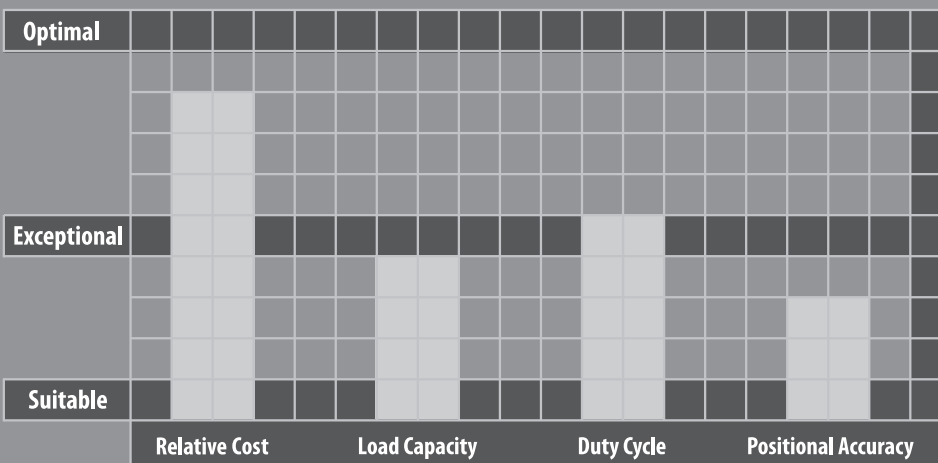


# NEV SERIES

The NEV right angle gearbox is the ideal solution for servo or stepper applications running primarily in one direction. With 30 arc-minute backlash, the NEV is an excellent cost-effective, compact choice for applications such as conveyors, where positioning is not as critical. The NEV is often used in situations where our customers upgrade induction duty motors to servos. The price point of this product helps OEMs control costs, especially when updating several axes on one machine. The performance, efficiency and footprint of the NEV allows it to outperform helical bevel or worm gearboxes in a similar class.

The NEV has a lightweight aluminum frame with either a hollow or solid output shaft configuration. It can handle motors ranging between 50w and 3.5kW, achieving nominal output torque ratings ranging between 6 Nm to 90 Nm. Four frame sizes and ratios between 5:1 and 105:1 are available, as well as various wash down options, making this product ideal for applications in food & beverage.





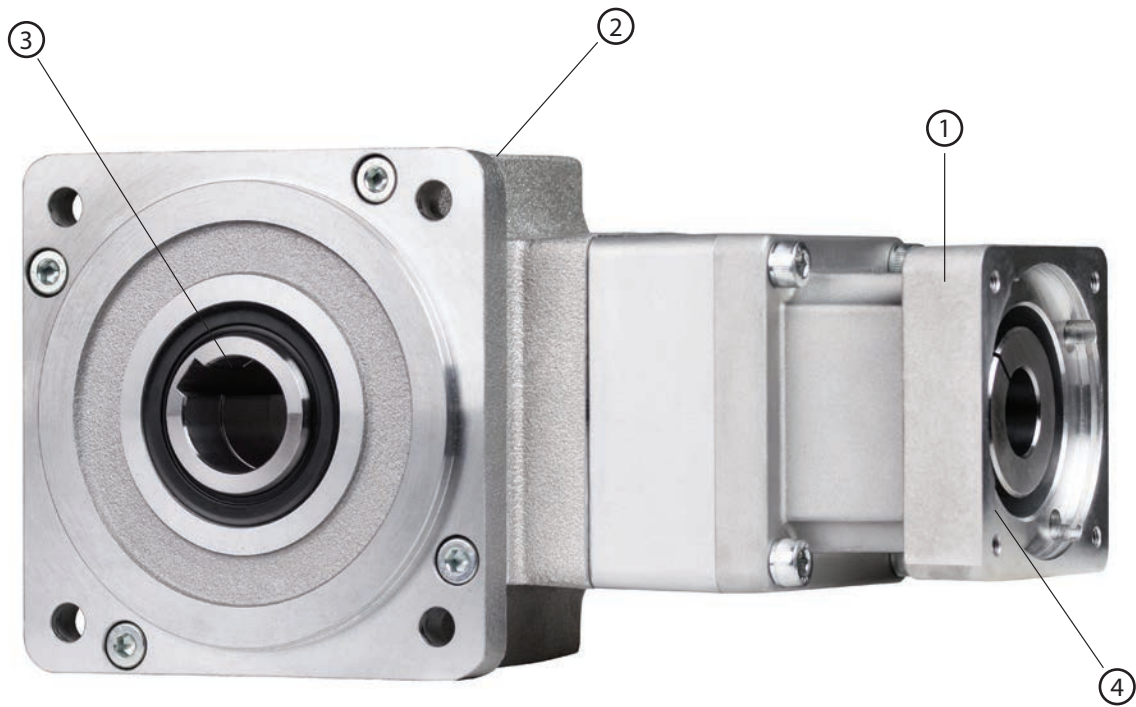
NEV

## NEV SERIES

- Hollow output shaft option gives machine builders a very compact foot print
- Value engineered solution for simple servo and stepper motor applications
- Quiet operation: Helical cut gears contribute to reduced vibration and noise
- Wide range of mounting adapters offer a simple, precise attachment to any motor
- Lightweight aluminum body reduces excess weight
- Aluminum body, combined with other wash-down features can be used in harsh environments
- Maintenance-free solution that is lubricated for life. High performance grease allows flexible mounting in any orientation

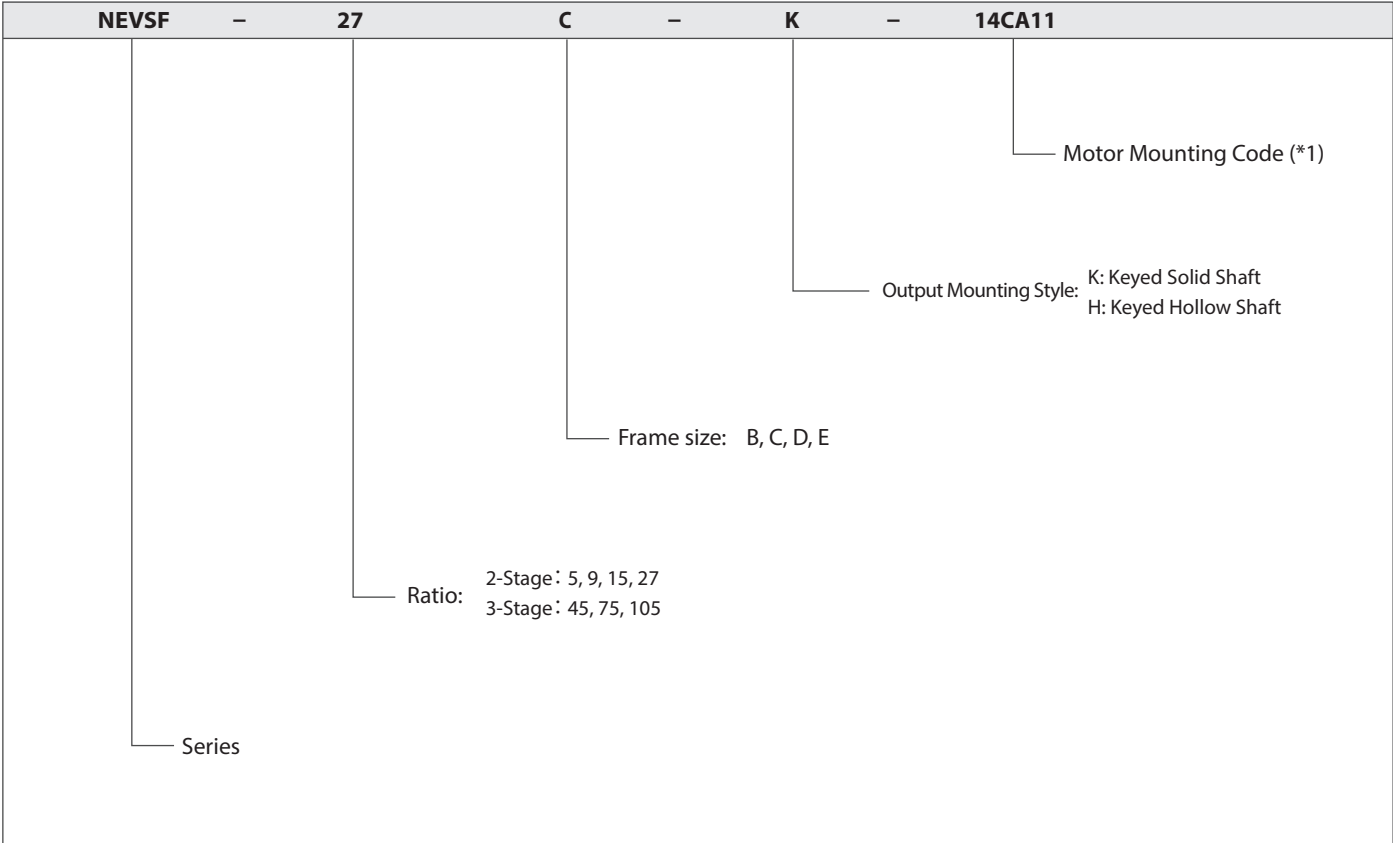
# NEV SERIES Right-angle Planetary

## NEV Series Features



- ① Motor adapter allows for flexible mounting to any motor manufacturer
- ② Lightweight aluminum body, an excellent fit for washdown applications
- ③ Hollow or solid output shaft options
- ④ Input seal provides IP65 protection against the elements

## NEV Series Model Code



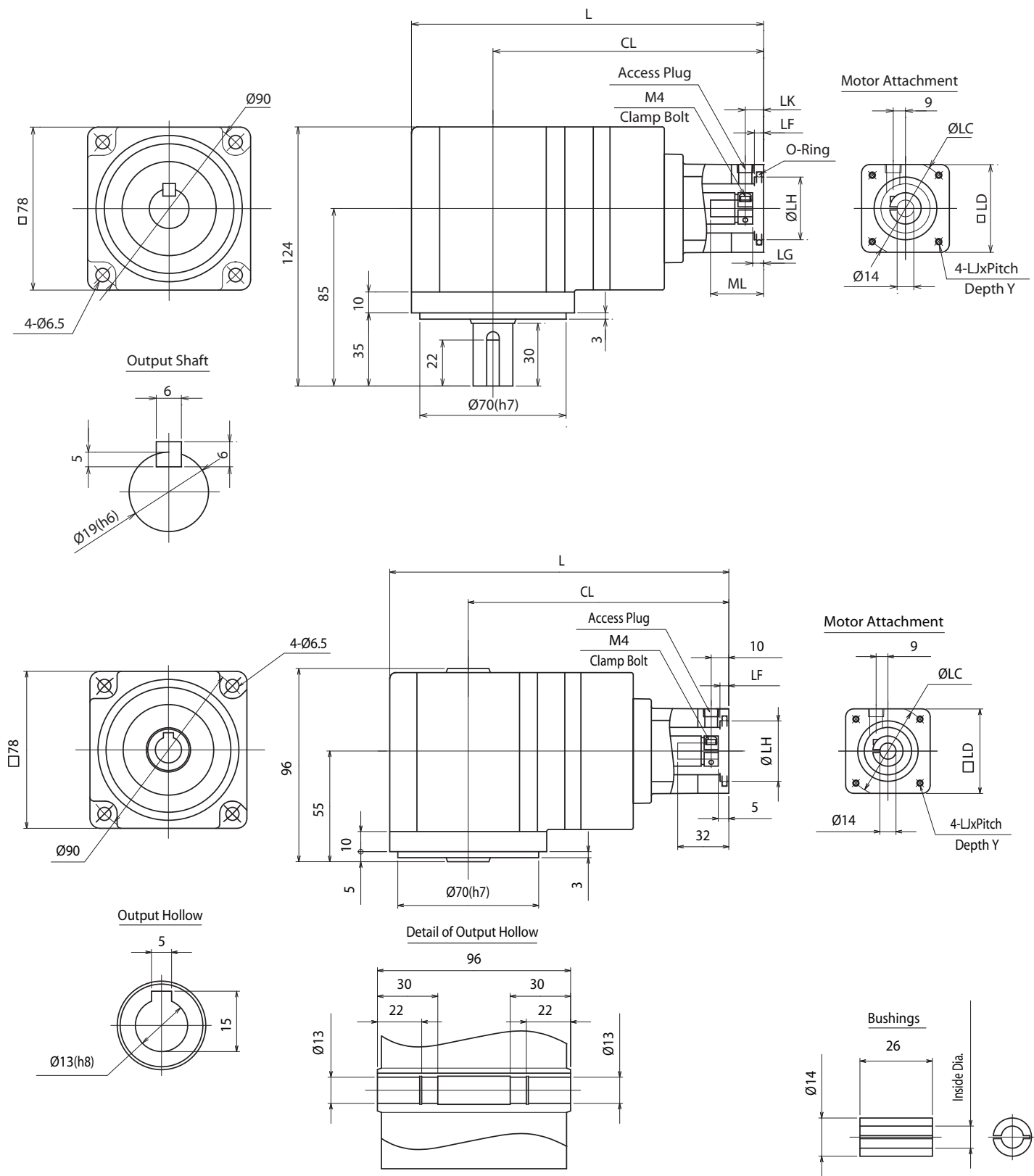
\*1) Contact us for washdown, food grade or other modifications

# NEV SERIES Right-angle Planetary

## NEV B-Frame 2-Stage Specifications

Frame Size	B (78mm)					
Ratio	Units	Note	5	9	15	27
Nominal Output Torque	[Nm]	--	6	6	10	10
Maximum Acceleration Torque	[Nm]	--	20	20	30	30
Emergency Stop Torque	[Nm]	--	35	40	50	50
Nominal Input Speed	[rpm]	--	3000			
Maximum Input Speed	[rpm]	--	6000			
No Load Running Torque	[Nm]	--	0.18			
Permitted Radial Load	[N]	--	1000	1200	1500	1800
Permitted Axial Load	[N]	--	500	600	750	900
Moment of Inertia ( $\leq \emptyset 8$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--
Moment of Inertia ( $\leq \emptyset 14$ )	[kgcm <sup>2</sup> ]	--	0.275	0.110	0.059	0.146
Efficiency	[%]	--	85			
Torsional Rigidity	[Nm/arcmin]	--	0.4			
Maximum Torsional Backlash	[Arc-min]	--	$\leq 30$			
Noise Level	[dB]	--	$\leq 73$			
Protection Class	--	--	IP65			
Ambient Temperature	[°C]	--	0-40			
Permitted Housing Temperature	[°C]	--	90			
Weight (Solid Output Shaft)	[kg]	--	3.8			
Weight (Hollow Output Shaft)	[kg]	--	3.6			

## NEV B-Frame (78mm) 2-Stage Dimensions – Ratios: 5:1, 9:1, 15:1, 27:1



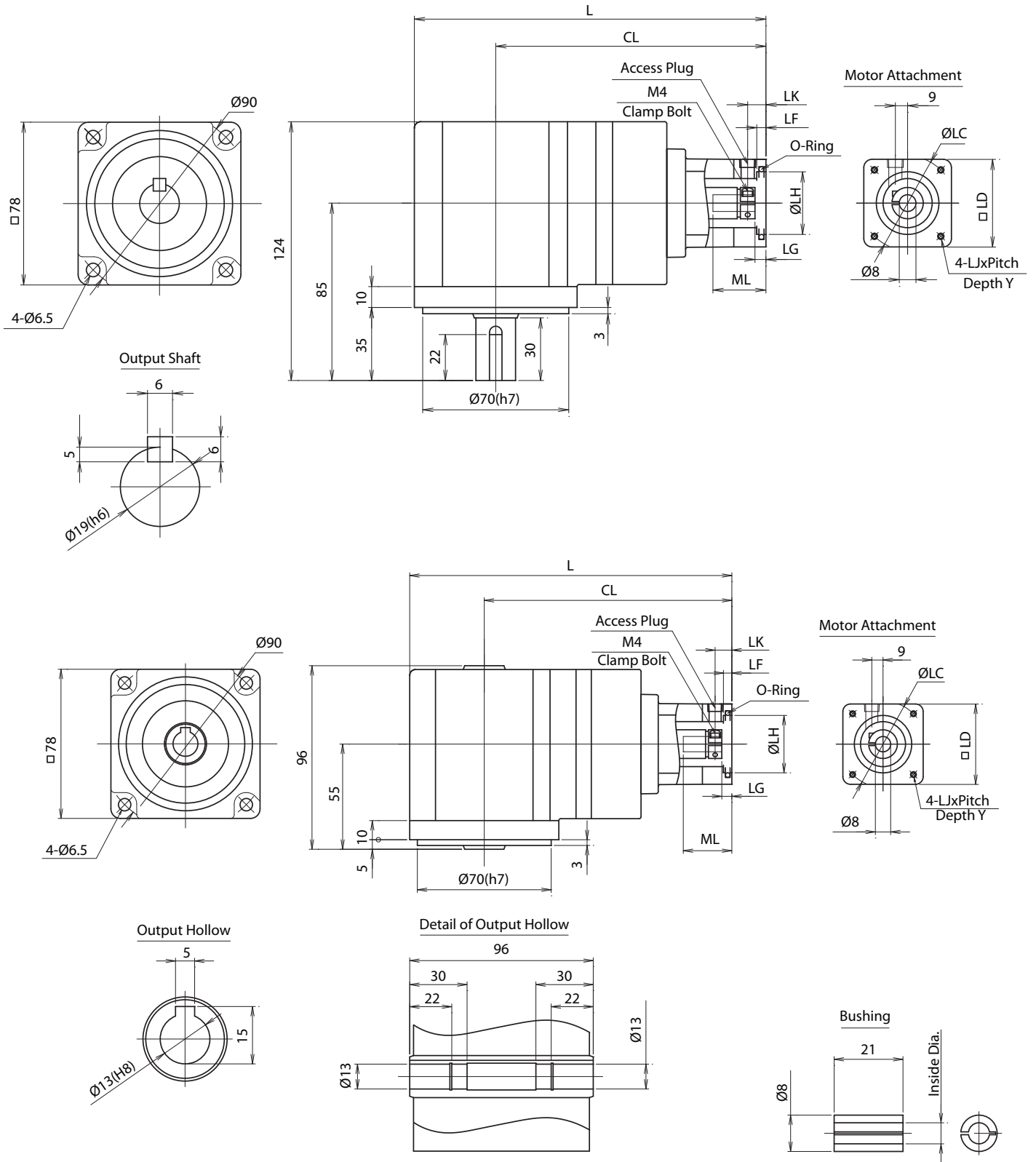
NEW

# NEV SERIES Right-angle Planetary

## NEV B-Frame 3-Stage Specifications

Frame Size	B (78mm)				
Ratio	Units	Note	45	75	105
Nominal Output Torque	[Nm]	--	10	15	15
Maximum Acceleration Torque	[Nm]	--	30	30	30
Emergency Stop Torque	[Nm]	--	50	50	50
Nominal Input Speed	[rpm]	--	3000		
Maximum Input Speed	[rpm]	--	6000		
No Load Running Torque	[Nm]	--	0.109		
Permitted Radial Load	[N]	--	1800	1800	1800
Permitted Axial Load	[N]	--	900	900	900
Moment of Inertia ( $\leq \emptyset 8$ )	[kgcm <sup>2</sup> ]	--	0.091	0.083	0.078
Moment of Inertia ( $\leq \emptyset 14$ )	[kgcm <sup>2</sup> ]	--	--	--	--
Efficiency	[%]	--	80		
Torsional Rigidity	[Nm/arcmin]	--	0.4		
Maximum Torsional Backlash	[Arc-min]	--	$\leq 30$		
Noise Level	[dB]	--	$\leq 63$		
Protection Class	--	--	IP65		
Ambient Temperature	[°C]	--	0-40		
Permitted Housing Temperature	[°C]	--	90		
Weight (Solid Output Shaft)	[kg]	--	3.9		
Weight (Hollow Output Shaft)	[kg]	--	3.7		

## NEV B-Frame (78mm) 3-Stage Dimensions – Ratios: 45:1, 75:1, 105:1



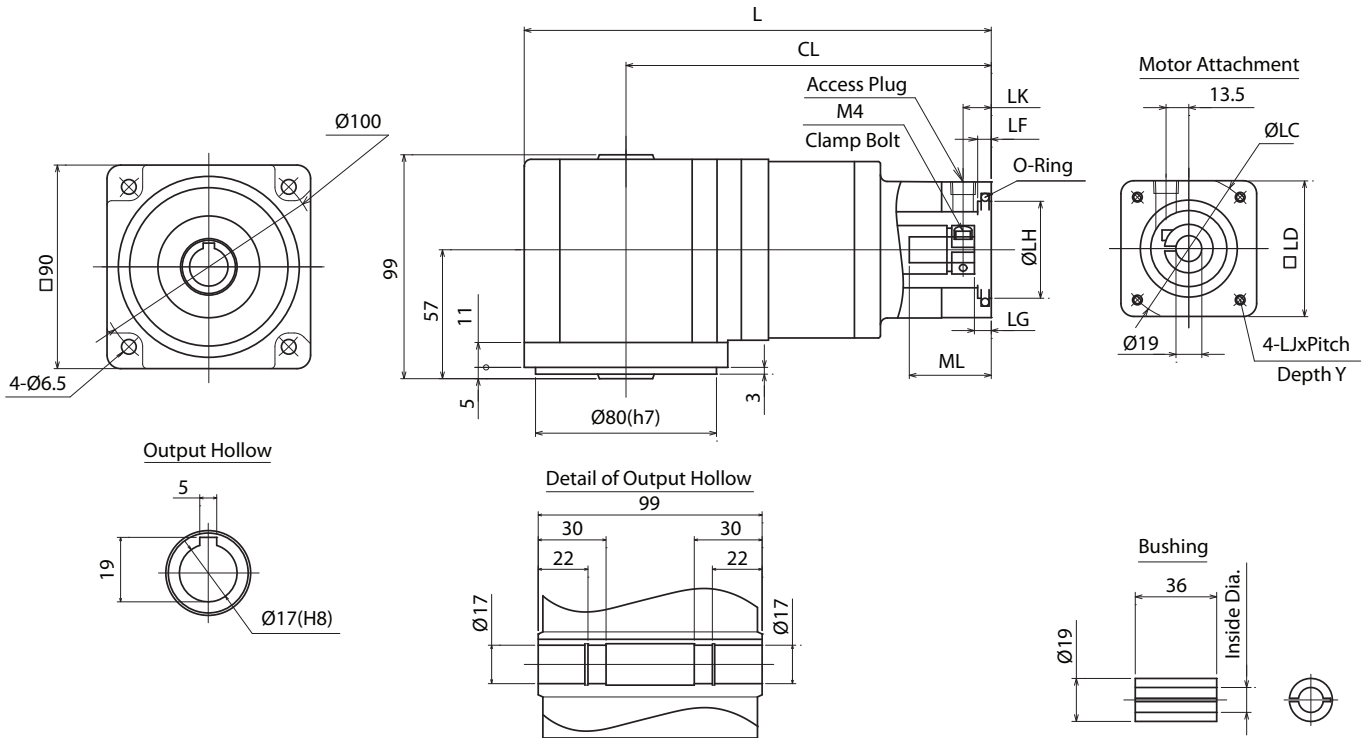
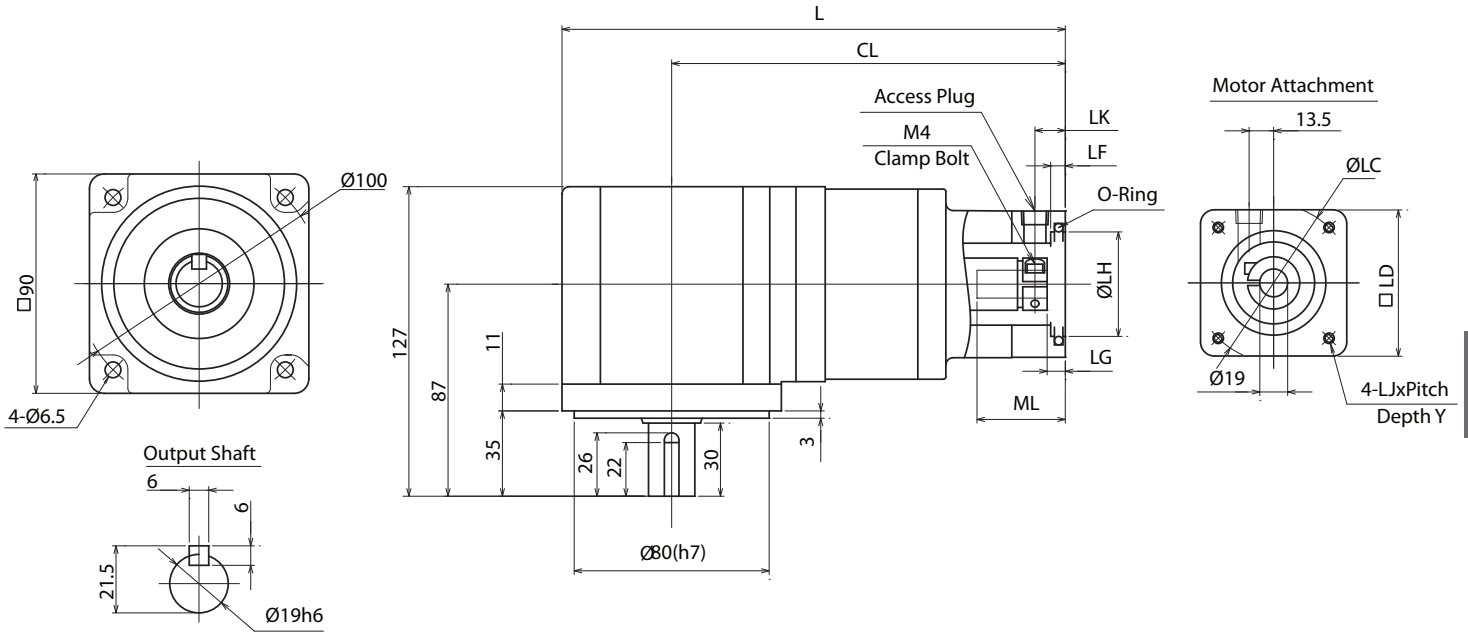
NEV

# NEV SERIES Right-angle Planetary

## NEV C-Frame 2-Stage Specifications

Frame Size	C (90mm)					
Ratio	Units	Note	5	9	15	27
Nominal Output Torque	[Nm]	--	15	20	20	30
Maximum Acceleration Torque	[Nm]	--	30	35	40	40
Emergency Stop Torque	[Nm]	--	50	50	60	75
Nominal Input Speed	[rpm]	--	3000			
Maximum Input Speed	[rpm]	--	6000			
No Load Running Torque	[Nm]	--	0.3			
Permitted Radial Load	[N]	--	1000	1500	1800	1800
Permitted Axial Load	[N]	--	500	750	900	900
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.806	0.744	0.415	0.585
Efficiency	[%]	--	85			
Torsional Rigidity	[Nm/arcmin]	--	1.0			
Maximum Torsional Backlash	[Arc-min]	--	$\leq 30$			
Noise Level	[dB]	--	$\leq 73$			
Protection Class	--	--	IP65			
Ambient Temperature	[°C]	--	0-40			
Permitted Housing Temperature	[°C]	--	90			
Weight (Solid Output Shaft)	[kg]	--	4.1			
Weight (Hollow Output Shaft)	[kg]	--	4.0			

## NEV C-Frame (gomm) 2-Stage Dimensions – Ratios: 5:1, 9:1, 15:1, 27:1

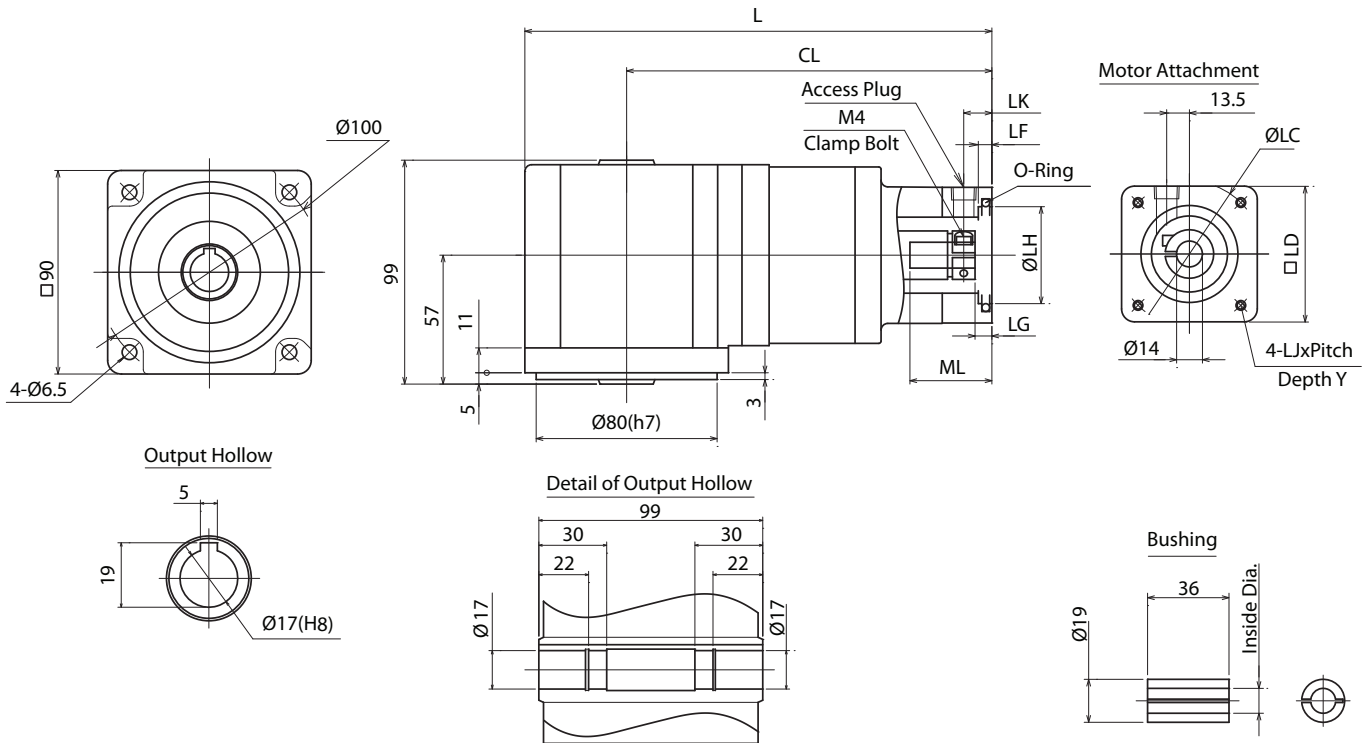
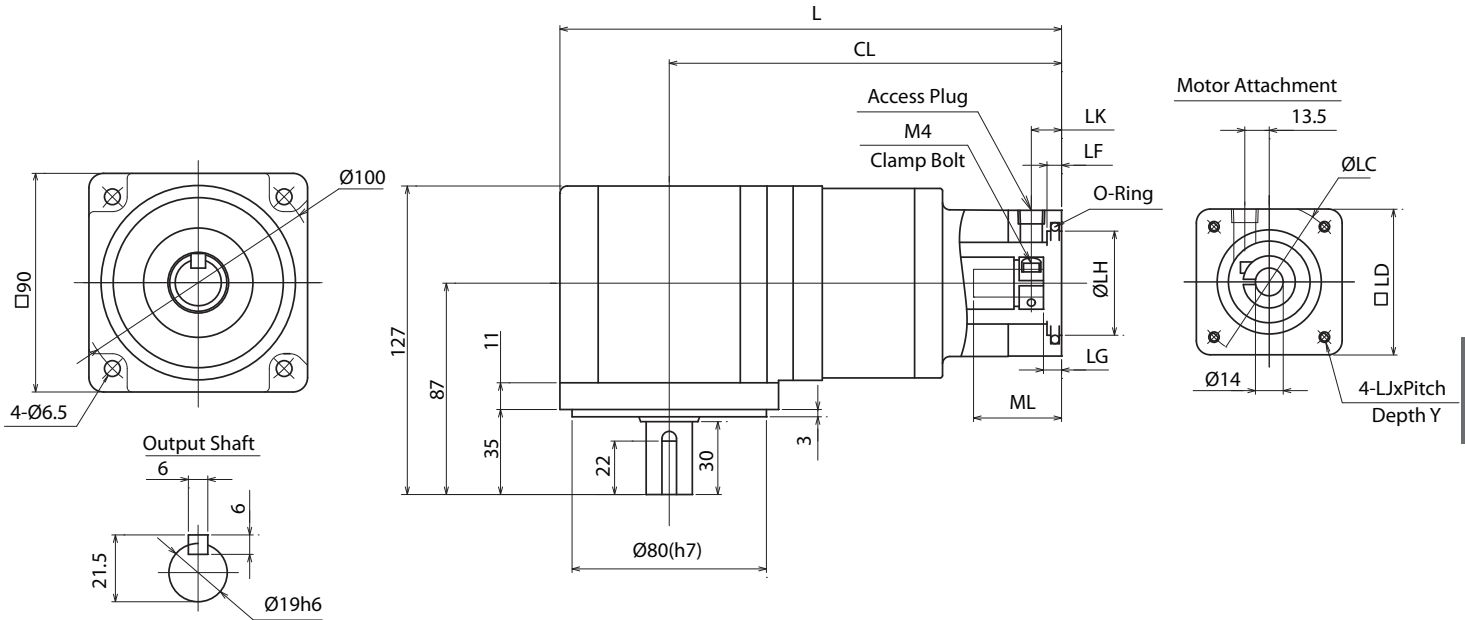


# NEV SERIES Right-angle Planetary

## NEV C-Frame 3-Stage Specifications

Frame Size	C (90mm)				
Ratio	Units	Note	45	75	105
Nominal Output Torque	[Nm]	--	30	30	30
Maximum Acceleration Torque	[Nm]	--	40	40	40
Emergency Stop Torque	[Nm]	--	75	75	75
Nominal Input Speed	[rpm]	--	3000		
Maximum Input Speed	[rpm]	--	6000		
No Load Running Torque	[Nm]	--	0.205		
Permitted Radial Load	[N]	--	1800	1800	1800
Permitted Axial Load	[N]	--	900	900	900
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.794	0.690	0.590
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--
Efficiency	[%]	--	80		
Torsional Rigidity	[Nm/arcmin]	--	1.0		
Maximum Torsional Backlash	[Arc-min]	--	$\leq 30$		
Noise Level	[dB]	--	$\leq 63$		
Protection Class	--	--	IP65		
Ambient Temperature	[°C]	--	0-40		
Permitted Housing Temperature	[°C]	--	90		
Weight (Solid Output Shaft)	[kg]	--	4.3		
Weight (Hollow Output Shaft)	[kg]	--	4.2		

## NEV C-Frame (gomm) 3-Stage Dimensions – Ratios: 45:1, 75:1, 105:1



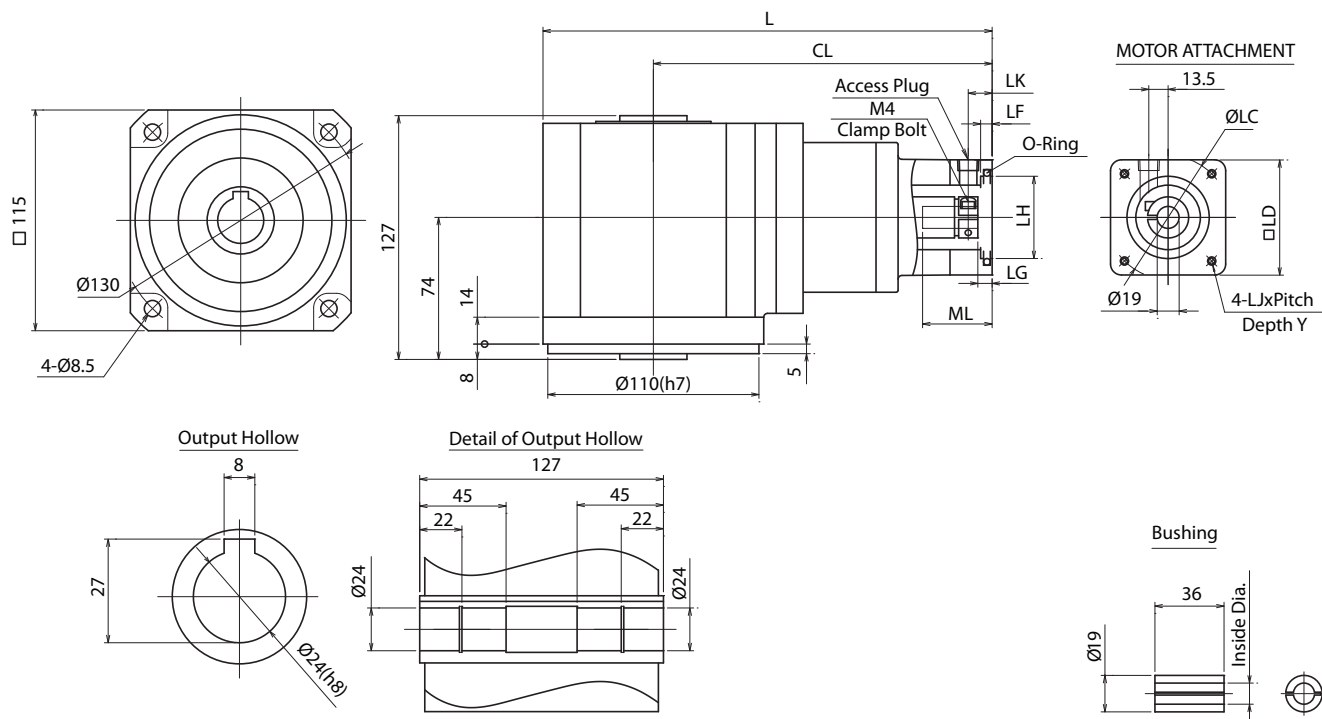
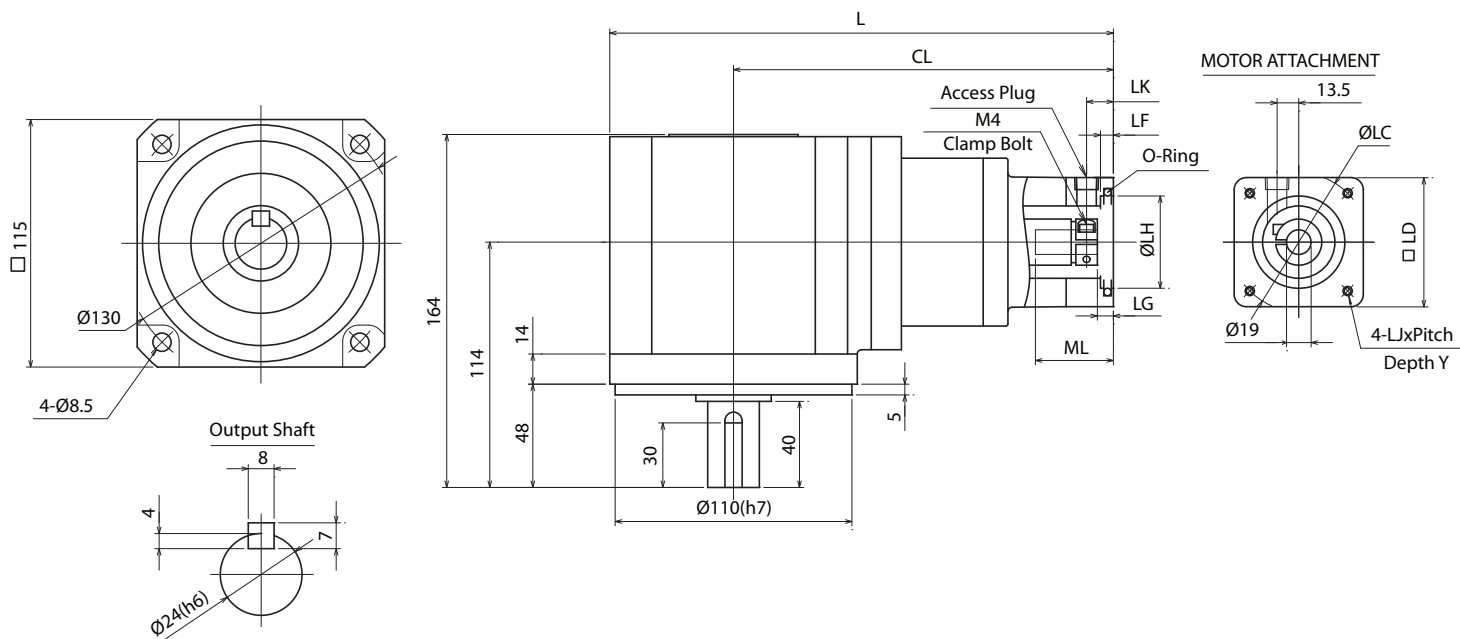
NEV

# NEV SERIES Right-angle Planetary

## NEV D-Frame 2-Stage Specifications

Frame Size	D (115mm)					
Ratio	Units	Note	5	9	15	27
Nominal Output Torque	[Nm]	--	25	25	25	40
Maximum Acceleration Torque	[Nm]	--	55	75	75	80
Emergency Stop Torque	[Nm]	--	100	140	140	180
Nominal Input Speed	[rpm]	--	3000			
Maximum Input Speed	[rpm]	--	6000			
No Load Running Torque	[Nm]	--	0.45			
Permitted Radial Load	[N]	--	2200	2200	2600	2600
Permitted Axial Load	[N]	--	1100	1100	1300	1300
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	1.502	1.254	0.464	0.720
Efficiency	[%]	--	85			
Torsional Rigidity	[Nm/arcmin]	--	1.2	1.5	1.5	1.5
Maximum Torsional Backlash	[Arc-min]	--	$\leq 30$			
Noise Level	[dB]	--	$\leq 73$			
Protection Class	--	--	IP65			
Ambient Temperature	[°C]	--	0-40			
Permitted Housing Temperature	[°C]	--	90			
Weight (Solid Output Shaft)	[kg]	--	7.1			
Weight (Hollow Output Shaft)	[kg]	--	6.7			

## NEV D-Frame (115mm) 2-Stage Dimensions – Ratios: 5:1, 9:1, 15:1, 27:1



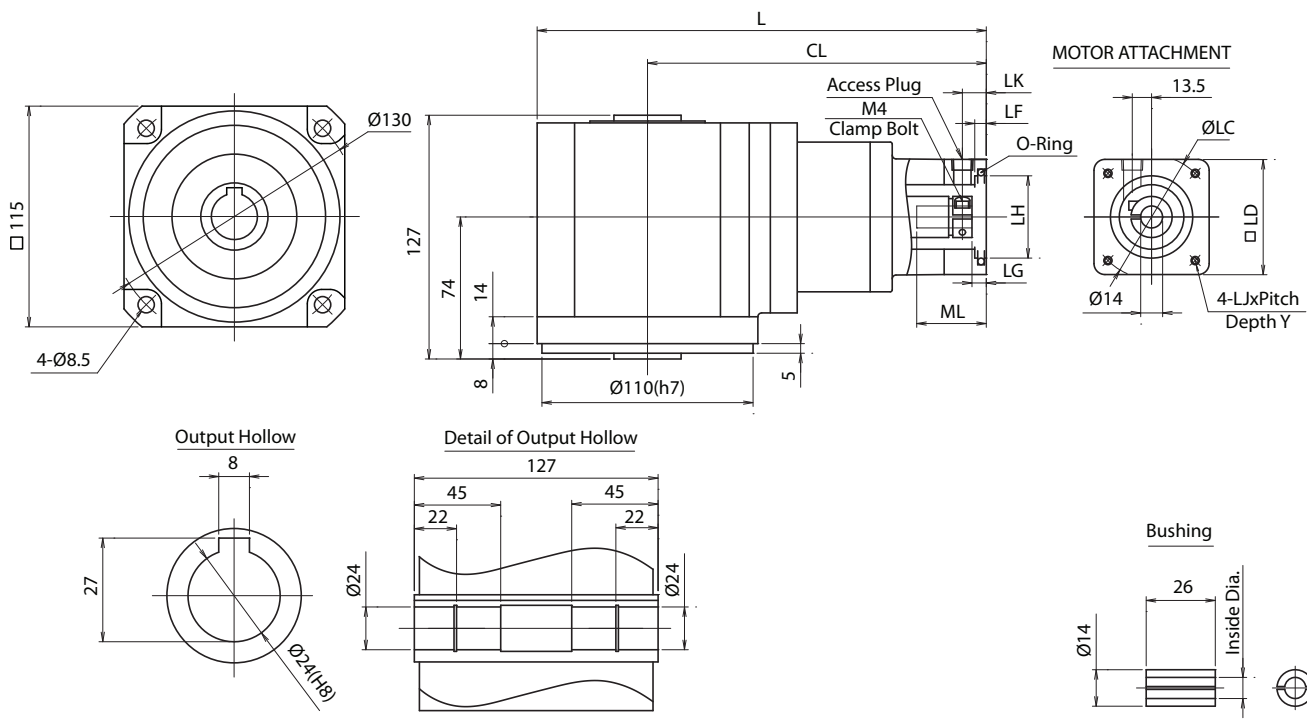
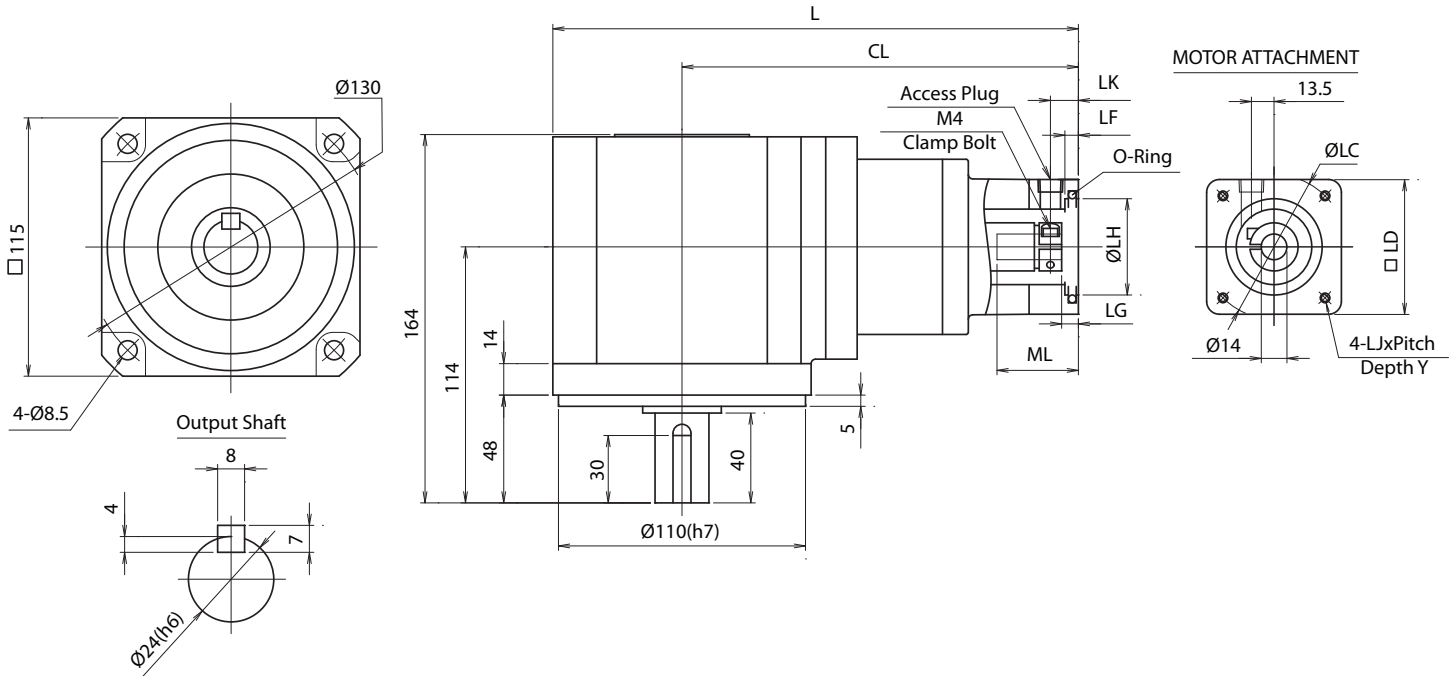
NEV

# NEV SERIES Right-angle Planetary

## NEV D-Frame 3-Stage Specifications

Frame Size	D (115mm)				
Ratio	Units	Note	45	75	105
Nominal Output Torque	[Nm]	--	45	50	50
Maximum Acceleration Torque	[Nm]	--	80	80	80
Emergency Stop Torque	[Nm]	--	180	180	180
Nominal Input Speed	[rpm]	--	3000		
Maximum Input Speed	[rpm]	--	6000		
No Load Running Torque	[Nm]	--	0.355		
Permitted Radial Load	[N]	--	2600	2600	2600
Permitted Axial Load	[N]	--	1300	1300	1300
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.806	0.694	0.648
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--
Efficiency	[%]	--	80		
Torsional Rigidity	[Nm/arcmin]	--	1.5		
Maximum Torsional Backlash	[Arc-min]	--	$\leq 30$		
Noise Level	[dB]	--	$\leq 67$		
Protection Class	--	--	IP65		
Ambient Temperature	[°C]	--	0-40		
Permitted Housing Temperature	[°C]	--	90		
Weight (Solid Output Shaft)	[kg]	--	7.3		
Weight (Hollow Output Shaft)	[kg]	--	6.9		

## NEV D-Frame (115mm) 3-Stage Dimensions – Ratios: 45:1, 75:1, 105:1



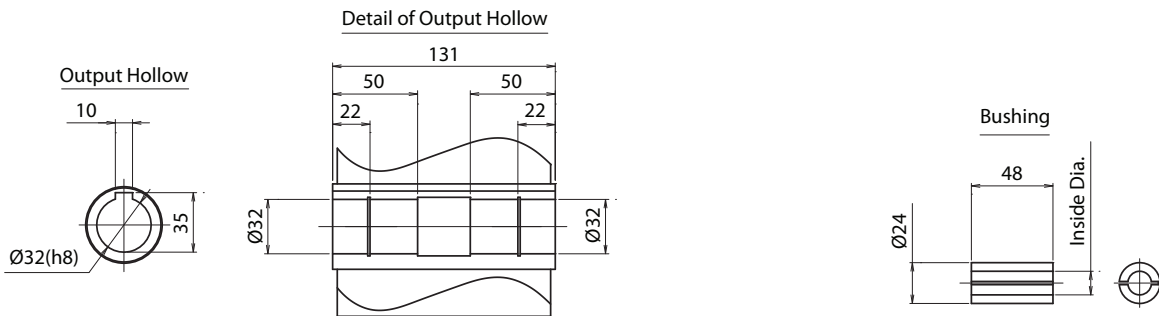
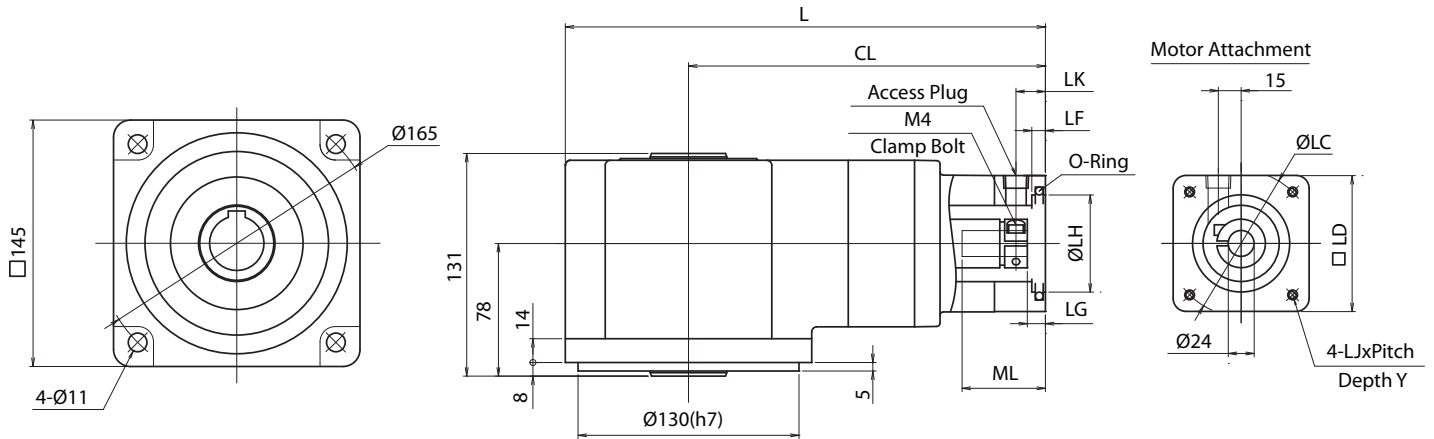
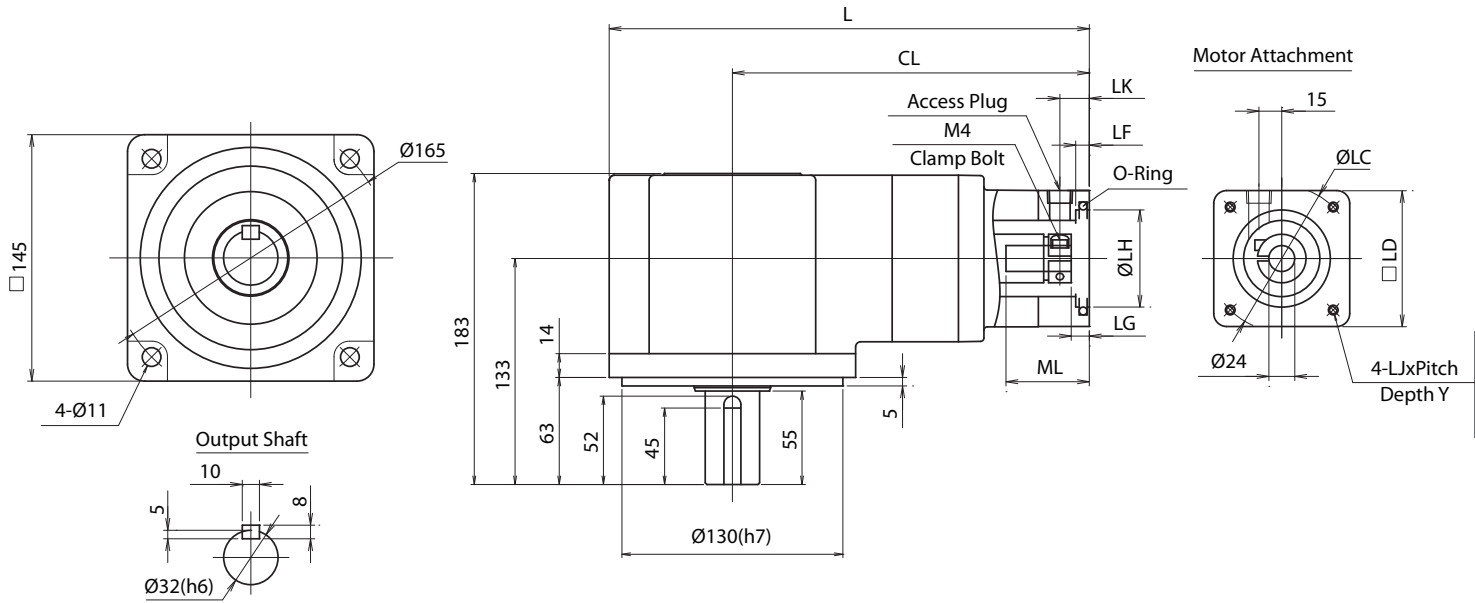
NEV

# NEV SERIES Right-angle Planetary

## NEV E-Frame 2-Stage Specifications

Frame Size	E (145mm)					
Ratio	Units	Note	5	9	15	27
Nominal Output Torque	[Nm]	--	50	50	55	60
Maximum Acceleration Torque	[Nm]	--	100	140	140	180
Emergency Stop Torque	[Nm]	--	250	250	250	300
Nominal Input Speed	[rpm]	--	3000			
Maximum Input Speed	[rpm]	--	6000			
No Load Running Torque	[Nm]	--	1.21			
Permitted Radial Load	[N]	--	3000	3000	3000	4000
Permitted Axial Load	[N]	--	1500	1500	1500	2000
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 24$ )	[kgcm <sup>2</sup> ]	--	3.559	2.940	1.193	2.044
Efficiency	[%]	--	85			
Torsional Rigidity	[Nm/arcmin]	--	3.2	4.0	4.0	4.0
Maximum Torsional Backlash	[Arc-min]	--	$\leq 30$			
Noise Level	[dB]	--	$\leq 74$			
Protection Class	--	--	IP65			
Ambient Temperature	[°C]	--	0-40			
Permitted Housing Temperature	[°C]	--	90			
Weight (Solid Output Shaft)	[kg]	--	11.0			
Weight (Hollow Output Shaft)	[kg]	--	10.0			

## NEV E-Frame (145mm) 2-Stage Dimensions – Ratios: 5:1, 9:1, 15:1, 27:1



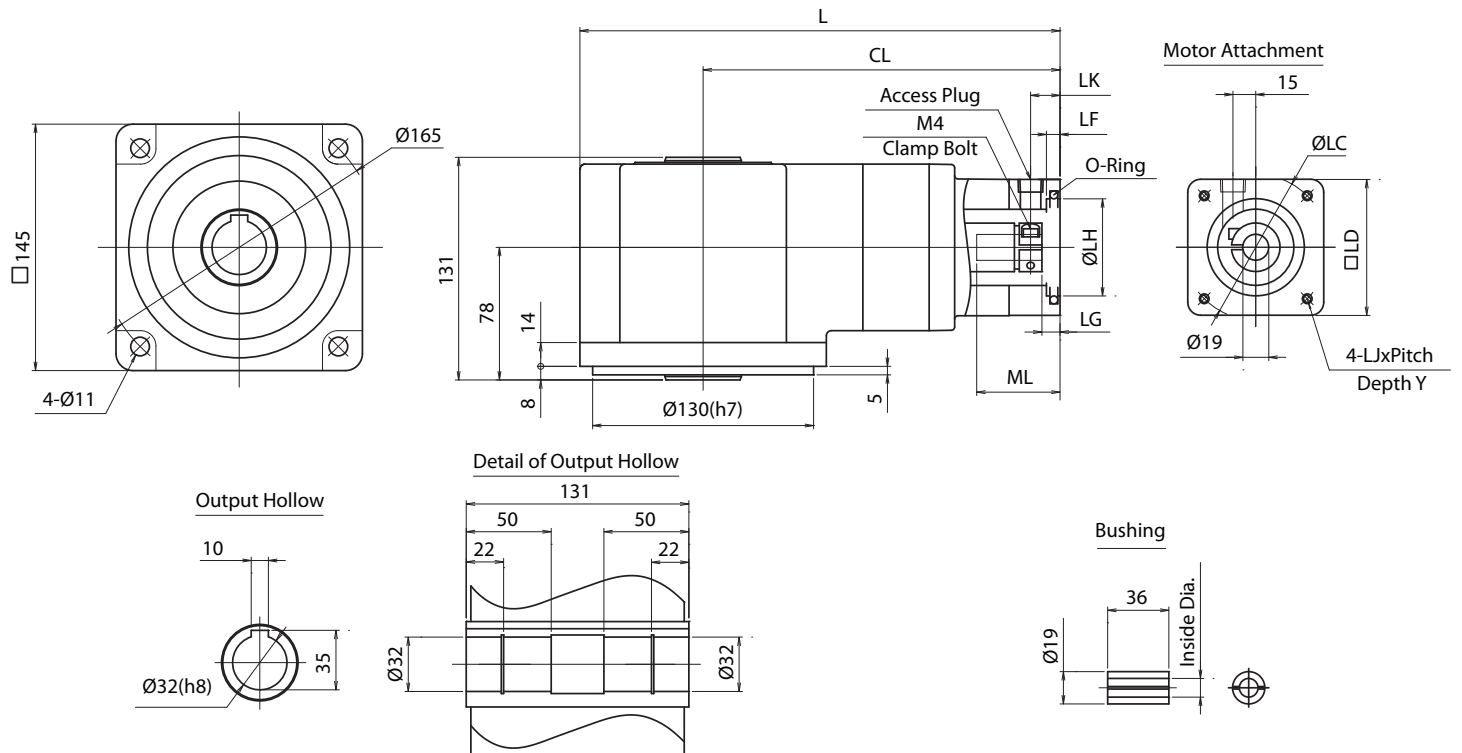
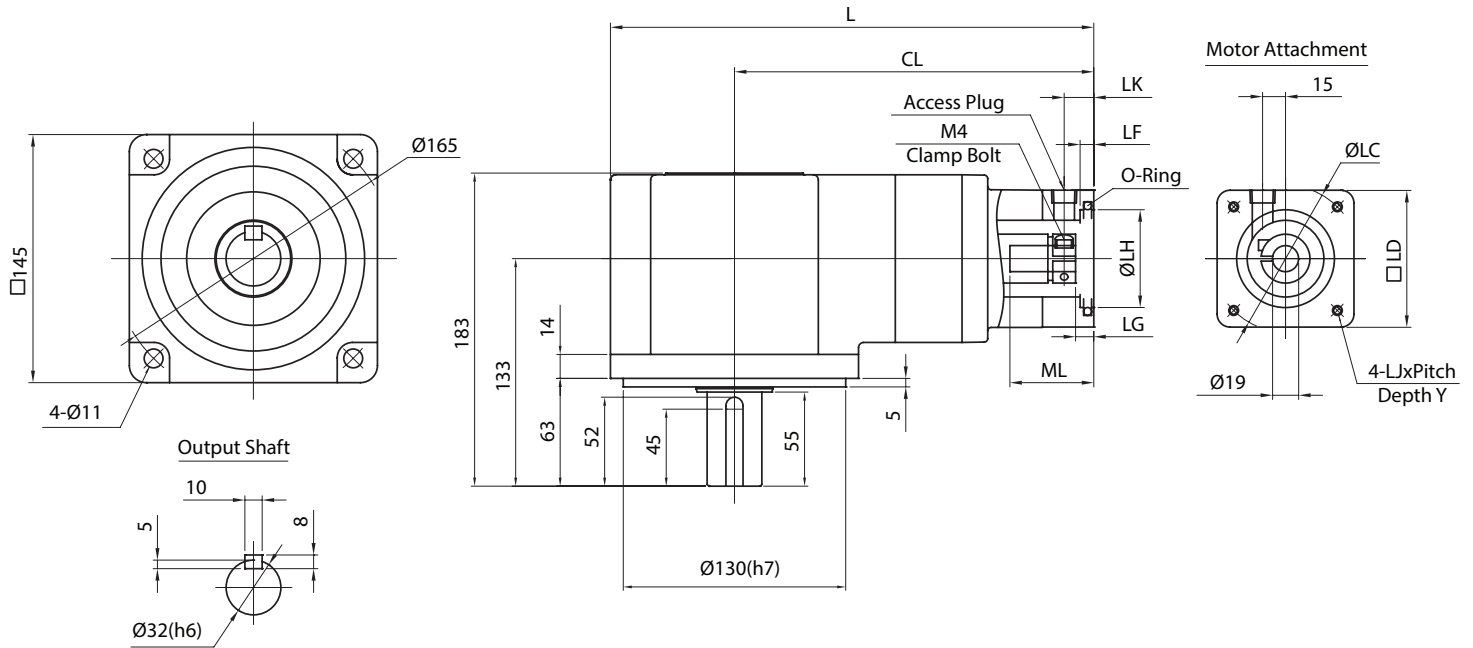
NEV

# NEV SERIES Right-angle Planetary

## NEV E-Frame 3-Stage Specifications

Frame Size	E (145mm)				
Ratio	Units	Note	45	75	105
Nominal Output Torque	[Nm]	--	80	90	90
Maximum Acceleration Torque	[Nm]	--	180	180	180
Emergency Stop Torque	[Nm]	--	300	300	300
Nominal Input Speed	[rpm]	--	3000		
Maximum Input Speed	[rpm]	--	6000		
No Load Running Torque	[Nm]	--	0.961		
Permitted Radial Load	[N]	--	4000	4000	4000
Permitted Axial Load	[N]	--	2000	2000	2000
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	1.878	1.303	1.184
Moment of Inertia ( $\leq \varnothing 24$ )	[kgcm <sup>2</sup> ]	--	--	--	--
Efficiency	[%]	--	80		
Torsional Rigidity	[Nm/arcmin]	--	4.0		
Maximum Torsional Backlash	[Arc-min]	--	$\leq 30$		
Noise Level	[dB]	--	$\leq 69$		
Protection Class	--	--	IP65		
Ambient Temperature	[°C]	--	0-40		
Permitted Housing Temperature	[°C]	--	90		
Weight (Solid Output Shaft)	[kg]	--	11.4		
Weight (Hollow Output Shaft)	[kg]	--	10.4		

## NEV E-Frame (145mm) 3-Stage Dimensions – Ratios: 45:1, 75:1, 105:1

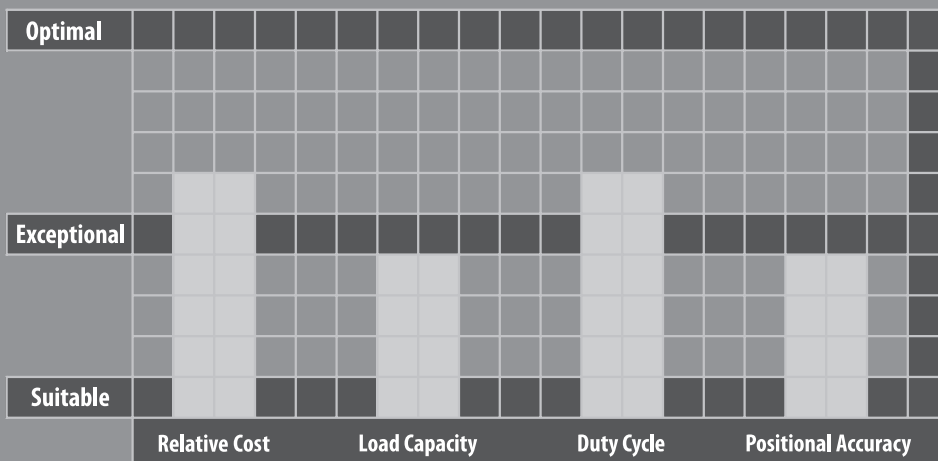


NEV

# EVL SERIES

The right angle equivalent to the VRL series, the EVL provides our customers with an excellent solution when space and clearance are a serious limitation. Helical planetary gears team up with spiral bevel gears to provide a product with robust internal construction, smooth operation and high torque density. 6 arc-min backlash allows the VRL to be applied to a wide range of applications where accuracy and dynamics are in play, but cost is of concern.

The EVL is a solid choice for servo applications in packaging, handling and automation systems. A variety of standard wash down and food grade options are available, making it an attractive option for the toughest environments. We offer the broadest selection of frame sizes and ratios, giving our customers more flexibility than ever before. Industry standard mounting dimensions allow the EVL to be implemented in legacy machine designs, saving our customers valuable time.



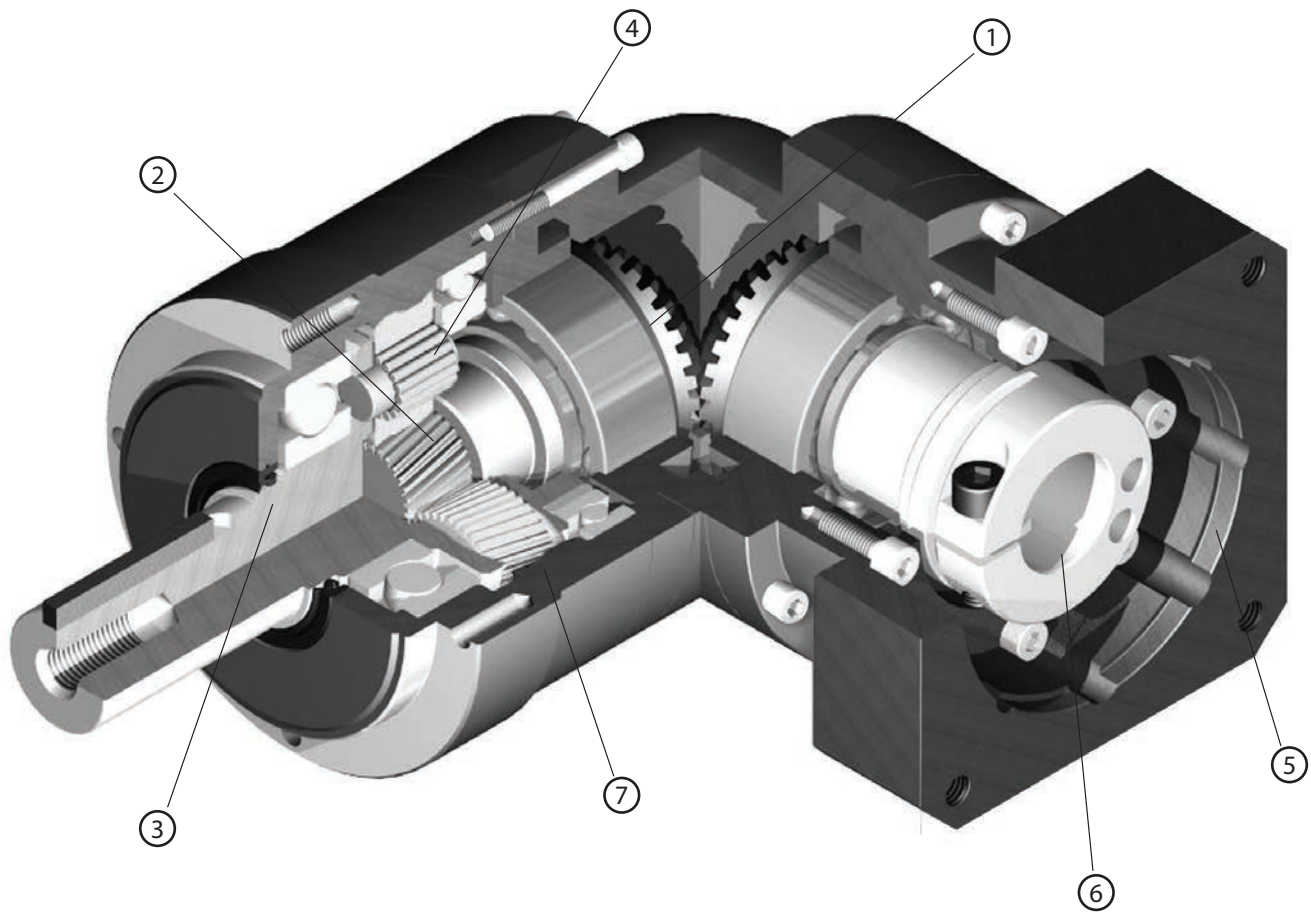


## **EVL SERIES**

- Compact, space-saving solution for mid to high end motion control applications
- The widest range of frame sizes and ratios available in the market
- Best-In-class backlash ( $\leq 6$  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 mounting dimensions
- Assembled in the USA

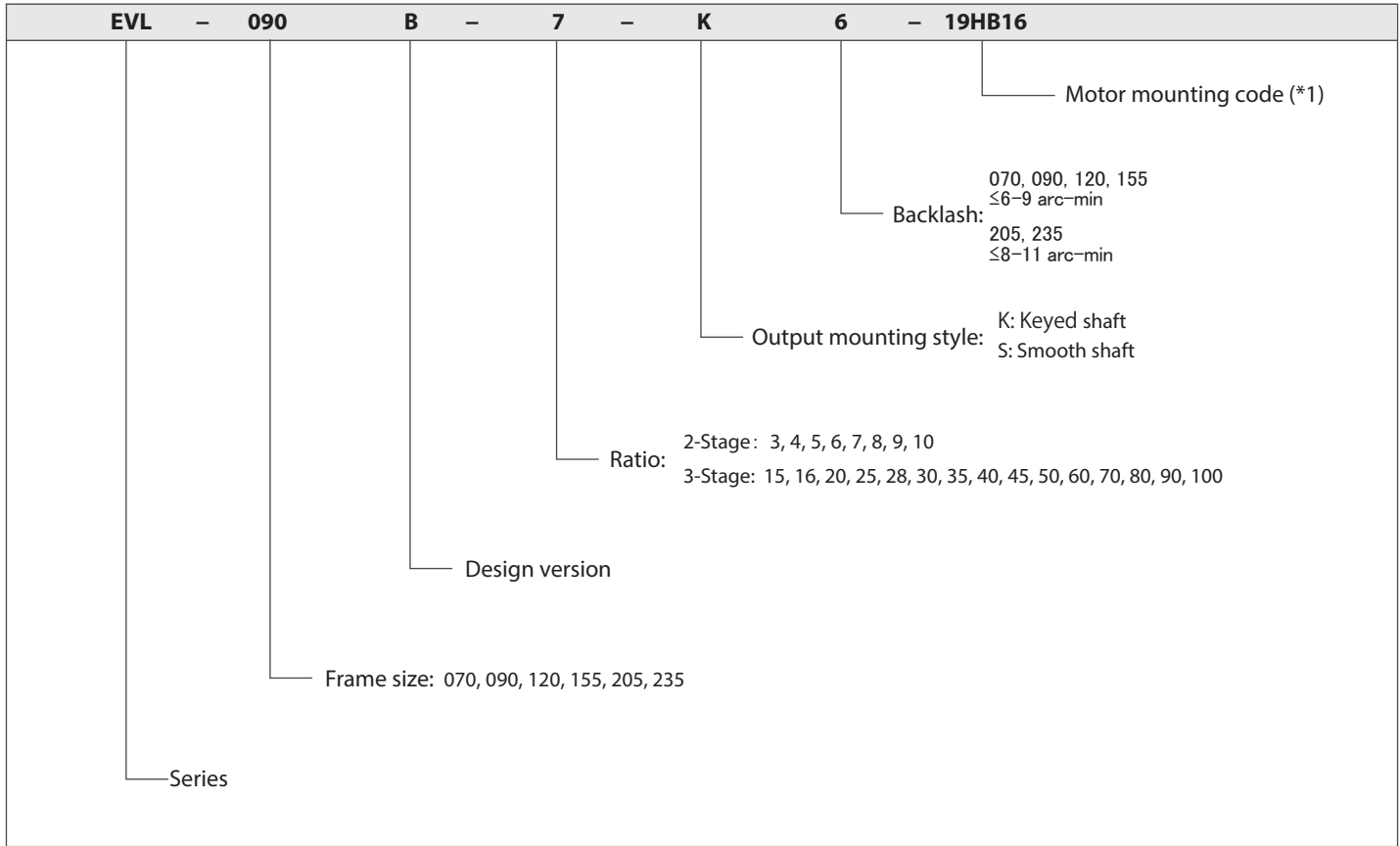
# EVL SERIES Right-angle Planetary

## EVL Series Features



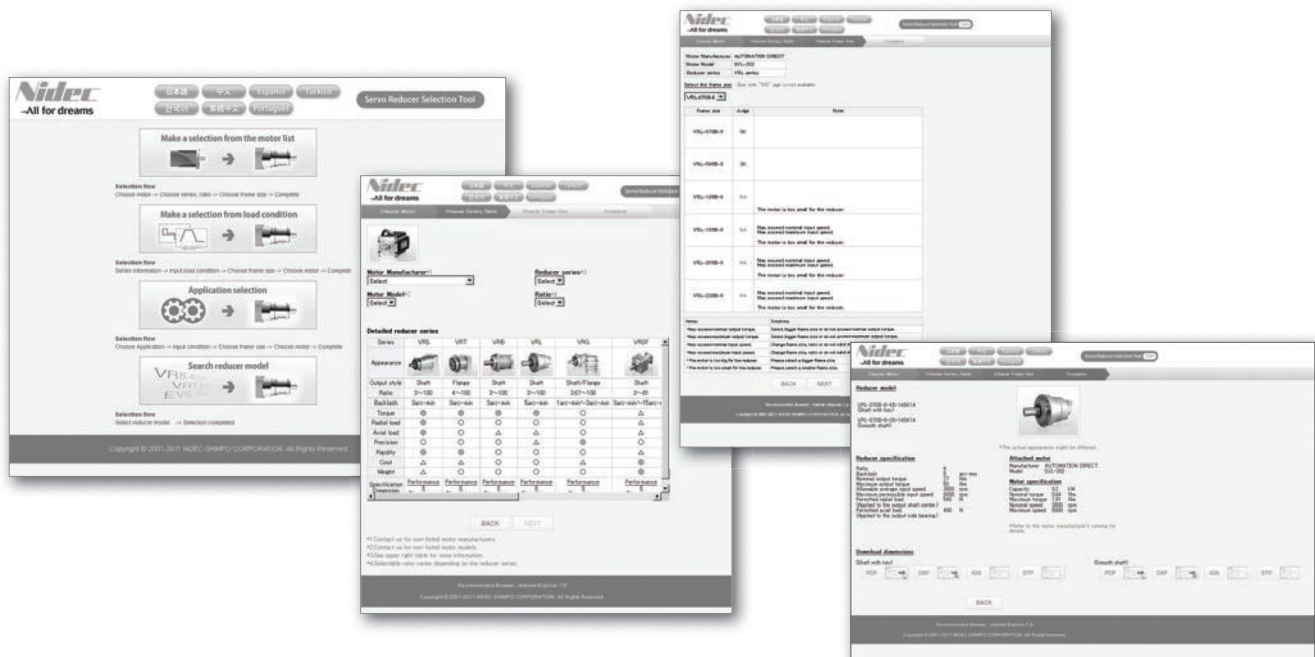
- ① Right angle bevel gear configuration allows motor to be mounted at a 90 degree position from the gearbox, saving space
- ② Carburized helical gears with proprietary secondary finishing process for higher accuracy and smooth, quiet operation. 40% higher tooth surface area than the industry standard
- ③ One piece output shaft and planet carrier with two bearings straddling the planet gears. Higher stiffness, torque capacity and safety factor, with guaranteed alignment of gearing
- ④ Uncaged needle roller bearings provide excellent torque density and torsional rigidity. 43% larger bearing surface area compared to the rest of the industry
- 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

## EVL Series Model Code



\*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 <https://www.nidec-drivetechnology.co.jp/selection/all/>



EVL

# EVL SERIES Right-angle Planetary

## EVL 070 2-Stage Specifications

Frame Size	070									
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	1200							
Maximum Axial Load	[N]	*9	1100							
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.31	0.27	0.25	0.24	0.23	0.23	0.23	0.23
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.39	0.34	0.32	0.31	0.31	0.31	0.30	0.30
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.58	0.53	0.51	0.50	0.50	0.50	0.49	0.49
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	3							
Maximum Torsional Backlash	[arc-min]	--	$\leq 6$							
Noise Level	dB [A]	*12	$\leq 80$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	1.9							

## EVL 070 3-Stage Specifications

Frame Size	070									
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	1200							
Maximum Axial Load	[N]	*9	1100							
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.073	0.079	0.071	0.071	0.077	0.062	0.070	0.061
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.118	0.124	0.116	0.115	0.122	0.106	0.115	0.106
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	3							
Maximum Torsional Backlash	[arc-min]	--	$\leq 9$							
Noise Level	dB [A]	*12	$\leq 80$							
Protection Class	--	*13	IP65							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	1.7							

## EVL 070 3-Stage Specifications

Frame Size	070										
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	0.20								
Maximum Radial Load	[N]	*8	1200								
Maximum Axial Load	[N]	*9	1100								
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.070	0.061	0.061	0.061	0.061	0.061	0.061		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.115	0.106	0.106	0.105	0.105	0.105	0.105		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arc-min]	*11	3								
Maximum Torsional Backlash	[arc-min]	--	$\leq 9$								
Noise Level	dB [A]	*12	$\leq 80$								
Protection Class	--	*13	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*14	1.7								

\*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 Drive Technology for the testing conditions and environment

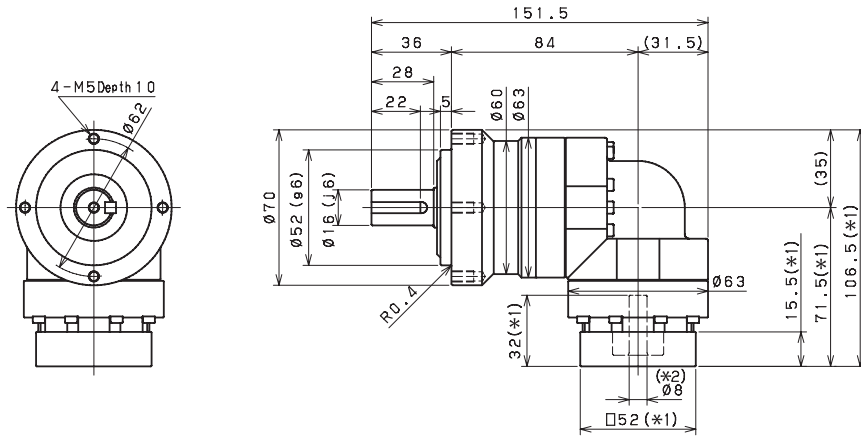
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

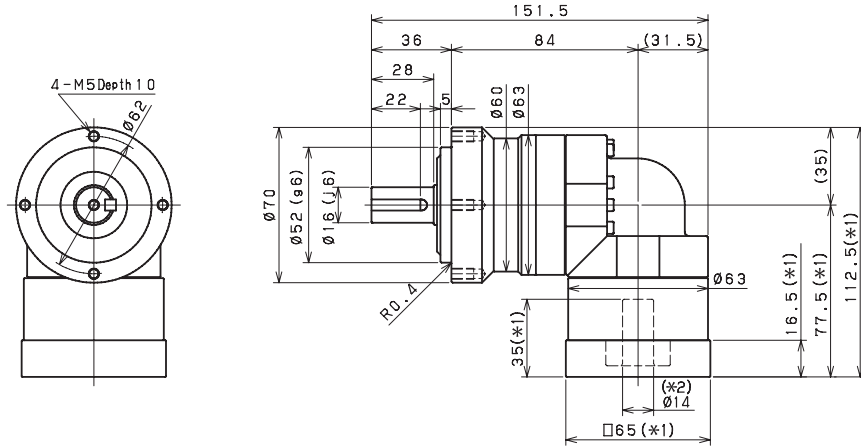
# EVL SERIES Right-angle Planetary

## EVL 070 2-Stage Dimensions

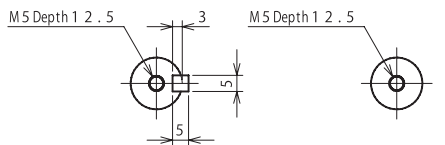
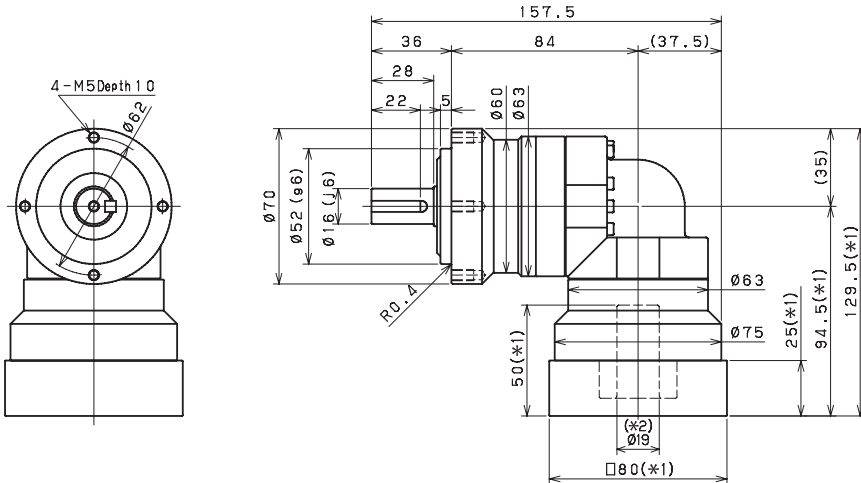
Input bore size  $\leq \varnothing 8$  mm



Input bore size  $\leq \varnothing 14$  mm



Input bore size  $\leq \varnothing 19$  mm



Keyed shaft

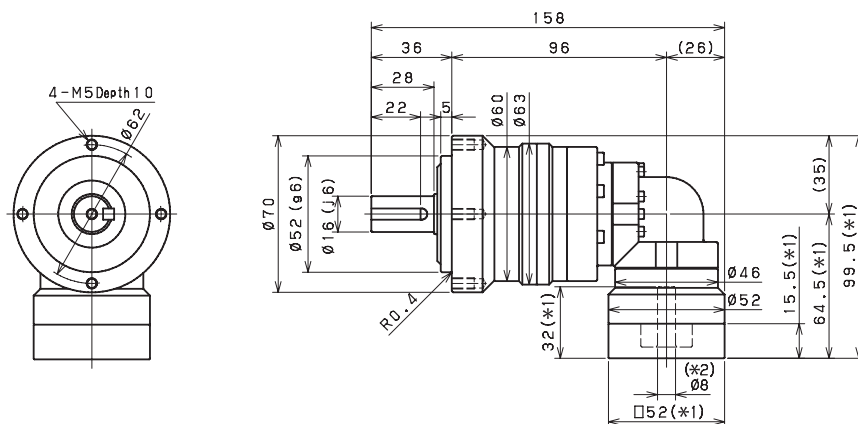
Smooth shaft

\*1) Length will vary depending on motor

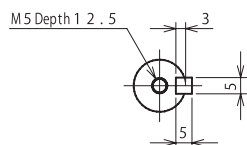
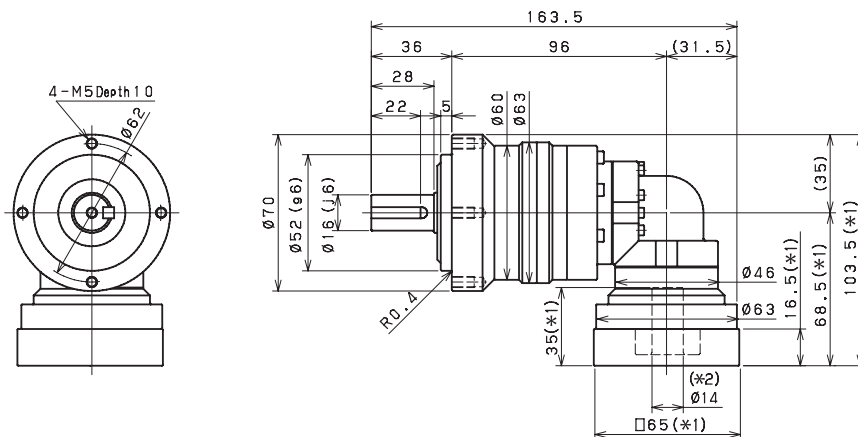
\*2) Bushing will be inserted to adapt to motor shaft

## EVL 070 3-Stage Dimensions

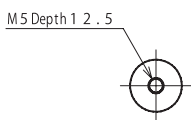
Input bore size  $\leq \phi 8$  mm



Input bore size  $\leq \phi 14$  mm



Keyed shaft



Smooth shaft

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

# EVL SERIES Right-angle Planetary

## EVL 090 2-Stage Specifications

Frame Size	090									
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	2400							
Maximum Axial Load	[N]	*9	2200							
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	2.12	1.89	1.80	1.76	1.73	1.71	1.70	1.69
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.45	2.22	2.13	2.09	2.06	2.04	2.03	2.02
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.57	4.35	4.26	4.21	4.18	4.17	4.16	4.15
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	10							
Maximum Torsional Backlash	[arc-min]	--	$\leq 6$							
Noise Level	dB [A]	*12	$\leq 80$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	4.9							

## EVL 090 3-Stage Specifications

Frame Size	090									
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	2400							
Maximum Axial Load	[N]	*9	2200							
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.34	0.38	0.33	0.32	0.37	0.25	0.32	0.25
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.41	0.46	0.40	0.40	0.45	0.33	0.40	0.32
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.60	0.65	0.59	0.59	0.64	0.51	0.59	0.51
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	10							
Maximum Torsional Backlash	[arc-min]	--	$\leq 9$							
Noise Level	dB [A]	*12	$\leq 80$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	4.3							

## EVL 090 3-Stage Specifications

Frame Size	090										
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	2400								
Maximum Axial Load	[N]	*9	2200								
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.32	0.25	0.25	0.25	0.25	0.25	0.25		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.39	0.32	0.32	0.32	0.32	0.32	0.32		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.58	0.51	0.51	0.51	0.51	0.51	0.51		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arc-min]	*11	10								
Maximum Torsional Backlash	[arc-min]	--	$\leq 9$								
Noise Level	dB [A]	*12	$\leq 80$								
Protection Class	--	*13	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*14	4.3								

\*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 Drive Technology for the testing conditions and environment

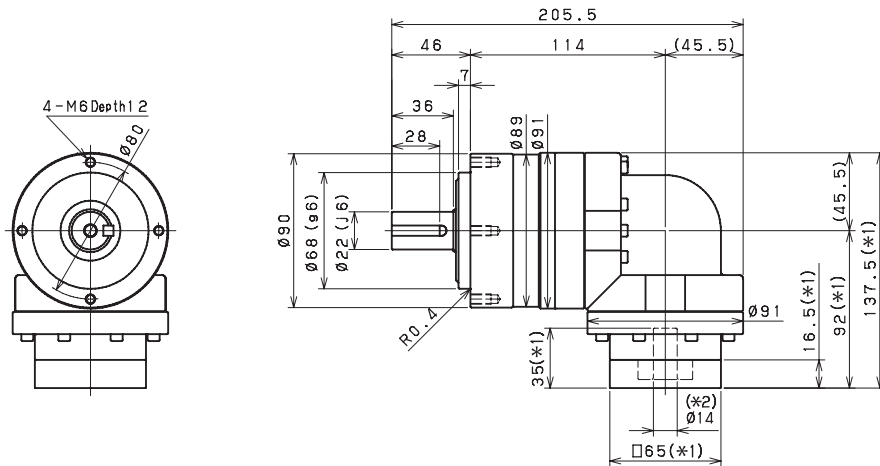
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

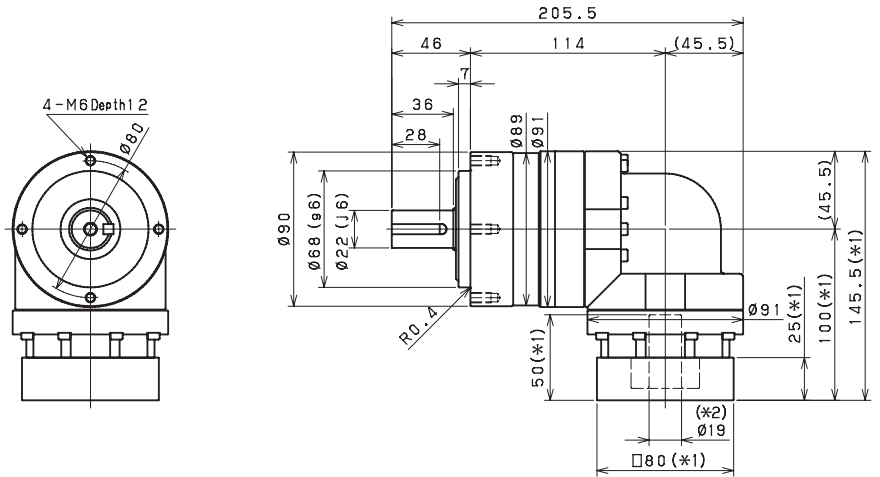
# EVL SERIES Right-angle Planetary

## EVL 090 2-Stage Dimensions

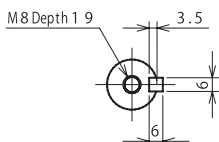
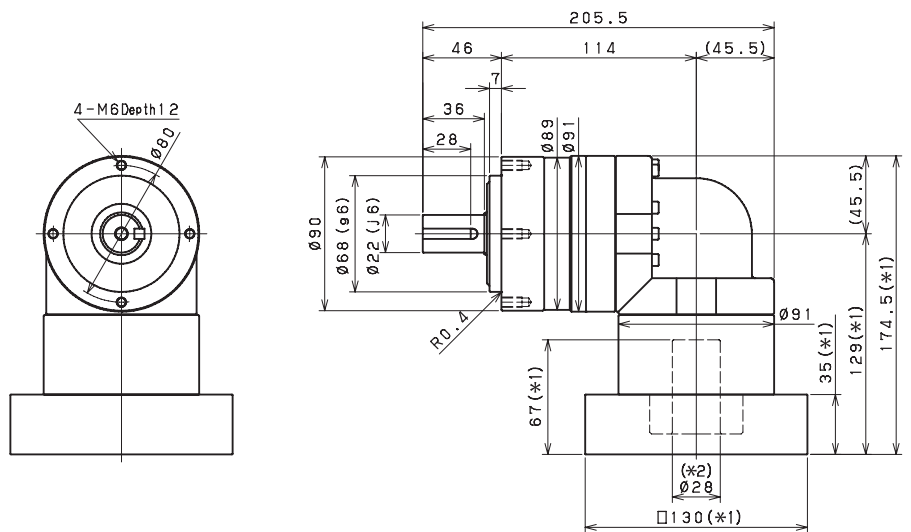
Input bore size  $\leq \varnothing 14$  mm



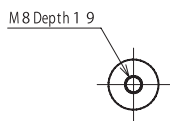
Input bore size  $\leq \varnothing 19$  mm



Input bore size  $\leq \varnothing 28$  mm



Keyed shaft



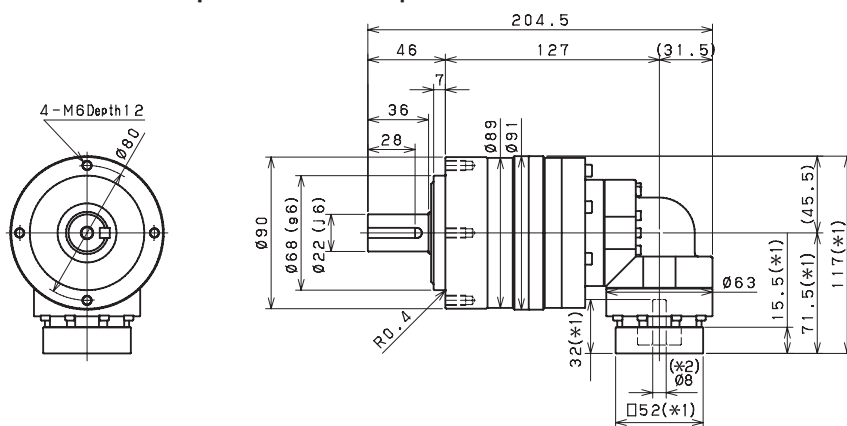
Smooth shaft

\*1) Length will vary depending on motor.

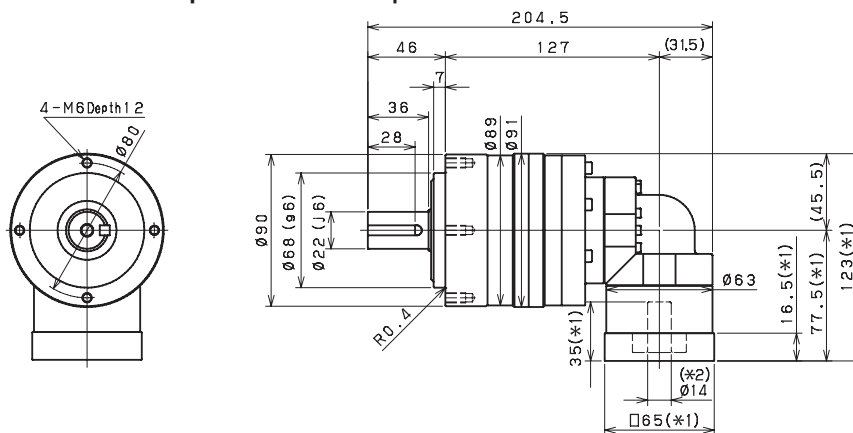
\*2) Bushing will be inserted to adapt to motor shaft

## EVL 090 3-Stage Dimensions

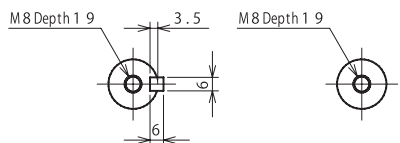
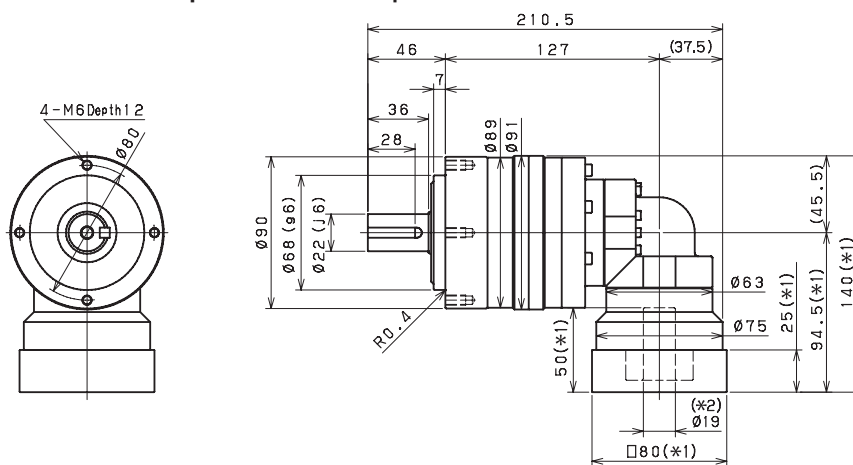
Input bore size  $\leq \phi 8$  mm



Input bore size  $\leq \phi 14$  mm



Input bore size  $\leq \phi 19$  mm



Keyed shaft

Smooth shaft

\*1) Length will vary depending on motor.

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

# EVL SERIES Right-angle Planetary

## EVL 120 2-Stage Specifications

Frame Size	120									
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	4300							
Maximum Axial Load	[N]	*9	3900							
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	6.74	5.49	5.02	4.77	4.65	4.55	4.49	4.46
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	8.34	7.08	6.61	6.36	6.24	6.14	6.08	6.05
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	15.41	14.15	13.69	13.43	13.31	13.22	13.16	13.12
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	31							
Maximum Torsional Backlash	[arc-min]	--	$\leq 6$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	10.2							

## EVL 120 3-Stage Specifications

Frame Size	120									
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	4300							
Maximum Axial Load	[N]	*9	3900							
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	2.25	2.46	2.20	2.18	2.40	1.87	2.16	1.86
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.58	2.79	2.53	2.51	2.73	2.20	2.49	2.19
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.70	4.91	4.65	4.64	4.86	4.33	4.62	4.32
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	31							
Maximum Torsional Backlash	[arc-min]	--	$\leq 9$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	10							

## EVL 120 3-Stage Specifications

Frame Size	120										
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	4300								
Maximum Axial Load	[N]	*9	3900								
Moment of Inertia (≤ Ø 14)	[kgcm <sup>2</sup> ]	--	2.15	1.86	1.85	1.85	1.85	1.85	1.85		
Moment of Inertia (≤ Ø 19)	[kgcm <sup>2</sup> ]	--	2.48	2.19	2.18	2.18	2.18	2.18	2.18		
Moment of Inertia (≤ Ø 28)	[kgcm <sup>2</sup> ]	--	4.61	4.31	4.31	4.31	4.31	4.31	4.31		
Moment of Inertia (≤ Ø 38)	[kgcm <sup>2</sup> ]	--	--	--	--	--	----	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arc-min]	*11	31								
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	10								

\*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 Drive Technology for the testing conditions and environment

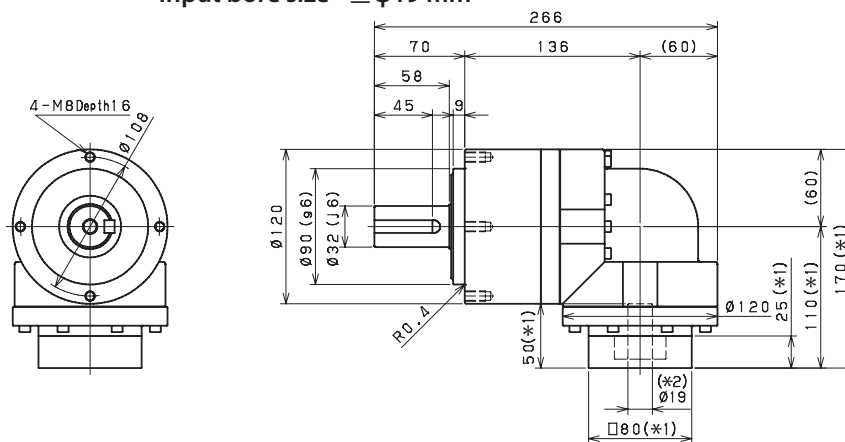
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

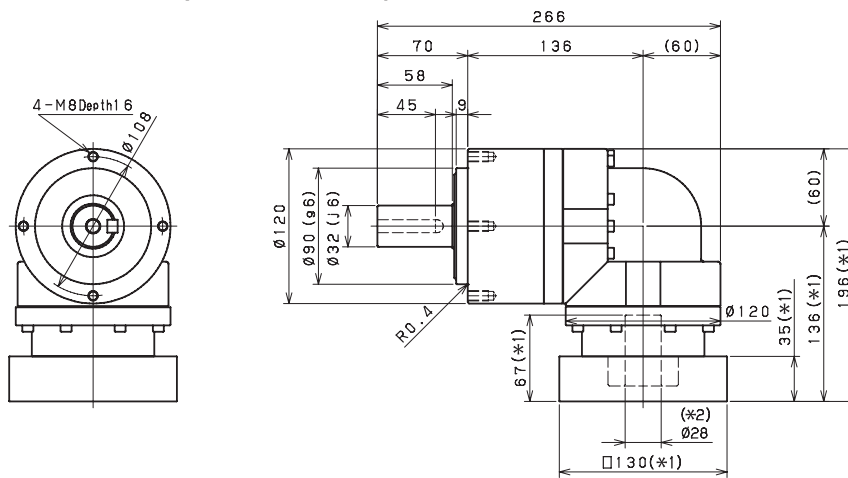
# EVL SERIES Right-angle Planetary

## EVL 120 2-Stage Dimensions

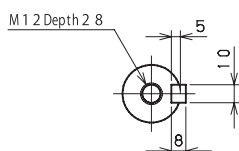
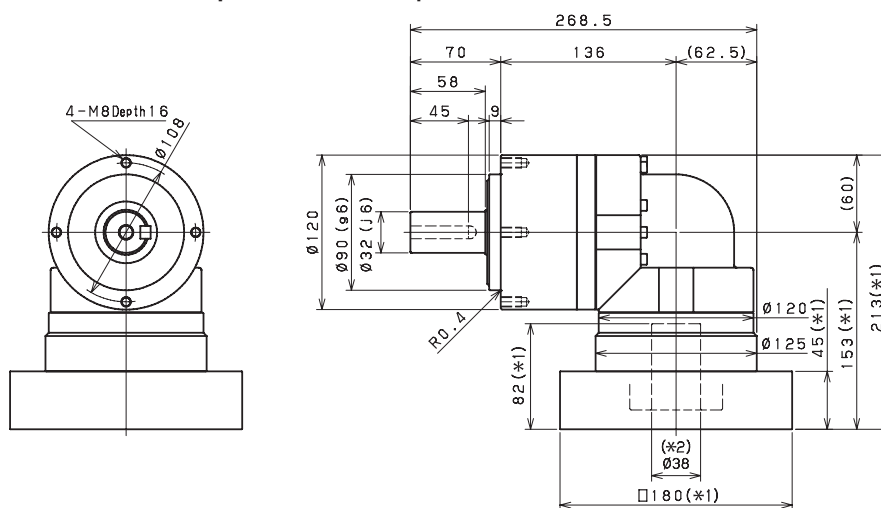
Input bore size  $\leq \phi 19$  mm



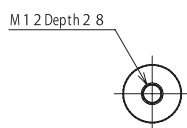
Input bore size  $\leq \phi 28$  mm



Input bore size  $\leq \phi 38$  mm



Keyed shaft



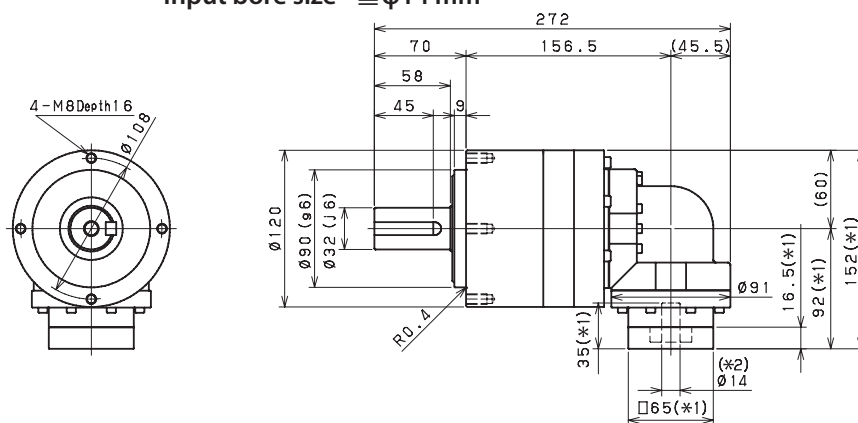
Smooth shaft

\*1) Length will vary depending on motor

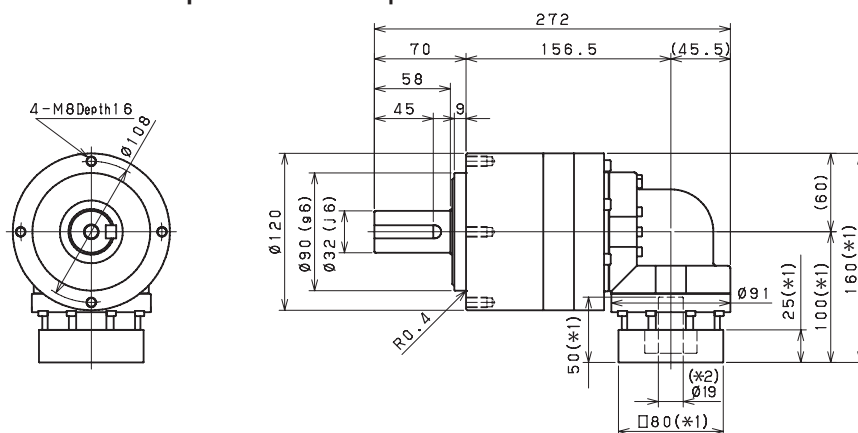
\*2) Bushing will be inserted to adapt to motor shaft

## EVL 120 3-Stage Dimensions

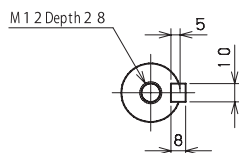
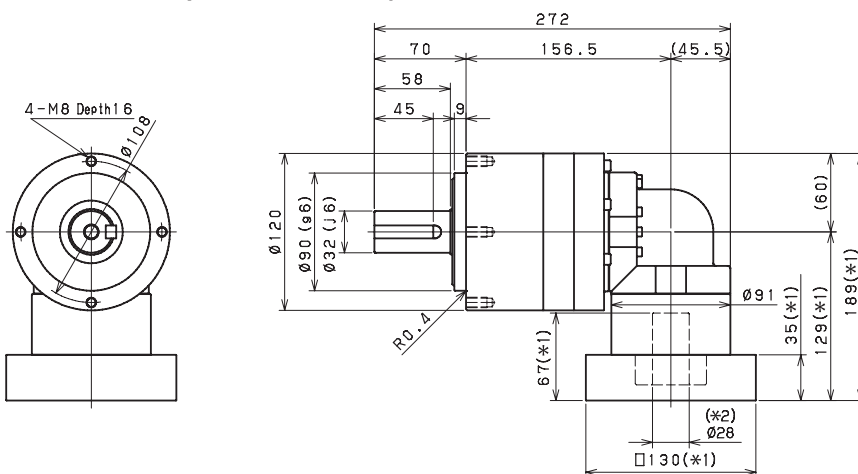
Input bore size  $\leq \phi 14$  mm



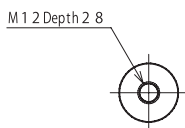
Input bore size  $\leq \phi 19$  mm



Input bore size  $\leq \phi 28$  mm



Keyed shaft



Smooth shaft

\*1) Length will vary depending on motor

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

# EVL SERIES Right-angle Planetary

## EVL 155 2-Stage Specifications

Frame Size	155									
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	9100							
Maximum Axial Load	[N]	*9	8200							
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	23.13	18.57	16.91	16.01	15.58	15.23	14.77	14.66
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	27.50	22.94	21.28	20.38	19.95	19.61	19.41	19.03
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	40.73	36.17	34.51	33.61	33.18	32.84	32.37	32.26
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	60							
Maximum Torsional Backlash	[arc-min]	--	$\leq 6$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	19.8							

## EVL 155 3-Stage Specifications

Frame Size	155									
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	9100							
Maximum Axial Load	[N]	*9	8200							
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	6.40	7.29	6.22	6.15	7.09	4.99	6.09	4.95
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	8.00	8.88	7.81	7.75	8.68	6.58	7.69	6.54
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	15.07	15.96	14.89	14.82	15.76	13.66	14.76	13.61
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	60							
Maximum Torsional Backlash	[arc-min]	--	$\leq 9$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	20.4							

## EVL 155 3-Stage Specifications

Frame Size	155										
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	9100								
Maximum Axial Load	[N]	*9	8200								
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	6.07	4.93	4.92	4.91	4.91	4.91	4.91		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	7.66	6.52	6.51	6.51	6.50	6.50	6.50		
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	14.74	13.59	13.59	13.58	13.58	13.57	13.57		
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arc-min]	*11	60								
Maximum Torsional Backlash	[arc-min]	--	$\leq 9$								
Noise Level	dB [A]	*12	$\leq 85$								
Protection Class	--	*13	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*14	20.4								

\*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 Drive Technology for the testing conditions and environment

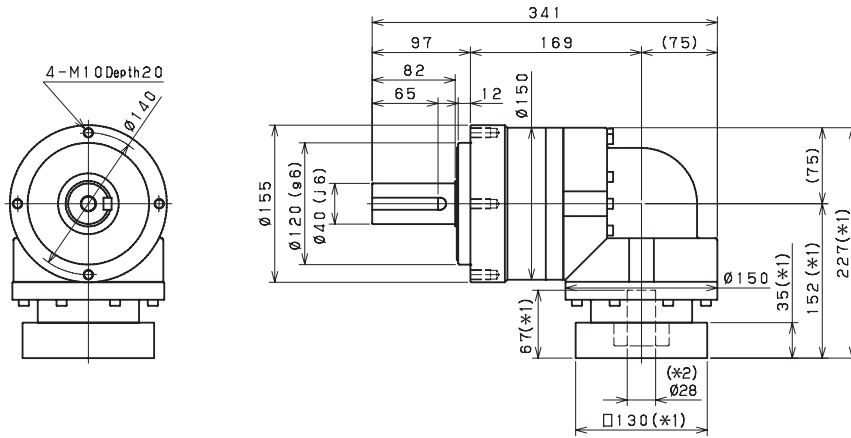
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

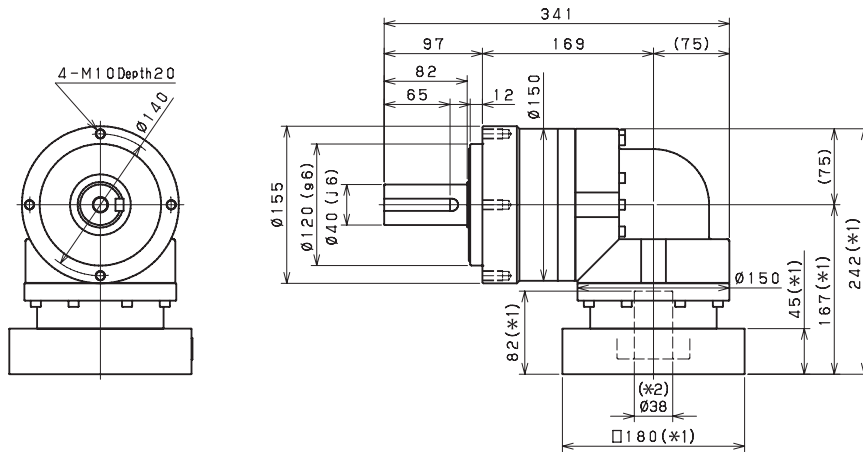
# EVL SERIES Right-angle Planetary

## EVL 155 2-Stage Dimensions

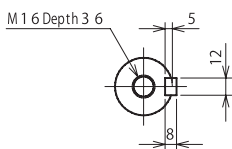
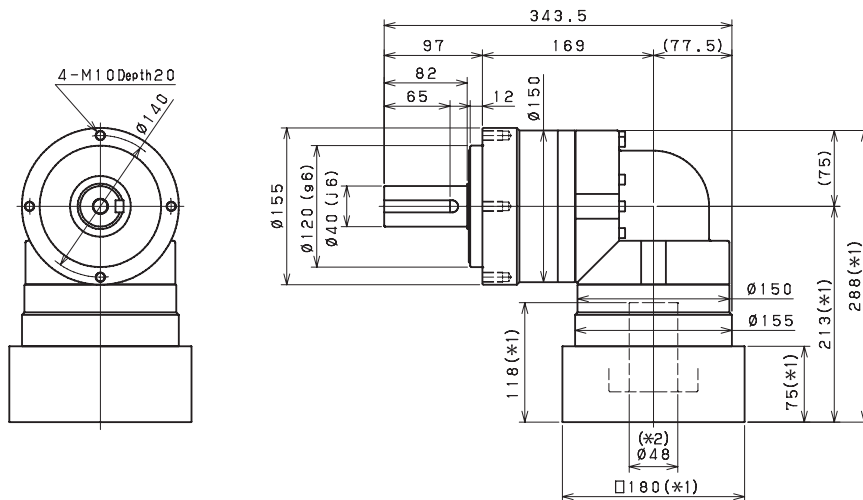
Input bore size  $\leq \varnothing 28$  mm



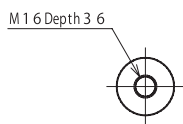
Input bore size  $\leq \varnothing 38$  mm



Input bore size  $\leq \varnothing 48$  mm



Keyed shaft



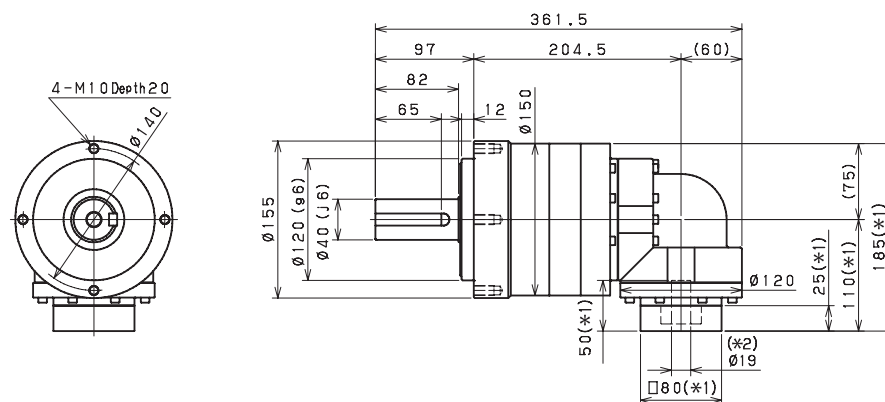
Smooth shaft

\*1) Length will vary depending on motor.

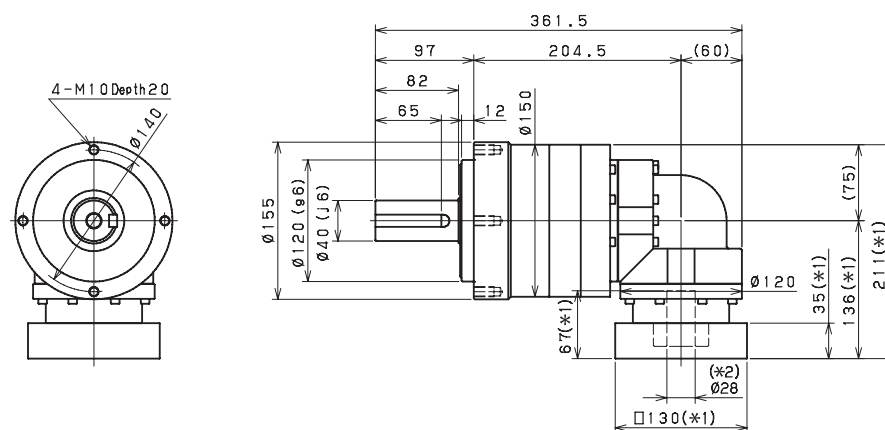
\*2) Bushing will be inserted to adapt to motor shaft

## EVL 155 3-Stage Dimensions

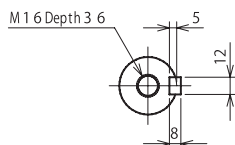
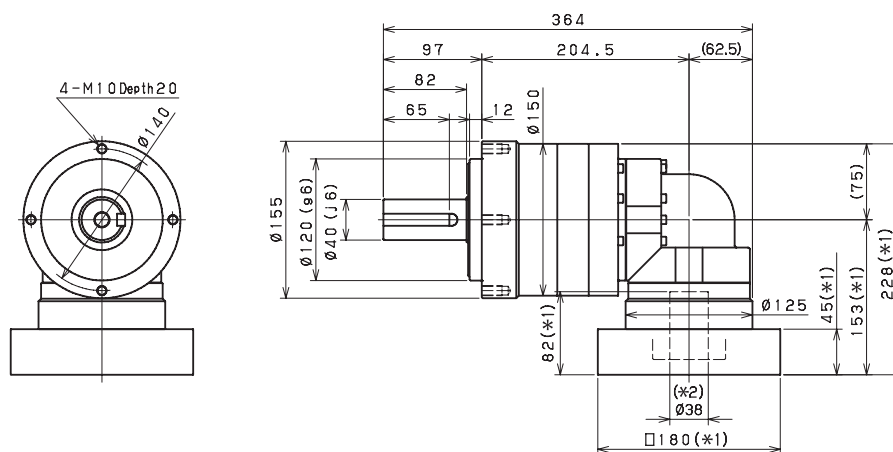
Input bore size  $\leq \phi 19$  mm



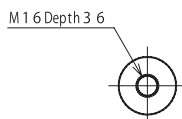
Input bore size  $\leq \phi 28$  mm



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

# EVL SERIES Right-angle Planetary

## EVL 205 2-Stage Specifications

Frame Size	205									
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	15000							
Maximum Axial Load	[N]	*9	14000							
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	93.71	77.72	71.89	68.74	66.43	65.27	64.60	64.28
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	128.6	112.6	106.8	103.6	101.3	100.1	99.46	99.14
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	214.2	198.2	192.4	189.2	186.9	185.7	185.1	184.7
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arcmin]	*11	175							
Maximum Torsional Backlash	[Arc-min]	--	$\leq 8$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	52							

## EVL 205 3-Stage Specifications

Frame Size	205									
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	15000							
Maximum Axial Load	[N]	*9	14000							
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	11.49	12.09	11.15	10.98	11.59	10.33	10.83	10.24
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	20.28	20.88	19.94	19.77	20.38	19.11	19.62	19.03
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	25.10	25.70	24.76	24.59	25.20	23.94	24.44	23.85
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arcmin]	*11	175							
Maximum Torsional Backlash	[Arc-min]	--	$\leq 11$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	39							

## EVL 205 3-Stage Specifications

Frame Size	205										
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	15000								
Maximum Axial Load	[N]	*9	14000								
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	10.76	10.20	10.18	10.16	10.15	10.15	10.14		
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	19.55	18.99	18.96	18.95	18.94	18.93	18.93		
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	24.37	23.81	23.78	23.77	23.76	23.75	23.75		
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arcmin]	*11	175								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 11$								
Noise Level	dB [A]	*12	$\leq 85$								
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 Drive Technology for the testing conditions and environment

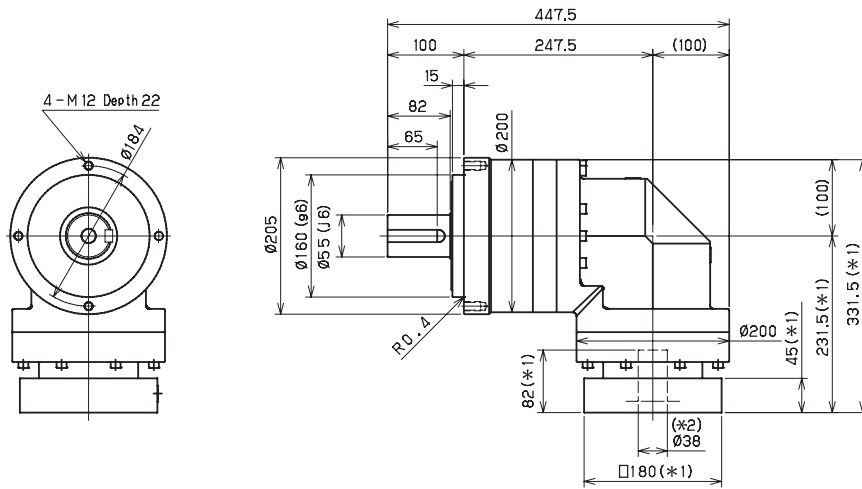
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

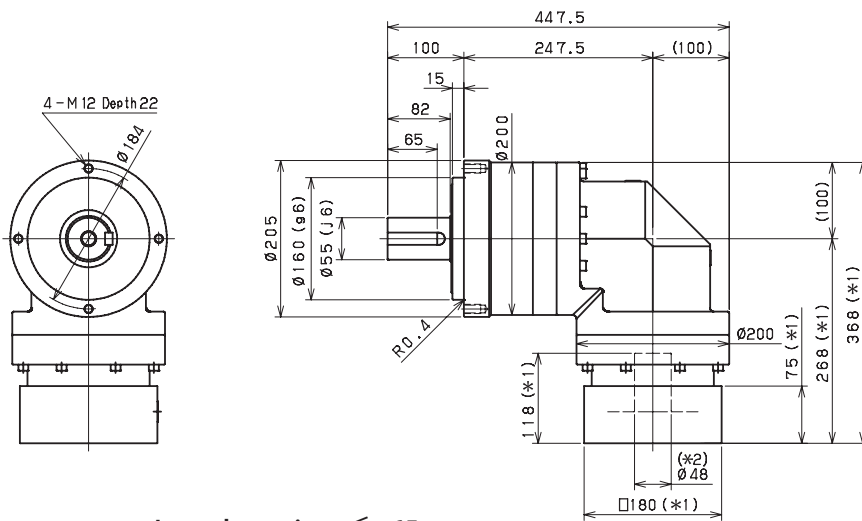
# EVL SERIES Right-angle Planetary

## EVL 205 2-Stage Dimensions

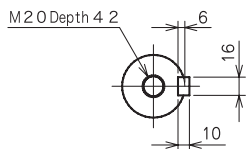
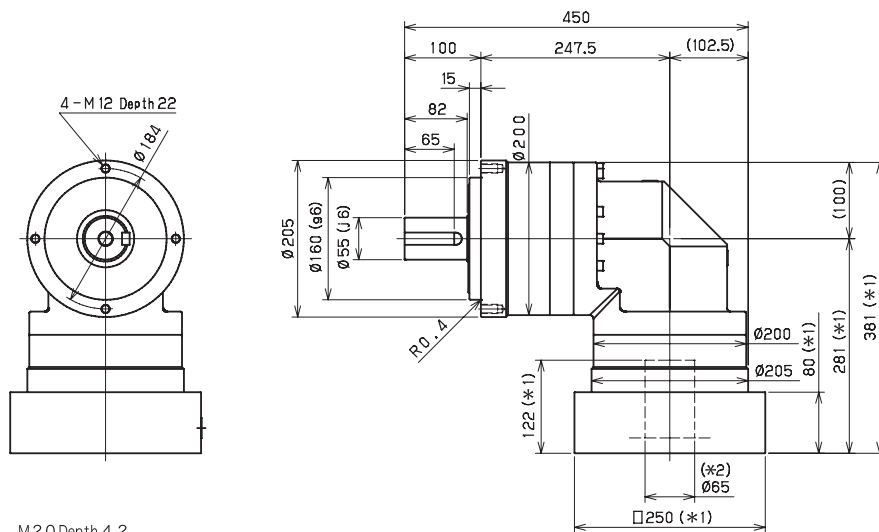
Input bore size  $\leq \phi 38$  mm



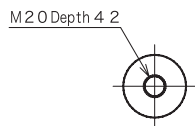
Input bore size  $\leq \phi 48$  mm



Input bore size  $\leq \phi 65$  mm



Keyed shaft



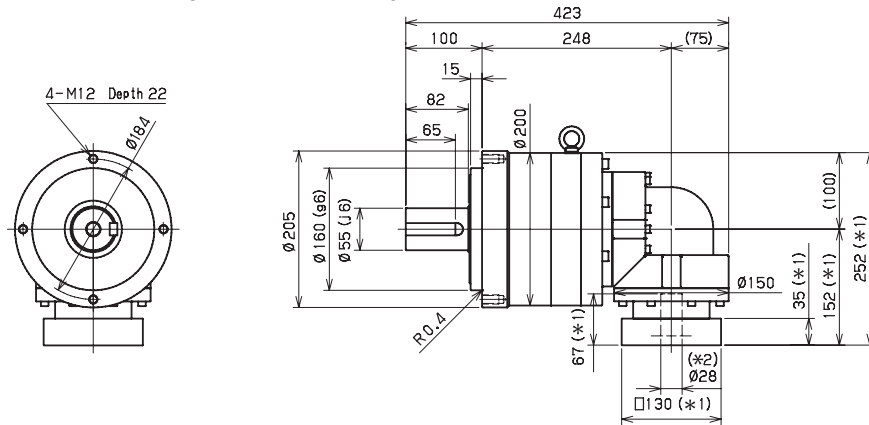
Smooth shaft

\*1) Length will vary depending on motor.

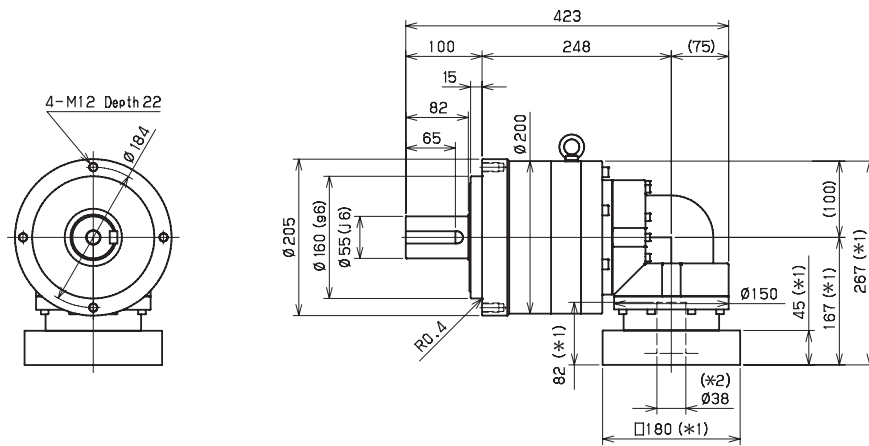
\*2) Bushing will be inserted to adapt to motor shaft

## EVL 205 3-Stage Dimensions

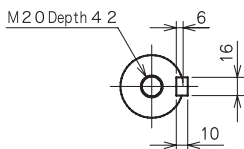
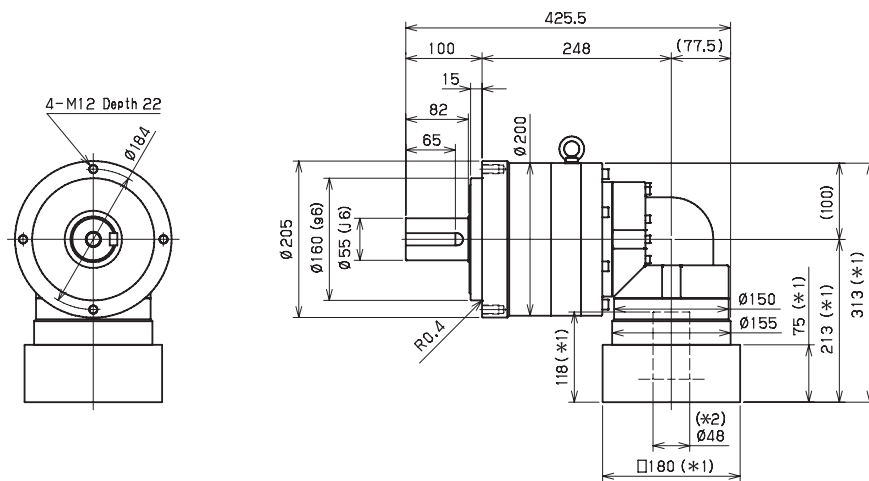
Input bore size  $\leq \varnothing 28$  mm



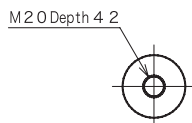
Input bore size  $\leq \varnothing 38$  mm



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

# EVL SERIES Right-angle Planetary

## EVL 235 2-Stage Specifications

Frame Size	235									
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	15000							
Maximum Axial Load	[N]	*9	14000							
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	148.0	122.9	113.3	108.1	104.7	102.7	101.6	101.0
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	223.2	198.1	188.6	183.3	180.0	178.0	176.8	176.2
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arcmin]	*11	400							
Maximum Torsional Backlash	[Arc-min]	--	$\leq 8$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	68							

## EVL 235 3-Stage Specifications

Frame Size	235									
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	15000							
Maximum Axial Load	[N]	*9	14000							
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	36.32	37.24	35.75	35.47	36.39	34.39	35.21	34.25
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	66.14	67.06	65.57	65.28	66.21	64.21	65.03	64.07
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arcmin]	*11	400							
Maximum Torsional Backlash	[Arc-min]	--	$\leq 11$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	70							

## EVL 235 3-Stage Specifications

Frame Size	235										
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	15000								
Maximum Axial Load	[N]	*9	14000								
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	35.10	34.18	34.14	34.11	34.10	34.09	34.08		
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	64.92	63.99	63.95	63.93	63.91	63.90	63.90		
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arcmin]	*11	400								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 11$								
Noise Level	dB [A]	*12	$\leq 85$								
Protection Class	--	*13	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*14	70								

\*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 Drive Technology for the testing conditions and environment

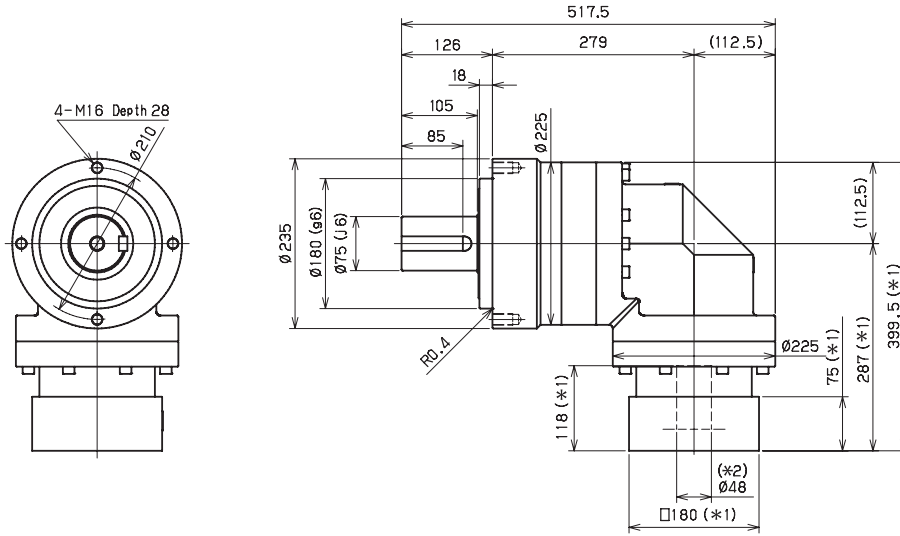
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

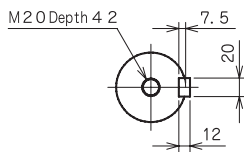
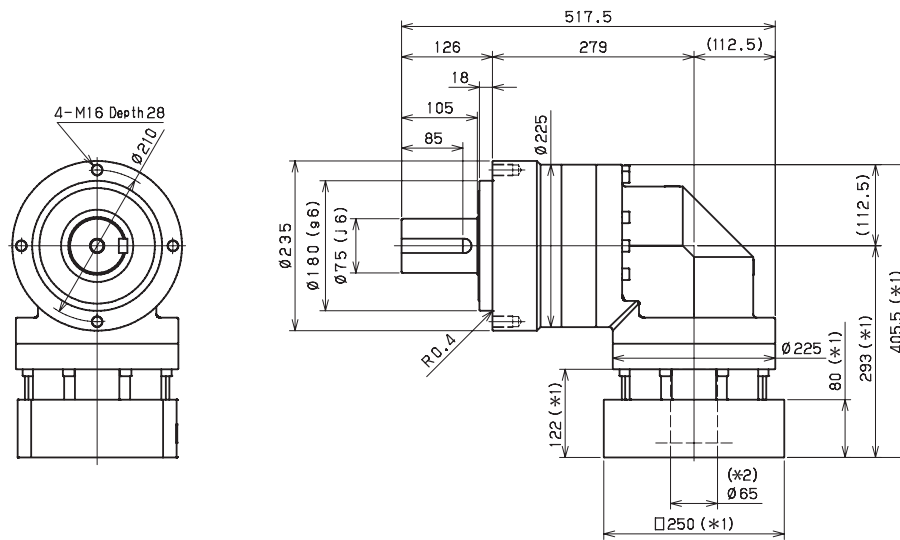
# EVL SERIES Right-angle Planetary

## EVL 235 2-Stage Dimensions

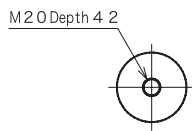
Input bore size  $\leq \phi 48$  mm



Input bore size  $\leq \phi 65$  mm



Keyed shaft



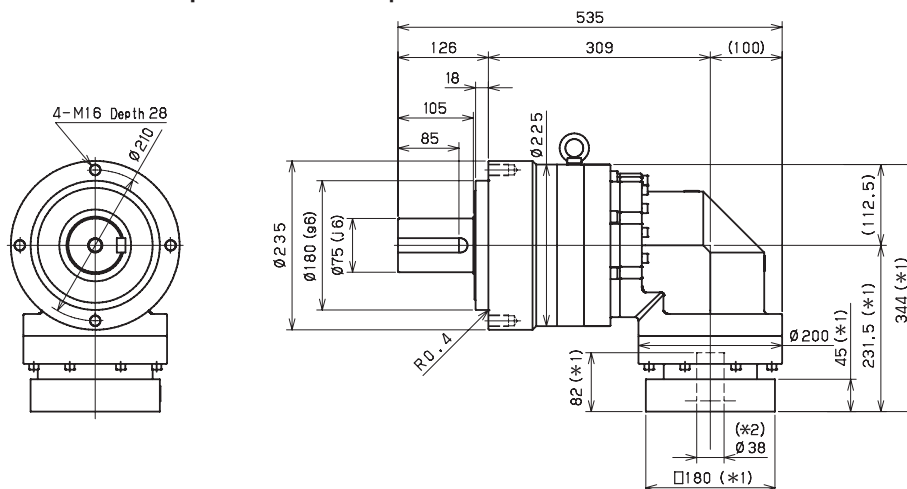
Smooth shaft

\*1) Length will vary depending on motor.

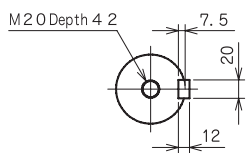
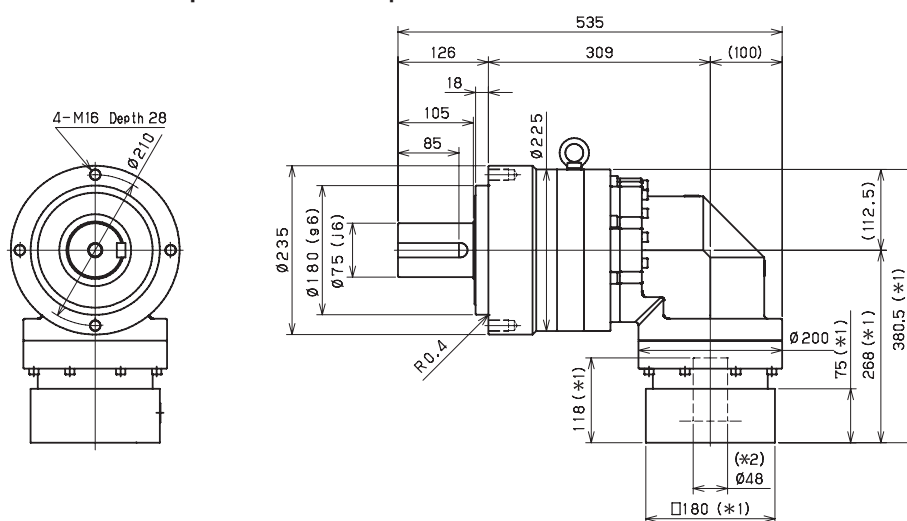
\*2) Bushing will be inserted to adapt to motor shaft

## EVL 235 3-Stage Dimensions

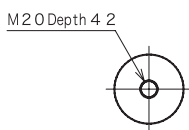
Input bore size  $\leq \varnothing 38$  mm



Input bore size  $\leq \varnothing 48$  mm



Keyed shaft



Smooth shaft

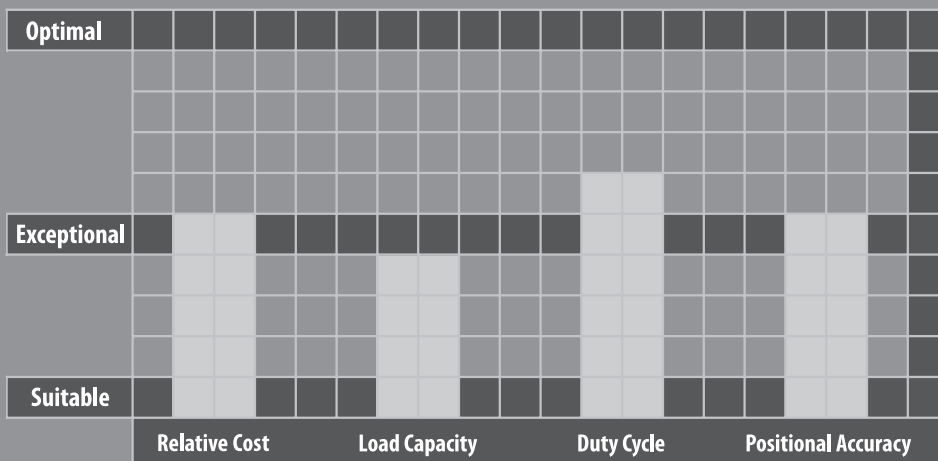
\*1) Length will vary depending on motor.

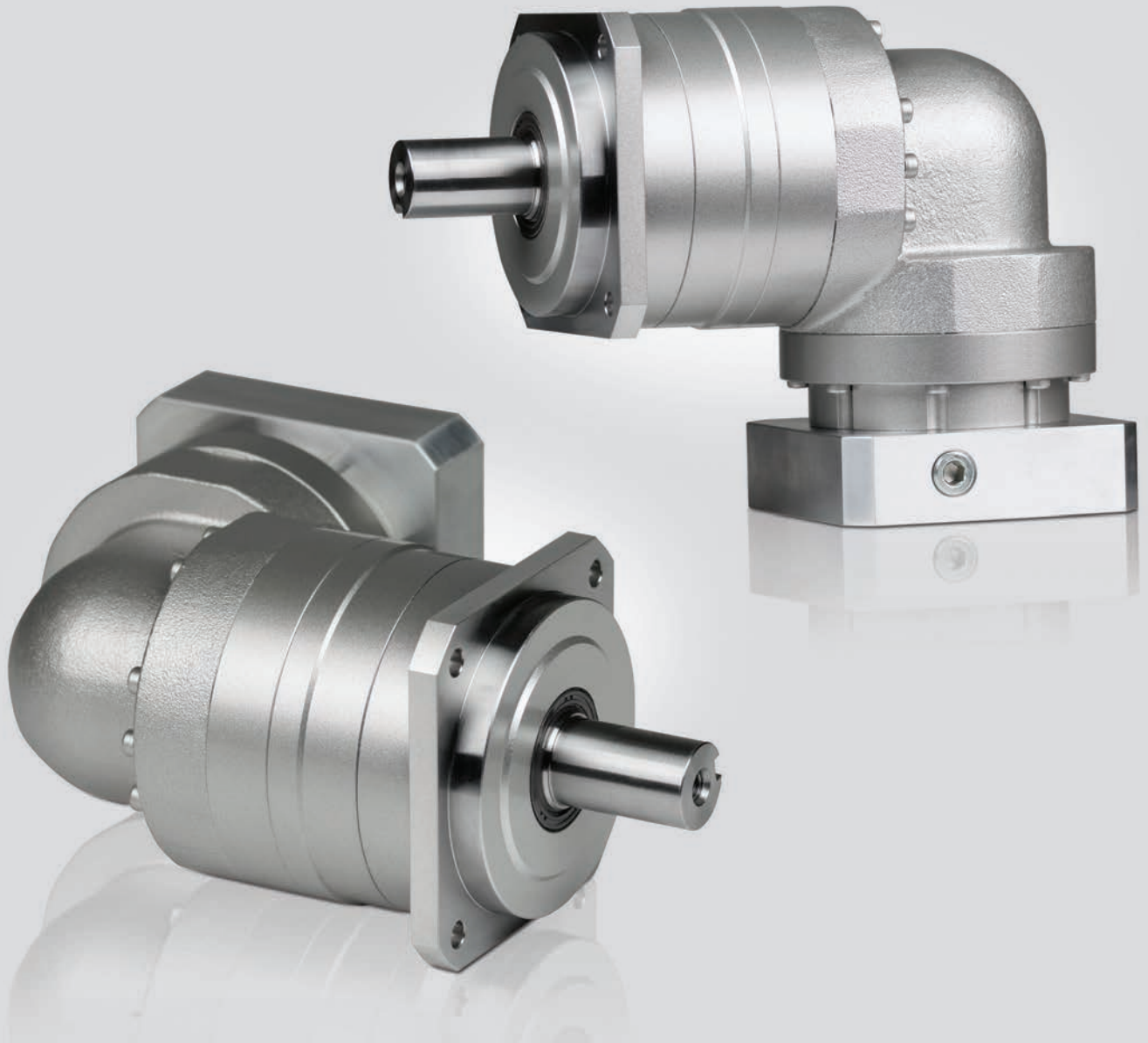
\*2) Bushing will be inserted to adapt to motor shaft

## EVB SERIES

An excellent choice for applications requiring high positional accuracy and dynamic performance. The EVB is a  $\leq 4$  arc-min gearbox that offers a right angle design with a through hole mounting style, making it compact and easy to assemble onto various equipment. This product is an ideal fit for various belt drive and actuator applications found throughout the packaging and assembly cell automation markets.

Various standard wash down and food grade options are available, making the EVB an attractive choice for the toughest environments. We offer the broadest selection of frame sizes and ratios, with immediate availability on most configurations. Industry standard mounting dimensions allow the EVB to be employed in legacy equipment designs, saving our customers time and money.



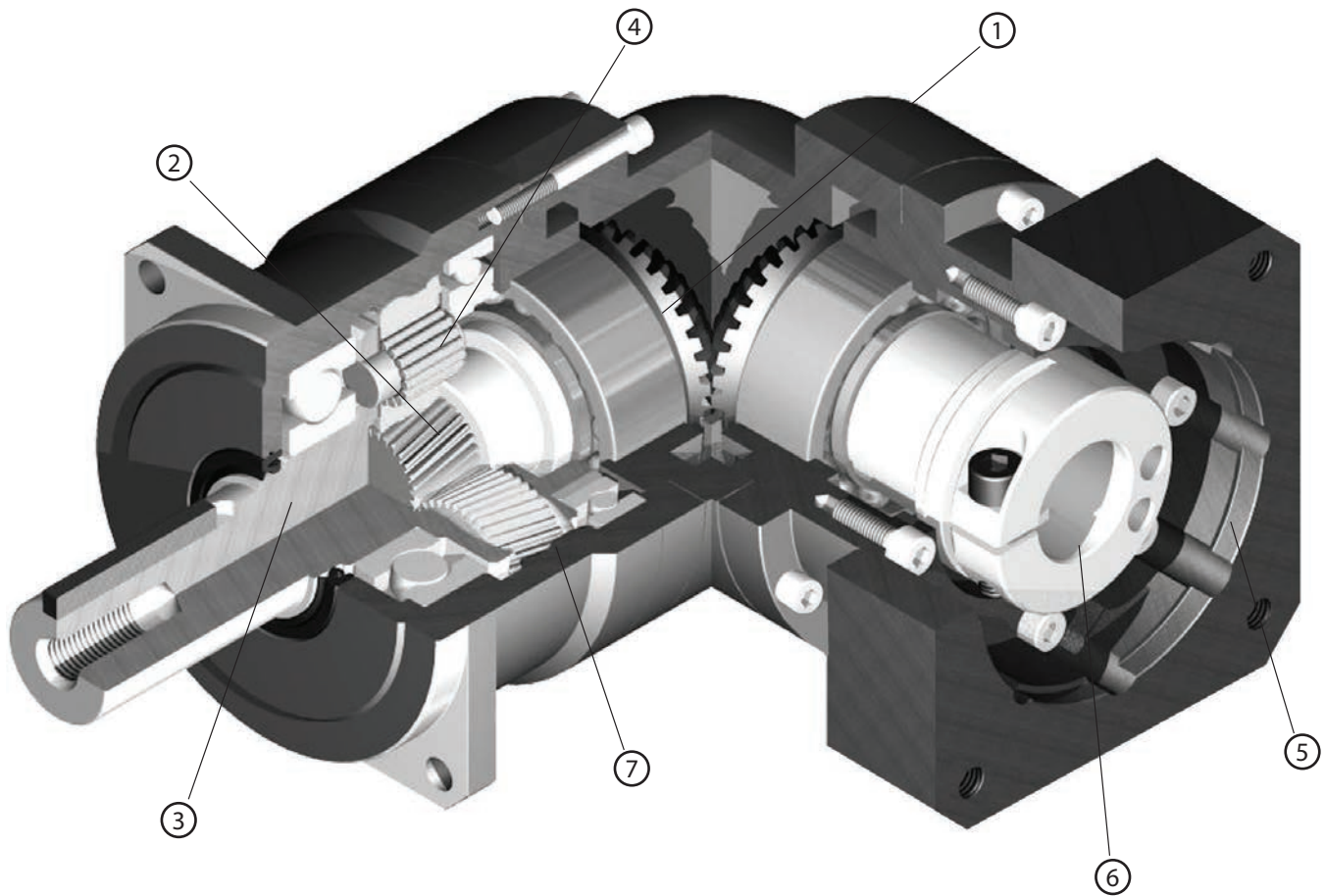


## EVB SERIES

- Compact, space-saving solution for mid to high end motion control applications
- The widest range of frame sizes and ratios available in the market
- Best-In-class backlash ( $\leq 4$  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 mounting dimensions
- Assembled in the USA

# EVB SERIES Right-angle Planetary

## EVB Series Features



- ① Right angle bevel gear configuration allows motor to be mounted at a 90 degree position from the gearbox, saving space
- ② Carburized helical gears with proprietary secondary finishing process for higher accuracy and smooth, quiet operation. 40% higher tooth surface area than the industry standard
- ③ One piece output shaft and planet carrier with two bearings straddling the planet gears. Higher stiffness, torque capacity and safety factor, with guaranteed alignment of gearing
- ④ Uncaged needle roller bearings provide excellent torque density and torsional rigidity. 43% larger bearing surface area compared to the rest of the industry
- 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

## EVb Series Model Code

EVb	-	090	-	7	-	K	-	4	-	19HB16
-----	---	-----	---	---	---	---	---	---	---	--------

**Series** (points to EVb)

**Frame size:** 060, 090, 115, 140, 180, 220 (points to 090)

**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 (points to 7)

**Output mounting style:**  
 K: Keyed shaft  
 S: Smooth shaft (points to K)

**Backlash:**  
 060, 090, 115, 140  
 ≤ 4 - 7 arc-min  
 180, 220  
 ≤ 6 - 9 arc-min (points to 090)

**Motor mounting code (\*1)** (points to 19HB16)

\*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 <https://www.nidec-drivetechnology.co.jp/selection/all/>



EVb

# EVB SERIES Right-angle Planetary

## EVB 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	1200							
Maximum Axial Load	[N]	*9	1100							
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.31	0.27	0.25	0.24	0.23	0.23	0.23	0.23
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.39	0.34	0.32	0.31	0.31	0.31	0.30	0.30
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.58	0.53	0.51	0.50	0.50	0.50	0.49	0.49
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	3							
Maximum Torsional Backlash	[arc-min]	--	$\leq 4$							
Noise Level	dB [A]	*12	$\leq 80$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	1.8							

## EVB 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	1200							
Maximum Axial Load	[N]	*9	1100							
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.073	0.079	0.071	0.071	0.077	0.062	0.070	0.061
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.118	0.124	0.116	0.115	0.122	0.106	0.115	0.106
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--			--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	3							
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$							
Noise Level	dB [A]	*12	$\leq 80$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	1.6							

## EVB 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	1200								
Maximum Axial Load	[N]	*9	1100								
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.070	0.061	0.061	0.061	0.061	0.061	0.061		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.115	0.106	0.106	0.105	0.105	0.105	0.105		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arc-min]	*11	3								
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$								
Noise Level	dB [A]	*12	$\leq 80$								
Protection Class	--	*13	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*14	1.6								

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

\*2) The maximum torque when starting or stopping operation. Apply Cycle Factor  $f_0$ , 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 Drive Technology for the testing conditions and environment

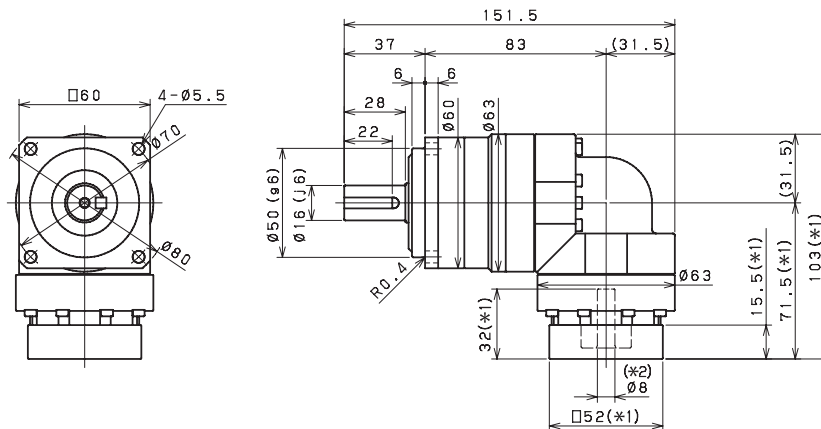
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

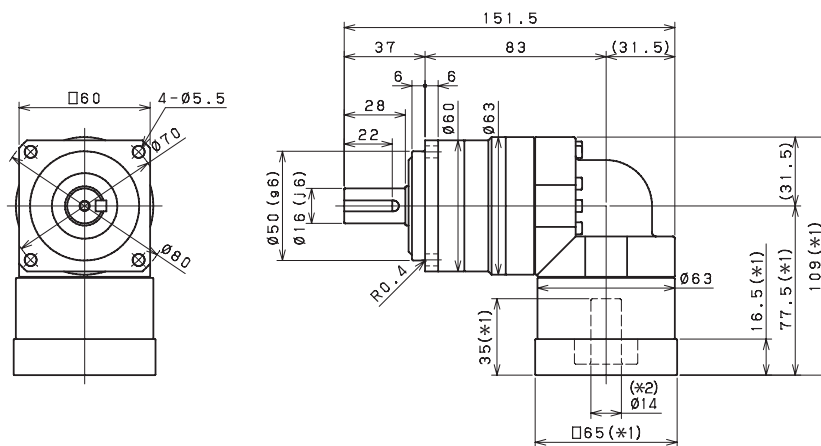
# EVB SERIES Right-angle Planetary

## EVB o6o 2-Stage Dimensions

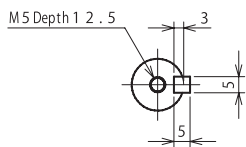
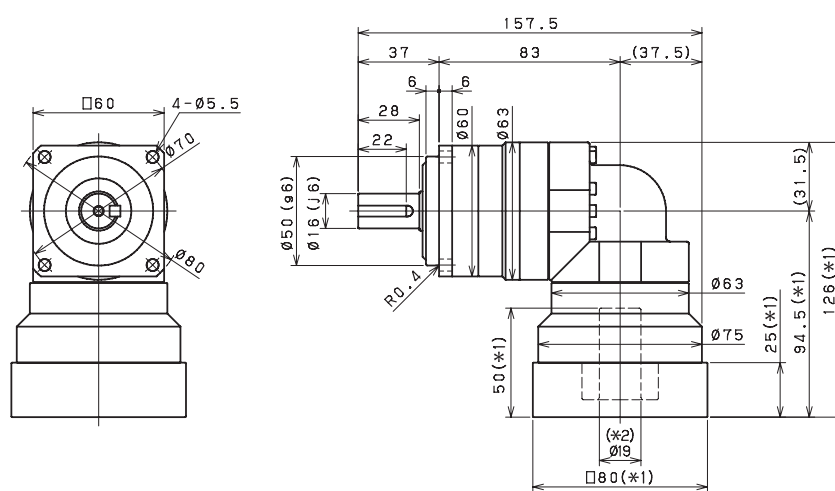
Input bore size  $\leq \phi 8$  mm



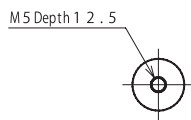
Input bore size  $\leq \phi 14$  mm



Input bore size  $\leq \phi 19$  mm



Keyed shaft

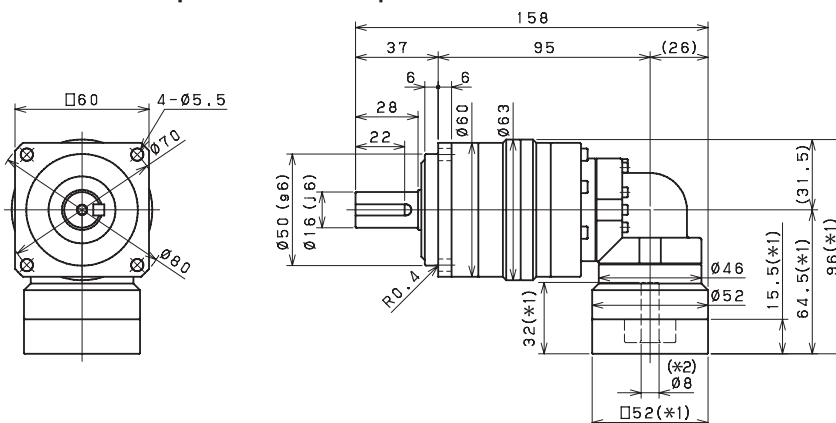


Smooth shaft

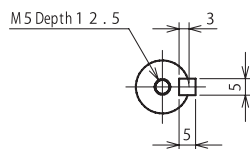
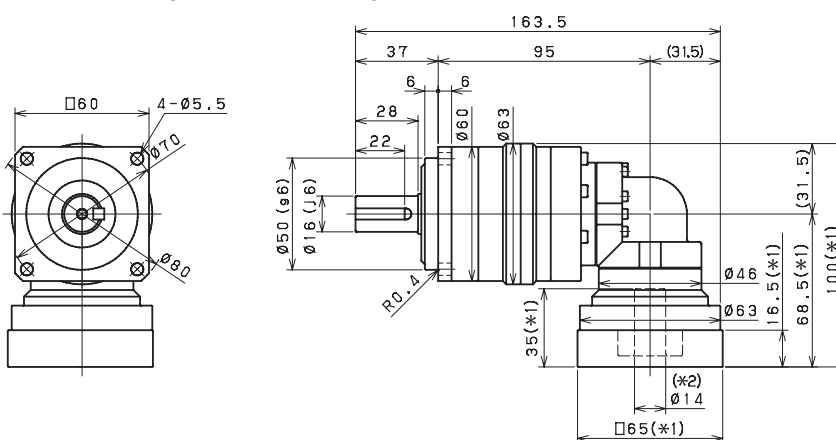
- \*1) Length will vary depending on motor
- \*2) Bushing will be inserted to adapt to motor shaft

## EVB o6o 3-Stage Dimensions

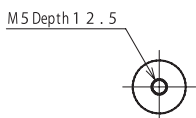
Input bore size  $\leq \varnothing 8$  mm



Input bore size  $\leq \varnothing 14$  mm



Keyed shaft



Smooth shaft

\*1) Length will vary depending on motor

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

# EVB SERIES Right-angle Planetary

## EVB 090 2-Stage Specifications

Frame Size	090									
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	2400							
Maximum Axial Load	[N]	*9	2200							
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	2.12	1.89	1.80	1.76	1.73	1.71	1.70	1.69
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.45	2.22	2.13	2.09	2.06	2.04	2.03	2.02
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.57	4.35	4.26	4.21	4.18	4.17	4.16	4.15
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	10							
Maximum Torsional Backlash	[arc-min]	--	$\leq 4$							
Noise Level	dB [A]	*12	$\leq 80$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	5.1							

## EVB 090 3-Stage Specifications

Frame Size	090									
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	2400							
Maximum Axial Load	[N]	*9	2200							
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.34	0.38	0.33	0.32	0.37	0.25	0.32	0.25
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.41	0.46	0.40	0.40	0.45	0.33	0.4	0.32
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.6	0.65	0.59	0.59	0.64	0.51	0.59	0.51
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	10							
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$							
Noise Level	dB [A]	*12	$\leq 80$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	4.4							

## EVB 090 3-Stage Specifications

Frame Size	090										
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	2400								
Maximum Axial Load	[N]	*9	2200								
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.32	0.25	0.25	0.25	0.25	0.25	0.25		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.39	0.32	0.32	0.32	0.32	0.32	0.32		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.58	0.51	0.51	0.51	0.51	0.51	0.51		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arc-min]	*11	10								
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$								
Noise Level	dB [A]	*12	$\leq 80$								
Protection Class	--	*13	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*14	4.4								

\*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 Drive Technology for the testing conditions and environment

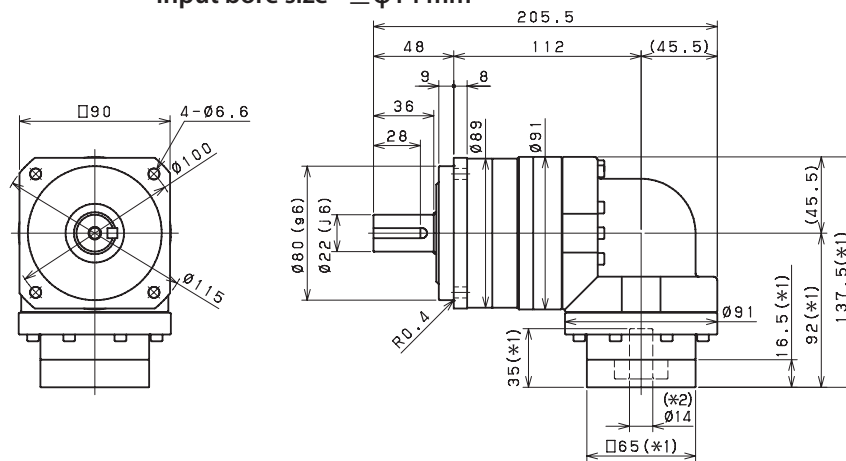
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

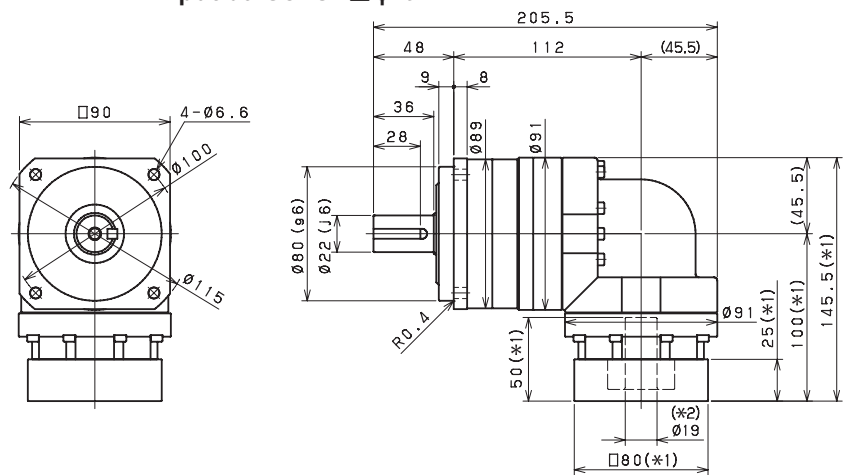
# EVB SERIES Right-angle Planetary

## EVB 090 2-Stage Dimensions

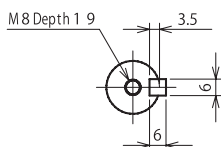
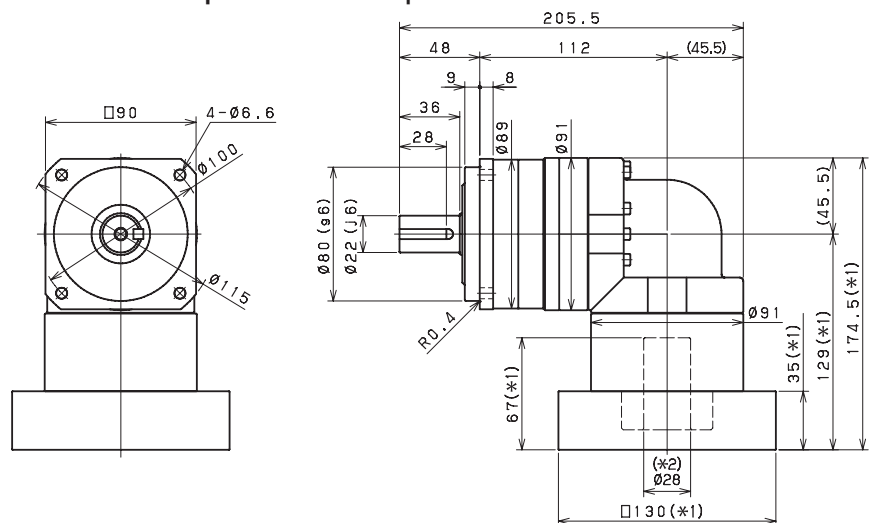
Input bore size  $\leq \phi 14$  mm



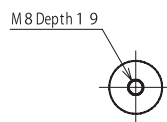
Input bore size  $\leq \phi 19$  mm



Input bore size  $\leq \phi 28$  mm



Keyed shaft



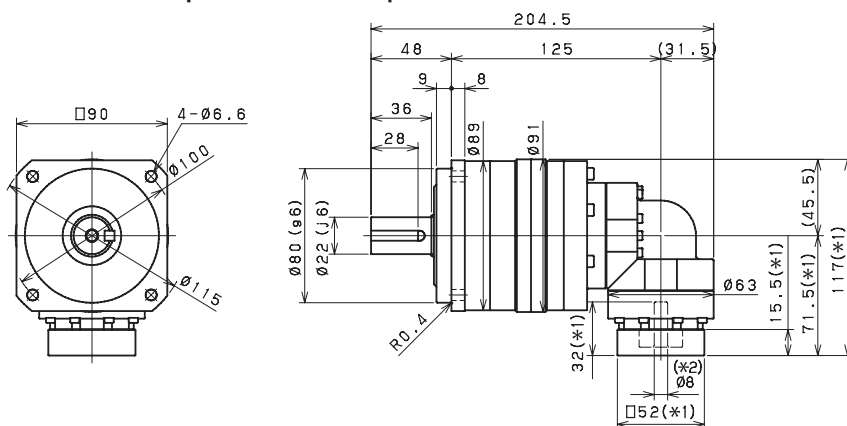
Smooth shaft

\*1) Length will vary depending on motor

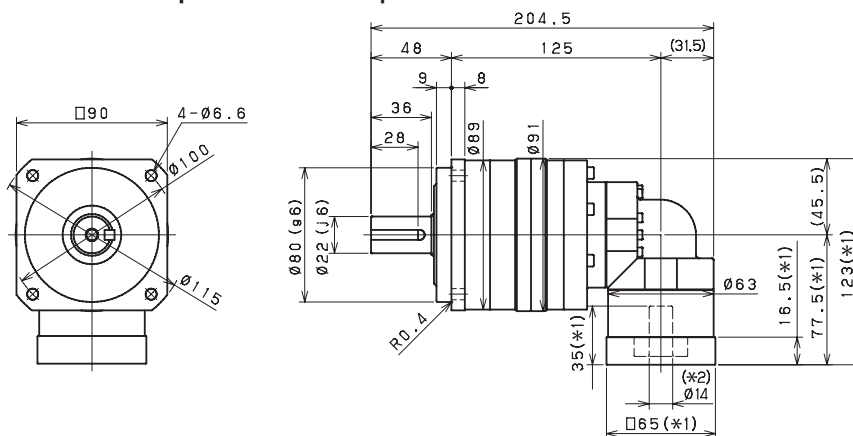
\*2) Bushing will be inserted to adapt to motor shaft

## EVb 090 3-Stage Dimensions

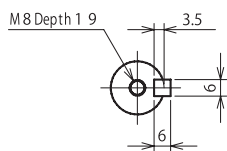
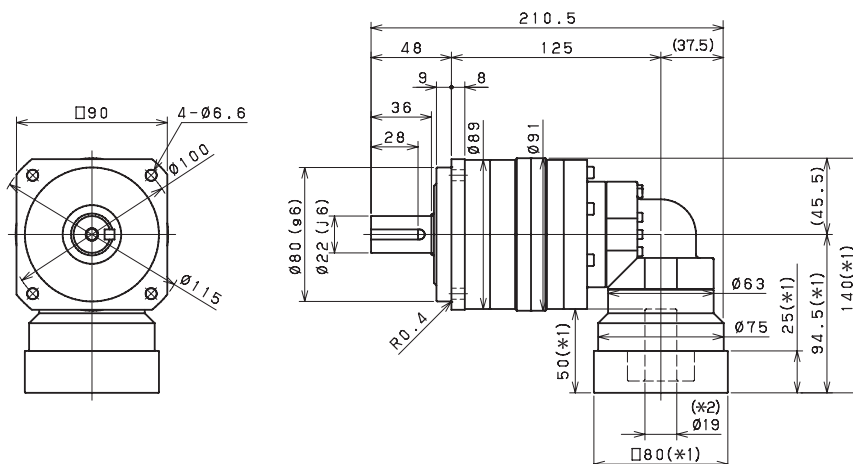
Input bore size  $\leq \varnothing 8 \text{ mm}$



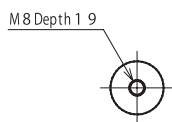
Input bore size  $\leq \varnothing 14 \text{ mm}$



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

# EVB SERIES Right-angle Planetary

## EVB 115 2-Stage Specifications

Frame Size	115									
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	4300							
Maximum Axial Load	[N]	*9	3900							
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	6.74	5.49	5.02	4.77	4.65	4.55	4.49	4.46
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	8.34	7.08	6.61	6.36	6.24	6.14	6.08	6.05
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	15.41	14.15	13.69	13.43	13.31	13.22	13.16	13.12
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	31							
Maximum Torsional Backlash	[arc-min]	--	$\leq 4$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	10.4							

## EVB 115 3-Stage Specifications

Frame Size	115									
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	3900							
Maximum Axial Load	[N]	*9	3900							
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	2.25	2.46	2.20	2.18	2.40	1.87	2.16	1.86
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.58	2.79	2.53	2.51	2.73	2.20	2.49	2.19
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.70	4.91	4.65	4.64	4.86	4.33	4.62	4.32
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	31							
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	10.1							

## EVB 115 3-Stage Specifications

Frame Size	115										
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	4300								
Maximum Axial Load	[N]	*9	3900								
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	2.15	1.86	1.85	1.85	1.85	1.85	1.85		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.48	2.19	2.18	2.18	2.18	2.18	2.18		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.61	4.31	4.31	4.31	4.31	4.31	4.31		
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arc-min]	*11	31								
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$								
Noise Level	dB [A]	*12	$\leq 85$								
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 Drive Technology for the testing conditions and environment

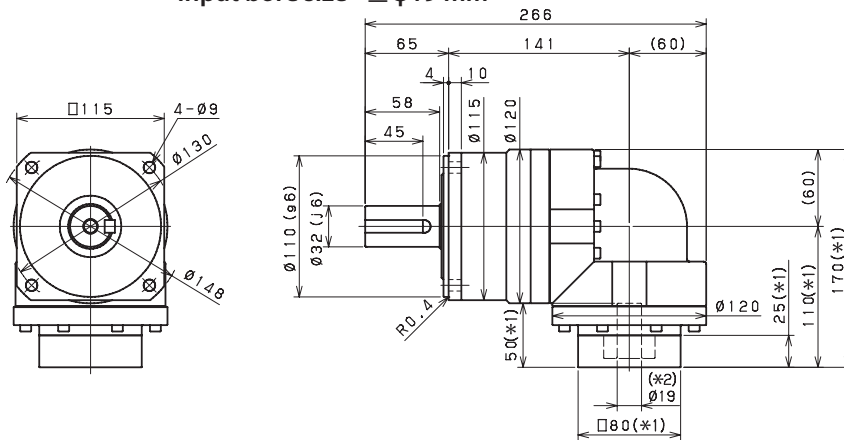
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

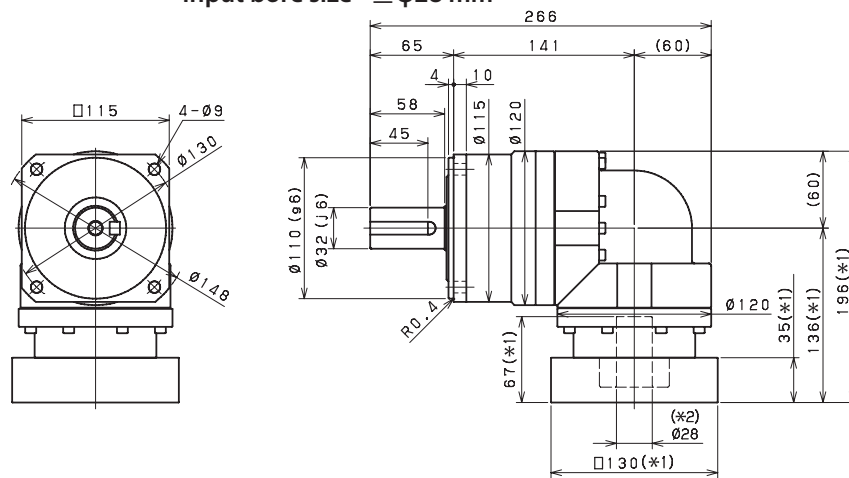
# EVB SERIES Right-angle Planetary

## EVB 115 2-Stage Dimensions

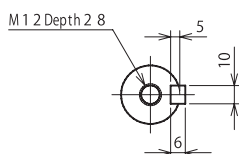
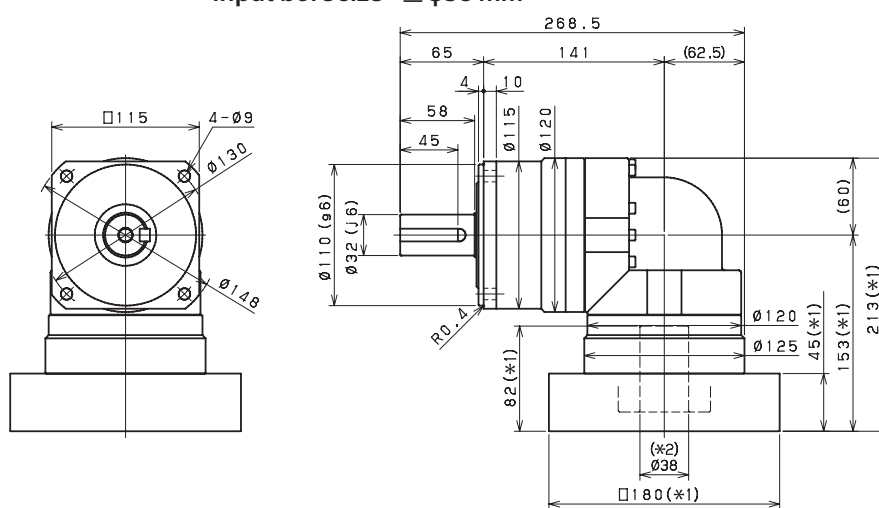
Input bore size  $\leq \phi 19$  mm



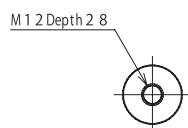
Input bore size  $\leq \phi 28$  mm



Input bore size  $\leq \phi 38$  mm



Keyed shaft

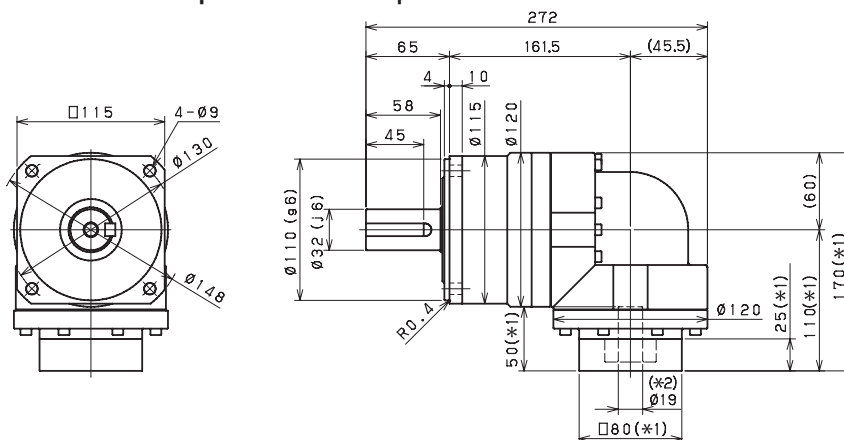


Smooth shaft

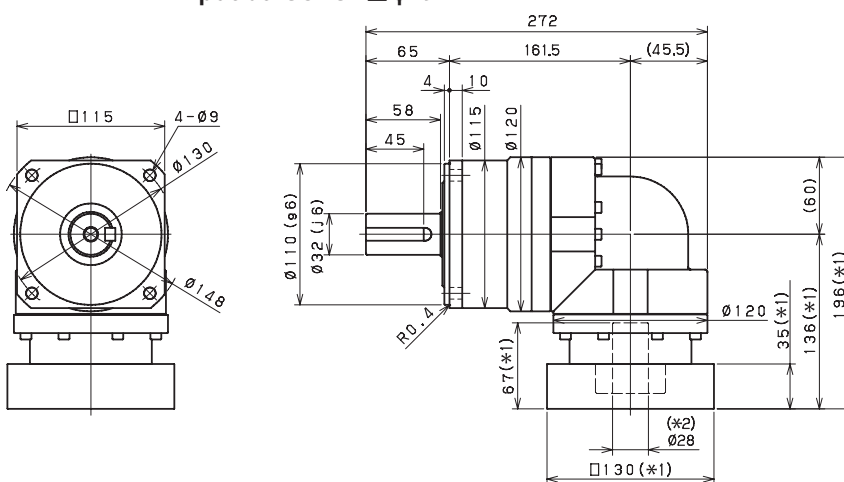
- \*1) Length will vary depending on motor
- \*2) Bushing will be inserted to adapt to motor shaft

## EVB 115 3-Stage Dimensions

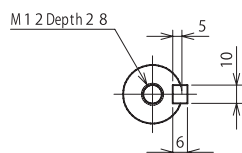
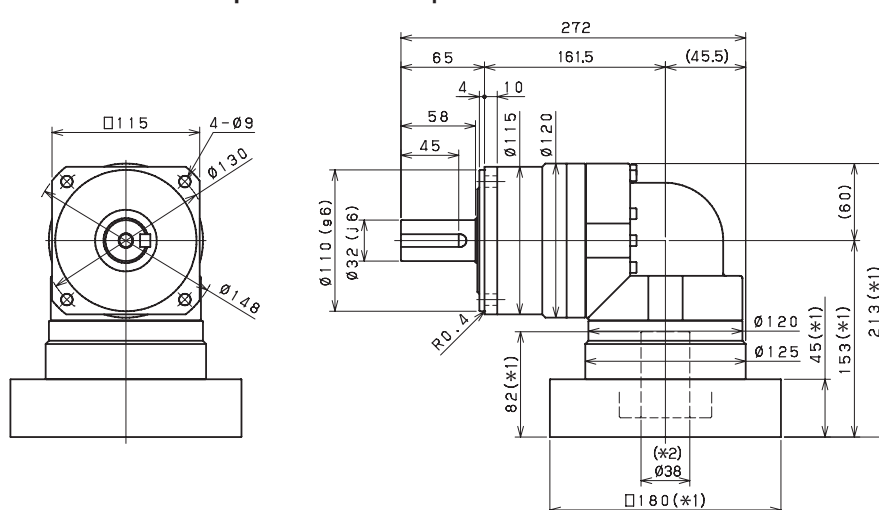
Input bore size  $\leq \phi 14$  mm



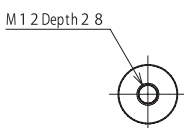
Input bore size  $\leq \phi 19$  mm



Input bore size  $\leq \phi 28$  mm



Keyed shaft



Smooth shaft

\*1) Length will vary depending on motor

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

# EVB SERIES Right-angle Planetary

## EVB 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	4000							
No Load Running Torque	[Nm]	*7	3.26							
Maximum Radial Load	[N]	*8	9100							
Maximum Axial Load	[N]	*9	8200							
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	23.13	18.57	16.91	16.01	15.58	15.23	14.77	14.66
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	27.50	22.94	21.28	20.38	19.95	19.61	19.41	19.03
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	40.73	36.17	34.51	33.61	33.18	32.84	32.37	32.26
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	60							
Maximum Torsional Backlash	[arc-min]	--	$\leq 4$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	19.1							

## EVB 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	4000							
No Load Running Torque	[Nm]	*7	2.56							
Maximum Radial Load	[N]	*8	9100							
Maximum Axial Load	[N]	*9	8200							
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	6.40	7.29	6.22	6.15	7.09	4.99	6.09	4.95
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	8	8.88	7.81	7.75	8.68	6.58	7.69	6.54
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	15.07	15.96	14.89	14.82	15.76	13.66	14.76	13.61
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	60							
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	19.6							

## EVB 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	4000								
No Load Running Torque	[Nm]	*7	2.56								
Maximum Radial Load	[N]	*8	9100								
Maximum Axial Load	[N]	*9	8200								
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	6.07	4.93	4.92	4.91	4.91	4.91	4.91		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	7.66	6.52	6.51	6.51	6.50	6.50	6.50		
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	14.74	13.59	13.59	13.58	13.58	13.57	13.57		
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arc-min]	*11	60								
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$								
Noise Level	dB [A]	*12	$\leq 85$								
Protection Class	--	*13	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*14	19.6								

\*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 Drive Technology for the testing conditions and environment

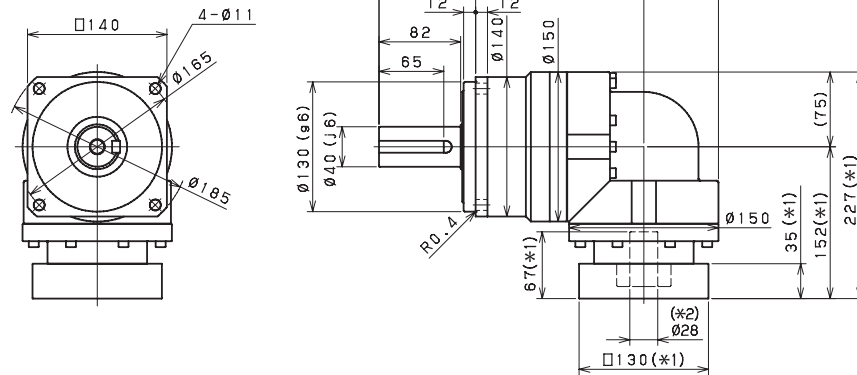
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

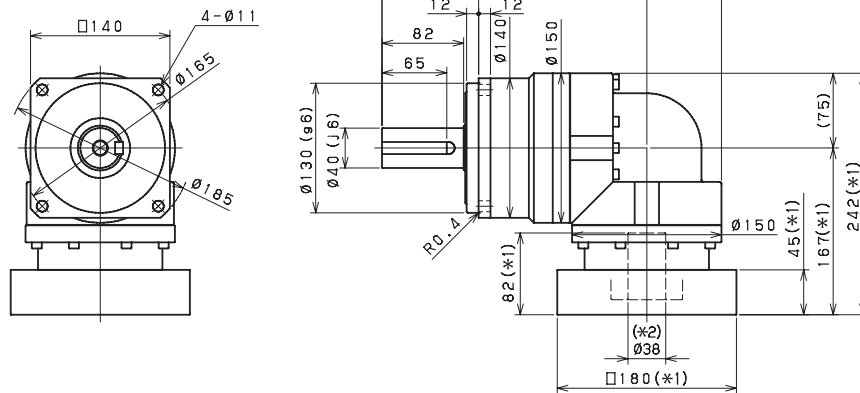
# EVB SERIES Right-angle Planetary

## EVB 140 2-Stage Dimensions

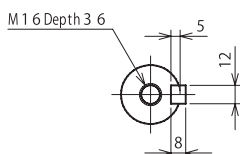
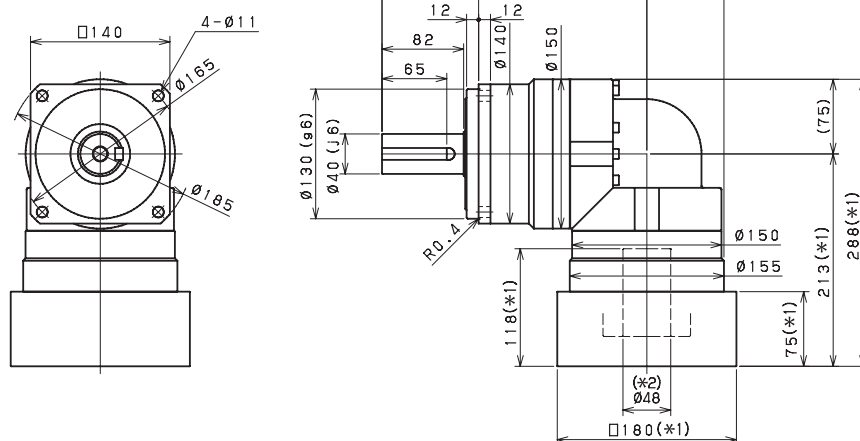
Input bore size  $\leq \varnothing 28$  mm



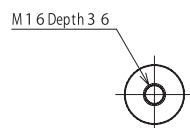
Input bore size  $\leq \varnothing 38$  mm



Input bore size  $\leq \varnothing 48$  mm



Keyed shaft



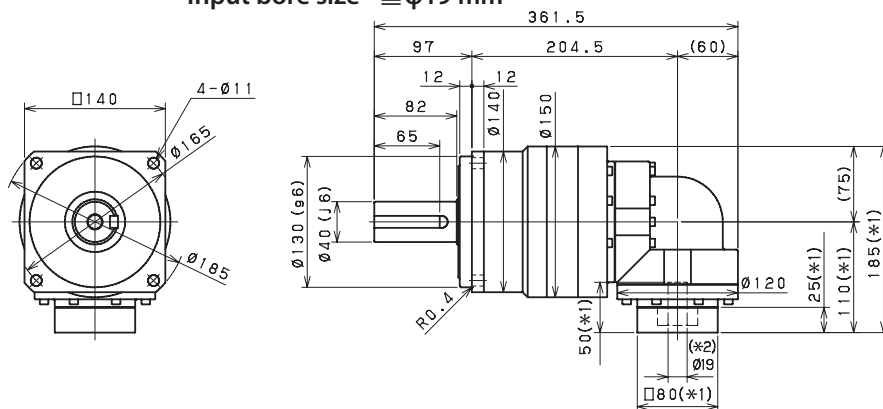
Smooth shaft

\*1) Length will vary depending on motor

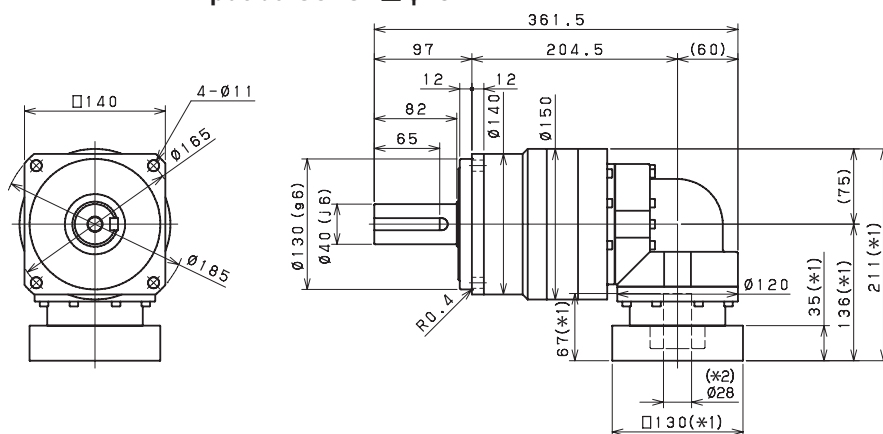
\*2) Bushing will be inserted to adapt to motor shaft

## EVB 140 3-Stage Dimensions

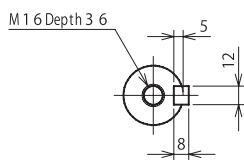
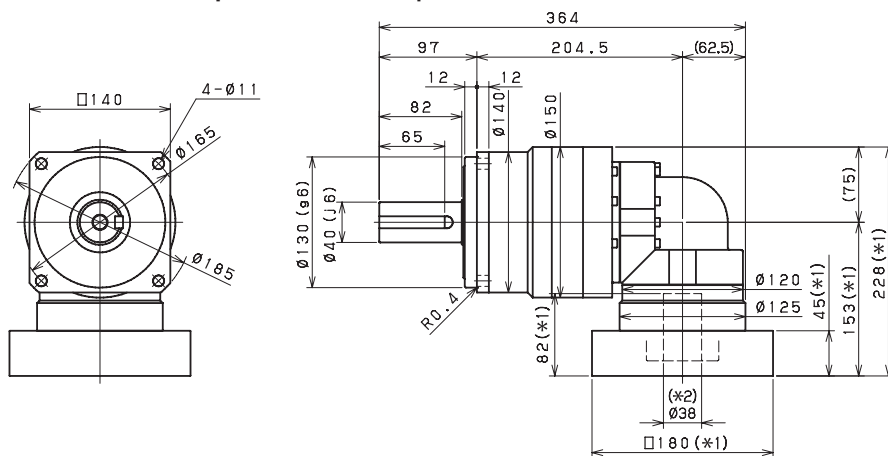
Input bore size  $\leq \phi 19$  mm



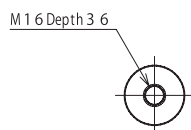
Input bore size  $\leq \phi 28$  mm



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

# EVB SERIES Right-angle Planetary

## EVB 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	15000							
Maximum Axial Load	[N]	*9	14000							
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	93.71	77.72	71.89	68.74	66.43	65.27	64.6	64.28
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	128.6	112.6	106.8	103.6	101.3	100.1	99.46	99.14
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	214.2	198.2	192.4	189.2	186.9	185.7	185.1	184.7
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arcmin]	*11	175							
Maximum Torsional Backlash	[Arc-min]	--	$\leq 6$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	49							

## EVB 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	15000							
Maximum Axial Load	[N]	*9	14000							
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	11.49	12.09	11.15	10.98	11.59	10.33	10.83	10.24
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	20.28	20.88	19.94	19.77	20.38	19.11	19.62	19.03
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	25.1	25.7	24.76	24.59	25.20	23.94	24.44	23.85
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arcmin]	*11	175							
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	36							

## EVB 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	15000								
Maximum Axial Load	[N]	*9	14000								
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	10.76	10.2	10.18	10.16	10.15	10.15	10.14		
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	19.55	18.99	18.96	18.95	18.94	18.93	18.93		
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	24.37	23.81	23.78	23.77	23.76	23.75	23.75		
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arcmin]	*11	175								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$								
Noise Level	dB [A]	*12	$\leq 85$								
Protection Class	--	*13	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*14	36								

\*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 Drive Technology for the testing conditions and environment

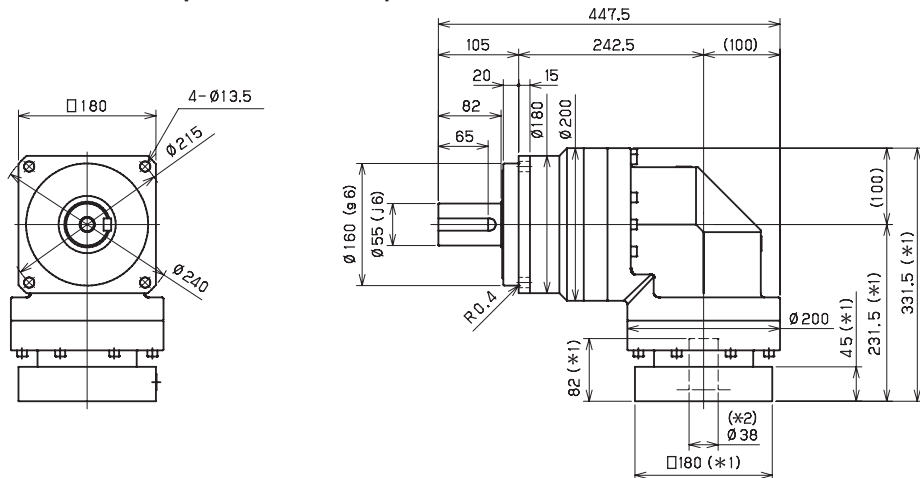
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

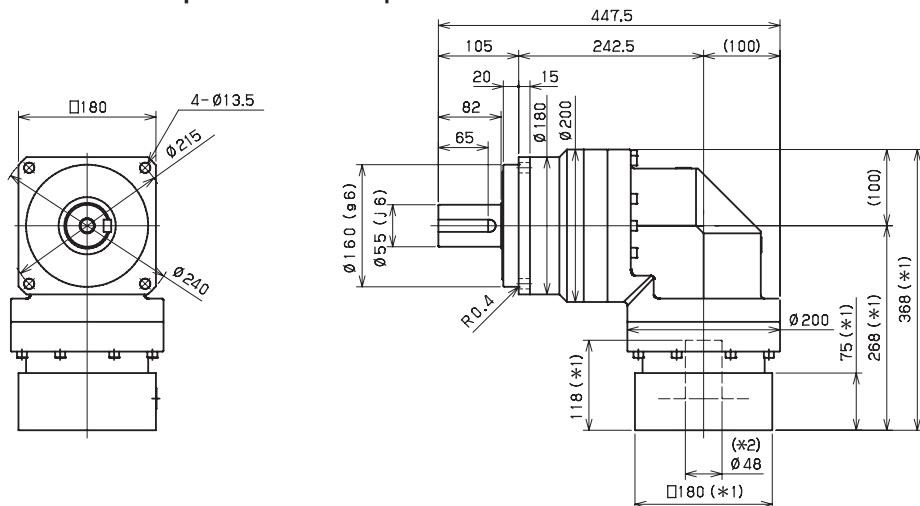
# EVB SERIES Right-angle Planetary

## EVB 180 2-Stage Dimensions

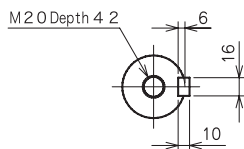
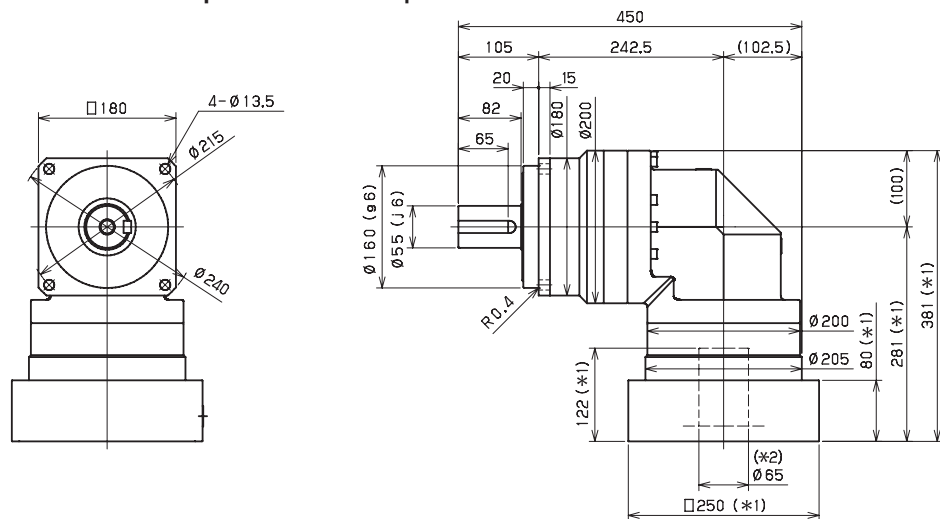
Input bore size  $\leq \varnothing 38$  mm



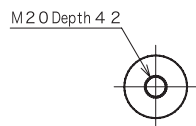
Input bore size  $\leq \varnothing 48$  mm



Input bore size  $\leq \varnothing 65$  mm



Keyed shaft



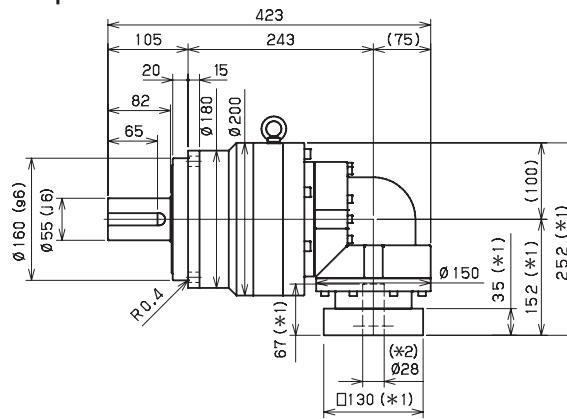
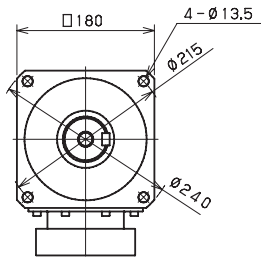
Smooth shaft

\*1) Length will vary depending on motor

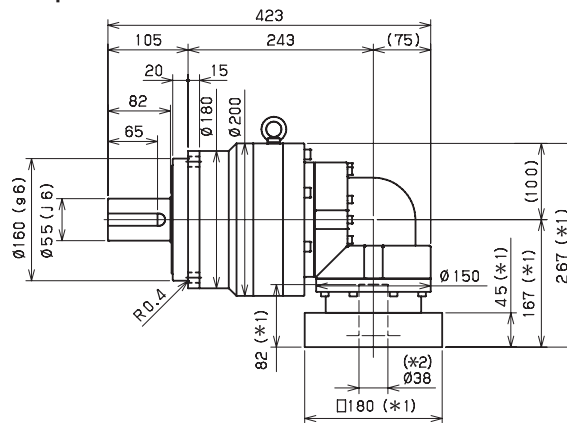
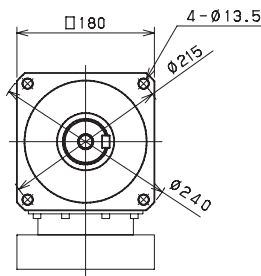
\*2) Bushing will be inserted to adapt to motor shaft

## EVB 180 3-Stage Dimensions

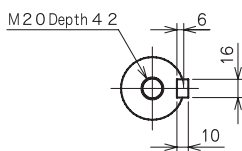
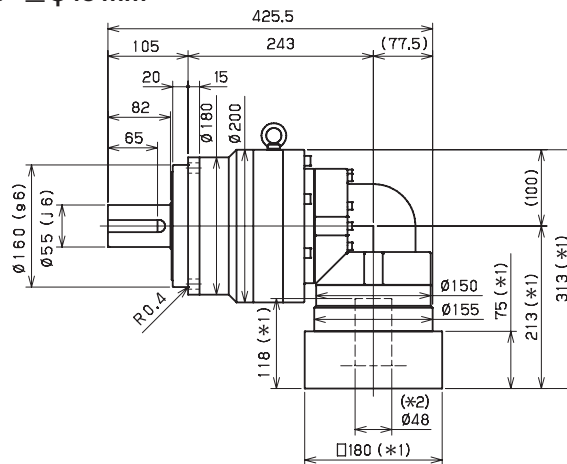
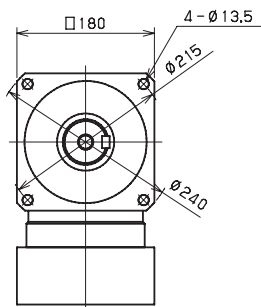
Input bore size  $\leq \varnothing 28$  mm



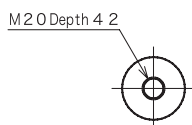
Input bore size  $\leq \varnothing 38$  mm



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

# EVB SERIES Right-angle Planetary

## EVB 220 2-Stage Specifications

Frame Size	220									
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	15000							
Maximum Axial Load	[N]	*9	14000							
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	148.0	122.9	113.3	108.1	104.7	102.7	101.6	101.0
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	223.2	198.1	188.6	183.3	180.0	178.0	176.8	176.2
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arcmin]	*11	400							
Maximum Torsional Backlash	[Arc-min]	--	$\leq 6$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	66							

## EVB 220 3-Stage Specifications

Frame Size	220									
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	15000							
Maximum Axial Load	[N]	*9	14000							
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	36.32	37.24	35.75	35.47	36.39	34.39	35.21	34.25
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	66.14	67.06	65.57	65.28	66.21	64.21	65.03	64.07
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arcmin]	*11	400							
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	67							

## EVB 220 3-Stage Specifications

Frame Size	220										
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	15000								
Maximum Axial Load	[N]	*9	14000								
Moment of Inertia ( $\leq \emptyset 38$ )	[kgcm <sup>2</sup> ]	--	35.10	34.18	34.14	34.11	34.1	34.09	34.08		
Moment of Inertia ( $\leq \emptyset 48$ )	[kgcm <sup>2</sup> ]	--	64.92	63.99	63.95	63.93	63.91	63.90	63.90		
Moment of Inertia ( $\leq \emptyset 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arcmin]	*11	400								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$								
Noise Level	dB [A]	*12	$\leq 85$								
Protection Class	--	*13	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*14	67								

\*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 Drive Technology for the testing conditions and environment

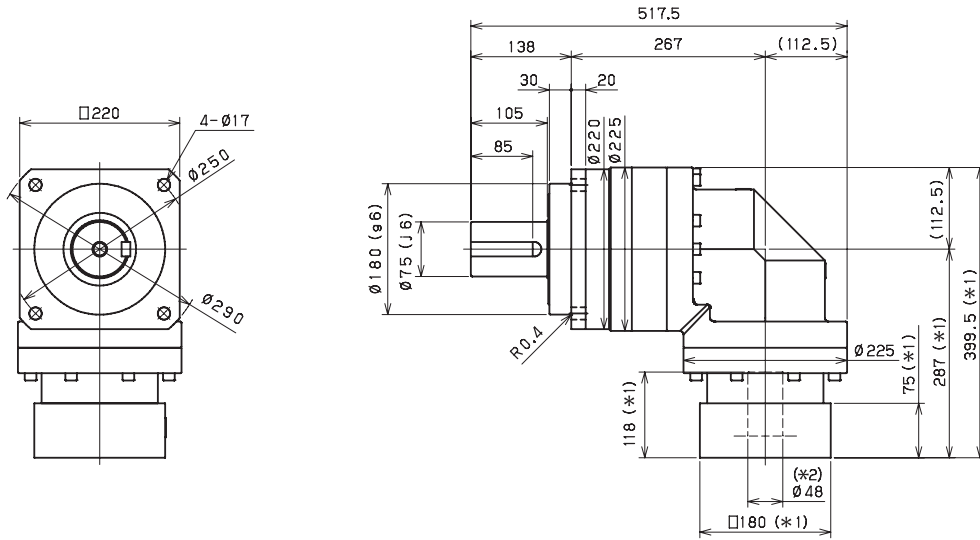
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

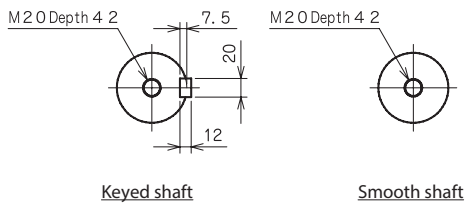
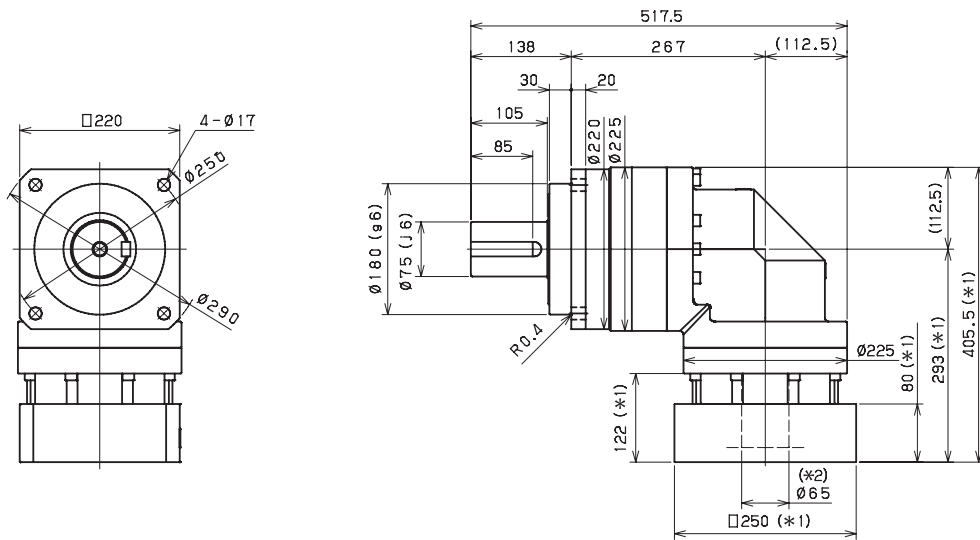
# EVB SERIES Right-angle Planetary

## EVB 220 2-Stage Dimensions

Input bore size  $\leq \phi 48$  mm



Input bore size  $\leq \phi 65$  mm



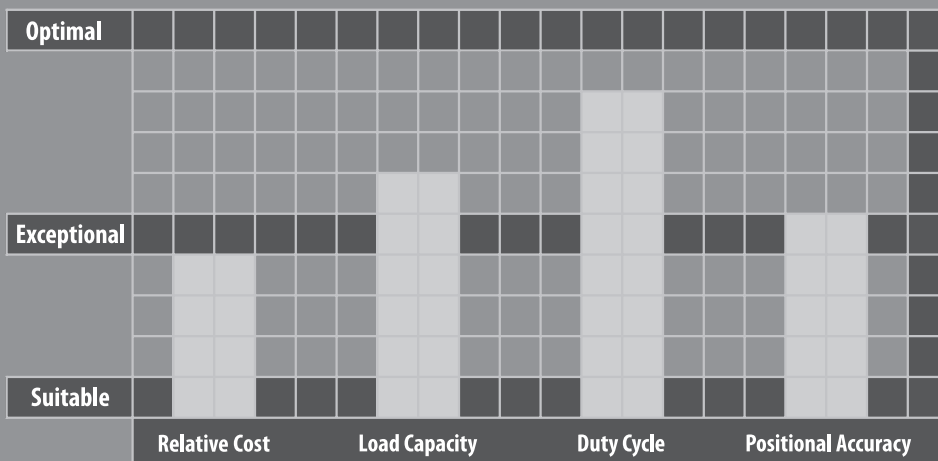
- \*1) Length will vary depending on motor
- \*2) Bushing will be inserted to adapt to motor shaft

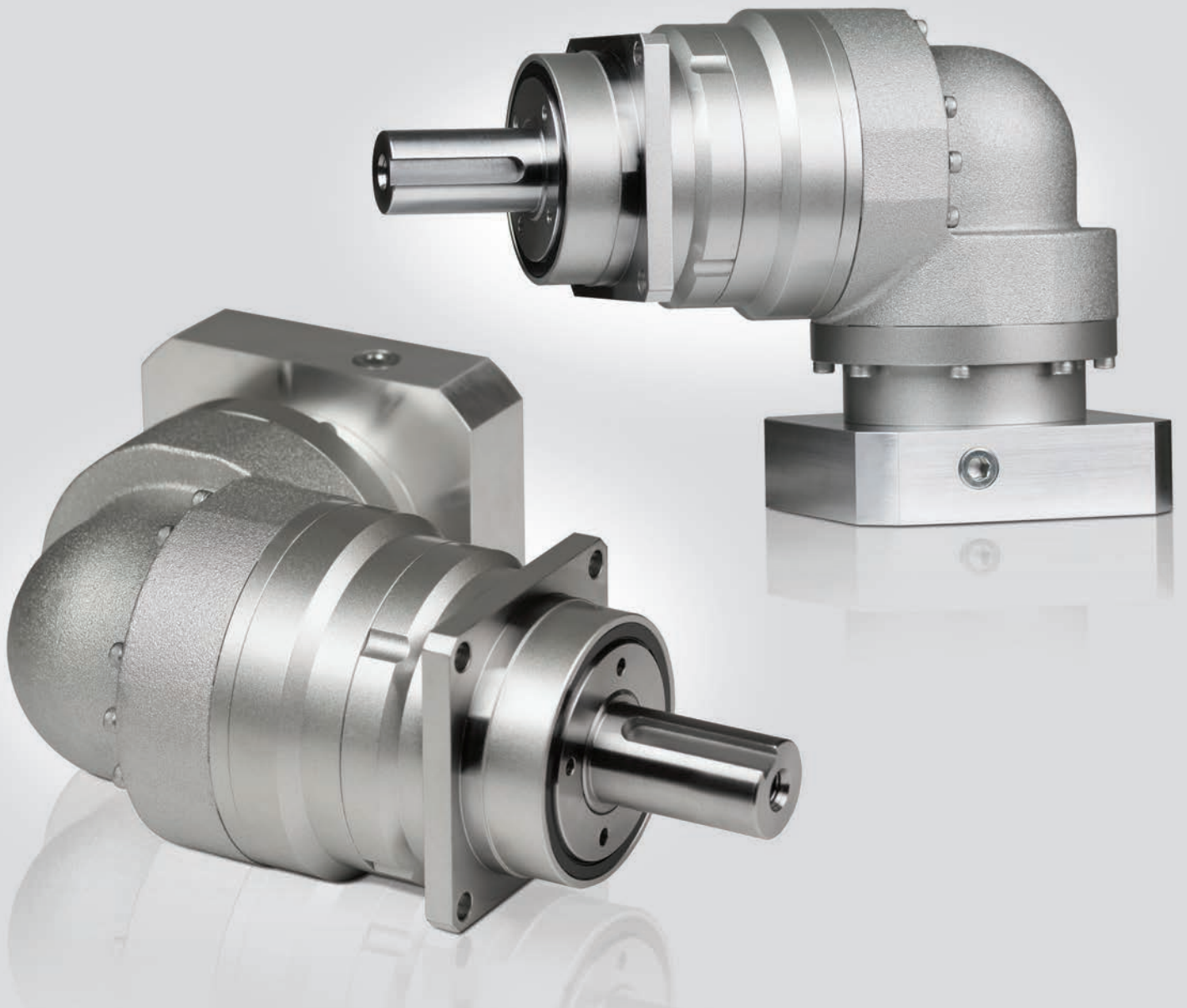


## EVS SERIES

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  $\leq 4$  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.



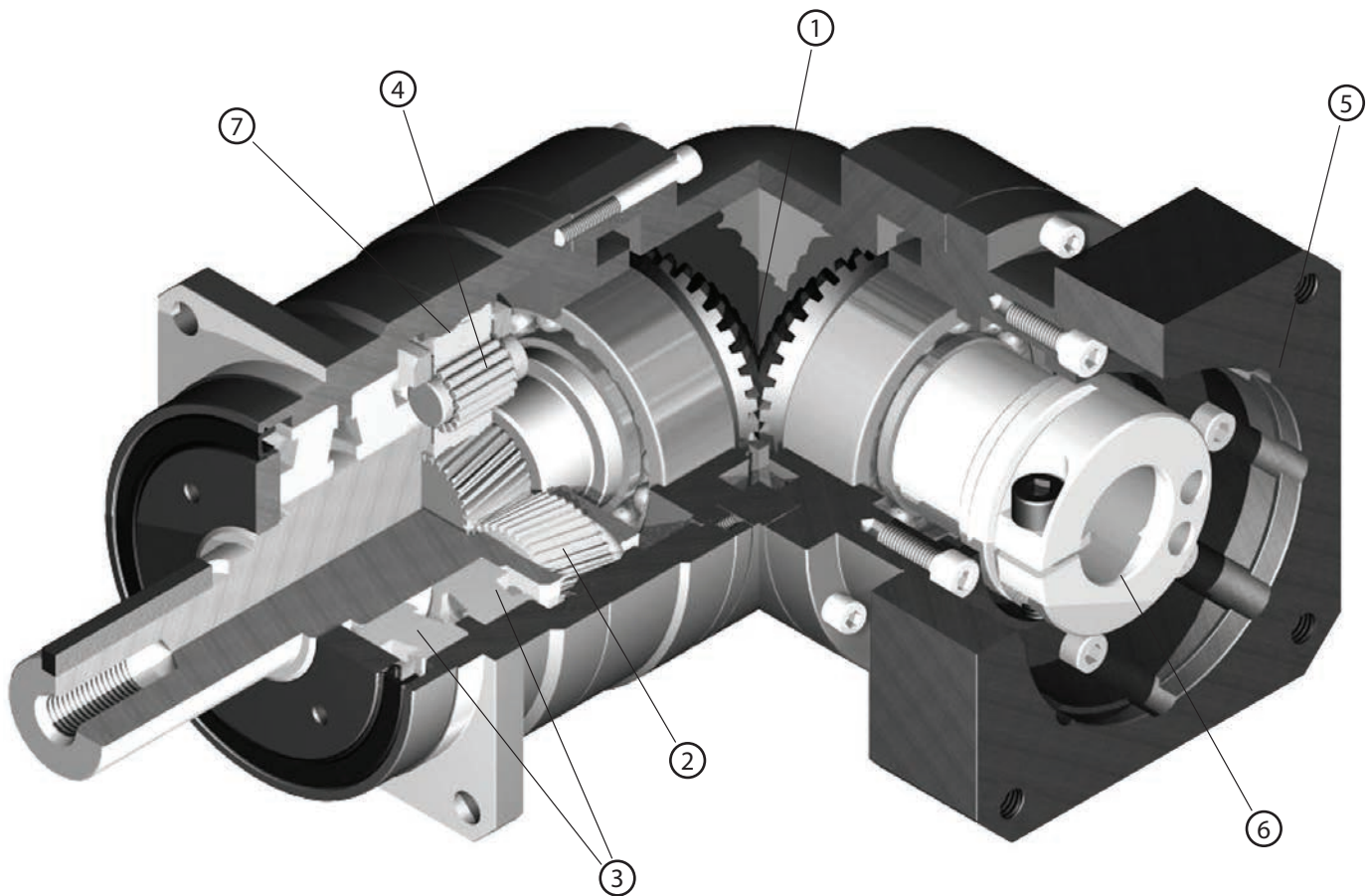


## EVS SERIES

- ▶ 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  $\leq 4$  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

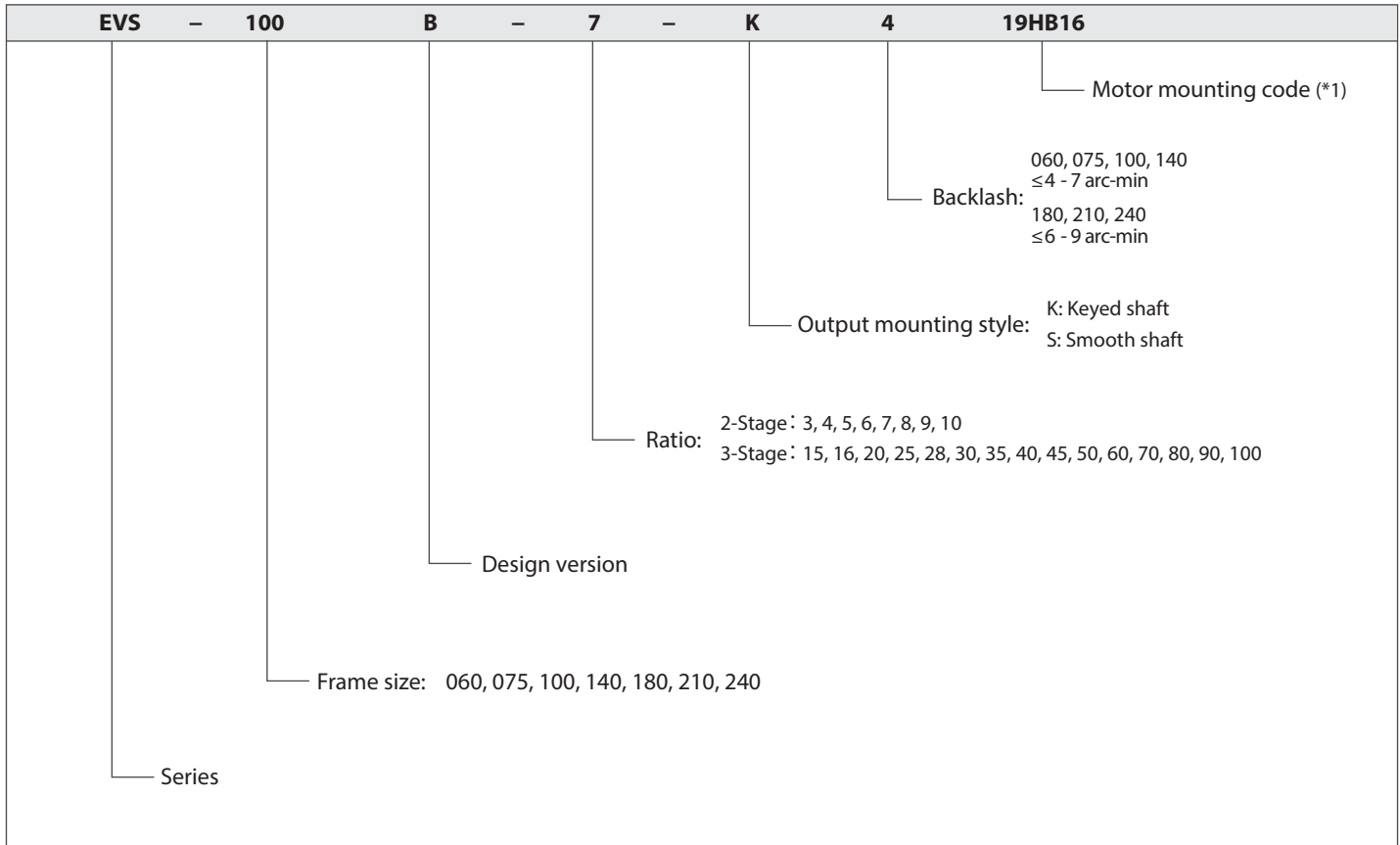
# EVS SERIES Right-angle Planetary

## EVS Series Features



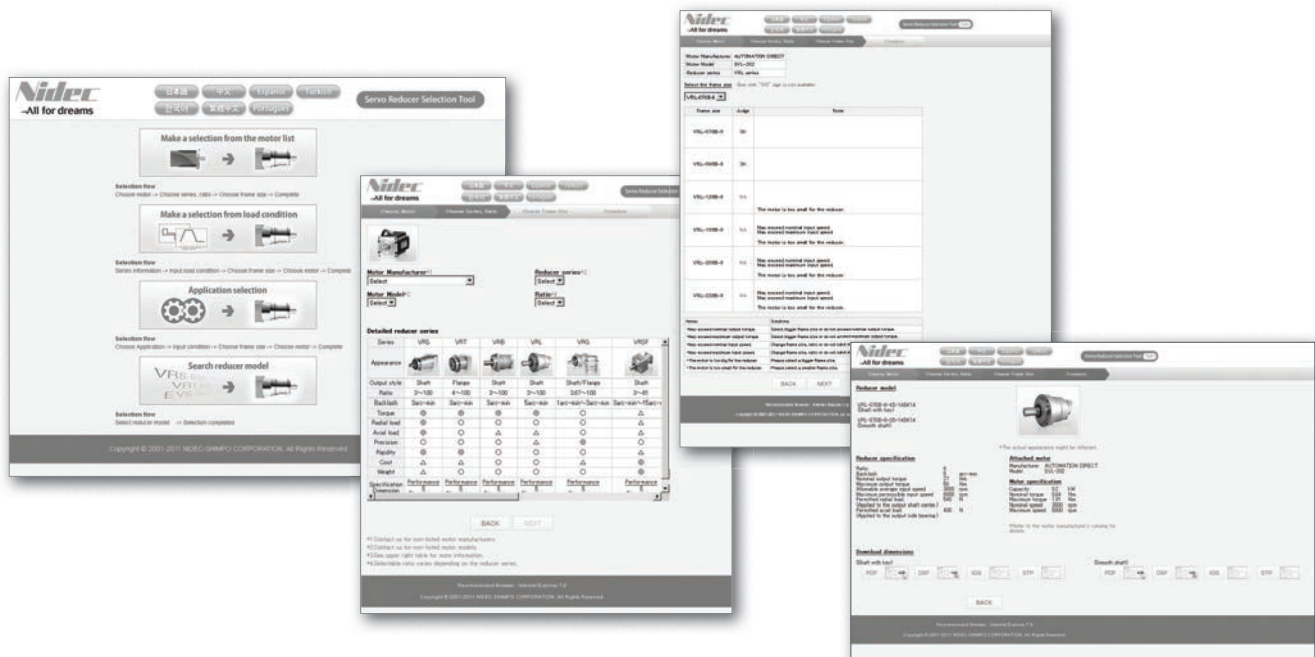
- ① Right angle bevel gear configuration allows motor to be mounted at a 90 degree position from the gear-box, saving space
- ② Carburized helical gears with proprietary secondary finishing process for higher accuracy and smooth, quiet operation
- ③ One piece output shaft and planet carrier with dual 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



\*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 <https://www.nidec-drivetechnology.co.jp/selection/all/>



# EVS SERIES Right-angle Planetary

## 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 <sup>2</sup> ]	--	0.320	0.271	0.251	0.242	0.235	0.232	0.229	0.228
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.395	0.346	0.326	0.317	0.310	0.307	0.304	0.303
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 4$							
Noise Level	dB [A]	*12	$\leq 80$							
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 <sup>2</sup> ]	--	0.074	0.079	0.072	0.071	0.077	0.062	0.070	0.061
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.118	0.124	0.116	0.115	0.122	0.106	0.115	0.106
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	3							
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$							
Noise Level	dB [A]	*12	$\leq 80$							
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 <sup>2</sup> ]	--	0.070	0.061	0.061	0.061	0.061	0.061	0.061		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.115	0.106	0.106	0.106	0.105	0.105	0.105		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arc-min]	*11	3								
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$								
Noise Level	dB [A]	*12	$\leq 80$								
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 Drive Technology for the testing conditions and environment

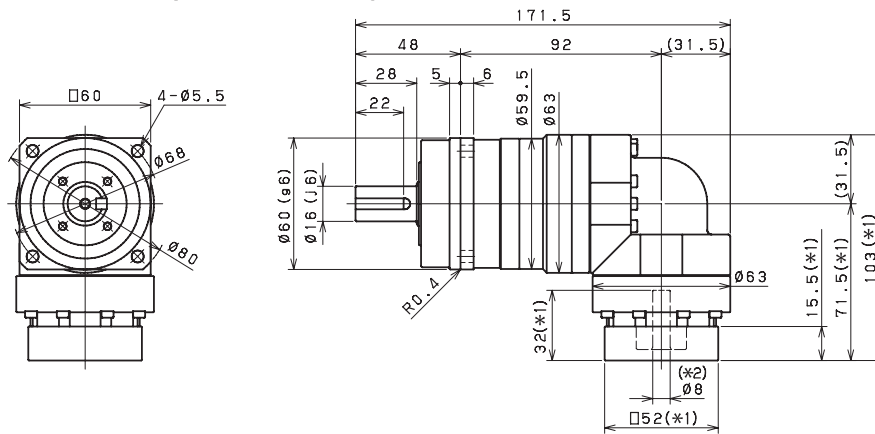
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

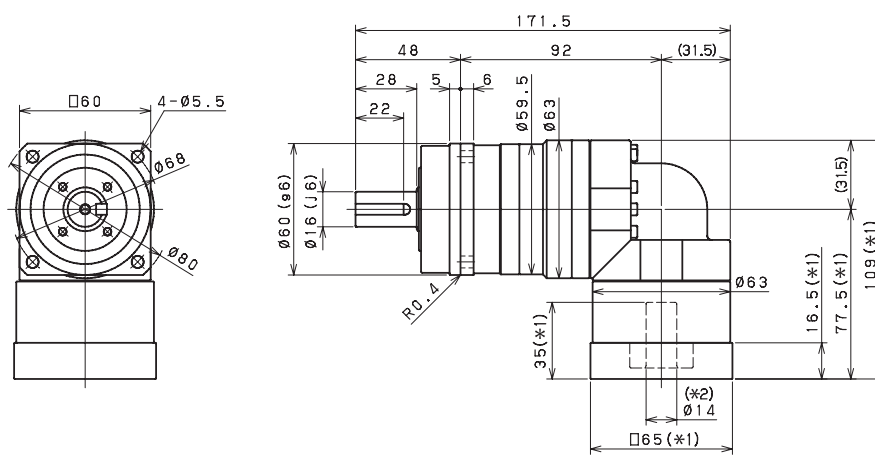
# EVS SERIES Right-angle Planetary

## EVS o60 2-Stage Dimensions

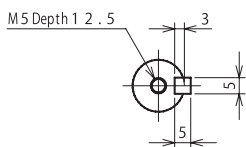
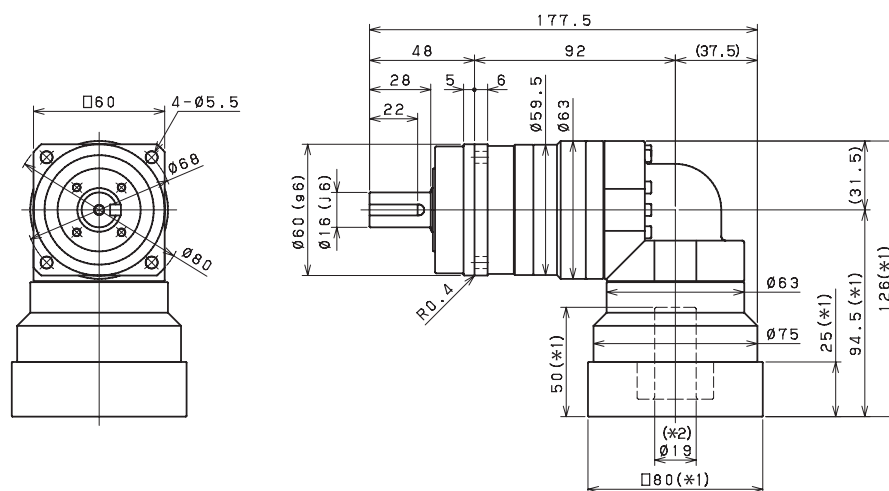
Input bore size  $\leq \varnothing 8$  mm



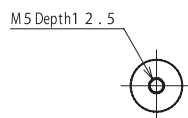
Input bore size  $\leq \varnothing 14$  mm



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



# EVS SERIES Right-angle Planetary

## 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 <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	2.07	1.87	1.78	1.74	1.72	1.7	1.69	1.69
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.40	2.20	2.11	2.07	2.05	2.03	2.02	2.02
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 4$							
Noise Level	dB [A]	*12	$\leq 80$							
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 <sup>2</sup> ]	--	0.33	0.38	0.33	0.32	0.37	0.25	0.32	0.25
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.41	0.46	0.40	0.40	0.45	0.32	0.40	0.32
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.60	0.65	0.59	0.59	0.64	0.51	0.58	0.51
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	10							
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$							
Noise Level	dB [A]	*12	$\leq 80$							
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 <sup>2</sup> ]	--	0.32	0.25	0.25	0.25	0.25	0.25	0.25		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.39	0.32	0.32	0.32	0.32	0.32	0.32		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.58	0.51	0.51	0.51	0.51	0.51	0.51		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arc-min]	*11	10								
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$								
Noise Level	dB [A]	*12	$\leq 80$								
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 Drive Technology for the testing conditions and environment

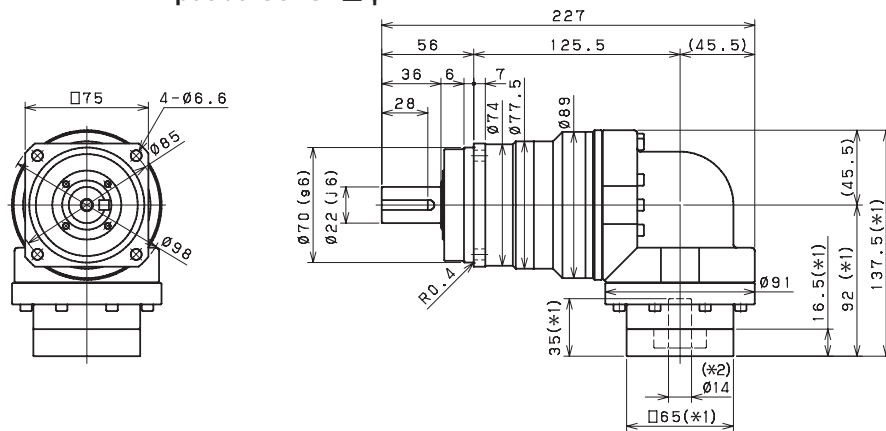
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

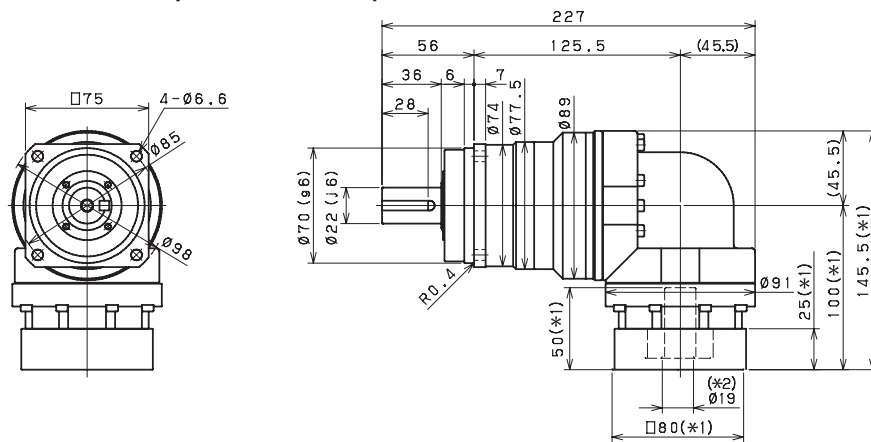
# EVS SERIES Right-angle Planetary

## EVS 075 2-Stage Dimensions

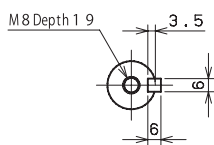
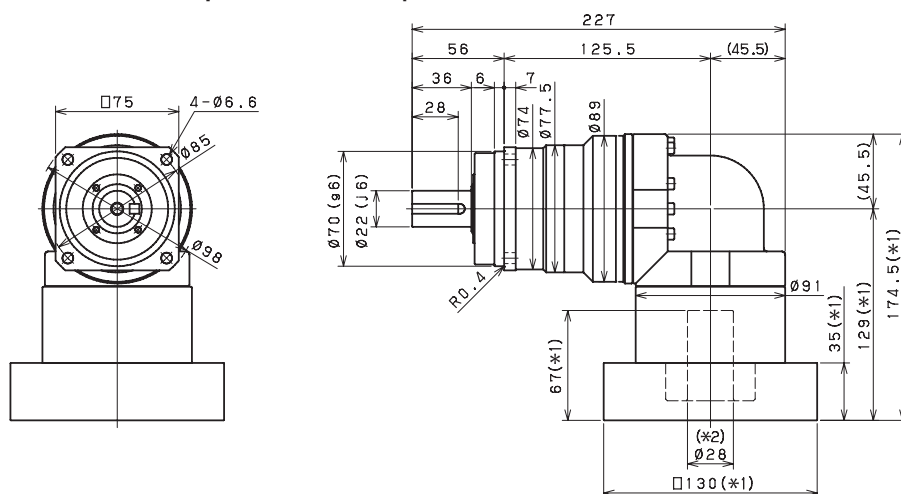
Input bore size  $\leq \varnothing 14$  mm



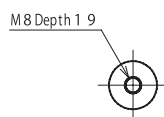
Input bore size  $\leq \varnothing 19$  mm



Input bore size  $\leq \varnothing 28$  mm



Keyed shaft



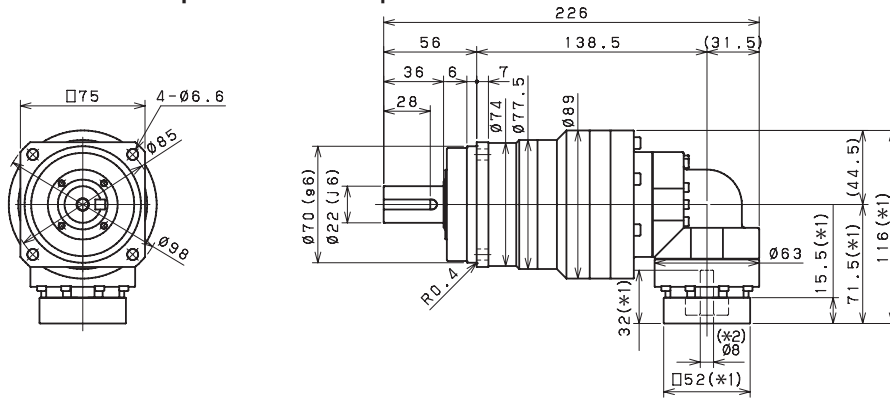
Smooth shaft

\*1) Length will vary depending on motor

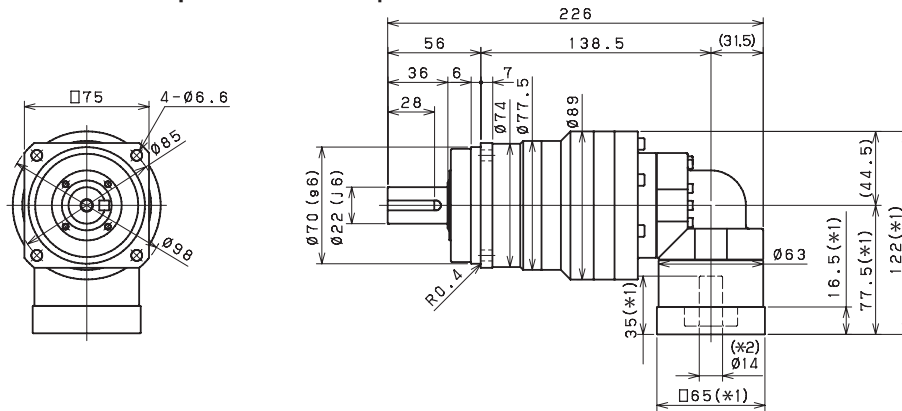
\*2) Bushing will be inserted to adapt to motor shaft

## EVS 075 3-Stage Dimensions

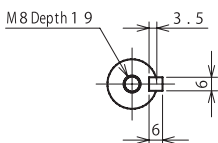
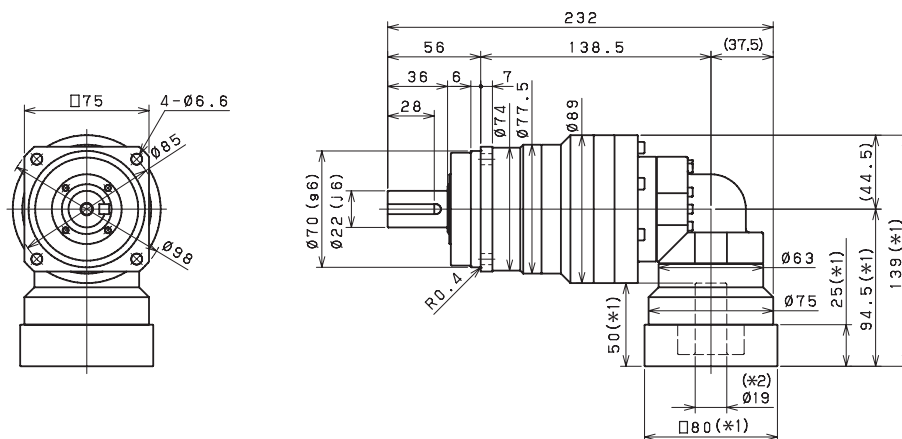
Input bore size  $\leq \varnothing 8 \text{ mm}$



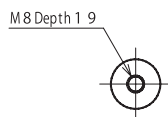
Input bore size  $\leq \varnothing 14 \text{ mm}$



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

# EVS SERIES Right-angle Planetary

## 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 <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	6.61	5.41	4.97	4.73	4.62	4.53	4.47	4.45
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	8.21	7.01	6.57	6.33	6.22	6.12	6.07	6.04
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 4$							
Noise Level	dB [A]	*12	$\leq 85$							
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 <sup>2</sup> ]	--	2.24	2.45	2.19	2.18	2.40	1.87	2.16	1.86
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.57	2.78	2.52	2.51	2.73	2.20	2.49	2.19
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.70	4.91	4.65	4.63	4.86	4.33	4.62	4.32
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	31							
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$							
Noise Level	dB [A]	*12	$\leq 85$							
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 <sup>2</sup> ]	--	2.15	1.86	1.85	1.85	1.85	1.85	1.85		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.48	2.19	2.18	2.18	2.18	2.18	2.18		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.61	4.31	4.31	4.31	4.31	4.31	4.31		
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arc-min]	*11	31								
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$								
Noise Level	dB [A]	*12	$\leq 85$								
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 Drive Technology for the testing conditions and environment

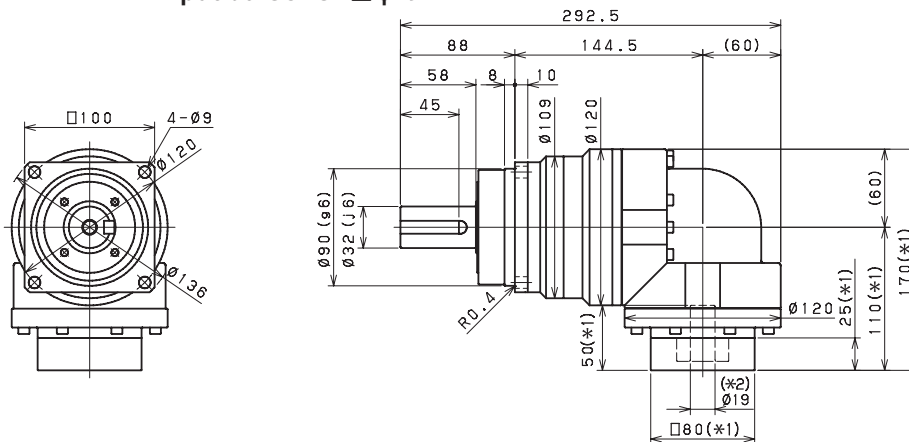
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

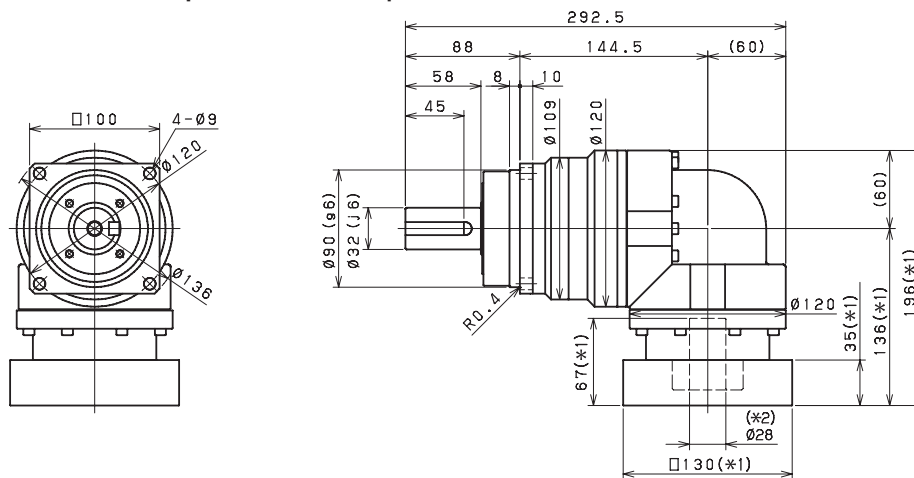
# EVS SERIES Right-angle Planetary

## EVS 100 2-Stage Dimensions

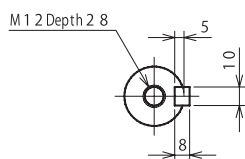
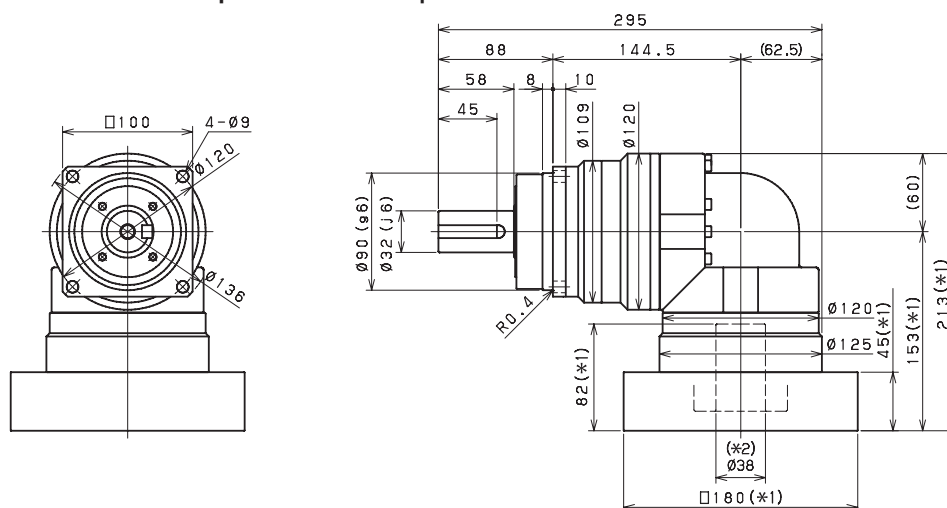
Input bore size  $\leq \varnothing 19$  mm



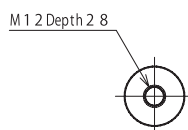
Input bore size  $\leq \varnothing 28$  mm



Input bore size  $\leq \varnothing 38$  mm



Keyed shaft



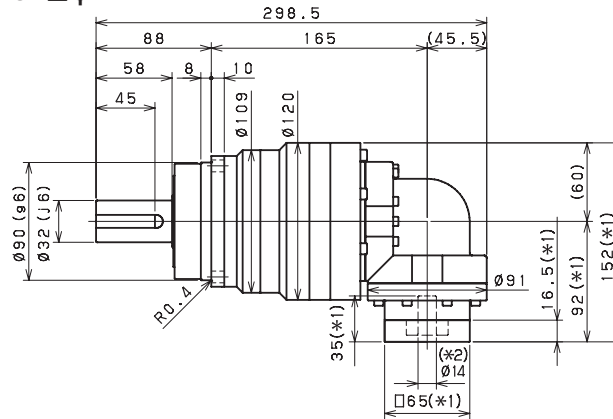
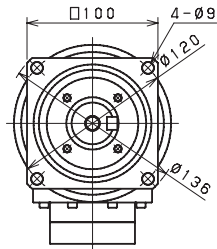
Smooth shaft

\*1) Length will vary depending on motor

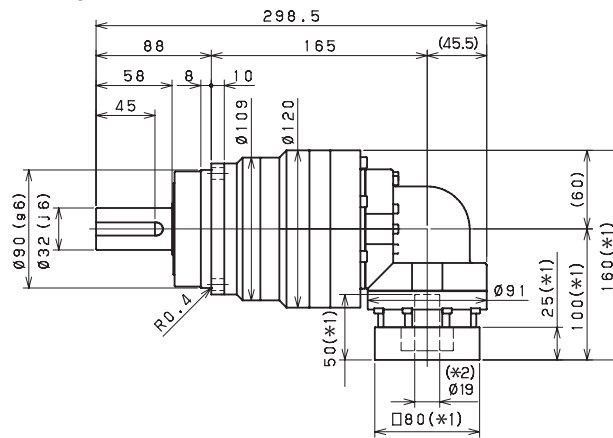
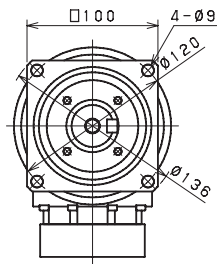
\*2) Bushing will be inserted to adapt to motor shaft

## EVS 100 3-Stage Dimensions

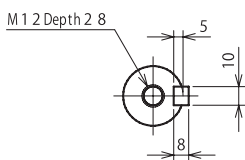
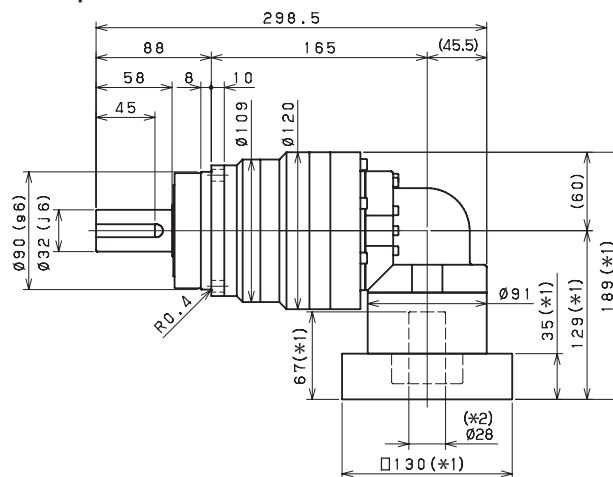
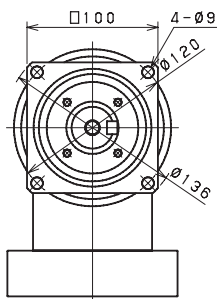
Input bore size  $\cong \varnothing 14$  mm



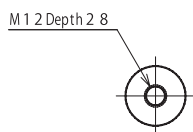
Input bore size  $\cong \varnothing 19$  mm



Input bore size  $\cong \varnothing 28$  mm



Keyed shaft



Smooth shaft

\*1) Length will vary depending on motor

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

# EVS SERIES Right-angle Planetary

## 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 <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	23.01	18.49	16.85	15.97	15.55	15.21	14.75	14.64
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	27.38	22.86	21.22	20.34	19.92	19.58	19.12	19.02
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 4$							
Noise Level	dB [A]	*12	$\leq 85$							
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 <sup>2</sup> ]	--	6.40	7.29	6.22	6.15	7.09	4.99	6.09	4.94
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	7.99	8.88	7.81	7.75	8.68	6.58	7.68	6.54
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	15.06	15.95	14.88	14.82	15.75	13.66	14.76	13.61
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	60							
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$							
Noise Level	dB [A]	*12	$\leq 85$							
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 <sup>2</sup> ]	--	6.07	4.93	4.92	4.91	4.91	4.91	4.91		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	7.66	6.52	6.51	6.51	6.50	6.50	6.50		
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	14.73	13.59	13.59	13.58	13.58	13.57	13.57		
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arc-min]	*11	60								
Maximum Torsional Backlash	[arc-min]	--	$\leq 7$								
Noise Level	dB [A]	*12	$\leq 85$								
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 Drive Technology for the testing conditions and environment

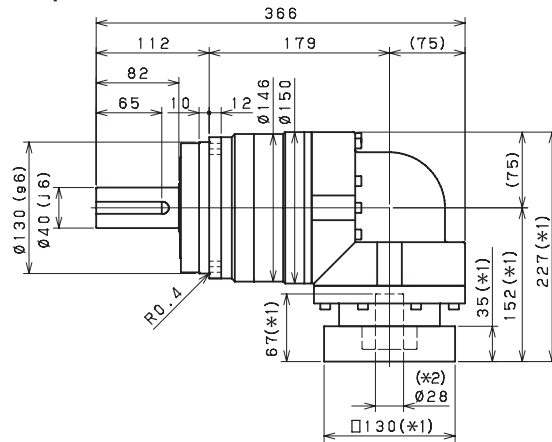
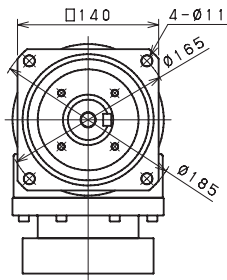
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

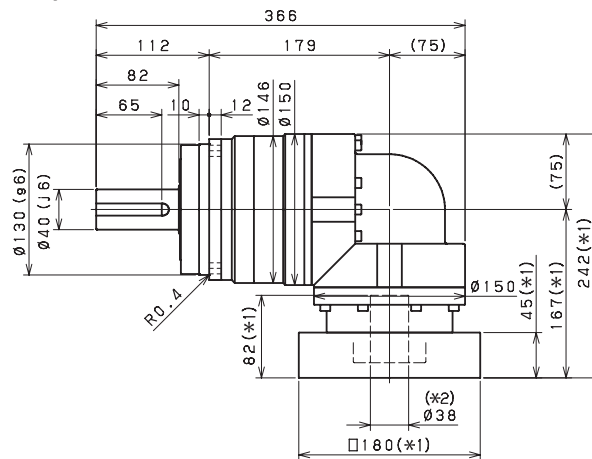
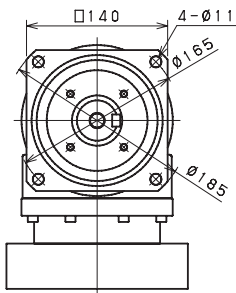
# EVS SERIES Right-angle Planetary

## EVS 140 2-Stage Dimensions

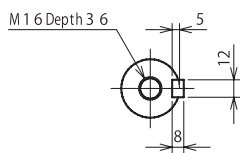
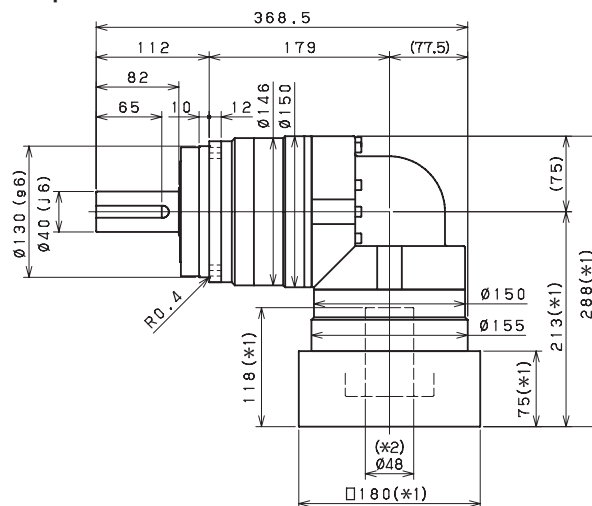
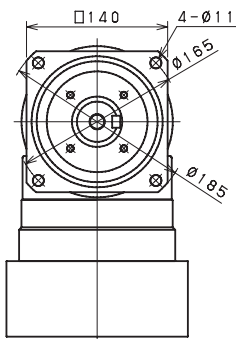
Input bore size  $\leq \varnothing 28$  mm



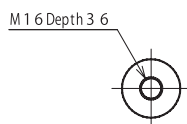
Input bore size  $\leq \varnothing 38$  mm



Input bore size  $\leq \varnothing 48$  mm



Keyed shaft



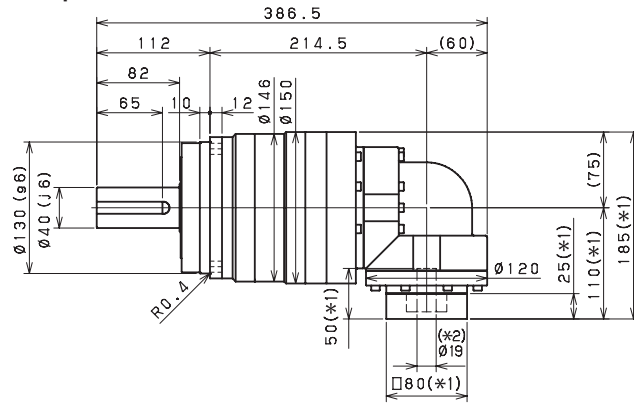
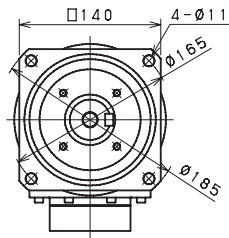
Smooth shaft

\*1) Length will vary depending on motor

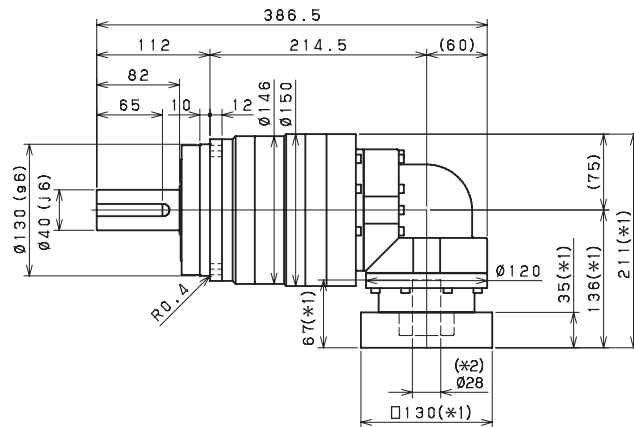
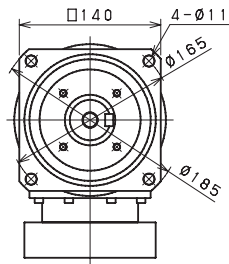
\*2) Bushing will be inserted to adapt to motor shaft

## EVS 140 3-Stage Dimensions

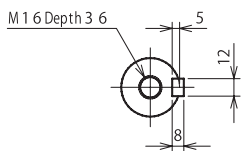
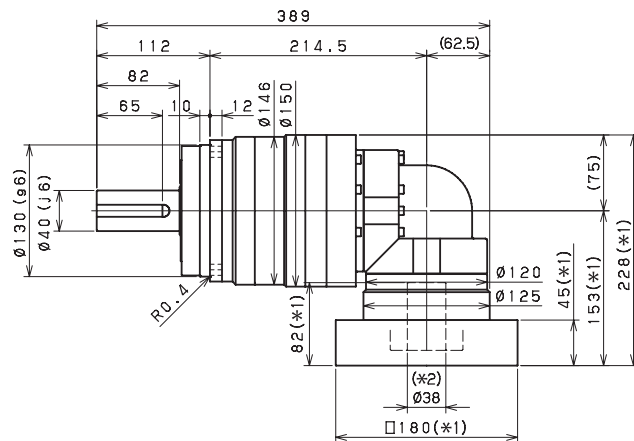
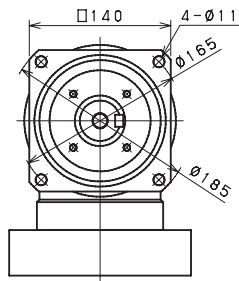
Input bore size  $\leq \varnothing 19$  mm



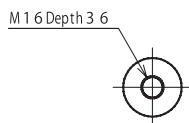
Input bore size  $\leq \varnothing 28$  mm



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

# EVS SERIES Right-angle Planetary

## 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 <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	92.00	76.72	71.23	68.28	66.08	65.00	64.38	64.10
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	126.90	111.60	106.10	103.10	100.90	99.86	99.25	98.97
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 6$							
Noise Level	dB [A]	*12	$\leq 85$							
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 <sup>2</sup> ]	--	11.42	12.03	11.11	10.96	11.57	10.31	10.82	10.23
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	20.21	20.82	19.90	19.74	20.36	19.10	19.60	19.02
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	25.03	25.64	24.72	24.56	25.18	23.92	24.42	23.84
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arcmin]	*11	175							
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$							
Noise Level	dB [A]	*12	$\leq 85$							
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 <sup>2</sup> ]	--	10.76	10.19	10.17	10.16	10.15	10.14	10.14		
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	19.54	18.98	18.96	18.94	18.94	18.93	18.93		
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	24.36	23.80	23.78	23.77	23.76	23.75	23.75		
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arcmin]	*11	175								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$								
Noise Level	dB [A]	*12	$\leq 85$								
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 Drive Technology for the testing conditions and environment

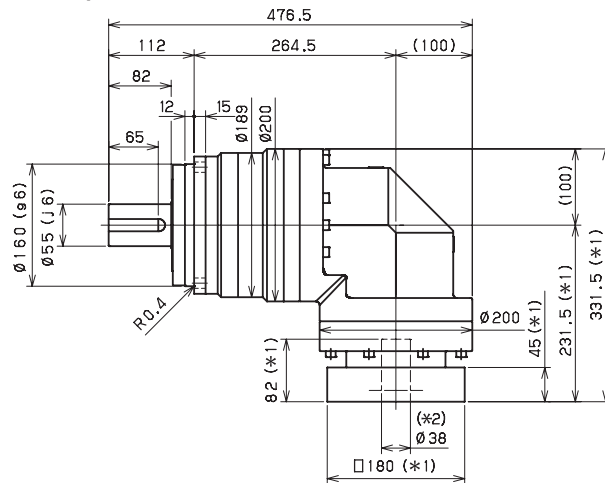
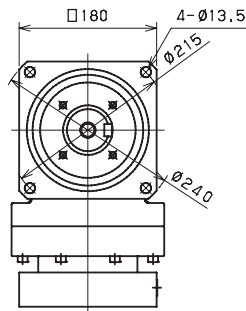
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

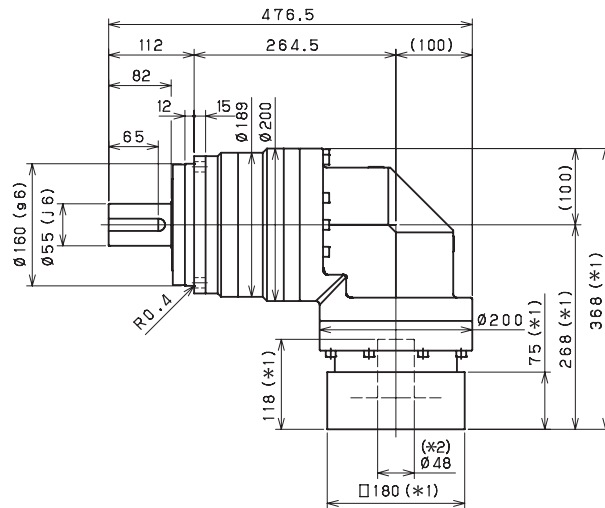
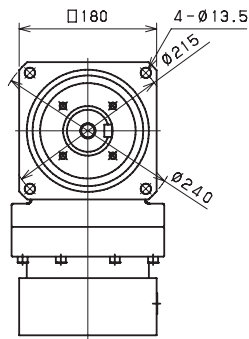
# EVS SERIES Right-angle Planetary

## EVS 180 2-Stage Dimensions

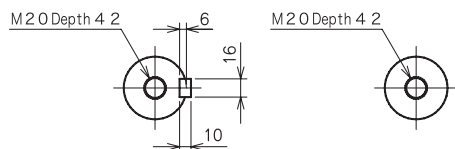
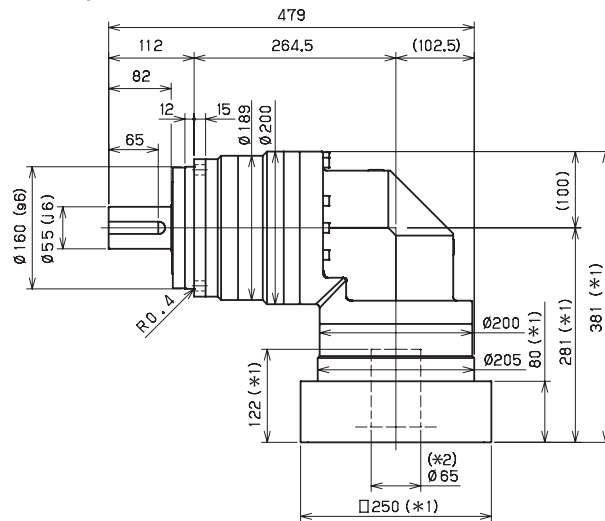
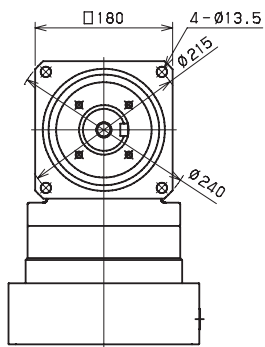
Input bore size  $\cong \varnothing 38$  mm



Input bore size  $\cong \varnothing 48$  mm



Input bore size  $\cong \varnothing 65$  mm



Keyed shaft

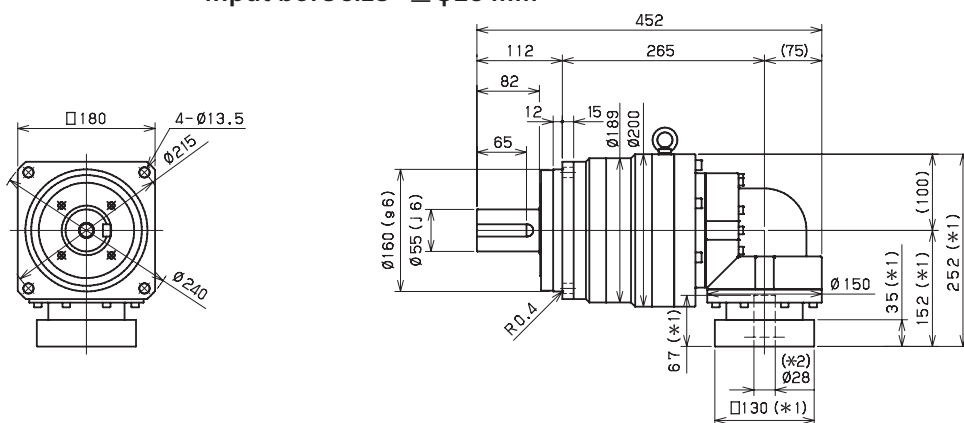
Smooth shaft

\*1) Length will vary depending on motor

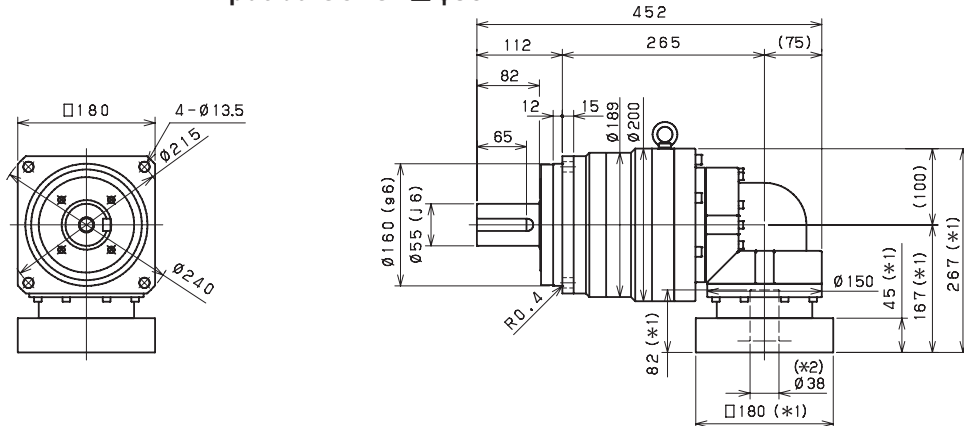
\*2) Bushing will be inserted to adapt to motor shaft

## EVS 180 3-Stage Dimensions

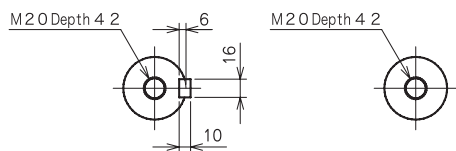
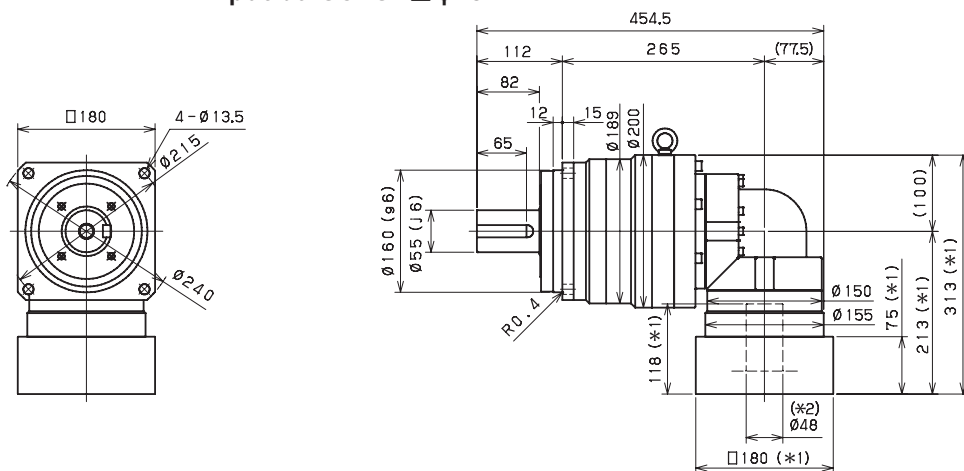
Input bore size  $\leq \phi 28$  mm



Input bore size  $\leq \phi 38$  mm



Input bore size  $\leq \phi 48$  mm



Keyed shaft

Smooth shaft

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

# EVS SERIES Right-angle Planetary

## 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 <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	149.7	123.8	113.9	108.5	105.0	103.0	101.7	101.1
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 6$							
Noise Level	dB [A]	*12	$\leq 85$							
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 <sup>2</sup> ]	--	36.39	37.30	35.79	35.49	36.41	34.41	35.22	34.26
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	66.21	67.12	65.61	65.31	66.23	64.23	65.04	64.08
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arcmin]	*11	400							
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$							
Noise Level	dB [A]	*12	$\leq 85$							
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 <sup>2</sup> ]	--	35.11	34.18	34.14	34.12	34.10	34.09	34.08		
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	64.92	64.00	63.96	63.93	63.92	63.90	63.90		
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arcmin]	*11	400								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$								
Noise Level	dB [A]	*12	$\leq 85$								
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 Drive Technology for the testing conditions and environment

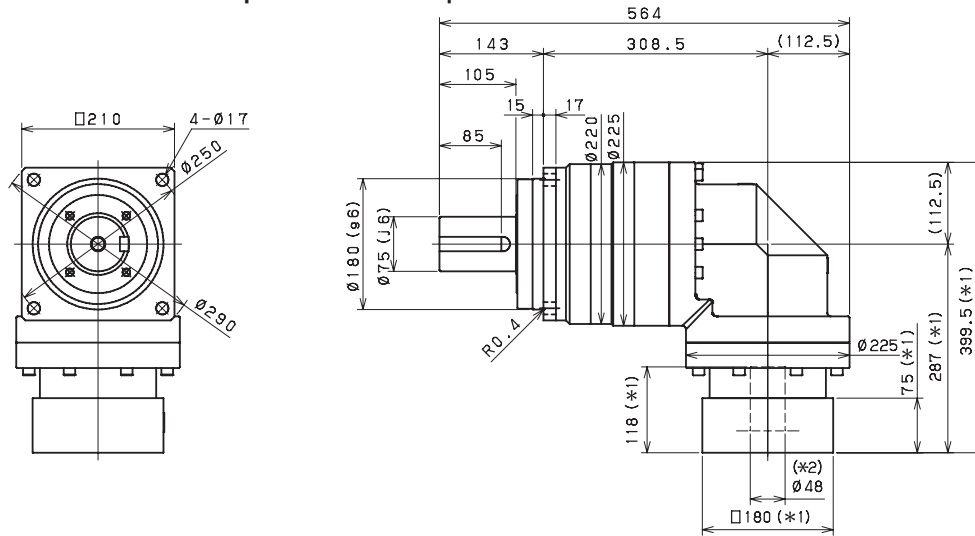
\*13) Various wash-down options are available. Contact Nidec Drive Technology for more details

\*14) Weight may vary slightly between models

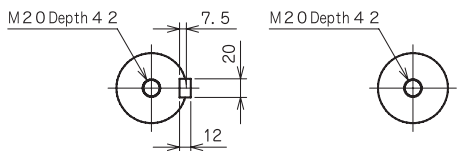
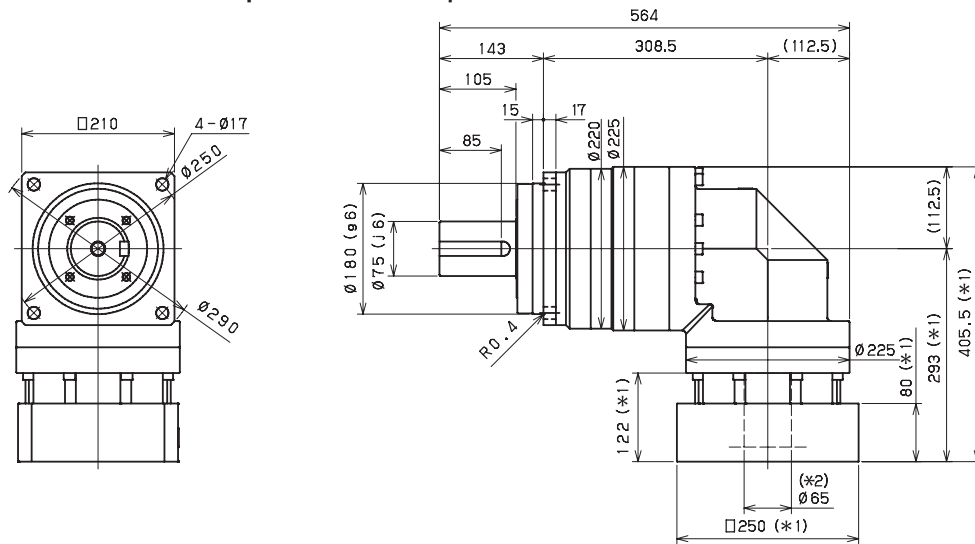
# EVS SERIES Right-angle Planetary

## EVS 210 2-Stage Dimensions

Input bore size  $\leq \phi 48$  mm



Input bore size  $\leq \phi 65$  mm



Keyed shaft

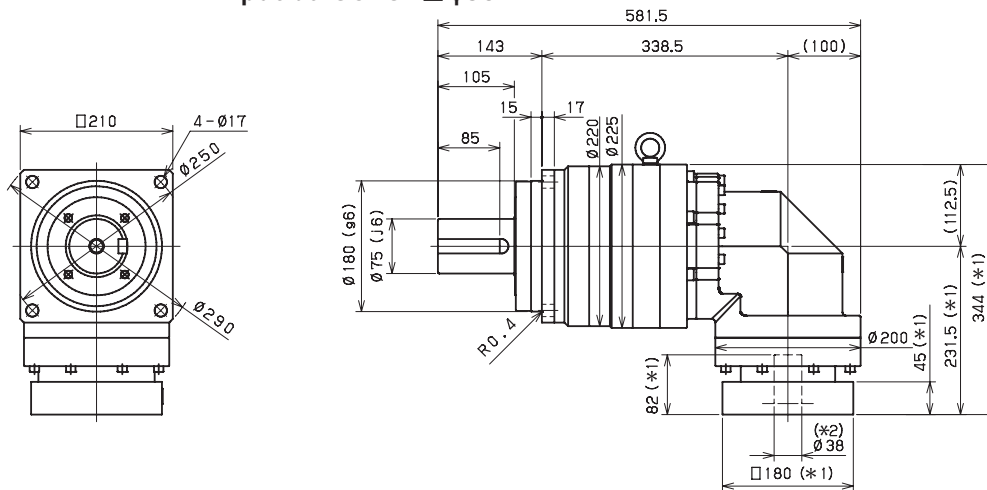
Smooth shaft

\*1) Length will vary depending on motor

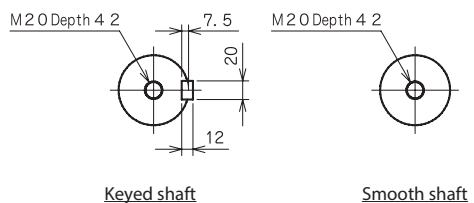
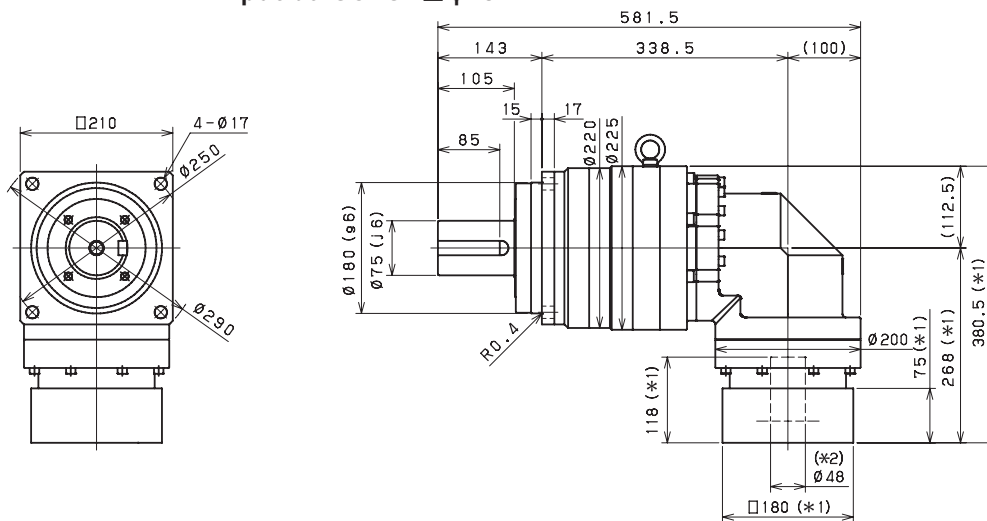
\*2) Bushing will be inserted to adapt to motor shaft

## EVS 210 3-Stage Dimensions

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 SERIES Right-angle Planetary

## 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 <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	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]	--	$\leq 6$							
Noise Level	dB [A]	*12	$\leq 85$							
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 <sup>2</sup> ]	--	40.47	42.59	39.21	38.59	40.73	35.09	38.02	34.78
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arcmin]	*11	550							
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$							
Noise Level	dB [A]	*12	$\leq 85$							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	113							

## EVS 240 3-Stage Specifications

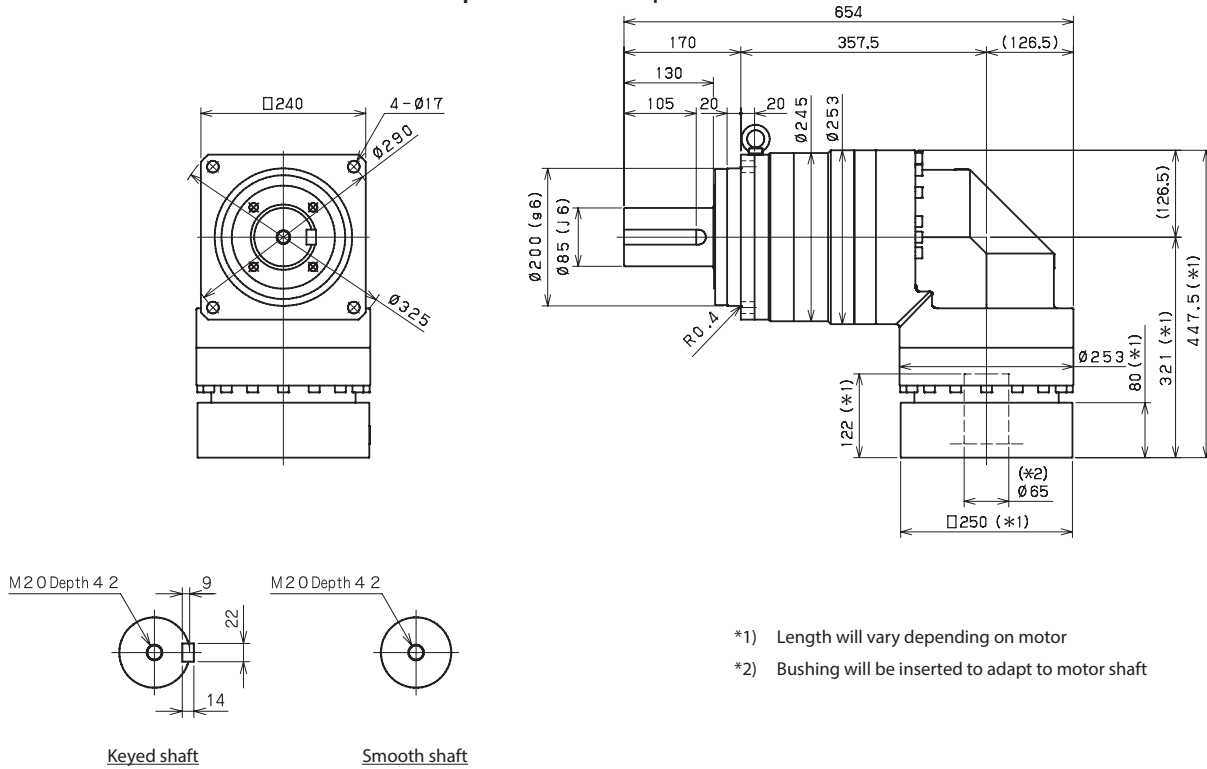
Frame Size	240										
Ratio	Units	Note	45	50	60	70	80	90	100		
Nominal Output Torque	[Nm]	*1	1405	2195	2195	2195	2195	1405	1405		
Maximum Acceleration Torque	[Nm]	*2	2000	3520	3428	3460	2563	2000	1718		
Maximum Torque	[Nm]	*3	2000	3520	3428	3460	2563	2000	1718		
Emergency Stop Torque	[Nm]	*4	5400	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 <sup>2</sup> ]	--	37.78	34.62	34.53	34.48	34.45	34.42	34.41		
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*10	88								
Torsional Rigidity	[Nm/arcmin]	*11	550								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$								
Noise Level	dB [A]	*12	$\leq 85$								
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 Drive Technology for the testing conditions and environment
- \*13) Various wash-down options are available. Contact Nidec Drive Technology for more details
- \*14) Weight may vary slightly between models

# EVS SERIES Right-angle Planetary

## EVS 240 2-Stage Dimensions

Input bore size  $\leq \phi 65$  mm



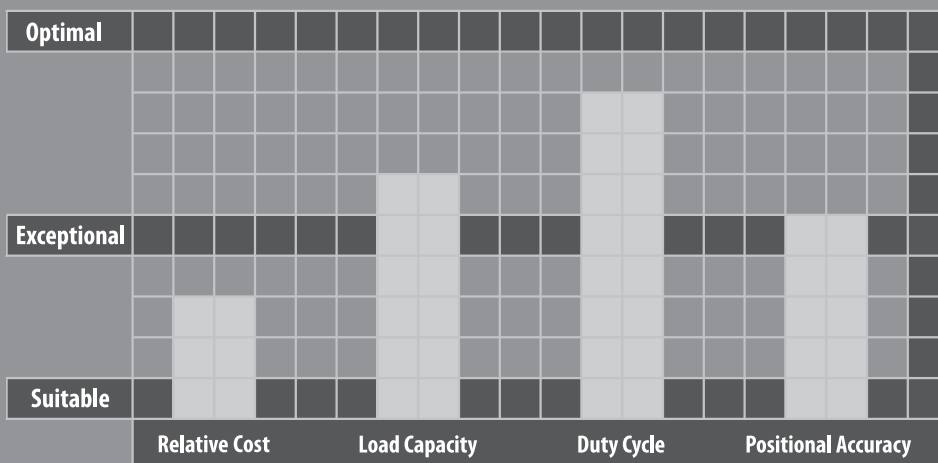
- \*1) Length will vary depending on motor
- \*2) Bushing will be inserted to adapt to motor shaft



## EVT SERIES

The EVT combines the compactness and performance of the VRT series with a right angle bevel system to provide the ultimate space saving solution for highly dynamic applications. The ISO flange interface allows for easy mounting of index tables, pinions, timing belt pulleys and other mechanical components without the need for a coupling.

The EVT is advantageous in applications requiring high accuracy, torsional stiffness and moment loading. Oversized dual tapered roller bearings allow the EVT to handle larger radial and thrust forces found in applications within the machine tool, aerospace or robotics industries. Available ratios range from 3:1 to 100:1—a total of 20 ratio configurations, giving machine builders more design flexibility than ever before.



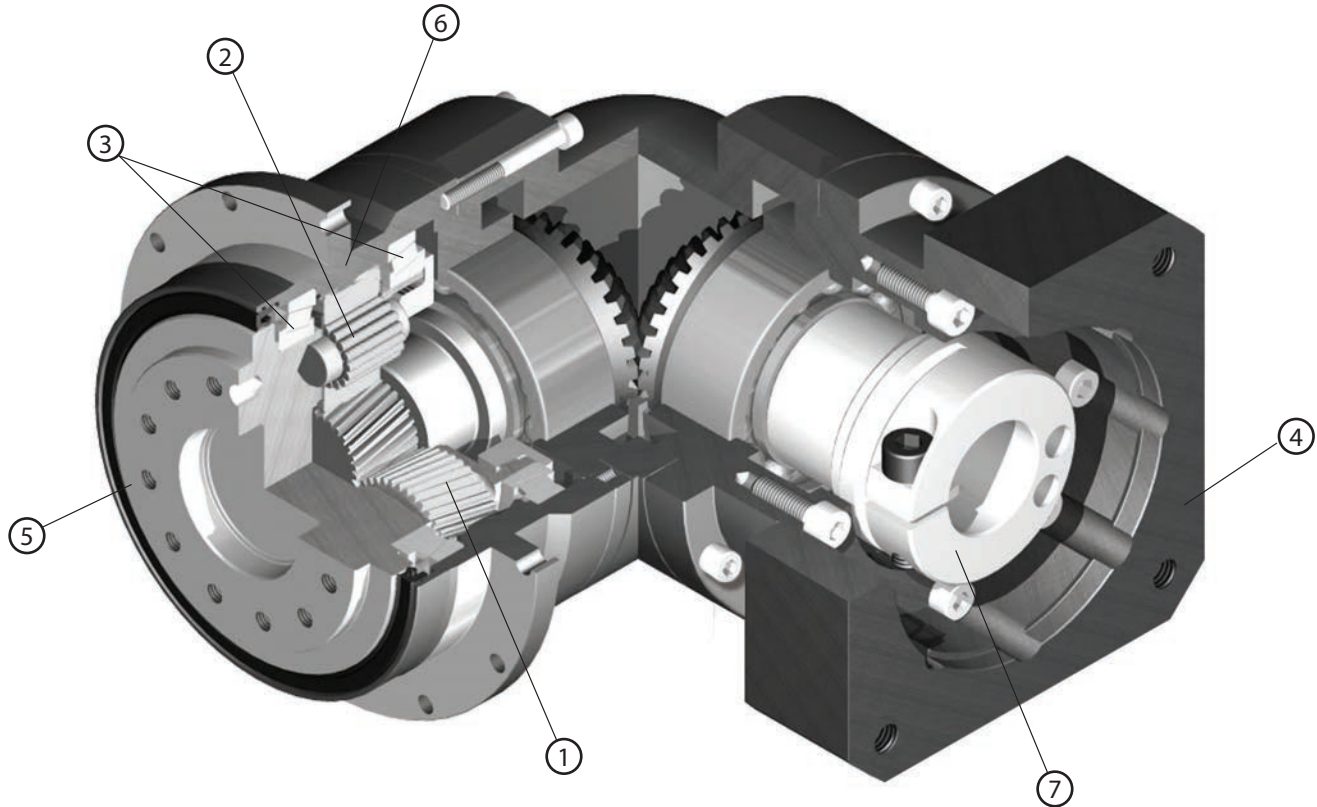


### EVT SERIES

- The most compact and robust option for machine builders
- ISO robotics industry mounting interface allowing superior flexibility in mounting of pinions, pulleys and turntables
- Best-in-class backlash ( $\leq 4$  arc-min)
- Space-saving design, when minimal envelope is required
- Exceptional torsional rigidity for high positional accuracy needs
- 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

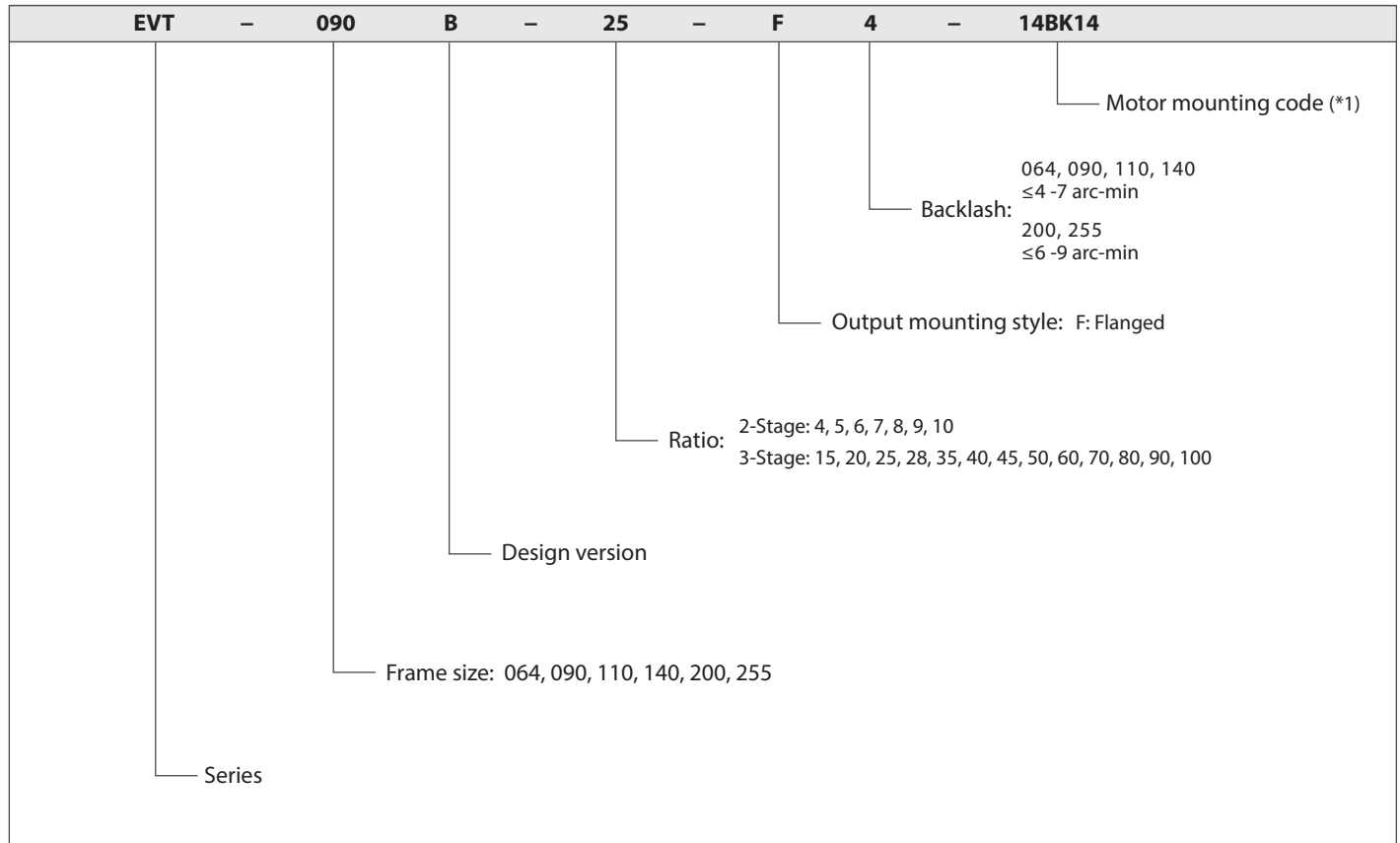
# EVT SERIES Right-angle Planetary

## EVT Series Features



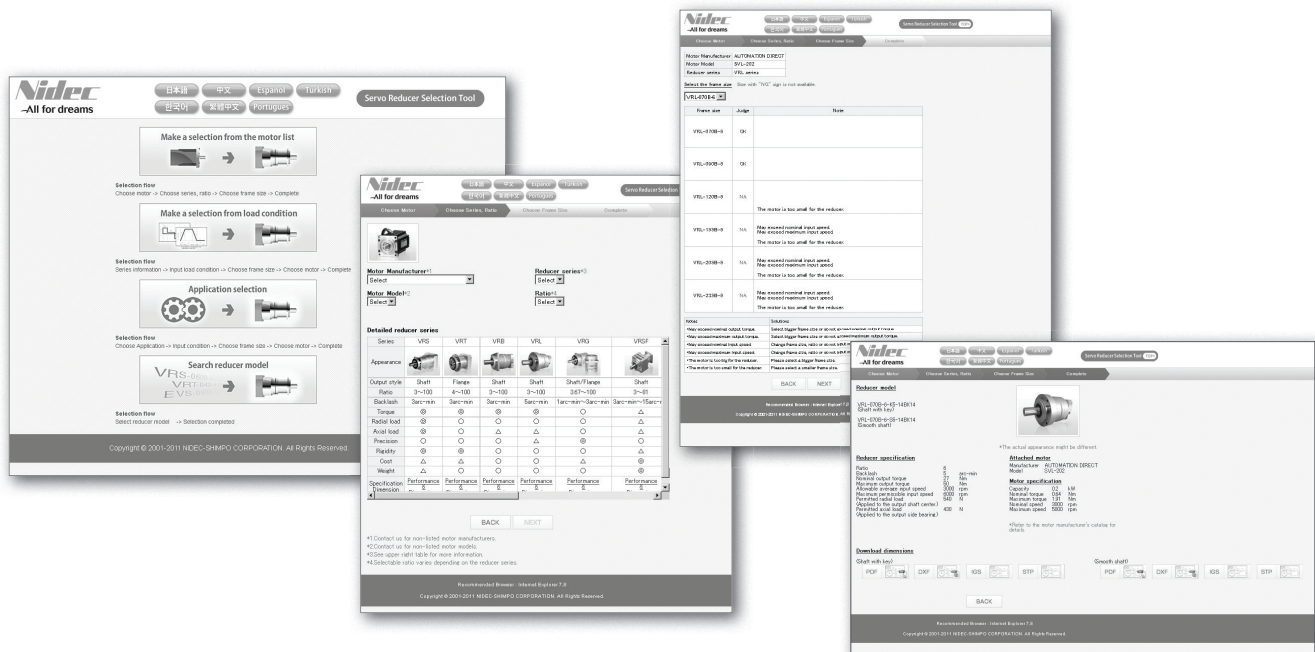
- ① Carburized helical gears with proprietary secondary finishing process for higher accuracy and smooth, quiet operation
- ② Uncaged needle roller bearings allow for higher rigidity and torque
- ③ One piece output shaft and planet carrier with two robust tapered bearings straddling the planet gears. Higher radial/axial load capacity, stiffness, torque density and safety factor, with guaranteed alignment of gearing
- ④ Optimized mounting system with active centering on motor pilot diameter guarantees alignment of motor. Motor can be installed in any orientation
- ⑤ ISO output flange allows easy mounting to indexing tables, pinions, timing belt pulleys and other mechanical components
- ⑥ Ring gear machined directly into the housing, not welded or pressed in. Greater concentricity and elimination of speed fluctuation
- ⑦ True concentric motor shaft clamping connection, optimized for your specific motor. Reduced inertia for dynamic performance and balanced for high speed operation

## EVT Series Model Code



\*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 <https://www.nidec-drivetechnology.co.jp/selection/all/>



EVT

# EVT SERIES Right-angle Planetary

## EVT 064 2-Stage Specifications

Frame Size	064										
Ratio	Unit	Note	4	5	6	7	8	9	10		
Nominal Output Torque	[Nm]	*1	16	22	24	24	24	19	19		
Maximum Acceleration Torque	[Nm]	*2	38	48	54	54	54	38	38		
Maximum Torque	[Nm]	*3	45	56	63	63	61	45	45		
Emergency Stop Torque	[Nm]	*4	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	1500								
Maximum Axial Load	[N]	*9	750								
Maximum Tilting Moment	[Nm]	*10	58								
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.305	0.273	0.256	0.246	0.240	0.236	0.233		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.379	0.348	0.331	0.321	0.315	0.311	0.308		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.569	0.537	0.521	0.510	0.504	0.500	0.497		
Efficiency	[%]	*11	93								
Torsional Rigidity	[Nm/arcmin]	*12	7.5								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 4$								
Noise Level	dB [A]	*13	$\leq 80$								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	1.9								

## EVT 064 3-Stage Specifications

Frame Size	064										
Ratio	Unit	Note	16	20	25	28	35	40	45		
Nominal Output Torque	[Nm]	*1	26	26	28	28	28	28	19		
Maximum Acceleration Torque	[Nm]	*2	54	54	54	54	54	54	38		
Maximum Torque	[Nm]	*3	54	54	54	54	54	54	38		
Emergency Stop Torque	[Nm]	*4	90	90	90	90	90	90	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	1500								
Maximum Axial Load	[N]	*9	750								
Maximum Tilting Moment	[Nm]	*10	58								
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.082	0.073	0.072	0.078	0.071	0.062	0.070		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.126	0.118	0.116	0.123	0.115	0.106	0.115		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	88								
Torsional Rigidity	[Nm/arcmin]	*12	7.5								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 7$								
Noise Level	dB [A]	*13	$\leq 80$								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	1.6								

## EVT 064 3-Stage Specifications

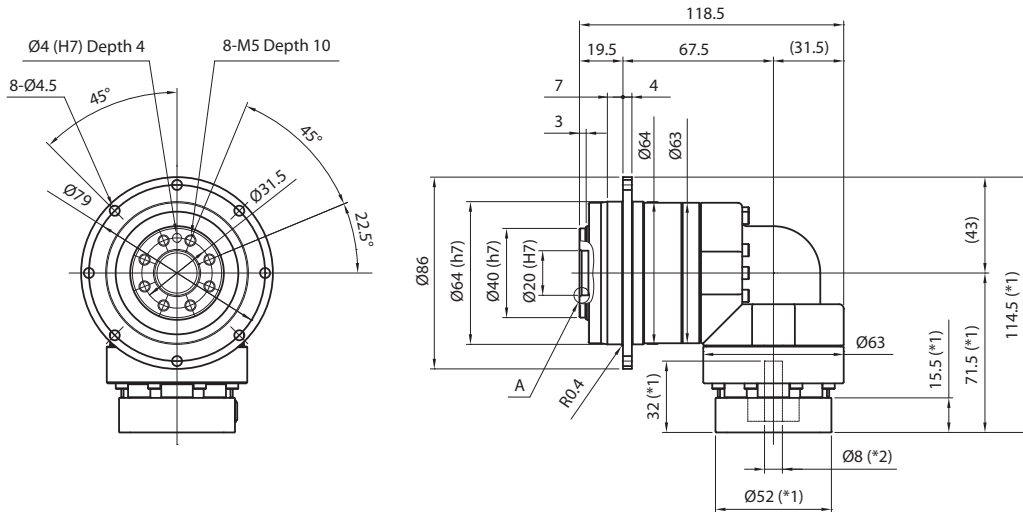
Frame Size	064								
Ratio	Unit	Note	50	60	70	80	90	100	
Nominal Output Torque	[Nm]	*1	28	28	28	28	19	19	
Maximum Acceleration Torque	[Nm]	*2	54	54	54	54	38	38	
Maximum Torque	[Nm]	*3	54	54	54	54	38	38	
Emergency Stop Torque	[Nm]	*4	90	90	90	90	65	65	
Nominal Input Speed	[rpm]	*5	3800						
Maximum Input Speed	[rpm]	*6	6000						
No Load Running Torque	[Nm]	*7	0.2						
Maximum Radial Load	[N]	*8	1500						
Maximum Axial Load	[N]	*9	750						
Maximum Tilting Moment	[Nm]	*10	58						
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.061	0.061	0.061	0.061	0.061	0.061	
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.106	0.106	0.106	0.106	0.106	0.105	
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	
Efficiency	[%]	*11	88						
Torsional Rigidity	[Nm/arcmin]	*12	7.5						
Maximum Torsional Backlash	[Arc-min]	--	$\leq 7$						
Noise Level	dB [A]	*13	$\leq 80$						
Protection Class	--	*14	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*15	1.6						

- \*1) At nominal input speed, service life is 20,000 hours
- \*2) The maximum torque when starting or stopping operation. Apply Cycle Factor  $f_0$ , 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 moment is the maximum load at output flange surface
- \*11) The efficiency at the nominal output torque rating
- \*12) This does not include lost motion
- \*13) Contact Nidec Drive Technology for the testing conditions and environment
- \*14) Various wash-down options are available. Contact Nidec Drive Technology for more details
- \*15) Weight may vary slightly between models

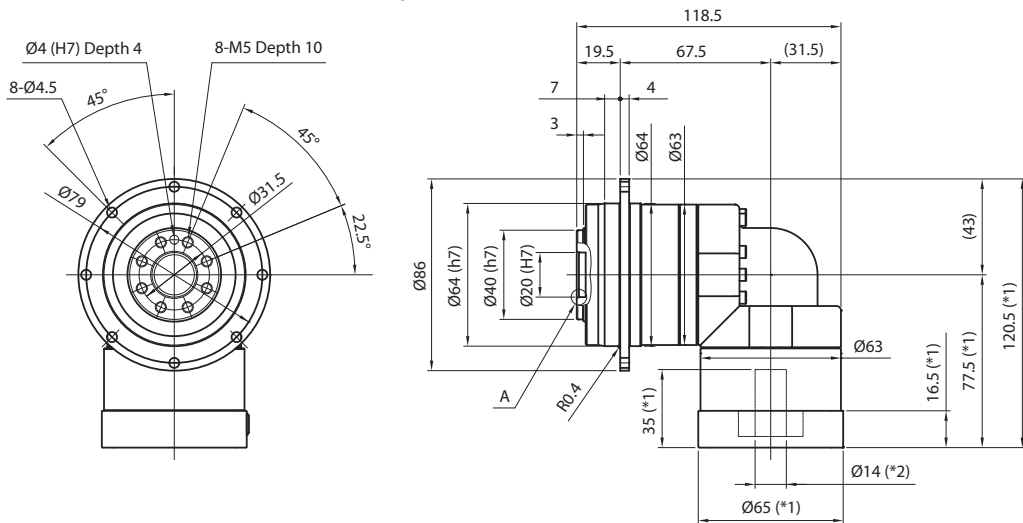
# EVT SERIES Right-angle Planetary

## EVT 064 2-Stage Dimensions

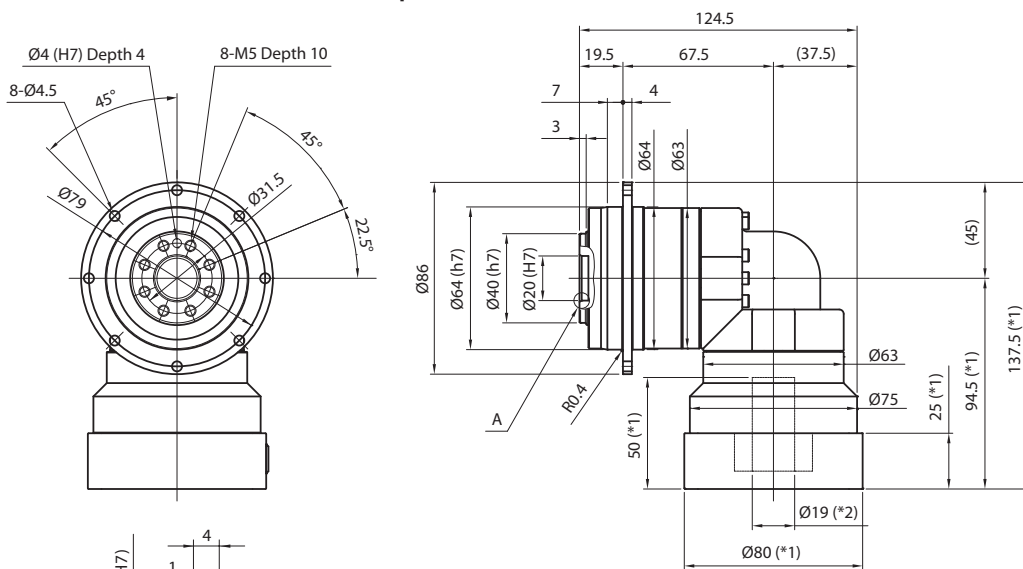
### Input bore size $\leq \varnothing 8\text{mm}$



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



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



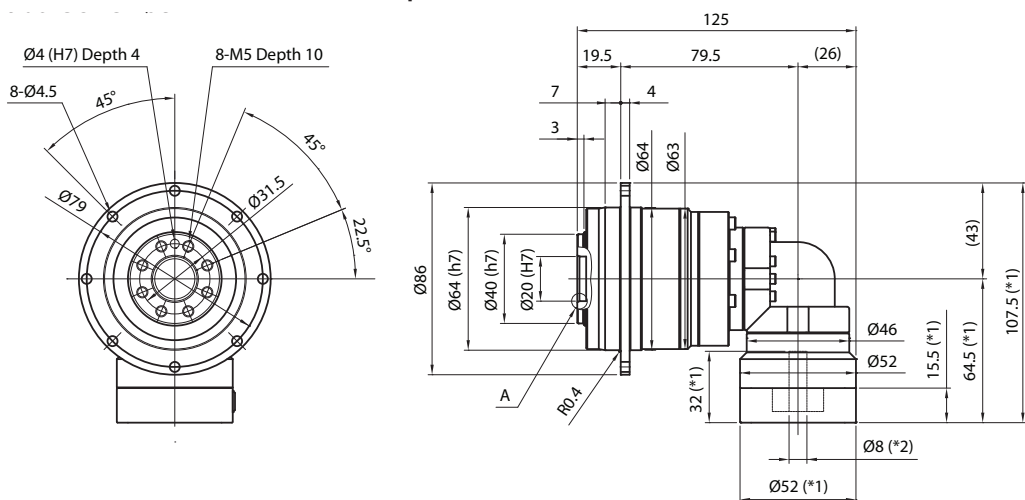
\*1) Length will vary depending on motor

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

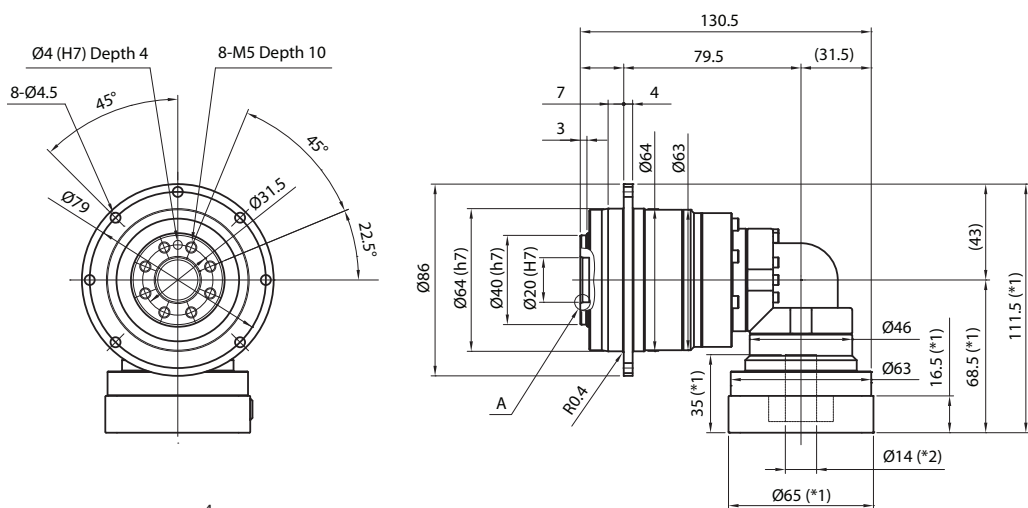
Enlarged detail A

## EVT 064 3-Stage Dimensions

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



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



\*1) Length will vary depending on motor

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

# EVT SERIES Right-angle Planetary

## EVT 090 2-Stage Specifications

Frame Size	090										
Ratio	Unit	Note	4	5	6	7	8	9	10		
Nominal Output Torque	[Nm]	*1	61	67	67	67	74	51	51		
Maximum Acceleration Torque	[Nm]	*2	105	105	105	105	105	78	78		
Maximum Torque	[Nm]	*3	121	121	119	119	117	93	93		
Emergency Stop Torque	[Nm]	*4	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	3300								
Maximum Axial Load	[N]	*9	1700								
Maximum Tilting Moment	[Nm]	*10	170								
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	2.17	1.98	1.88	1.81	1.78	1.75	1.73		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.50	2.31	2.21	2.14	2.10	2.08	2.06		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.63	4.43	4.33	4.27	4.23	4.21	4.19		
Efficiency	[%]	*11	93								
Torsional Rigidity	[Nm/arcmin]	*12	22								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 4$								
Noise Level	dB [A]	*13	$\leq 80$								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	5.1								

## EVT 090 3-Stage Specifications

Frame Size	090										
Ratio	Unit	Note	16	20	25	28	35	40	45		
Nominal Output Torque	[Nm]	*1	66	68	72	78	73	78	47		
Maximum Acceleration Torque	[Nm]	*2	128	128	128	128	128	128	78		
Maximum Torque	[Nm]	*3	128	128	128	128	128	128	78		
Emergency Stop Torque	[Nm]	*4	220	220	220	220	220	220	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	3300								
Maximum Axial Load	[N]	*9	1700								
Maximum Tilting Moment	[Nm]	*10	170								
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.40	0.34	0.33	0.38	0.32	0.25	0.32		
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.48	0.41	0.41	0.45	0.40	0.33	0.40		
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.66	0.60	0.59	0.64	0.59	0.51	0.59		
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--	--		
Efficiency	[%]	*11	88								
Torsional Rigidity	[Nm/arcmin]	*12	22								
Maximum Torsional Backlash	[Arc-min]	--	$\leq 7$								
Noise Level	dB [A]	*13	$\leq 80$								
Protection Class	--	*14	IP54 (IP65)								
Ambient Temperature	[°C]	--	0-40								
Permitted Housing Temperature	[°C]	--	90								
Weight	[kg]	*15	4.3								

## EVT 090 3-Stage Specifications

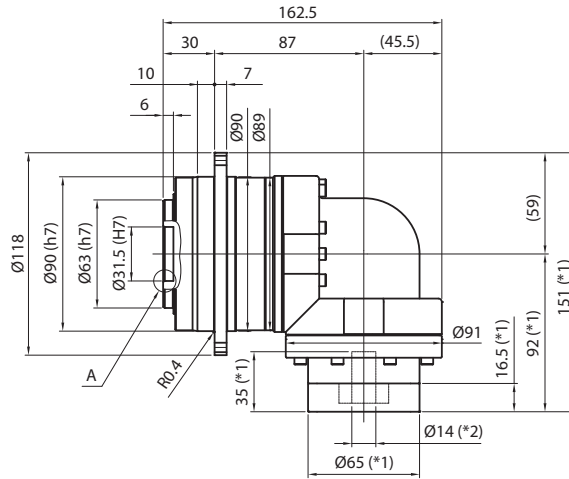
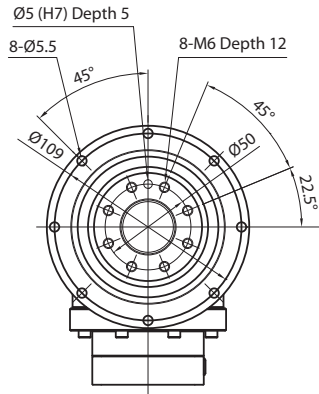
Frame Size	090							
Ratio	Unit	Note	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	73	73	73	78	52	52
Maximum Acceleration Torque	[Nm]	*2	128	128	128	128	78	78
Maximum Torque	[Nm]	*3	128	128	128	128	78	78
Emergency Stop Torque	[Nm]	*4	220	220	220	220	170	170
Nominal Input Speed	[rpm]	*5	3300					
Maximum Input Speed	[rpm]	*6	6000					
No Load Running Torque	[Nm]	*7	0.55					
Maximum Radial Load	[N]	*8	3300					
Maximum Axial Load	[N]	*9	1700					
Maximum Tilting Moment	[Nm]	*10	170					
Moment of Inertia ( $\leq \varnothing 8$ )	[kgcm <sup>2</sup> ]	--	0.25	0.25	0.25	0.25	0.25	0.25
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	0.32	0.32	0.32	0.32	0.32	0.32
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	0.51	0.51	0.51	0.51	0.51	0.51
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	--
Efficiency	[%]	*11	88					
Torsional Rigidity	[Nm/arcmin]	*12	22					
Maximum Torsional Backlash	[Arc-min]	--	$\leq 7$					
Noise Level	dB [A]	*13	$\leq 80$					
Protection Class	--	*14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0-40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*15	4.3					

- \*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 moment is the maximum load at output flange surface
- \*11) The efficiency at the nominal output torque rating
- \*12) This does not include lost motion
- \*13) Contact Nidec Drive Technology for the testing conditions and environment
- \*14) Various wash-down options are available. Contact Nidec Drive Technology for more details
- \*15) Weight may vary slightly between models

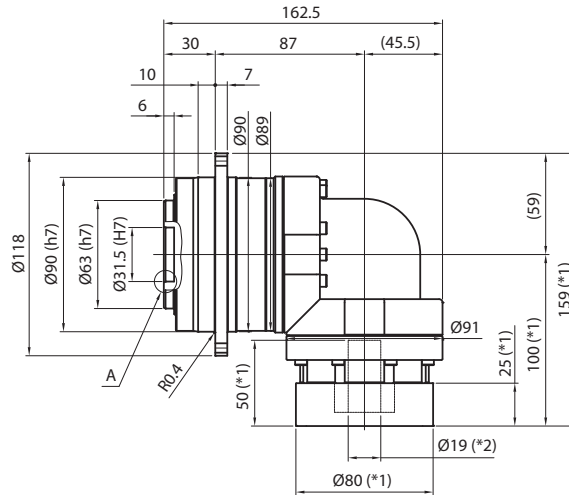
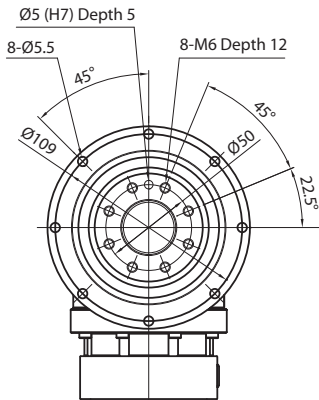
# EVT SERIES Right-angle Planetary

## EVT 090 2-Stage Dimensions

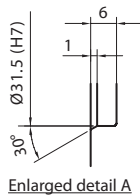
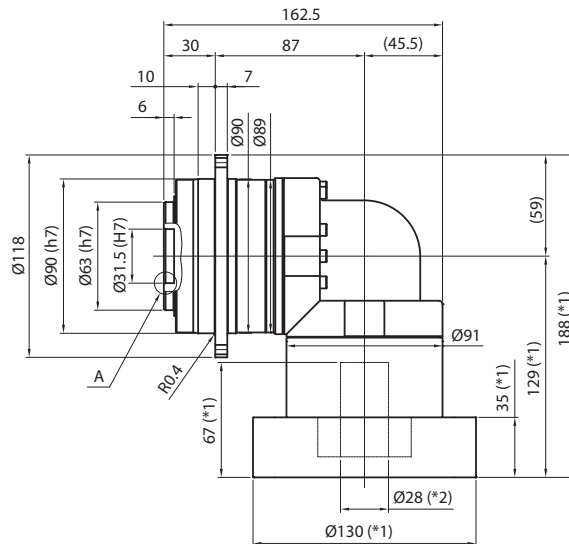
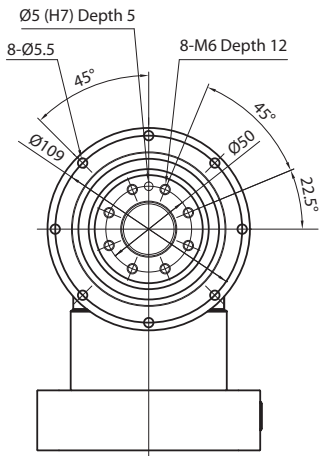
### Input bore size $\leq \varnothing 14\text{mm}$



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



### Input bore size $\leq \varnothing 28\text{mm}$

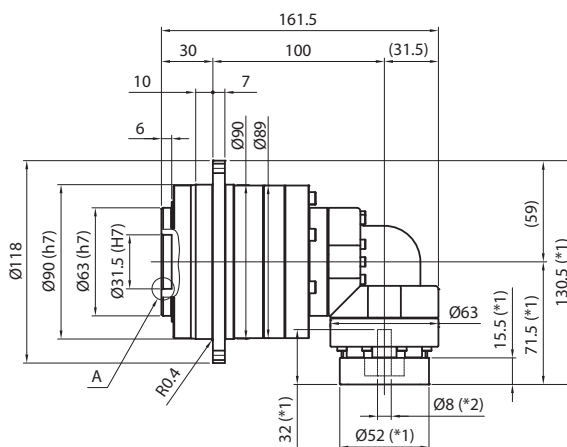
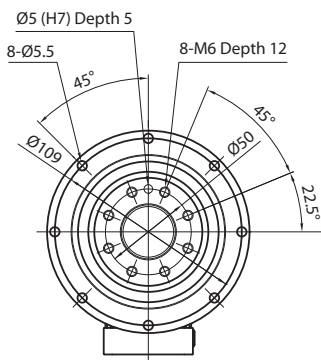


\*1) Length will vary depending on motor

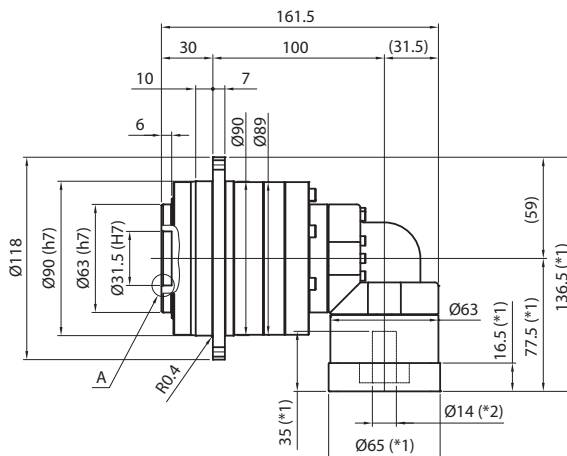
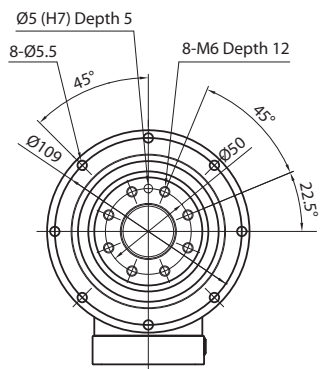
\*2) Bushing will be inserted to adapt to motor shaft

## EVT 090 3-Stage Dimensions

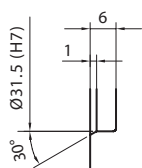
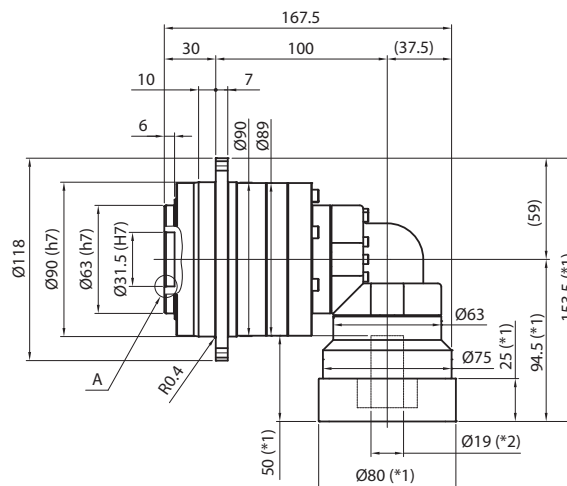
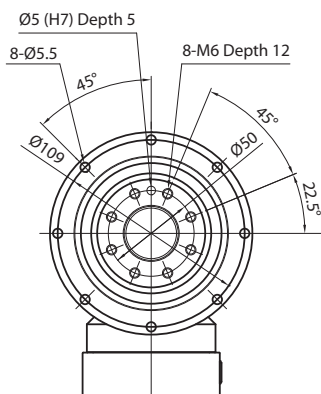
### Input bore size $\leq \varnothing 8\text{mm}$



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



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



Enlarged detail A

\*1) Length will vary depending on motor

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

# EVT SERIES Right-angle Planetary

## EVT 110 2-Stage Specifications

Frame Size	110					
Ratio	Unit	Note	4	5	7	10
Nominal Output Torque	[Nm]	*1	108	123	154	128
Maximum Acceleration Torque	[Nm]	*2	227	272	340	240
Maximum Torque	[Nm]	*3	271	325	401	288
Emergency Stop Torque	[Nm]	*4	430	500	550	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	12000			
Maximum Axial Load	[N]	*9	8800			
Maximum Tilting Moment	[Nm]	*10	990			
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	6.46	5.65	4.97	4.62
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	8.06	7.24	6.56	6.21
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	15.13	14.31	13.63	13.28
Efficiency	[%]	*11	93			
Torsional Rigidity	[Nm/arcmin]	*12	60			
Maximum Torsional Backlash	[Arc-min]	--	$\leq 4$			
Noise Level	dB [A]	*13	$\leq 85$			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0-40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	9.5			

## EVT 110 3-Stage Specifications

Frame Size	110					
Ratio	Unit	Note	16	20	25	28
Nominal Output Torque	[Nm]	*1	136	162	174	174
Maximum Acceleration Torque	[Nm]	*2	295	340	340	340
Maximum Torque	[Nm]	*3	295	340	340	340
Emergency Stop Torque	[Nm]	*4	550	550	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	12000			
Maximum Axial Load	[N]	*9	8800			
Maximum Tilting Moment	[Nm]	*10	990			
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	2.52	2.24	2.20	2.42
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.85	2.57	2.53	2.75
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.98	4.69	4.66	4.88
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--
Efficiency	[%]	*11	88			
Torsional Rigidity	[Nm/arcmin]	*12	60			
Maximum Torsional Backlash	[Arc-min]	--	$\leq 7$			
Noise Level	dB [A]	*13	$\leq 85$			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0-40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	9			

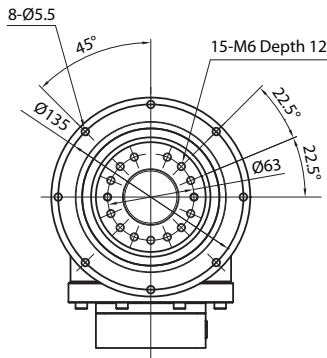
## EVT 110 3-Stage Specifications

Frame Size	110							
Ratio	Unit	Note	35	40	50	70	100	
Nominal Output Torque	[Nm]	*1	174	172	174	174	132	
Maximum Acceleration Torque	[Nm]	*2	340	340	340	340	240	
Maximum Torque	[Nm]	*3	340	340	340	340	240	
Emergency Stop Torque	[Nm]	*4	550	550	550	550	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	12000					
Maximum Axial Load	[N]	*9	8800					
Maximum Tilting Moment	[Nm]	*10	990					
Moment of Inertia ( $\leq \varnothing 14$ )	[kgcm <sup>2</sup> ]	--	2.17	1.87	1.86	1.85	1.85	
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	2.50	2.20	2.19	2.18	2.18	
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	4.63	4.33	4.32	4.31	4.31	
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	
Efficiency	[%]	*11	88					
Torsional Rigidity	[Nm/arcmin]	*12	60					
Maximum Torsional Backlash	[Arc-min]	--	$\leq 7$					
Noise Level	dB [A]	*13	$\leq 85$					
Protection Class	--	*14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0-40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*15	9					

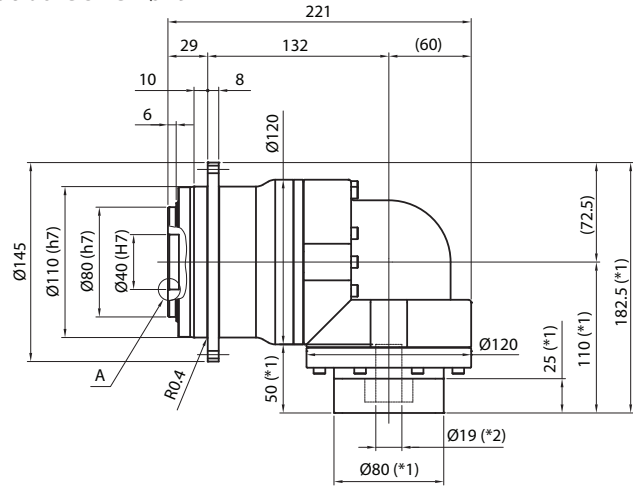
- \*1) At nominal input speed, service life is 20,000 hours
- \*2) The maximum torque when starting or stopping operation. Apply Cycle Factor  $f_0$ , found on page 468, for higher duty cycle applications
- \*3) Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth 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 moment is the maximum load at output flange surface
- \*11) The efficiency at the nominal output torque rating
- \*12) This does not include lost motion
- \*13) Contact Nidec Drive Technology for the testing conditions and environment
- \*14) Various wash-down options are available. Contact Nidec Drive Technology for more details
- \*15) Weight may vary slightly between models

# EVT SERIES Right-angle Planetary

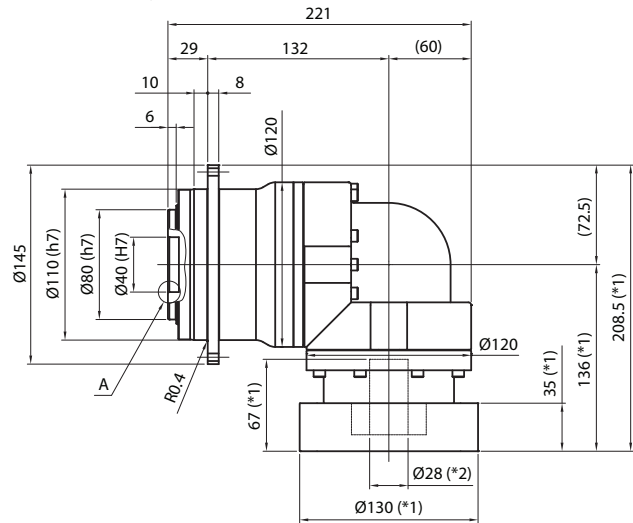
## EVT 110 2-Stage Dimensions



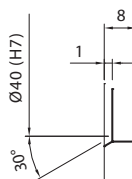
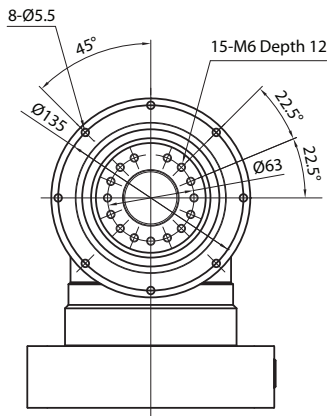
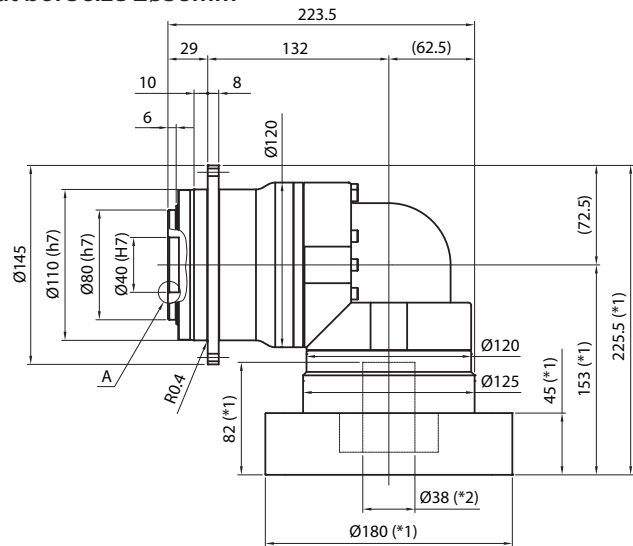
### Input bore size $\leq \varnothing 19\text{mm}$



### Input bore size $\leq \varnothing 28\text{mm}$



### Input bore size $\leq \varnothing 38\text{mm}$

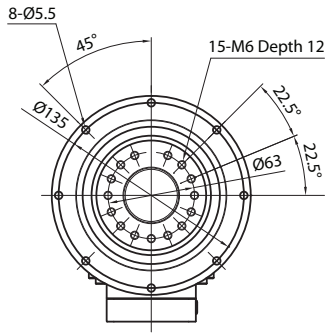


Enlarged detail A

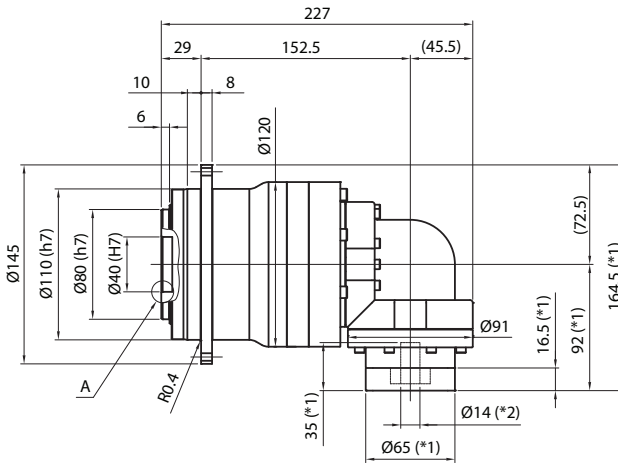
\*1) Length will vary depending on motor

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

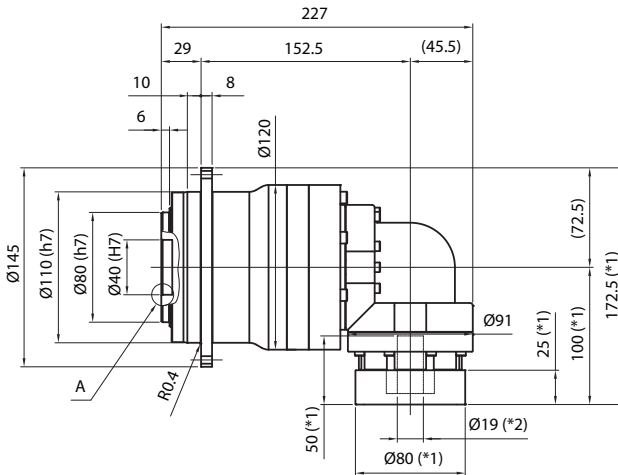
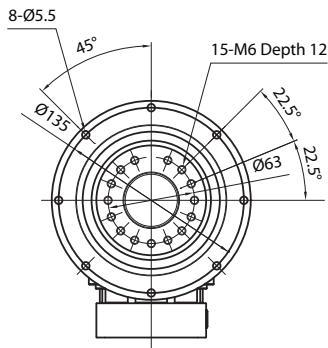
## EVT 110 3-Stage Dimensions



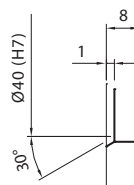
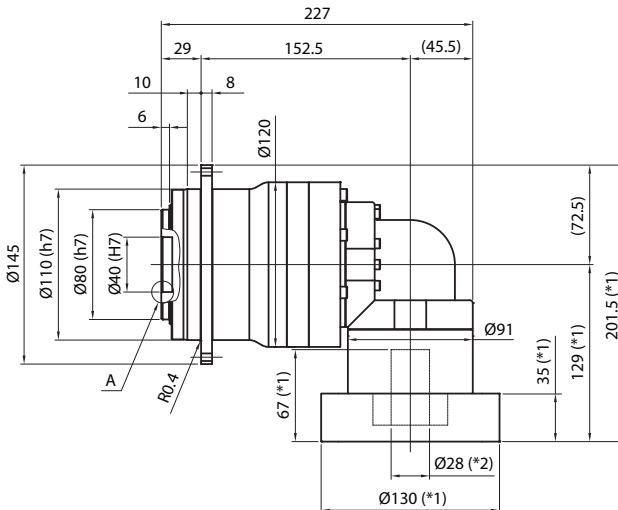
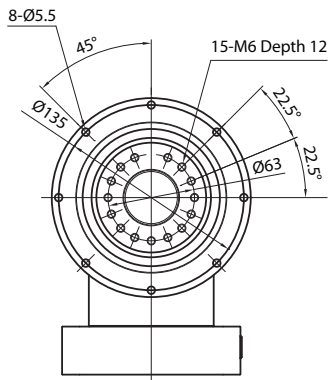
Input bore size  $\leq \text{Ø}14\text{mm}$



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



Input bore size  $\leq \text{Ø}28\text{mm}$



Enlarged detail A

\*1) Length will vary depending on motor

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

# EVT SERIES Right-angle Planetary

## EVT 140 2-Stage Specifications

Frame Size	140					
Ratio	Unit	Note	4	5	7	10
Nominal Output Torque	[Nm]	*1	181	205	307	233
Maximum Acceleration Torque	[Nm]	*2	389	458	687	480
Maximum Torque	[Nm]	*3	452	531	766	559
Emergency Stop Torque	[Nm]	*4	950	1100	1100	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	19000			
Maximum Axial Load	[N]	*9	14000			
Maximum Tilting Moment	[Nm]	*10	2000			
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	22.58	19.57	17.07	15.36
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	26.96	23.94	21.45	19.73
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	40.19	37.17	34.68	32.96
Efficiency	[%]	*11	93			
Torsional Rigidity	[Nm/arcmin]	*12	140			
Maximum Torsional Backlash	[Arc-min]	--	$\leq 4$			
Noise Level	dB [A]	*13	$\leq 85$			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0-40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	17.4			

## EVT 140 3-Stage Specifications

Frame Size	140					
Ratio	Unit	Note	16	20	25	28
Nominal Output Torque	[Nm]	*1	307	316	352	352
Maximum Acceleration Torque	[Nm]	*2	687	687	687	687
Maximum Torque	[Nm]	*3	687	687	687	687
Emergency Stop Torque	[Nm]	*4	1100	1100	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	19000			
Maximum Axial Load	[N]	*9	14000			
Maximum Tilting Moment	[Nm]	*10	2000			
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	7.24	6.21	6.09	6.89
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	8.83	7.80	7.69	8.48
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	15.91	14.88	14.76	15.55
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--
Efficiency	[%]	*11	88			
Torsional Rigidity	[Nm/arcmin]	*12	140			
Maximum Torsional Backlash	[Arc-min]	--	$\leq 7$			
Noise Level	dB [A]	*13	$\leq 85$			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0-40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	17.6			

## EVT 140 3-Stage Specifications

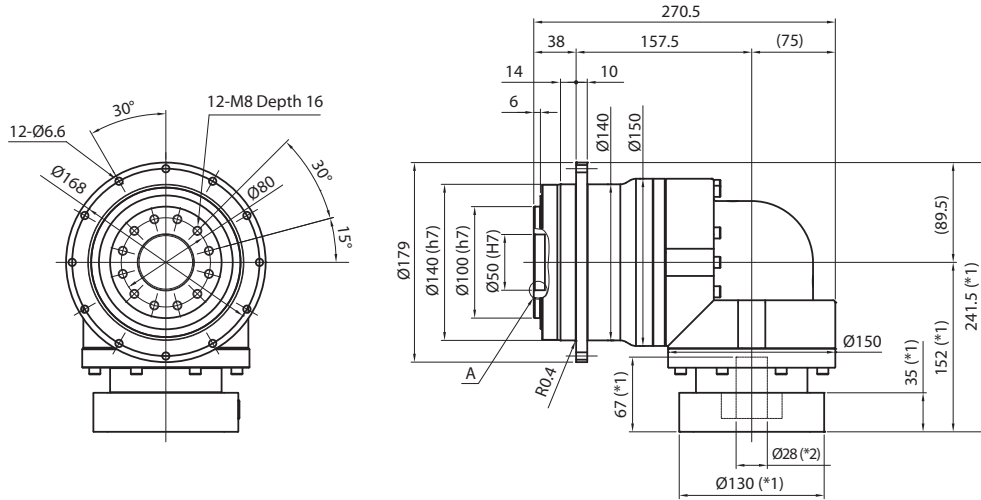
Frame Size	140							
Ratio	Unit	Note	35	40	50	70	100	
Nominal Output Torque	[Nm]	*1	352	337	352	352	240	
Maximum Acceleration Torque	[Nm]	*2	687	687	687	687	480	
Maximum Torque	[Nm]	*3	687	687	687	687	480	
Emergency Stop Torque	[Nm]	*4	1100	1100	1100	1100	750	
Nominal Input Speed	[rpm]	*5	2300					
Maximum Input Speed	[rpm]	*6	5000					
No Load Running Torque	[Nm]	*7	2.56					
Maximum Radial Load	[N]	*8	19000					
Maximum Axial Load	[N]	*9	14000					
Maximum Tilting Moment	[Nm]	*10	2000					
Moment of Inertia ( $\leq \varnothing 19$ )	[kgcm <sup>2</sup> ]	--	5.98	4.94	4.91	4.88	4.87	
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	7.58	6.53	6.50	6.48	6.46	
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	14.65	13.60	13.58	13.55	13.54	
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	
Efficiency	[%]	*11	88					
Torsional Rigidity	[Nm/arcmin]	*12	140					
Maximum Torsional Backlash	[Arc-min]	--	$\leq 7$					
Noise Level	dB [A]	*13	$\leq 85$					
Protection Class	--	*14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0-40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*15	17.6					

- \*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 moment is the maximum load at output flange surface
- \*11) The efficiency at the nominal output torque rating
- \*12) This does not include lost motion
- \*13) Contact Nidec Drive Technology for the testing conditions and environment
- \*14) Various wash-down options are available. Contact Nidec Drive Technology for more details
- \*15) Weight may vary slightly between models

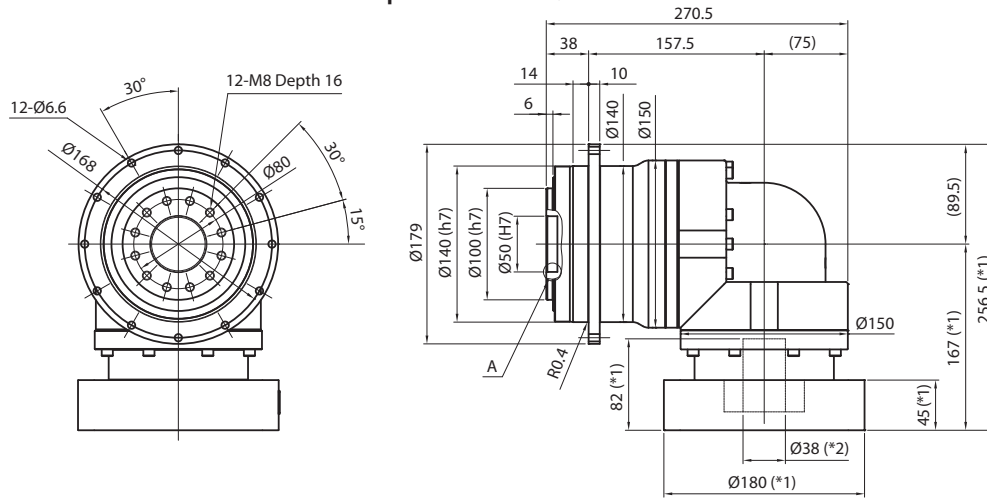
# EVT SERIES Right-angle Planetary

## EVT 140 2-Stage Dimensions

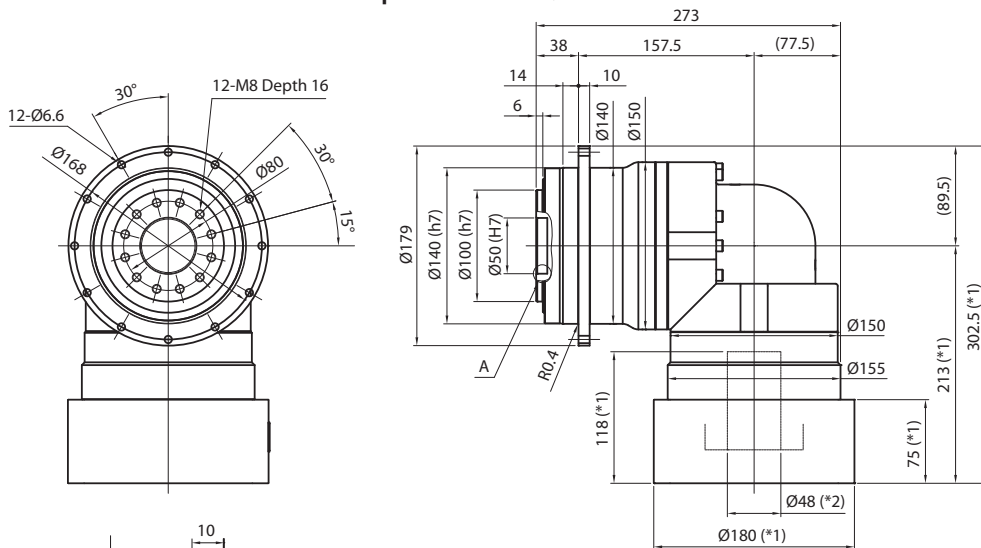
### Input bore size $\leq \varnothing 28\text{mm}$



### Input bore size $\leq \varnothing 38\text{mm}$



### Input bore size $\leq \varnothing 48\text{mm}$

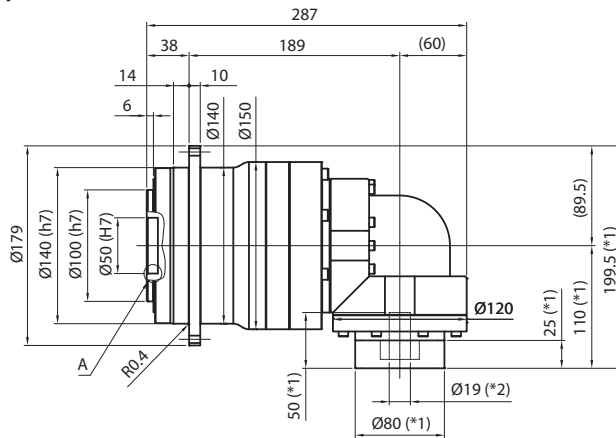
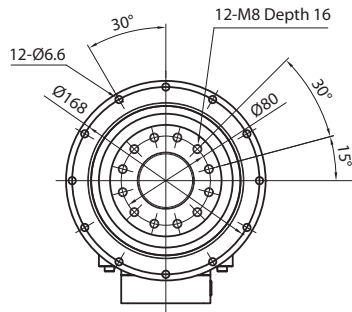


\*1) Length will vary depending on motor

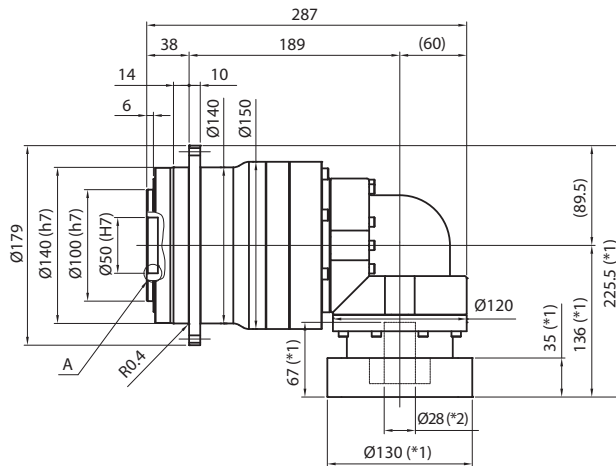
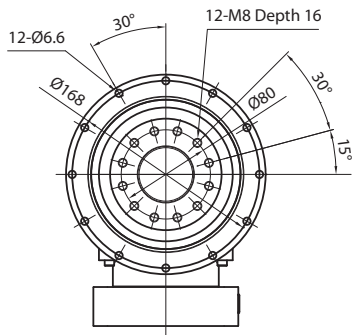
\*2) Bushing will be inserted to adapt to motor shaft

## EVT 140 3-Stage Dimensions

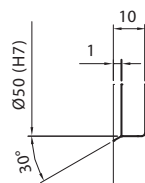
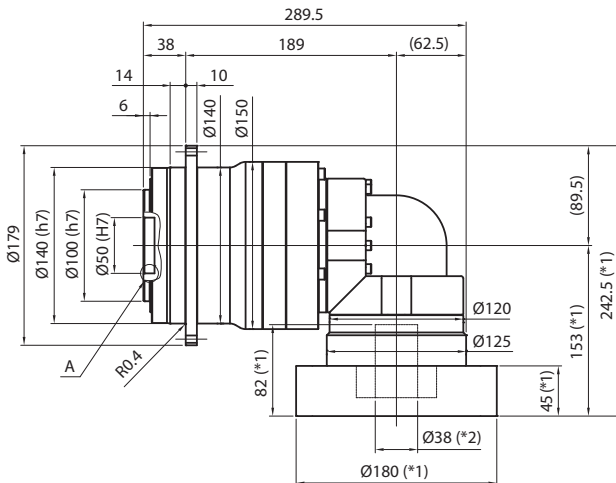
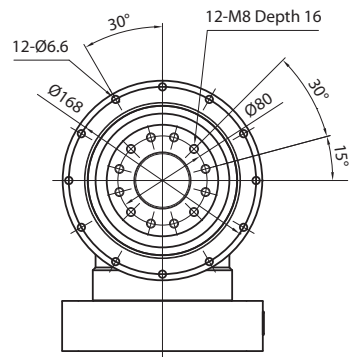
### Input bore size $\leq \varnothing 19\text{mm}$



### Input bore size $\leq \varnothing 28\text{mm}$



### Input bore size $\leq \varnothing 38\text{mm}$



Enlarged detail A

\*1) Length will vary depending on motor

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

# EVT SERIES Right-angle Planetary

## EVT 200 2-Stage Specifications

Frame Size	200					
Ratio	Unit	Note	4	5	7	10
Nominal Output Torque	[Nm]	*1	604	646	646	478
Maximum Acceleration Torque	[Nm]	*2	904	1127	1315	931
Maximum Torque	[Nm]	*3	1064	1327	1498	1144
Emergency Stop Torque	[Nm]	*4	1700	2000	2500	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	40000			
Maximum Axial Load	[N]	*9	30000			
Maximum Tilting Moment	[Nm]	*10	5300			
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	93.44	81.86	71.47	66.72
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	138.1	123.3	109.6	103.4
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	223.7	208.9	195.2	189.0
Efficiency	[%]	*11	93			
Torsional Rigidity	[Nm/arcmin]	*12	320			
Maximum Torsional Backlash	[Arc-min]	--	$\leq 6$			
Noise Level	dB [A]	*13	$\leq 85$			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0-40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	50			

## EVT 200 3-Stage Specifications

Frame Size	200					
Ratio	Unit	Note	16	20	25	28
Nominal Output Torque	[Nm]	*1	583	646	683	710
Maximum Acceleration Torque	[Nm]	*2	1315	1315	1315	1315
Maximum Torque	[Nm]	*3	1315	1315	1315	1315
Emergency Stop Torque	[Nm]	*4	2500	2500	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	40000			
Maximum Axial Load	[N]	*9	30000			
Maximum Tilting Moment	[Nm]	*10	5300			
Moment of Inertia ( $\leq \varnothing 28$ )	[kgcm <sup>2</sup> ]	--	13.42	11.92	11.38	11.82
Moment of Inertia ( $\leq \varnothing 38$ )	[kgcm <sup>2</sup> ]	--	22.20	20.71	20.17	20.61
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	27.02	25.53	24.99	25.43
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--
Efficiency	[%]	*11	88			
Torsional Rigidity	[Nm/arcmin]	*12	320			
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$			
Noise Level	dB [A]	*13	$\leq 85$			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0-40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	37			

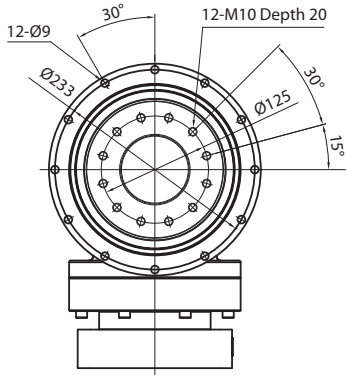
## EVT 200 3-Stage Specifications

Frame Size	200							
Ratio	Unit	Note	35	40	50	70	100	
Nominal Output Torque	[Nm]	*1	710	465	710	710	480	
Maximum Acceleration Torque	[Nm]	*2	1315	1315	1315	1315	931	
Maximum Torque	[Nm]	*3	1315	1315	1315	1315	931	
Emergency Stop Torque	[Nm]	*4	2500	2500	2500	2500	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	40000					
Maximum Axial Load	[N]	*9	30000					
Maximum Tilting Moment	[Nm]	*10	5300					
Moment of Inertia (≤ Ø 28)	[kgcm <sup>2</sup> ]	--	10.9	10.5	10.3	10.2	10.2	
Moment of Inertia (≤ Ø 38)	[kgcm <sup>2</sup> ]	--	19.69	19.26	19.13	19.01	18.94	
Moment of Inertia (≤ Ø 48)	[kgcm <sup>2</sup> ]	--	24.51	24.08	23.95	23.83	23.77	
Moment of Inertia (≤ Ø 65)	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	
Efficiency	[%]	*11	88					
Torsional Rigidity	[Nm/arcmin]	*12	320					
Maximum Torsional Backlash	[Arc-min]	--	≤ 9					
Noise Level	dB [A]	*13	≤ 85					
Protection Class	--	*14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0-40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*15	37					

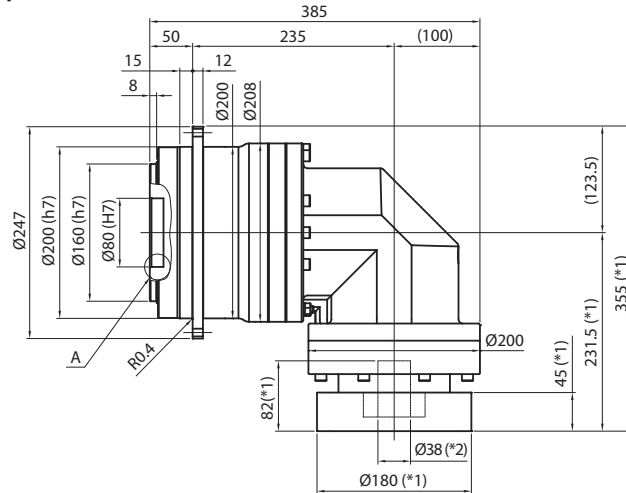
- \*1) At nominal input speed, service life is 20,000 hours
- \*2) The maximum torque when starting or stopping operation. Apply Cycle Factor  $f_0$ , found on page 468, for higher duty cycle applications
- \*3) Permitted 10,000 times during service life. Based on 10% of maximum radial load and smooth 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 moment is the maximum load at output flange surface
- \*11) The efficiency at the nominal output torque rating
- \*12) This does not include lost motion
- \*13) Contact Nidec Drive Technology for the testing conditions and environment
- \*14) Various wash-down options are available. Contact Nidec Drive Technology for more details
- \*15) Weight may vary slightly between models

# EVT SERIES Right-angle Planetary

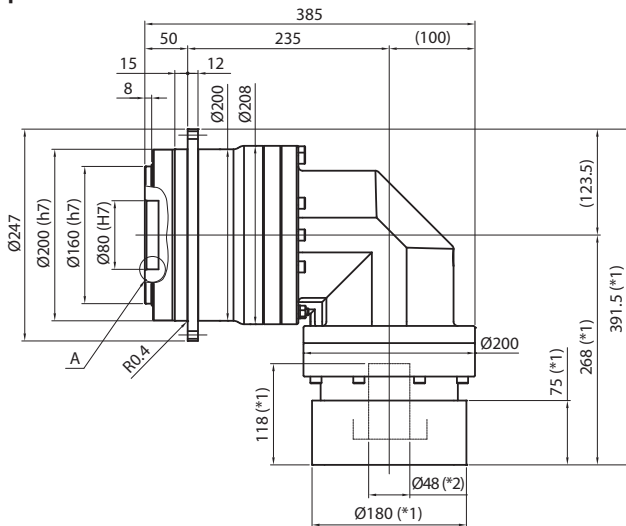
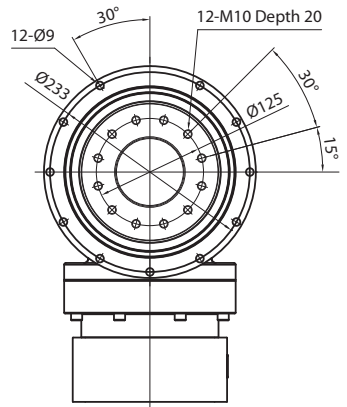
## EVT 200 2-Stage Dimensions



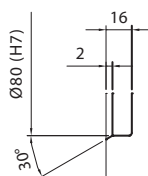
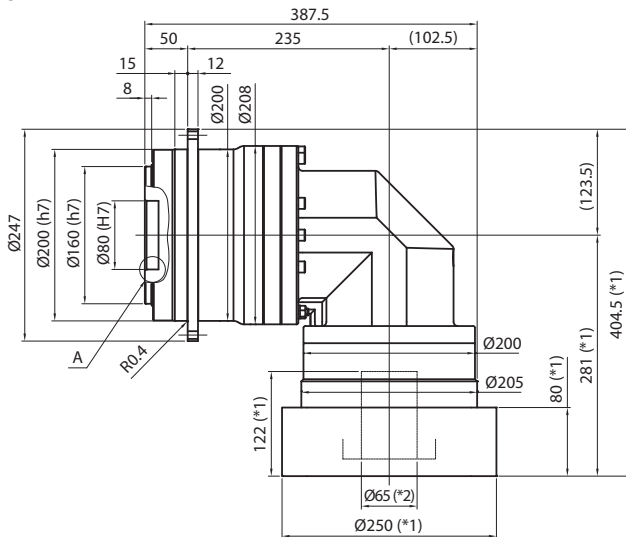
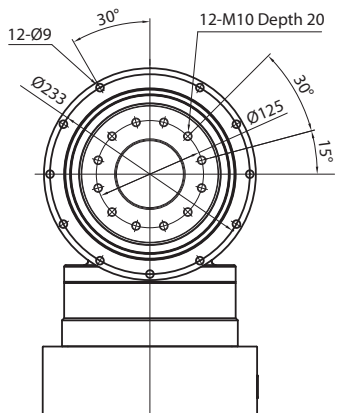
Input bore size  $\leq \varnothing 38\text{mm}$



Input bore size  $\leq \varnothing 48\text{mm}$



Input bore size  $\leq \varnothing 65\text{mm}$



Enlarged detail A

\*1) Length will vary depending on motor

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



## EVT 255 2-Stage Specifications

Frame Size	255					
Ratio	Unit	Note	4	5	7	10
Nominal Output Torque	[Nm]	*1	1340	1680	2024	1534
Maximum Acceleration Torque	[Nm]	*2	3520	3520	3428	2478
Maximum Torque	[Nm]	*3	3891	3891	3809	2781
Emergency Stop Torque	[Nm]	*4	5400	6500	7200	5400
Nominal Input Speed	[rpm]	*5	1200			
Maximum Input Speed	[rpm]	*6	3000			
No Load Running Torque	[Nm]	*7	--			
Maximum Radial Load	[N]	*8	64000			
Maximum Axial Load	[N]	*9	48000			
Maximum Tilting Moment	[Nm]	*10	11000			
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	661.8	619.8	587.7	572.0
Efficiency	[%]	*11	93			
Torsional Rigidity	[Nm/arcmin]	*12	840			
Maximum Torsional Backlash	[Arc-min]	--	$\leq 6$			
Noise Level	dB [A]	*13	$\leq 85$			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0-40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	110			

## EVT 255 3-Stage Specifications

Frame Size	255					
Ratio	Unit	Note	16	20	25	28
Nominal Output Torque	[Nm]	*1	1920	1992	2154	2195
Maximum Acceleration Torque	[Nm]	*2	3520	3520	3520	3460
Maximum Torque	[Nm]	*3	3520	3520	3520	3460
Emergency Stop Torque	[Nm]	*4	7200	7200	7200	7200
Nominal Input Speed	[rpm]	*5	1500			
Maximum Input Speed	[rpm]	*6	3000			
No Load Running Torque	[Nm]	*7	--			
Maximum Radial Load	[N]	*8	64000			
Maximum Axial Load	[N]	*9	48000			
Maximum Tilting Moment	[Nm]	*10	11000			
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	118.52	114.63	113.37	114.80
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--
Efficiency	[%]	*11	88			
Torsional Rigidity	[Nm/arcmin]	*12	840			
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$			
Noise Level	dB [A]	*13	$\leq 85$			
Protection Class	--	*14	IP54 (IP65)			
Ambient Temperature	[°C]	--	0-40			
Permitted Housing Temperature	[°C]	--	90			
Weight	[kg]	*15	99			

## EVT 255 3-Stage Specifications

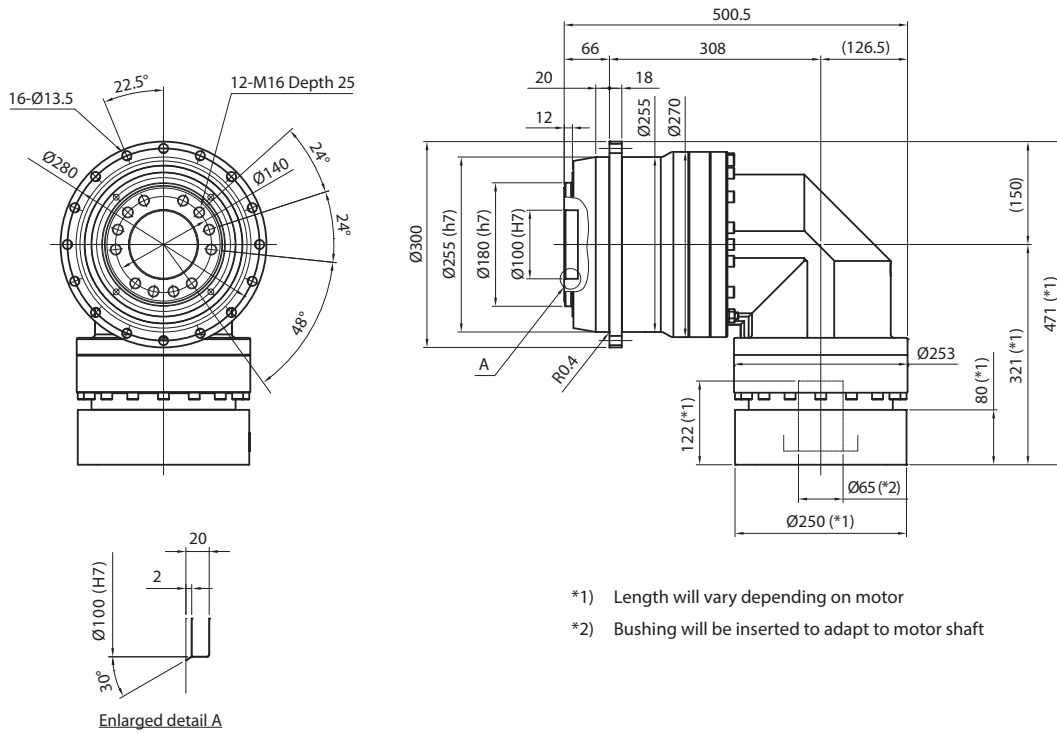
Frame Size	255							
Ratio	Unit	Note	35	40	50	70	100	
Nominal Output Torque	[Nm]	*1	2195	2195	2195	2195	1405	
Maximum Acceleration Torque	[Nm]	*2	3460	3520	3520	3460	1718	
Maximum Torque	[Nm]	*3	3460	3520	3520	3460	1718	
Emergency Stop Torque	[Nm]	*4	7200	7200	7200	7200	5400	
Nominal Input Speed	[rpm]	*5	1500					
Maximum Input Speed	[rpm]	*6	3000					
No Load Running Torque	[Nm]	*7	--					
Maximum Radial Load	[N]	*8	64000					
Maximum Axial Load	[N]	*9	48000					
Maximum Tilting Moment	[Nm]	*10	11000					
Moment of Inertia ( $\leq \varnothing 48$ )	[kgcm <sup>2</sup> ]	--	112.25	109.37	109.05	108.77	108.62	
Moment of Inertia ( $\leq \varnothing 65$ )	[kgcm <sup>2</sup> ]	--	--	--	--	--	--	
Efficiency	[%]	*11	88					
Torsional Rigidity	[Nm/arcmin]	*12	840					
Maximum Torsional Backlash	[Arc-min]	--	$\leq 9$					
Noise Level	dB [A]	*13	$\leq 85$					
Protection Class	--	*14	IP54 (IP65)					
Ambient Temperature	[°C]	--	0-40					
Permitted Housing Temperature	[°C]	--	90					
Weight	[kg]	*15	99					

- \*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 moment is the maximum load at output flange surface
- \*11) The efficiency at the nominal output torque rating
- \*12) This does not include lost motion
- \*13) Contact Nidec Drive Technology for the testing conditions and environment
- \*14) Various wash-down options are available. Contact Nidec Drive Technology for more details
- \*15) Weight may vary slightly between models

# EVT SERIES Right-angle Planetary

## EVT 255 2-Stage Dimensions

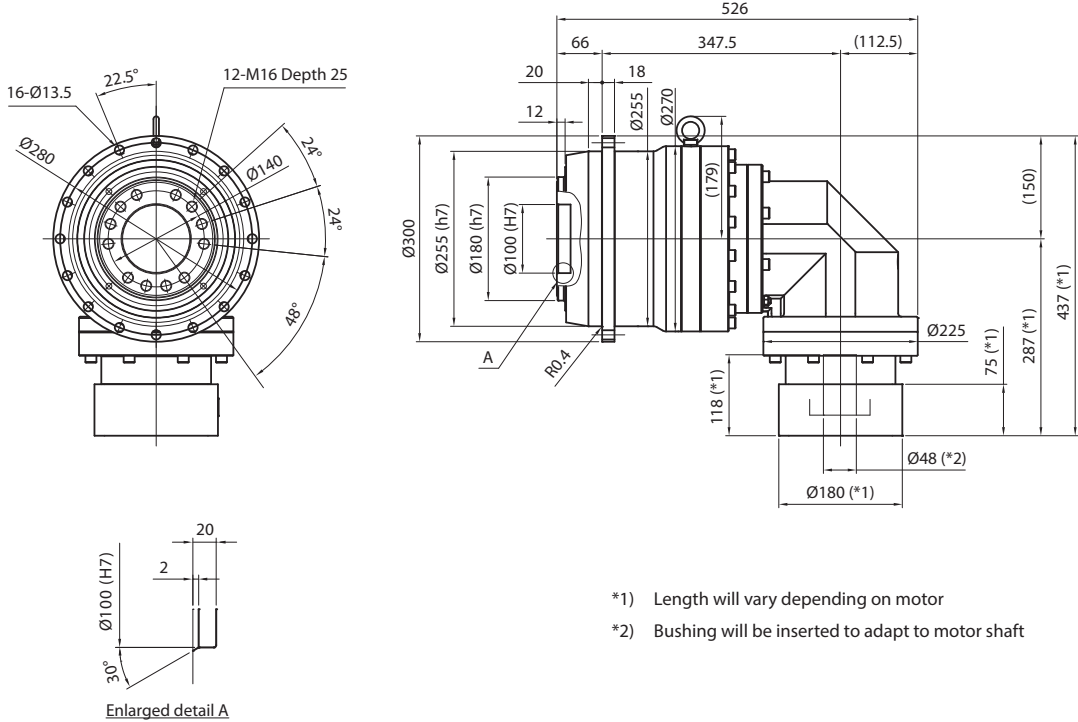
Input bore size  $\leq \phi 65\text{mm}$



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

## EVT 255 3-Stage Dimensions

Input bore size  $\leq \varnothing 48\text{mm}$



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