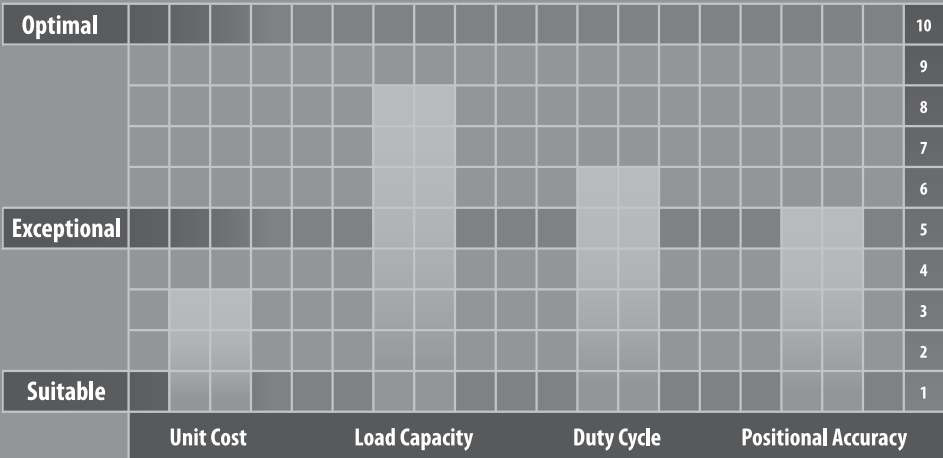


ER-SERIES

High reduction ratios, without sacrificing efficiency. Compact designs, without requiring special motors. Exceptional shock load capacity, without having to oversize. Greater overhung load capacities, without using expensive special components. The (Servo ER) Circulute is ideal for those applications in heavier industrial environments where a more robust cycloidal gearbox is necessary.

The dual pin-housing of the cycloidal provides the ability to pre-load one wheel against the other reducing the output shaft backlash to less than 6 arc-min. The long output shaft bearing span provides exceptional overhung load capabilities. At 3,000 rpm input the (Servo ER) Circulute can handle motors up to 12 kW and single reduction ratios ranging from 11:1 to 71:1.



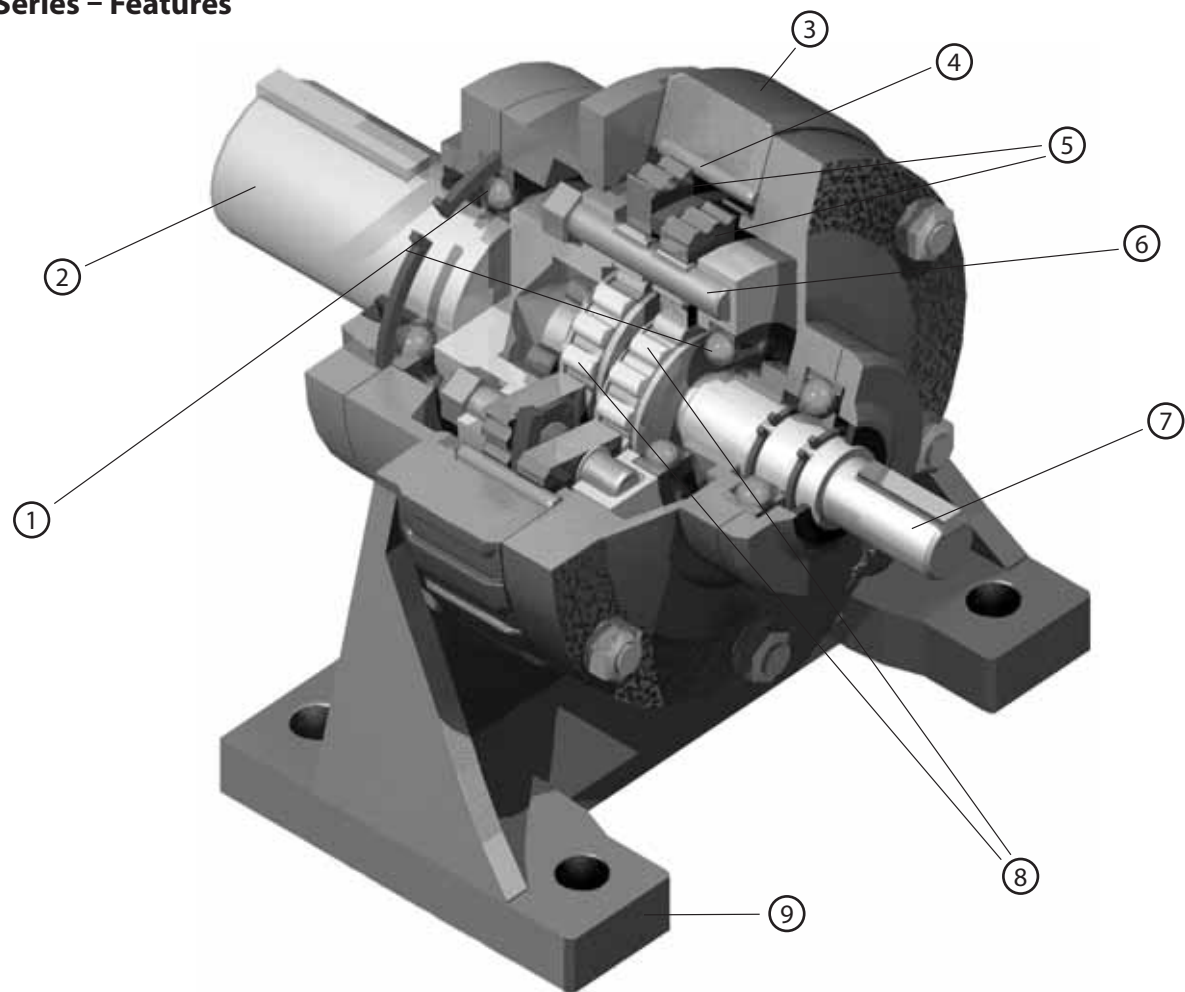


ER-SERIES

- High efficiency cycloidal reducer design
- Multiple inputs: NEMA C-Face, Servo Square Flange, Shaft Input, Shovel Base, Top Mount
- Straddle mount output shaft bearings (sizes D, E, F)
- Multiple mounting options: Base, flange, ring
- Readily available
- Assembled in the USA

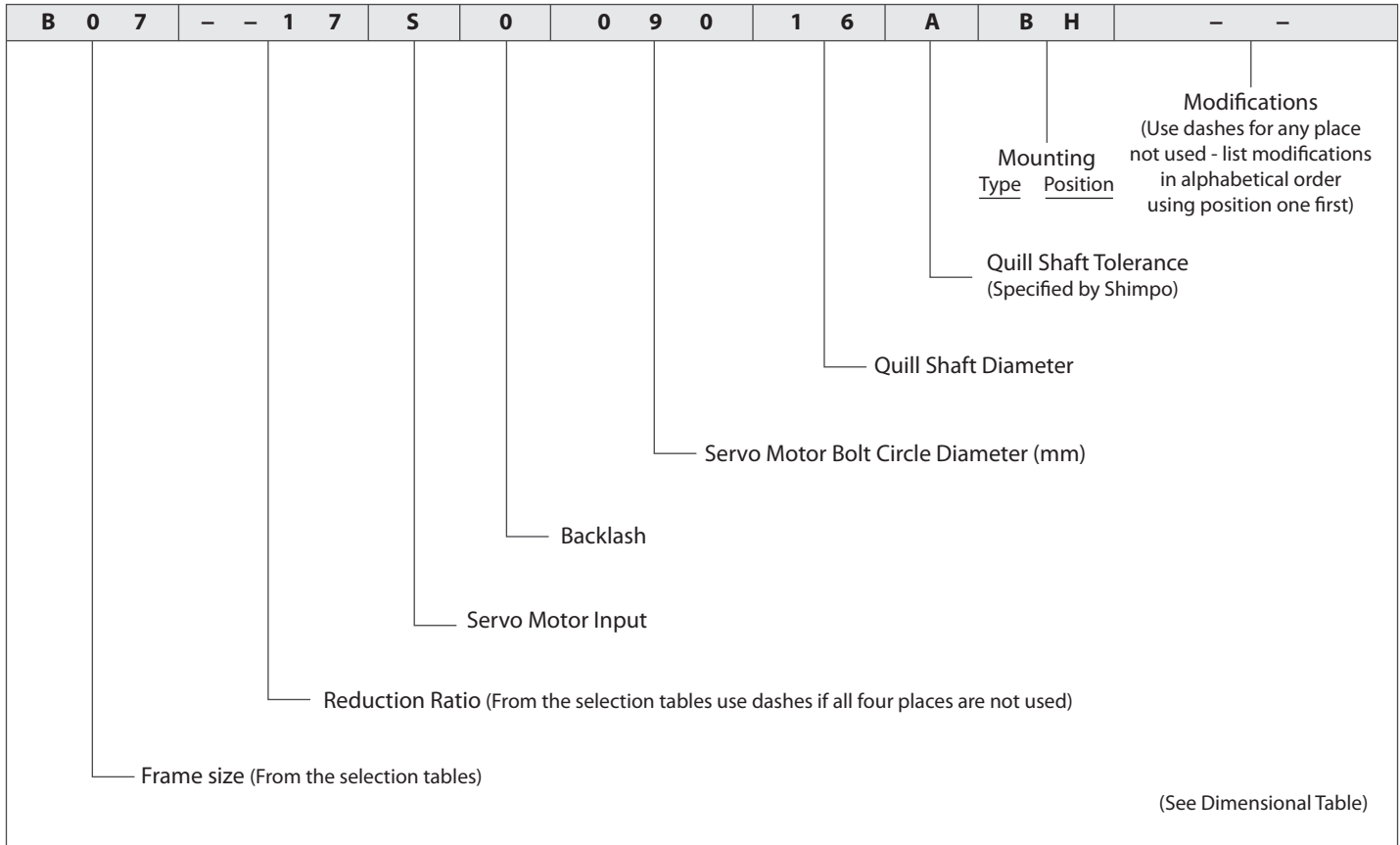
ER-SERIES Circulute 3000 cycloidal reducer

ER-Series – Features



- ① Output shaft bearings
- ② Output shaft
- ③ Internal pin housing
- ④ Internal pin
- ⑤ Wheels
- ⑥ Carrier pins
- ⑦ Input shaft
- ⑧ Eccentric roller bearings
- ⑨ Various mounting options

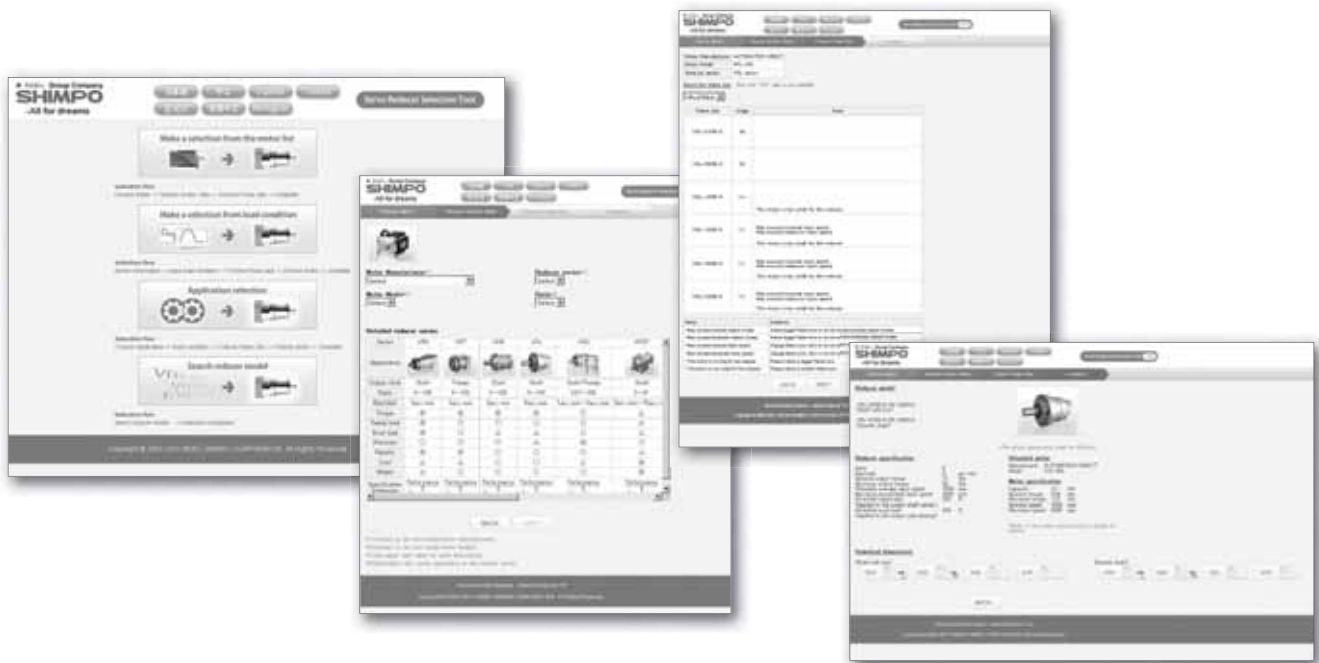
ER-Series – Model Code



Backlash

- *1) Standard Backlash: Approximately 60 arc-min - 0
- *2) Precision Backlash: Less than 6 arc-min - P

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



Rating Table - 3000 rpm Input, Single Reduction, Precision Backlash (less than 6 arc-min)

Frame Size	Ratio	Units	Notes	11	17	29	35	47	59	71
B03	Input	[kW]	--	1.430	1.160	0.710	0.560	0.390	0.320	0.250
	Nominal Output Torque	[Nm]	*1	45.000	56.300	59.200	56.600	52.800	54.000	51.400
	Emergency Stopping Torque	[Nm]	*2	112	141	148	141	132	135	128
	Torsional Rigidity	[Nm/arc-min]	--	3.000	4.700	5.000	5.400	5.400	5.400	5.400
	Moment of Inertia	[kg-cm ²]	--	0.716	0.969	0.927	0.927	0.927	0.927	0.927
B07	Input	[kW]	--	1.900	1.540	0.950	0.750	0.520	0.430	0.340
	Nominal Output Torque	[Nm]	*1	60.000	75.000	78.900	75.400	78.200	79.900	76.100
	Emergency Stopping Torque	[Nm]	*2	150	188	197	189	196	200	190
	Torsional Rigidity	[Nm/arc-min]	--	3.000	4.700	5.000	5.400	5.400	5.400	5.400
	Moment of Inertia	[kg-cm ²]	--	0.716	0.969	0.927	0.927	0.927	0.927	0.927
C03	Input	[kW]	--	2.910	2.690	1.690	1.550	1.080	0.860	0.710
	Nominal Output Torque	[Nm]	*1	91.700	131	140	155	145	145	144
	Emergency Stopping Torque	[Nm]	*2	229	328	350	388	362	362	361
	Torsional Rigidity	[Nm/arc-min]	--	6.200	11.200	11.900	12.600	12.600	12.600	12.600
	Moment of Inertia	[kg-cm ²]	--	3.118	3.412	4.171	4.129	4.086	4.086	4.086
C07	Input	[kW]	--	3.880	3.590	2.250	2.060	1.430	1.140	0.950
	Nominal Output Torque	[Nm]	*1	122	175	187	207	214	214	214
	Emergency Stopping Torque	[Nm]	*2	306	437	467	517	536	536	535
	Torsional Rigidity	[Nm/arc-min]	--	6.200	11.200	11.900	12.600	12.600	12.600	12.600
	Moment of Inertia	[kg-cm ²]	--	3.118	3.412	4.171	4.129	4.086	4.086	4.086
D03	Input	[kW]	--	6.830	5.380	3.400	3.010	2.240	1.720	1.360
	Nominal Output Torque	[Nm]	*1	215	262	282	302	302	290	277
	Emergency Stopping Torque	[Nm]	*2	538	654	705	754	754	725	693
	Torsional Rigidity	[Nm/arc-min]	--	17.800	23.000	25.200	27.400	27.400	27.400	27.400
	Moment of Inertia	[kg-cm ²]	--	7.752	10.996	12.007	11.754	11.754	11.754	11.501
D07	Input	[kW]	--	9.110	7.170	4.530	4.010	2.990	2.290	1.820
	Nominal Output Torque	[Nm]	*1	287	349	376	402	447	430	411
	Emergency Stopping Torque	[Nm]	*2	718	872	940	1,010	1,120	1,070	1,030
	Torsional Rigidity	[Nm/arc-min]	--	17.800	23.000	25.200	27.400	27.400	27.400	27.400
	Moment of Inertia	[kg-cm ²]	--	7.752	10.996	12.007	11.754	11.754	11.754	11.501

*1) The reducer can continuously sustain this torque value without overheating

*2) The reducer can sustain this torque value for 1000 cycles without failure

*3) Acceleration torque is 1.5 times the nominal output torque

Rating Table - 2000 rpm Input, Single Reduction, Precision Backlash (less than 6 arc-min)

Frame Size	Ratio	Units	Notes	11	17	29	35	47	59	71
E03	Input	[kW]	--	13.100	11.600	9.710	8.050	5.390	4.430	3.420
	Nominal Output Torque	[Nm]	*1	618	849	1,210	1,210	1,090	1,120	1,040
	Emergency Stopping Torque	[Nm]	*2	1,540	2,120	3,030	3,030	2,730	2,800	2,600
	Torsional Rigidity	[Nm/arc-min]	--	54.800	70.400	85.200	85.200	85.200	85.200	85.200
	Moment of Inertia	[kg-cm ²]	--	31.512	52.661	49.291	48.869	48.448	48.448	48.027
E07	Input	[kW]	--	17.400	15.500	13.000	10.700	7.190	5.910	4.570
	Nominal Output Torque	[Nm]	*1	824	1,130	1,610	1,610	1,450	1,500	1,390
	Emergency Stopping Torque	[Nm]	*2	2,060	2,660	3,520	3,520	3,520	3,520	3,480
	Torsional Rigidity	[Nm/arc-min]	--	54.800	70.400	85.200	85.200	85.200	85.200	85.200
	Moment of Inertia	[kg-cm ²]	--	31.512	52.661	49.291	48.869	48.448	48.448	48.027
F03	Input	[kW]	--	20.200	19.900	17.000	14.800	10.800	8.170	6.790
	Nominal Output Torque	[Nm]	*1	953	1,450	2,120	2,230	2,180	2,070	2,070
	Emergency Stopping Torque	[Nm]	*2	2,380	3,630	5,300	5,580	5,450	5,180	5,180
	Torsional Rigidity	[Nm/arc-min]	--	116.700	122.300	133.400	133.400	133.400	133.400	133.400
	Moment of Inertia	[kg-cm ²]	--	87.628	74.989	130.178	127.650	127.650	127.650	125.122
F07	Input	[kW]	--	26.900	26.500	22.600	19.800	14.400	10.900	9.060
	Nominal Output Torque	[Nm]	*1	1,270	1,940	2,820	2,970	2,900	2,760	2,760
	Emergency Stopping Torque	[Nm]	*2	3,180	4,850	7,050	7,350	7,350	6,900	6,900
	Torsional Rigidity	[Nm/arc-min]	--	116.700	122.300	133.400	133.400	133.400	133.400	133.400
	Moment of Inertia	[kg-cm ²]	--	87.628	74.989	130.178	127.650	127.650	127.650	125.122

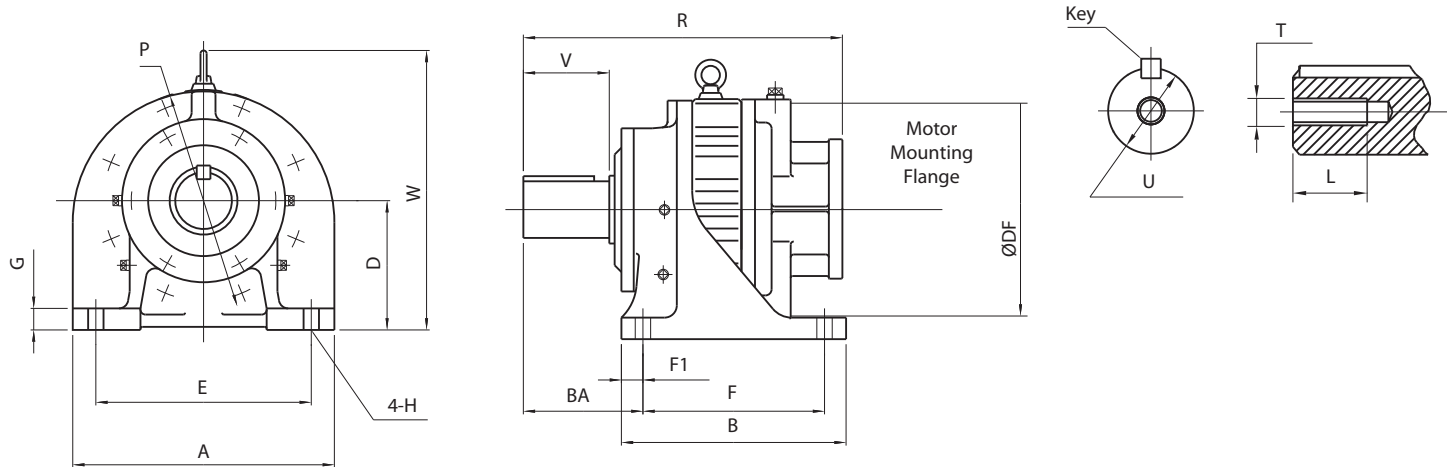
*1) The reducer can continuously sustain this torque value without overheating

*2) The reducer can sustain this torque value for 1000 cycles without failure

*3) Acceleration torque is 1.5 times the nominal output torque

ER-SERIES Circulute 3000 cycloidal reducer

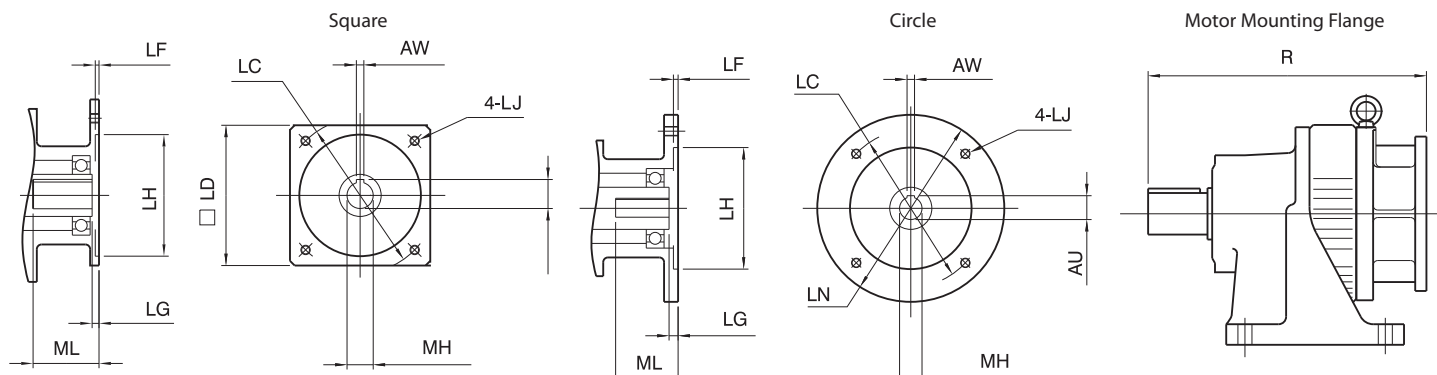
ER Common Dimensions – Single Stage Base Mount



Frame Size	Units	A	B	BA	D	DF	E	F	F1	G	H	P
A03 - A07	[mm]	175.01	119.89	65.28	89.99	N/A	145.03	89.92	14.99	16.00	11.94	147.07
A190 - A195	[mm]	180.09	134.87	59.94	100.00	N/A	150.11	89.92	14.99	11.94	10.92	147.07
B01 - B07	[mm]	175.01	150.11	85.85	115.01	N/A	145.03	119.89	14.99	16.00	11.94	150.11
B195 - B105	[mm]	180.09	134.87	59.94	100.00	N/A	150.11	89.92	14.99	11.94	10.92	150.11
B20H	[mm]	180.09	134.87	59.94	119.99	N/A	150.11	89.92	14.99	11.94	10.92	150.11
C01 - C07	[mm]	219.96	189.99	103.38	140.00	N/A	180.09	150.11	20.07	22.10	14.99	189.99
C110 - C115	[mm]	230.12	154.94	82.04	119.99	N/A	189.99	115.06	20.07	14.99	13.97	189.99
C225	[mm]	230.12	154.94	82.04	140.00	N/A	189.99	115.06	20.07	14.99	13.97	189.99
D01 - D07	[mm]	275.08	230.12	135.38	165.00	N/A	225.04	180.09	24.89	25.91	19.05	234.95
D135	[mm]	330.20	195.07	100.08	149.99	N/A	290.07	145.03	24.89	22.10	18.03	234.95
D145	[mm]	330.20	195.07	119.89	149.99	N/A	290.07	145.03	24.89	22.10	18.03	234.95
D225	[mm]	330.20	195.07	119.89	159.99	N/A	290.07	145.03	24.89	22.10	18.03	233.68
E01 - E07	[mm]	359.92	299.97	150.88	184.99	312.93	299.97	249.94	24.89	29.97	22.10	299.97
E165	[mm]	409.96	238.00	138.94	159.99	312.93	369.82	150.11	43.94	24.89	18.03	299.97
E370 - E375	[mm]	430.02	335.03	124.97	200.00	312.93	379.98	275.08	29.97	29.97	22.10	414.02
F03 - F07	[mm]	424.94	365.00	194.82	210.01	368.05	350.01	294.89	35.05	35.05	24.89	359.92

*1) Sizes A through B do not have a lifting eye

ER Flange Dimensions – Single Stage Base Mount



Frame Size	LC	LD	LF	LG	LH	LN	LJ	MH	ML	R	Net Weight (kg)
A03 - A07	70	--	5	5	50	120	M5	14, 16	37	202.692	9.98
	90	--	5	7	70	120	M6	16, 19	57	212.60	9.98
	100	--	7	7	80	120	M6	16, 19	--	214.63	9.98
	115	100	7	7	95	--	M6	19, 24	57	212.60	9.98
	145	110	7	8	110	--	M8	22, 24	--	212.60	12.70
B03 - B07	70	--	5	5	50	120	M5	14, 16	37	238.00	16.33
	90	--	5	7	70	120	M6	16, 19	57	247.90	16.33
	100	--	7	7	80	120	M6	16, 19	--	249.94	16.33
	115	100	7	7	95	--	M6	19, 24	57	247.90	16.33
	145	110	7	8	110	--	M8	22, 24	--	247.90	17.23
C03 - C07	90	--	7	7	70	160	M6	16	--	293.88	30.84
	100	--	7	7	80	120	M6	16, 19	--	300.99	30.84
	115	130	7	7	95	--	M6	22, 24	--	293.88	30.84
	145	130	7	8	110	--	M8	24, 28	--	293.88	30.84
	200	176	7	7	114.3	--	M12	28, 35	--	328.93	38.55
D03 - D07	115	--	7	7	95	200	M6	22, 24	--	354.08	52.15
	145	130	8	8	110	--	M8	22, 24	--	349.00	52.15
	165	--	8	8	130	200	M10	24, 28	--	360.93	52.15
	200	176	10	7	114.3	--	M12	28, 35	--	378.97	56.69
	215	--	10	10	180	300	M12	35, 38	--	399.03	61.22
E03 - E07	145	--	10	7	110	250	M8	24, 28	--	409.96	111.56
	165	176	7	7	130	--	M12	24, 28	--	399.03	101.59
	200	176	7	6	114.3	--	M12	28, 35	--	399.03	101.59
	215	--	10	11	180	300	M12	35, 38	--	459.99	116.55
	235	--	8	11	200	350	M12	38, 42	--	494.03	129.71
F03 - F07	200	--	10	7	114.3	300	M12	28, 35	--	546.10	207.71
	215	--	10	8	180	300	M12	35, 38	--	546.10	207.71
	235	--	5	11	200	300	M12	38, 42	--	546.10	207.71
	265	--	5	11	230	400	M12	42, 48	--	564.90	219.50

MH	AU	AW	ML
14	16	5	32
16	18	5	37
19	21.5	6	42
22	25	8	57
24	27	8	67

MH	AU	AW	ML
28	31	8	67
35	38	10	67
38	41	10	88
42	45	12	118
48	51.5	14	118

*1) Other servo flanges and bore sizes are available. Contact Shimpo Drives Customer Service for additional information

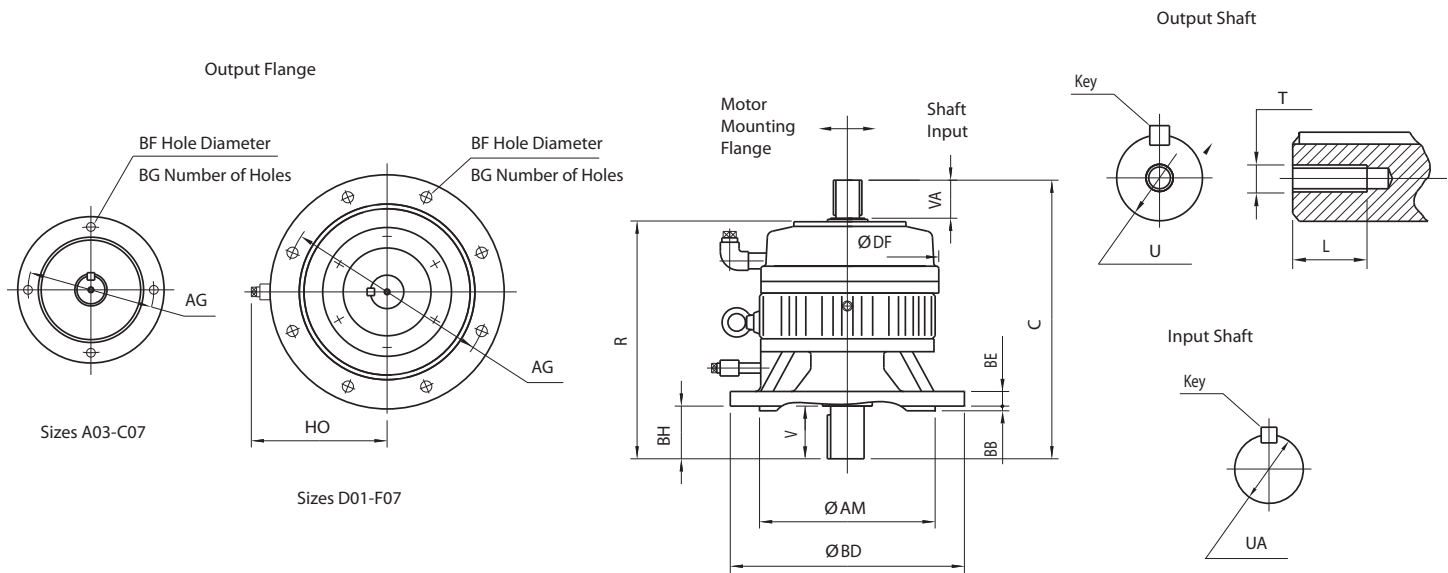
*2) All dimensions are in mm, except for «R» dimension, which is in inches

*3) To download CAD drawings, visit our website: www.shimpodrives.com

*4) The "R" dimension is the length from input flange face to output shaft end

ER-SERIES Circulute 3000 cycloidal reducer

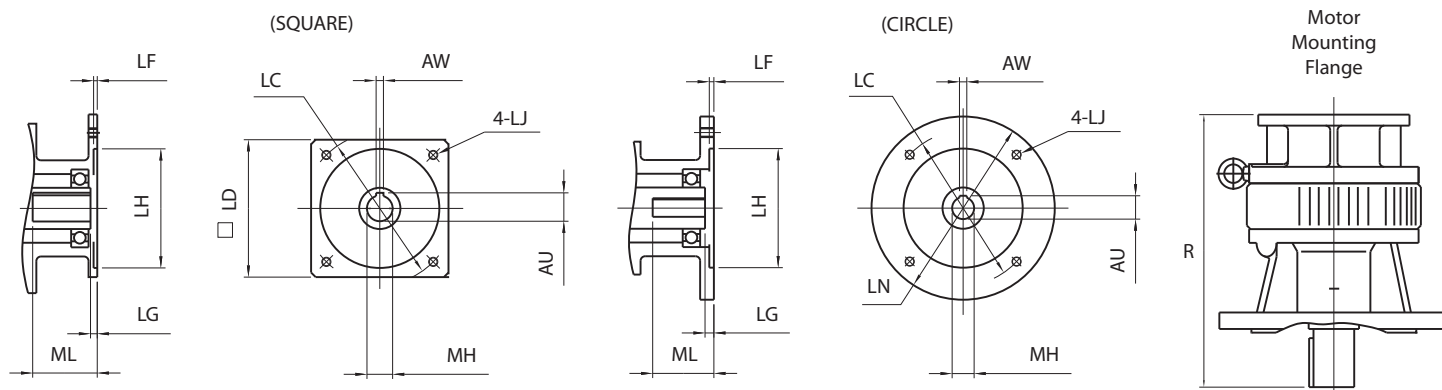
ER Common Dimensions – Single Stage Flange Mount



Frame Size	Units	AG	AM	BB	BD	BE	BF	BG	BH	HO
A03 - A07	[mm]	130.05	110.01	4.06	160.02	13.97	11.94	101.60	29.97	N/A
B01 - B07	[mm]	165.10	130.00	4.06	199.90	13.97	11.94	101.60	40.13	N/A
C01 - C07	[mm]	214.88	180.01	4.06	249.94	18.03	14.99	101.60	55.12	N/A
D01 - D07	[mm]	264.92	230.00	5.08	299.97	22.10	14.99	203.20	70.10	184.91
E01 - E07	[mm]	350.01	300.00	7.87	400.05	24.89	19.05	203.20	89.92	230.12
F03 - F07	[mm]	400.05	350.01	7.87	450.09	24.89	19.05	203.20	109.98	260.10

Frame Size	Units	Output Shaft				
		U	V	Key	T	L
A03 - A07	[mm]	22.23	30.23	4.78x4.78x24.89	N/A	N/A
B01 - B07	[mm]	34.925	50.80	7.95x7.95x44.96	N/A	N/A
C01 - C07	[mm]	44.450	63.50	9.53x9.53x54.86	N/A	N/A
D01 - D07	[mm]	63.500	95.25	15.88x15.88x74.93	M10 x 1.5	18.03
E01 - E07	[mm]	73.025	111.00	19.05x19.05x95.00	M20 x 2.5	35.05
F03 - F07	[mm]	92.075	139.70	22.23x22.23x115.06	M20 x 2.5	35.05

ER Flange Dimensions – Single Stage Flange Mount



Frame Size	LC	LD	LF	LG	LH	LN	LJ	MH	ML	R	Net Weight (kg)
A03 - A07	70	--	5	5	50	120	M5	14, 16	37	202.69	9.98
	90	--	5	7	70	120	M6	16, 19	57	212.60	9.98
	100	--	7	7	80	120	M6	16, 19	--	214.63	9.98
	115	100	7	7	95	--	M6	19, 24	57	212.60	9.98
	145	110	7	8	110	--	M8	22, 24	--	212.60	12.70
B03 - B07	70	--	5	5	50	120	M5	14, 16	37	238.00	16.33
	90	--	5	7	70	120	M6	16, 19	57	247.90	16.33
	100	--	7	7	80	120	M6	16, 19	--	249.94	16.33
	115	100	7	7	95	--	M6	19, 24	57	247.90	16.33
	145	110	7	8	110	--	M8	22, 24	--	247.90	17.23
C03 - C07	90	--	7	7	70	160	M6	16	--	293.88	30.84
	100	--	7	7	80	120	M6	16, 19	--	300.99	30.84
	115	130	7	7	95	--	M6	22, 24	--	293.88	30.84
	145	130	7	8	110	--	M8	24, 28	--	293.88	30.84
	200	176	7	7	114.3	--	M12	28, 35	--	328.93	38.55
D03 - D07	115	--	7	7	95	200	M6	22, 24	--	354.08	52.15
	145	130	8	8	110	--	M8	22, 24	--	349.00	52.15
	165	--	8	8	130	200	M10	24, 28	--	360.93	52.15
	200	176	10	7	114.3	--	M12	28, 35	--	378.97	56.69
	215	--	10	10	180	300	M12	35, 38	--	399.03	61.22
E03 - E07	145	--	10	7	110	250	M8	24, 28	--	409.96	111.56
	165	176	7	7	130	--	M12	24, 28	--	399.03	101.59
	200	176	7	6	114.3	--	M12	28, 35	--	399.03	101.59
	215	--	10	11	180	300	M12	35, 38	--	459.99	116.55
	235	--	8	11	200	350	M12	38, 42	--	494.03	129.71
F03 - F07	200	--	10	7	114.3	300	M12	28, 35	--	546.10	207.71
	215	--	10	8	180	300	M12	35, 38	--	546.10	207.71
	235	--	5	11	200	300	M12	38, 42	--	546.10	207.71
	265	--	5	11	230	400	M12	42, 48	--	564.90	219.50

MH	AU	AW	ML
14	16	5	32
16	18	5	37
19	21.5	6	42
22	25	8	57
24	27	8	67

MH	AU	AW	ML
28	31	8	67
35	38	10	67
38	41	10	88
42	45	12	118
48	51.5	14	118

- *1) Other servo flanges and bore sizes are available. Contact Shimpo Drives Customer Service for additional information
- *2) All dimensions are in mm, except for «R» dimension, which is in inches
- *3) To download CAD drawings, visit our website: www.shimpodrives.com