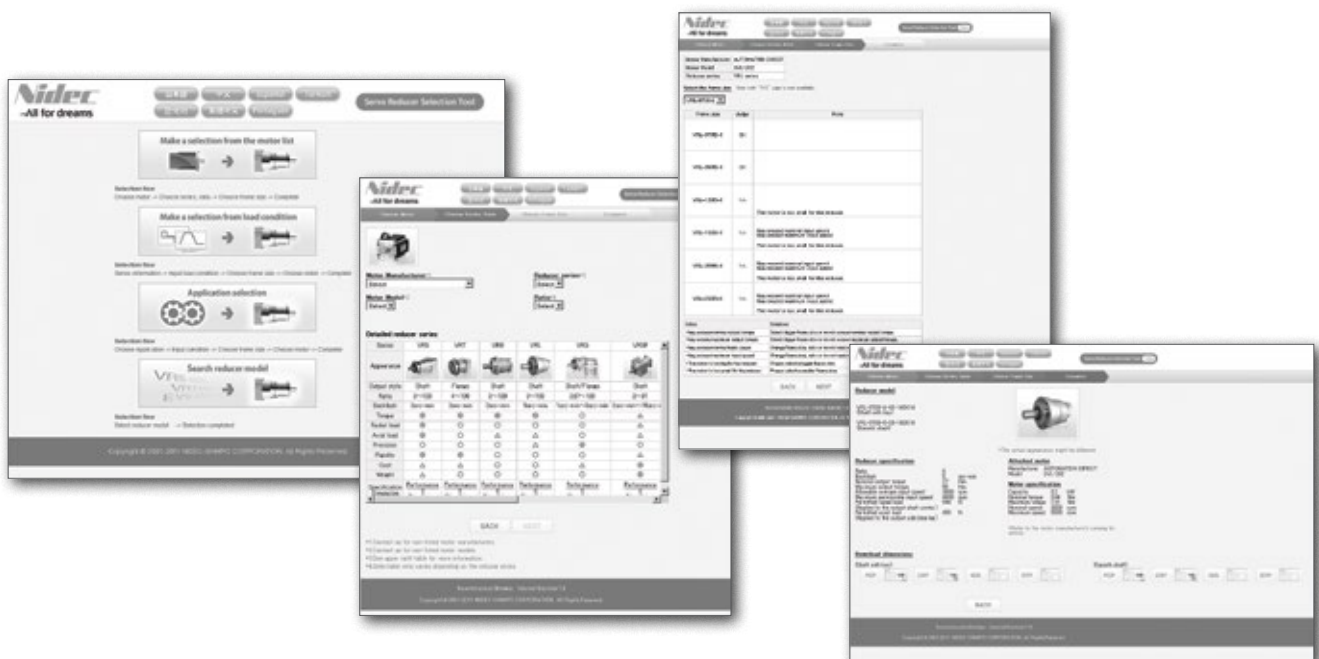
VRS Series Model Code



VRS

*1) Motor mounting code varies depending on the motor. Use the selection tool link below to configure the code.

Contact us for additional information or refer to our online gearhead selection tool.
Selection tool www.nidec-shimpo.co.jp/selection/eng



VRS SERIES Inline Planetary

VRS o6o 1-Stage Specifications

Frame Size	060									
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	1700	1900	2000	2100	2200	2300	2400	2400
Permitted Axial Load	[N]	*8	2300	2500	2700	2700	2700	2700	2700	2700
Maximum Radial Load	[N]	*9	3000							
Maximum Axial Load	[N]	*10	2700							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.15	0.10	0.080	0.070	0.064	0.060	0.058	0.056
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.26	0.21	0.19	0.18	0.18	0.17	0.17	0.17
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.54	0.49	0.47	0.46	0.45	0.45	0.45	0.44
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	3							
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							

VRS o6o 2-Stage Specifications

Frame Size	060									
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	2800	2800	3000	3000	3000	3000	3000	3000
Permitted Axial Load	[N]	*8	2700	2700	2700	2700	2700	2700	2700	2700
Maximum Radial Load	[N]	*9	3000							
Maximum Axial Load	[N]	*10	2700							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.064	0.070	0.062	0.062	0.068	0.052	0.061	0.051
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.18	0.18	0.17	0.17	0.18	0.16	0.17	0.16
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.45	0.46	0.45	0.45	0.46	0.44	0.45	0.44
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	3							
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	1.8							

VRS 060 2-Stage Specifications

Frame Size	060										
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	3000	3000	3000	3000	3000	3000	3000		
Permitted Axial Load	[N]	*8	2700	2700	2700	2700	2700	2700	2700		
Maximum Radial Load	[N]	*9	3000								
Maximum Axial Load	[N]	*10	2700								
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.061	0.051	0.051	0.051	0.051	0.051	0.051		
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.17	0.16	0.16	0.16	0.16	0.16	0.16		
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.45	0.44	0.44	0.44	0.44	0.44	0.44		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	3								
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	1.8								

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

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

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

*9) The maximum radial load that the gearbox can accept

*10) The maximum axial load that the gearbox can accept

*11) The efficiency at the nominal output torque rating

*12) This does not include lost motion

*13) Contact NIDEC-SHIMPO for the testing conditions and environment

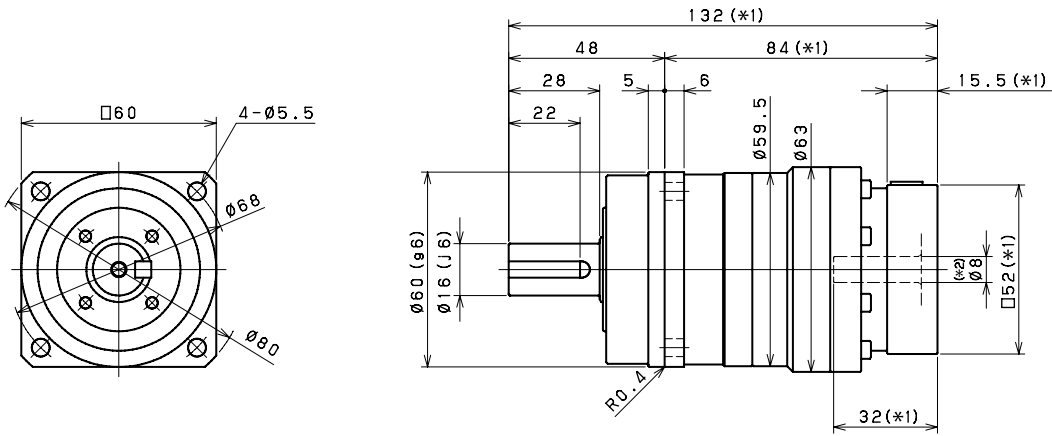
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details

*15) The weight may vary slightly between models

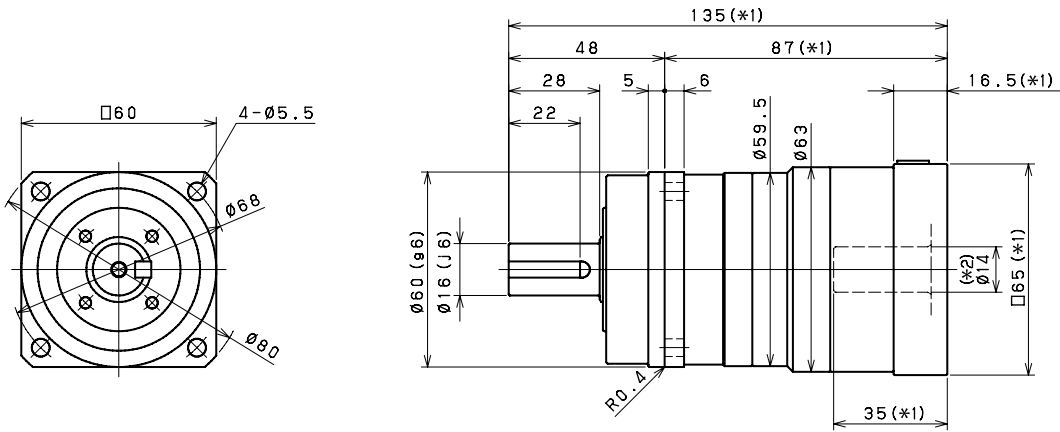
VRS SERIES Inline Planetary

VRS o60 1-Stage Dimensions

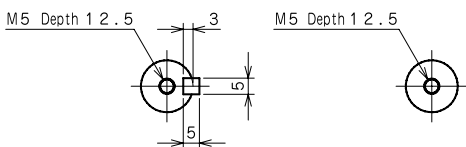
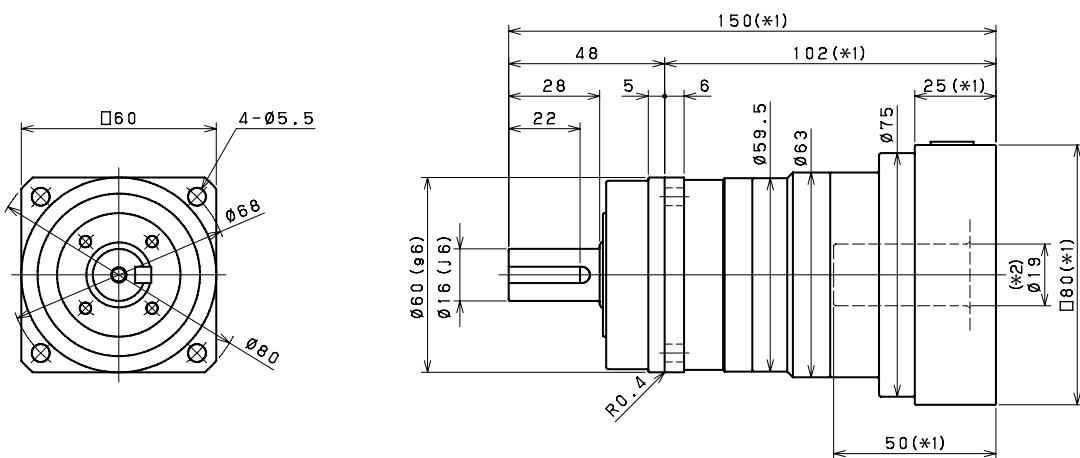
Input bore size $\leq \varnothing 8$ mm



Input bore size $\leq \varnothing 14$ mm



Input bore size $\leq \varnothing 19$ mm



Keyed shaft

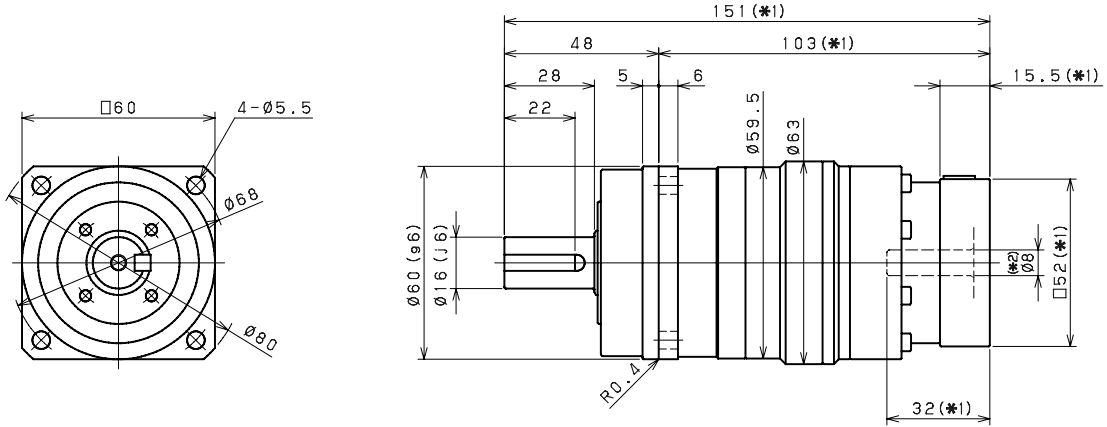
Smooth shaft

*1) Length will vary depending on motor

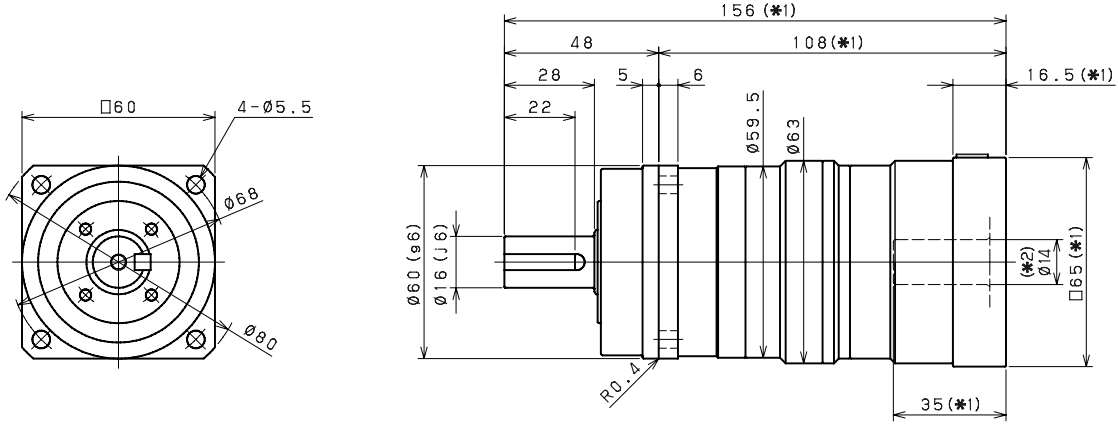
*2) Bushing will be inserted to adapt to motor shaft

VRS o6o 2-Stage Dimensions

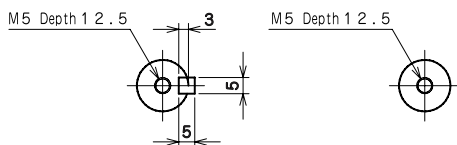
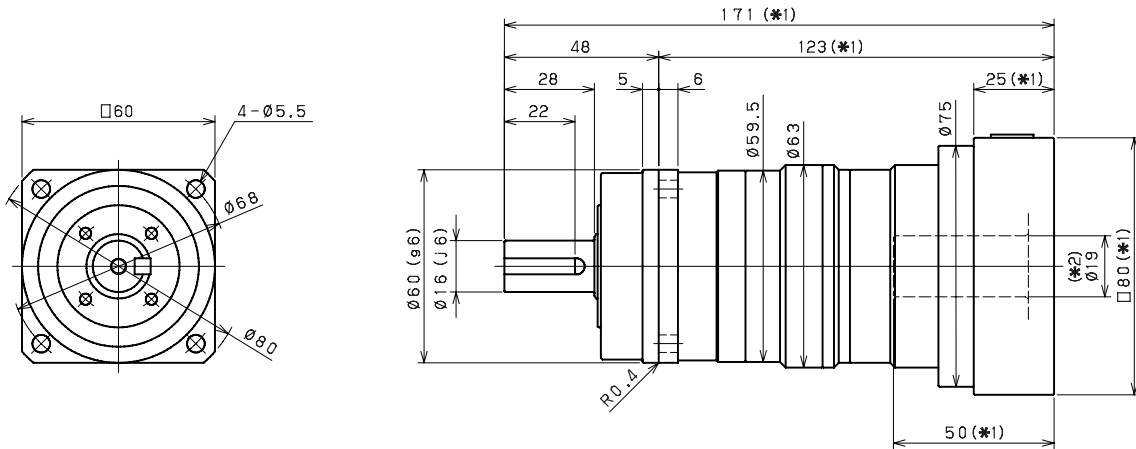
Input bore size $\leq \varnothing 8$ mm



Input bore size $\leq \varnothing 14$ mm



Input bore size $\leq \varnothing 19$ mm



Keyed shaft

Smooth shaft

*1) Length will vary depending on motor

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

VRS SERIES Inline Planetary

VRS 075 1-Stage Specifications

Frame Size	075									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	75	50	50
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	125	80	80
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	250	200	200
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.35							
Permitted Radial Load	[N]	*7	2300	2500	2700	2800	3000	3100	3200	3300
Permitted Axial Load	[N]	*8	3400	3700	3900	3900	3900	3900	3900	3900
Maximum Radial Load	[N]	*9	4300							
Maximum Axial Load	[N]	*10	3900							
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.68	0.48	0.39	0.34	0.32	0.31	0.30	0.29
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	1.1	0.87	0.79	0.74	0.72	0.71	0.70	0.69
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	2.9	2.6	2.6	2.5	2.5	2.5	2.5	2.4
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	10							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	dB [A]	*13	≤ 67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	3.4							

VRS 075 2-Stage Specifications

Frame Size	075									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	50	75	75
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	80	125	125
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	200	250	250
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.06							
Permitted Radial Load	[N]	*7	3700	3800	4000	4300	4300	4300	4300	4300
Permitted Axial Load	[N]	*8	3900	3900	3900	3900	3900	3900	3900	3900
Maximum Radial Load	[N]	*9	4300							
Maximum Axial Load	[N]	*10	3900							
Moment of Inertia ($\leq \emptyset 8$)	[kgcm ²]	--	0.20	0.25	0.19	0.19	0.24	0.12	0.18	0.11
Moment of Inertia ($\leq \emptyset 14$)	[kgcm ²]	--	0.36	0.41	0.35	0.35	0.40	0.28	0.34	0.27
Moment of Inertia ($\leq \emptyset 19$)	[kgcm ²]	--	0.75	0.79	0.74	0.73	0.78	0.67	0.73	0.67
Moment of Inertia ($\leq \emptyset 28$)	[kgcm ²]	--	2.5	2.5	2.5	2.5	2.5	2.4	2.5	2.4
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	10							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	dB [A]	*13	≤ 67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	3.8							

VRS 075 2-Stage Specifications

Frame Size	075										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	50	75	75	75	75	50	50		
Maximum Acceleration Torque	[Nm]	*2	80	125	125	125	125	80	80		
Emergency Stop Torque	[Nm]	*3	200	250	250	250	250	200	200		
Nominal Input Speed	[rpm]	*4	3000								
Maximum Input Speed	[rpm]	*5	6000								
No Load Running Torque	[Nm]	*6	0.06								
Permitted Radial Load	[N]	*7	4300	4300	4300	4300	4300	4300	4300		
Permitted Axial Load	[N]	*8	3900	3900	3900	3900	3900	3900	3900		
Maximum Radial Load	[N]	*9	4300								
Maximum Axial Load	[N]	*10	3900								
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.18	0.11	0.11	0.11	0.11	0.11	0.11		
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.34	0.27	0.27	0.27	0.27	0.27	0.27		
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.73	0.67	0.67	0.67	0.67	0.67	0.67		
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	2.5	2.4	2.4	2.4	2.4	2.4	2.4		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	10								
Maximum Torsional Backlash	[arc-min]	--	≤ 3								
Noise Level	dB [A]	*13	≤ 67								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	3.8								

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

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

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

*9) The maximum radial load that the gearbox can accept

*10) The maximum axial load that the gearbox can accept

*11) The efficiency at the nominal output torque rating

*12) This does not include lost motion

*13) Contact NIDEC-SHIMPO for the testing conditions and environment

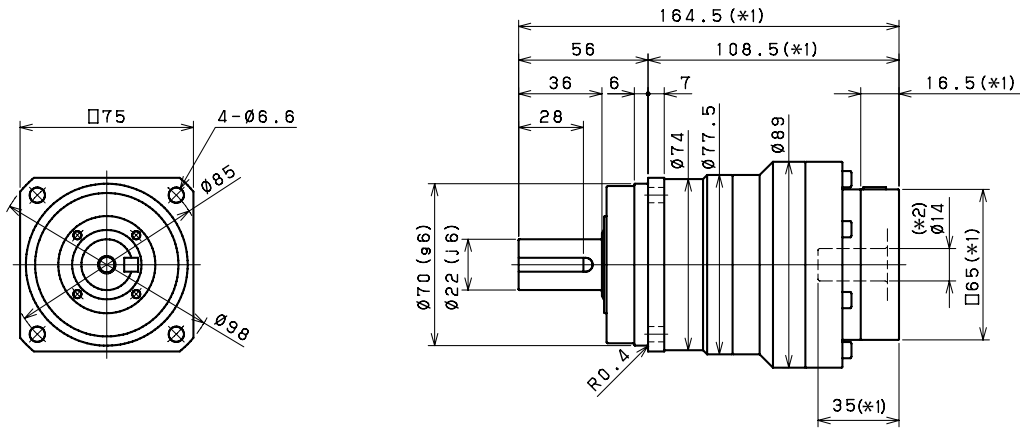
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details

*15) The weight may vary slightly between models

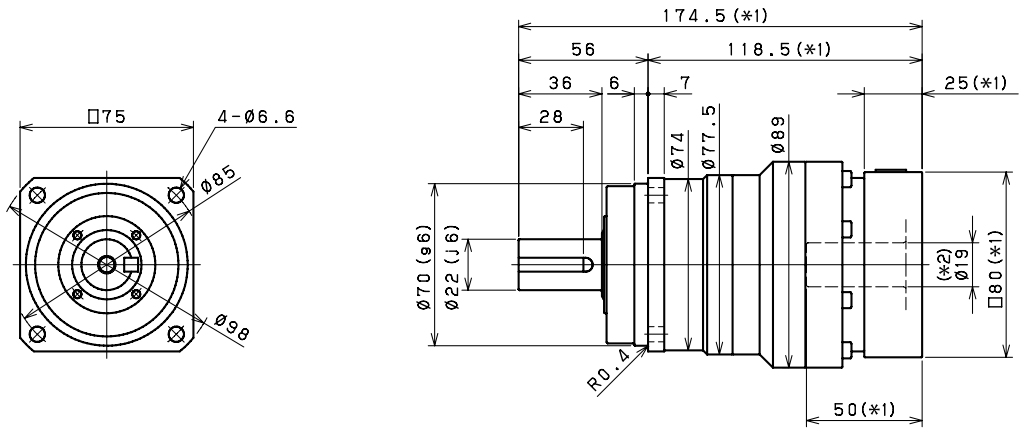
VRS SERIES Inline Planetary

VRS 075 1-Stage Dimensions

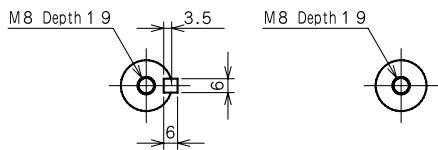
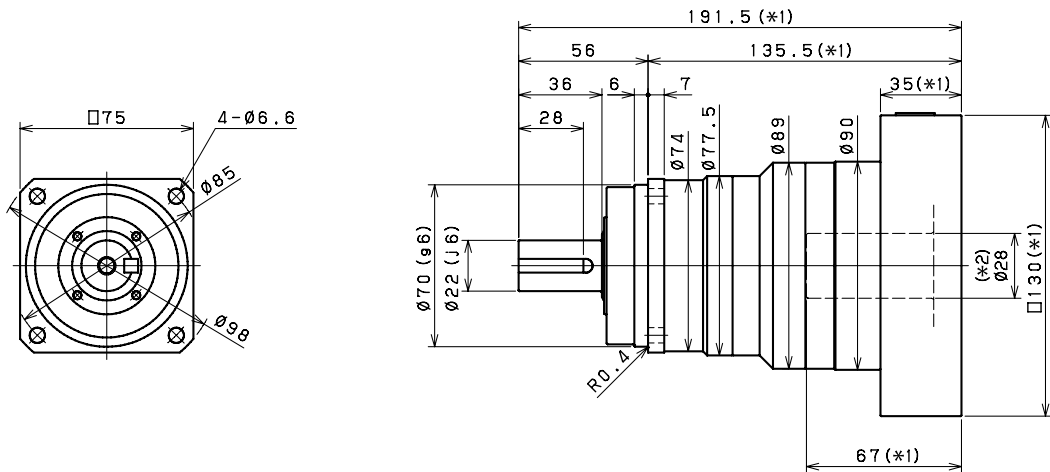
Input bore size $\leq \varnothing 14$ mm



Input bore size $\leq \varnothing 19$ mm



Input bore size $\leq \varnothing 28$ mm



Keyed shaft

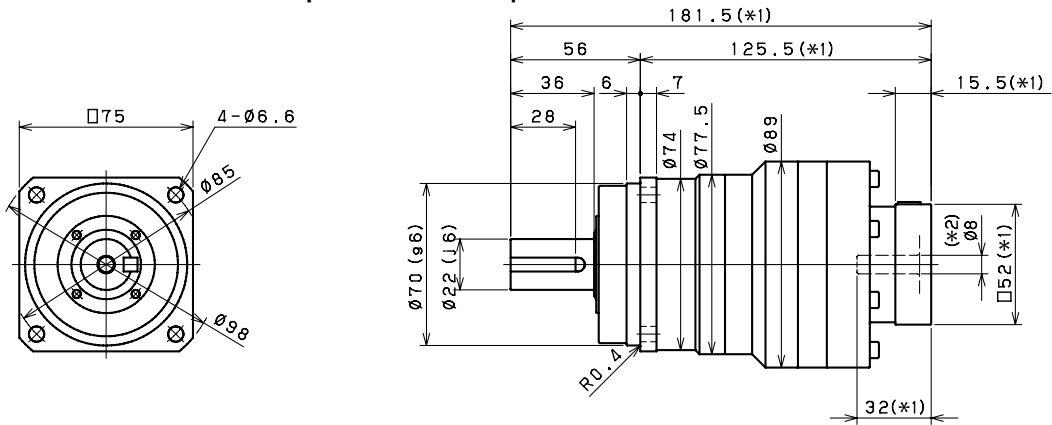
Smooth shaft

*1) Length will vary depending on motor

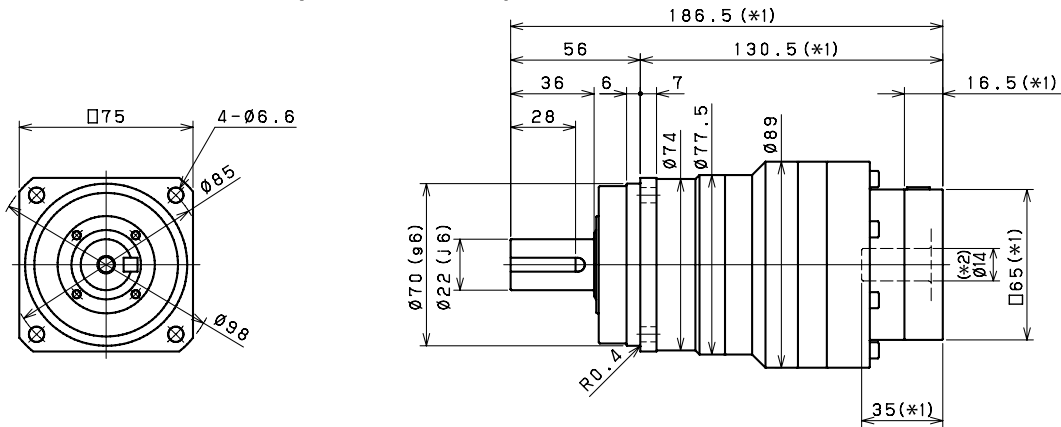
*2) Bushing will be inserted to adapt to motor shaft

VRS 075 2-Stage Dimensions

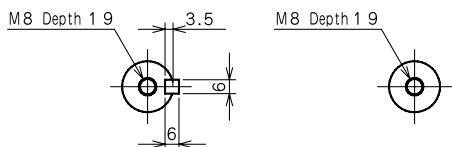
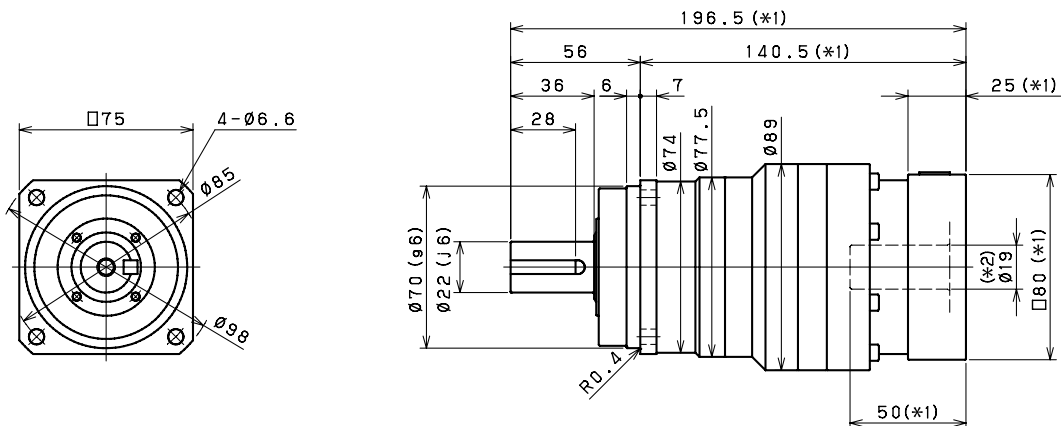
Input bore size $\leq \varnothing 8 \text{ mm}$



Input bore size $\leq \varnothing 14 \text{ mm}$



Input bore size $\leq \varnothing 19 \text{ mm}$ (*3)



Keyed shaft

Smooth shaft

*1) Length will vary depending on motor

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

*3) 28mm input bore is available for this frame size. Use our online configurator to make your selection or contact us for assistance

VRS

VRS SERIES Inline Planetary

VRS 100 1-Stage Specifications

Frame Size	100									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	120	120	180	180	180	180	120	120
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	330	225	225
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	625	500	500
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	1.30							
Permitted Radial Load	[N]	*7	3400	3700	4000	4200	4400	4600	4800	4900
Permitted Axial Load	[N]	*8	4800	5200	5600	5900	6100	6300	6300	6300
Maximum Radial Load	[N]	*9	7000							
Maximum Axial Load	[N]	*10	6300							
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	3.1	1.9	1.4	1.1	1.0	0.91	0.85	0.82
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	5.0	3.7	3.1	2.8	2.7	2.6	2.6	2.5
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	12	10	9.5	9.2	9.1	8.9	8.9	8.8
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	31							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	dB [A]	*13	≤ 71							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	8.1							

VRS 100 2-Stage Specifications

Frame Size	100									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	120	180	180	180	180	120	180	180
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	225	330	330
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	500	625	625
Nominal Input Speed	[rpm]	*4	3000							
Maximum Input Speed	[rpm]	*5	6000							
No Load Running Torque	[Nm]	*6	0.42							
Permitted Radial Load	[N]	*7	5600	5700	6100	6500	6700	6900	7000	7000
Permitted Axial Load	[N]	*8	6300	6300	6300	6300	6300	6300	6300	6300
Maximum Radial Load	[N]	*9	7000							
Maximum Axial Load	[N]	*10	6300							
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	-	-	-	-	-	-	-	-
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.76	0.97	0.72	0.70	0.92	0.38	0.68	0.37
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.1	1.4	1.1	1.1	1.3	0.78	1.1	0.77
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	2.9	3.1	2.8	2.8	3.0	2.5	2.8	2.5
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	9.2	9.4	9.1	9.1	9.3	8.8	9.1	8.8
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	31							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	dB [A]	*13	≤ 71							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	8.8							

VRS 100 2-Stage Specifications

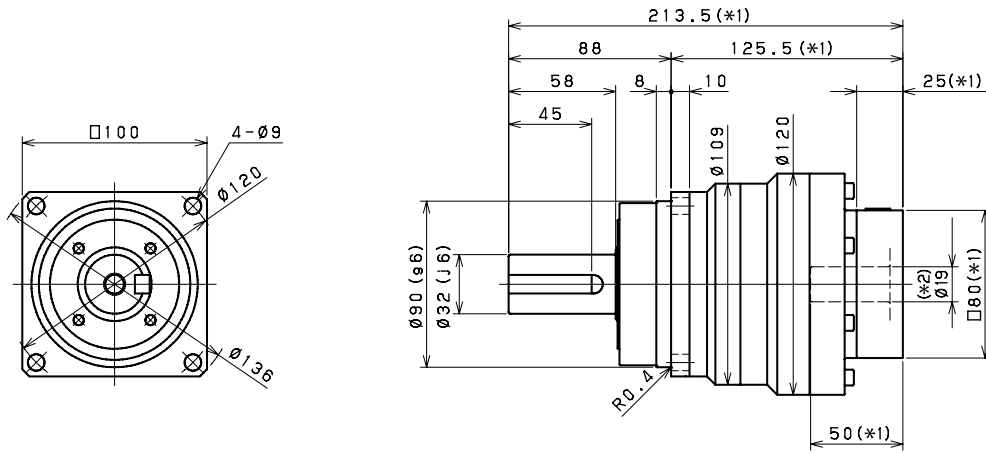
Frame Size	100										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	120	180	180	180	180	120	120		
Maximum Acceleration Torque	[Nm]	*2	225	330	330	330	330	225	225		
Emergency Stop Torque	[Nm]	*3	500	625	625	625	625	500	500		
Nominal Input Speed	[rpm]	*4	3000								
Maximum Input Speed	[rpm]	*5	6000								
No Load Running Torque	[Nm]	*6	0.42								
Permitted Radial Load	[N]	*7	7000	7000	7000	7000	7000	7000	7000		
Permitted Axial Load	[N]	*8	6300	6300	6300	6300	6300	6300	6300		
Maximum Radial Load	[N]	*9	7000								
Maximum Axial Load	[N]	*10	6300								
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	-	0.19	0.19	0.19	0.19	0.19	0.19		
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.68	0.36	0.36	0.36	0.36	0.36	0.36		
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	1.1	0.76	0.76	0.76	0.76	0.76	0.76		
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	2.8	2.5	2.5	2.5	2.5	2.5	2.5		
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	9.1	8.8	8.8	8.8	8.8	8.8	8.8		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	31								
Maximum Torsional Backlash	[arc-min]	--	≤ 3								
Noise Level	dB [A]	*13	≤ 71								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	8.8								

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

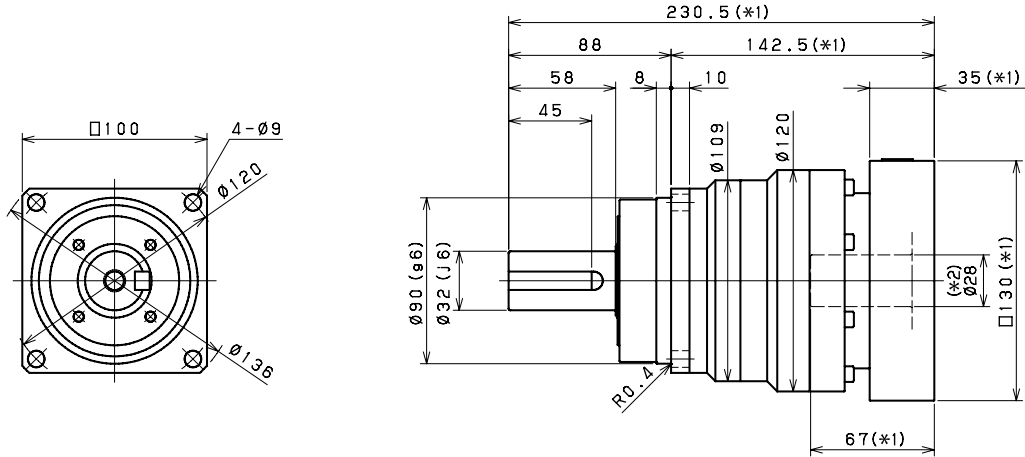
VRS SERIES Inline Planetary

VRS 100 1-Stage Dimensions

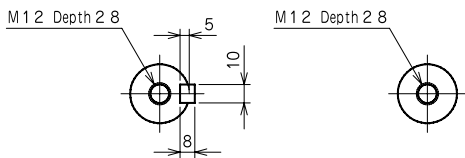
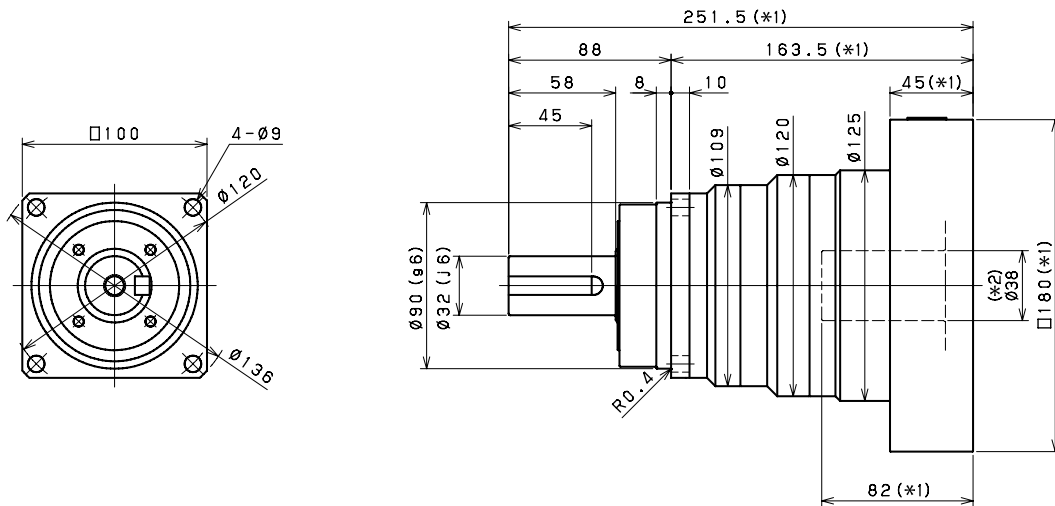
Input bore size $\leq \varnothing 19$ mm



Input bore size $\leq \varnothing 28$ mm



Input bore size $\leq \varnothing 38$ mm



Keyed shaft

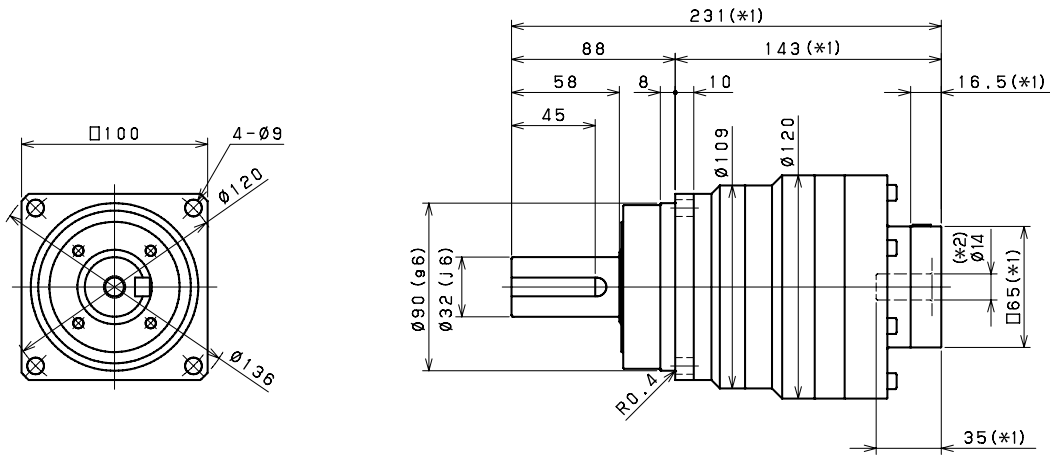
Smooth shaft

*1) Length will vary depending on motor

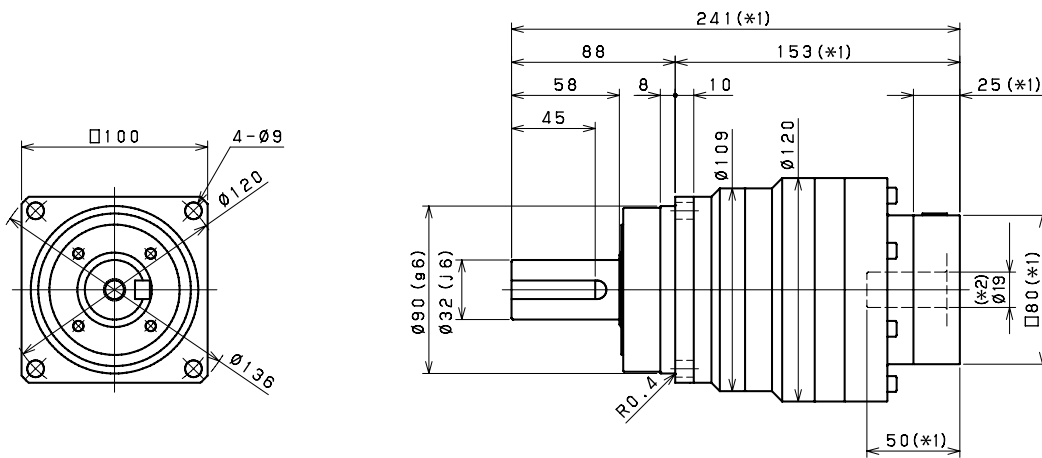
*2) Bushing will be inserted to adapt to motor shaft

VRS 100 2-Stage Dimensions

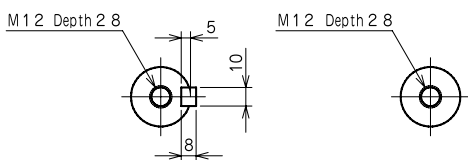
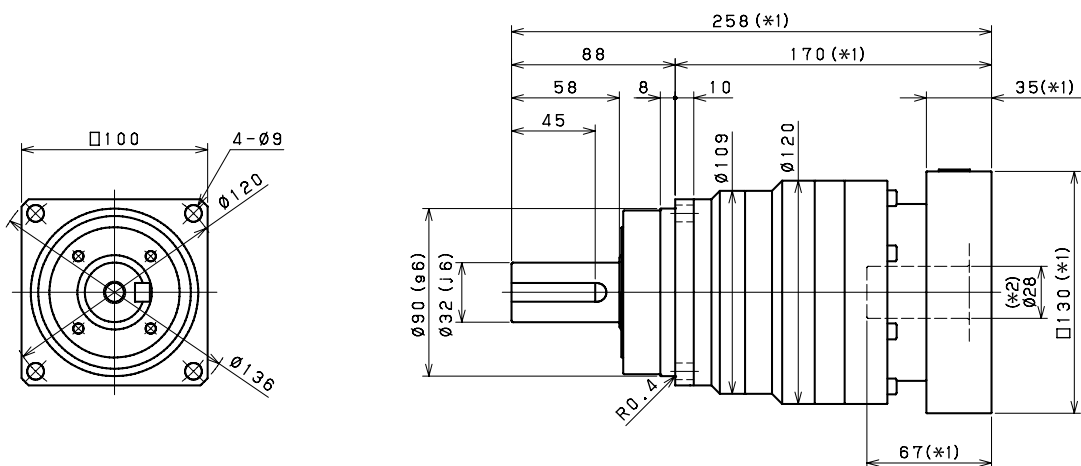
Input bore size $\leq \varnothing 14$ mm



Input bore size $\leq \varnothing 19$ mm



Input bore size $\leq \varnothing 28$ mm^(*3)



Keyed shaft

Smooth shaft

*1) Length will vary depending on motor

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

*3) 38mm input bore is available for this frame size. Use our online configurator to make your selection or contact us for assistance

VRS

VRS SERIES Inline Planetary

VRS 140 1-Stage Specifications

Frame Size	140									
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 ($\leq \varnothing 28$)	[kgcm ²]	--	12	7.2	5.2	4.3	3.8	3.5	3.3	3.2
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	18	14	12	11	10	9.9	9.7	9.6
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	35	29	27	26	25	25	25	25
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	60							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	dB [A]	*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									
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 ($\leq \varnothing 14$)	[kgcm ²]	--	-	-	-	-	-	-	-	-
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	2.6	3.5	2.4	2.4	3.3	1.1	2.3	1.1
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.4	5.3	4.2	4.1	5.1	2.9	4.1	2.8
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	11	12	10	10	11	9.2	10	9.1
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	26	27	25	25	26	24	25	24
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	60							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	dB [A]	*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

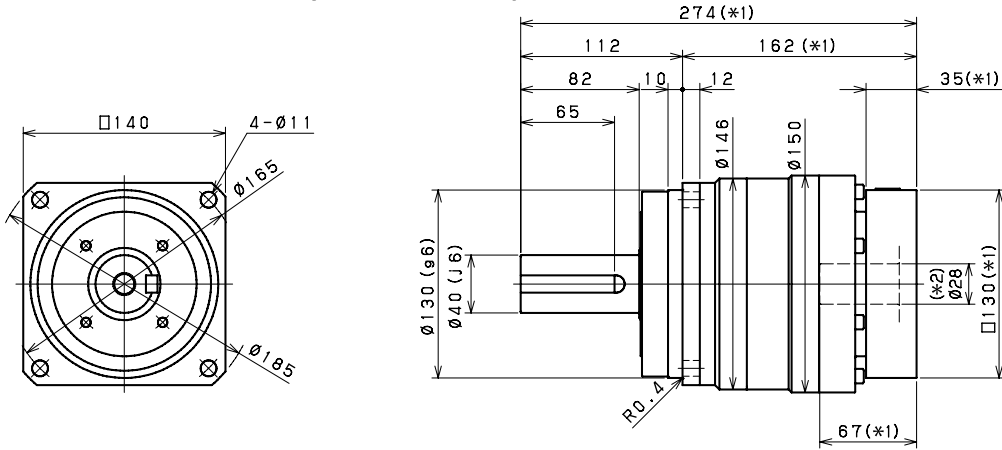
Frame Size	140										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	240	360	360	360	360	240	240		
Maximum Acceleration Torque	[Nm]	*2	470	700	700	700	700	470	470		
Emergency Stop Torque	[Nm]	*3	1000	1250	1250	1250	1250	1000	1000		
Nominal Input Speed	[rpm]	*4	2000								
Maximum 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 14)	[kgcm ²]	--	-	0.65	0.64	0.64	0.63	0.63	0.63		
Moment of Inertia (≤Ø 19)	[kgcm ²]	--	2.3	1.1	1.1	1.1	1.1	1.1	1.1		
Moment of Inertia (≤ Ø 28)	[kgcm ²]	--	4.0	2.8	2.8	2.8	2.8	2.8	2.8		
Moment of Inertia (≤ Ø 38)	[kgcm ²]	--	10	9.1	9.1	9.1	9.1	9.1	9.1		
Moment of Inertia (≤Ø 48)	[kgcm ²]	--	25	24	24	24	24	24	24		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	60								
Maximum Torsional Backlash	[arc-min]	--	≤ 3								
Noise Level	dB [A]	*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) Torque at no load applied to the input shaft at nominal input speed
- *7) At this load and nominal input speed, service life will be 20,000 hours. (The radial load applied to the output side shaft center)
- *8) At this load and nominal input speed, service life will be 20,000 hours. (The axial load applied to the output side bearing)
- *9) The maximum radial load that the gearbox can accept
- *10) The maximum axial load that the gearbox can accept
- *11) The efficiency at the nominal output torque rating
- *12) This does not include 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
- *15) The weight may vary slightly between models

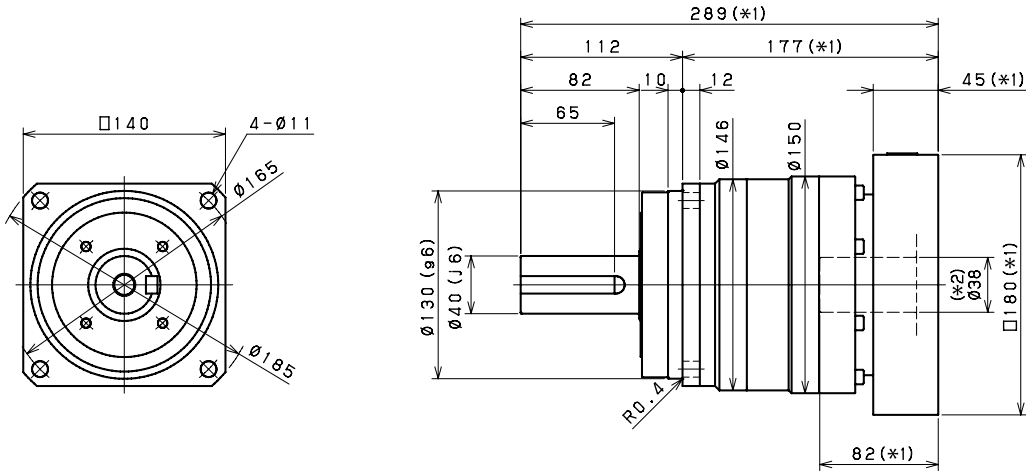
VRS SERIES Inline Planetary

VRS 140 1-Stage Dimensions

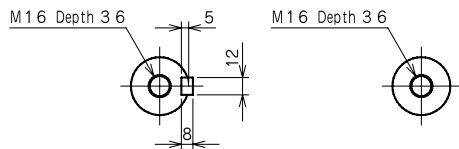
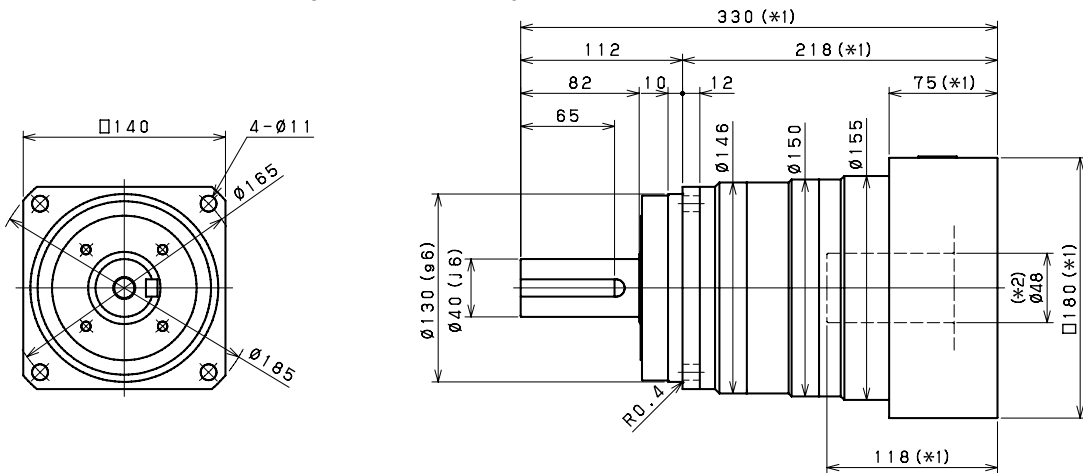
Input bore size $\leq \varnothing 28$ mm



Input bore size $\leq \varnothing 38$ mm



Input bore size $\leq \varnothing 48$ mm



Keyed shaft

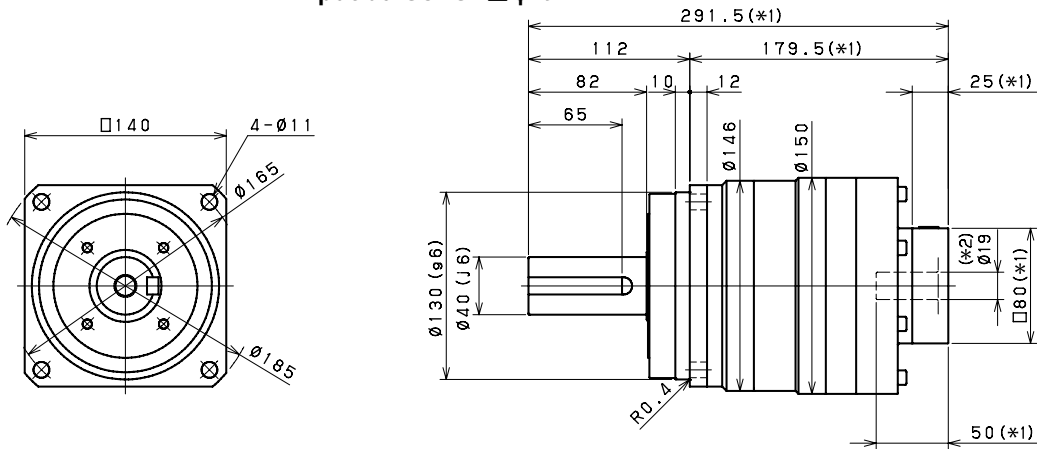
Smooth shaft

*1) Length will vary depending on motor

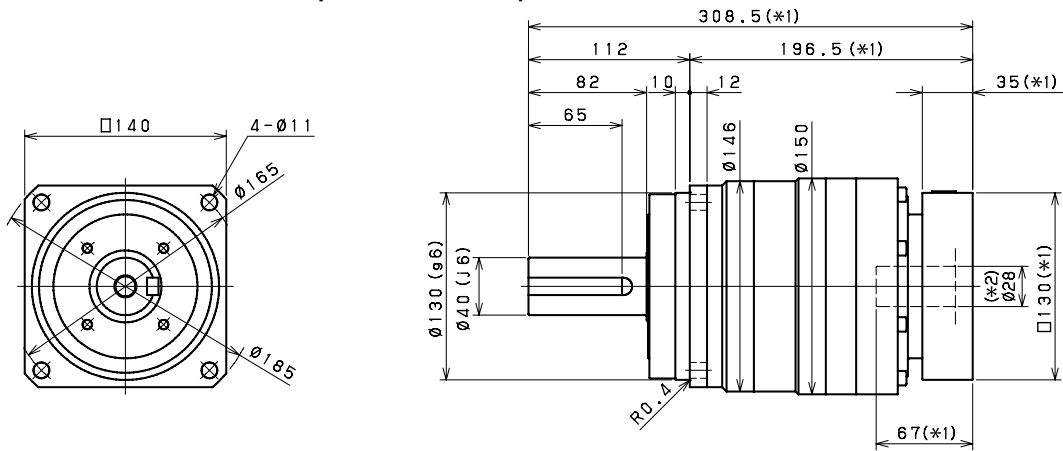
*2) Bushing will be inserted to adapt to motor shaft

VRS 140 2-Stage Dimensions

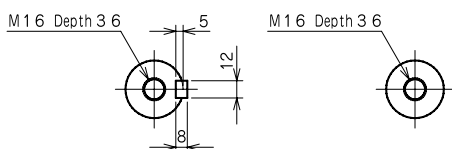
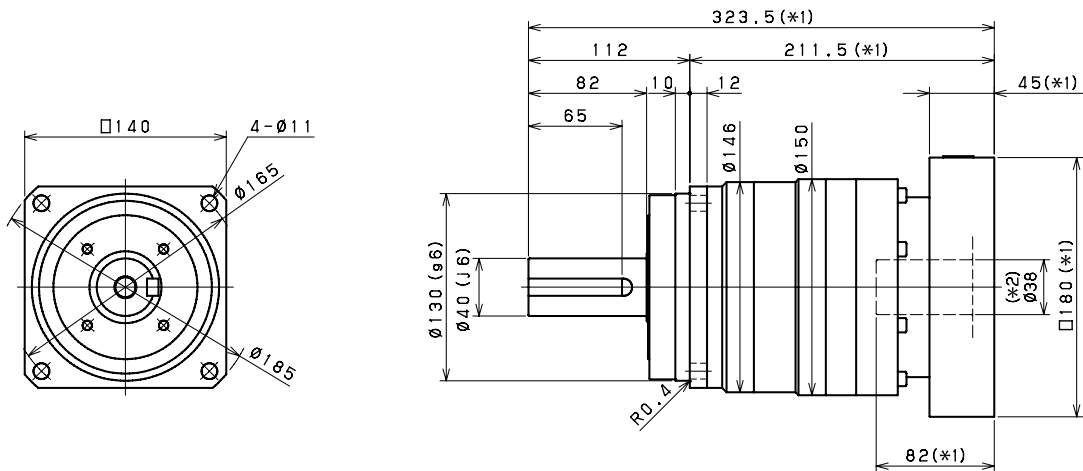
Input bore size $\leq \phi 19$ mm



Input bore size $\leq \phi 28$ mm



Input bore size $\leq \phi 38$ mm ^(*3)



Keyed shaft

Smooth shaft

*1) Length will vary depending on motor

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

*3) 48mm input bore is available for this frame size. Use our online configurator to make your selection or contact us for assistance

VRS SERIES Inline Planetary

VRS 180 1-Stage Specifications

Frame Size	180									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	750	500	500
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	1400	970	970
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2750	2200	2200
Nominal Input Speed	[rpm]	*4	1500							
Maximum Input Speed	[rpm]	*5	3000							
No Load Running Torque	[Nm]	*6	2.68							
Permitted Radial Load	[N]	*7	12000	13000	14000	15000	16000	17000	17000	18000
Permitted Axial Load	[N]	*8	16000	17000	17000	17000	17000	17000	17000	17000
Maximum Radial Load	[N]	*9	19000							
Maximum Axial Load	[N]	*10	17000							
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	41	25	18	15	13	12	12	11
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	55	40	33	30	29	27	27	26
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	110	84	78	74	73	71	71	70
Efficiency	[%]	*11	95							
Torsional Rigidity	[Nm/arc-min]	*12	175							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	dB [A]	*13	≤ 67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	39							

VRS 180 2-Stage Specifications

Frame Size	180									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	500	750	750
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	970	1400	1400
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2200	2750	2750
Nominal Input Speed	[rpm]	*4	1500							
Maximum Input Speed	[rpm]	*5	3000							
No Load Running Torque	[Nm]	*6	1.39							
Permitted Radial Load	[N]	*7	19000	19000	19000	19000	19000	19000	19000	19000
Permitted Axial Load	[N]	*8	17000	17000	17000	17000	17000	17000	17000	17000
Maximum Radial Load	[N]	*9	19000							
Maximum Axial Load	[N]	*10	17000							
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	-	-	-	-	-	-	-	-
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	8.7	11	8.1	7.8	11	4.0	7.6	3.9
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	15	18	14	14	17	10	14	10
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	30	32	29	29	32	25	29	25
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	34	39	33	33	38	26	32	26
Efficiency	[%]	*11	90							
Torsional Rigidity	[Nm/arc-min]	*12	175							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	dB [A]	*13	≤ 67							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	39							

VRS 180 2-Stage Specifications

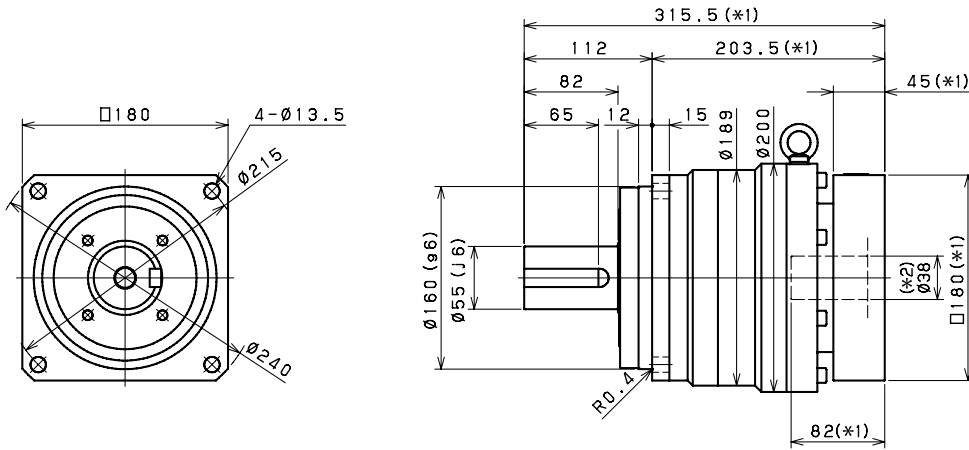
Frame Size	180										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	500	750	750	750	750	500	500		
Maximum Acceleration Torque	[Nm]	*2	970	1400	1400	1400	1400	970	970		
Emergency Stop Torque	[Nm]	*3	2200	2750	2750	2750	2750	2200	2200		
Nominal Input Speed	[rpm]	*4	1500								
Maximum Input Speed	[rpm]	*5	3000								
No Load Running Torque	[Nm]	*6	1.39								
Permitted Radial Load	[N]	*7	19000	19000	19000	19000	19000	19000	19000		
Permitted Axial Load	[N]	*8	17000	17000	17000	17000	17000	17000	17000		
Maximum Radial Load	[N]	*9	19000								
Maximum Axial Load	[N]	*10	17000								
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	-	1.9	1.9	1.8	1.8	1.8	1.8		
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	7.6	3.8	3.8	3.8	3.7	3.7	3.7		
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	14	10	10	10	10	10	10		
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	29	25	25	25	25	25	25		
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	32	26	26	26	26	26	26		
Efficiency	[%]	*11	90								
Torsional Rigidity	[Nm/arc-min]	*12	175								
Maximum Torsional Backlash	[arc-min]	--	≤ 3								
Noise Level	dB [A]	*13	≤ 67								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	39								

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

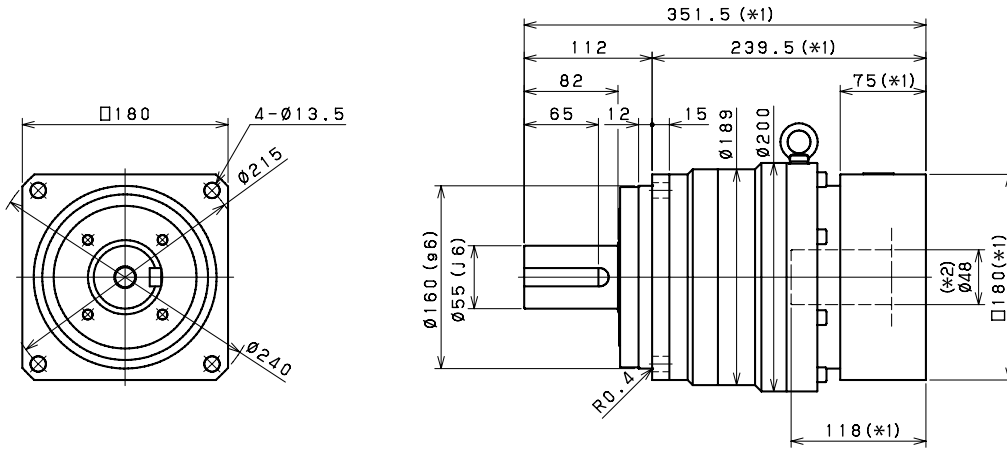
VRS SERIES Inline Planetary

VRS 180 1-Stage Dimensions

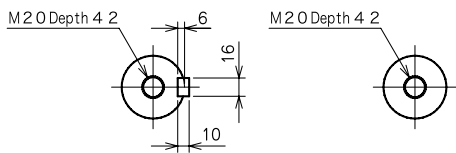
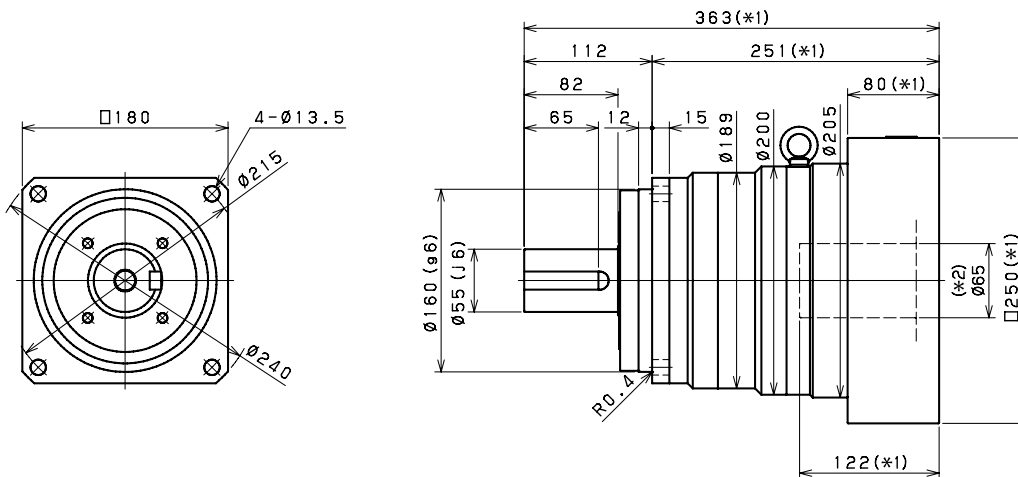
Input bore size $\leq \varnothing 38$ mm



Input bore size $\leq \varnothing 48$ mm



Input bore size $\leq \varnothing 65$ mm



Keyed shaft

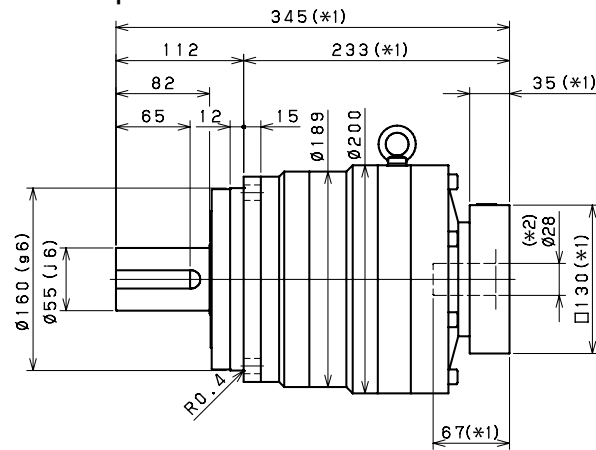
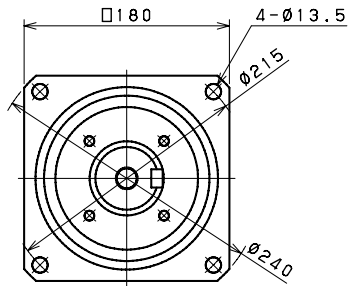
Smooth shaft

*1) Length will vary depending on motor

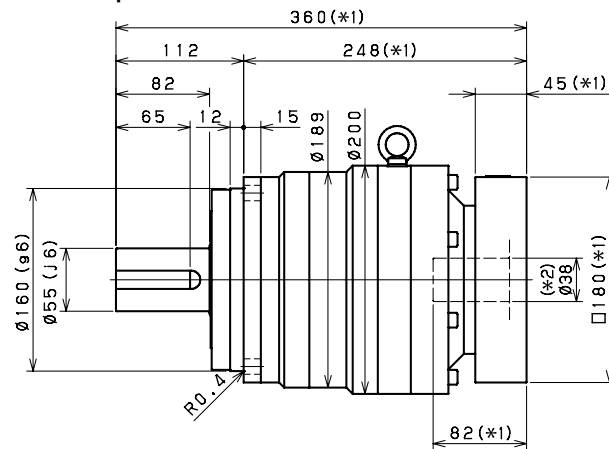
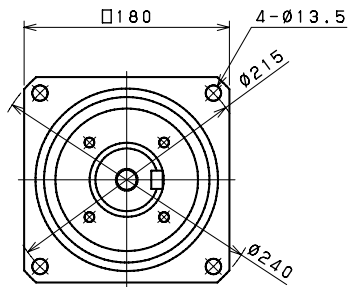
*2) Bushing will be inserted to adapt to motor shaft

VRS 180 2-Stage Dimensions

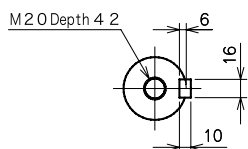
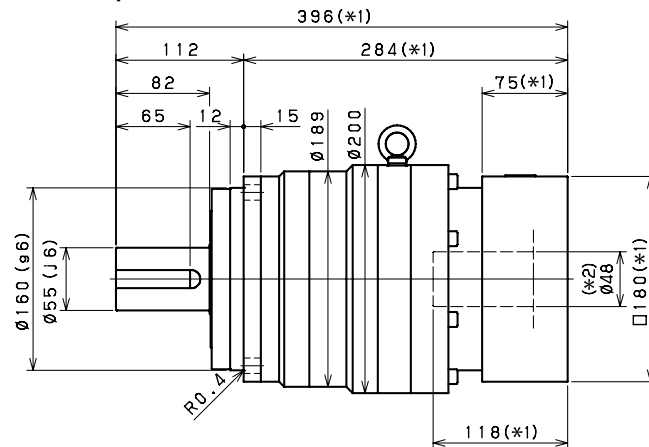
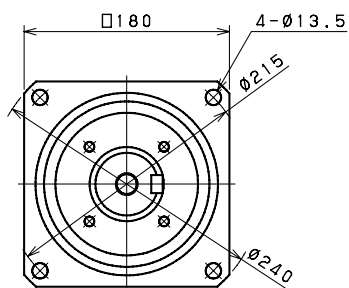
Input bore size $\leq \phi 28$ mm



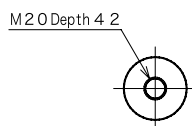
Input bore size $\leq \phi 38$ mm



Input bore size $\leq \phi 48$ mm



Keyed shaft



Smooth shaft

*1) Length will vary depending on motor

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

VRS SERIES Inline Planetary

VRS 210 1-Stage Specifications

Frame Size	210									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1500	1000	1000
Maximum Acceleration Torque	[Nm]	*2	1600	2300	2300	2300	2300	2200	1900	1600
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	5000	4000	4000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	2.92							
Permitted Radial Load	[N]	*7	17000	18000	20000	21000	22000	23000	24000	24000
Permitted Axial Load	[N]	*8	22000	22000	22000	22000	22000	22000	22000	22000
Maximum Radial Load	[N]	*9	24000							
Maximum Axial Load	[N]	*10	22000							
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	110	55	42	36	33	31	29	28
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	160	99	86	80	77	74	73	72
Efficiency	[%]	*11	97							
Torsional Rigidity	[Nm/arc-min]	*12	400							
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	59							

VRS 210 2-Stage Specifications

Frame Size	210									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1000	1500	1500
Maximum Acceleration Torque	[Nm]	*2	1600	2300	2300	2300	2300	1600	2300	2300
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	4000	5000	5000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	1.14							
Permitted Radial Load	[N]	*7	24000	24000	24000	24000	24000	24000	24000	24000
Permitted Axial Load	[N]	*8	22000	22000	22000	22000	22000	22000	22000	22000
Maximum Radial Load	[N]	*9	24000							
Maximum Axial Load	[N]	*10	22000							
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	-	-	-	-	-	-	-	-
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	20	24	19	18	23	12	18	12
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	34	39	33	33	38	26	32	26
Efficiency	[%]	*11	92							
Torsional Rigidity	[Nm/arc-min]	*12	400							
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	60							

VRS 210 2-Stage Specifications

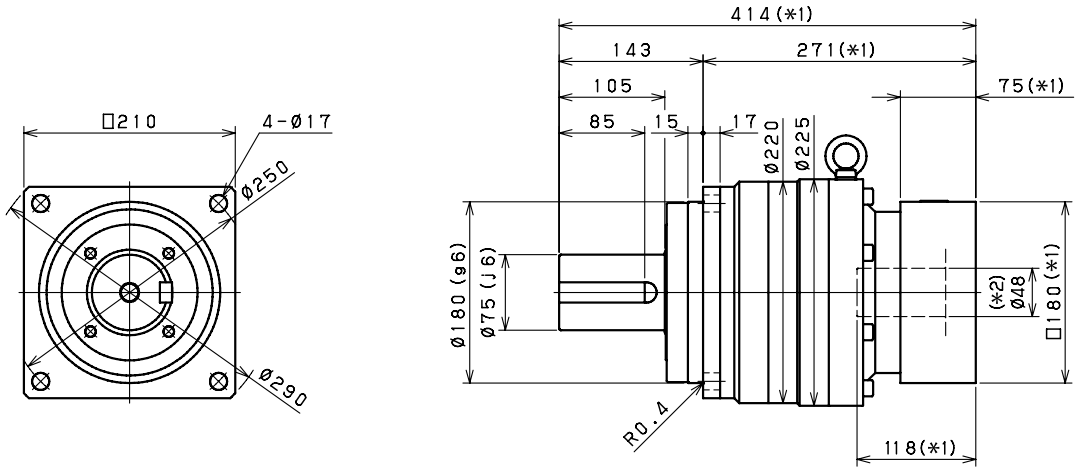
Frame Size	210										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	1000	1500	1500	1500	1500	1000	1000		
Maximum Acceleration Torque	[Nm]	*2	1300	2300	2300	2300	1800	1300	1200		
Emergency Stop Torque	[Nm]	*3	4000	5000	5000	5000	5000	4000	4000		
Nominal Input Speed	[rpm]	*4	1000								
Maximum Input Speed	[rpm]	*5	2000								
No Load Running Torque	[Nm]	*6	1.14								
Permitted Radial Load	[N]	*7	24000	24000	24000	24000	24000	24000	24000		
Permitted Axial Load	[N]	*8	22000	22000	22000	22000	22000	22000	22000		
Maximum Radial Load	[N]	*9	24000								
Maximum Axial Load	[N]	*10	22000								
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	-	4.7	4.7	4.6	4.6	4.6	4.6		
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	18	12	11	11	11	11	11		
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	32	26	26	26	26	26	26		
Efficiency	[%]	*11	92								
Torsional Rigidity	[Nm/arc-min]	*12	400								
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	60								

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

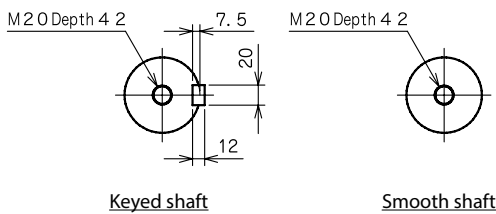
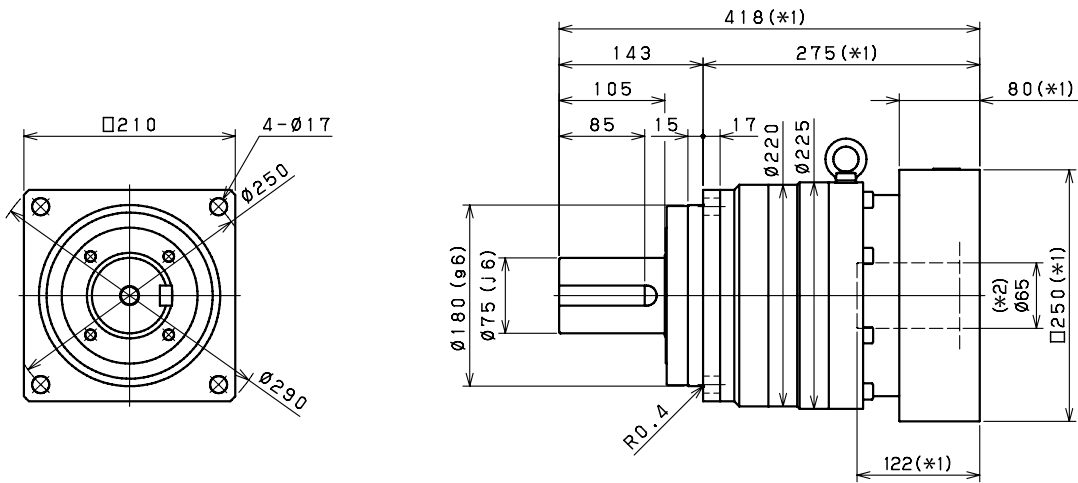
VRS SERIES Inline Planetary

VRS 210 1-Stage Dimensions

Input bore size $\leq \varnothing 48$ mm



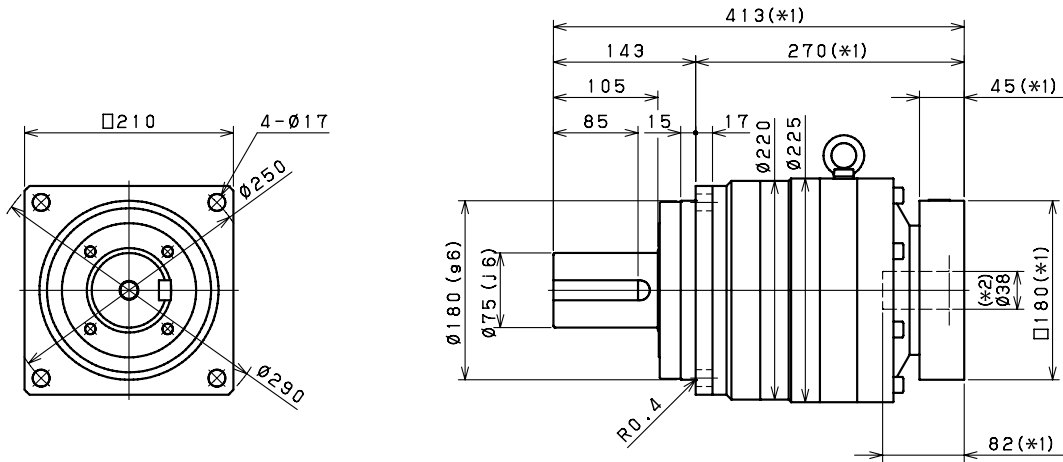
Input bore size $\leq \varnothing 65$ mm



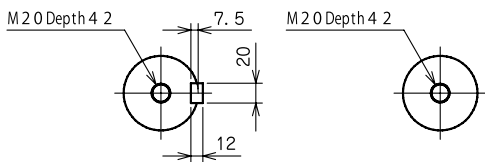
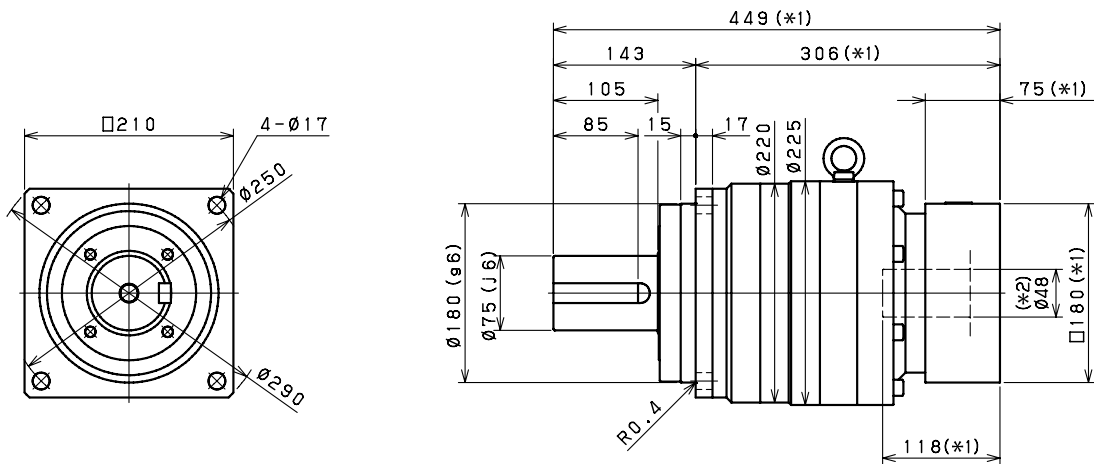
- *1) Length will vary depending on motor.
- *2) Bushing will be inserted to adapt to motor shaft

VRS 210 2-Stage Dimensions

Input bore size $\leq \phi 38$ mm



Input bore size $\leq \phi 48$ mm



Keyed shaft

Smooth shaft

*1) Length will vary depending on motor.

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

VRS SERIES Inline Planetary

VRS 240 1-Stage Specifications

Frame Size	240									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	1600	2400	2400	2400	2400	2400	1600	1600
Maximum Acceleration Torque	[Nm]	*2	2500	3700	3700	3700	3700	3600	3000	2600
Emergency Stop Torque	[Nm]	*3	6000	8000	8000	8000	8000	8000	6000	6000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	5.96							
Permitted Radial Load	[N]	*7	21000	22000	24000	25000	26000	28000	29000	29000
Permitted Axial Load	[N]	*8	27000	27000	27000	27000	27000	27000	27000	27000
Maximum Radial Load	[N]	*9	30000							
Maximum Axial Load	[N]	*10	27000							
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	230	130	110	92	86	81	78	77
Efficiency	[%]	*11	97							
Torsional Rigidity	[Nm/arc-min]	*12	550							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	dB [A]	*13	≤ 62							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	85							

VRS 240 2-Stage Specifications

Frame Size	240									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	1600	2400	2400	2400	2400	1600	2400	2400
Maximum Acceleration Torque	[Nm]	*2	2500	3700	3700	3700	3700	2500	3700	3700
Emergency Stop Torque	[Nm]	*3	6000	8000	8000	8000	8000	6000	8000	8000
Nominal Input Speed	[rpm]	*4	1000							
Maximum Input Speed	[rpm]	*5	2000							
No Load Running Torque	[Nm]	*6	1.28							
Permitted Radial Load	[N]	*7	30000	30000	30000	30000	30000	30000	30000	30000
Permitted Axial Load	[N]	*8	27000	27000	27000	27000	27000	27000	27000	27000
Maximum Radial Load	[N]	*9	30000							
Maximum Axial Load	[N]	*10	27000							
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	-	-	-	-	-	-	-	-
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	47	55	45	44	52	32	43	31
Efficiency	[%]	*11	92							
Torsional Rigidity	[Nm/arc-min]	*12	550							
Maximum Torsional Backlash	[arc-min]	--	≤ 3							
Noise Level	dB [A]	*13	≤ 62							
Protection Class	--	*14	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*15	89							

VRS 240 2-Stage Specifications

Frame Size	240										
Ratio	Unit	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	1600	2400	2400	2400	2400	1600	1600		
Maximum Acceleration Torque	[Nm]	*2	2100	3700	3700	3700	2700	2100	1800		
Emergency Stop Torque	[Nm]	*3	6000	8000	8000	8000	8000	6000	6000		
Nominal Input Speed	[rpm]	*4	1000								
Maximum Input Speed	[rpm]	*5	2000								
No Load Running Torque	[Nm]	*6	1.28								
Permitted Radial Load	[N]	*7	30000	30000	30000	30000	30000	30000	30000		
Permitted Axial Load	[N]	*8	27000	27000	27000	27000	27000	27000	27000		
Maximum Radial Load	[N]	*9	30000								
Maximum Axial Load	[N]	*10	27000								
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	-	14	13	13	13	13	13		
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	43	31	31	31	31	31	31		
Efficiency	[%]	*11	92								
Torsional Rigidity	[Nm/arc-min]	*12	550								
Maximum Torsional Backlash	[arc-min]	--	≤ 3								
Noise Level	dB [A]	*13	≤ 62								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	89								

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

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

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

*9) The maximum radial load that the gearbox can accept

*10) The maximum axial load that the gearbox can accept

*11) The efficiency at the nominal output torque rating

*12) This does not include lost motion

*13) Contact NIDEC-SHIMPO for the testing conditions and environment

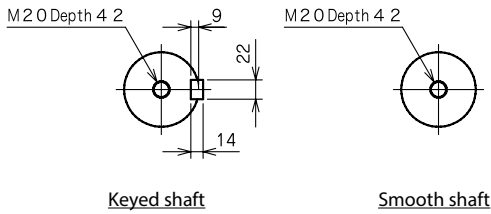
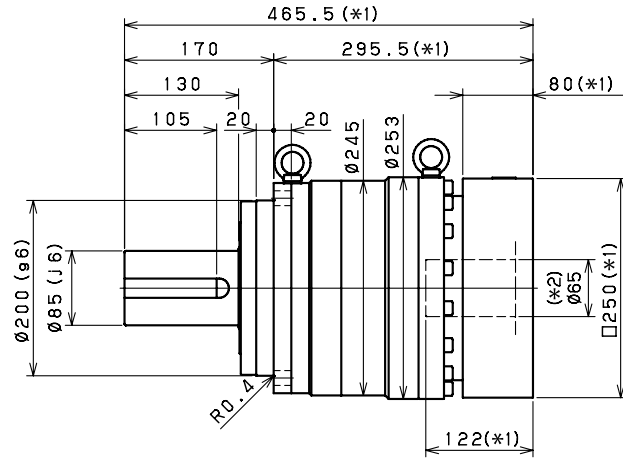
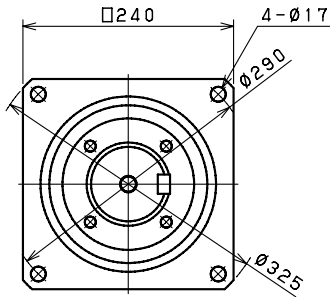
*14) IP65 (wash-down) is available as an option. Contact NIDEC-SHIMPO for more details

*15) The weight may vary slightly between models

VRS SERIES Inline Planetary

VRS 240 1-Stage Dimensions

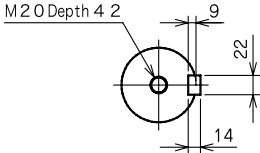
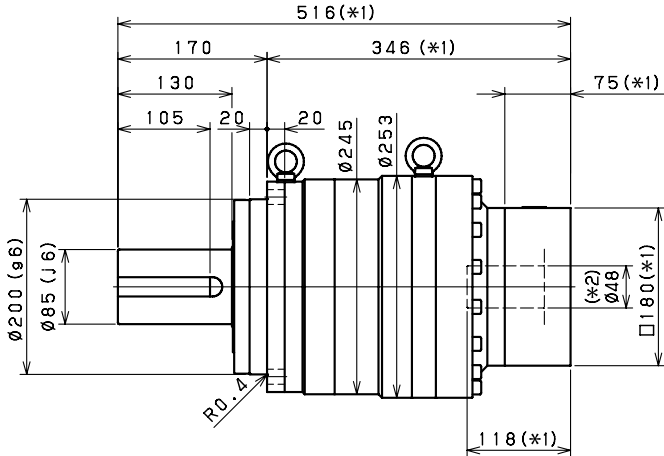
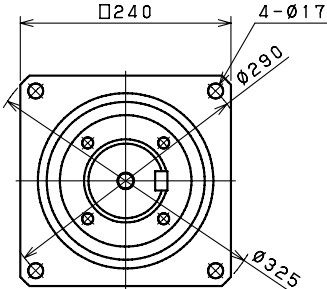
Input bore size $\leq \phi 65$ mm



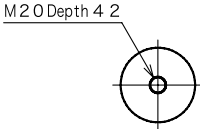
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

VRS 240 2-Stage Dimensions

Input bore size $\leq \varnothing 48$ mm



Keyed shaft



Smooth shaft

*1) Length will vary depending on motor

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