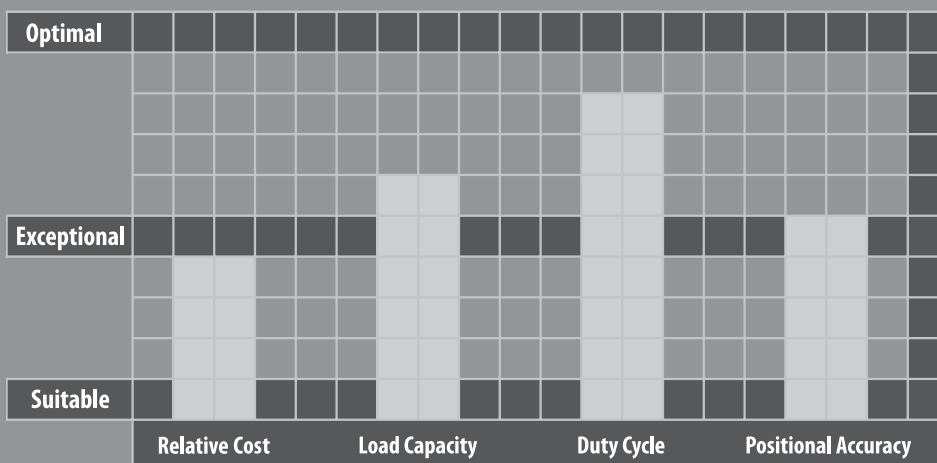
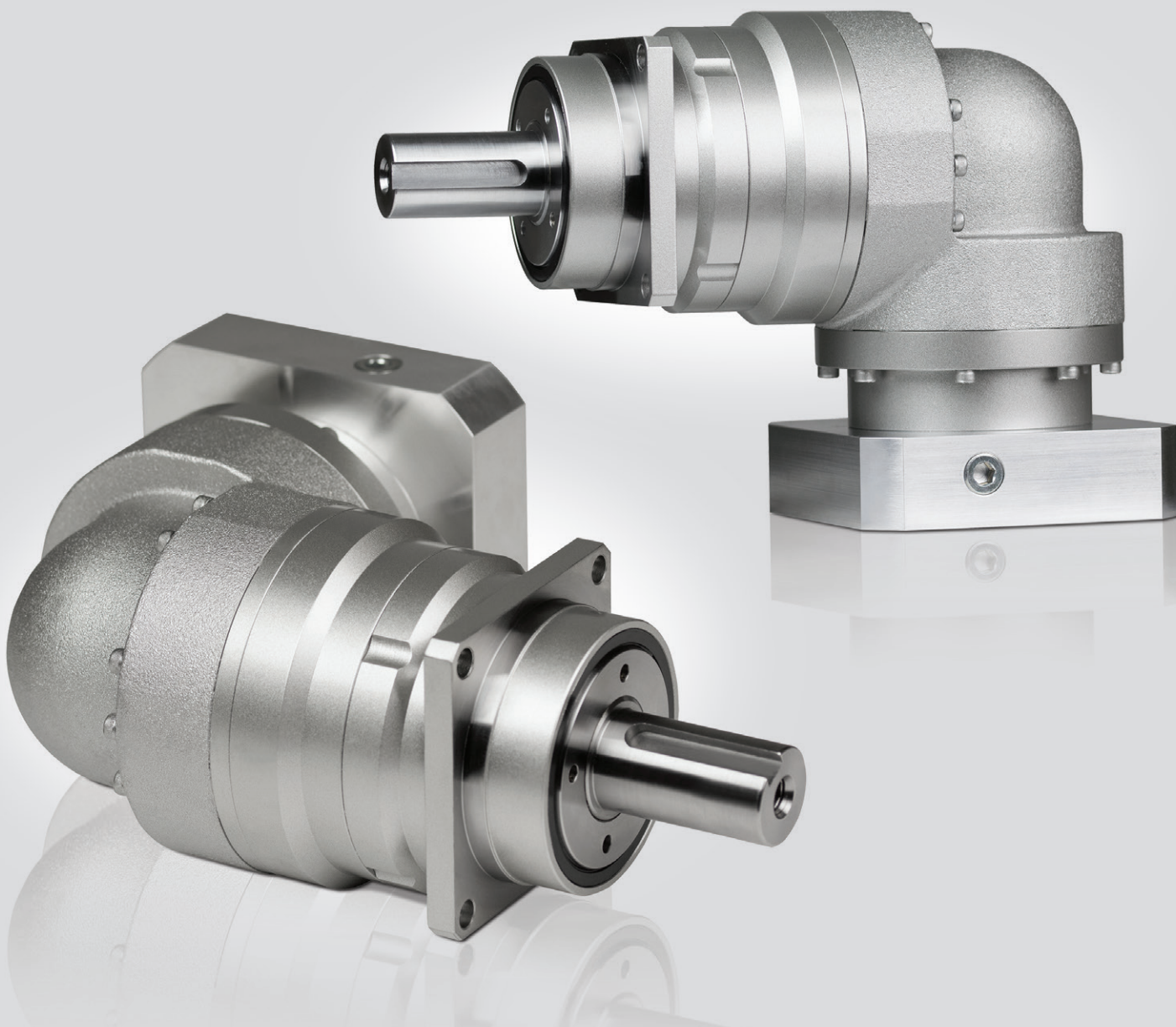


EVS SERIES

The EVS series is the right angle equivalent to the VRS. Compact and precise, the EVS is the ideal solution for demanding positioning accuracy and speed requirements. Equipped with two rows of robust tapered roller bearings, the EVS runs smoothly and quietly even with the most challenging dynamic and static forces.

The EVS comes with ≤ 4 arc-min backlash, to handle dynamic machine tool and robotic applications with ease. With maximum acceleration torques up to 2960Nm, 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.



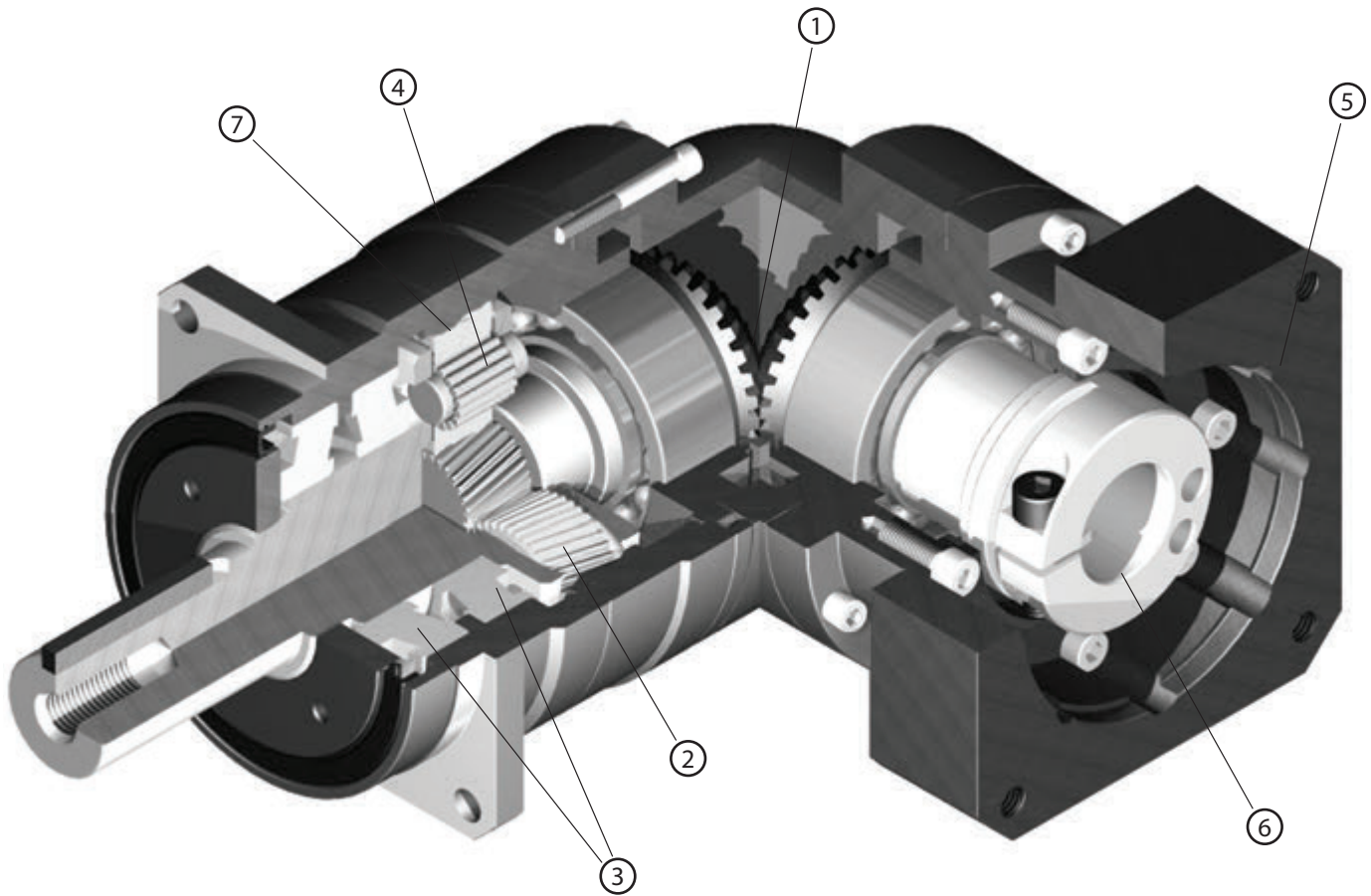


EVS SERIES

- Proven performer in high end motion control applications with demanding accuracy requirements
- Excellent fit for difficult overhung load situations with a limited space envelope
- The widest range of frame sizes and ratios available in the market
- Best-In-class standard backlash of ≤ 4 arc-min
- 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

EVS SERIES Right-angle Planetary

EVS Series Features



- ① Right angle bevel gear configuration allows motor to be mounted at a 90 degree position from the gear-box, saving space
- ② Carburized helical gears with proprietary secondary finishing process for higher accuracy and smooth, quiet operation
- ③ One piece output shaft and planet carrier with dual tapered roller bearings. Higher stiffness, torque capacity and safety factor, with guaranteed alignment of gearing
- ④ Uncaged needle roller bearings provide excellent torque density and torsional rigidity
- 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

EVS Series Model Code

EVS	-	100	B	-	7	-	K	4	19HB16
-----	---	-----	---	---	---	---	---	---	--------

Motor mounting code (*1)

Backlash: 060, 075, 100, 140
≤ 4 - 7 arc-min
180, 210, 240
≤ 6 - 9 arc-min

Output mounting style: K: Keyed shaft
S: Smooth shaft

Ratio: 2-Stage: 3, 4, 5, 6, 7, 8, 9, 10
3-Stage: 15, 16, 20, 25, 28, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100

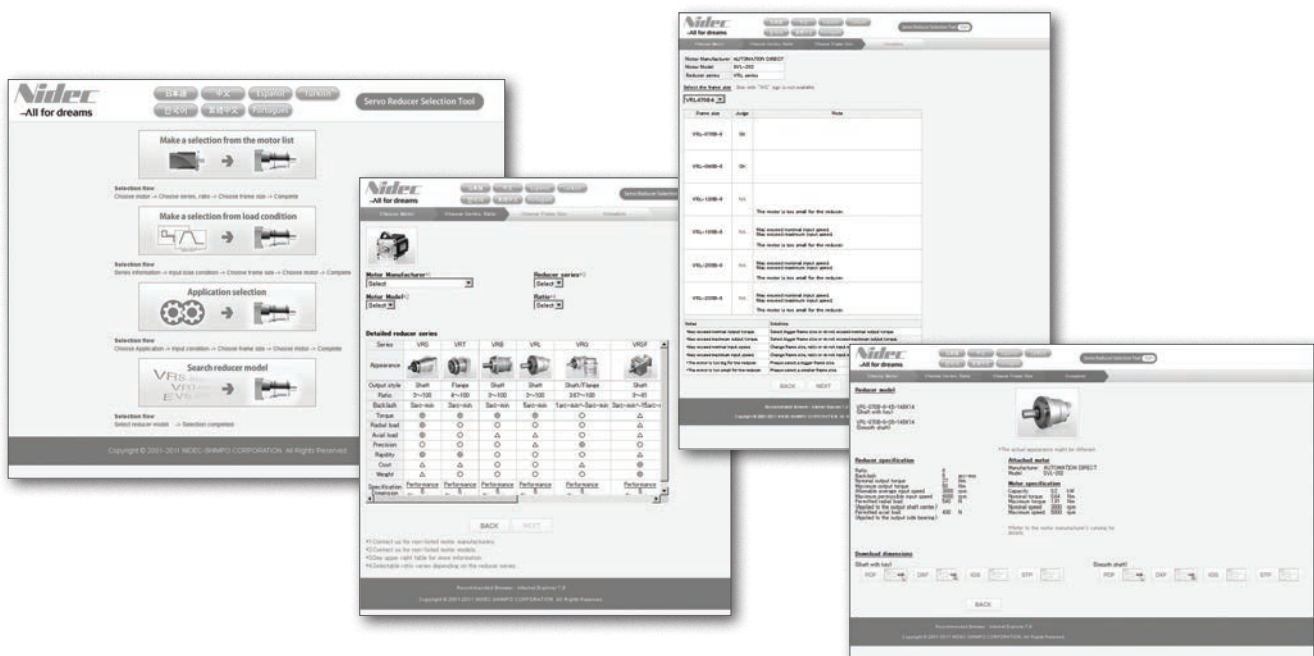
Design version

Frame size: 060, 075, 100, 140, 180, 210, 240

Series

*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 gearbox selection tool.
Selection tool www.nidec-shimpo.co.jp/selection/eng



EVS o6o 2-Stage Specifications

Frame Size	060									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	12	16	22	24	24	24	19	19
Maximum Acceleration Torque	[Nm]	*2	29	38	48	54	54	54	38	38
Maximum Torque	[Nm]	*3	33	45	56	63	63	61	45	45
Emergency Stop Torque	[Nm]	*4	50	65	80	90	90	90	65	65
Nominal Input Speed	[rpm]	*5	3300							
Maximum Input Speed	[rpm]	*6	6000							
No Load Running Torque	[Nm]	*7	0.33							
Maximum Radial Load	[N]	*8	3000							
Maximum Axial Load	[N]	*9	2700							
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.320	0.271	0.251	0.242	0.235	0.232	0.229	0.228
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.395	0.346	0.326	0.317	0.310	0.307	0.304	0.303
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.584	0.535	0.516	0.506	0.500	0.496	0.494	0.492
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	3							
Maximum Torsional Backlash	[arc-min]	--	≤ 4							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	2.0							

EVS o6o 3-Stage Specifications

Frame Size	060									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	18	26	26	28	28	19	28	28
Maximum Acceleration Torque	[Nm]	*2	38	54	54	54	54	38	54	54
Maximum Torque	[Nm]	*3	38	54	54	54	54	38	54	54
Emergency Stop Torque	[Nm]	*4	65	90	90	90	90	65	90	90
Nominal Input Speed	[rpm]	*5	3800							
Maximum Input Speed	[rpm]	*6	6000							
No Load Running Torque	[Nm]	*7	0.20							
Maximum Radial Load	[N]	*8	3000							
Maximum Axial Load	[N]	*9	2700							
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.074	0.079	0.072	0.071	0.077	0.062	0.070	0.061
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.118	0.124	0.116	0.115	0.122	0.106	0.115	0.106
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	3							
Maximum Torsional Backlash	[arc-min]	--	≤ 7							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	1.8							

EVS o6o 3-Stage Specifications

Frame Size	060								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	19	28	28	28	28	19	19
Maximum Acceleration Torque	[Nm]	*2	38	54	54	54	54	38	38
Maximum Torque	[Nm]	*3	38	54	54	54	54	38	38
Emergency Stop Torque	[Nm]	*4	65	90	90	90	90	65	65
Nominal Input Speed	[rpm]	*5	3800						
Maximum Input Speed	[rpm]	*6	6000						
No Load Running Torque	[Nm]	*7	0.2						
Maximum Radial Load	[N]	*8	3000						
Maximum Axial Load	[N]	*9	2700						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.070	0.061	0.061	0.061	0.061	0.061	0.061
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.115	0.106	0.106	0.106	0.105	0.105	0.105
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	3						
Maximum Torsional Backlash	[arc-min]	--	≤ 7						
Noise Level	dB [A]	*12	≤ 80						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	1.8						

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

*2) The maximum torque when starting or stopping operation. Apply Cycle Factor f_0 , found on page 468, for higher duty cycle applications

*3) Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth output shaft

*4) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life

*5) The average input speed at nominal input torque. Maintain housing temperature below permitted value

*6) The maximum intermittent input speed

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

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

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

*10) The efficiency at the nominal output torque rating

*11) This does not include lost motion

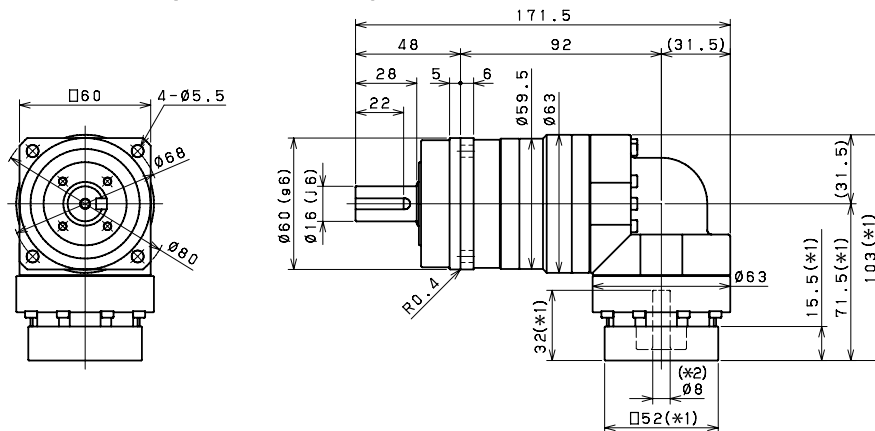
*12) Contact NIDEC-SHIMPO for the testing conditions and environment

*13) Various wash-down options are available. Contact NIDEC-SHIMPO for more details

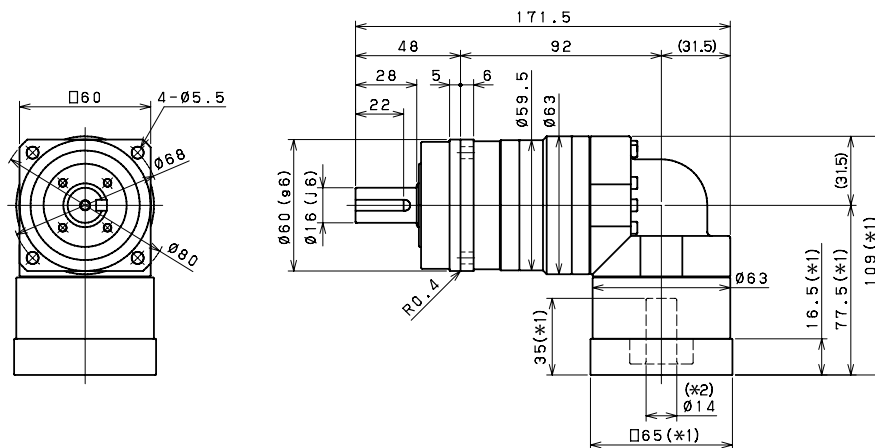
*14) Weight may vary slightly between models

EVS o6o 2-Stage Dimensions

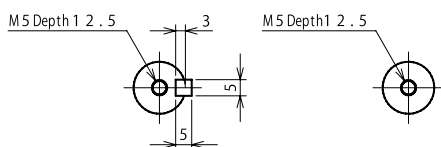
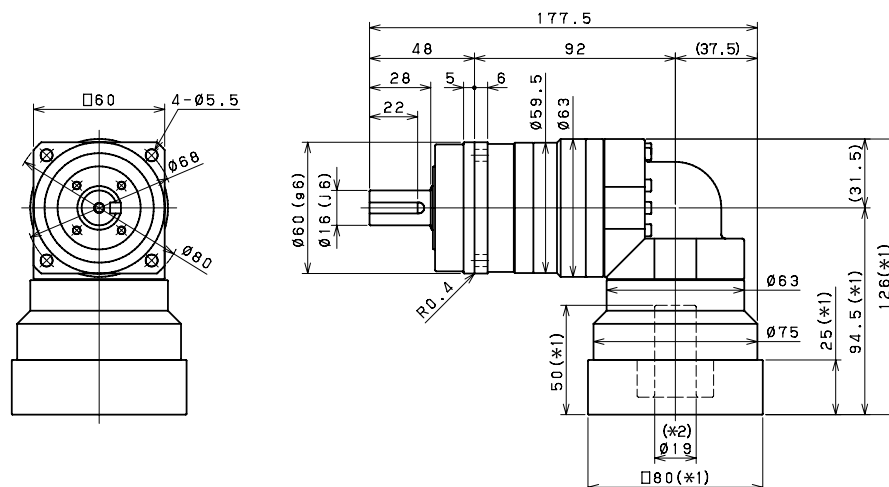
Input bore size $\leq \varnothing 8 \text{ mm}$



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



Input bore size $\leq \varnothing 19 \text{ mm}$



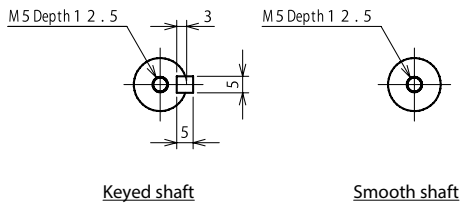
Keyed shaft

Smooth shaft

*1) Length will vary depending on motor

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

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



8

EVS 075 2-Stage Specifications

Frame Size	075									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	46	61	67	67	67	74	51	51
Maximum Acceleration Torque	[Nm]	*2	77	105	105	105	105	105	78	78
Maximum Torque	[Nm]	*3	90	121	121	119	119	117	93	93
Emergency Stop Torque	[Nm]	*4	130	170	220	220	220	220	170	170
Nominal Input Speed	[rpm]	*5	3000							
Maximum Input Speed	[rpm]	*6	6000							
No Load Running Torque	[Nm]	*7	1.13							
Maximum Radial Load	[N]	*8	4300							
Maximum Axial Load	[N]	*9	3900							
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	2.07	1.87	1.78	1.74	1.72	1.7	1.69	1.69
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	2.40	2.20	2.11	2.07	2.05	2.03	2.02	2.02
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.53	4.32	4.24	4.2	4.17	4.16	4.15	4.15
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	10							
Maximum Torsional Backlash	[arc-min]	--	≤ 4							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	4.8							

EVS 075 3-Stage Specifications

Frame Size	075									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	43	66	68	72	78	47	73	78
Maximum Acceleration Torque	[Nm]	*2	77	128	128	128	128	77	128	128
Maximum Torque	[Nm]	*3	77	128	128	128	128	77	128	128
Emergency Stop Torque	[Nm]	*4	170	220	220	220	220	170	220	220
Nominal Input Speed	[rpm]	*5	3300							
Maximum Input Speed	[rpm]	*6	6000							
No Load Running Torque	[Nm]	*7	0.55							
Maximum Radial Load	[N]	*8	4300							
Maximum Axial Load	[N]	*9	3900							
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.33	0.38	0.33	0.32	0.37	0.25	0.32	0.25
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.41	0.46	0.40	0.40	0.45	0.32	0.40	0.32
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.60	0.65	0.59	0.59	0.64	0.51	0.58	0.51
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	10							
Maximum Torsional Backlash	[arc-min]	--	≤ 7							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	4.1							

EVS 075 3-Stage Specifications

Frame Size	075								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	47	73	73	73	78	52	52
Maximum Acceleration Torque	[Nm]	*2	78	128	128	128	128	78	78
Maximum Torque	[Nm]	*3	78	128	128	128	128	78	78
Emergency Stop Torque	[Nm]	*4	170	220	220	220	220	170	170
Nominal Input Speed	[rpm]	*5	3300						
Maximum Input Speed	[rpm]	*6	6000						
No Load Running Torque	[Nm]	*7	0.55						
Maximum Radial Load	[N]	*8	4300						
Maximum Axial Load	[N]	*9	3900						
Moment of Inertia ($\leq \varnothing 8$)	[kgcm ²]	--	0.32	0.25	0.25	0.25	0.25	0.25	0.25
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	0.39	0.32	0.32	0.32	0.32	0.32	0.32
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	0.58	0.51	0.51	0.51	0.51	0.51	0.51
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	10						
Maximum Torsional Backlash	[arc-min]	--	≤ 7						
Noise Level	dB [A]	*12	≤ 80						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	4.1						

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

*2) The maximum torque when starting or stopping operation. Apply Cycle Factor f_0 , found on page 468, for higher duty cycle applications

*3) Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth output shaft

*4) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life

*5) The average input speed at nominal input torque. Maintain housing temperature below permitted value

*6) The maximum intermittent input speed

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

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

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

*10) The efficiency at the nominal output torque rating

*11) This does not include lost motion

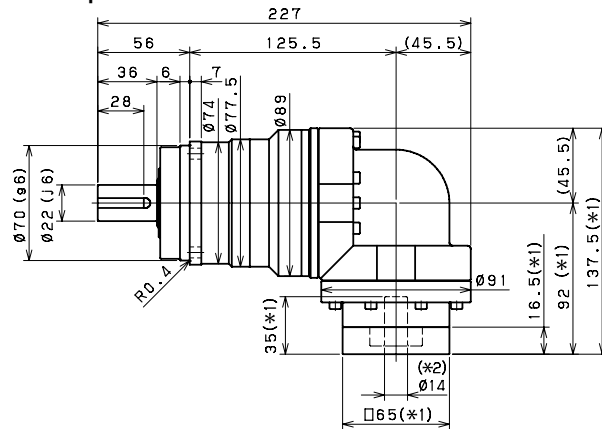
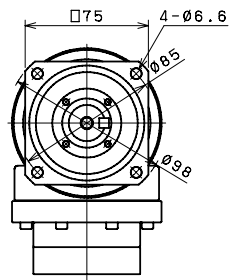
*12) Contact NIDEC-SHIMPO for the testing conditions and environment

*13) Various wash-down options are available. Contact NIDEC-SHIMPO for more details

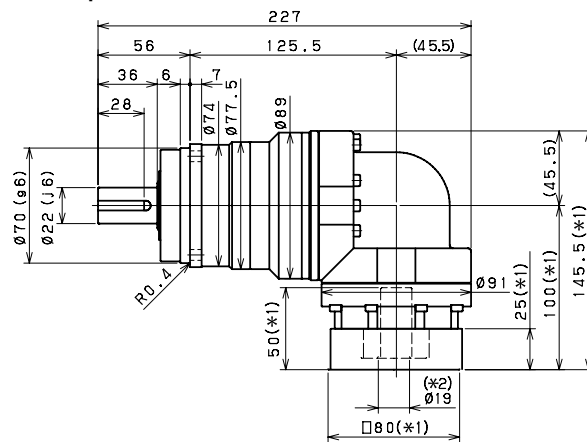
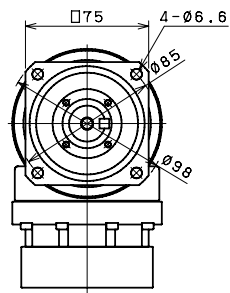
*14) Weight may vary slightly between models

EVS 075 2-Stage Dimensions

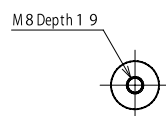
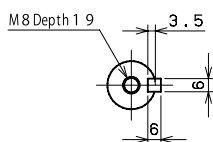
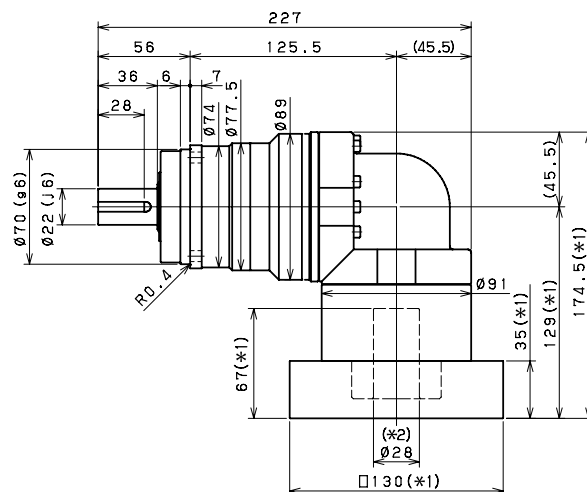
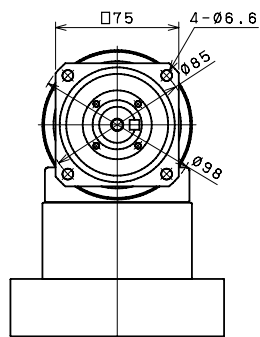
Input bore size $\leq \varnothing 14$ mm



Input bore size $\leq \varnothing 19$ mm



Input bore size $\leq \varnothing 28$ mm



Keyed shaft

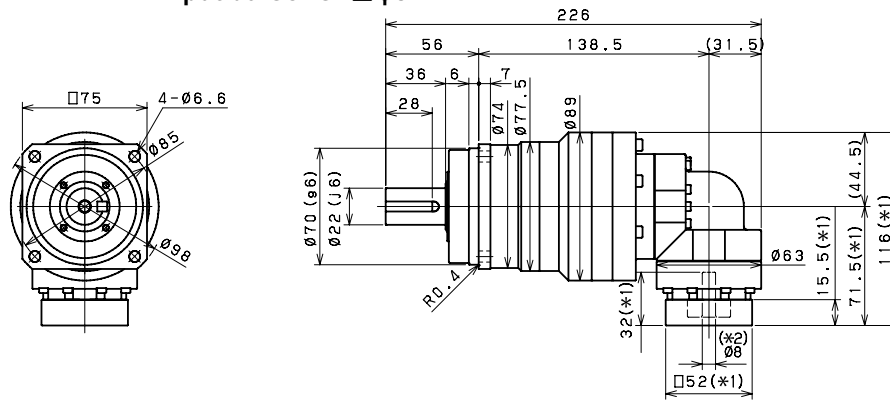
Smooth shaft

*1) Length will vary depending on motor

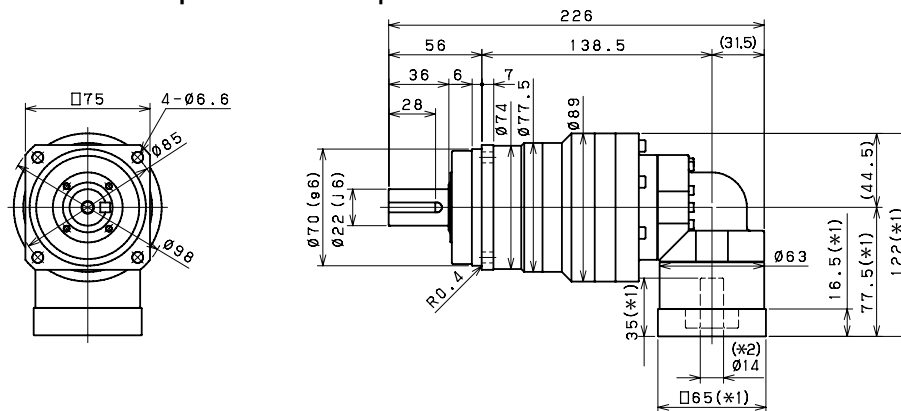
*2) Bushing will be inserted to adapt to motor shaft

EVS 075 3-Stage Dimensions

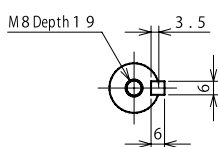
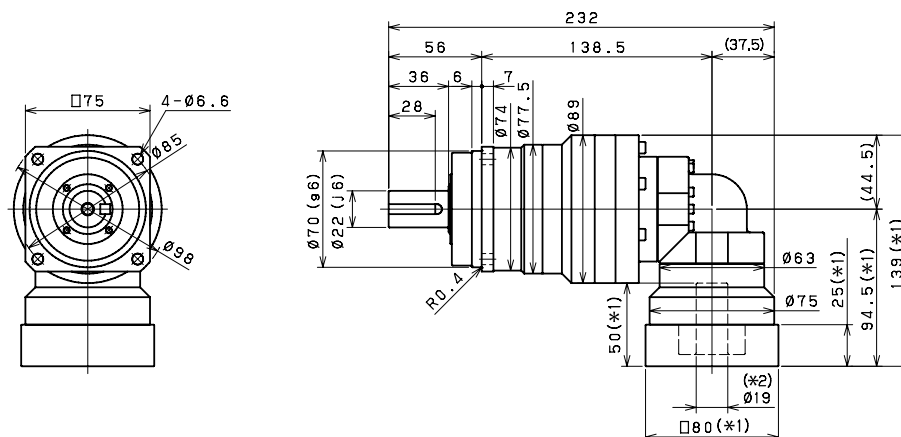
Input bore size $\leq \phi 8 \text{ mm}$



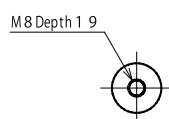
Input bore size $\leq \phi 14 \text{ mm}$



Input bore size $\leq \phi 19 \text{ mm}$



Keyed shaft



Smooth shaft

*1) Length will vary depending on motor

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

EVS 100 2-Stage Specifications

Frame Size	100									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	77	108	123	154	154	154	128	128
Maximum Acceleration Torque	[Nm]	*2	172	227	272	340	340	340	240	240
Maximum Torque	[Nm]	*3	205	271	325	401	401	401	288	288
Emergency Stop Torque	[Nm]	*4	320	430	500	550	550	550	450	450
Nominal Input Speed	[rpm]	*5	3000							
Maximum Input Speed	[rpm]	*6	6000							
No Load Running Torque	[Nm]	*7	1.88							
Maximum Radial Load	[N]	*8	7000							
Maximum Axial Load	[N]	*9	6300							
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	6.61	5.41	4.97	4.73	4.62	4.53	4.47	4.45
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	8.21	7.01	6.57	6.33	6.22	6.12	6.07	6.04
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	15.28	14.08	13.64	13.40	13.29	13.20	13.14	13.11
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	31							
Maximum Torsional Backlash	[arc-min]	--	≤ 4							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	10.5							

EVS 100 3-Stage Specifications

Frame Size	100									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	125	136	162	174	174	132	174	172
Maximum Acceleration Torque	[Nm]	*2	229	295	340	340	340	229	340	340
Maximum Torque	[Nm]	*3	229	295	340	340	340	229	340	340
Emergency Stop Torque	[Nm]	*4	450	550	550	550	550	450	550	550
Nominal Input Speed	[rpm]	*5	3100							
Maximum Input Speed	[rpm]	*6	6000							
No Load Running Torque	[Nm]	*7	1.11							
Maximum Radial Load	[N]	*8	7000							
Maximum Axial Load	[N]	*9	6300							
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	2.24	2.45	2.19	2.18	2.40	1.87	2.16	1.86
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	2.57	2.78	2.52	2.51	2.73	2.20	2.49	2.19
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.70	4.91	4.65	4.63	4.86	4.33	4.62	4.32
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	31							
Maximum Torsional Backlash	[arc-min]	--	≤ 7							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	10.1							

EVS 100 3-Stage Specifications

Frame Size	100								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	132	174	174	174	174	132	132
Maximum Acceleration Torque	[Nm]	*2	240	340	340	340	340	240	240
Maximum Torque	[Nm]	*3	240	340	340	340	340	240	240
Emergency Stop Torque	[Nm]	*4	450	550	550	550	550	450	450
Nominal Input Speed	[rpm]	*5	3100						
Maximum Input Speed	[rpm]	*6	6000						
No Load Running Torque	[Nm]	*7	1.11						
Maximum Radial Load	[N]	*8	7000						
Maximum Axial Load	[N]	*9	6300						
Moment of Inertia ($\leq \varnothing 14$)	[kgcm ²]	--	2.15	1.86	1.85	1.85	1.85	1.85	1.85
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	2.48	2.19	2.18	2.18	2.18	2.18	2.18
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	4.61	4.31	4.31	4.31	4.31	4.31	4.31
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	31						
Maximum Torsional Backlash	[arc-min]	--	≤ 7						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	10.1						

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

*2) The maximum torque when starting or stopping operation. Apply Cycle Factor f_0 , found on page 468, for higher duty cycle applications

*3) Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth output shaft

*4) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life

*5) The average input speed at nominal input torque. Maintain housing temperature below permitted value

*6) The maximum intermittent input speed

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

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

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

*10) The efficiency at the nominal output torque rating

*11) This does not include lost motion

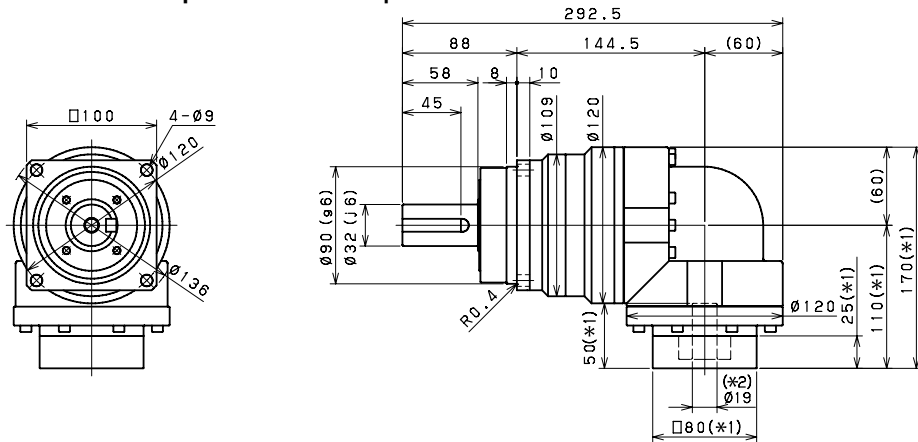
*12) Contact NIDEC-SHIMPO for the testing conditions and environment

*13) Various wash-down options are available. Contact NIDEC-SHIMPO for more details

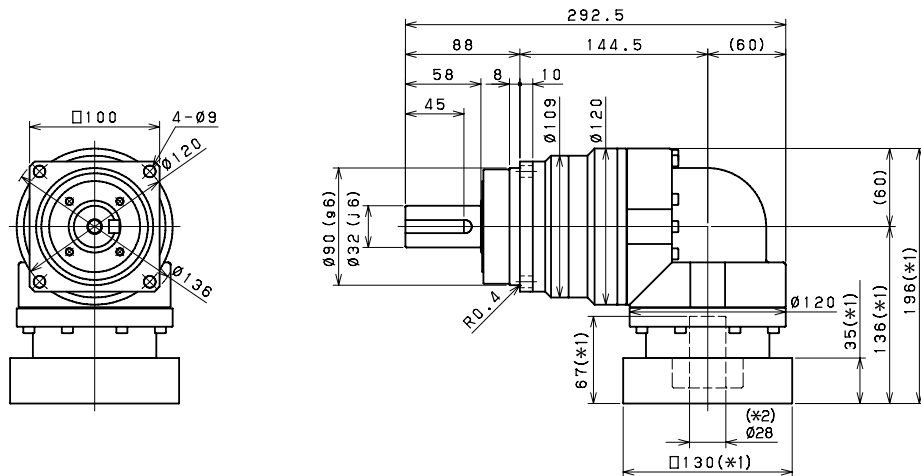
*14) Weight may vary slightly between models

EVS 100 2-Stage Dimensions

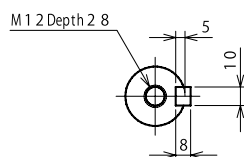
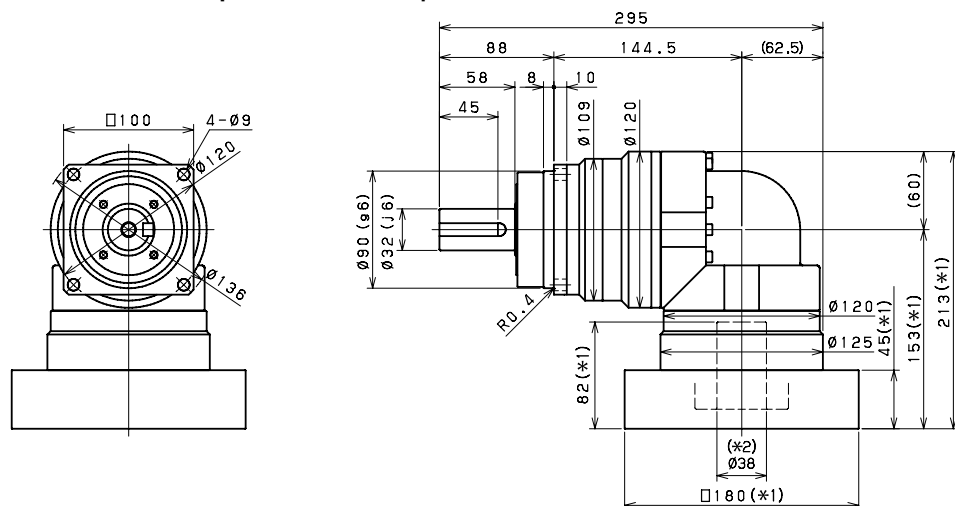
Input bore size $\leq \phi 19$ mm



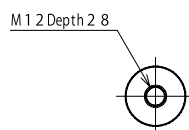
Input bore size $\leq \phi 28$ mm



Input bore size $\leq \phi 38$ mm



Keyed shaft



Smooth shaft

*1) Length will vary depending on motor

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

EVS 140 2-Stage Specifications

Frame Size	140									
Ratio	Unit	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	132	181	205	266	307	307	233	233
Maximum Acceleration Torque	[Nm]	*2	296	389	458	595	687	687	480	480
Maximum Torque	[Nm]	*3	329	452	531	664	766	766	559	559
Emergency Stop Torque	[Nm]	*4	700	950	1100	1100	1100	1100	750	750
Nominal Input Speed	[rpm]	*5	2000							
Maximum Input Speed	[rpm]	*6	5000							
No Load Running Torque	[Nm]	*7	3.26							
Maximum Radial Load	[N]	*8	10000							
Maximum Axial Load	[N]	*9	9000							
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	23.01	18.49	16.85	15.97	15.55	15.21	14.75	14.64
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	27.38	22.86	21.22	20.34	19.92	19.58	19.12	19.02
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	40.61	36.09	34.45	33.57	33.15	32.81	32.25	32.25
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	60							
Maximum Torsional Backlash	[arc-min]	--	≤ 4							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	20.6							

EVS 140 3-Stage Specifications

Frame Size	140									
Ratio	Unit	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	230	307	316	352	352	240	352	337
Maximum Acceleration Torque	[Nm]	*2	456	687	687	687	687	456	687	687
Maximum Torque	[Nm]	*3	456	687	687	687	687	456	687	687
Emergency Stop Torque	[Nm]	*4	750	1100	1100	1100	1100	750	1100	1100
Nominal Input Speed	[rpm]	*5	2300							
Maximum Input Speed	[rpm]	*6	5000							
No Load Running Torque	[Nm]	*7	2.56							
Maximum Radial Load	[N]	*8	10000							
Maximum Axial Load	[N]	*9	9000							
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	6.40	7.29	6.22	6.15	7.09	4.99	6.09	4.94
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	7.99	8.88	7.81	7.75	8.68	6.58	7.68	6.54
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	15.06	15.95	14.88	14.82	15.75	13.66	14.76	13.61
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	60							
Maximum Torsional Backlash	[arc-min]	--	≤ 7							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	20.7							

EVS 140 3-Stage Specifications

Frame Size	140								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	240	352	352	352	352	240	240
Maximum Acceleration Torque	[Nm]	*2	480	687	687	687	687	480	480
Maximum Torque	[Nm]	*3	480	687	687	687	687	480	480
Emergency Stop Torque	[Nm]	*4	750	1100	1100	1100	1100	750	750
Nominal Input Speed	[rpm]	*5	2300						
Maximum Input Speed	[rpm]	*6	5000						
No Load Running Torque	[Nm]	*7	2.56						
Maximum Radial Load	[N]	*8	10000						
Maximum Axial Load	[N]	*9	9000						
Moment of Inertia ($\leq \varnothing 19$)	[kgcm ²]	--	6.07	4.93	4.92	4.91	4.91	4.91	4.91
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	7.66	6.52	6.51	6.51	6.50	6.50	6.50
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	14.73	13.59	13.59	13.58	13.58	13.57	13.57
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	60						
Maximum Torsional Backlash	[arc-min]	--	≤ 7						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	20.7						

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

*2) The maximum torque when starting or stopping operation. Apply Cycle Factor f_0 , found on page 468, for higher duty cycle applications

*3) Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth output shaft

*4) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life

*5) The average input speed at nominal input torque. Maintain housing temperature below permitted value

*6) The maximum intermittent input speed

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

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

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

*10) The efficiency at the nominal output torque rating

*11) This does not include lost motion

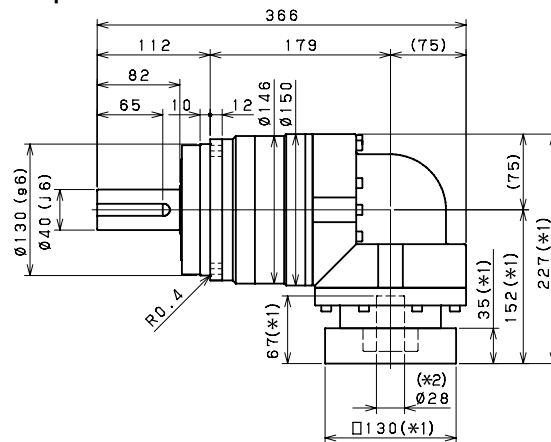
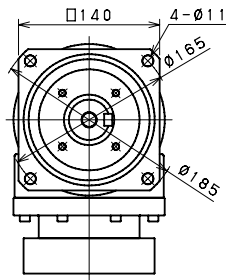
*12) Contact NIDEC-SHIMPO for the testing conditions and environment

*13) Various wash-down options are available. Contact NIDEC-SHIMPO for more details

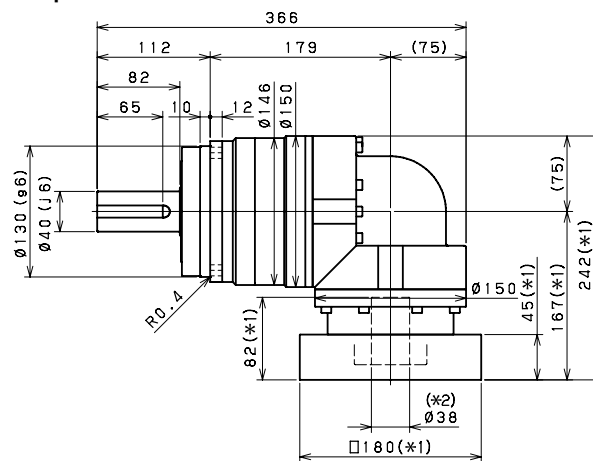
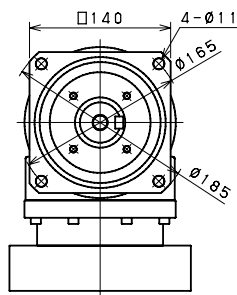
*14) Weight may vary slightly between models

EVS 140 2-Stage Dimensions

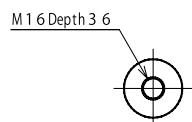
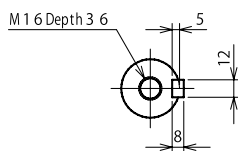
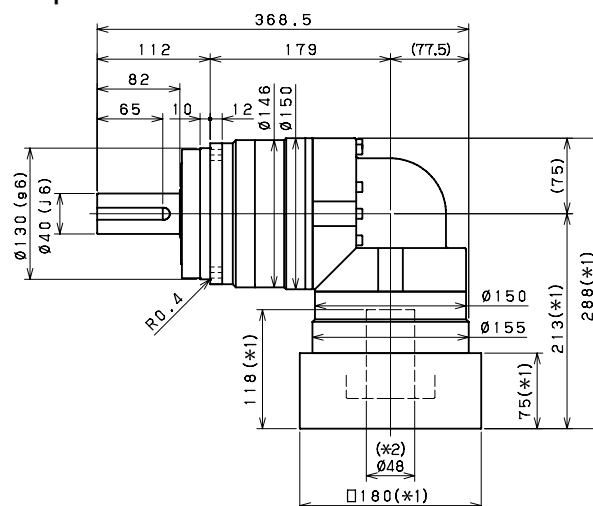
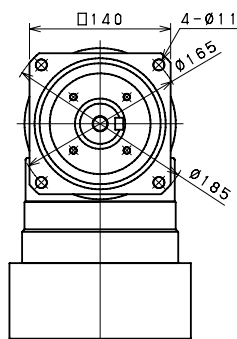
Input bore size $\leq \varnothing 28$ mm



Input bore size $\leq \varphi 38$ mm



Input bore size $\leq \phi 48$ mm



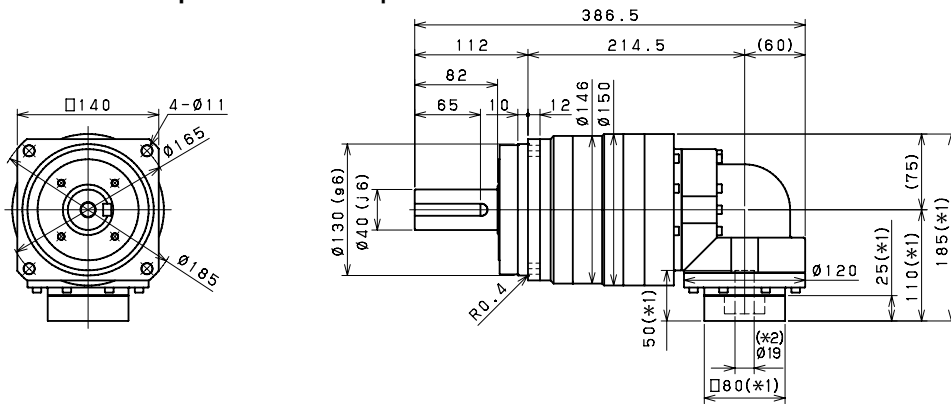
Keyed shaft

Smooth shaft

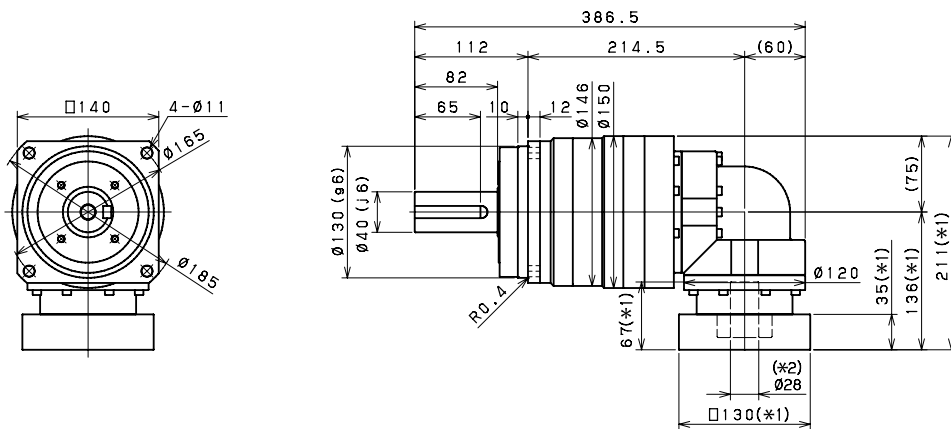
- *1) Length will vary depending on motor
- *2) Bushing will be inserted to adapt to motor shaft

EVS 140 3-Stage Dimensions

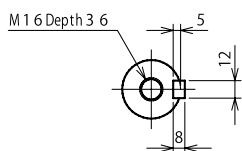
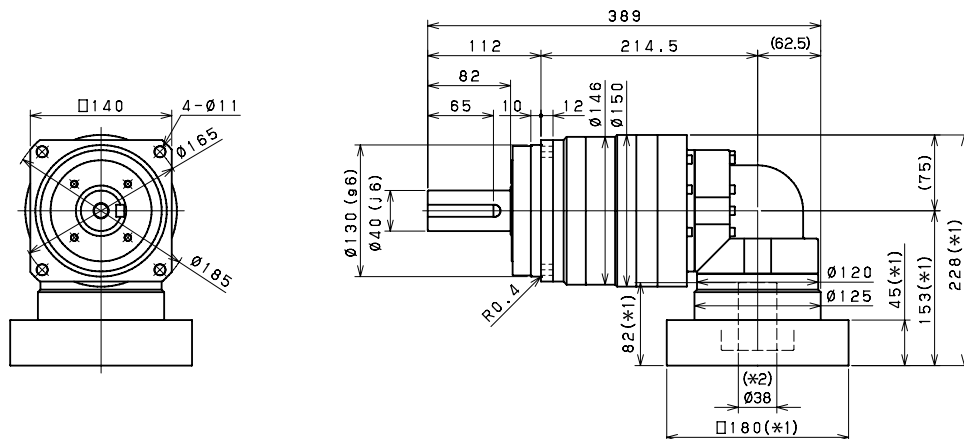
Input bore size $\leq \phi 19$ mm



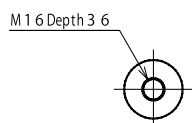
Input bore size $\leq \phi 28$ mm



Input bore size $\leq \phi 38$ mm



Keyed shaft



Smooth shaft

*1) Length will vary depending on motor

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

EVS 180 2-Stage Specifications

Frame Size	180									
Ratio	Units	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	421	604	646	646	646	646	478	478
Maximum Acceleration Torque	[Nm]	*2	679	904	1127	1315	1315	1315	931	931
Maximum Torque	[Nm]	*3	750	1064	1327	1498	1498	1498	1144	1144
Emergency Stop Torque	[Nm]	*4	1300	1700	2000	2500	2500	2500	2000	2000
Nominal Input Speed	[rpm]	*5	1500							
Maximum Input Speed	[rpm]	*6	4000							
No Load Running Torque	[Nm]	*7	10.8							
Maximum Radial Load	[N]	*8	19000							
Maximum Axial Load	[N]	*9	17000							
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	92.00	76.72	71.23	68.28	66.08	65.00	64.38	64.10
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	126.90	111.60	106.10	103.10	100.90	99.86	99.25	98.97
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	212.5	197.2	191.7	188.7	186.6	185.5	184.9	184.6
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arcmin]	*11	175							
Maximum Torsional Backlash	[Arc-min]	--	≤ 6							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	52							

EVS 180 3-Stage Specifications

Frame Size	180									
Ratio	Units	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	442	583	646	683	710	480	710	465
Maximum Acceleration Torque	[Nm]	*2	916	1315	1315	1315	1315	916	1315	1315
Maximum Torque	[Nm]	*3	916	1315	1315	1315	1315	916	1315	1315
Emergency Stop Torque	[Nm]	*4	2000	2500	2500	2500	2500	2000	2500	2500
Nominal Input Speed	[rpm]	*5	2100							
Maximum Input Speed	[rpm]	*6	4000							
No Load Running Torque	[Nm]	*7	4.7							
Maximum Radial Load	[N]	*8	19000							
Maximum Axial Load	[N]	*9	17000							
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	11.42	12.03	11.11	10.96	11.57	10.31	10.82	10.23
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	20.21	20.82	19.90	19.74	20.36	19.10	19.60	19.02
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	25.03	25.64	24.72	24.56	25.18	23.92	24.42	23.84
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arcmin]	*11	175							
Maximum Torsional Backlash	[Arc-min]	--	≤ 9							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	39							

EVS 180 3-Stage Specifications

Frame Size	180								
Ratio	Units	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	480	710	710	710	710	480	480
Maximum Acceleration Torque	[Nm]	*2	931	1315	1315	1315	1315	931	931
Maximum Torque	[Nm]	*3	931	1315	1315	1315	1315	931	931
Emergency Stop Torque	[Nm]	*4	2000	2500	2500	2500	2500	2000	2000
Nominal Input Speed	[rpm]	*5	2100						
Maximum Input Speed	[rpm]	*6	4000						
No Load Running Torque	[Nm]	*7	4.7						
Maximum Radial Load	[N]	*8	19000						
Maximum Axial Load	[N]	*9	17000						
Moment of Inertia ($\leq \varnothing 28$)	[kgcm ²]	--	10.76	10.19	10.17	10.16	10.15	10.14	10.14
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	19.54	18.98	18.96	18.94	18.94	18.93	18.93
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	24.36	23.80	23.78	23.77	23.76	23.75	23.75
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arcmin]	*11	175						
Maximum Torsional Backlash	[Arc-min]	--	≤ 9						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	39						

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

*2) The maximum torque when starting or stopping operation. Apply Cycle Factor f_0 , found on page 468, for higher duty cycle applications

*3) Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth output shaft

*4) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life

*5) The average input speed at nominal input torque. Maintain housing temperature below permitted value

*6) The maximum intermittent input speed

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

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

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

*10) The efficiency at the nominal output torque rating

*11) This does not include lost motion

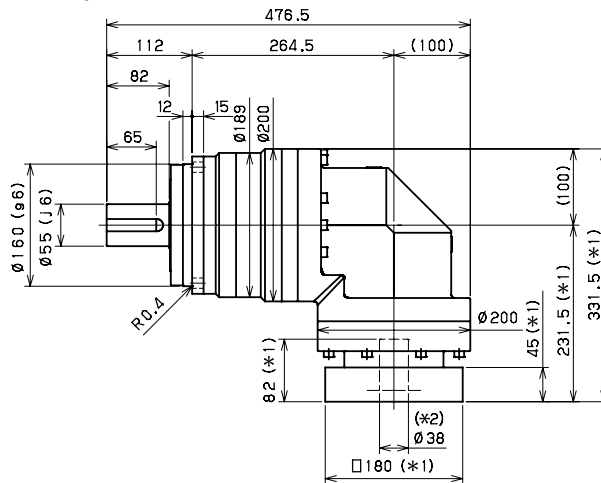
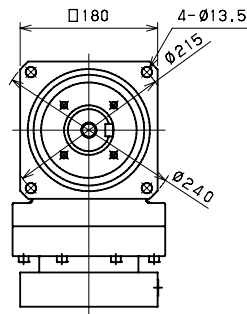
*12) Contact NIDEC-SHIMPO for the testing conditions and environment

*13) Various wash-down options are available. Contact NIDEC-SHIMPO for more details

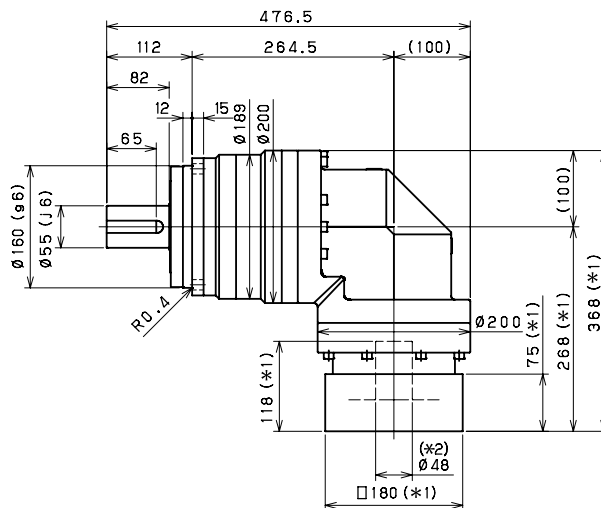
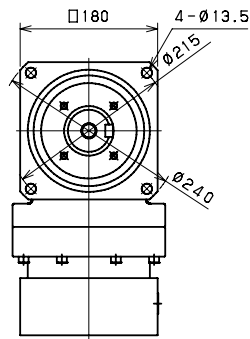
*14) Weight may vary slightly between models

EVS 180 2-Stage Dimensions

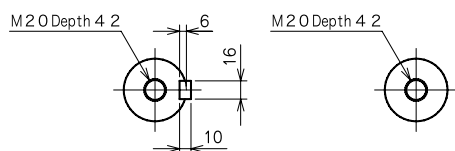
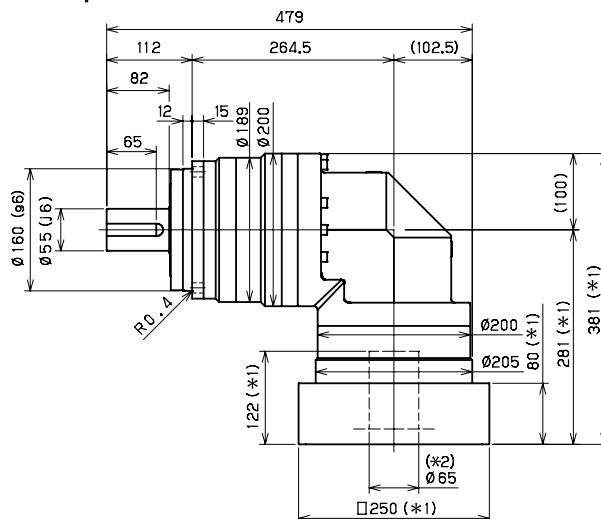
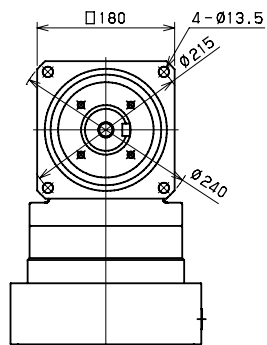
Input bore size $\leq \varnothing 38$ mm



Input bore size $\leq \varnothing 48$ mm



Input bore size $\leq \phi 65$ mm



Keyed shaft

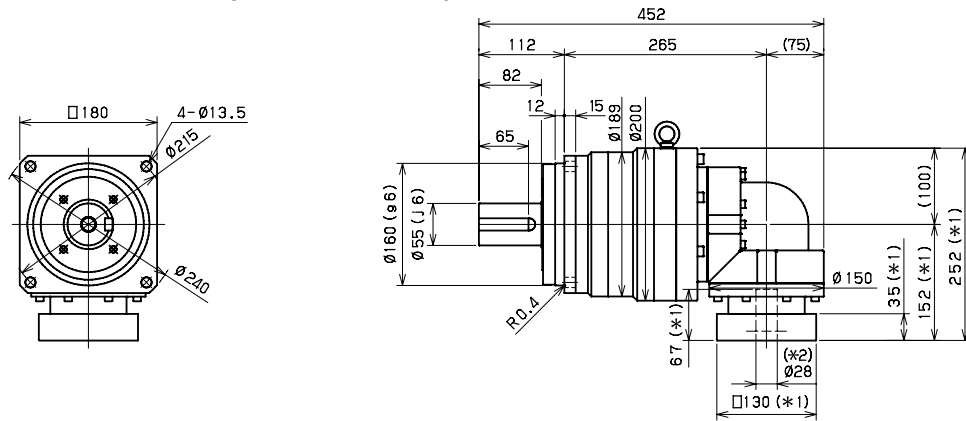
Smooth shaft

*1) Length will vary depending on motor

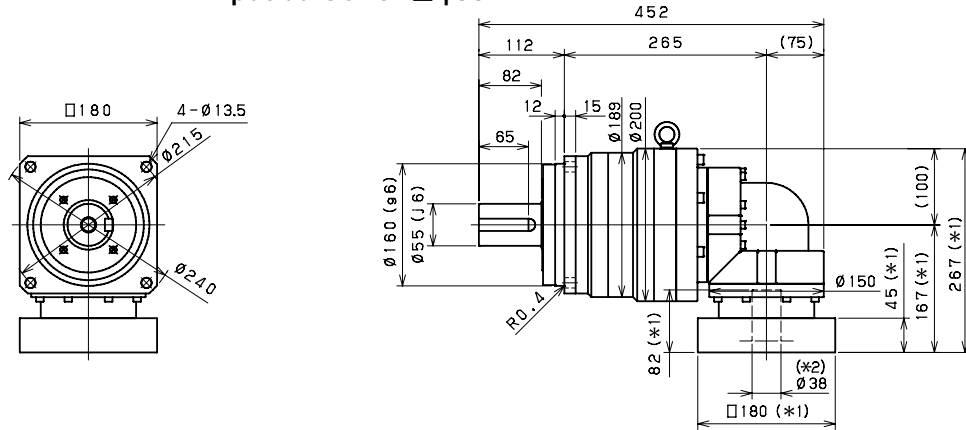
*2) Bushing will be inserted to adapt to motor shaft

EVS 180 3-Stage Dimensions

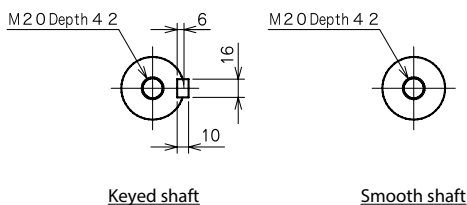
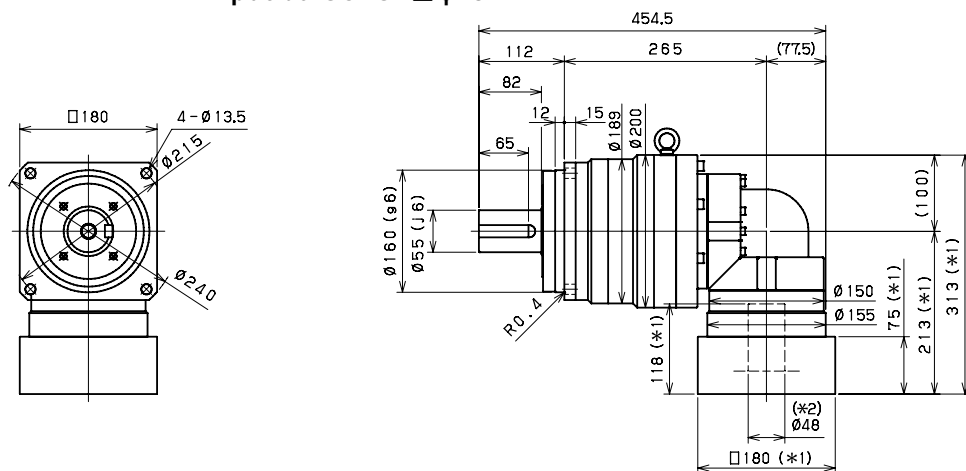
Input bore size $\leq \phi 28$ mm



Input bore size $\leq \phi 38$ mm



Input bore size $\leq \phi 48$ mm



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

EVS 210 2-Stage Specifications

Frame Size	210									
Ratio	Units	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	575	765	960	1208	1313	1313	1064	1064
Maximum Acceleration Torque	[Nm]	*2	1160	1555	1945	2112	2112	2063	1812	1529
Maximum Torque	[Nm]	*3	1336	1861	2328	2441	2441	2339	2032	1787
Emergency Stop Torque	[Nm]	*4	2500	3300	4000	4500	4500	4500	3600	3600
Nominal Input Speed	[rpm]	*5	1200							
Maximum Input Speed	[rpm]	*6	3000							
No Load Running Torque	[Nm]	*7	14.5							
Maximum Radial Load	[N]	*8	24000							
Maximum Axial Load	[N]	*9	22000							
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	149.7	123.8	113.9	108.5	105.0	103.0	101.7	101.1
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	224.9	199.0	189.1	183.7	180.3	178.2	176.9	176.3
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arcmin]	*11	400							
Maximum Torsional Backlash	[Arc-min]	--	≤ 6							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	71							

EVS 210 3-Stage Specifications

Frame Size	210									
Ratio	Units	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	858	1200	1200	1360	1440	948	1440	1440
Maximum Acceleration Torque	[Nm]	*2	1463	2112	2112	2112	2112	1463	2112	2112
Maximum Torque	[Nm]	*3	1463	2112	2112	2112	2112	1463	2112	2112
Emergency Stop Torque	[Nm]	*4	3600	4500	4500	4500	4500	3600	4500	4500
Nominal Input Speed	[rpm]	*5	1500							
Maximum Input Speed	[rpm]	*6	3000							
No Load Running Torque	[Nm]	*7	10.2							
Maximum Radial Load	[N]	*8	24000							
Maximum Axial Load	[N]	*9	22000							
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	36.39	37.30	35.79	35.49	36.41	34.41	35.22	34.26
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	66.21	67.12	65.61	65.31	66.23	64.23	65.04	64.08
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arcmin]	*11	400							
Maximum Torsional Backlash	[Arc-min]	--	≤ 9							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	73							

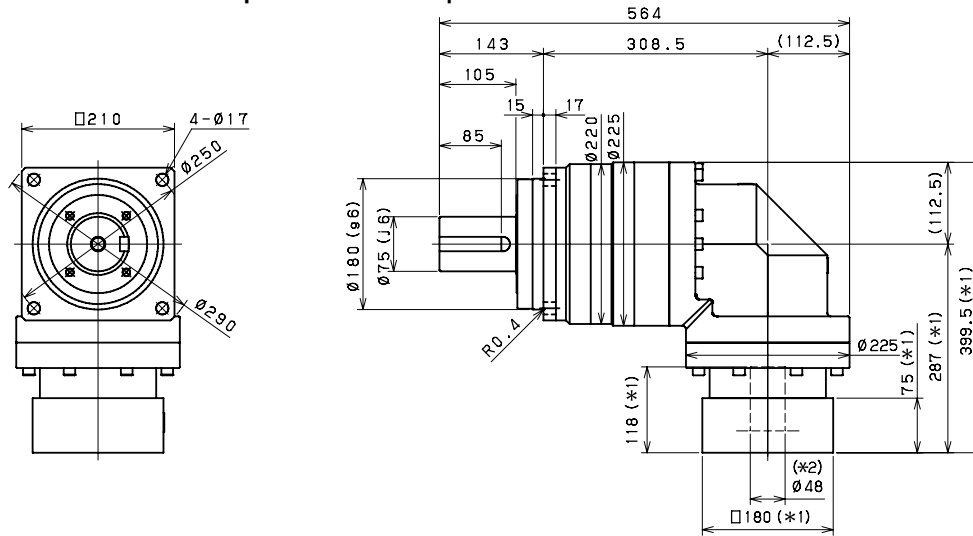
EVS 210 3-Stage Specifications

Frame Size	210								
Ratio	Units	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	948	1440	1440	1440	1440	948	948
Maximum Acceleration Torque	[Nm]	*2	1246	2112	2112	2112	1728	1246	1131
Maximum Torque	[Nm]	*3	1246	2112	2112	2112	1728	1246	1131
Emergency Stop Torque	[Nm]	*4	3600	4500	4500	4500	4500	3600	3600
Nominal Input Speed	[rpm]	*5	1500						
Maximum Input Speed	[rpm]	*6	3000						
No Load Running Torque	[Nm]	*7	10.2						
Maximum Radial Load	[N]	*8	24000						
Maximum Axial Load	[N]	*9	22000						
Moment of Inertia ($\leq \varnothing 38$)	[kgcm ²]	--	35.11	34.18	34.14	34.12	34.10	34.09	34.08
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	64.92	64.00	63.96	63.93	63.92	63.90	63.90
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arcmin]	*11	400						
Maximum Torsional Backlash	[Arc-min]	--	≤ 9						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	73						

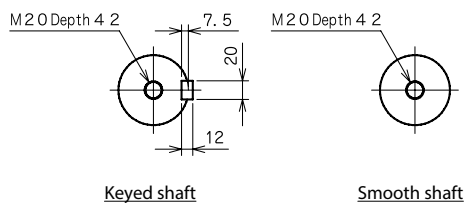
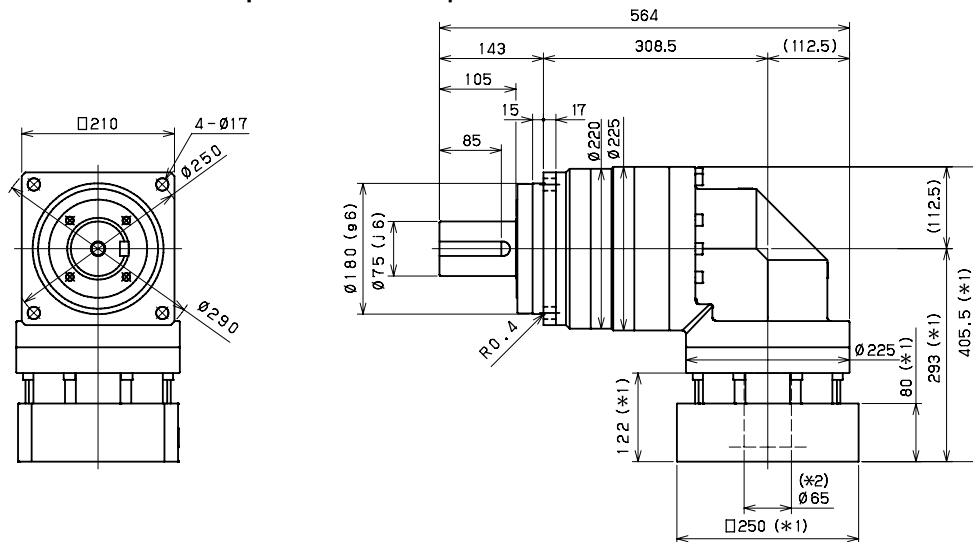
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation. Apply Cycle Factor f_0 , found on page 468, for higher duty cycle applications
- *3) Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth output shaft
- *4) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- *5) The average input speed at nominal input torque. Maintain housing temperature below permitted value
- *6) The maximum intermittent input speed
- *7) Torque at no load applied to the input shaft at nominal input speed
- *8) The maximum radial load that the gearbox can accept
- *9) The maximum axial load that the gearbox can accept
- *10) The efficiency at the nominal output torque rating
- *11) This does not include lost motion
- *12) Contact NIDEC-SHIMPO for the testing conditions and environment
- *13) Various wash-down options are available. Contact NIDEC-SHIMPO for more details
- *14) Weight may vary slightly between models

EVS 210 2-Stage Dimensions

Input bore size $\leq \varnothing 48$ mm



Input bore size $\leq \phi 65$ mm



*1) Length will vary depending on motor

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

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EVS 240 2-Stage Specifications

Frame Size	240									
Ratio	Units	Note	3	4	5	6	7	8	9	10
Nominal Output Torque	[Nm]	*1	1005	1340	1680	1992	2024	2024	1534	1534
Maximum Acceleration Torque	[Nm]	*2	2334	3520	3520	3428	3428	3345	2873	2478
Maximum Torque	[Nm]	*3	2642	3891	3891	3809	3809	3724	3179	2781
Emergency Stop Torque	[Nm]	*4	4000	5400	6500	7200	7200	7200	5400	5400
Nominal Input Speed	[rpm]	*5	1200							
Maximum Input Speed	[rpm]	*6	3000							
No Load Running Torque	[Nm]	*7	25.3							
Maximum Radial Load	[N]	*8	30000							
Maximum Axial Load	[N]	*9	27000							
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	217.5	156.7	134.5	122.4	112.9	108.3	105.5	104.0
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arcmin]	*11	550							
Maximum Torsional Backlash	[Arc-min]	--	≤ 6							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	122							

EVS 240 3-Stage Specifications

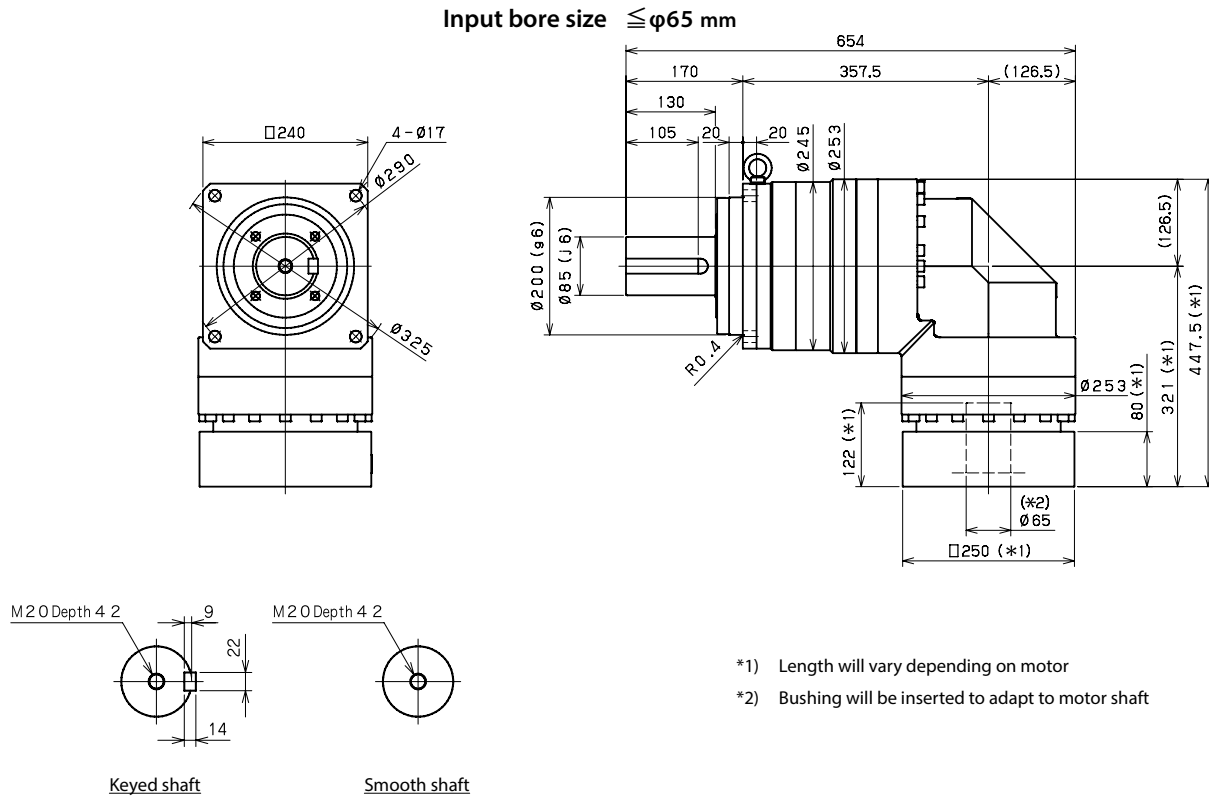
Frame Size	240									
Ratio	Units	Note	15	16	20	25	28	30	35	40
Nominal Output Torque	[Nm]	*1	1405	1920	1992	2154	2195	1405	2195	2195
Maximum Acceleration Torque	[Nm]	*2	2334	3520	3520	3520	3460	2334	3460	3520
Maximum Torque	[Nm]	*3	2334	3520	3520	3520	3460	2334	3460	3520
Emergency Stop Torque	[Nm]	*4	5400	7200	7200	7200	7200	5400	7200	7200
Nominal Input Speed	[rpm]	*5	1500							
Maximum Input Speed	[rpm]	*6	3000							
No Load Running Torque	[Nm]	*7	16.4							
Maximum Radial Load	[N]	*8	30000							
Maximum Axial Load	[N]	*9	27000							
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	40.47	42.59	39.21	38.59	40.73	35.09	38.02	34.78
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arcmin]	*11	550							
Maximum Torsional Backlash	[Arc-min]	--	≤ 9							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	113							

EVS 240 3-Stage Specifications

Frame Size	240								
Ratio	Units	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	1405	2195	2195	2195	2195	1405	1405
Maximum Acceleration Torque	[Nm]	*2	2000	3520	3428	3460	2563	2000	1718
Maximum Torque	[Nm]	*3	2000	3520	3428	3460	2563	2000	1718
Emergency Stop Torque	[Nm]	*4	5400	7200	7200	7200	7200	5400	5400
Nominal Input Speed	[rpm]	*5	1500						
Maximum Input Speed	[rpm]	*6	3000						
No Load Running Torque	[Nm]	*7	16.4						
Maximum Radial Load	[N]	*8	30000						
Maximum Axial Load	[N]	*9	27000						
Moment of Inertia ($\leq \varnothing 48$)	[kgcm ²]	--	37.78	34.62	34.53	34.48	34.45	34.42	34.41
Moment of Inertia ($\leq \varnothing 65$)	[kgcm ²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arcmin]	*11	550						
Maximum Torsional Backlash	[Arc-min]	--	≤ 9						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	113						

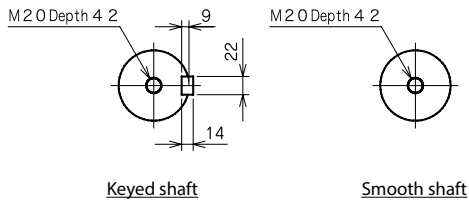
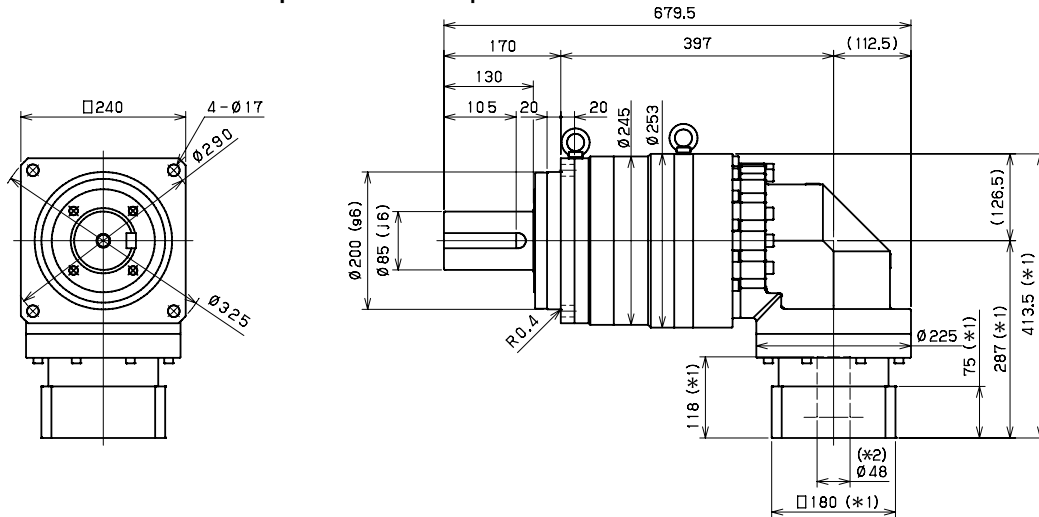
- *1) At nominal input speed, service life is 20,000 hours
- *2) The maximum torque when starting or stopping operation. Apply Cycle Factor f_0 , found on page 468, for higher duty cycle applications
- *3) Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth output shaft
- *4) The maximum torque allowed under a stress situation. Permitted 1,000 times during service life
- *5) The average input speed at nominal input torque. Maintain housing temperature below permitted value
- *6) The maximum intermittent input speed
- *7) Torque at no load applied to the input shaft at nominal input speed
- *8) The maximum radial load that the gearbox can accept
- *9) The maximum axial load that the gearbox can accept
- *10) The efficiency at the nominal output torque rating
- *11) This does not include lost motion
- *12) Contact NIDEC-SHIMPO for the testing conditions and environment
- *13) Various wash-down options are available. Contact NIDEC-SHIMPO for more details
- *14) Weight may vary slightly between models

EVS 240 2-Stage Dimensions



EVS 240 3-Stage Dimensions

Input bore size $\leq \phi 48$ mm



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

