NEV series

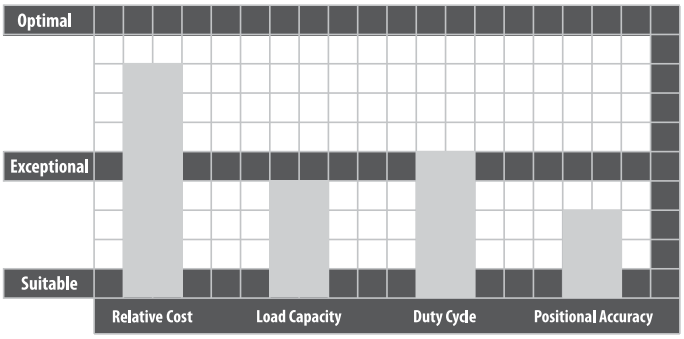
NEV planetary gearbox with right angle

Lightweight and compact aluminum body

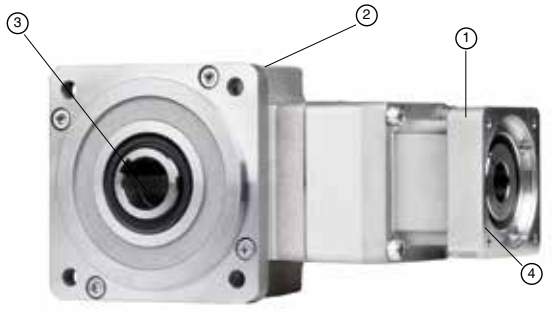
Description

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.

- 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



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

Part Number **NEVAF C 05 070 1403 7 00**

- Model name - NEV series
- Size: B, C, D, E
- Ratio: 2-Stage: 05, 09, 15, 27; 3-Stage: 45, 75, 105
- Motor Bolt Circle Diameter
- Motor Shaft Bushing
- Output shaft style: 6: Solid / 7: Hollow
- Motor mounting code (*)

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

Motor Bolt Circle Diameter table

Code	044	045	046	060	063	067	070	075	090	095	098	100	115	126	130	145	149	165	200
Dimensions [mm]	43.80 (NEMA 17)	45	46	60	63	66.68 (NEMA 23)	70	75	90	95	98.43 (NEMA 34)	100	115	125.73 (NEMA 42)	130	145	149.23 (NEMA 56)	165	200

Motor Shaft Bushing tables

Code	0801	0802	0803	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1901	1902
OD [mm]	8	8	8	14	14	14	14	14	14	14	14	14	14	19	19
ID [mm]	6	6.350	5	6	8	11	6.350	9.525	12.700	12	10	9	5	11	14

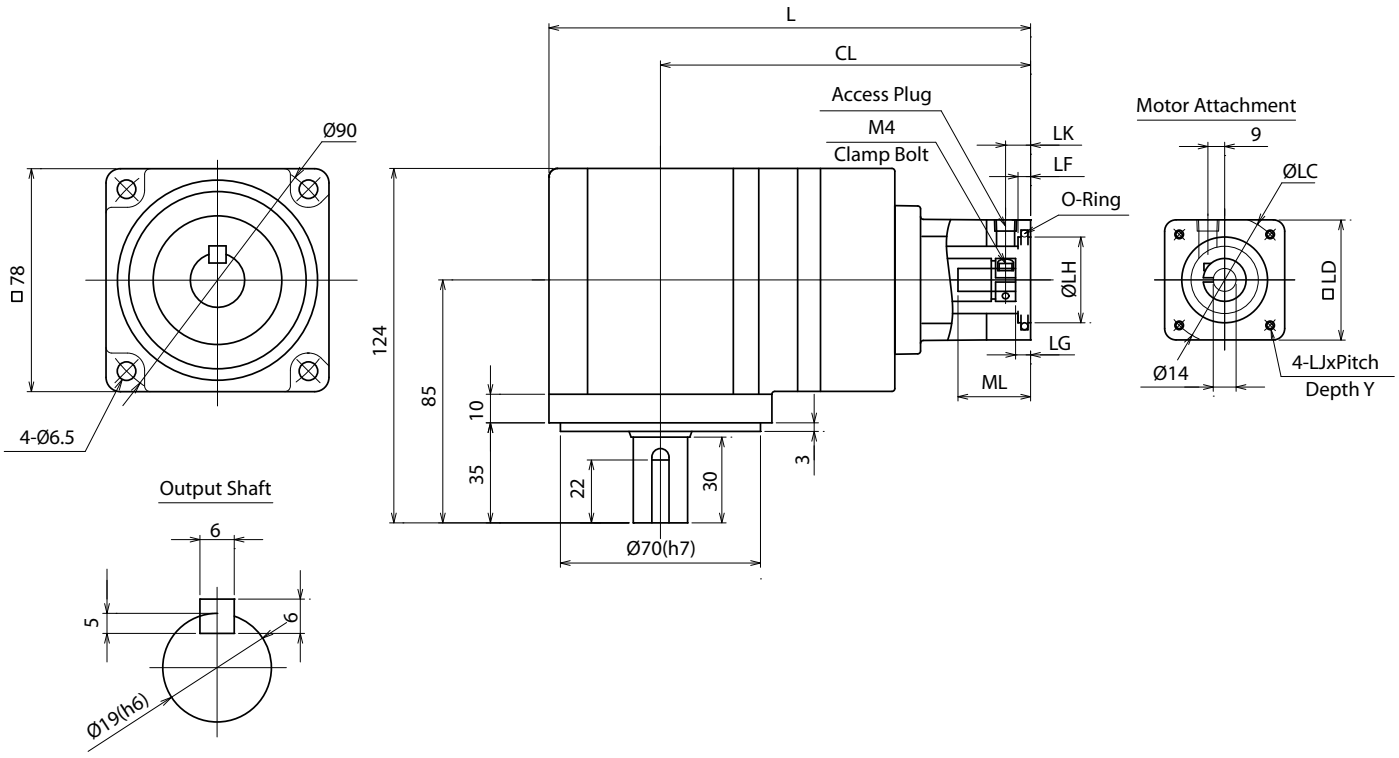
Code	1903	1904	1905	1906	1907	1908	1909	1910	2401	2402	2403	2404	2405	2406	2407	2408
OD [mm]	19	19	19	19	19	19	19	19	24	24	24	24	24	24	24	24
ID [mm]	16	9.525	12.700	15.875	12	10	9	8	14	16	19	12.700	15.875	22	19.050	11

NEV B-Frame 2-Stage Specifications

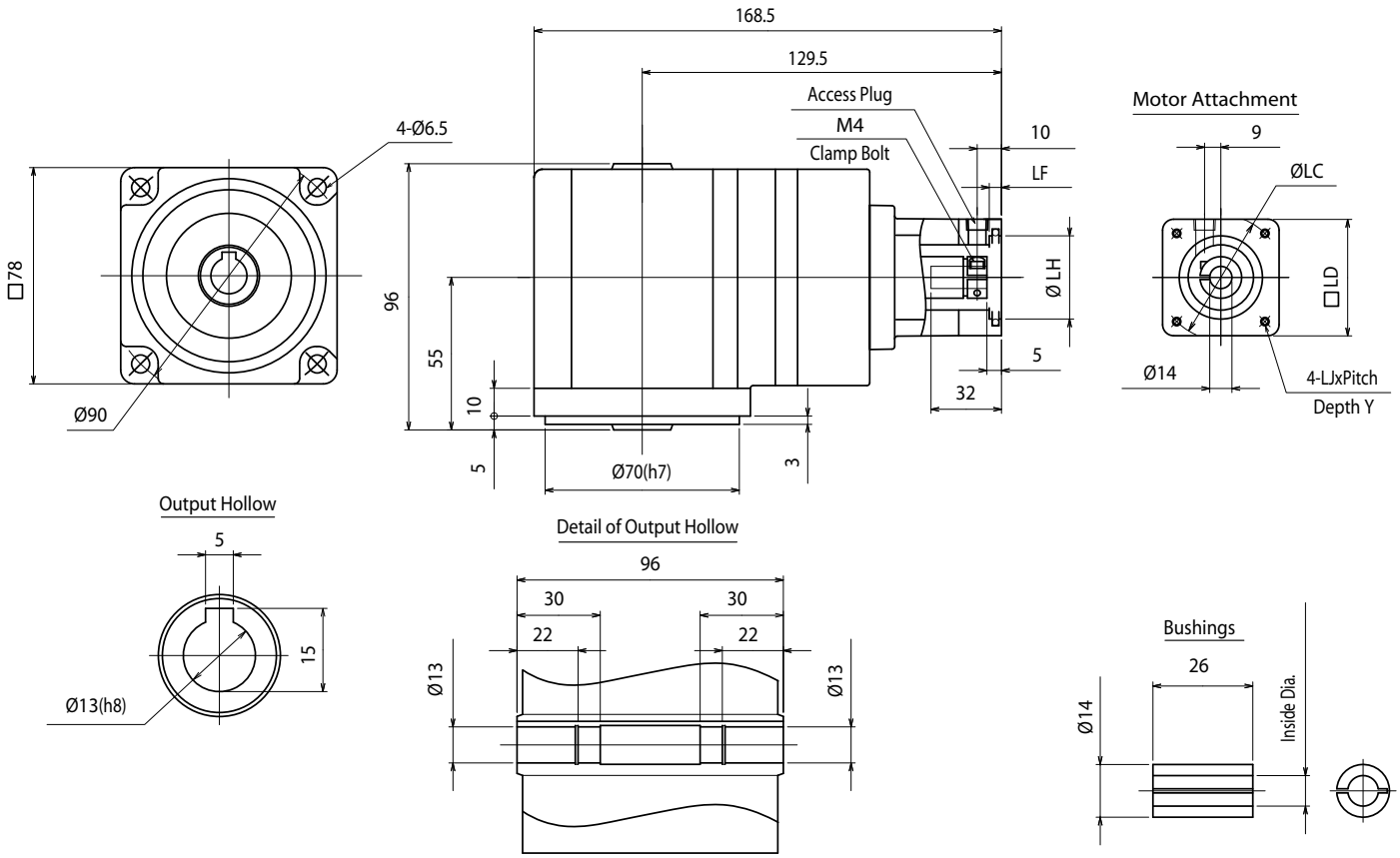
Frame Size	B (78 mm)					
Stage	2-Stage					
Ratio	Units	Note	5	9	15	27
Nominal Output Torque	[Nm]	--	6	6	10	10
Maximum Acceleration Torque	[Nm]	--	20	20	30	30
Emergency Stop Torque	[Nm]	--	35	40	50	50
Nominal Input Speed	[rpm]	--	3000			
Maximum Input Speed	[rpm]	--	6000			
No Load Running Torque	[Nm]	--	0.18			
Permitted Radial Load	[N]	--	1000	1200	1500	1800
Permitted Axial Load	[N]	--	500	600	750	900
Moment of Inertia (≤ Ø 8)	[kgcm²]	--	--	--	--	--
Moment of Inertia (≤ Ø14)	[kgcm²]	--	0.275	0.110	0.059	0.146
Efficiency	[%]	--	85			
Torsional Rigidity	[Nm/arc-min]	--	0.4			
Maximum Torsional Backlash	[arc-min]	--	≤ 30			
Noise Level	[dB]	--	≤ 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 (78 mm) 2-Stage Dimensions – Ratios: 5:1, 9:1, 15:1, 27:1

Solid Output Shaft Type



Hollow Output Shaft Type

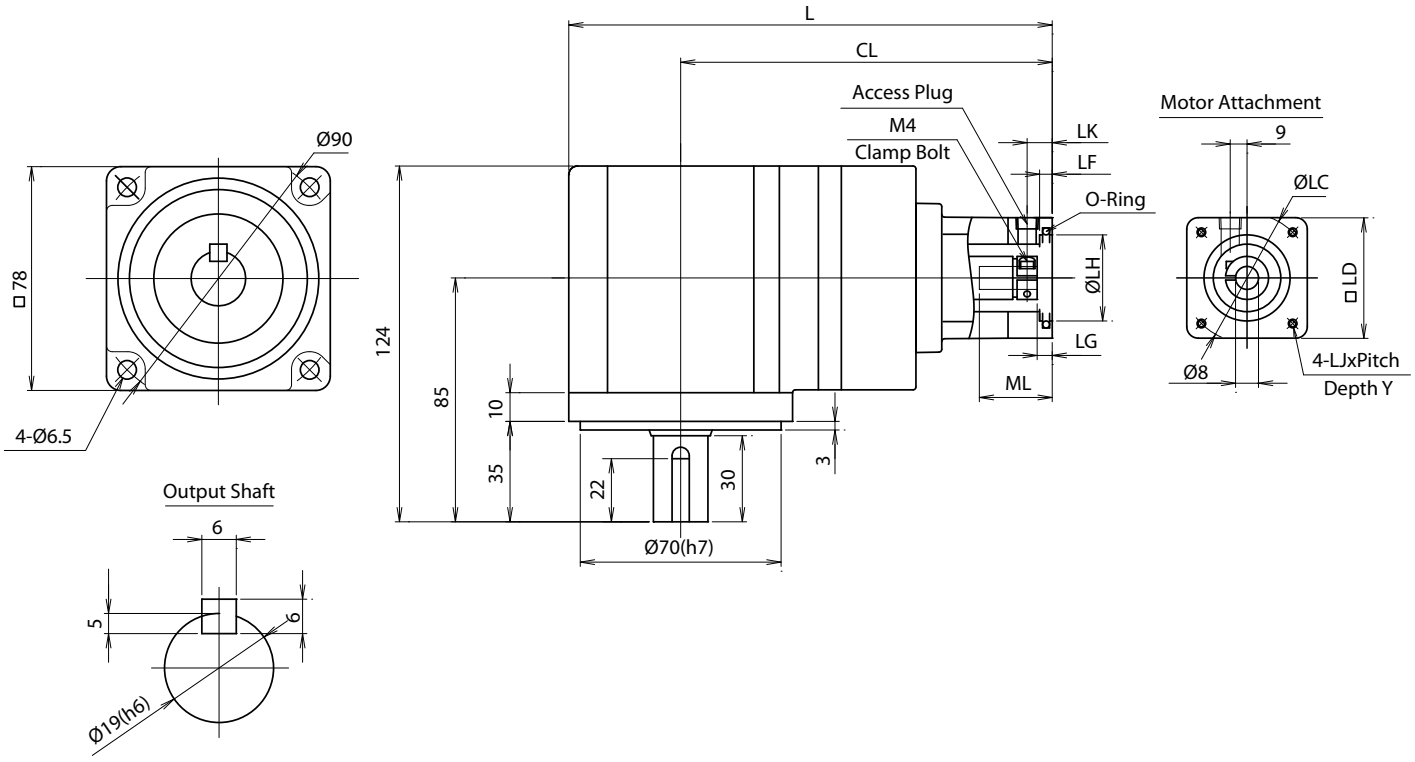


NEV B-Frame 3-Stage Specifications

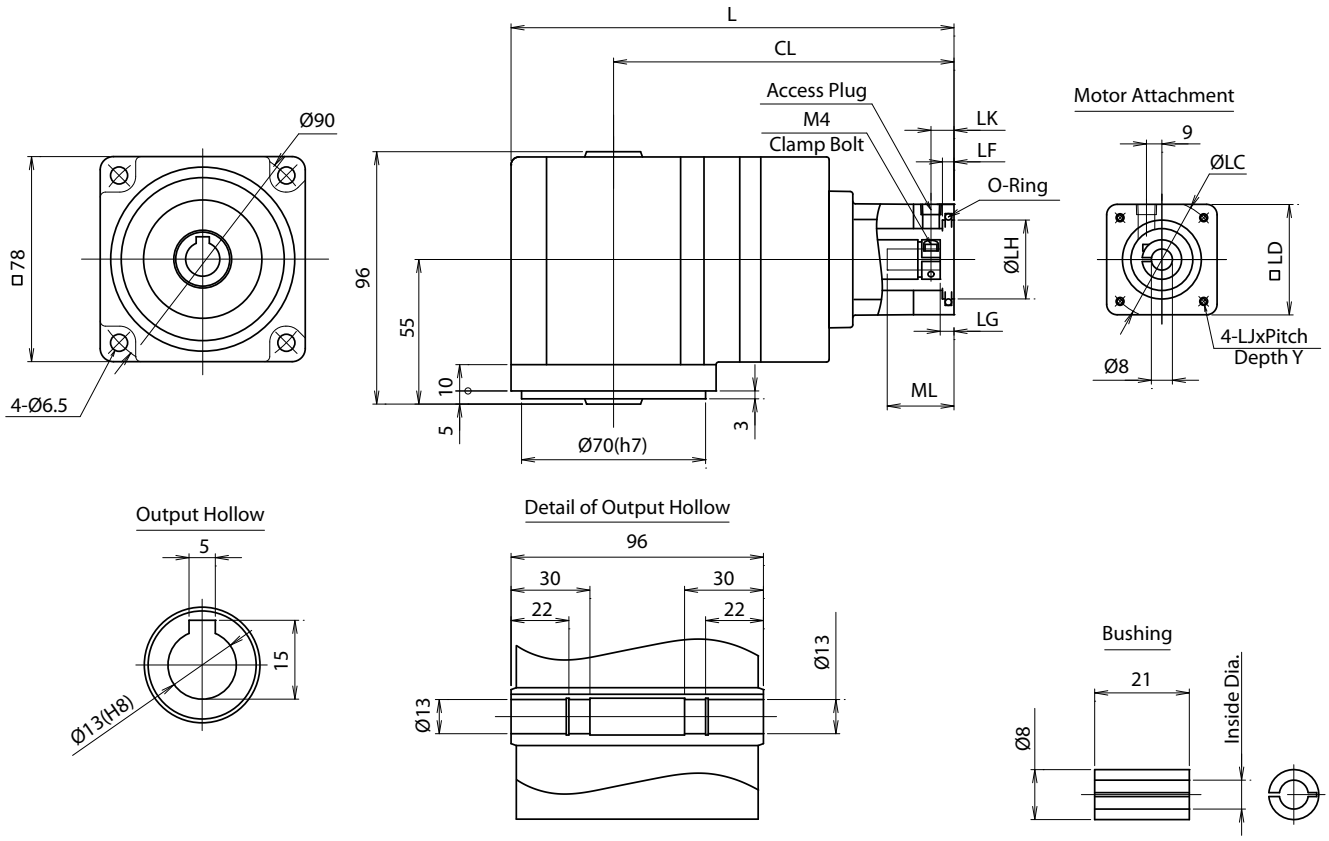
Frame Size	B (78 mm)				
Stage	3-Stage				
Ratio	Units	Note	45	75	105
Nominal Output Torque	[Nm]	--	10	15	15
Maximum Acceleration Torque	[Nm]	--	30	30	30
Emergency Stop Torque	[Nm]	--	50	50	50
Nominal Input Speed	[rpm]	--	3000		
Maximum Input Speed	[rpm]	--	6000		
No Load Running Torque	[Nm]	--	0.109		
Permitted Radial Load	[N]	--	1800	1800	1800
Permitted Axial Load	[N]	--	900	900	900
Moment of Inertia (≤ Ø 8)	[kgcm²]	--	0.091	0.083	0.078
Moment of Inertia (≤ Ø14)	[kgcm²]	--	--	--	--
Efficiency	[%]	--	80		
Torsional Rigidity	[Nm/arc-min]	--	0.4		
Maximum Torsional Backlash	[arc-min]	--	≤ 30		
Noise Level	[dB]	--	≤ 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 (78 mm) 3-Stage Dimensions – Ratios: 45:1, 75:1, 105:1

Solid Output Shaft Type



Hollow Output Shaft Type



NEV C-Frame 2-Stage Specifications

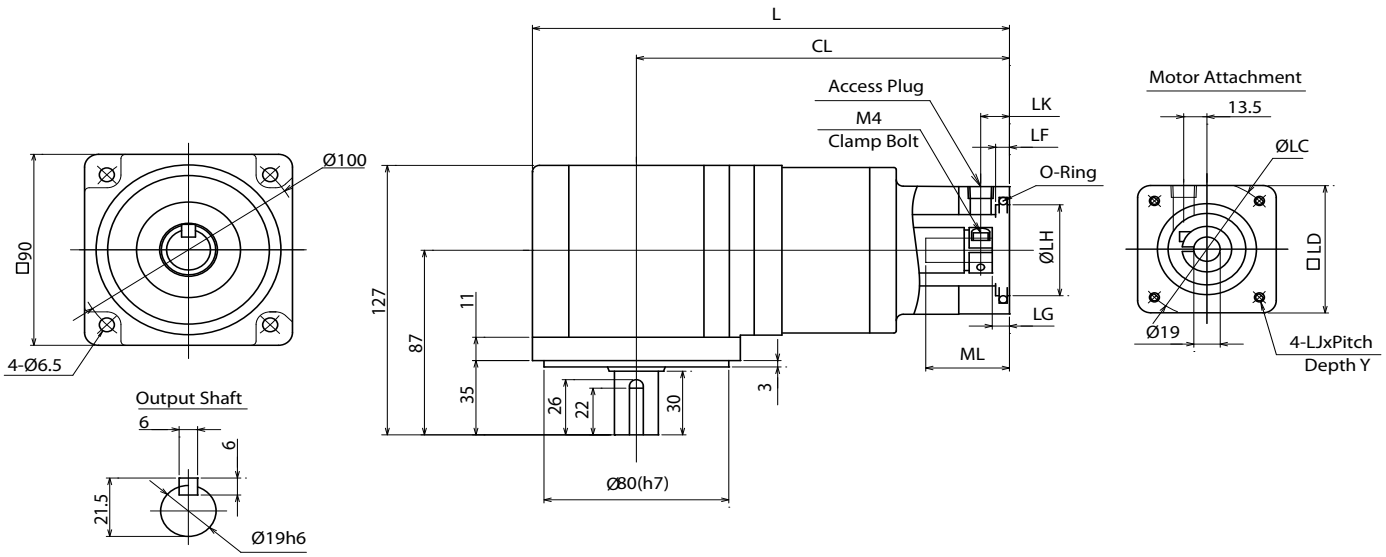
Frame Size	C (90 mm)					
Stage	2-Stage					
Ratio	Units	Note	5	9	15	27
Nominal Output Torque	[Nm]	--	15	20	20	30
Maximum Acceleration Torque	[Nm]	--	30	35	40	40
Emergency Stop Torque	[Nm]	--	50	50	60	75
Nominal Input Speed	[rpm]	--	3000			
Maximum Input Speed	[rpm]	--	6000			
No Load Running Torque	[Nm]	--	0.3			
Permitted Radial Load	[N]	--	1000	1500	1800	1800
Permitted Axial Load	[N]	--	500	750	900	900
Moment of Inertia (≤ Ø 14)	[kgcm²]	--	--	--	--	--
Moment of Inertia (≤ Ø 19)	[kgcm²]	--	0.806	0.744	0.415	0.585
Efficiency	[%]	--	85			
Torsional Rigidity	[Nm/arc-min]	--	1.0			
Maximum Torsional Backlash	[arc-min]	--	≤ 30			
Noise Level	[dB]	--	≤ 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, 2-Stage Dimensions, Solid / Hollow Output Shaft Type – Ratios: 5:1, 9:1, 15:1, 27:1

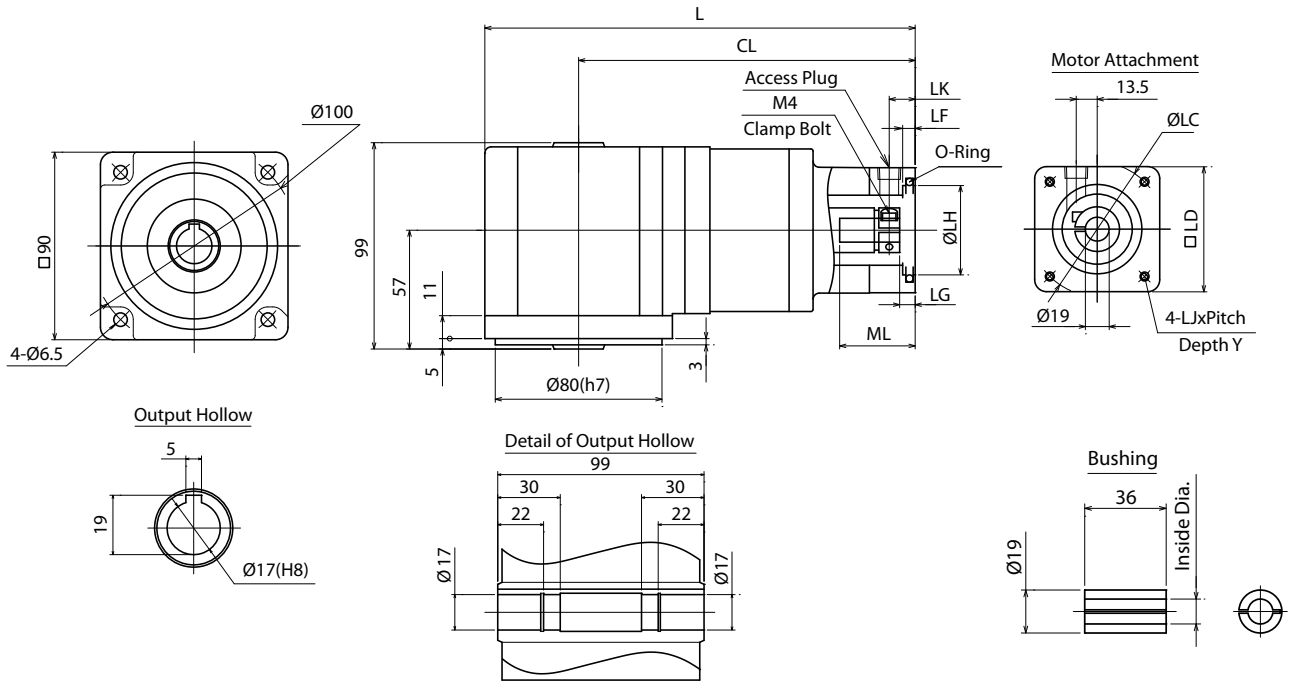
Adapter	Unit	Bolt Circle LC	Pilot LH	Square LD	Tapping Bolt LJ	Depth Y	Length		Plug LK	Flange Depth		
							L	CL		LF	LG	ML
C10	[mm]	63	40	60	M4x0.7	10	206.5	161.5	11	4	5	42
	[inch]	2.480	1.575	2.36	--	0.39	8.130	6.358	0.43	0.16	0.20	1.65
C11	[mm]	95	80	86	M6x1.0	--	206.5	161.5	11	4	5	42
	[inch]	3.740	3.150	3.39	--	--	8.130	6.358	0.43	0.16	0.20	1.65

NEV C-Frame (90 mm) 2-Stage Dimensions – Ratios: 5:1, 9:1, 15:1, 27:1

Solid Output Shaft Type



Hollow Output Shaft Type



Bushings

Bushing		1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Inside	[mm]	11	14	16	9.525	12.700	15.875	12	10	9	8	6.350
Diameter	[inch]	0.433	0.551	0.630	0.375	0.500	0.625	0.472	0.394	0.354	0.315	0.250

NEV C-Frame 3-Stage Specifications

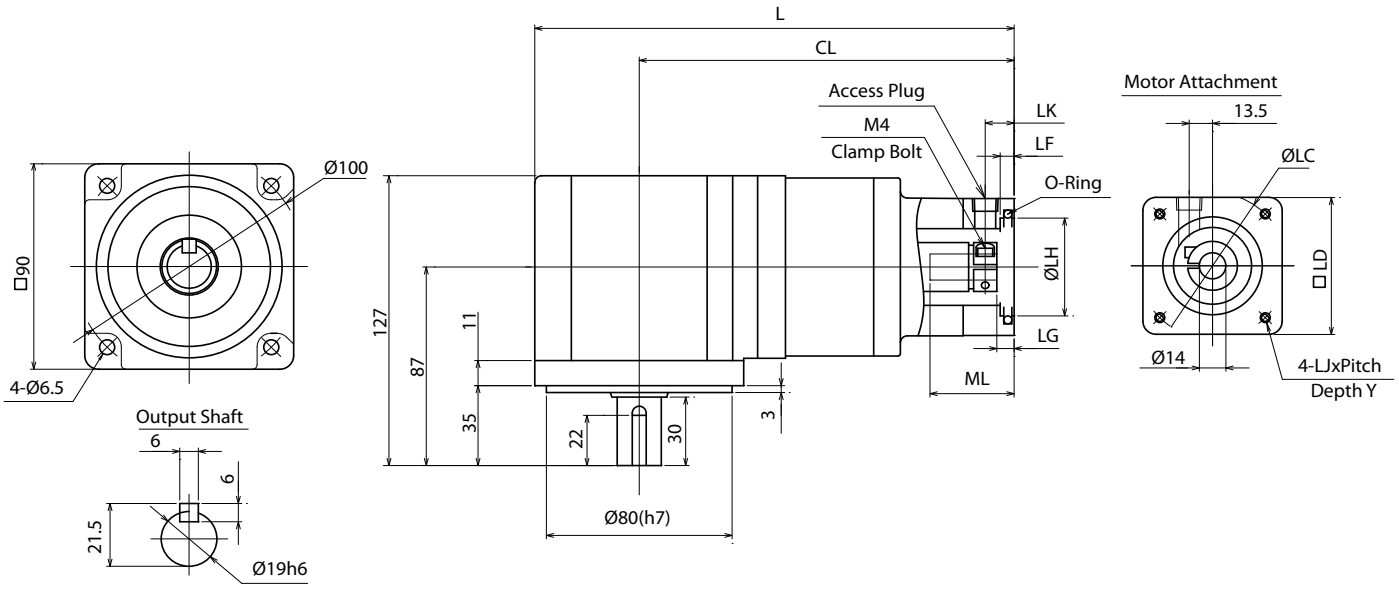
Frame Size	C (90 mm)				
Stage	3-Stage				
Ratio	Units	Note	45	75	105
Nominal Output Torque	[Nm]	--	30	30	30
Maximum Acceleration Torque	[Nm]	--	40	40	40
Emergency Stop Torque	[Nm]	--	75	75	75
Nominal Input Speed	[rpm]	--	3000		
Maximum Input Speed	[rpm]	--	6000		
No Load Running Torque	[Nm]	--	0.205		
Permitted Radial Load	[N]	--	1800	1800	1800
Permitted Axial Load	[N]	--	900	900	900
Moment of Inertia (≤ Ø 14)	[kgcm²]	--	0.794	0.690	0.590
Moment of Inertia (≤ Ø 19)	[kgcm²]	--	--	--	--
Efficiency	[%]	--	80		
Torsional Rigidity	[Nm/arc-min]	--	1.0		
Maximum Torsional Backlash	[arc-min]	--	≤ 30		
Noise Level	[dB]	--	≤ 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, 3-Stage Dimensions, Solid / Hollow Output Shaft Type – Ratios: 45:1, 75:1, 105:1

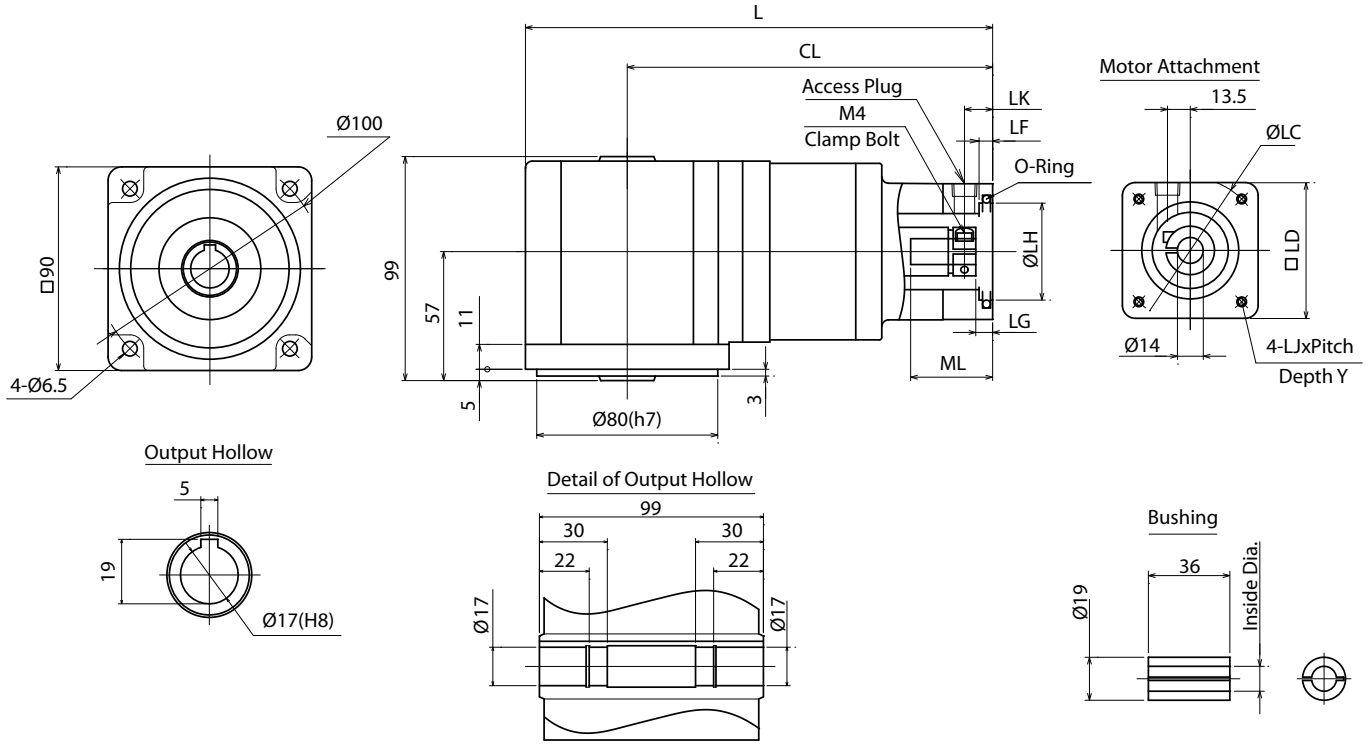
Adapter	Unit	Bolt Circle LC	Pilot LH	Square LD	Tapping Bolt LJ	Depth Y	Length		Plug LK	Flange Depth		
							L	CL		LF	LG	ML
C10	[mm]	63	40	60	M4x0.7	10	209	164	11	4	6	33
	[inch]	2.480	1.575	2.36	--	0.39	8.228	6.457	0.43	0.16	0.24	1.30
C11	[mm]	95	80	86	M6x1.0	-	209	164	11	4	6	33
	[inch]	3.740	3.150	3.39	--	-	8.228	6.457	0.43	0.16	0.24	1.30

NEV C-Frame (90 mm) 3-Stage Dimensions – Ratios: 45:1, 75:1, 105:1

Solid Output Shaft Type



Hollow Output Shaft Type



Bushings

Bushing		1401	1402	1403	1404	1405	1406	1407	1408	1409	1410
Inside Diameter	[mm]	6	8	11	6.350	9.525	12.700	12	10	9	5
	[inch]	0.236	0.315	0.433	0.250	0.375	0.500	0.472	0.394	0.354	0.197

NEV D-Frame 2-Stage Specifications

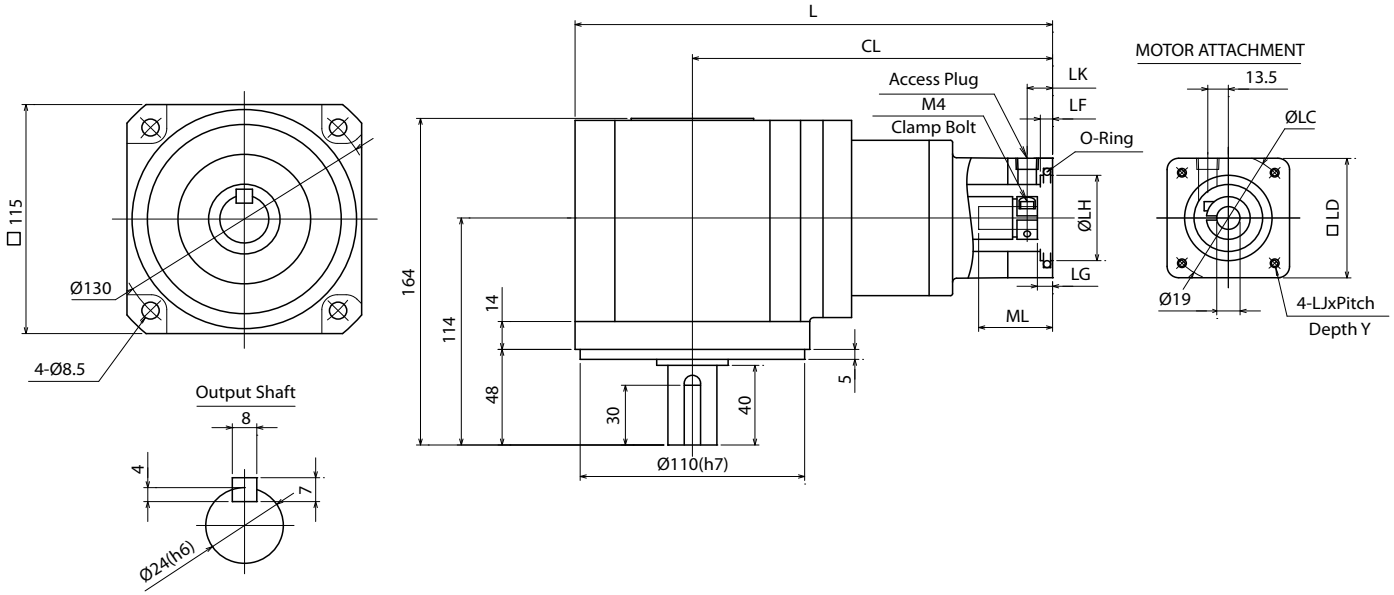
Frame Size	D (115 mm)					
Stage	2-Stage					
Ratio	Units	Note	5	9	15	27
Nominal Output Torque	[Nm]	--	25	25	25	40
Maximum Acceleration Torque	[Nm]	--	55	75	75	80
Emergency Stop Torque	[Nm]	--	100	140	140	180
Nominal Input Speed	[rpm]	--	3000			
Maximum Input Speed	[rpm]	--	6000			
No Load Running Torque	[Nm]	--	0.45			
Permitted Radial Load	[N]	--	2200	2200	2600	2600
Permitted Axial Load	[N]	--	1100	1100	1300	1300
Moment of Inertia (≤Ø14)	[kgcm^2]	--	--	--	--	--
Moment of Inertia (≤ Ø19)	[kgcm^2]	--	1.502	1.254	0.464	0.720
Efficiency	[%]	--	85			
Torsional Rigidity	[Nm/arc-min]	--	1.2	1.5	1.5	1.5
Maximum Torsional Backlash	[arc-min]	--	≤ 30			
Noise Level	[dB]	--	≤ 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, 2-Stage Dimensions, Solid / Hollow Output Shaft Type – Ratios: 5:1, 9:1, 15:1, 27:1

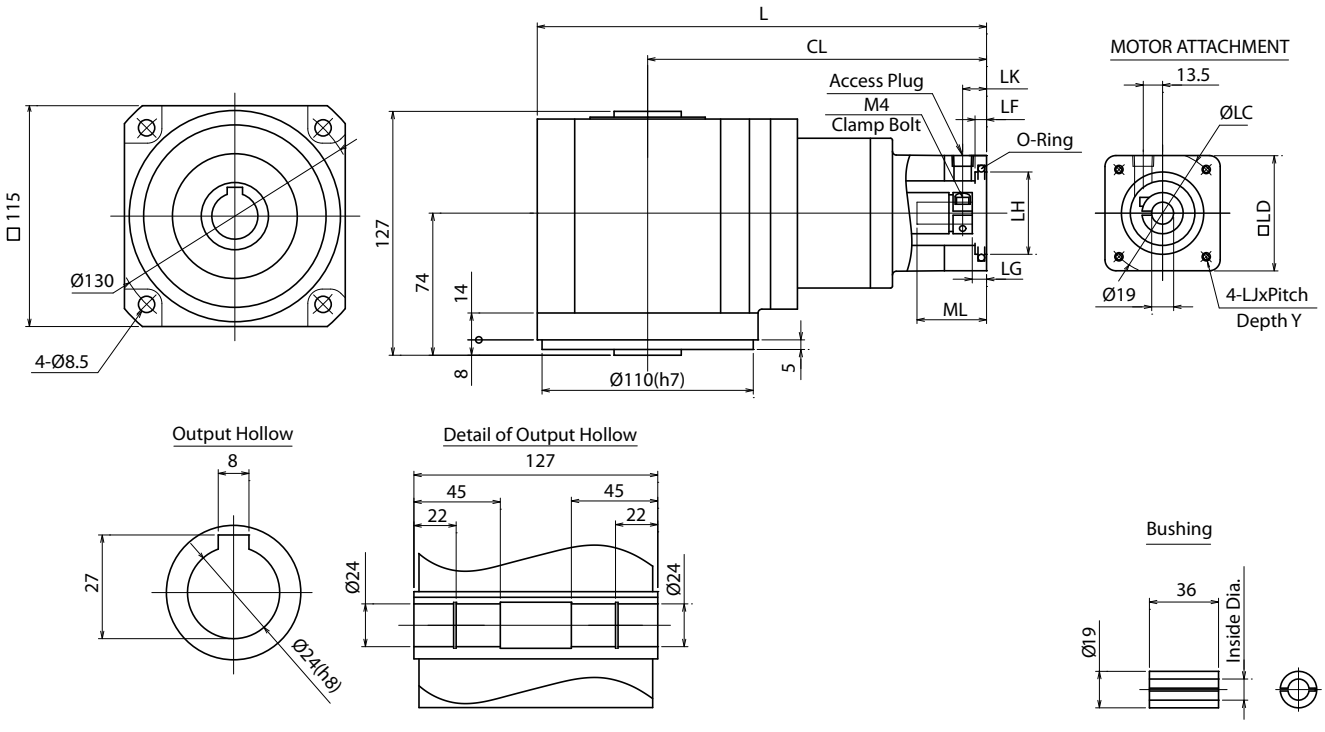
Adapter	Unit	Bolt Circle LC	Pilot LH	Square LD	Tapping Bolt LJ	Depth Y	Length		Plug LK	Flange Depth		
							L	CL		LF	LG	ML
D10	[mm]	63	40	60	M4x0.7	10	234	176.5	11	4	5	42
	[inch]	2.480	1.575	2.36	--	0.39	9.213	6.949	0.43	0.16	0.20	1.65
D11	[mm]	95	80	86	M6x1.0	16	234	176.5	11	4	5	42
	[inch]	3.740	3.150	3.39	--	0.63	9.213	6.949	0.43	0.16	0.20	1.65

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

Solid Output Shaft Type



Hollow Output Shaft Type



Bushings

Bushing		1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Inside Diameter	[mm]	11	14	16	9.525	12.700	15.875	12	10	9	8	6.350
	[inch]	0.433	0.551	0.630	0.375	0.500	0.625	0.472	0.394	0.354	0.315	0.250

NEV D-Frame 3-Stage Specifications

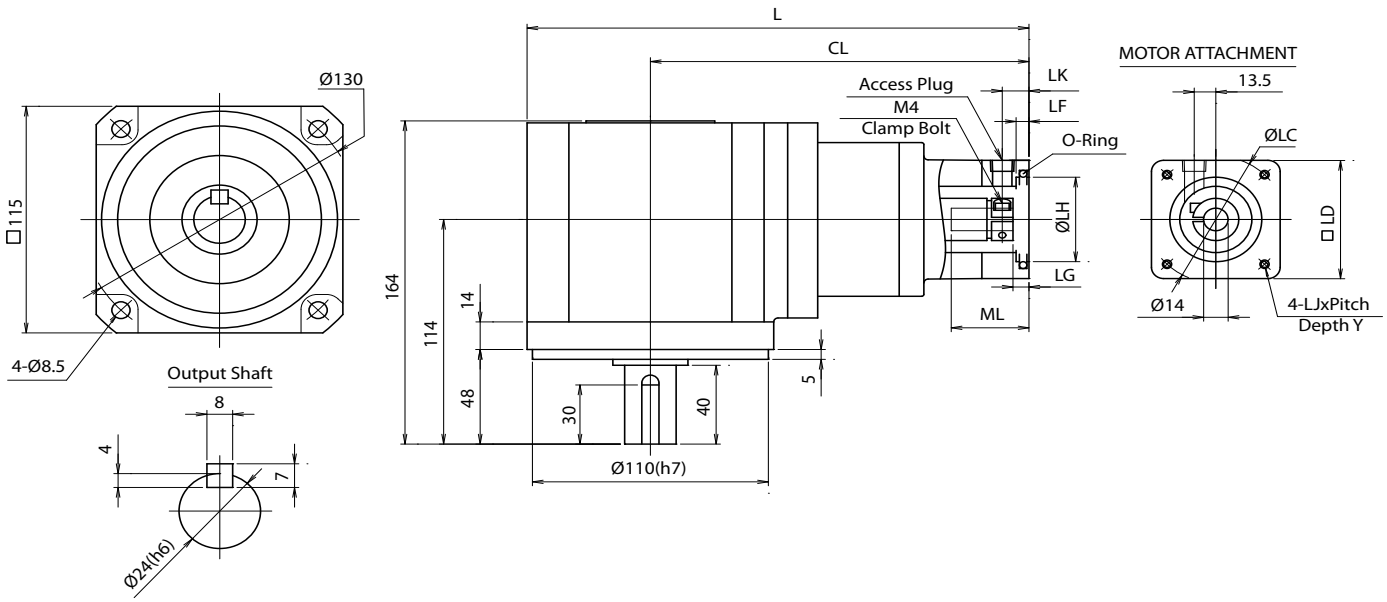
Frame Size	D (115 mm)				
Stage	3-Stage				
Ratio	Units	Note	45	75	105
Nominal Output Torque	[Nm]	--	45	50	50
Maximum Acceleration Torque	[Nm]	--	80	80	80
Emergency Stop Torque	[Nm]	--	180	180	180
Nominal Input Speed	[rpm]	--	3000		
Maximum Input Speed	[rpm]	--	6000		
No Load Running Torque	[Nm]	--	0.355		
Permitted Radial Load	[N]	--	2600	2600	2600
Permitted Axial Load	[N]	--	1300	1300	1300
Moment of Inertia (≤Ø14)	[kgcm²]	--	0.806	0.694	0.648
Moment of Inertia (≤ Ø19)	[kgcm²]	--	--	--	--
Efficiency	[%]	--	80		
Torsional Rigidity	[Nm/arc-min]	--	1.5		
Maximum Torsional Backlash	[arc-min]	--	≤ 30		
Noise Level	[dB]	--	≤ 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, 3-Stage Dimensions, Solid / Hollow Output Shaft Type – Ratios: 45:1, 75:1, 105:1

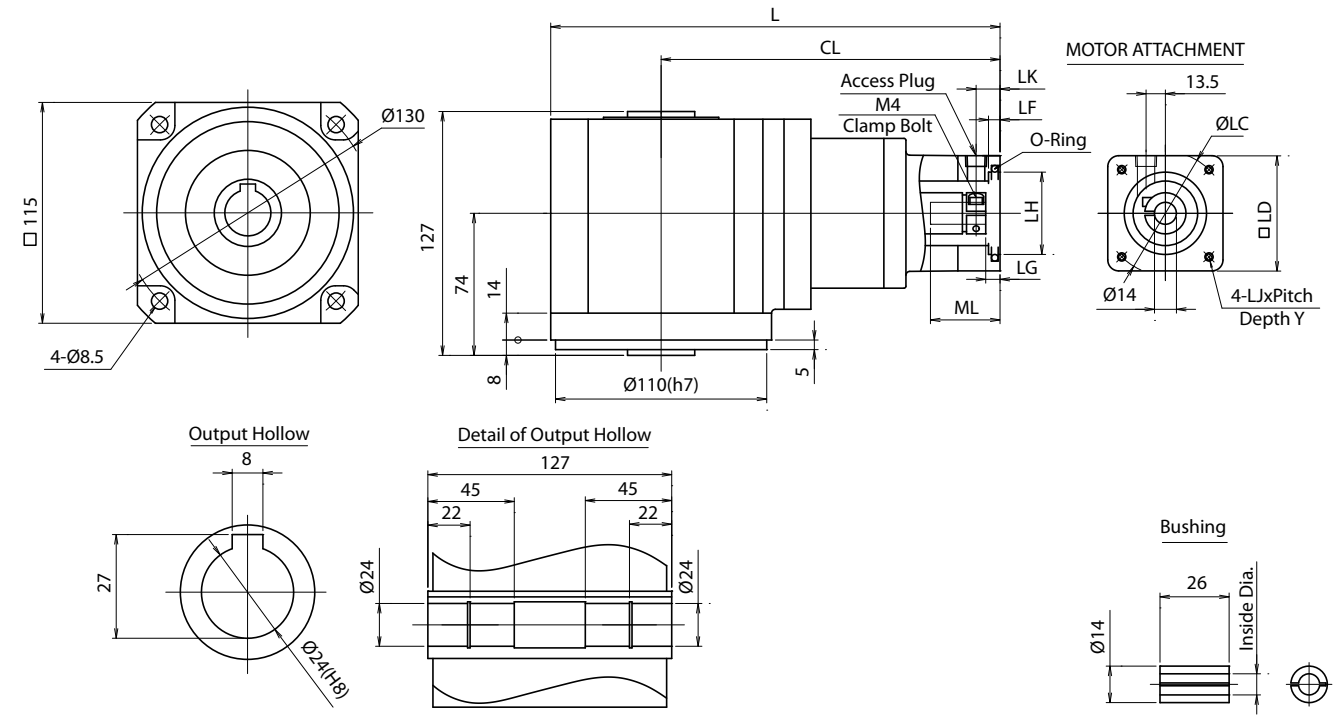
Adapter	Unit	Bolt Circle	Pilot	Square	Tapping Bolt	Depth	Length		Plug	Flange Depth		
		LC	LH	LD	LJ	Y	L	CL	LK	LF	LG	ML
D10	[mm]	63	40	60	M4x0.7	10	236.5	179	11	4	6	33
	[inch]	2.480	1.575	2.36	--	0.39	9.311	7.047	0.43	0.16	0.24	1.30
D11	[mm]	95	80	86	M6x1.0	16	236.5	179	11	4	6	33
	[inch]	3.740	3.150	3.39	--	0.63	9.311	7.047	0.43	0.16	0.24	1.30

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

Solid Output Shaft Type



Hollow Output Shaft Type



Bushings

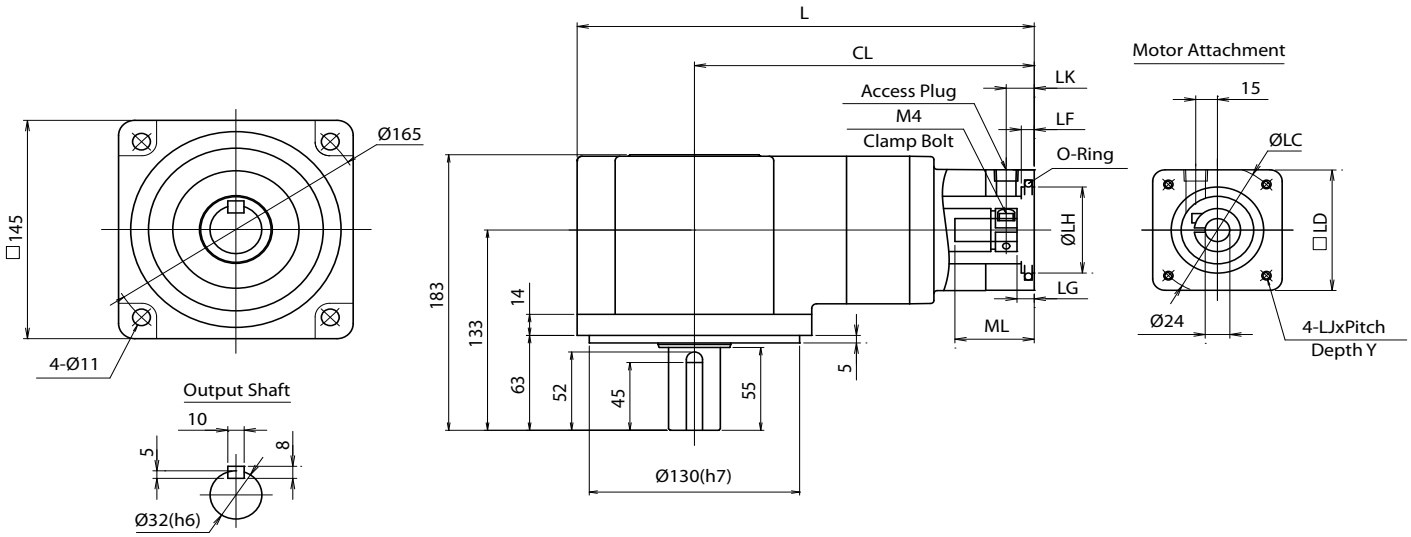
Bushing		1401	1402	1403	1404	1405	1406	1407	1408	1409	1410
Inside	[mm]	6	8	11	6.350	9.525	12.700	12	10	9	5
Diameter	[inch]	0.236	0.315	0.433	0.250	0.375	0.500	0.472	0.394	0.354	0.197

NEV E-Frame 2-Stage Specifications

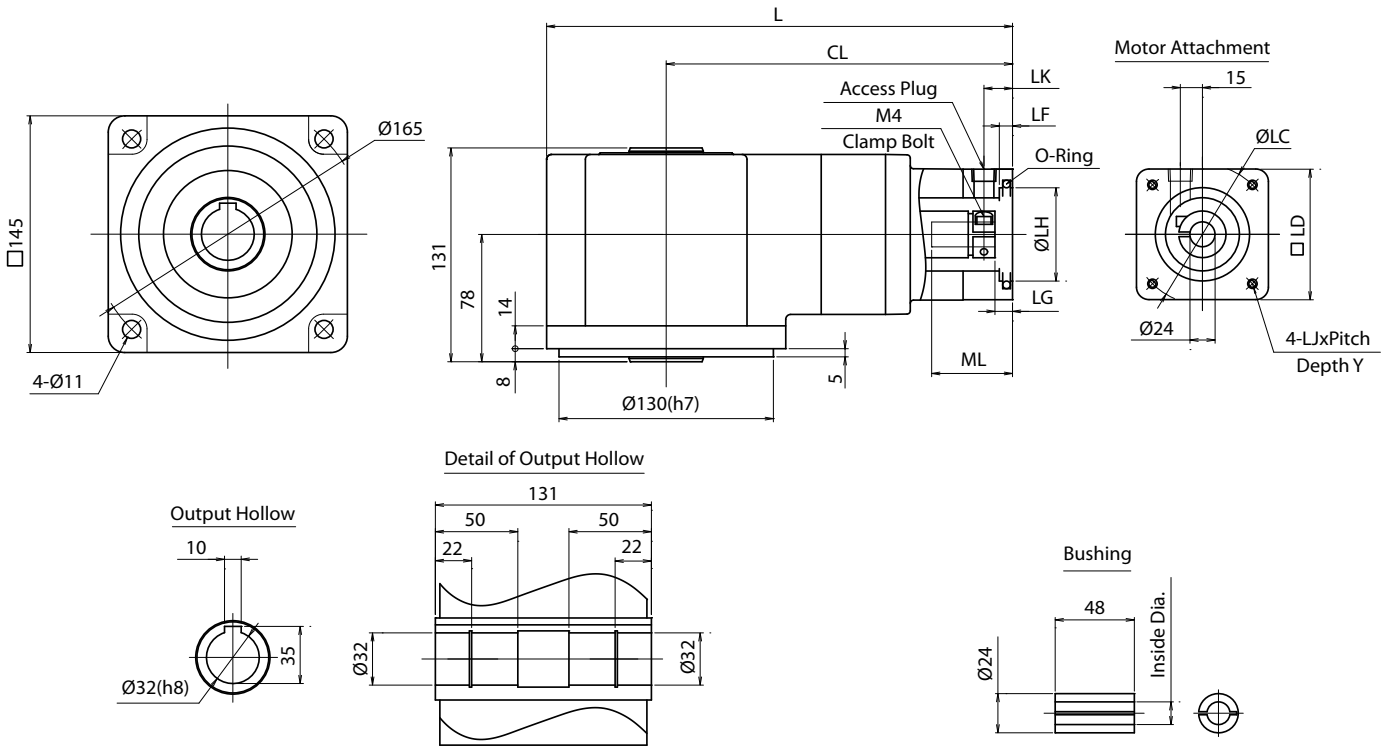
Frame Size	E (145 mm)					
Stage	2-Stage					
Ratio	Units	Note	5	9	15	27
Nominal Output Torque	[Nm]	--	50	50	55	60
Maximum Acceleration Torque	[Nm]	--	100	140	140	180
Emergency Stop Torque	[Nm]	--	250	250	250	300
Nominal Input Speed	[rpm]	--	3000			
Maximum Input Speed	[rpm]	--	6000			
No Load Running Torque	[Nm]	--	1.21			
Permitted Radial Load	[N]	--	3000	3000	3000	4000
Permitted Axial Load	[N]	--	1500	1500	1500	2000
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	--	--	--	--
Moment of Inertia (≤ Ø 24)	[kgcm^2]	--	3.559	2.940	1.193	2.044
Efficiency	[%]	--	85			
Torsional Rigidity	[Nm/arc-min]	--	3.2	4.0	4.0	4.0
Maximum Torsional Backlash	[arc-min]	--	≤ 30			
Noise Level	[dB]	--	≤ 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 (145 mm) 2-Stage Dimensions – Ratios: 5:1, 9:1, 15:1, 27:1

Solid Output Shaft Type



Hollow Output Shaft Type



Bushings

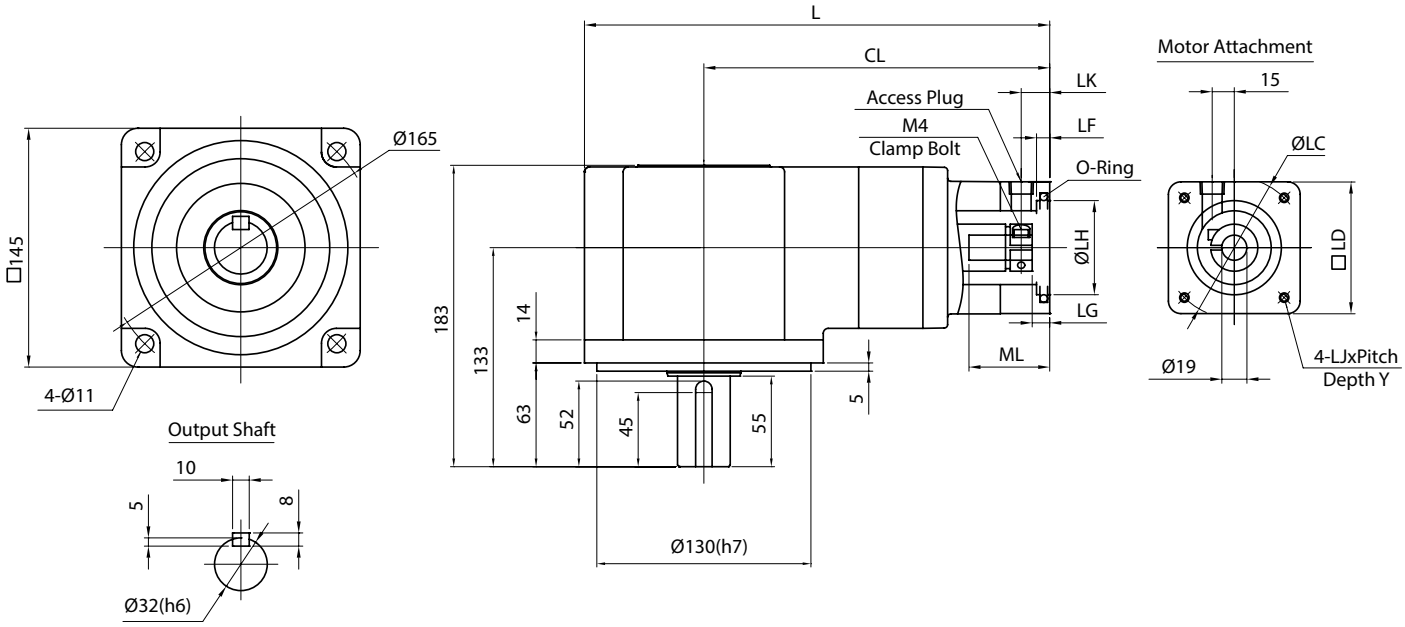
Bushing		2401	2402	2403	2404	2405	2406	2407	2408
Inside Diameter	[mm]	14	16	19	12.700	15.875	22	19.050	11
	[inch]	0.551	0.630	0.748	0.500	0.625	0.866	0.750	0.433

NEV E-Frame 3-Stage Specifications

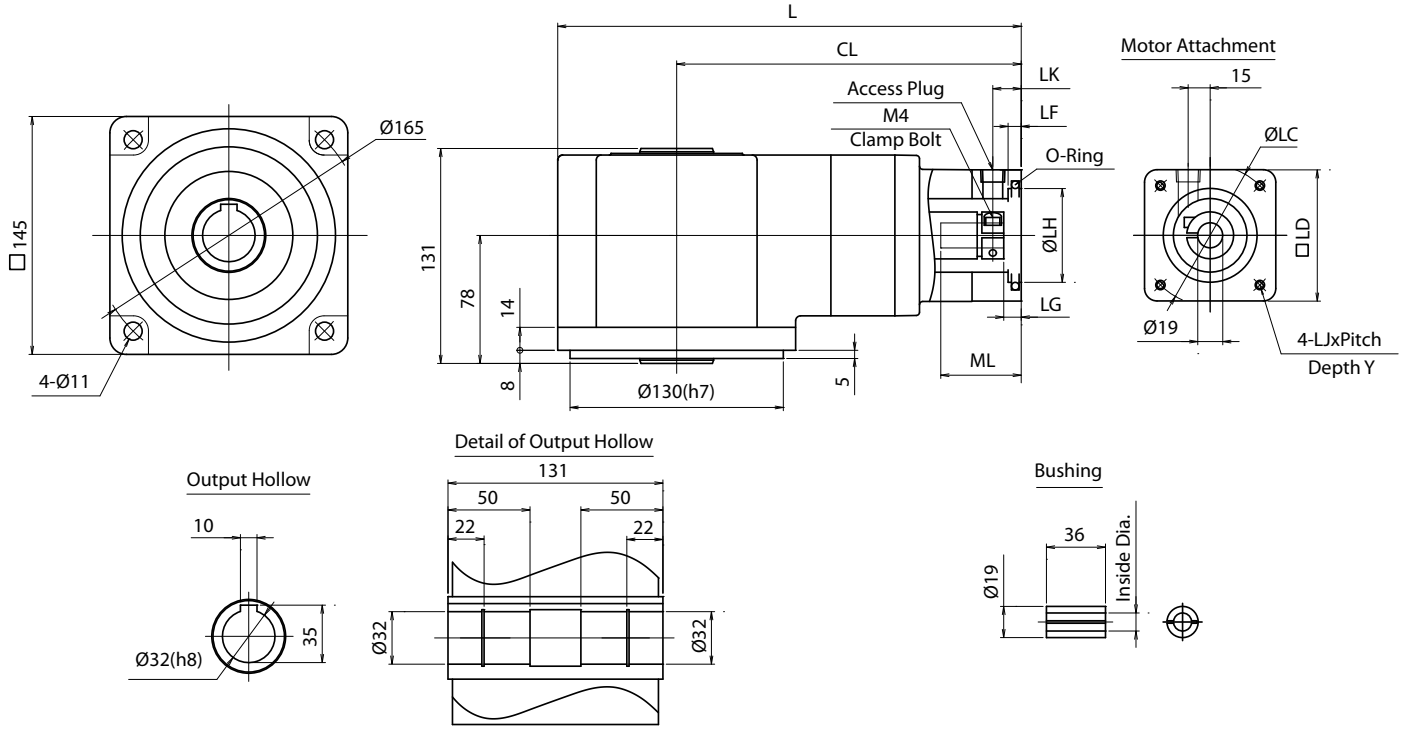
Frame Size	E (145 mm)				
Stage	3-Stage				
Ratio	Units	Note	45	75	105
Nominal Output Torque	[Nm]	--	80	90	90
Maximum Acceleration Torque	[Nm]	--	180	180	180
Emergency Stop Torque	[Nm]	--	300	300	300
Nominal Input Speed	[rpm]	--	3000		
Maximum Input Speed	[rpm]	--	6000		
No Load Running Torque	[Nm]	--	0.961		
Permitted Radial Load	[N]	--	4000	4000	4000
Permitted Axial Load	[N]	--	2000	2000	2000
Moment of Inertia (≤Ø19)	[kgcm^2]	--	1.878	1.303	1.184
Moment of Inertia (≤ Ø24)	[kgcm^2]	--	--	--	--
Efficiency	[%]	--	80		
Torsional Rigidity	[Nm/arc-min]	--	4.0		
Maximum Torsional Backlash	[arc-min]	--	≤ 30		
Noise Level	[dB]	--	≤ 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 (145 mm) 3-Stage Dimensions – Ratios: 45:1, 75:1, 105:1

Solid Output Shaft Type



Hollow Output Shaft Type



Bushings

Bushing		1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Inside Diameter	[mm]	11	14	16	9.525	12.700	15.875	12	10	9	8	6.350
	[inch]	0.433	0.551	0.630	0.375	0.500	0.625	0.472	0.394	0.354	0.315	0.250

EVL series

EVL planetary gearbox with right angle

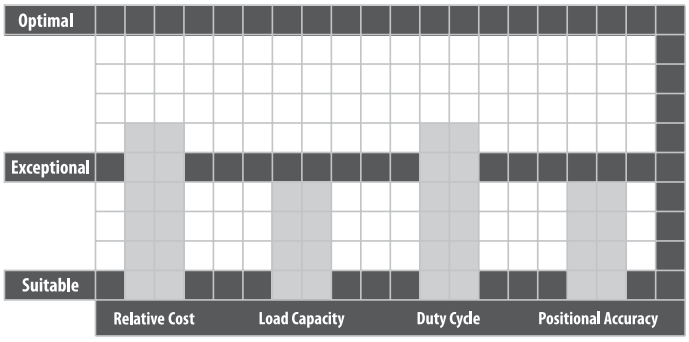
Reliability, complete product range

Description

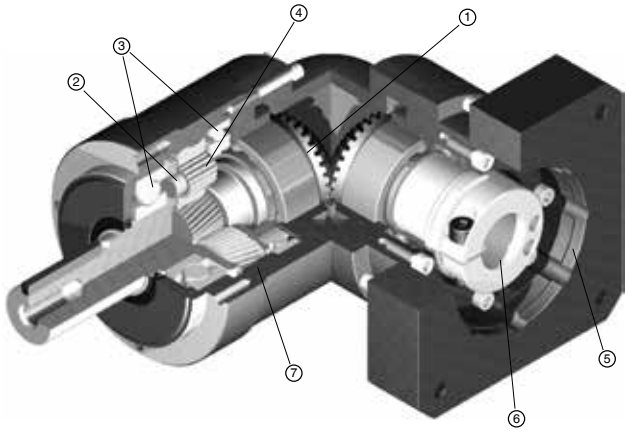
The right angle equivalent to the VRL series, the EVL provides our customers with an excellent solution when space and clearance are a serious limitation. Helical planetary gears team up with spiral bevel gears to provide a product with robust internal construction, smooth operation and high torque density. 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.

- 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 (≤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



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

Part Number **EVL -090 B -7 -K 6 -19HB16**

- EVL: Model name - EVL series
- 090: Size: 070, 090, 120, 155, 205, 235
- B: Design version
- 7: 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
- K: Output mounting style: K: Keyed shaft - S: Smooth shaft
- 6: Backlash: 070, 090, 120, 155: 6-9 arc-min; 205, 235: 8-11 arc-min
- 19HB16: Motor mounting code (*)

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

EVL 070 2-Stage Specifications

Frame Size	070									
Stage	2-Stage									
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 (≤ Ø 8)	[kgcm^2]	--	0.31	0.27	0.25	0.24	0.23	0.23	0.23	0.23
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	0.39	0.34	0.32	0.31	0.31	0.31	0.30	0.30
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	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]	--	≤ 6							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	1.9							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

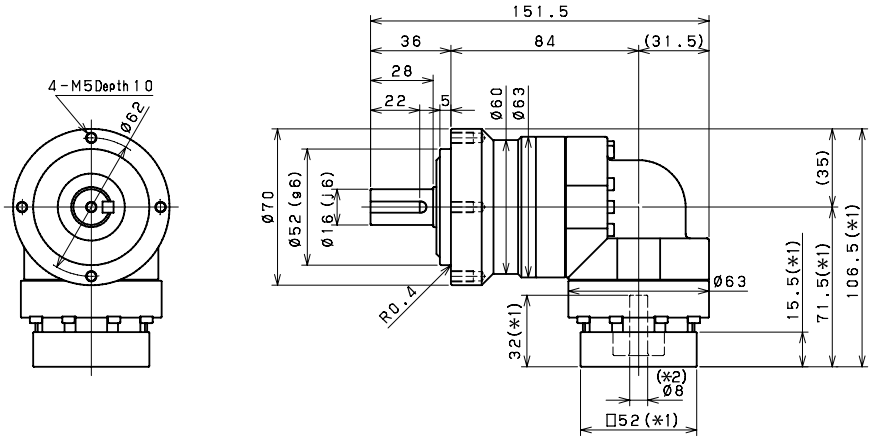
EVL 070 3-Stage Specifications

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

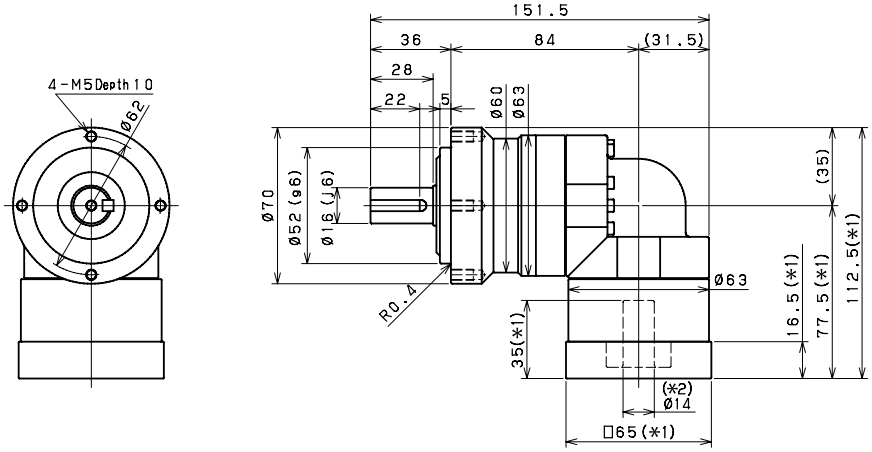
Frame Size	070								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	19	28	28	28	28	19	19
Maximum Acceleration Torque	[Nm]	*2	38	54	54	54	54	38	38
Maximum Torque	[Nm]	*3	38	54	54	54	54	38	38
Emergency Stop Torque	[Nm]	*4	65	90	90	90	90	65	65
Nominal Input Speed	[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 (≤ Ø 8)	[kgcm^2]	--	0.070	0.061	0.061	0.061	0.061	0.061	0.061
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	0.115	0.106	0.106	0.105	0.105	0.105	0.105
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	3						
Maximum Torsional Backlash	[arc-min]	--	≤ 9						
Noise Level	dB [A]	*12	≤ 80						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	1.7						

EVL 070 2-Stage Dimensions

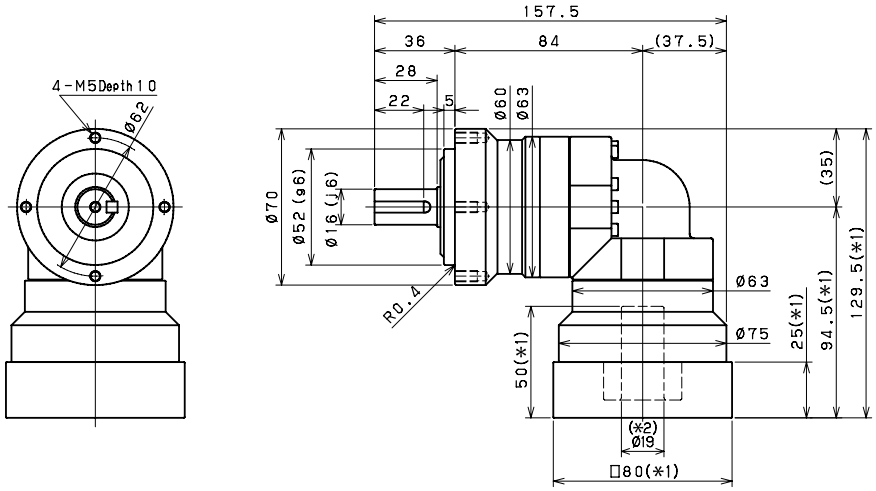
Input bore size ≦φ8 mm

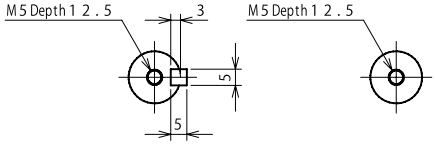


Input bore size ≦φ14 mm



Input bore size ≦φ19 mm



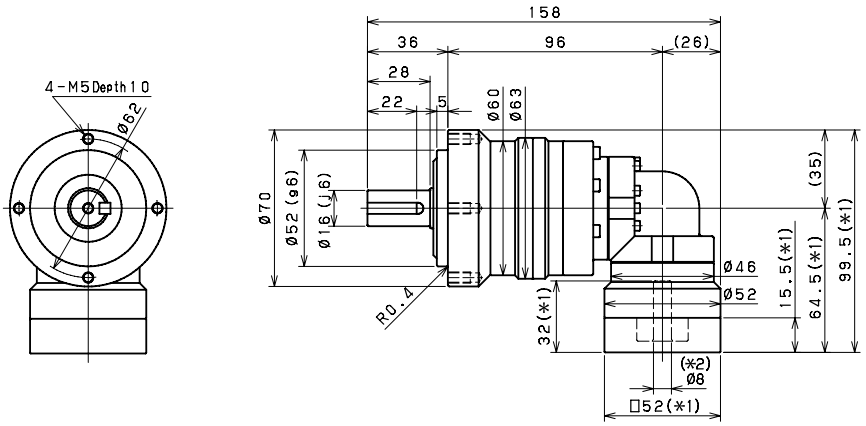


*1) Length will vary depending on motor

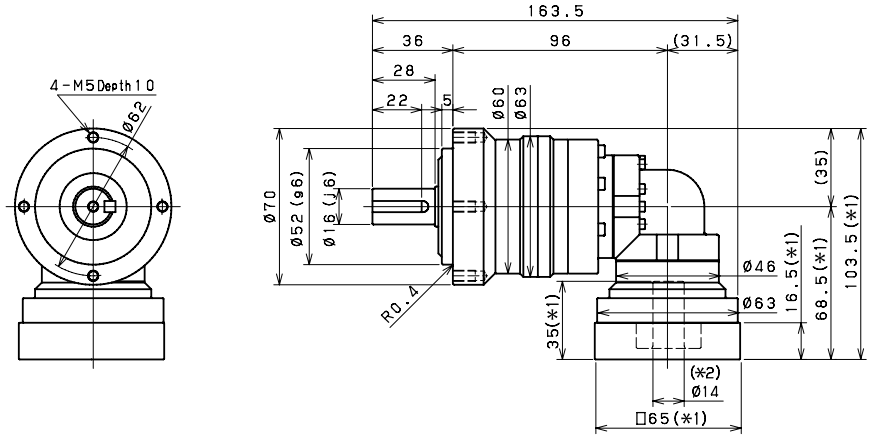
*2) Bushing will be inserted to adapt to motor shaft

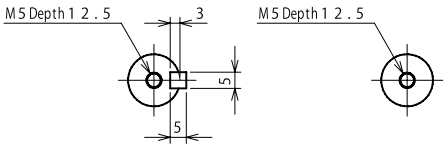
EVL 070 3-Stage Dimensions

Input bore size ≦φ8 mm



Input bore size ≦φ14 mm





*1) Length will vary depending on motor

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

EVL 090 2-Stage Specifications

Frame Size	090									
Stage	2-Stage									
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 (≤ Ø 8)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	2.12	1.89	1.80	1.76	1.73	1.71	1.70	1.69
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	2.45	2.22	2.13	2.09	2.06	2.04	2.03	2.02
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	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]	--	≤ 6							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	4.9							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

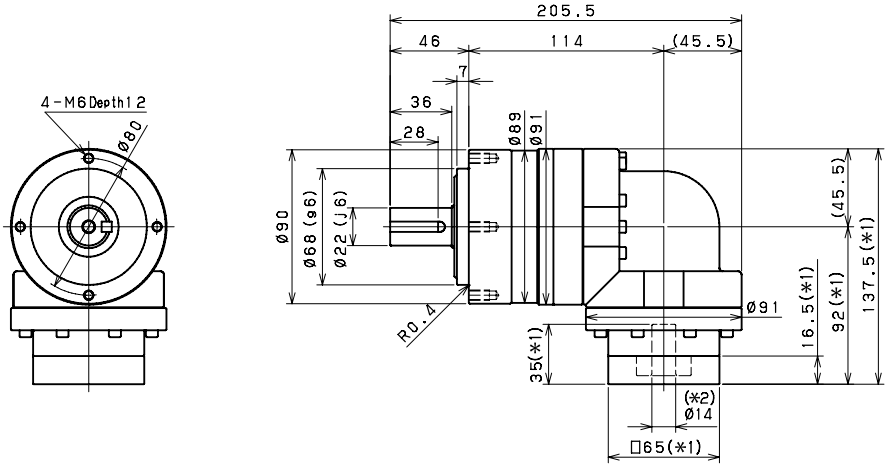
EVL 090 3-Stage Specifications

Frame Size	090									
Stage	3-Stage									
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 (≤ Ø 8)	[kgcm^2]	--	0.34	0.38	0.33	0.32	0.37	0.25	0.32	0.25
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	0.41	0.46	0.40	0.40	0.45	0.33	0.40	0.32
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	0.60	0.65	0.59	0.59	0.64	0.51	0.59	0.51
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	10							
Maximum Torsional Backlash	[arc-min]	--	≤ 9							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	4.3							

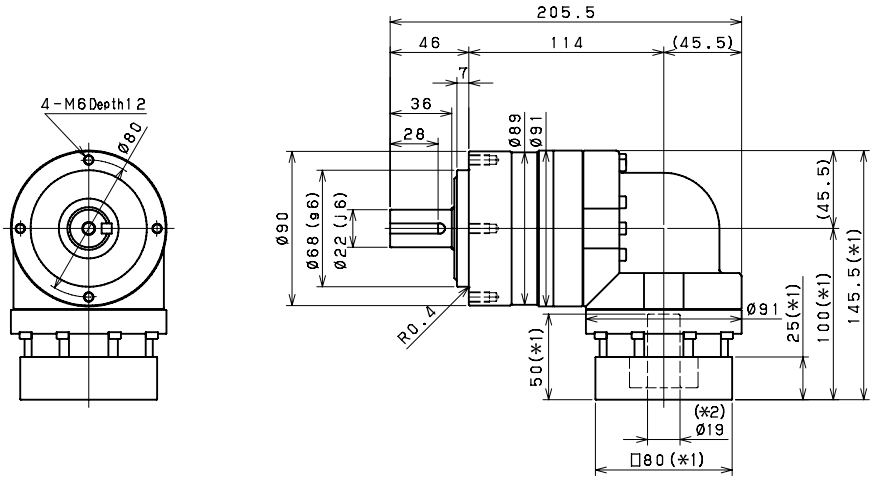
Frame Size	090								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	47	73	73	73	78	52	52
Maximum Acceleration Torque	[Nm]	*2	78	128	128	128	128	78	78
Maximum Torque	[Nm]	*3	78	128	128	128	128	78	78
Emergency Stop Torque	[Nm]	*4	170	220	220	220	220	170	170
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 (≤ Ø 8)	[kgcm^2]	--	0.32	0.25	0.25	0.25	0.25	0.25	0.25
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	0.39	0.32	0.32	0.32	0.32	0.32	0.32
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	0.58	0.51	0.51	0.51	0.51	0.51	0.51
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	10						
Maximum Torsional Backlash	[arc-min]	--	≤ 9						
Noise Level	dB [A]	*12	≤ 80						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	4.3						

EVL 090 2-Stage Dimensions

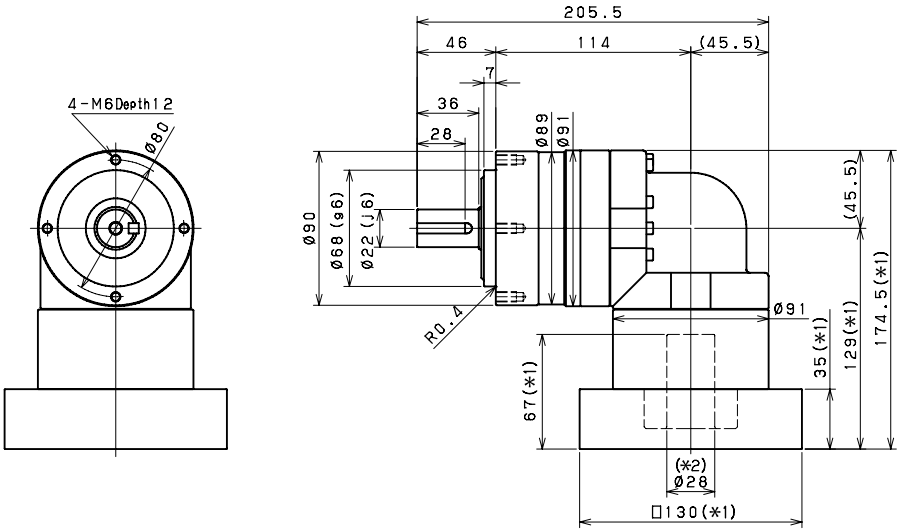
Input bore size ≦φ14 mm

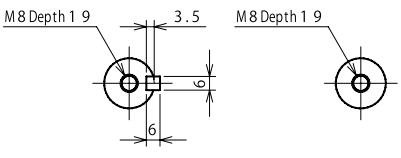


Input bore size ≦φ19 mm



Input bore size ≦φ28 mm





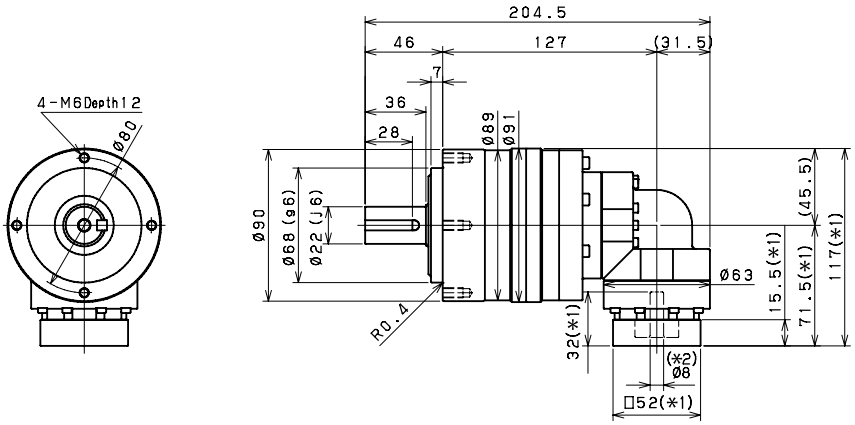
Keyed shaft Smooth shaft

*1) Length will vary depending on motor.

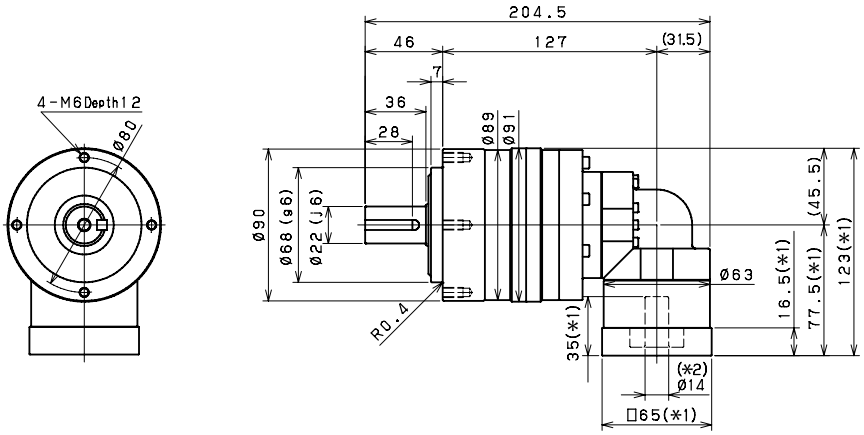
*2) Bushing will be inserted to adapt to motor shaft

EVL 090 3-Stage Dimensions

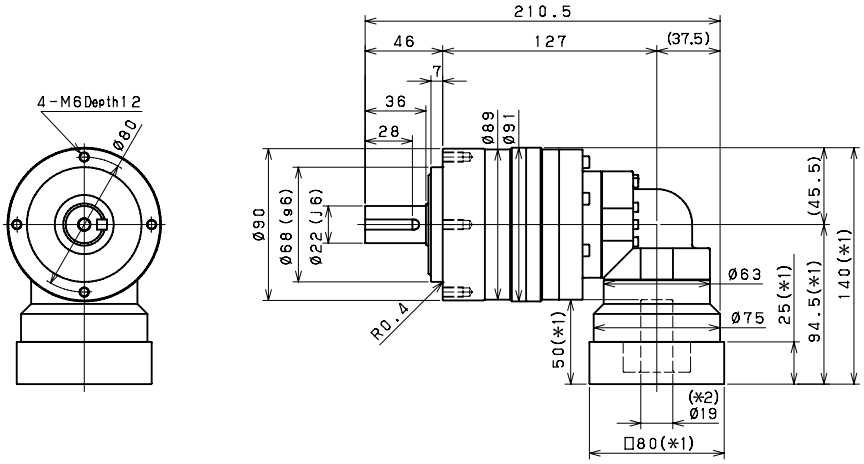
Input bore size ≦φ8 mm

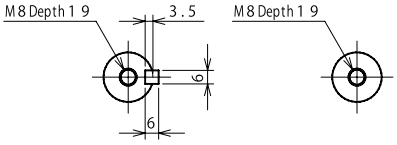


Input bore size ≦φ14 mm



Input bore size ≦φ19 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor.

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

EVL 120 2-Stage Specifications

Frame Size	120									
Stage	2-Stage									
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 (≤ Ø 14)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	6.74	5.49	5.02	4.77	4.65	4.55	4.49	4.46
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	8.34	7.08	6.61	6.36	6.24	6.14	6.08	6.05
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	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]	--	≤ 6							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	10.2							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

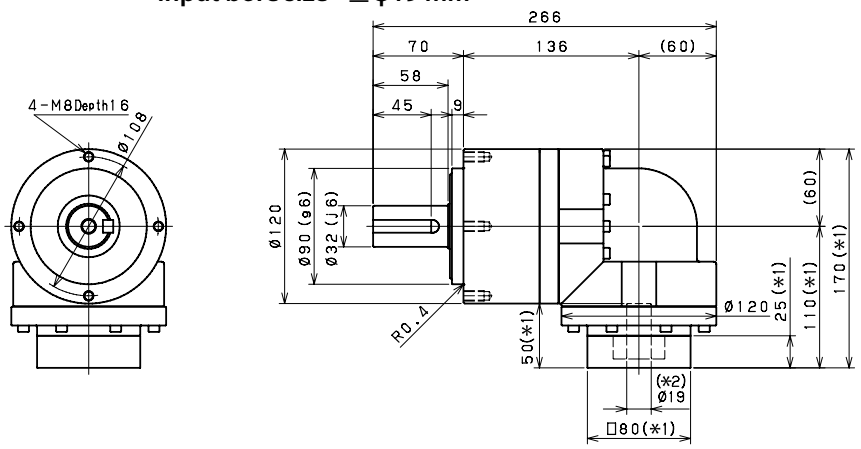
EVL 120 3-Stage Specifications

Frame Size	120									
Stage	3-Stage									
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 (≤ Ø 14)	[kgcm^2]	--	2.25	2.46	2.20	2.18	2.40	1.87	2.16	1.86
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	2.58	2.79	2.53	2.51	2.73	2.20	2.49	2.19
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	4.70	4.91	4.65	4.64	4.86	4.33	4.62	4.32
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	--	--	--	--	--	--	--	--
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							

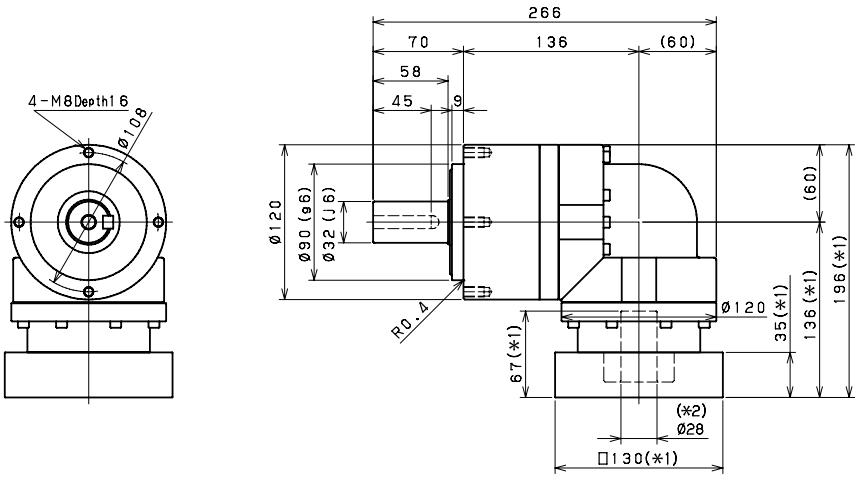
Frame Size	120								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	132	174	174	174	174	132	132
Maximum Acceleration Torque	[Nm]	*2	240	340	340	340	340	240	240
Maximum Torque	[Nm]	*3	240	340	340	340	340	240	240
Emergency Stop Torque	[Nm]	*4	450	550	550	550	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^2]	--	2.15	1.86	1.85	1.85	1.85	1.85	1.85
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	2.48	2.19	2.18	2.18	2.18	2.18	2.18
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	4.61	4.31	4.31	4.31	4.31	4.31	4.31
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	--	--	--	--	----	--	--
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						

EVL 120 2-Stage Dimensions

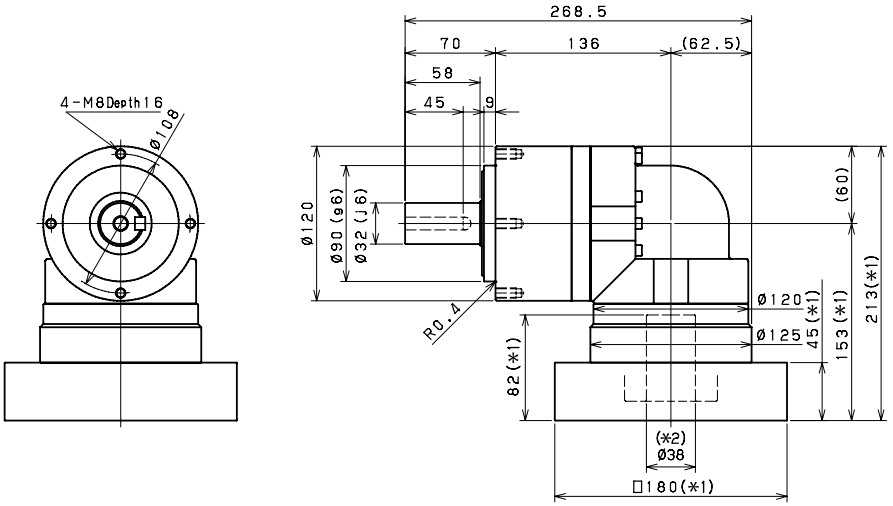
Input bore size ≦φ19 mm

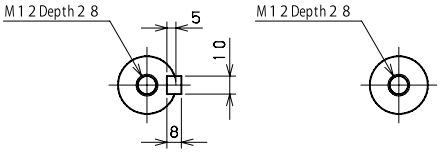


Input bore size ≦φ28 mm



Input bore size ≦φ38 mm





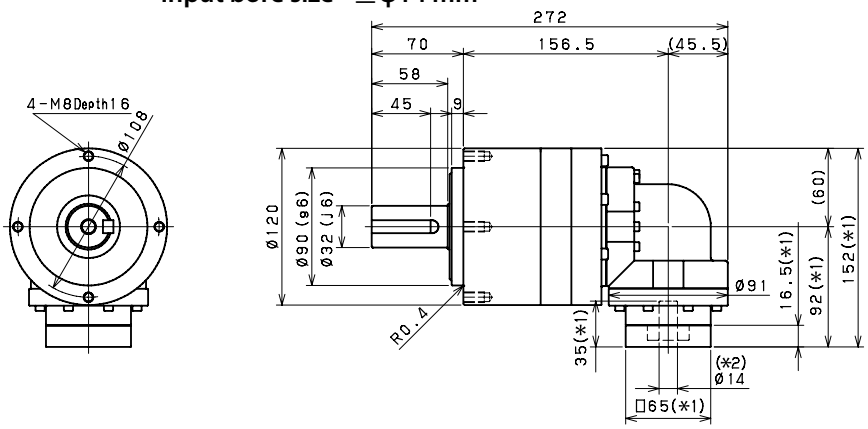
Keyed shaft Smooth shaft

*1) Length will vary depending on motor

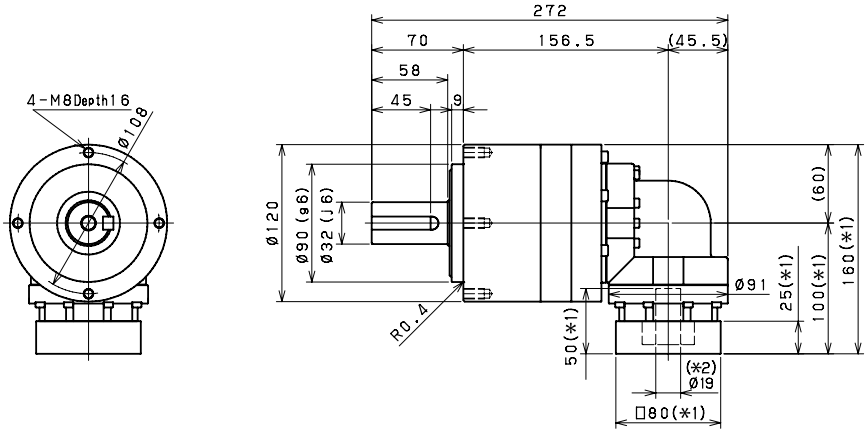
*2) Bushing will be inserted to adapt to motor shaft

EVL 120 3-Stage Dimensions

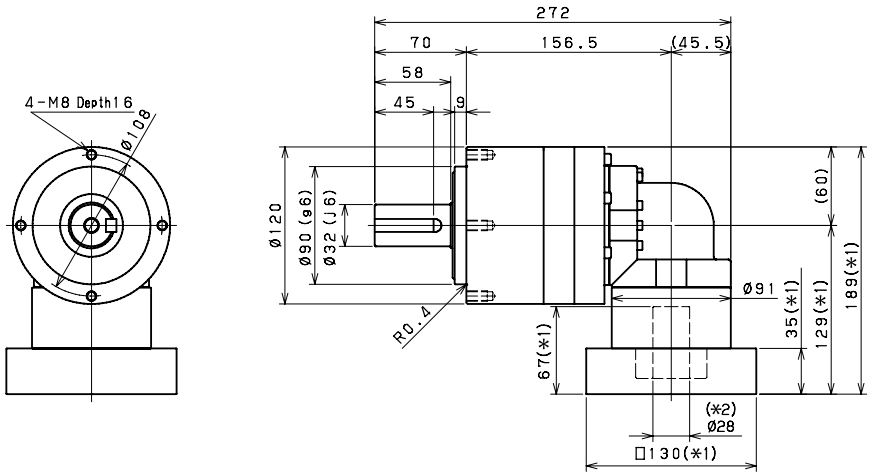
Input bore size ≦φ14 mm

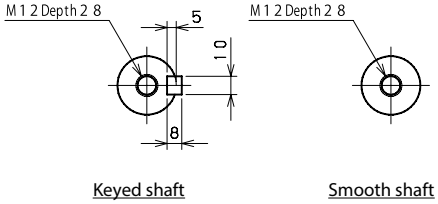


Input bore size ≦φ19 mm



Input bore size ≦φ28 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor

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

EVL 155 2-Stage Specifications

Frame Size	155									
Stage	2-Stage									
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 (≤ Ø 19)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	23.13	18.57	16.91	16.01	15.58	15.23	14.77	14.66
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	27.50	22.94	21.28	20.38	19.95	19.61	19.41	19.03
Moment of Inertia (≤ Ø 48)	[kgcm^2]	--	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]	--	≤ 6							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	19.8							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

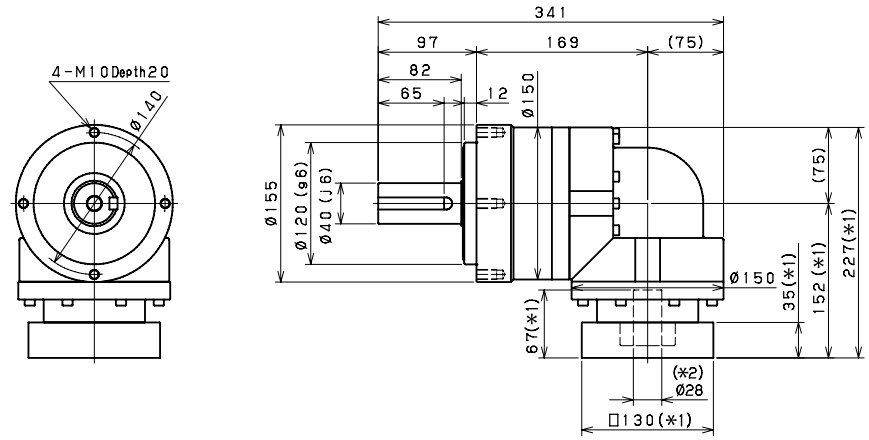
EVL 155 3-Stage Specifications

Frame Size	155									
Stage	3-Stage									
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 (≤ Ø 19)	[kgcm^2]	--	6.40	7.29	6.22	6.15	7.09	4.99	6.09	4.95
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	8.00	8.88	7.81	7.75	8.68	6.58	7.69	6.54
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	15.07	15.96	14.89	14.82	15.76	13.66	14.76	13.61
Moment of Inertia (≤ Ø 48)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	60							
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	20.4							

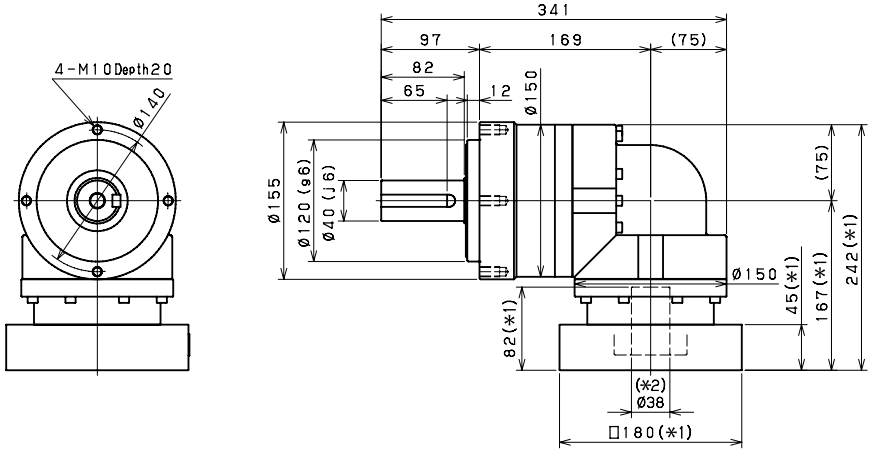
Frame Size	155								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	240	352	352	352	352	240	240
Maximum Acceleration Torque	[Nm]	*2	480	687	687	687	687	480	480
Maximum Torque	[Nm]	*3	480	687	687	687	687	480	480
Emergency Stop Torque	[Nm]	*4	750	1100	1100	1100	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 (≤ Ø 19)	[kgcm^2]	--	6.07	4.93	4.92	4.91	4.91	4.91	4.91
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	7.66	6.52	6.51	6.51	6.50	6.50	6.50
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	14.74	13.59	13.59	13.58	13.58	13.57	13.57
Moment of Inertia (≤ Ø 48)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	60						
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	20.4						

EVL 155 2-Stage Dimensions

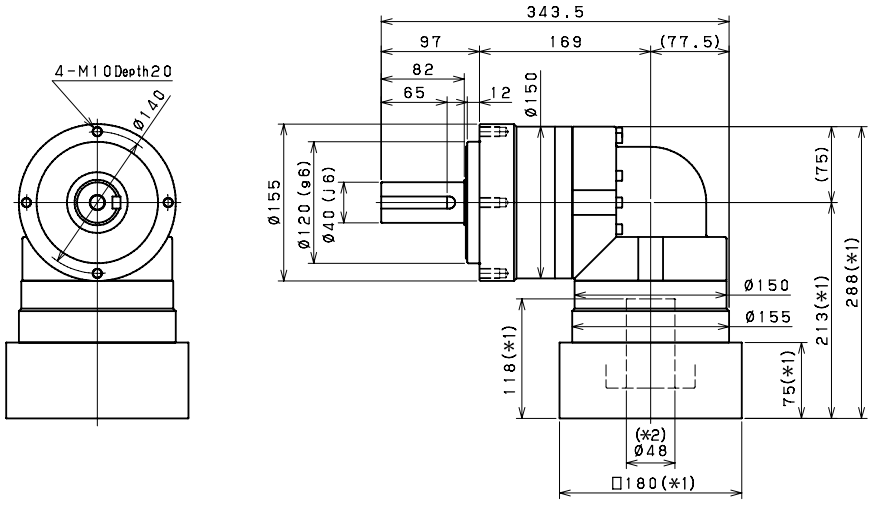
Input bore size ≦φ28 mm

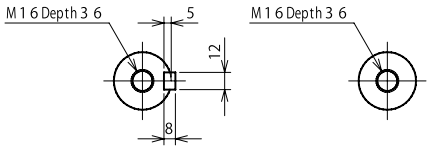


Input bore size ≦φ38 mm



Input bore size ≦φ48 mm





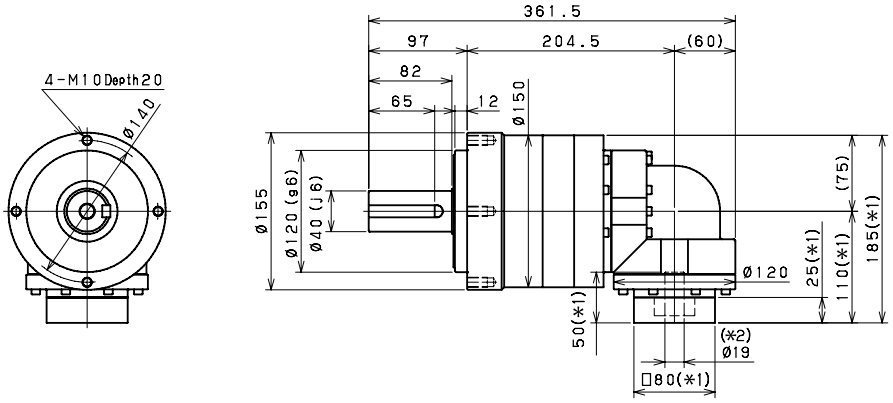
Keyed shaft Smooth shaft

*1) Length will vary depending on motor.

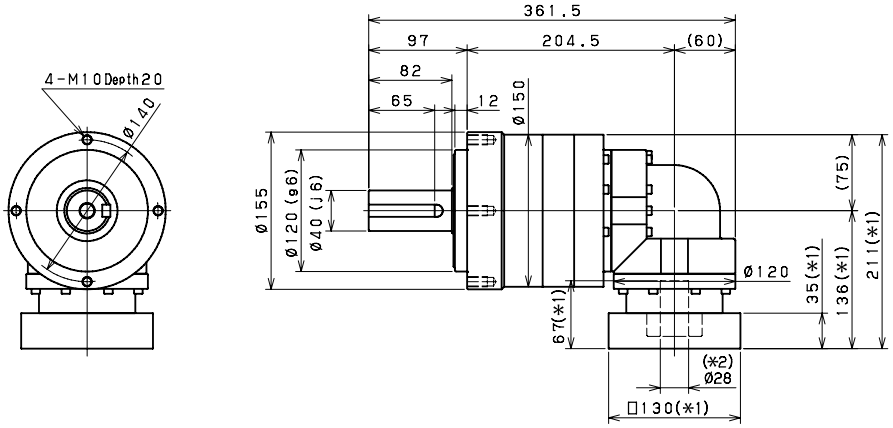
*2) Bushing will be inserted to adapt to motor shaft

EVL 155 3-Stage Dimensions

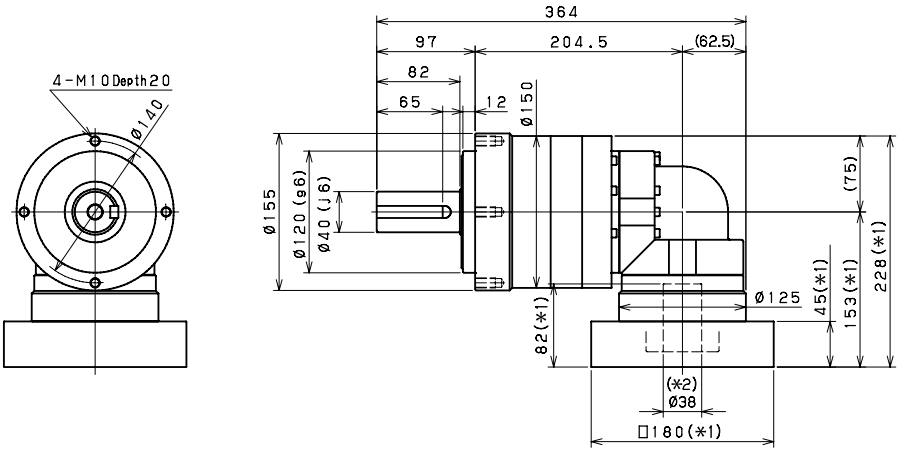
Input bore size ≦φ19 mm

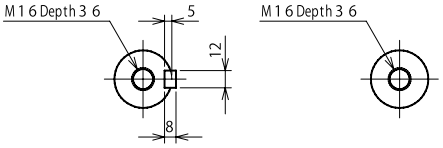


Input bore size ≦φ28 mm



Input bore size ≦φ38 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor.

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

EVL 205 2-Stage Specifications

Frame Size	205									
Stage	2-Stage									
Ratio	Unit	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 (≤Ø 28)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤Ø 38)	[kgcm^2]	--	93.71	77.72	71.89	68.74	66.43	65.27	64.60	64.28
Moment of Inertia (≤Ø 48)	[kgcm^2]	--	128.6	112.6	106.8	103.6	101.3	100.1	99.46	99.14
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--	214.2	198.2	192.4	189.2	186.9	185.7	185.1	184.7
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	175							
Maximum Torsional Backlash	[arc-min]	--	≤ 8							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	52							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

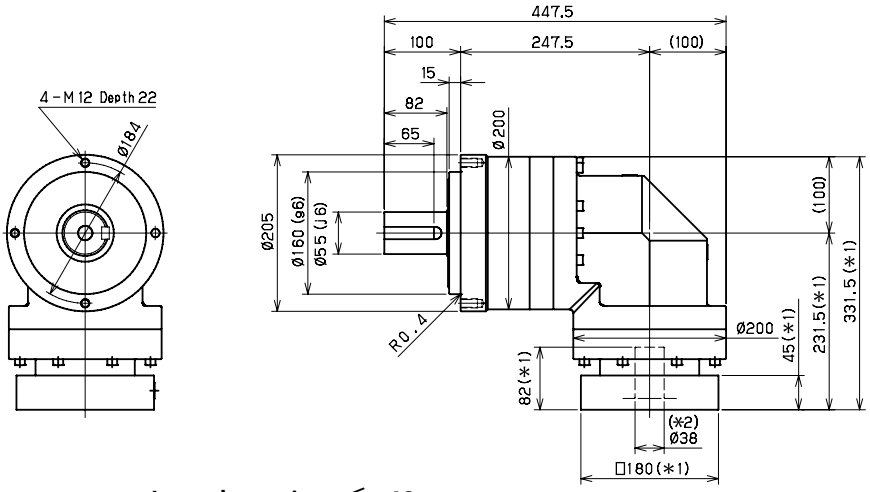
EVL 205 3-Stage Specifications

Frame Size	205									
Stage	3-Stage									
Ratio	Unit	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 (≤Ø 28)	[kgcm^2]	--	11.49	12.09	11.15	10.98	11.59	10.33	10.83	10.24
Moment of Inertia (≤Ø 38)	[kgcm^2]	--	20.28	20.88	19.94	19.77	20.38	19.11	19.62	19.03
Moment of Inertia (≤Ø 48)	[kgcm^2]	--	25.10	25.70	24.76	24.59	25.20	23.94	24.44	23.85
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	175							
Maximum Torsional Backlash	[arc-min]	--	≤ 11							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	39							

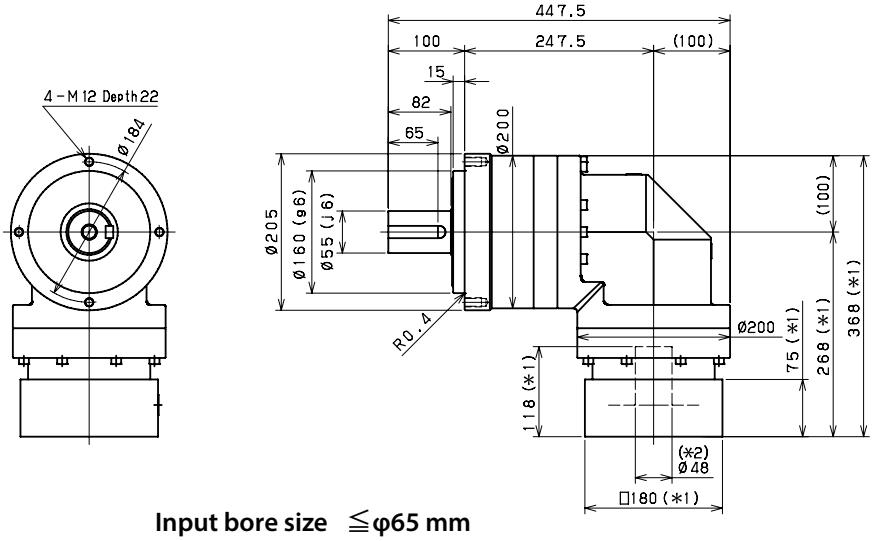
Frame Size	205								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	480	710	710	710	710	480	480
Maximum Acceleration Torque	[Nm]	*2	931	1315	1315	1315	1315	931	931
Maximum Torque	[Nm]	*3	931	1315	1315	1315	1315	931	931
Emergency Stop Torque	[Nm]	*4	2000	2500	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 (≤Ø 28)	[kgcm^2]	--	10.76	10.20	10.18	10.16	10.15	10.15	10.14
Moment of Inertia (≤Ø 38)	[kgcm^2]	--	19.55	18.99	18.96	18.95	18.94	18.93	18.93
Moment of Inertia (≤Ø 48)	[kgcm^2]	--	24.37	23.81	23.78	23.77	23.76	23.75	23.75
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	175						
Maximum Torsional Backlash	[arc-min]	--	≤ 11						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	39						

EVL 205 2-Stage Dimensions

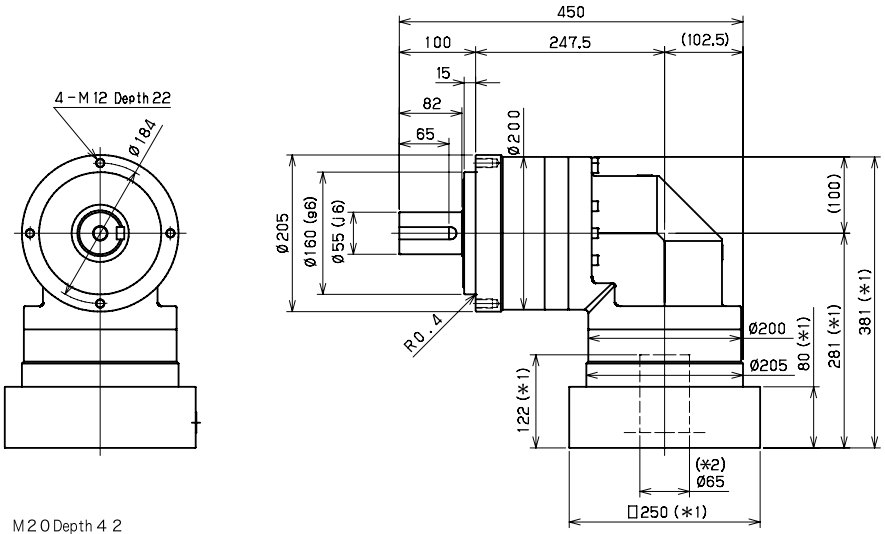
Input bore size ≦φ38 mm

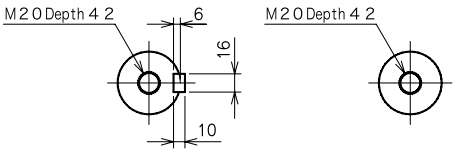


Input bore size ≦φ48 mm



Input bore size ≦φ65 mm





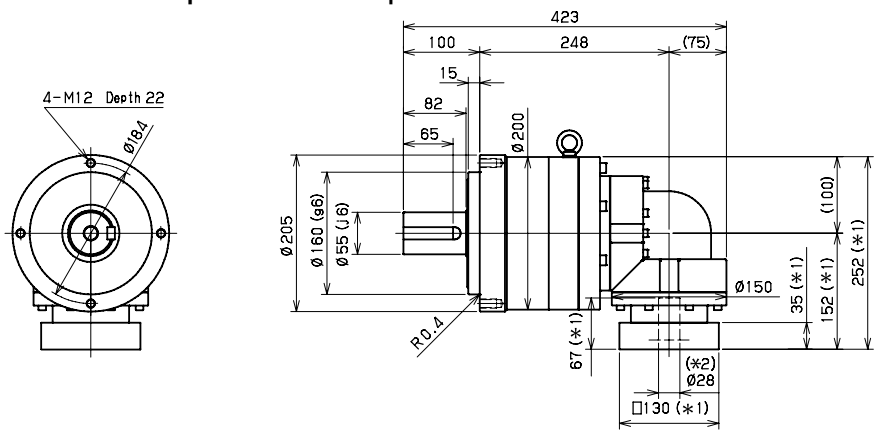
Keyed shaft Smooth shaft

*1) Length will vary depending on motor.

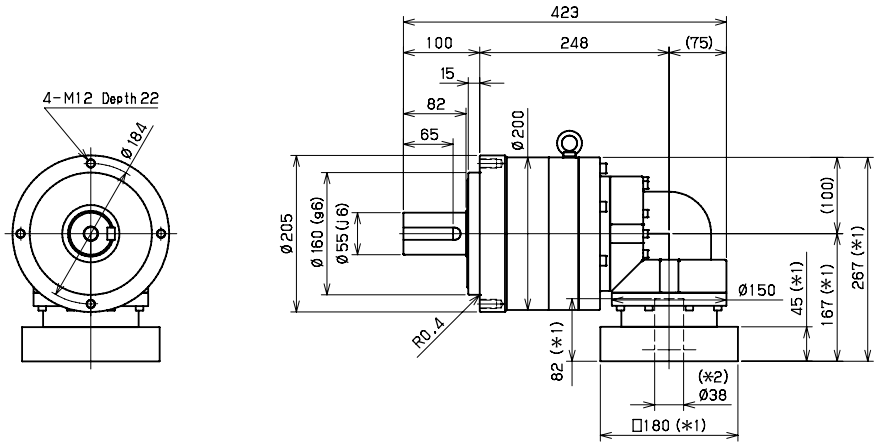
*2) Bushing will be inserted to adapt to motor shaft

EVL 205 3-Stage Dimensions

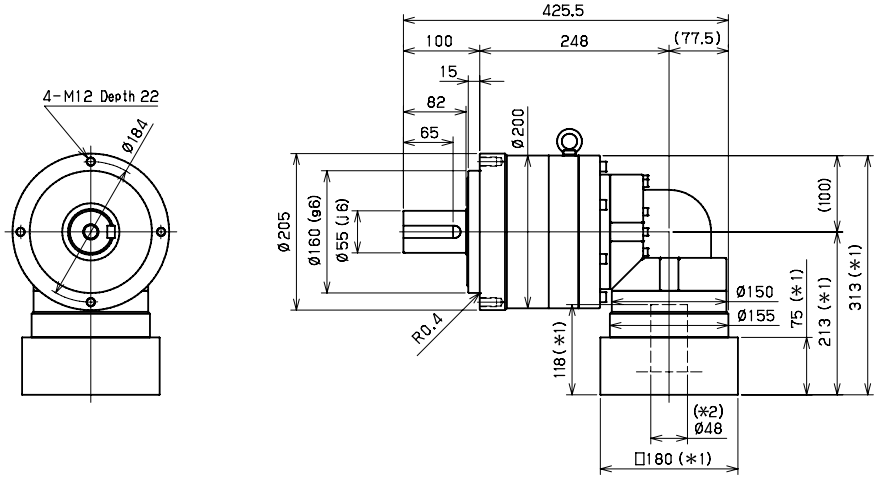
Input bore size ≦φ28 mm

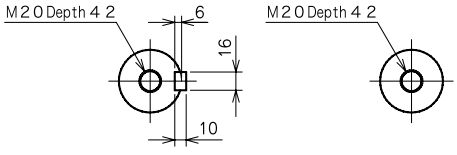


Input bore size ≦φ38 mm



Input bore size ≦φ48 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor.

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

EVL 235 2-Stage Specifications

Frame Size			235							
Stage			2-Stage							
Ratio	Unit	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 (≤Ø 38)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤Ø 48)	[kgcm^2]	--	148.0	122.9	113.3	108.1	104.7	102.7	101.6	101.0
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--	223.2	198.1	188.6	183.3	180.0	178.0	176.8	176.2
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	400							
Maximum Torsional Backlash	[arc-min]	--	≤ 8							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	68							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

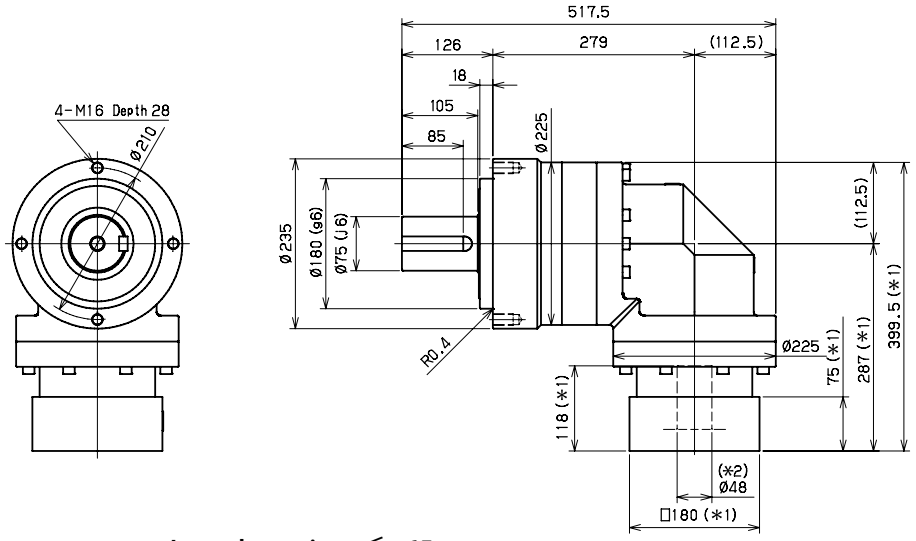
EVL 235 3-Stage Specifications

Frame Size	235									
Stage	3-Stage									
Ratio	Unit	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 (≤Ø 38)	[kgcm^2]	--	36.32	37.24	35.75	35.47	36.39	34.39	35.21	34.25
Moment of Inertia (≤Ø 48)	[kgcm^2]	--	66.14	67.06	65.57	65.28	66.21	64.21	65.03	64.07
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	400							
Maximum Torsional Backlash	[arc-min]	--	≤ 11							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	70							

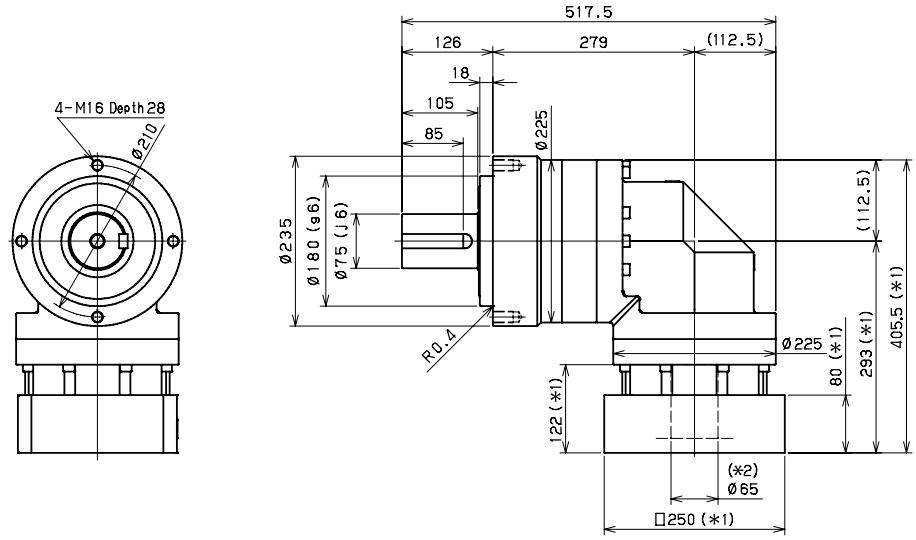
Frame Size	235								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	948	1440	1440	1440	1440	948	948
Maximum Acceleration Torque	[Nm]	*2	1246	2112	2112	2112	1728	1246	1131
Maximum Torque	[Nm]	*3	1246	2112	2112	2112	1728	1246	1131
Emergency Stop Torque	[Nm]	*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 (≤Ø 38)	[kgcm^2]	--	35.10	34.18	34.14	34.11	34.10	34.09	34.08
Moment of Inertia (≤Ø 48)	[kgcm^2]	--	64.92	63.99	63.95	63.93	63.91	63.90	63.90
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	400						
Maximum Torsional Backlash	[arc-min]	--	≤ 11						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	70						

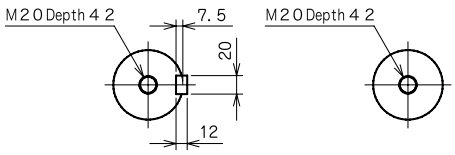
EVL 235 2-Stage Dimensions

Input bore size ≦φ48 mm



Input bore size ≦φ65 mm





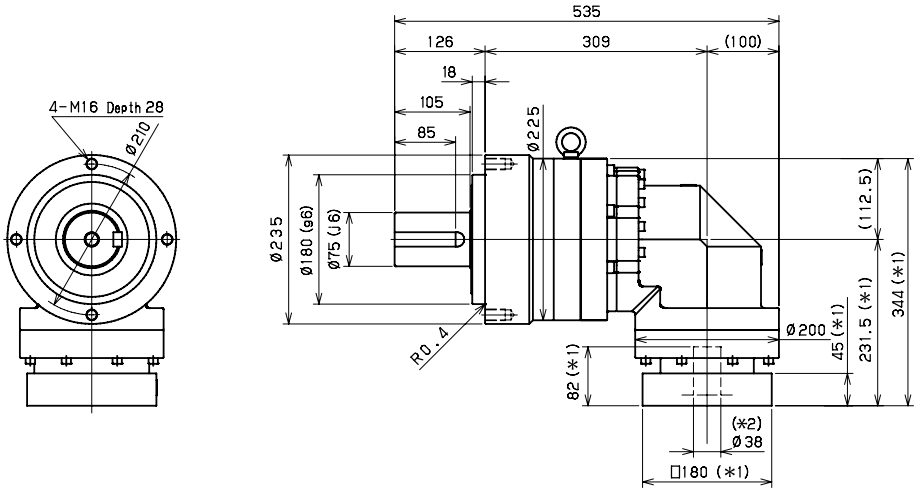
Keyed shaft Smooth shaft

*1) Length will vary depending on motor.

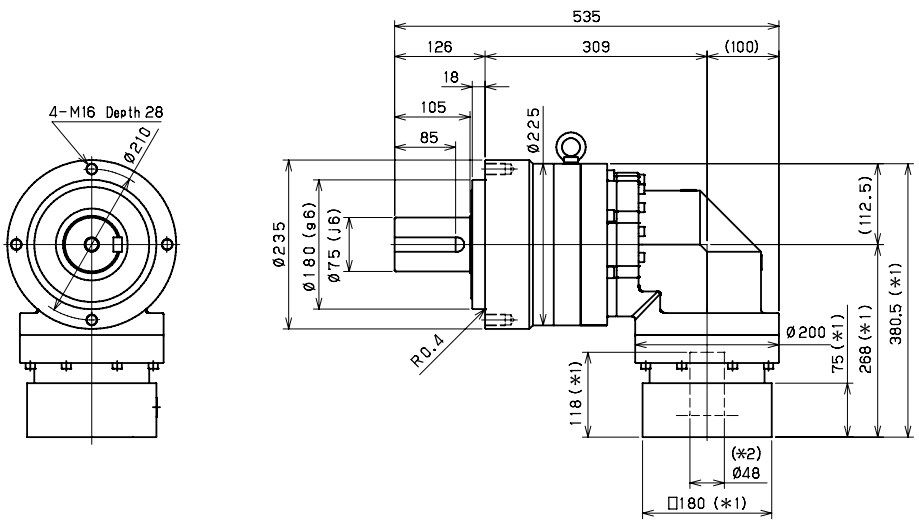
*2) Bushing will be inserted to adapt to motor shaft

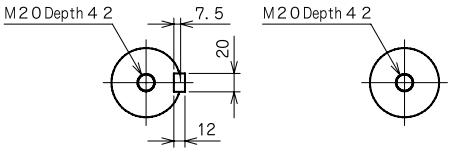
EVL 235 3-Stage Dimensions

Input bore size ≦φ38 mm



Input bore size ≦φ48 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor.

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

EVB series

EVB planetary gearbox with right angle

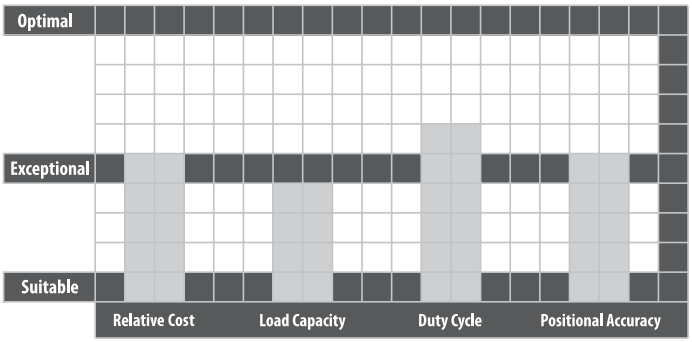
Precision, easy mounting by square flange

Description

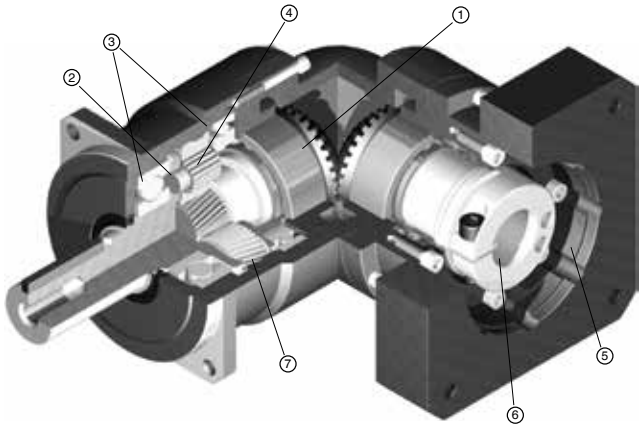
An excellent choice for applications requiring high positional accuracy and dynamic performance. The EVB is a ≤4 arc-min gearbox that offers a right angle design with a through hole mounting style, making it compact and easy to assemble onto various equipment. This product is an ideal fit for various 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.

- 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 (≤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



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

Part Number **EVB -090 -7 -K 4 -19HB16**

Model name - EVB series

Size: 060, 090, 115, 140, 180, 220

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

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

Backlash: 060, 140 ≤ 4-7 arc-min / 180, 220 ≤ 8-11 arc-min

Motor mounting code (*)

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

EVB 060 2-Stage Specifications

Frame Size	060									
Stage	2-Stage									
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 (≤ Ø 8)	[kgcm^2]	--	0.31	0.27	0.25	0.24	0.23	0.23	0.23	0.23
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	0.39	0.34	0.32	0.31	0.31	0.31	0.30	0.30
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	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]	--	≤ 4							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	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 $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

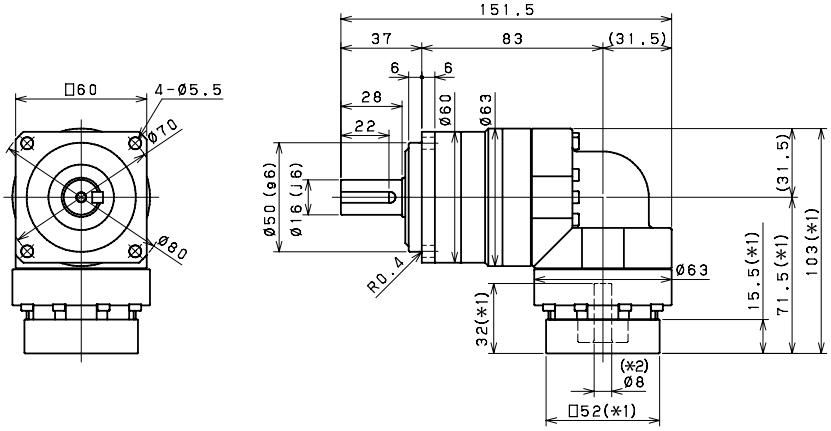
EVB 060 3-Stage Specifications

Frame Size	060									
Stage	3-Stage									
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 (≤ Ø 8)	[kgcm^2]	--	0.073	0.079	0.071	0.071	0.077	0.062	0.070	0.061
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	0.118	0.124	0.116	0.115	0.122	0.106	0.115	0.106
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	--	--	--	--			--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	3							
Maximum Torsional Backlash	[arc-min]	--	≤ 7							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	1.6							

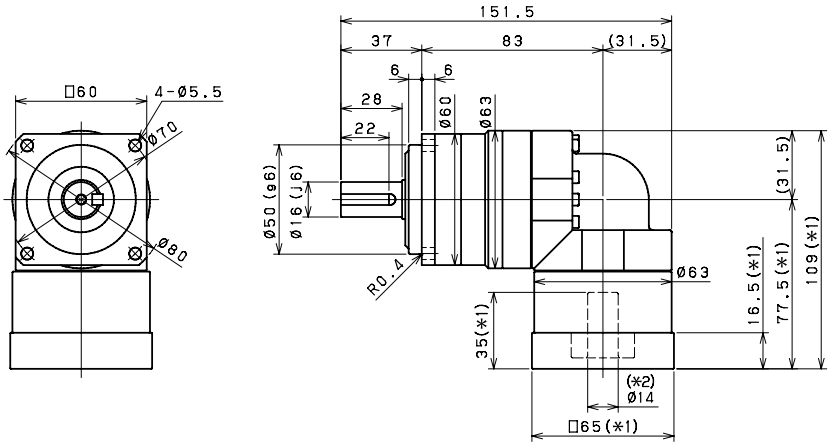
Frame Size	060								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	19	28	28	28	28	19	19
Maximum Acceleration Torque	[Nm]	*2	38	54	54	54	54	38	38
Maximum Torque	[Nm]	*3	38	54	54	54	54	38	38
Emergency Stop Torque	[Nm]	*4	65	90	90	90	90	65	65
Nominal Input Speed	[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 (≤ Ø 8)	[kgcm^2]	--	0.070	0.061	0.061	0.061	0.061	0.061	0.061
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	0.115	0.106	0.106	0.105	0.105	0.105	0.105
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	3						
Maximum Torsional Backlash	[arc-min]	--	≤ 7						
Noise Level	dB [A]	*12	≤ 80						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	1.6						

EVB 060 2-Stage Dimensions

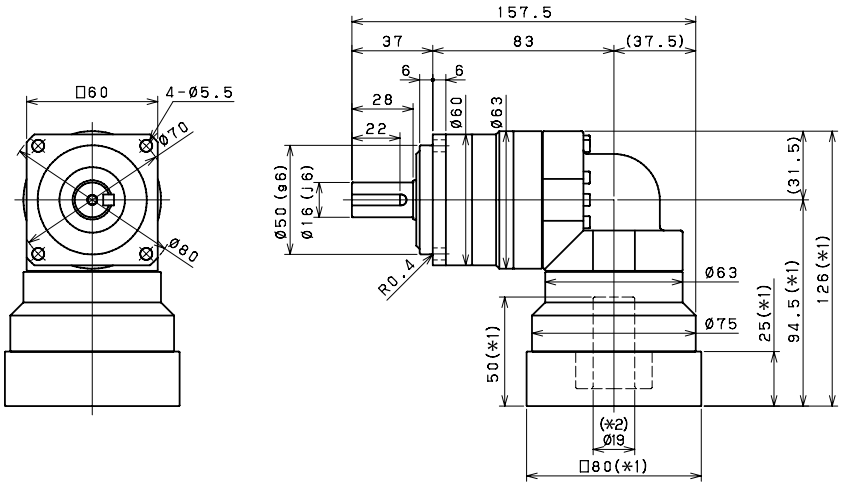
Input bore size ≦φ8 mm

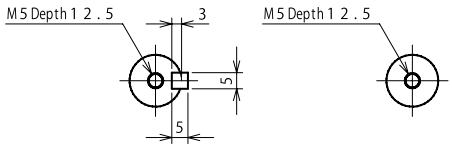


Input bore size ≦φ14 mm



Input bore size ≦φ19 mm





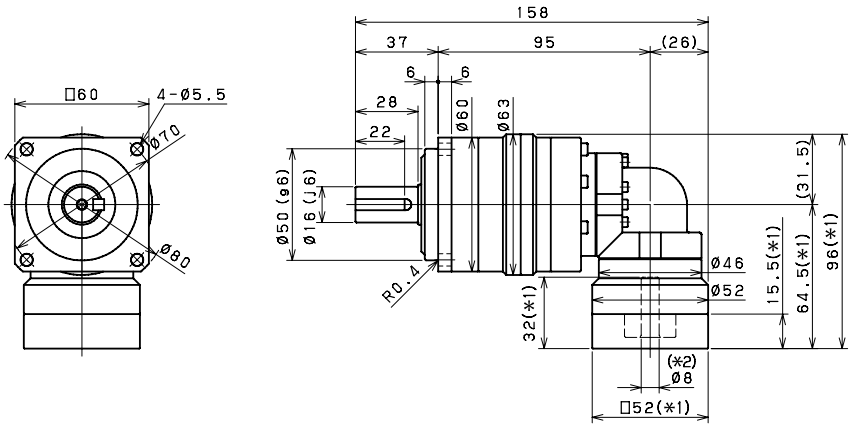
Keyed shaft Smooth shaft

*1) Length will vary depending on motor

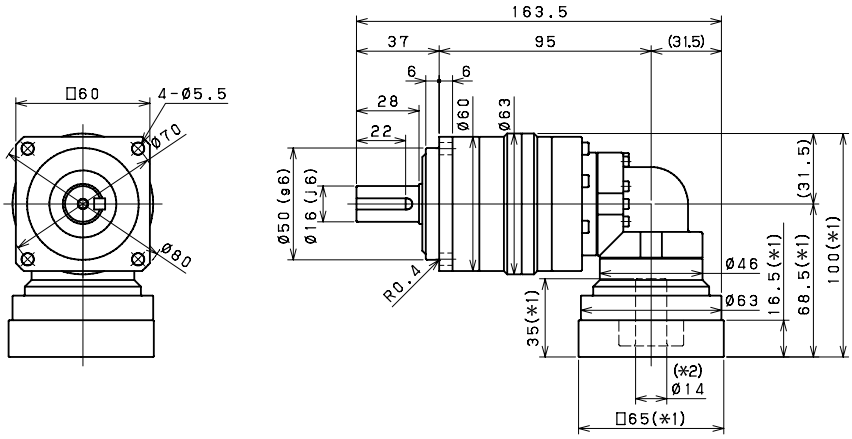
*2) Bushing will be inserted to adapt to motor shaft

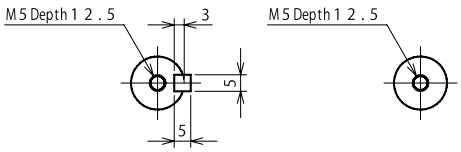
EVB 060 3-Stage Dimensions

Input bore size ≦φ8 mm



Input bore size ≦φ14 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor

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

EVB 090 2-Stage Specifications

Frame Size	090									
Stage	2-Stage									
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 (≤ Ø 8)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	2.12	1.89	1.80	1.76	1.73	1.71	1.70	1.69
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	2.45	2.22	2.13	2.09	2.06	2.04	2.03	2.02
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	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]	--	≤ 4							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	5.1							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

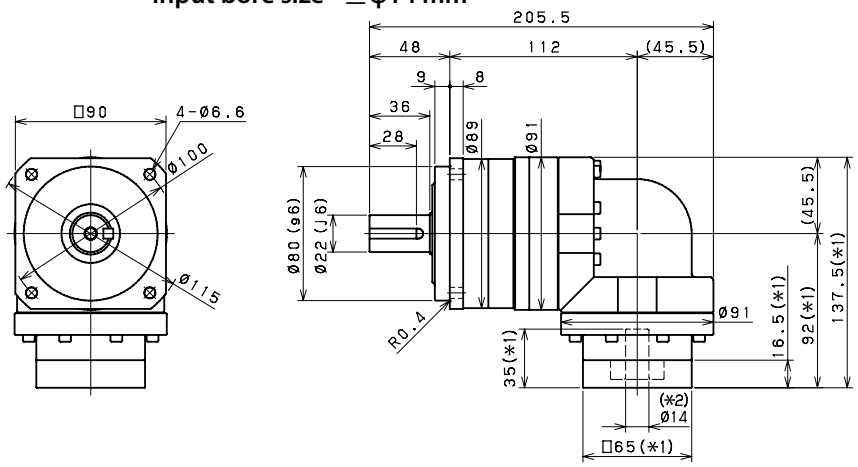
EVB 090 3-Stage Specifications

Frame Size	090									
Stage	3-Stage									
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 (≤ Ø 8)	[kgcm^2]	--	0.34	0.38	0.33	0.32	0.37	0.25	0.32	0.25
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	0.41	0.46	0.40	0.40	0.45	0.33	0.4	0.32
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	0.6	0.65	0.59	0.59	0.64	0.51	0.59	0.51
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	10							
Maximum Torsional Backlash	[arc-min]	--	≤ 7							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	4.4							

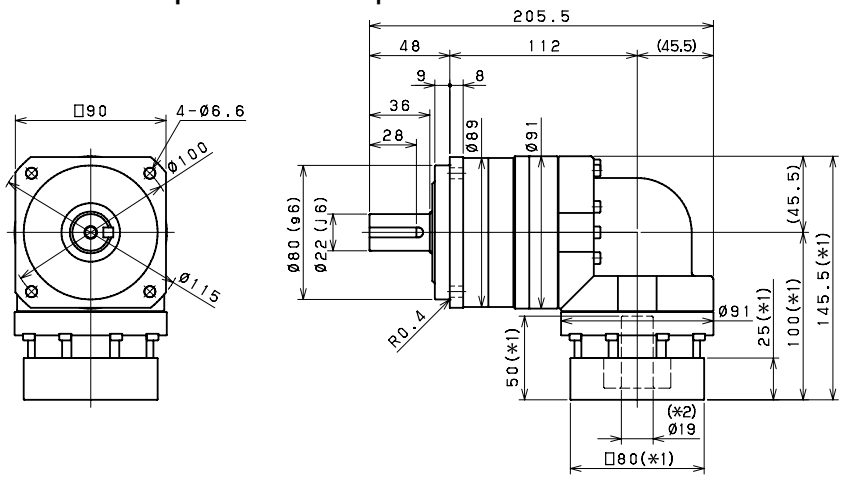
Frame Size	090								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	47	73	73	73	78	52	52
Maximum Acceleration Torque	[Nm]	*2	78	128	128	128	128	78	78
Maximum Torque	[Nm]	*3	78	128	128	128	128	78	78
Emergency Stop Torque	[Nm]	*4	170	220	220	220	220	170	170
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 (≤ Ø 8)	[kgcm^2]	--	0.32	0.25	0.25	0.25	0.25	0.25	0.25
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	0.39	0.32	0.32	0.32	0.32	0.32	0.32
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	0.58	0.51	0.51	0.51	0.51	0.51	0.51
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	10						
Maximum Torsional Backlash	[arc-min]	--	≤ 7						
Noise Level	dB [A]	*12	≤ 80						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	4.4						
Weight	[kg]	*15	4.4						

EVB 090 2-Stage Dimensions

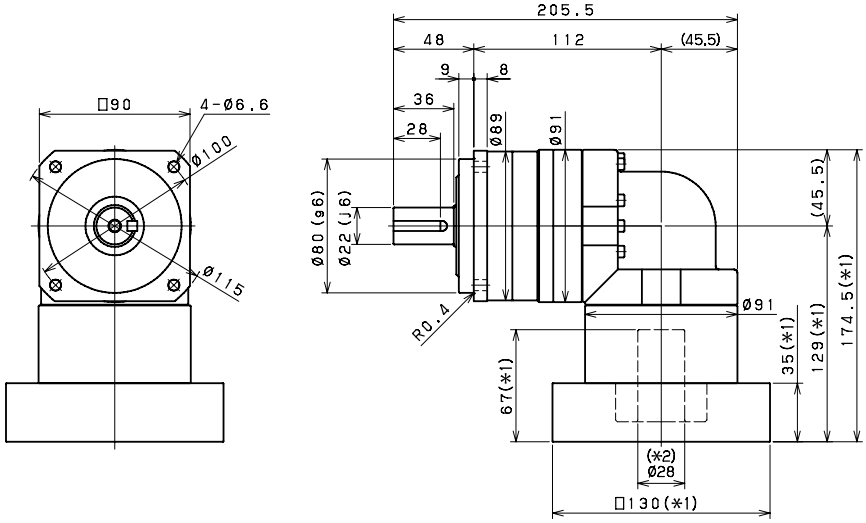
Input bore size ≦φ14 mm

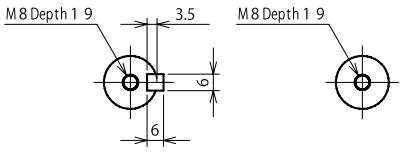


Input bore size ≦φ19 mm



Input bore size ≦φ28 mm





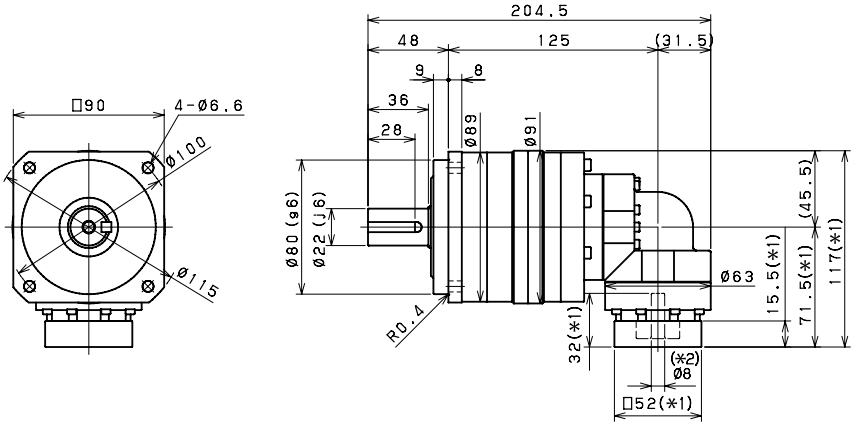
Keyed shaft Smooth shaft

*1) Length will vary depending on motor

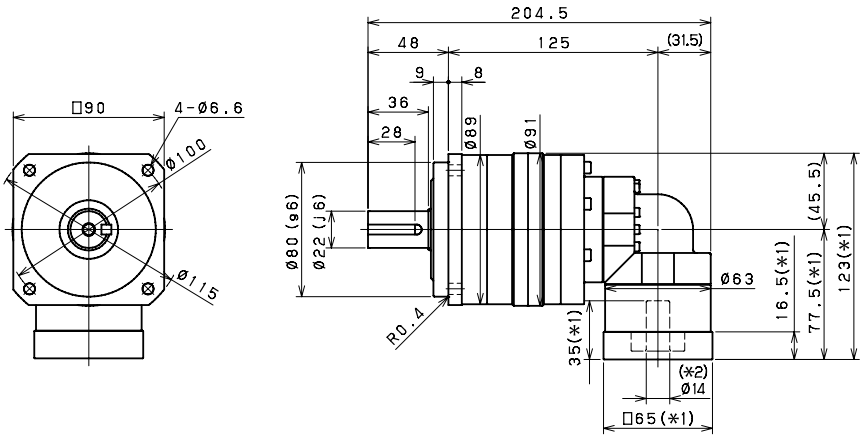
*2) Bushing will be inserted to adapt to motor shaft

EVB 090 3-Stage Dimensions

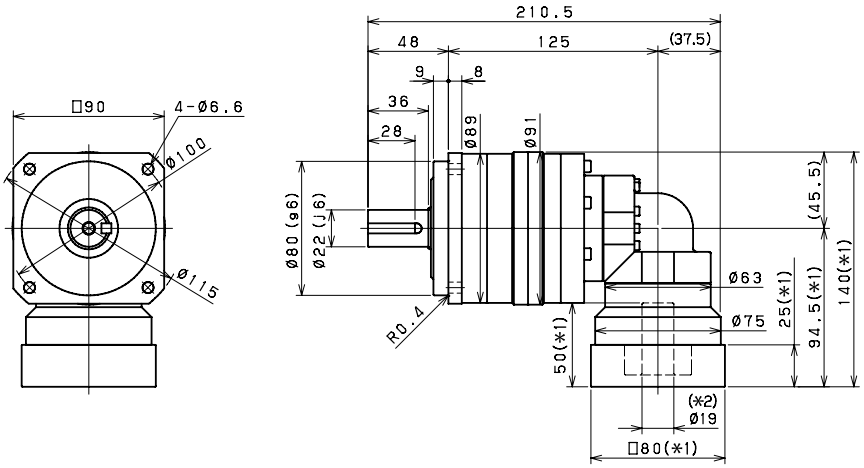
Input bore size ≦φ8 mm

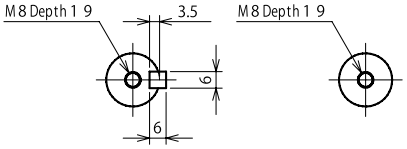


Input bore size ≦φ14 mm



Input bore size ≦φ19 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor

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

EVB 115 2-Stage Specifications

Frame Size	115									
Stage	2-Stage									
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 (≤ Ø 14)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	6.74	5.49	5.02	4.77	4.65	4.55	4.49	4.46
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	8.34	7.08	6.61	6.36	6.24	6.14	6.08	6.05
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	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]	--	≤ 4							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	10.4							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

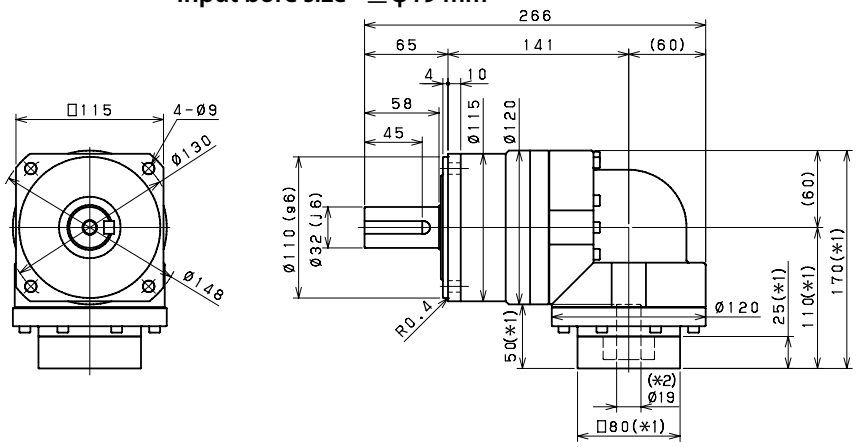
EVB 115 3-Stage Specifications

Frame Size	115									
Stage	3-Stage									
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 (≤ Ø 14)	[kgcm^2]	--	2.25	2.46	2.20	2.18	2.40	1.87	2.16	1.86
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	2.58	2.79	2.53	2.51	2.73	2.20	2.49	2.19
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	4.70	4.91	4.65	4.64	4.86	4.33	4.62	4.32
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	31							
Maximum Torsional Backlash	[arc-min]	--	≤ 7							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	10.1							

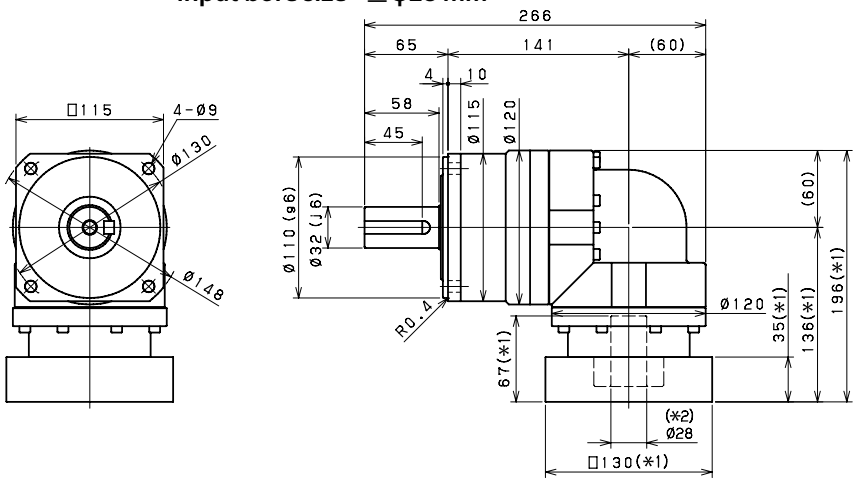
Frame Size	115								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	132	174	174	174	174	132	132
Maximum Acceleration Torque	[Nm]	*2	240	340	340	340	340	240	240
Maximum Torque	[Nm]	*3	240	340	340	340	340	240	240
Emergency Stop Torque	[Nm]	*4	450	550	550	550	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^2]	--	2.15	1.86	1.85	1.85	1.85	1.85	1.85
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	2.48	2.19	2.18	2.18	2.18	2.18	2.18
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	4.61	4.31	4.31	4.31	4.31	4.31	4.31
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	31						
Maximum Torsional Backlash	[arc-min]	--	≤ 7						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	10.1						

EVB 115 2-Stage Dimensions

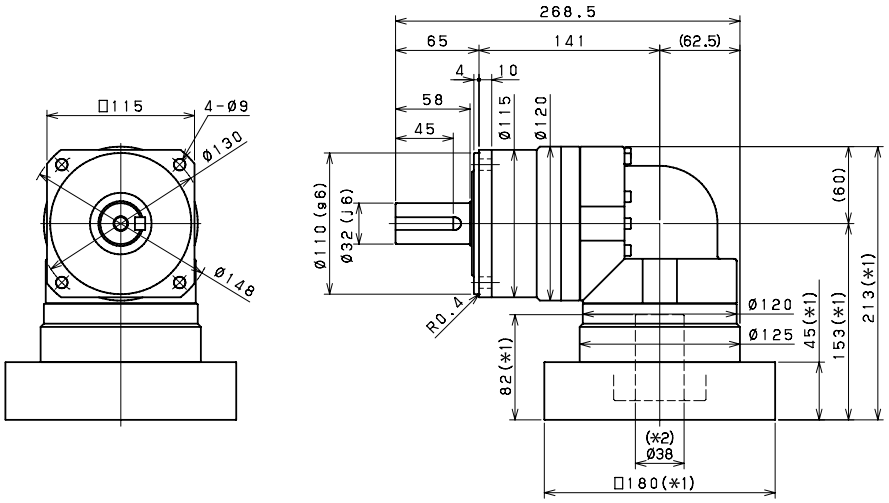
Input bore size ≦φ19 mm

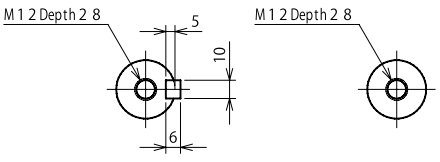


Input bore size ≦φ28 mm



Input bore size ≦φ38 mm





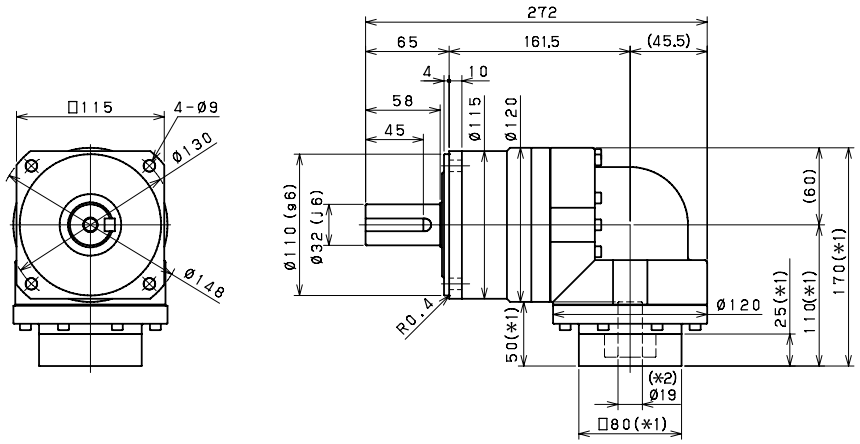
Keyed shaft Smooth shaft

*1) Length will vary depending on motor

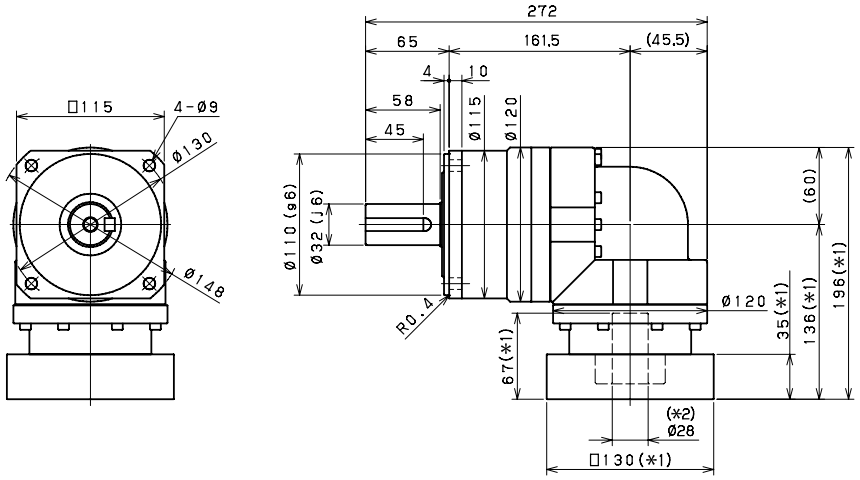
*2) Bushing will be inserted to adapt to motor shaft

EVB 115 3-Stage Dimensions

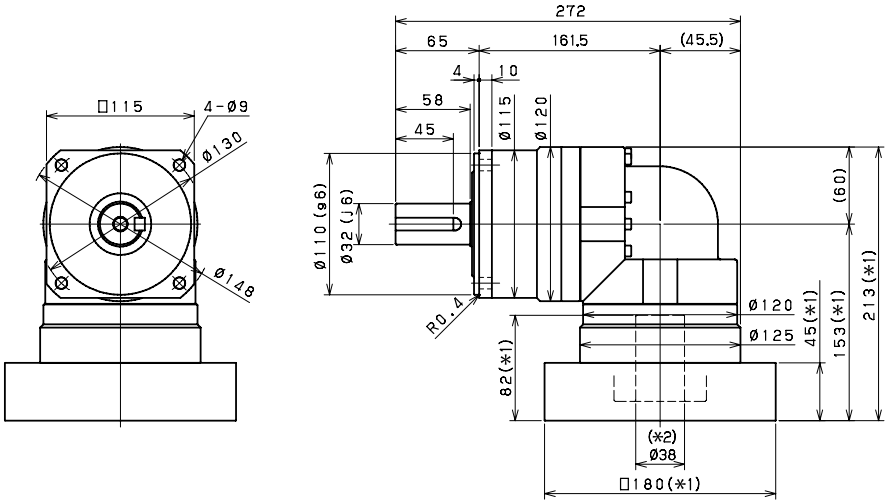
Input bore size ≦φ14 mm

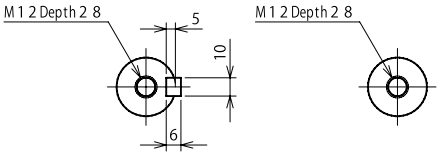


Input bore size ≦φ19 mm



Input bore size ≦φ28 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor

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

EVB 140 2-Stage Specifications

Frame Size	140									
Stage	2-Stage									
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 (≤ Ø 19)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	23.13	18.57	16.91	16.01	15.58	15.23	14.77	14.66
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	27.50	22.94	21.28	20.38	19.95	19.61	19.41	19.03
Moment of Inertia (≤ Ø 48)	[kgcm^2]	--	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]	--	≤ 4							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	19.1							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

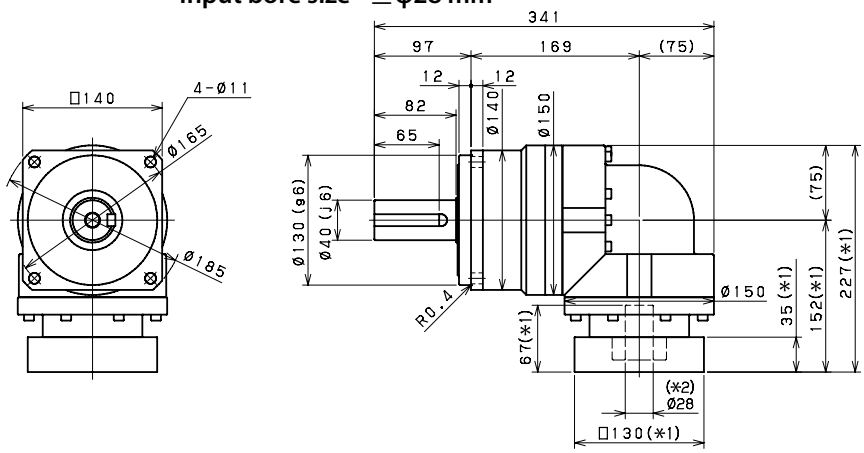
EVB 140 3-Stage Specifications

Frame Size	140									
Stage	3-Stage									
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 (≤ Ø 19)	[kgcm^2]	--	6.40	7.29	6.22	6.15	7.09	4.99	6.09	4.95
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	8	8.88	7.81	7.75	8.68	6.58	7.69	6.54
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	15.07	15.96	14.89	14.82	15.76	13.66	14.76	13.61
Moment of Inertia (≤ Ø 48)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	60							
Maximum Torsional Backlash	[arc-min]	--	≤ 7							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	19.6							

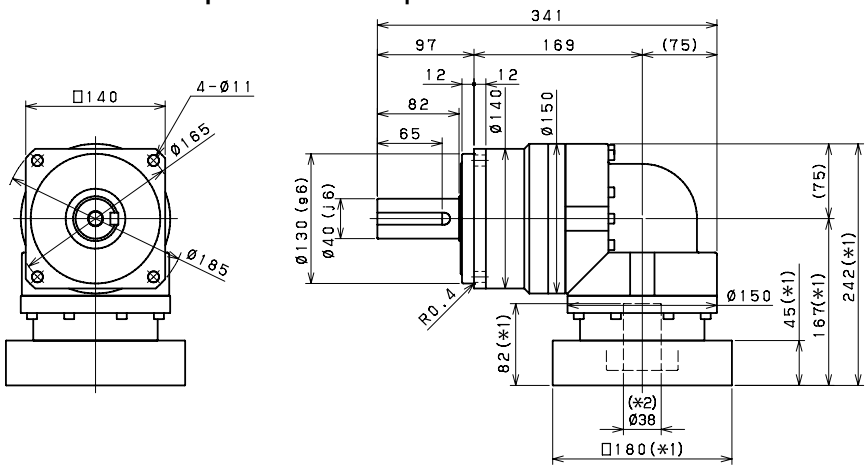
Frame Size	140								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	240	352	352	352	352	240	240
Maximum Acceleration Torque	[Nm]	*2	480	687	687	687	687	480	480
Maximum Torque	[Nm]	*3	480	687	687	687	687	480	480
Emergency Stop Torque	[Nm]	*4	750	1100	1100	1100	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 (≤ Ø 19)	[kgcm^2]	--	6.07	4.93	4.92	4.91	4.91	4.91	4.91
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	7.66	6.52	6.51	6.51	6.50	6.50	6.50
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	14.74	13.59	13.59	13.58	13.58	13.57	13.57
Moment of Inertia (≤ Ø 48)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	60						
Maximum Torsional Backlash	[arc-min]	--	≤ 7						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	19.6						

EVB 140 2-Stage Dimensions

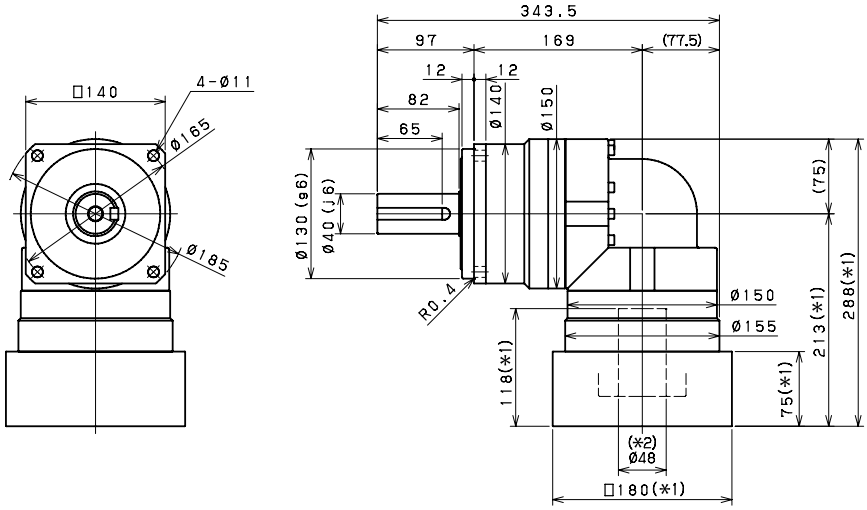
Input bore size ≦φ28 mm

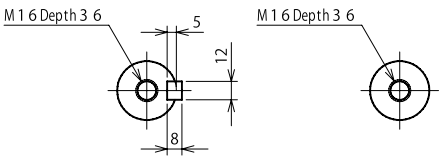


Input bore size ≦φ38 mm



Input bore size ≦φ48 mm





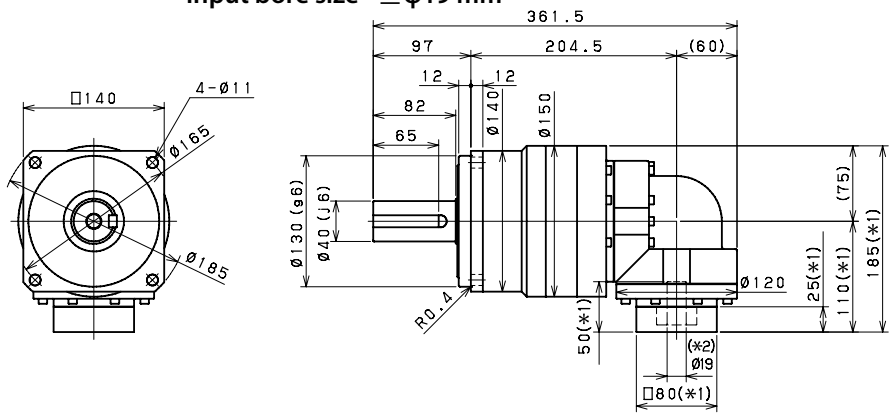
Keyed shaft Smooth shaft

*1) Length will vary depending on motor

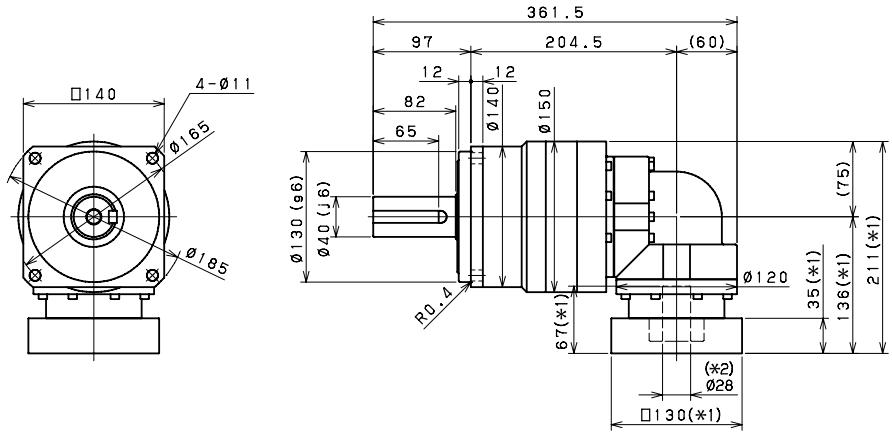
*2) Bushing will be inserted to adapt to motor shaft

EVB 140 3-Stage Dimensions

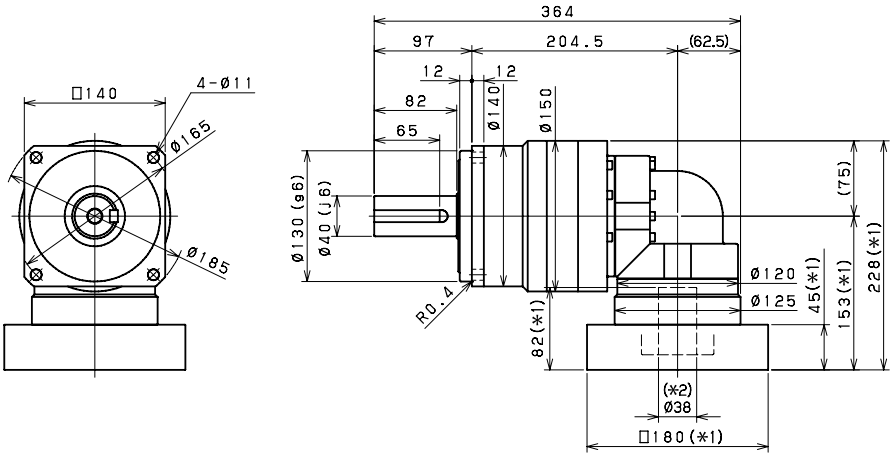
Input bore size ≦φ19 mm

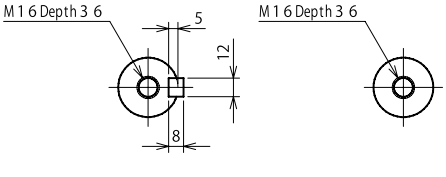


Input bore size ≦φ28 mm



Input bore size ≦φ38 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor

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

EVB 180 2-Stage Specifications

Frame Size	180									
Stage	2-Stage									
Ratio	Unit	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 (≤Ø 28)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤Ø 38)	[kgcm^2]	--	93.71	77.72	71.89	68.74	66.43	65.27	64.6	64.28
Moment of Inertia (≤ Ø 48)	[kgcm^2]	--	128.6	112.6	106.8	103.6	101.3	100.1	99.46	99.14
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--	214.2	198.2	192.4	189.2	186.9	185.7	185.1	184.7
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	175							
Maximum Torsional Backlash	[arc-min]	--	≤ 6							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	49							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

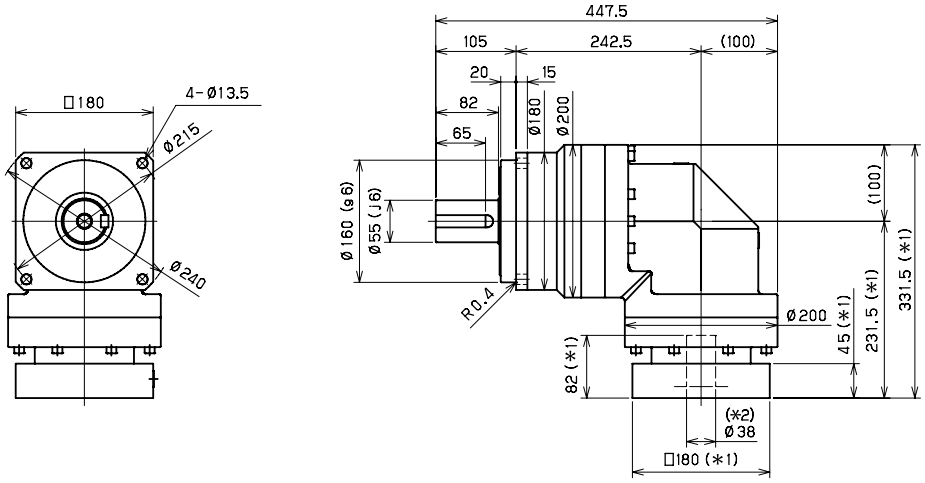
EVB 180 3-Stage Specifications

Frame Size			180							
Stage			3-Stage							
Ratio	Unit	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 (≤Ø 28)	[kgcm^2]	--	11.49	12.09	11.15	10.98	11.59	10.33	10.83	10.24
Moment of Inertia (≤Ø 38)	[kgcm^2]	--	20.28	20.88	19.94	19.77	20.38	19.11	19.62	19.03
Moment of Inertia (≤ Ø 48)	[kgcm^2]	--	25.1	25.7	24.76	24.59	25.20	23.94	24.44	23.85
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--			--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	175							
Maximum Torsional Backlash	[arc-min]	--	≤ 9							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	36							

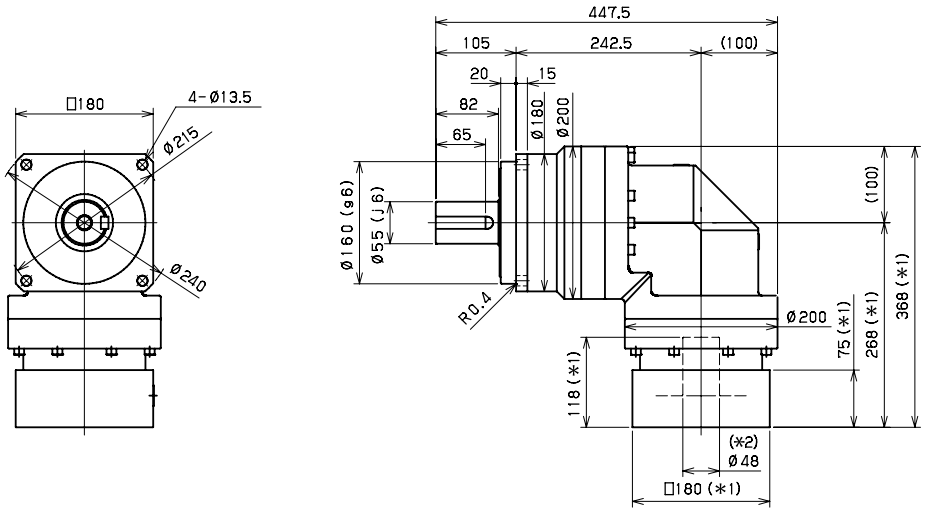
Frame Size			180						
Stage			3-Stage						
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	480	710	710	710	710	480	480
Maximum Acceleration Torque	[Nm]	*2	931	1315	1315	1315	1315	931	931
Maximum Torque	[Nm]	*3	931	1315	1315	1315	1315	931	931
Emergency Stop Torque	[Nm]	*4	2000	2500	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 (≤Ø 28)	[kgcm^2]	--	10.76	10.2	10.18	10.16	10.15	10.15	10.14
Moment of Inertia (≤Ø 38)	[kgcm^2]	--	19.55	18.99	18.96	18.95	18.94	18.93	18.93
Moment of Inertia (≤ Ø 48)	[kgcm^2]	--	24.37	23.81	23.78	23.77	23.76	23.75	23.75
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	175						
Maximum Torsional Backlash	[arc-min]	--	≤ 9						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	36						

EVB 180 2-Stage Dimensions

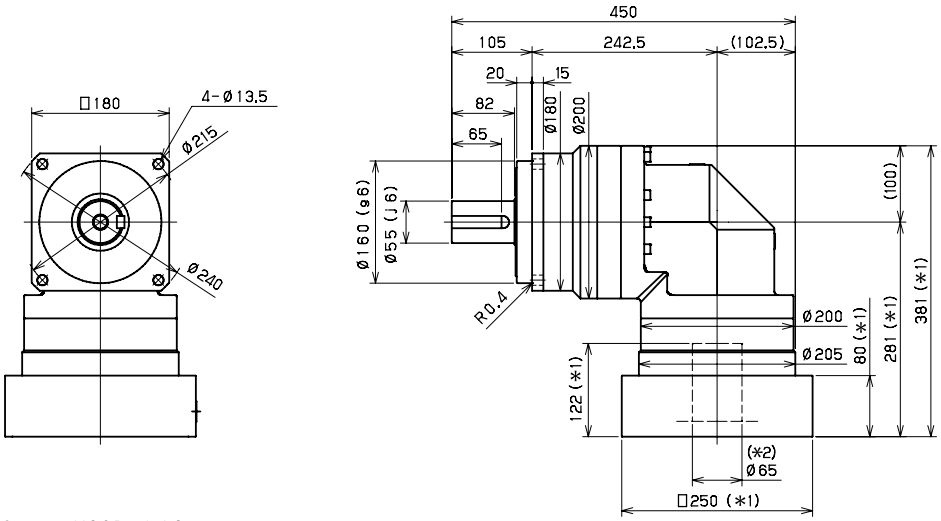
Input bore size ≦φ38 mm

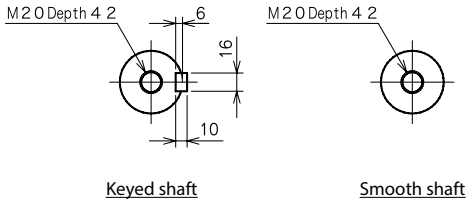


Input bore size ≦φ48 mm



Input bore size ≦φ65 mm





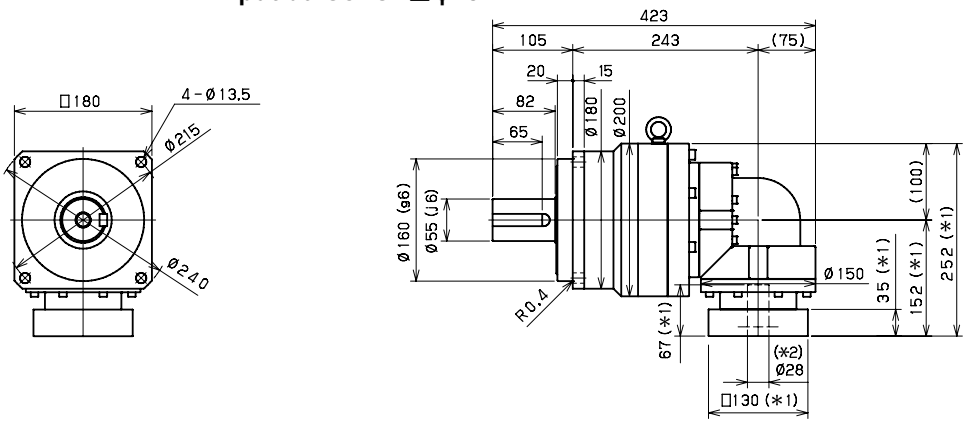
Keyed shaft Smooth shaft

*1) Length will vary depending on motor

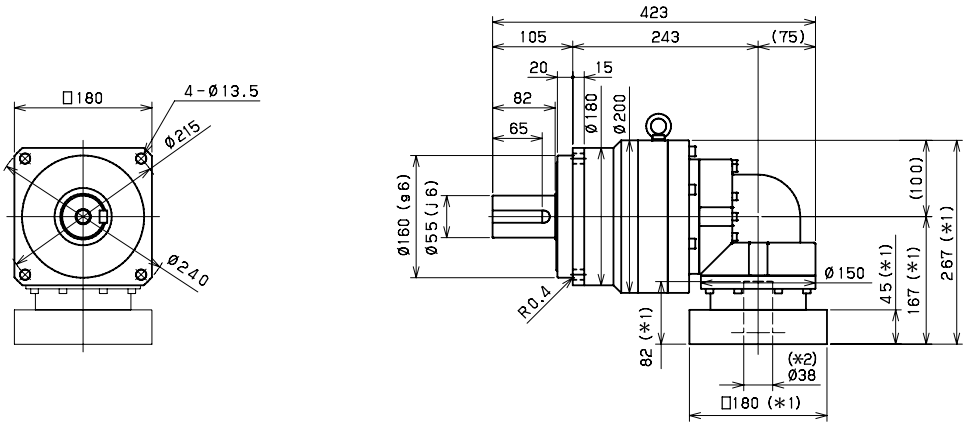
*2) Bushing will be inserted to adapt to motor shaft

EVB 180 3-Stage Dimensions

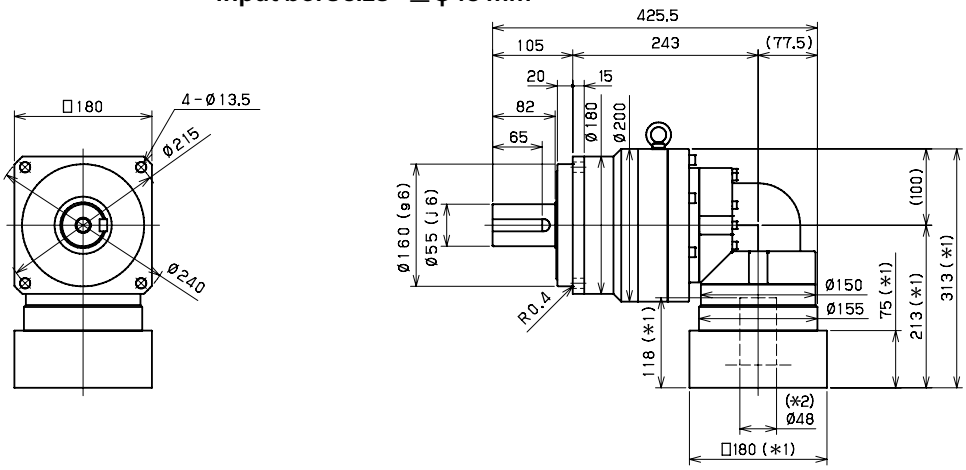
Input bore size ≦φ28 mm

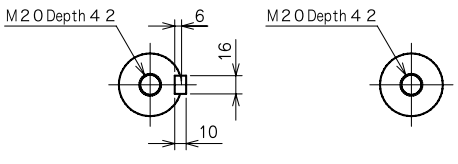


Input bore size ≦φ38 mm



Input bore size ≦φ48 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor

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

EVB 220 2-Stage Specifications

Frame Size	220									
Stage	2-Stage									
Ratio	Unit	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 (≤Ø 38)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤Ø 48)	[kgcm^2]	--	148.0	122.9	113.3	108.1	104.7	102.7	101.6	101.0
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--	223.2	198.1	188.6	183.3	180.0	178.0	176.8	176.2
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	400							
Maximum Torsional Backlash	[arc-min]	--	≤ 6							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	66							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

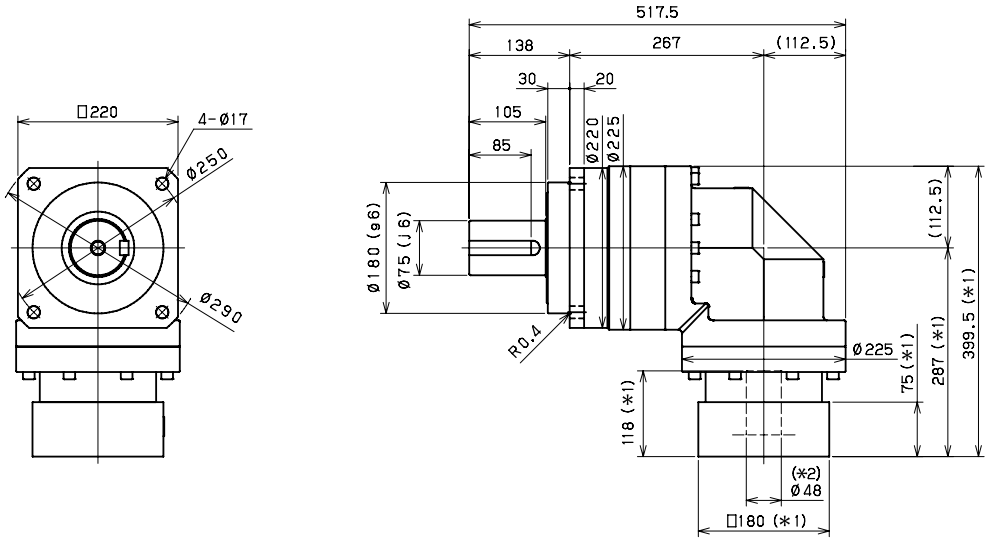
EVB 220 3-Stage Specifications

Frame Size	220									
Stage	3-Stage									
Ratio	Unit	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 (≤Ø 38)	[kgcm^2]	--	36.32	37.24	35.75	35.47	36.39	34.39	35.21	34.25
Moment of Inertia (≤Ø 48)	[kgcm^2]	--	66.14	67.06	65.57	65.28	66.21	64.21	65.03	64.07
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	400							
Maximum Torsional Backlash	[arc-min]	--	≤ 9							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	67							

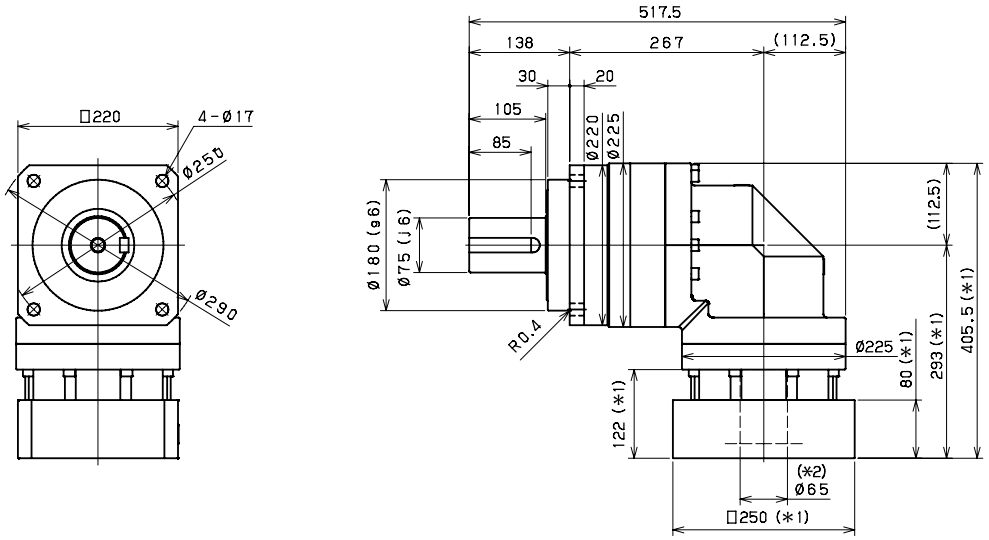
Frame Size	220								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	948	1440	1440	1440	1440	948	948
Maximum Acceleration Torque	[Nm]	*2	1246	2112	2112	2112	1728	1246	1131
Maximum Torque	[Nm]	*3	1246	2112	2112	2112	1728	1246	1131
Emergency Stop Torque	[Nm]	*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 (≤Ø 38)	[kgcm^2]	--	35.10	34.18	34.14	34.11	34.1	34.09	34.08
Moment of Inertia (≤Ø 48)	[kgcm^2]	--	64.92	63.99	63.95	63.93	63.91	63.90	63.90
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	400						
Maximum Torsional Backlash	[arc-min]	--	≤ 9						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	67						

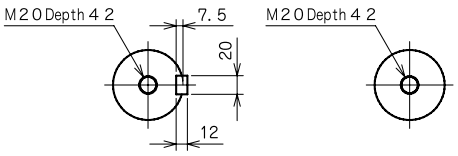
EVB 220 2-Stage Dimensions

Input bore size ≦φ48 mm



Input bore size ≦φ65 mm





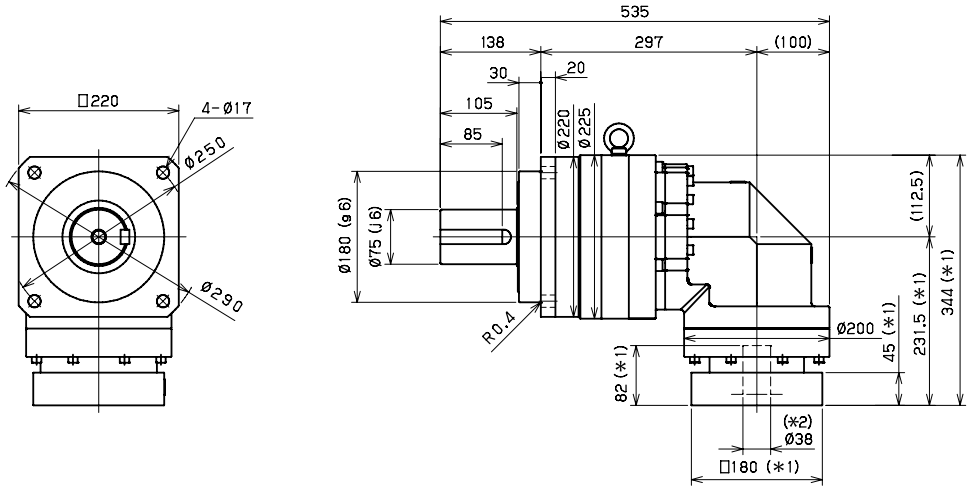
Keyed shaft Smooth shaft

*1) Length will vary depending on motor

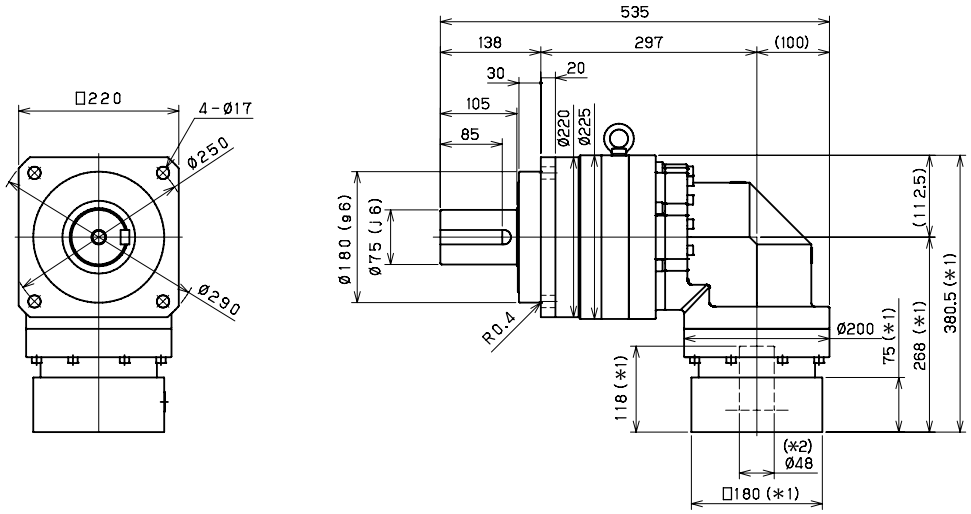
*2) Bushing will be inserted to adapt to motor shaft

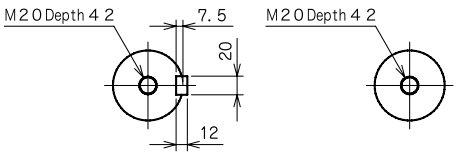
EVB 220 3-Stage Dimensions

Input bore size ≦φ38 mm



Input bore size ≦φ48 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor

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

EVS series

EVS planetary gearbox with right angle

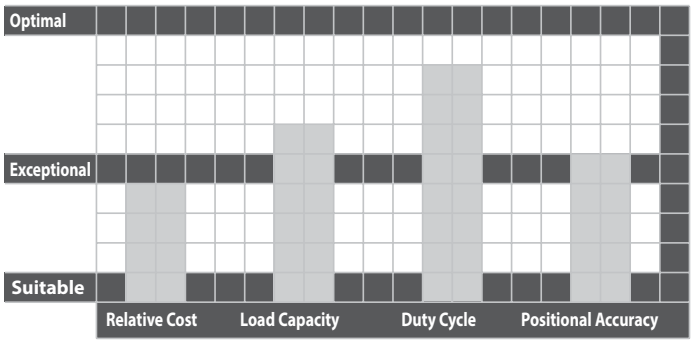
High precision, versatility and high radial and axial load

Description

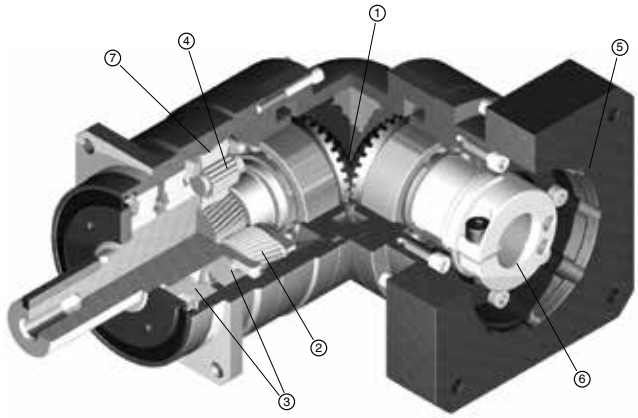
The EVS series is the right angle equivalent to the VRS. Compact and precise, the EVS is the ideal solution for demanding positioning accuracy and speed requirements. Equipped with two rows of robust tapered roller bearings, the EVS runs smoothly and quietly even with the most challenging dynamic and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

The EVS comes with ≤4 arc-min backlash, to handle dynamic machine tool and robotic applications with ease. With maximum acceleration torques up to 2960Nm, this product is an excellent partner to higher capacity servomotor models. Our customers specify this product when the industry standard is simply not good enough.

- Proven performer in high end motion control applications with demanding accuracy requirements
- Excellent fit for difficult overhung load situations with a limited space envelope
- The widest range of frame sizes and ratios available in the market
- Best-In-class standard backlash of ≤4 arc-min
- Broad range of mounting adapters offer a simple, precise attachment to any motor
- Maintenance-free solution that is lubricated for life. High performance grease allows flexible mounting in any orientation
- Industry standard through-bolt mounting style



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

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

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

- EVS: Model name - EVS series
- -100: Size: 060, 075, 100, 140, 180, 210, 240
- B: Design version
- -7: 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
- -K: Output mounting style: K: Keyed shaft / S: Smooth shaft
- 4: Backlash: 060, 075, 100, 140 ≤ 4 - 7 arc-min / 180, 210, 240 ≤ 6 - 9 arc-min
- -19HB16: Motor mounting code (*)

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

EVS 060 2-Stage Specifications

Frame Size	060									
Stage	2-Stage									
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 (≤ Ø 8)	[kgcm^2]	--	0.320	0.271	0.251	0.242	0.235	0.232	0.229	0.228
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	0.395	0.346	0.326	0.317	0.310	0.307	0.304	0.303
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	0.584	0.535	0.516	0.506	0.500	0.496	0.494	0.492
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	3							
Maximum Torsional Backlash	[arc-min]	--	≤ 4							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	2.0							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

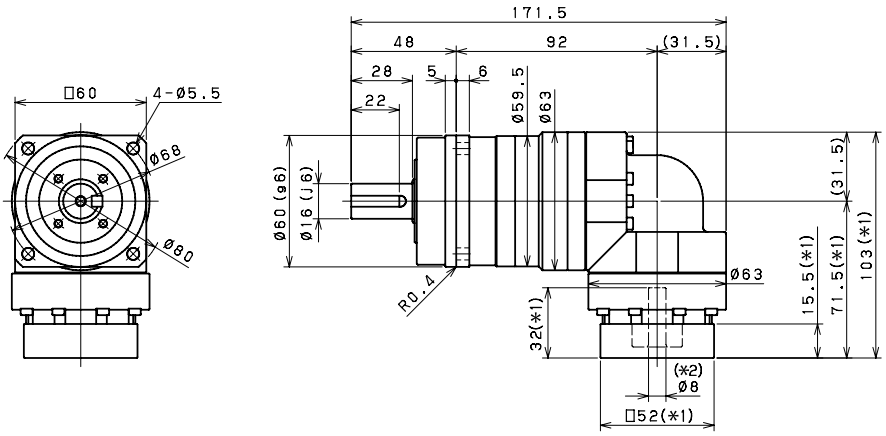
EVS 060 3-Stage Specifications

Frame Size	060									
Stage	3-Stage									
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 (≤ Ø 8)	[kgcm^2]	--	0.074	0.079	0.072	0.071	0.077	0.062	0.070	0.061
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	0.118	0.124	0.116	0.115	0.122	0.106	0.115	0.106
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	3							
Maximum Torsional Backlash	[arc-min]	--	≤ 7							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	1.8							

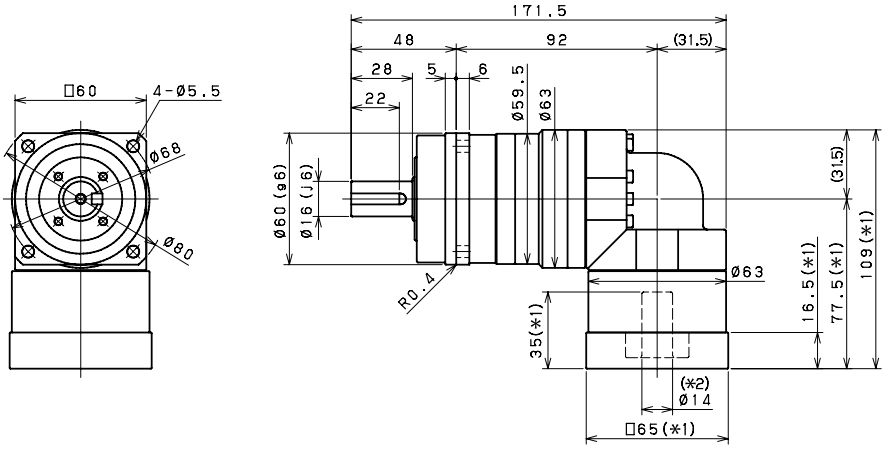
Frame Size	060								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	19	28	28	28	28	19	19
Maximum Acceleration Torque	[Nm]	*2	38	54	54	54	54	38	38
Maximum Torque	[Nm]	*3	38	54	54	54	54	38	38
Emergency Stop Torque	[Nm]	*4	65	90	90	90	90	65	65
Nominal Input Speed	[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 (≤ Ø 8)	[kgcm^2]	--	0.070	0.061	0.061	0.061	0.061	0.061	0.061
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	0.115	0.106	0.106	0.106	0.105	0.105	0.105
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	3						
Maximum Torsional Backlash	[arc-min]	--	≤ 7						
Noise Level	dB [A]	*12	≤ 80						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	1.8						

EVS 060 2-Stage Dimensions

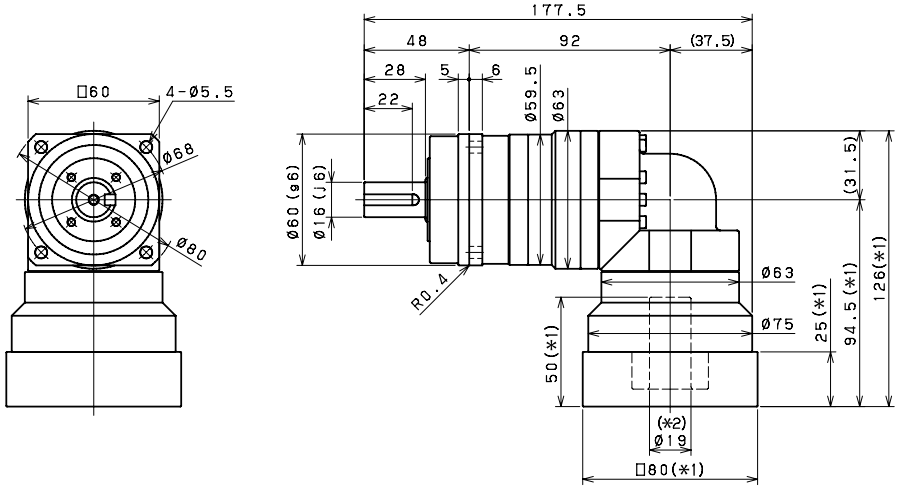
Input bore size ≦φ8 mm

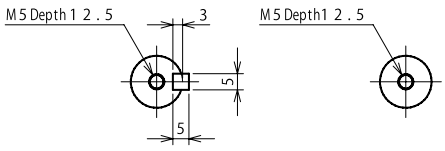


Input bore size ≦φ14 mm



Input bore size ≦φ19 mm





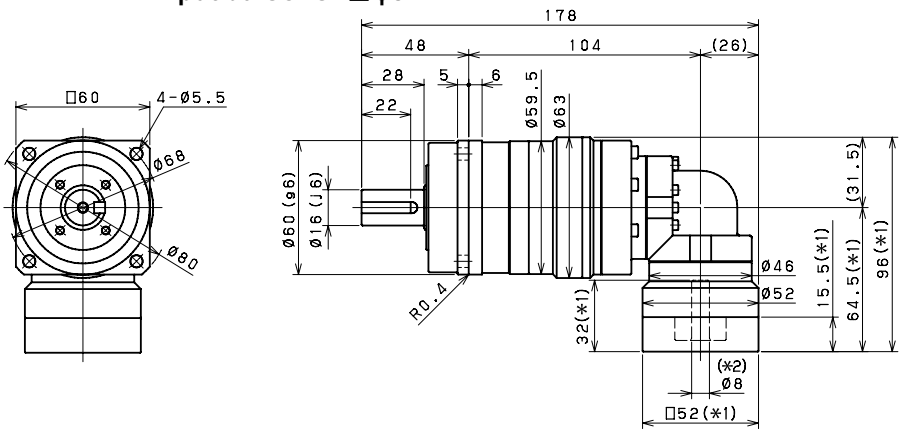
Keyed shaft Smooth shaft

*1) Length will vary depending on motor

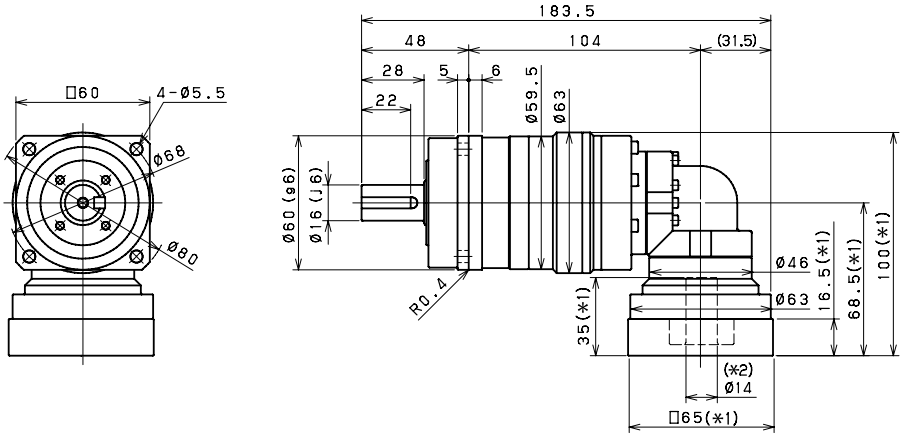
*2) Bushing will be inserted to adapt to motor shaft

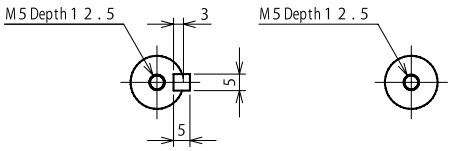
EVS 060 3-Stage Dimensions

Input bore size ≦φ8 mm



Input bore size ≦φ14 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor

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

EVS 075 2-Stage Specifications

Frame Size	075									
Stage	2-Stage									
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 (≤ Ø 8)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤ Ø 14)	[kgcm^2]	--	2.07	1.87	1.78	1.74	1.72	1.7	1.69	1.69
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	2.40	2.20	2.11	2.07	2.05	2.03	2.02	2.02
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	4.53	4.32	4.24	4.2	4.17	4.16	4.15	4.15
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	10							
Maximum Torsional Backlash	[arc-min]	--	≤ 4							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	4.8							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

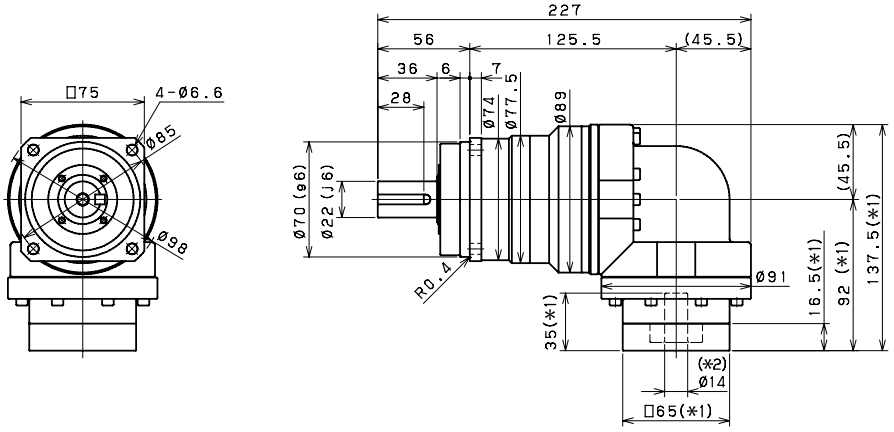
EVS 075 3-Stage Specifications

Frame Size	075									
Stage	3-Stage									
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 (≤ Ø 8)	[kgcm²]	--	0.33	0.38	0.33	0.32	0.37	0.25	0.32	0.25
Moment of Inertia (≤ Ø 14)	[kgcm²]	--	0.41	0.46	0.40	0.40	0.45	0.32	0.40	0.32
Moment of Inertia (≤ Ø 19)	[kgcm²]	--	0.60	0.65	0.59	0.59	0.64	0.51	0.58	0.51
Moment of Inertia (≤ Ø 28)	[kgcm²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	10							
Maximum Torsional Backlash	[arc-min]	--	≤ 7							
Noise Level	dB [A]	*12	≤ 80							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	4.1							

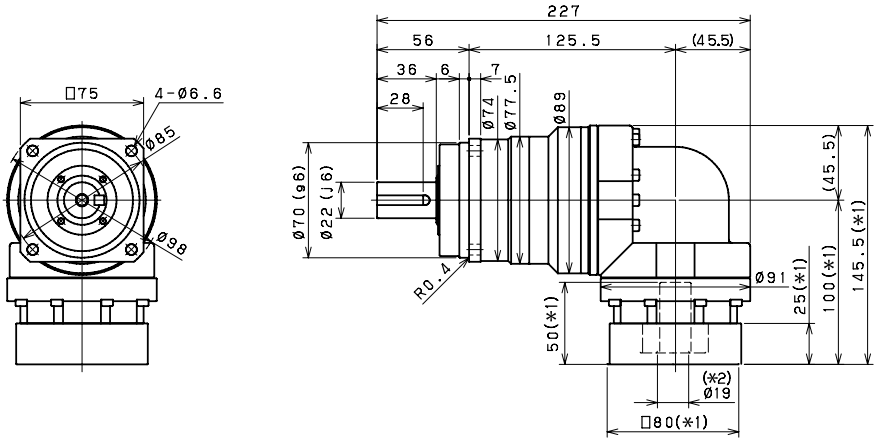
Frame Size	075								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	47	73	73	73	78	52	52
Maximum Acceleration Torque	[Nm]	*2	78	128	128	128	128	78	78
Maximum Torque	[Nm]	*3	78	128	128	128	128	78	78
Emergency Stop Torque	[Nm]	*4	170	220	220	220	220	170	170
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 (≤ Ø 8)	[kgcm²]	--	0.32	0.25	0.25	0.25	0.25	0.25	0.25
Moment of Inertia (≤ Ø 14)	[kgcm²]	--	0.39	0.32	0.32	0.32	0.32	0.32	0.32
Moment of Inertia (≤ Ø 19)	[kgcm²]	--	0.58	0.51	0.51	0.51	0.51	0.51	0.51
Moment of Inertia (≤ Ø 28)	[kgcm²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	10						
Maximum Torsional Backlash	[arc-min]	--	≤ 7						
Noise Level	dB [A]	*12	≤ 80						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	4.1						

EVS 075 2-Stage Dimensions

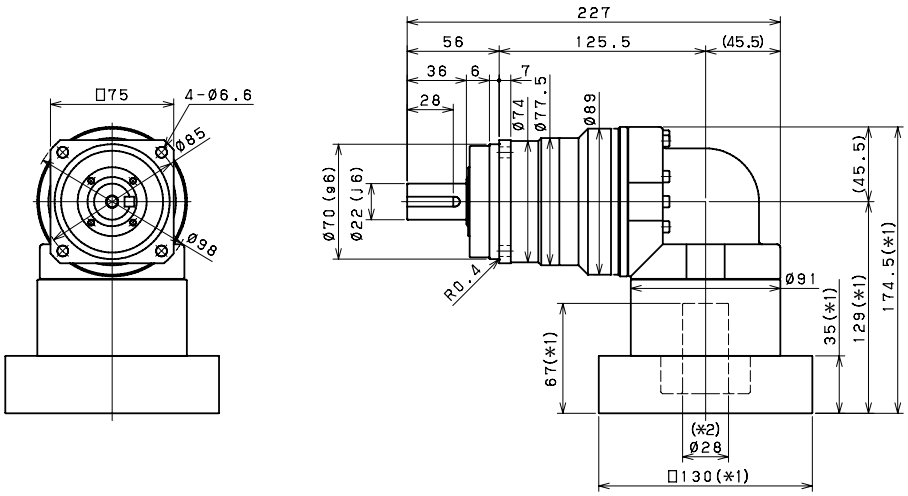
Input bore size ≦φ14 mm

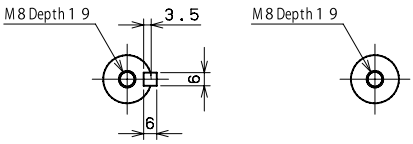


Input bore size ≦φ19 mm



Input bore size ≦φ28 mm





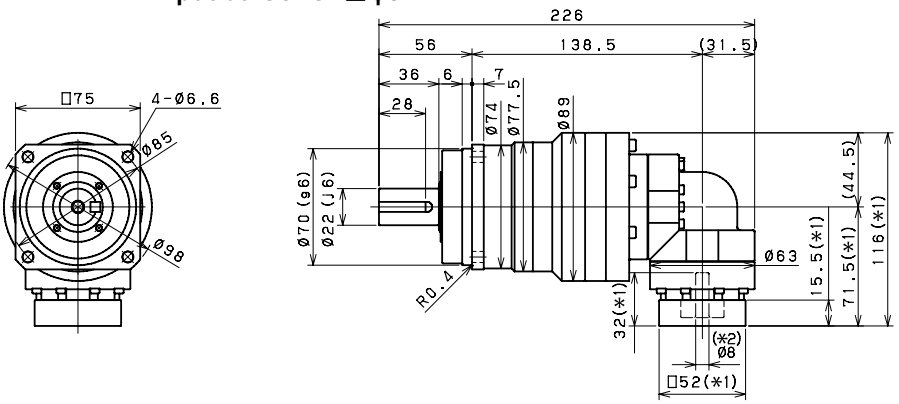
Keyed shaft Smooth shaft

*1) Length will vary depending on motor

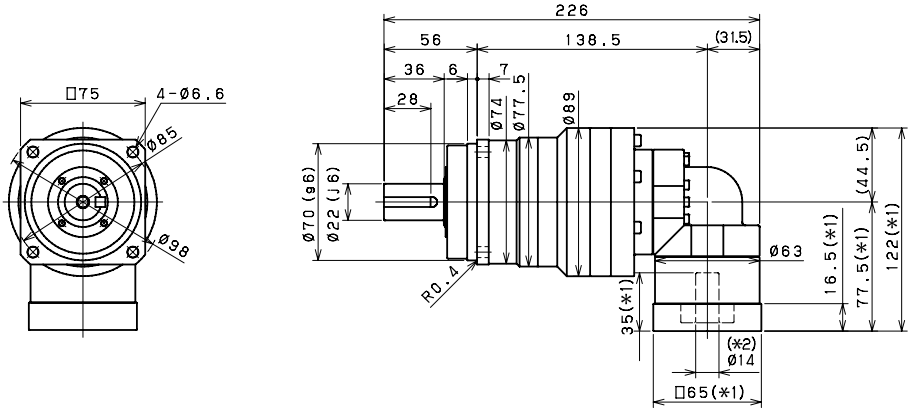
*2) Bushing will be inserted to adapt to motor shaft

EVS 075 3-Stage Dimensions

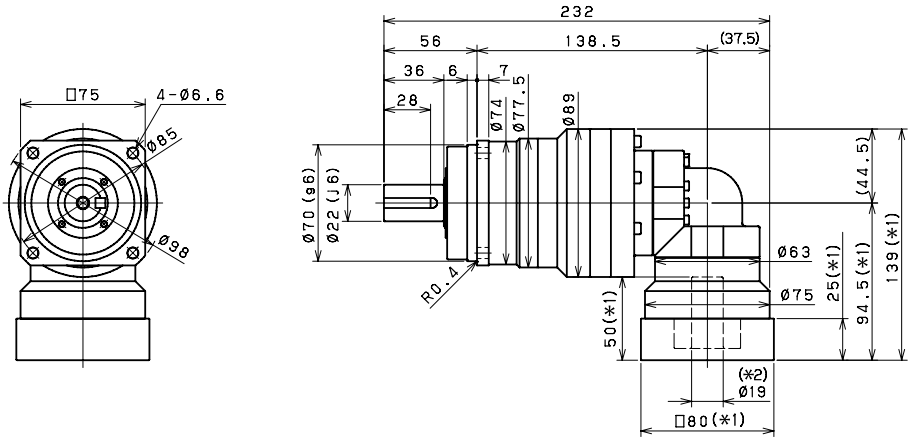
Input bore size ≦φ8 mm

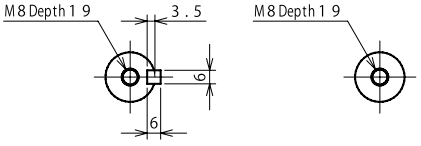


Input bore size ≦φ14 mm



Input bore size ≦φ19 mm





Keyed shaft

Smooth shaft

*1) Length will vary depending on motor

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

EVS 100 2-Stage Specifications

Frame Size	100									
Stage	2-Stage									
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 (≤ Ø 14)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	6.61	5.41	4.97	4.73	4.62	4.53	4.47	4.45
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	8.21	7.01	6.57	6.33	6.22	6.12	6.07	6.04
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	15.28	14.08	13.64	13.40	13.29	13.20	13.14	13.11
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	31							
Maximum Torsional Backlash	[arc-min]	--	≤ 4							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	10.5							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

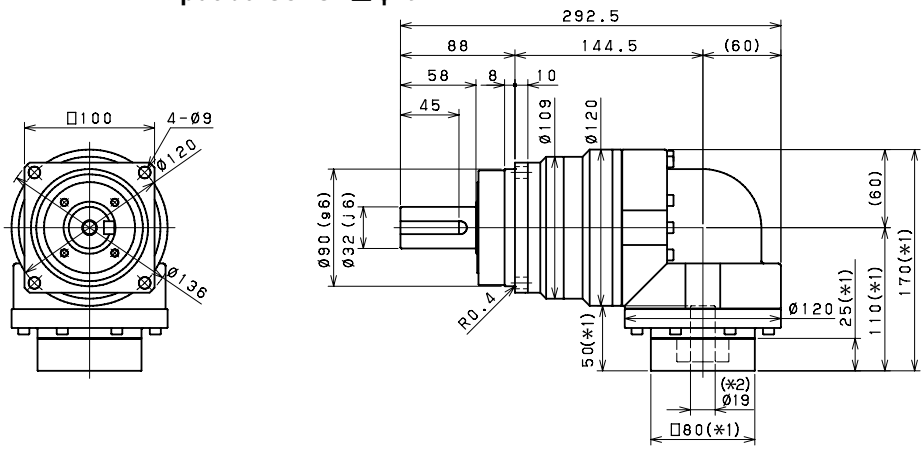
EVS 100 3-Stage Specifications

Frame Size	100									
Stage	3-Stage									
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 (≤ Ø 14)	[kgcm^2]	--	2.24	2.45	2.19	2.18	2.40	1.87	2.16	1.86
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	2.57	2.78	2.52	2.51	2.73	2.20	2.49	2.19
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	4.70	4.91	4.65	4.63	4.86	4.33	4.62	4.32
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	31							
Maximum Torsional Backlash	[arc-min]	--	≤ 7							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	10.1							

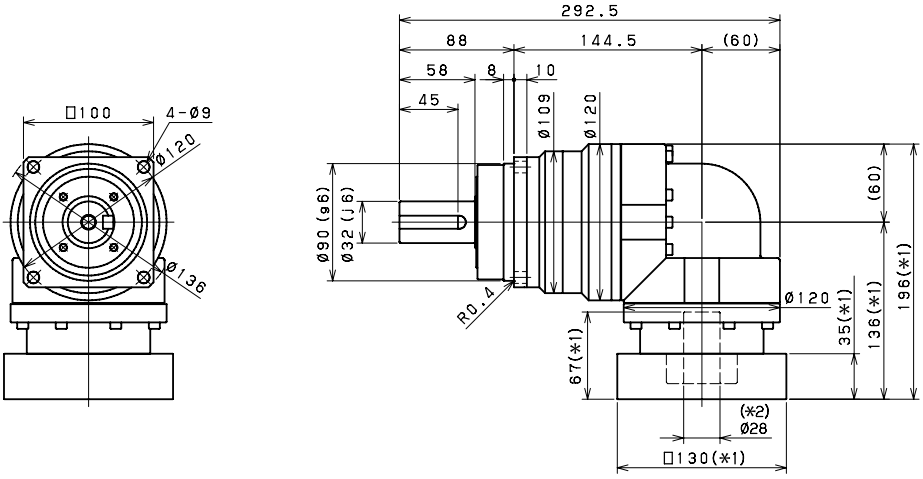
Frame Size	100								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	132	174	174	174	174	132	132
Maximum Acceleration Torque	[Nm]	*2	240	340	340	340	340	240	240
Maximum Torque	[Nm]	*3	240	340	340	340	340	240	240
Emergency Stop Torque	[Nm]	*4	450	550	550	550	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 (≤ Ø 14)	[kgcm^2]	--	2.15	1.86	1.85	1.85	1.85	1.85	1.85
Moment of Inertia (≤ Ø 19)	[kgcm^2]	--	2.48	2.19	2.18	2.18	2.18	2.18	2.18
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	4.61	4.31	4.31	4.31	4.31	4.31	4.31
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	31						
Maximum Torsional Backlash	[arc-min]	--	≤ 7						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	10.1						

EVS 100 2-Stage Dimensions

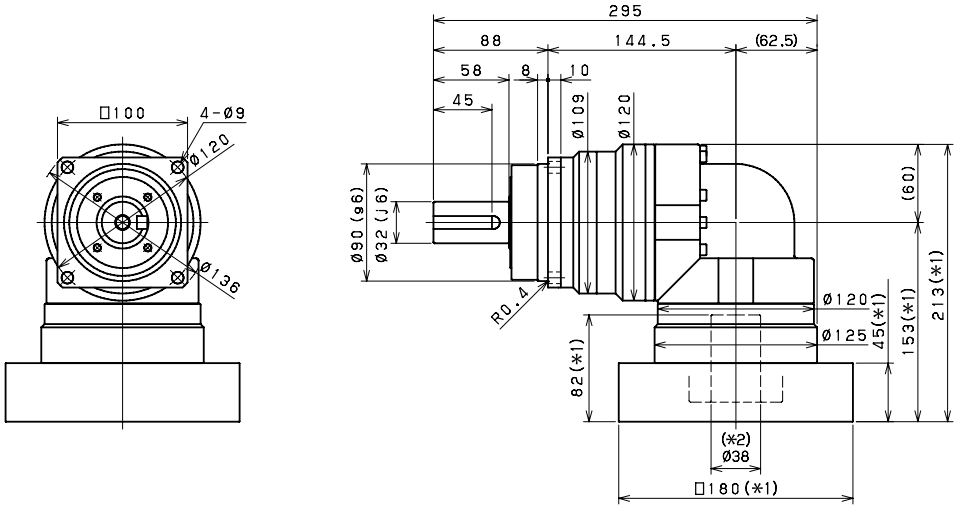
Input bore size ≦φ19 mm

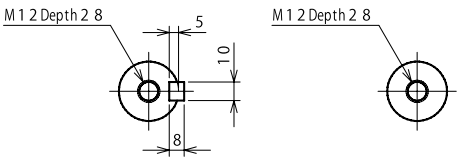


Input bore size ≦φ28 mm



Input bore size ≦φ38 mm





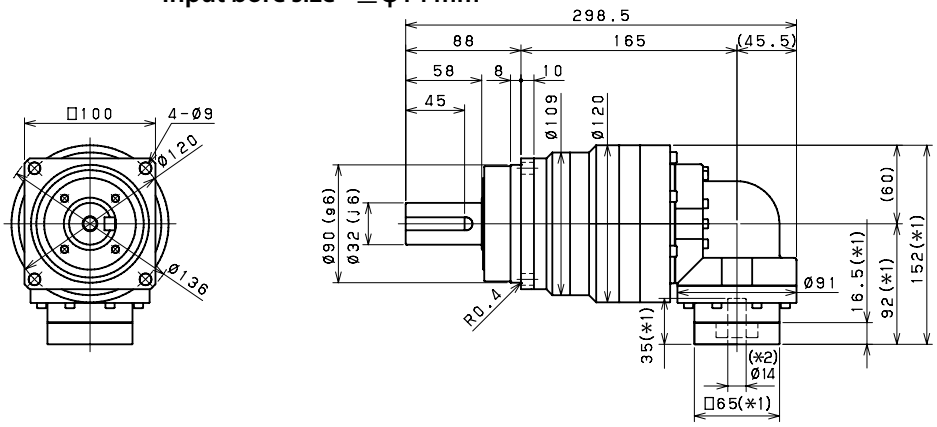
Keyed shaft Smooth shaft

*1) Length will vary depending on motor

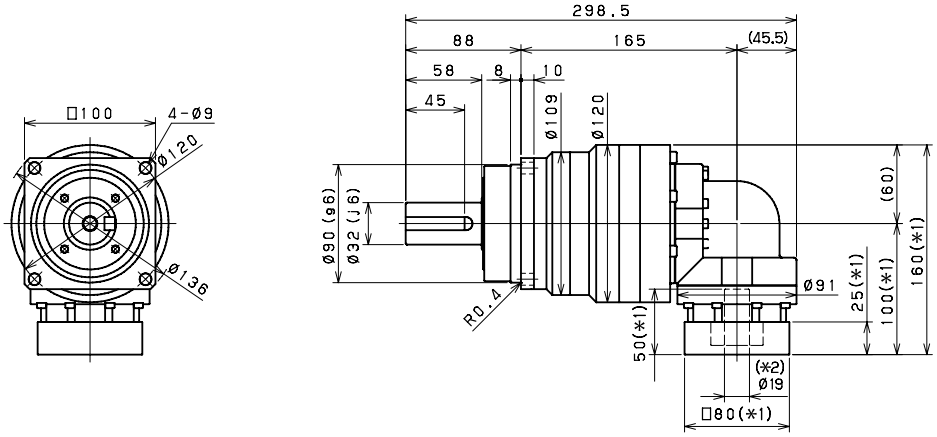
*2) Bushing will be inserted to adapt to motor shaft

EVS 100 3-Stage Dimensions

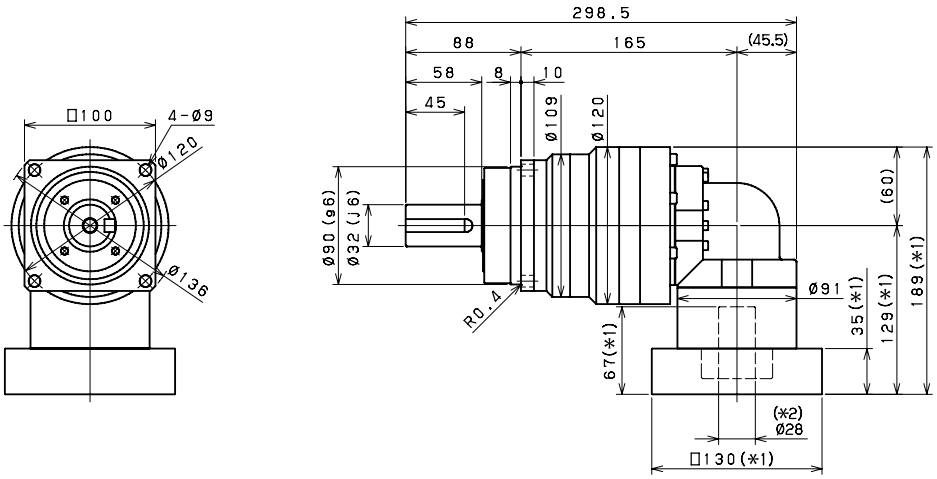
Input bore size ≦φ14 mm

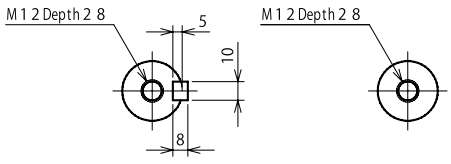


Input bore size ≦φ19 mm



Input bore size ≦φ28 mm





Keyed shaft Smooth shaft

*1) Length will vary depending on motor

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

EVS 140 2-Stage Specifications

Frame Size	140									
Stage	2-Stage									
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 (≤ Ø 19)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤ Ø 28)	[kgcm^2]	--	23.01	18.49	16.85	15.97	15.55	15.21	14.75	14.64
Moment of Inertia (≤ Ø 38)	[kgcm^2]	--	27.38	22.86	21.22	20.34	19.92	19.58	19.12	19.02
Moment of Inertia (≤ Ø 48)	[kgcm^2]	--	40.61	36.09	34.45	33.57	33.15	32.81	32.25	32.25
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	60							
Maximum Torsional Backlash	[arc-min]	--	≤ 4							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	20.6							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_0}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.

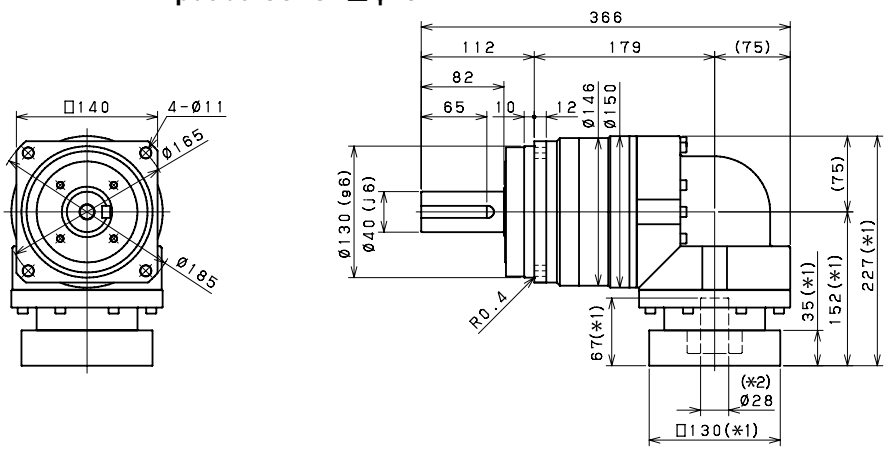
EVS 140 3-Stage Specifications

Frame Size	140									
Stage	3-Stage									
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 (≤ Ø 19)	[kgcm²]	--	6.40	7.29	6.22	6.15	7.09	4.99	6.09	4.94
Moment of Inertia (≤ Ø 28)	[kgcm²]	--	7.99	8.88	7.81	7.75	8.68	6.58	7.68	6.54
Moment of Inertia (≤ Ø 38)	[kgcm²]	--	15.06	15.95	14.88	14.82	15.75	13.66	14.76	13.61
Moment of Inertia (≤ Ø 48)	[kgcm²]	--	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88							
Torsional Rigidity	[Nm/arc-min]	*11	60							
Maximum Torsional Backlash	[arc-min]	--	≤ 7							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	20.7							

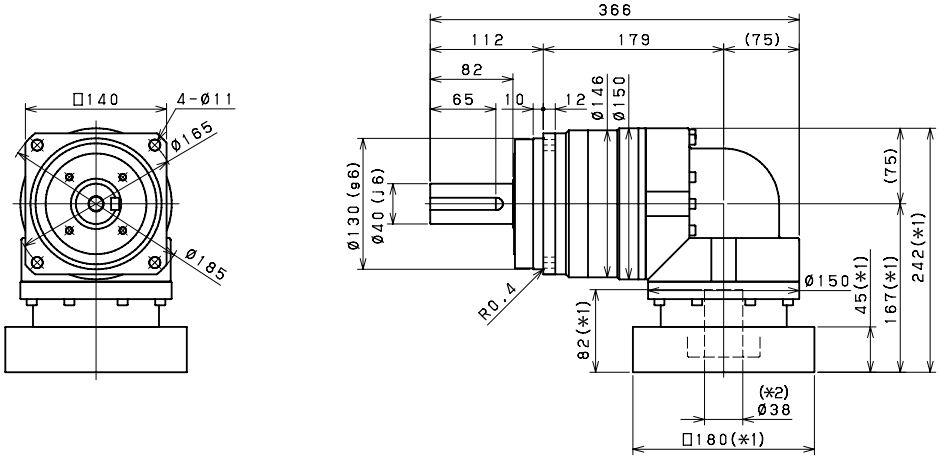
Frame Size	140								
Stage	3-Stage								
Ratio	Unit	Note	45	50	60	70	80	90	100
Nominal Output Torque	[Nm]	*1	240	352	352	352	352	240	240
Maximum Acceleration Torque	[Nm]	*2	480	687	687	687	687	480	480
Maximum Torque	[Nm]	*3	480	687	687	687	687	480	480
Emergency Stop Torque	[Nm]	*4	750	1100	1100	1100	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 (≤ Ø 19)	[kgcm²]	--	6.07	4.93	4.92	4.91	4.91	4.91	4.91
Moment of Inertia (≤ Ø 28)	[kgcm²]	--	7.66	6.52	6.51	6.51	6.50	6.50	6.50
Moment of Inertia (≤ Ø 38)	[kgcm²]	--	14.73	13.59	13.59	13.58	13.58	13.57	13.57
Moment of Inertia (≤ Ø 48)	[kgcm²]	--	--	--	--	--	--	--	--
Efficiency	[%]	*10	88						
Torsional Rigidity	[Nm/arc-min]	*11	60						
Maximum Torsional Backlash	[arc-min]	--	≤ 7						
Noise Level	dB [A]	*12	≤ 85						
Protection Class	--	*13	IP54 (IP65)						
Ambient Temperature	[°C]	--	0-40						
Permitted Housing Temperature	[°C]	--	90						
Weight	[kg]	*14	20.7						

EVS 140 2-Stage Dimensions

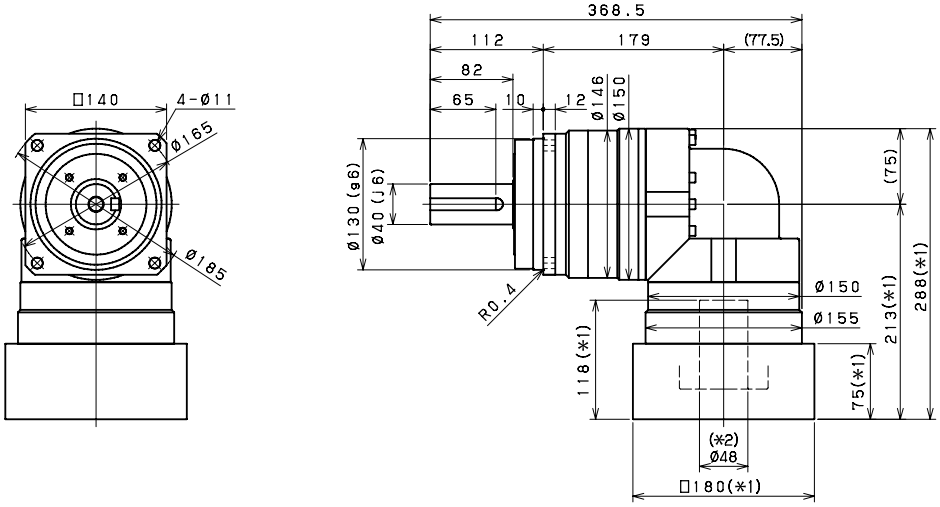
Input bore size ≦φ28 mm

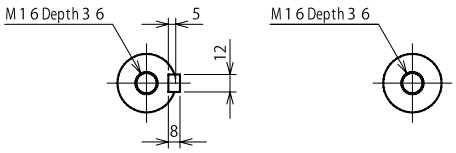


Input bore size ≦φ38 mm



Input bore size ≦φ48 mm





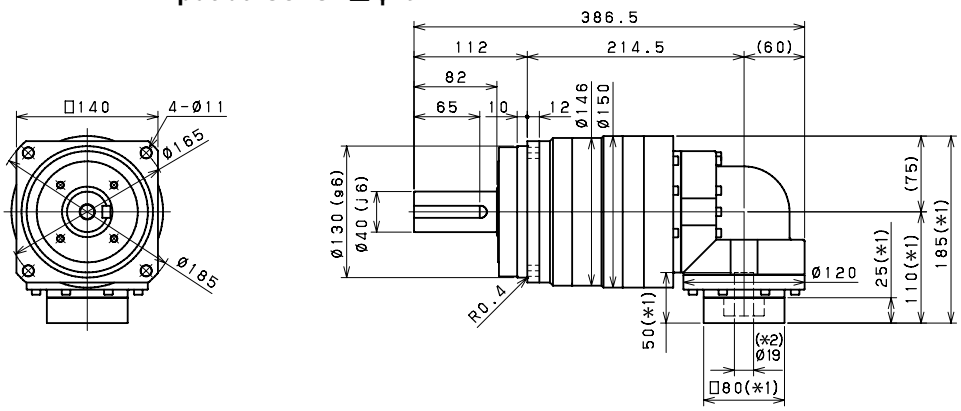
Keyed shaft Smooth shaft

*1) Length will vary depending on motor

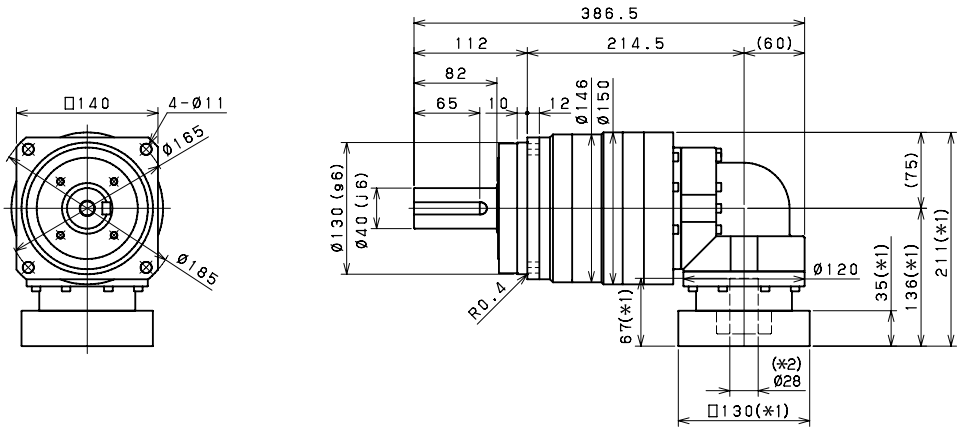
*2) Bushing will be inserted to adapt to motor shaft

EVS 140 3-Stage Dimensions

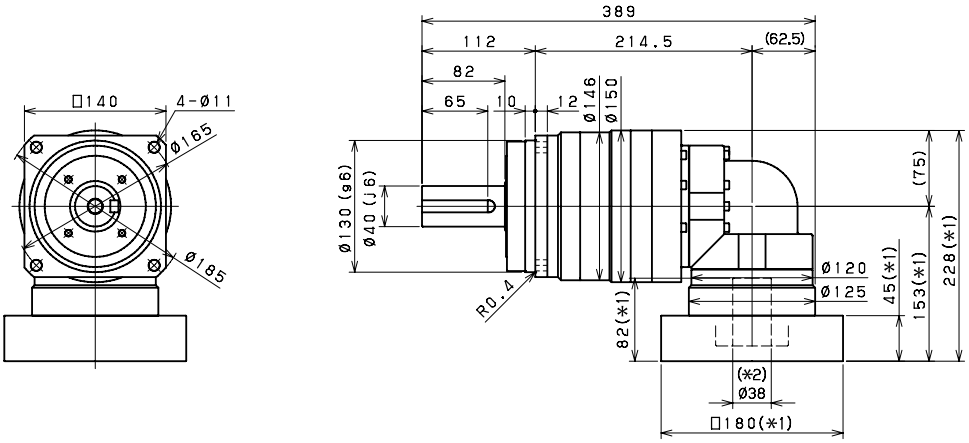
Input bore size ≦φ19 mm

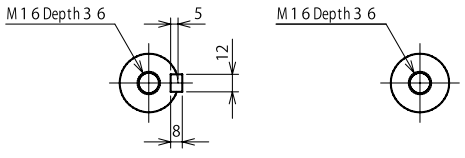


Input bore size ≦φ28 mm



Input bore size ≦φ38 mm





Keyed shaft

Smooth shaft

*1) Length will vary depending on motor

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

EVS 180 2-Stage Specifications

Frame Size	180									
Stage	2-Stage									
Ratio	Unit	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 (≤ Ø 28)	[kgcm^2]	--	--	--	--	--	--	--	--	--
Moment of Inertia (≤Ø 38)	[kgcm^2]	--	92.00	76.72	71.23	68.28	66.08	65.00	64.38	64.10
Moment of Inertia (≤Ø 48)	[kgcm^2]	--	126.90	111.60	106.10	103.10	100.90	99.86	99.25	98.97
Moment of Inertia (≤ Ø 65)	[kgcm^2]	--	212.5	197.2	191.7	188.7	186.6	185.5	184.9	184.6
Efficiency	[%]	*10	93							
Torsional Rigidity	[Nm/arc-min]	*11	175							
Maximum Torsional Backlash	[arc-min]	--	≤ 6							
Noise Level	dB [A]	*12	≤ 85							
Protection Class	--	*13	IP54 (IP65)							
Ambient Temperature	[°C]	--	0-40							
Permitted Housing Temperature	[°C]	--	90							
Weight	[kg]	*14	52							

*1) At nominal input speed, service life is 20,000 hours.
*2) The maximum torque when starting or stopping operation. Apply Cycle Factor $\mathbf{f_o}$, 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 SIT S.p.A. for the testing conditions and environment.
*13) IP65 (wash-down) is available as an option. Contact SIT S.p.A. for more details.
*14) Weight may vary slightly between models.