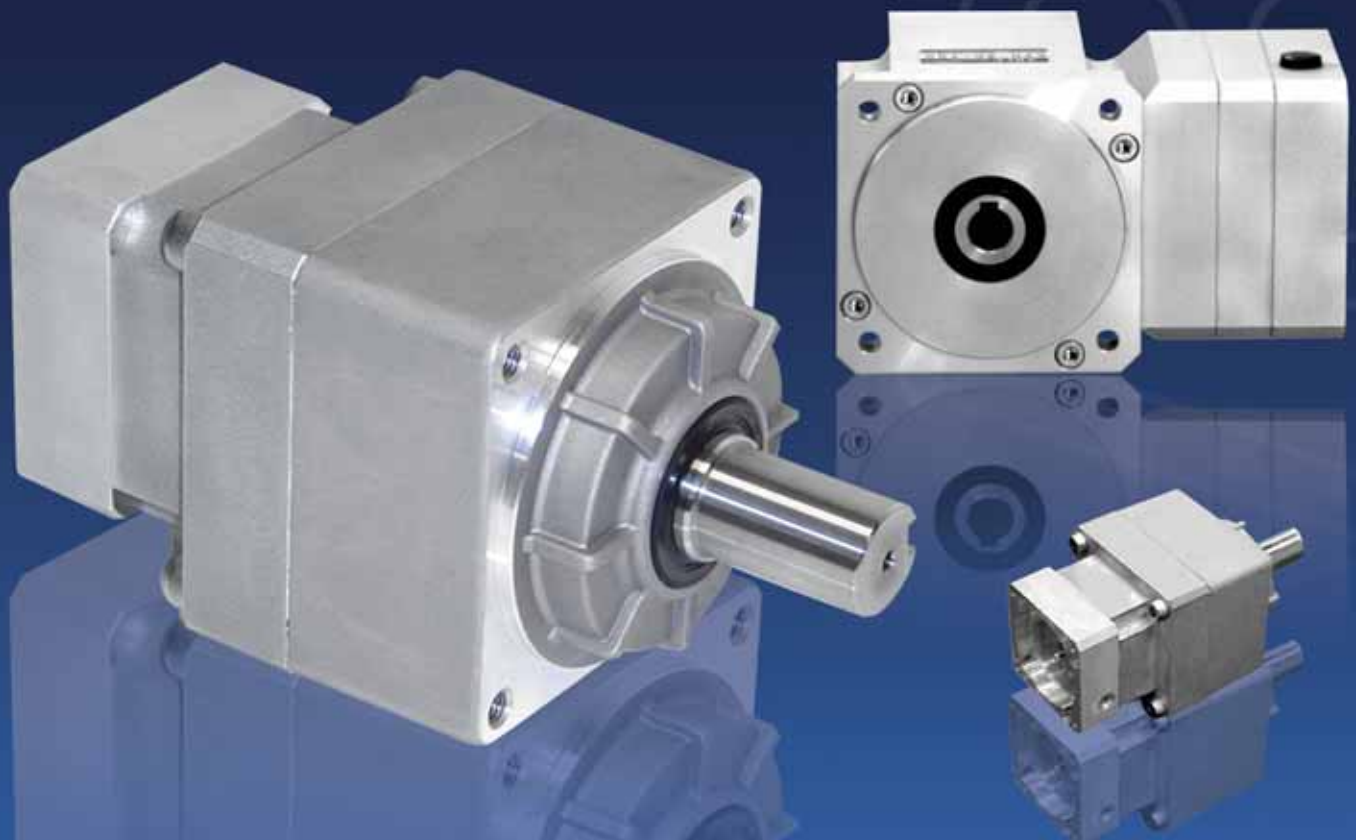


SHIMPO VRAF-Series

ABLE Planetary Servo Reducers



Your Low Cost Servo Reducer Solution

3 Backlash Levels, as low as 3 arc-min

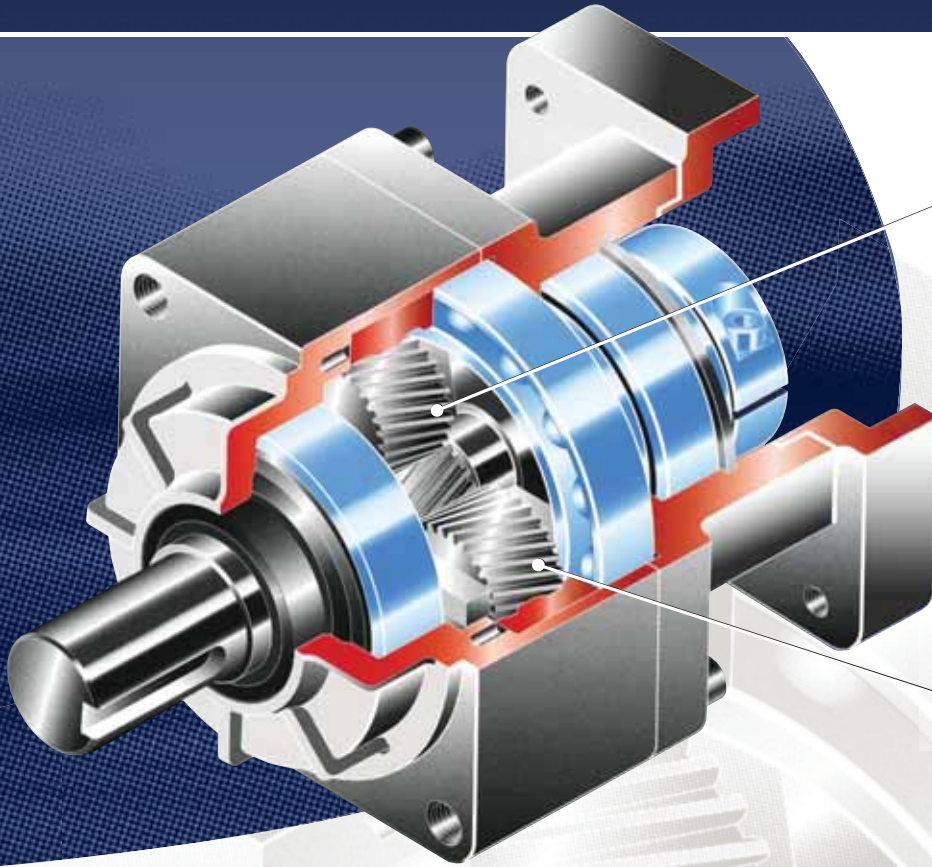
IP65 environment protection

Motor adaptors for any servo motor, 50w through 5kW

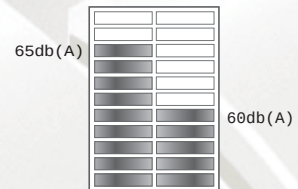
Most units ship in less than 48 hours

SHIMPO
All for dreams

Hear the difference Helical Gears make...



Helical gears have slanted teeth compared to spur gears with straight cut teeth, producing a smoother gear mesh, yielding significantly lower noise levels.



Typical sound level difference between spur gearing (left) and helical cut gearing. The db(A) scale is logarithmic. An increase of 3db doubles the apparent volume.

Features & Benefits

Case carburized and hard-cut helical gears (right angle has spiral bevel gear)

- Smooth, quiet operation
- Input speeds up to 6000 RPM

O-Ring in piloted adaptor flange (Patent Pending)

- Absorbs clearance between motor and adaptor eliminating misalignment and minimizing vibration
- Provides additional seal to keep contaminants out

Modular adaptor flange and keyless compressible bushings

- Easily adapts to any manufacturer's servo motor
- 2 day shipping

Grease lubrication

- Allows mounting in any position without modifications
- 20,000 hour maintenance free operation

Contact lip seals and sealed input shaft bearing (IP64 rating)

- Excellent protection against lubricant leakage and external contamination
- Can be easily modified for an IP65 rating (optional epoxy or Steel-It® paint available)

ACCULOK keyless locking hub

- Provides tight fit with motor shaft (key is not required) without adding backlash

Oversized bearings

- Exceptional output shaft overhung and thrust load capabilities

Standard, low, and precision backlash available in the same housing design

- Choose only the level of precision you need for your application without having to modify your design
- Housing style matches shape of servo motor

Optional output flanges

- Versatility in mounting

Model Number Chart

Model	A	F	Frame	Ratio	Backlash	Motor Attachment	Bushings	Modifications
								1 2 3 (See Notes Below)

Model

Ordering Code

VR	Concentric
NEV	Right Angle

Frame Size

Ordering Code

A	A Frame
B	B Frame
C	C Frame
D	D Frame
E	E Frame

Backlash

Ordering Code

0	Standard
L	Low
P	Precision

Adaptor Flange Re-Threaded Hole

(with T Code)

Standard	T
M3	M4
M4	M5
M5	M6
M6	M8
M8	M10
M10	M12

Ratio

Ordering Code VRAF/VRSF

03	Single Reduction	3:1
05		5:1
09		9:1
15	Double Reduction	15:1
20		20:1
25		25:1
35		35:1
45		45:1
81		81:1

Ordering Code

NEVAF/NEVSF

03	Single Reduction	3:1
05		5:1
09		9:1
15	Double Reduction	15:1
27		27:1
45		45:1
75		75:1
IH		105:1

Motor Attachment (Bolt Circle of motor in mm)

Ordering Code

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

Input

Ordering Code

A	Adaptor Flange
K	Dedicated w/Key
S	Dedicated w/clamp hub

Bushing

Ordering Code
OD(mm) ID(mm)

0000	No Bushing Required	
00__	Non-catalog dedicated bore in mm- specify	
0801	8	6
0802	8	6.350
0803	8	5
1401	14	6
1402	14	8
1403	14	11
1404	14	6.350
1405	14	9.525
1406	14	12.700
1407	14	12
1408	14	10
1409	14	9
1410	14	5
1901	19	11
1902	19	14
1903	19	16
1904	19	9.525
1905	19	12.700
1906	19	15.875
1907	19	12
1908	19	10
1909	19	9
2401	24	14
2402	24	16
2403	24	19
2404	24	12.700
2405	24	15.875
2406	24	22
2407	24	19.050

Modifications/Motor Attachment Threaded Hole

Ordering Code

000	Standard
1	VR - w/metric output flange
N	VR - w/NEMA output flange
5	Keyless output shaft
6	NEV - solid shaft
7	NEV - hollow shaft
I	IP65 - no paint - standard grease
F	Food grade grease - no paint - IP65
G	Food grade grease - Steel-It paint - IP65
S	Steel-It paint - standard grease - IP65
W	White epoxy paint - standard grease - IP65
X	Food grade grease - white epoxy paint - IP65
T	Re-tap motor attachment flange one size larger
H	Through hole on motor attachment flange
L	Larger through hole on motor attachment flange
B	Pilot diameter reduced
R	Deeper motor attachment flange/add spacer plate
A_	Specify

Notes:

1, N, 6, or 7 is always in position 1 the modification section. 5 is in position one unless 1 or N is present.

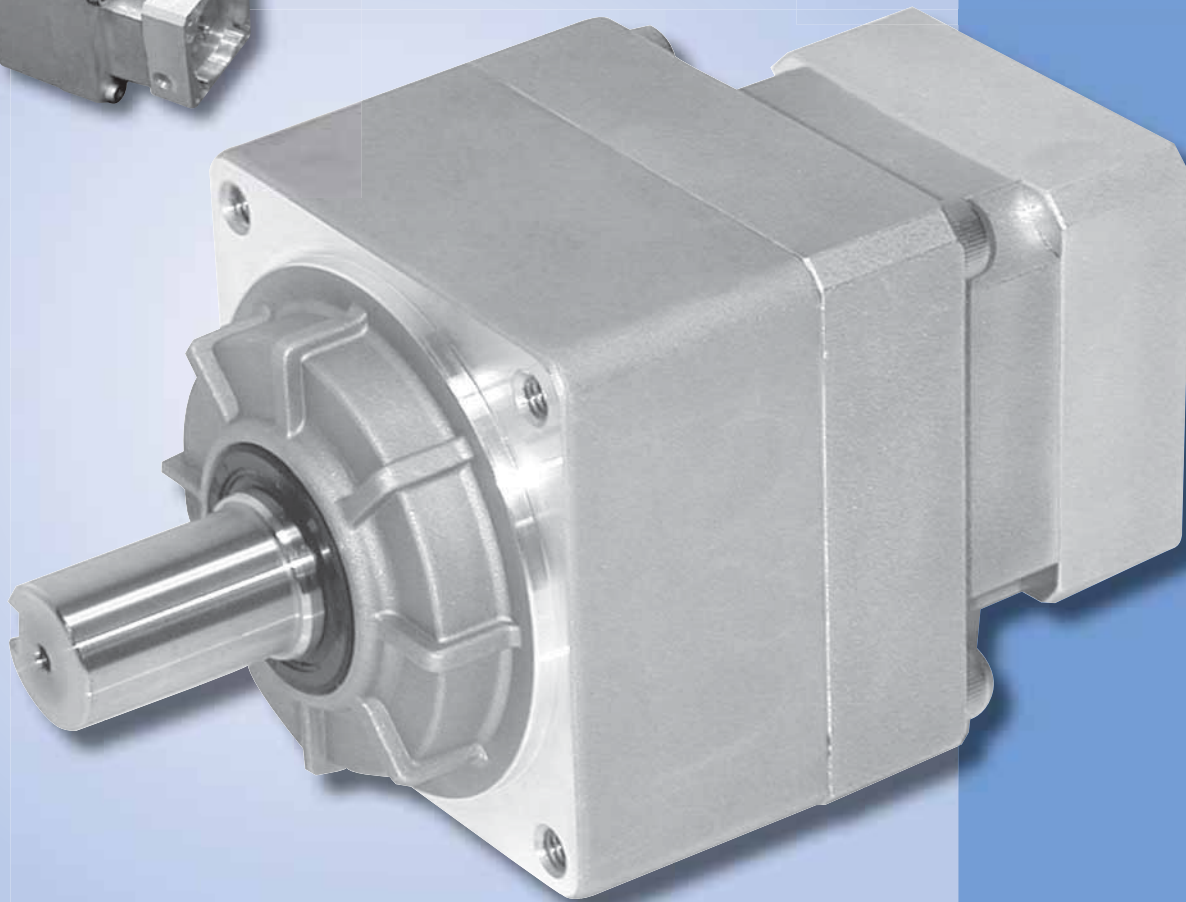
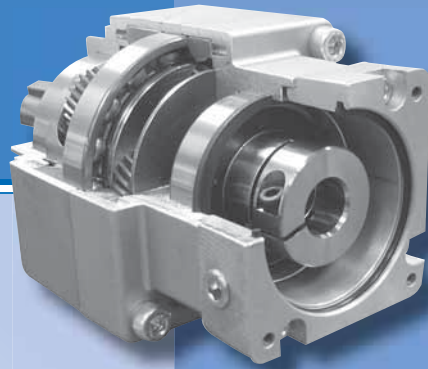
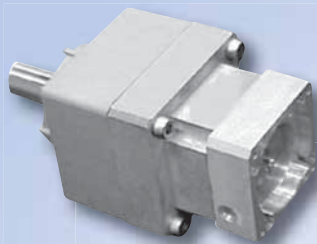
B or R is always in position 3 of the modification section. If position 1 is not taken by 1, N, 5, 6, or 7, list first modification in position 1. If there is more than one modification, list in alphabetical order.

Use 0's (zeros) in any position not taken by a modification.

Options & Modifications Available

- ➔ Custom motor attachment dimensions
- ➔ Food grade grease (needed when unit is placed above the food line)
- ➔ Stainless steel output shaft
- ➔ Custom ratios
- ➔ Custom outputs
- ➔ Output shaft drilled and tapped

VR CONCENTRIC Shaft Series



Sizes from 50W to 5000W

Ratios from 3:1 to 81:1

Backlash from 3 arc-min

Input speeds up to 6000 RPM

VRAF/VRSF Concentric Shaft Series Selection Table

Based on 3000 RPM Input

Motor Rated Output (W)	Ratio								
	3:1	5:1	9:1	15:1	20:1	25:1	35:1	45:1	81:1
50								C	
100	B							C	
200								D	
400								D	
500								E	
600	C							D	
750									
1000									
1200	D							E	
1500									
2000									
2500									
3000	E							See Circulate 3000 Catalog	
3500									
4000									
4500									
5000									

3:1, 5:1, & 9:1 are single reduction, 15:1, 20:1, 25:1, 35:1, 45:1, & 81:1 are double reduction.
Other sizes and ratios available. Contact Shimpo Drives Customer Service for additional information.

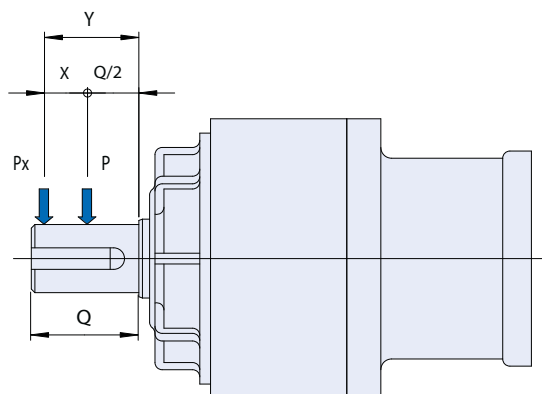
VR Overhung Load

When a radial load is being applied to the shaft in a position other than the center, calculate the overhung load using the following equation:

$$P_x = [K / K + (Y - Q / 2)] \times P$$

- P:** Allowable radial load
(N or lbs from specification table)
- K:** Constant (from table below)
- Y:** Position of radial load
- P_x:** Actual overhung load
- Q:** Output shaft length

Frame Size	Constant (K)		Q	
	mm	in	mm	in
B	46	1.81	20	0.79
C	70	2.76	30	1.18
D	79.5	3.13	40	1.57
E	105	4.13	55	2.17



VRAF/VRSF Concentric Shaft Series Specifications

Frame Size	Ratio	Nominal Output Torque (1)		Maximum Acceleration Output Torque		Emergency Stop Output Torque (2)		Moment of Inertia		Torsional Stiffness		Maximum Input Speed
		Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	kgfcm ²	lb-in-sec ²	Nm/ arc-min	in-lbs/ arc-min	RPM
B	3:1	3.9	35	10	88	17	150	0.197	0.000174	0.8	7	6000
	5:1	5.6	50	13	115	17	150	0.170	0.000150			
	9:1	4.9	43	12	106	17	150	0.162	0.000143			
	15:1	4.8	42	12	106	17	150	0.041	0.000036			
	20:1	4.8	42	12	106	17	150	0.041	0.000036			
	25:1	6.4	57	13	115	17	150	0.040	0.000035			
	35:1	6.4	57	13	115	17	150	0.020	0.000018			
	45:1	6.4	57	13	115	17	150	0.004	0.000004			
	81:1	6.4	57	13	115	17	150	0.004	0.000004			
C	3:1	21	186	47	416	93	823	1.182	0.001046	3	27	6000
	5:1	21	186	47	416	93	823	0.902	0.000798			
	9:1	21	186	47	416	93	823	0.821	0.000726			
	15:1	26	230	47	416	93	823	0.331	0.000293			
	20:1	26	230	47	416	93	823	0.331	0.000293			
	25:1	26	230	47	416	93	823	0.319	0.000282			
	35:1	26	230	47	416	93	823	0.160	0.000141			
	45:1	26	230	47	416	93	823	0.035	0.000031			
	81:1	26	230	47	416	93	823	0.035	0.000031			
D	3:1	30	265	74	655	131	1159	3.203	0.002834	6	53	5100
	5:1	33	292	81	717	131	1159	2.478	0.002193			
	9:1	38	336	93	823	131	1159	2.217	0.001962			
	15:1	45	398	104	920	131	1159	0.906	0.000802			
	20:1	45	398	104	920	131	1159	0.906	0.000802			
	25:1	54	478	104	920	131	1159	0.876	0.000775			
	35:1	54	478	104	920	131	1159	0.440	0.000390			
	45:1	54	478	104	920	131	1159	0.031	0.000027			
	81:1	49	434	104	920	131	1159	0.036	0.000027			
E	3:1	87	770	158	1398	316	2815	5.780	0.005104	20	177	5000
	5:1	87	770	158	1398	316	2815	3.750	0.003311			
	9:1	87	770	158	1398	316	2815	2.809	0.002480			
	15:1	108	956	197	1744	393	3478	2.800	0.002472			
	20:1	108	956	197	1744	393	3478	2.800	0.002472			
	25:1	108	956	197	1744	393	3478	2.800	0.002379			
	35:1	108	956	197	1744	393	3478	2.800	0.001202			
	45:1	108	956	197	1744	393	3478	0.245	0.000216			
	81:1	108	956	197	1744	393	3478	0.240	0.000212			

3:1, 5:1, & 9:1 are single reduction, 15:1, 20:1 25:1, 35:1 45:1, and 81:1 are double reduction.

(1) Based on B10 bearing life of 10000 hours and 3000 RPM input.

(2) Based on 1000 cycles.

(3) Measured at a distance of 1 meter at 3000 RPM input at no load

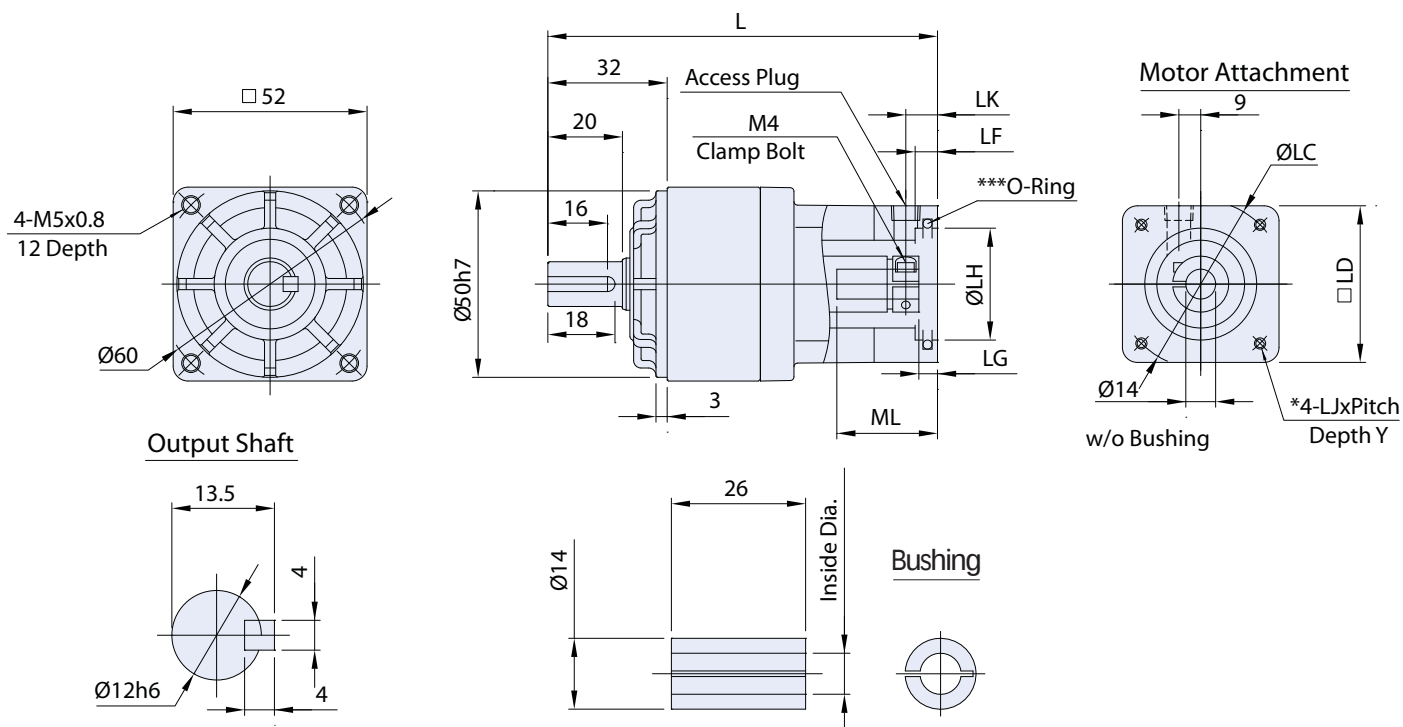
(4) Actual efficiency will vary depending on ratio, input speed, and

VRAF/VRSF Concentric Shaft Series Specifications

Frame Size	Ratio	Output Shaft Radial Load		Output Shaft Thrust Load		Noise Level (3)	Backlash			Efficiency (4)	Weight	
		N	lbs	N	lbs		dB(A)	Standard	Low		Precision	%
						arc-min		arc-min	arc-min			
B	3:1	370	83	185	42	≤72	≤15	≤10	≤3	95	0.6	1.2
	5:1	450	101	225	51	≤65						
	9:1	570	128	285	64	≤65						
	15:1	700	157	350	79	≤65				92	0.7	1.6
	20:1	700	157	350	79	≤65						
	25:1	860	193	430	97	≤65						
	35:1	860	193	430	97	≤65						
	45:1	860	193	430	97	≤65						
	81:1	860	193	430	97	≤65						
C	3:1	840	189	420	94	≤72	≤15	≤5	≤3	95	1.7	3.7
	5:1	980	220	490	110	≤65						
	9:1	1180	265	590	133	≤65						
	15:1	1450	326	725	163	≤65				92	2.1	4.6
	20:1	1450	326	725	163	≤65						
	25:1	1670	375	835	188	≤65						
	35:1	1670	375	835	188	≤65						
	45:1	1670	375	835	188	≤65						
	81:1	1670	375	835	188	≤65						
D	3:1	1100	247	550	124	≤72	≤15	≤5	≤3	95	3.2	7.0
	5:1	1300	292	650	146	≤65						
	9:1	1600	360	800	180	≤65						
	15:1	1900	427	950	214	≤65				92	3.9	8.6
	20:1	1900	427	950	214	≤65						
	25:1	2200	494	1100	247	≤65						
	35:1	2200	494	1100	247	≤65						
	45:1	2200	494	1100	247	≤65						
	81:1	2200	494	1100	247	≤65						
E	3:1	3530	794	1765	397	≤75	≤15	≤5	≤3	95	12	25.4
	5:1	3530	794	1765	397	≤75						
	9:1	3530	794	1765	397	≤75						
	15:1	3530	794	1765	397	≤75				92	13	28
	20:1	3530	794	1765	397	≤75						
	25:1	3530	794	1765	397	≤75						
	35:1	3530	794	1765	397	≤75						
	45:1	3530	794	1765	397	≤75						
	81:1	3530	794	1765	397	≤75						

B Frame VRAF Series Dimensions

Ratios: 3:1, 5:1, 9:1



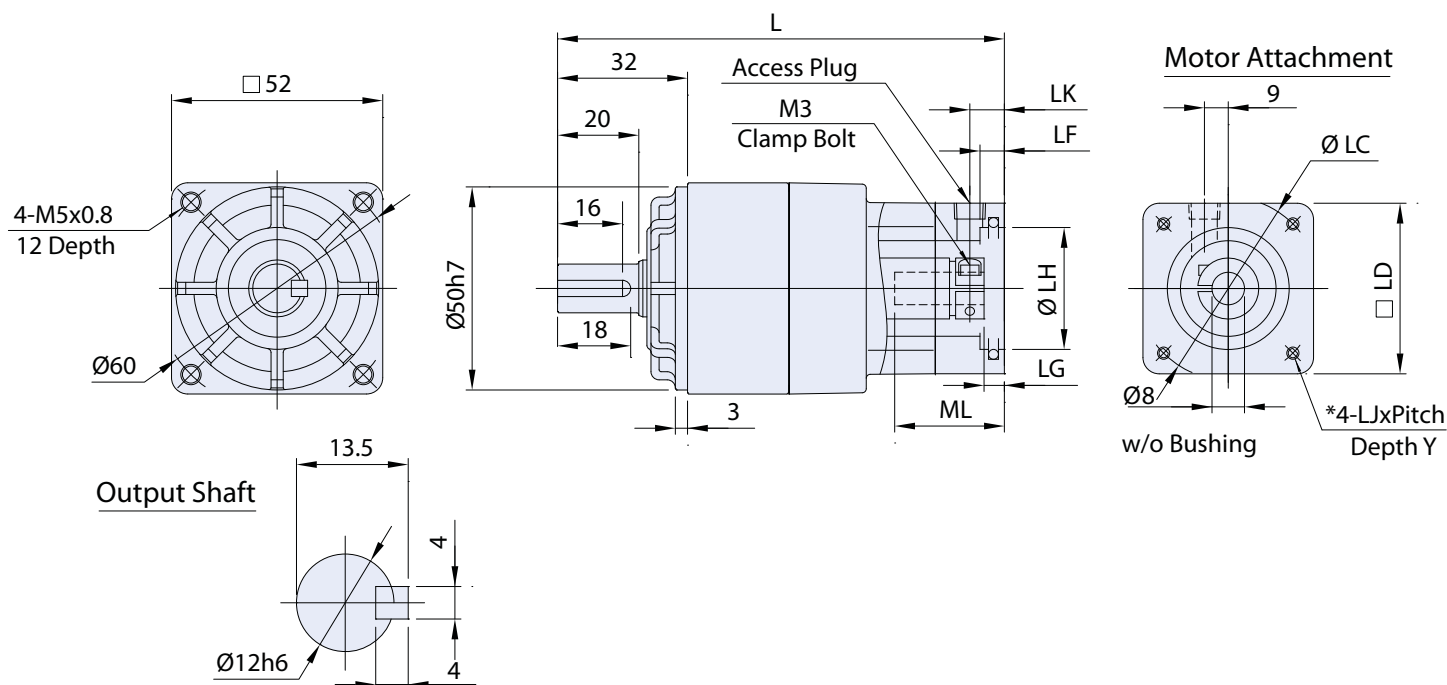
Adapter	CAD Download#	Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	Plug LK	Flange Depth		
										LF	LG	ML
B1	SB01	mm	45	30	42	M3x0.5	8	104.5	10	6	5	32
		in	1.772	1.181	1.65	-	0.31	4.114	0.39	0.24	0.20	1.26
B2	SB02	mm	46	30	42	M4X0.7	10	104.5	10	6	5	32
		in	1.811	1.181	1.65	-	0.39	4.114	0.39	0.24	0.20	1.26
B8	SB02R	mm	46	30	42	M4X0.7	10	107.5	13	6	8	35
		in	1.811	1.181	1.65	-	0.39	4.232	0.51	0.24	0.31	1.38
B4	SB03	mm	60	50	60	M4X0.7	10	104.5	10	4	5	32
		in	2.362	1.969	2.36	-	0.39	4.114	0.39	0.16	0.20	1.26
B4	SB04	mm	70	50	60	M4X0.7	10	104.5	10	4	5	32
		in	2.756	1.969	2.36	-	0.39	4.114	0.39	0.16	0.20	1.26
B9	SB04R	mm	70	50	60	M5X0.8	20	109.5	15	9	10	37
		in	2.756	1.969	2.36	-	0.79	4.311	0.59	0.35	0.39	1.46
B5 (NEMA23)	SB05	mm	66.68	38.100	58	M4X0.7	10	104.5	10	4	5	32
		in	2.625	1.500	2.28	-	0.39	4.114	0.39	0.16	0.20	1.26
B5R (NEMA23)	SB05R	mm	66.68	38.100	60	M5X0.8	-	112.5	18	3	13	40
		in	2.625	1.500	2.36	-	-	4.429	0.71	0.12	0.51	1.57
B6	SB06	mm	90	70	80	M5X0.8	12	104.5	10	4	5	32
		in	3.543	2.756	3.15	-	0.47	4.114	0.39	0.16	0.20	1.26
B7 (NEMA17)	SB07	mm	43.80	22	42	2-3.3 dia.	-	106.5	12	4	7	34
		in	1.724	0.866	1.65	2-0.13 dia.	-	4.193	0.47	0.16	0.28	1.34
B10	SB10	mm	63	40	58	M4X0.7	10	104.5	10	4	5	32
		in	2.480	1.575	2.28	-	0.39	4.114	0.39	0.16	0.20	1.26

Bushings

Bushing Ordering Code		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
	in	0.236	0.315	0.433	0.250	0.375	0.500	0.472	0.394	0.354	0.197

B Frame VRAF Series Dimensions

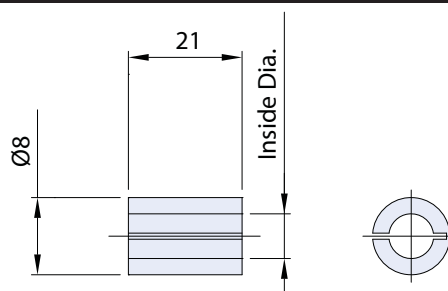
Ratios: 15:1, 20:1, 25:1, 35:1, 45:1, 81:1



Adapter	CAD Download#	Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	Plug LK	Flange Depth		
										LF	LG	ML
B1	DB01	mm	45	30	42	M3x0.5	8	110	10	6	5	27
		in	1.772	1.181	1.65	-	0.31	4.331	0.39	0.24	0.20	1.06
B2	DB02	mm	46	30	42	M4X0.7	10	110	10	6	5	27
		in	1.811	1.181	1.65	-	0.39	4.331	0.39	0.24	0.20	1.06
B8	DB02R	mm	46	30	42	M4X0.7	10	113	13	6	8	30
		in	1.811	1.181	1.65	-	0.39	4.449	0.51	0.24	0.31	1.18
B4	DB03	mm	60	50	60	M4X0.7	10	110	10	4	5	27
		in	2.362	1.969	2.36	-	0.39	4.331	0.39	0.16	0.20	1.06
B4	DB04	mm	70	50	60	M4X0.7	10	110	10	4	5	27
		in	2.756	1.969	2.36	-	0.39	4.331	0.39	0.16	0.20	1.06
B9	DB04R	mm	70	50	60	M5X0.8	20	115	15	9	10	32
		in	2.756	1.969	2.36	-	0.79	4.528	0.59	0.35	0.39	1.26
B5 (NEMA23)	DB05	mm	66.68	38.100	58	M4X0.7	10	110	10	4	5	27
		in	2.625	1.500	2.28	-	0.39	4.331	0.39	0.16	0.20	1.06
B5R (NEMA23)	DB5R	mm	66.68	38.100	60	M5X0.8	-	118	18	3	13	40
		in	2.625	1.500	2.36	-	-	4.646	0.71	0.12	0.51	1.57
B6	DB06	mm	90	70	80	M5X0.8	12	110	10	4	5	27
		in	3.543	2.756	3.15	-	0.47	4.331	0.39	0.16	0.20	1.06
B7 (NEMA17)	DB07	mm	43.80	22	42	2-3.3 dia.	-	112	12	4	7	29
		in	1.724	0.866	1.65	2-0.13 dia.	-	4.409	0.47	0.16	0.28	1.14
B10	DB10	mm	63	40	58	M4X0.7	10	110	10	4	5	27
		in	2.480	1.575	2.28	-	0.39	4.331	0.39	0.16	0.20	1.06

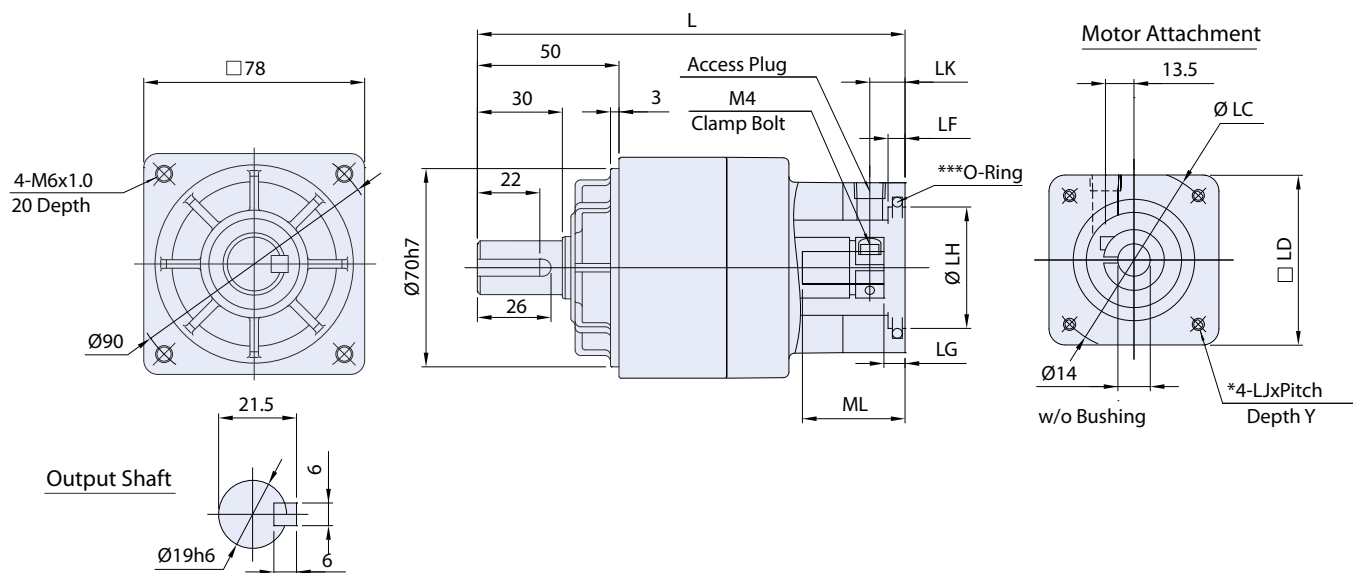
Bushings

Bushing Ordering Code		0801	0802	0803
Inside Diameter	mm	6	6.350	5
	in	0.236	0.250	0.197



C Frame VRAF Series Dimensions

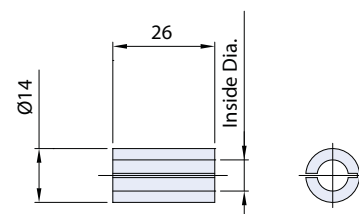
Ratios: 15:1, 20:1, 25:1, 35:1, 45:1, 81:1



Adapter	CAD Download#	Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	Plug LK	Flange Depth		
										LF	LG	ML
C1	DC00	mm	60	50	60	M4x0.7	10	151	11	4	6	33
		in	2.362	1.969	2.36	-	0.39	5.945	0.43	0.16	0.24	1.30
C1	DC01	mm	70	50	60	M4x0.7	10	151	11	4	6	33
		in	2.756	1.969	2.36	-	0.39	5.945	0.43	0.16	0.24	1.30
C7	DC01R	mm	70	50	60	M5x0.8	12	155	15	6	9	37
		in	2.756	1.969	2.36	-	0.47	6.102	0.59	0.24	0.35	1.46
C2	DC02	mm	90	70	80	M5X0.8	12	151	11	4	6	33
		in	3.543	2.756	3.15	-	0.47	5.945	0.43	0.16	0.24	1.30
C8	DC02R	mm	90	70	80	M6X1.0	21	156	16	9	10	38
		in	3.543	2.756	3.15	-	0.83	6.142	0.63	0.35	0.39	1.50
C3	DC03	mm	100	80	86	M6X1.0	16	151	11	4	6	33
		in	3.937	3.150	3.39	-	0.63	5.945	0.43	0.16	0.24	1.30
C4 (NEMA34)	DC04	mm	98.43	73.025	83	M5X0.8	12	151	11	4	6	33
		in	3.875	2.875	3.27	-	0.47	5.945	0.43	0.16	0.24	1.30
C5	DC05	mm	75	60	67	M5X0.8	12	151	11	4	6	33
		in	2.953	2.362	2.64	-	0.47	5.945	0.43	0.16	0.24	1.30
C6	DC06	mm	115	95	100	M6X1.0	16	151	11	4	6	33
		in	4.528	3.740	3.94	-	0.63	5.945	0.43	0.16	0.24	1.30
C9	DC09	mm	66.68	38.100	60	M4X0.7	10	151	11	4	6	33
		in	2.625	1.500	2.36	-	0.39	5.945	0.43	0.16	0.24	1.30
C9 + Spacer (NEMA23)	DC09R	mm	66.68	38.100	60	M5X0.8	-	159	19	3	14	41
		in	2.625	1.500	2.36	-	-	6.260	0.75	0.12	0.55	1.61
C10	DC10	mm	63	40	60	M4x0.7	10	151	11	4	6	33
		in	2.480	1.575	2.36	-	0.39	5.945	0.43	0.16	0.24	1.30
C11	DC11	mm	95	80	86	M6X1.0	-	151	11	4	6	33
		in	3.740	3.150	3.39	-	-	5.945	0.43	0.16	0.24	1.30
C12	DC12	mm	46	30	60	M4X0.7	10	151	11	4	6	33
		in	1.811	1.181	2.36	-	0.39	5.945	0.43	0.16	0.24	1.30

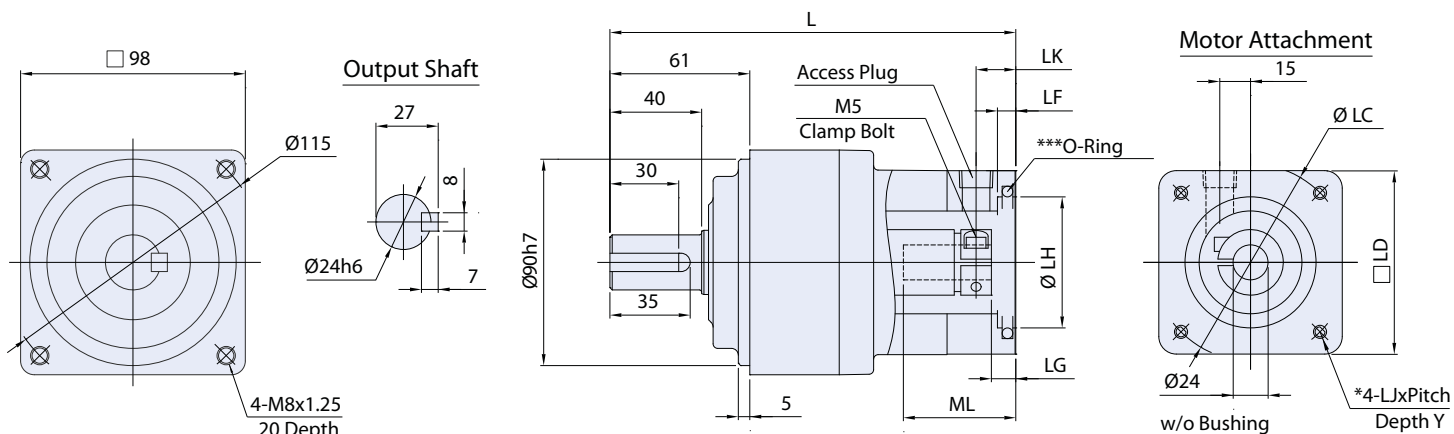
Bushings

Bushing Ordering Code		1401	1402	1403	1404	1405	1406	1407
Inside Diameter	mm	6	8	11	6.350	9.535	12.700	12
	in	0.236	0.315	0.433	0.250	0.375	0.500	0.472



D Frame VRAF Series Dimensions

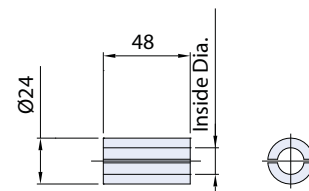
Ratios: 3:1, 5:1, 9:1



Adapter	CAD Download#	Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	Plug LK	Flange Depth		
										LF	LG	ML
D1	SD01	mm	115	95	100	M6x1.0	15	177	15	4	7	57
		in	4.528	3.740	3.94	-	0.59	6.969	0.59	0.16	0.28	2.24
D2	SD02	mm	90	70	80	M5X0.8	12	177	14	4	7	57
		in	3.543	2.756	3.15	-	0.47	6.969	0.55	0.16	0.28	2.24
D7	SD02R	mm	90	70	80	M6X1.0	15	180	17	6	10	60
		in	3.543	2.756	3.15	-	0.59	7.087	0.67	0.24	0.39	2.36
D3	SD03	mm	100	80	90	M6X1.0	15	177	14	4	7	57
		in	3.937	3.150	3.54	-	0.59	6.969	0.55	0.16	0.28	2.24
D4 (NEMA42)	SD04	mm	125.73	55.563	108	M6X1.0	15	177	15	5	7	57
		in	4.950	2.188	4.25	-	0.59	6.969	0.59	0.20	0.28	2.24
D5	SD05	mm	145	110	130	M8X1.25	16	180	18	6	10	60
		in	5.709	4.331	5.12	-	0.63	7.087	0.71	0.24	0.39	2.36
D17	SD05R	mm	145	110	130	M8X1.25	16	193	31	8	23	73
		in	5.709	4.331	5.12	-	0.63	7.598	1.22	0.31	0.91	2.87
D6	SD06	mm	130	110	115	M8X1.25	16	177	15	6	7	57
		in	5.118	4.331	4.53	-	0.63	6.969	0.59	0.24	0.28	2.24
D8	SD08	mm	95	80	90	M6X1.0	15	177	14	4	7	44
		in	3.740	3.150	3.54	-	0.59	6.969	0.55	0.16	0.28	1.73
D11 (NEMA34)	SD11	mm	98.43	73.025	90	M5X0.8	12	177	14	6	7	57
		in	3.875	2.875	3.54	-	0.47	6.969	0.55	0.24	0.28	2.24
D11 + Spacer (NEMA34)	SD11R	mm	98.43	73.025	83	M5X0.8	12	185	22	3	15	52
		in	3.875	2.875	3.27	-	0.47	7.283	0.87	0.12	0.59	2.05
D12 (NEMA56)	SD12	mm	149.23	114.300	130	-	-	180	18	6	10	60
		in	5.875	4.500	5.12	3/8UNC-16	-	7.087	0.71	0.24	0.39	2.36
D13	SD13	mm	66.7	38.1	80	M4X0.7	10	177	14	4	7	57
		in	2.626	1.500	3.15	-	0.39	6.969	0.55	0.16	0.28	2.24
D14	SD14	mm	70	50	80	M4X0.7	10	177	14	4	7	57
		in	2.756	1.969	3.15	-	0.39	6.969	0.55	0.16	0.28	2.24
D15	SD15	mm	75	60	80	M5X0.8	12	177	14	4	7	57
		in	2.953	2.362	3.15	-	0.47	6.969	0.55	0.16	0.28	2.24

Bushing

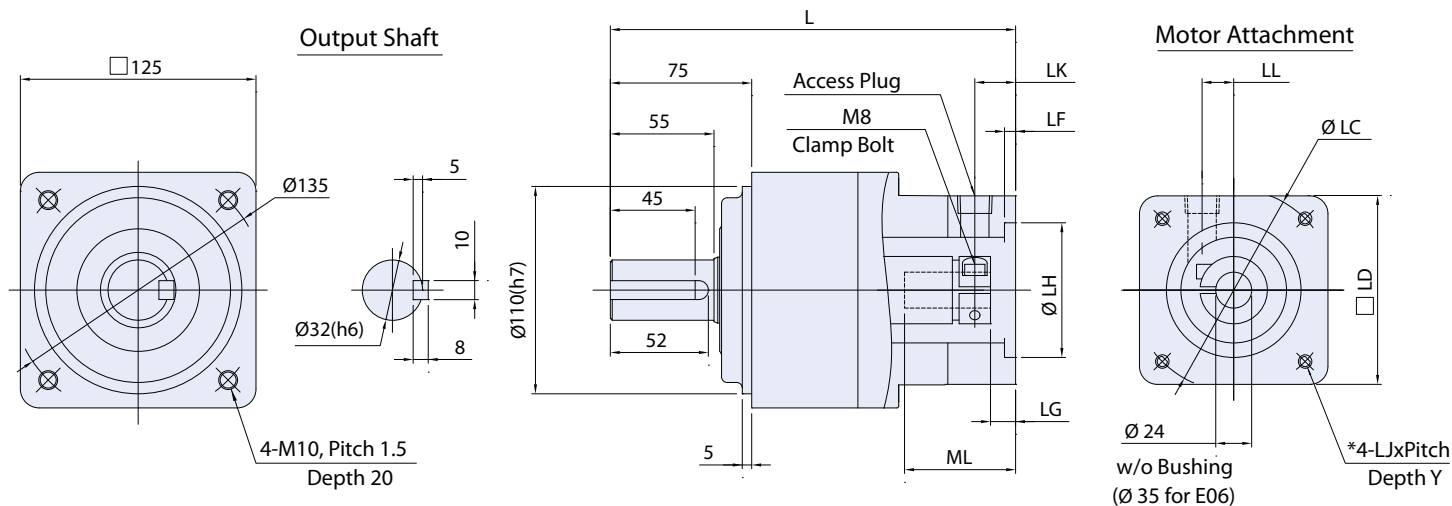
Bushing Ordering Code		2401	2402	2403	2404	2405	2406	2407
Inside Diameter	mm	14	16	19	12.700	15.875	22	19.050
	in	0.551	0.630	0.748	0.500	0.625	0.866	0.750





E Frame VRAF Series Dimensions

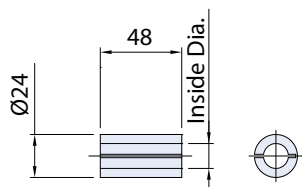
Ratios: 3:1, 5:1, 9:1



Adapter	CAD Download#	Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	Plug LK	Flange Depth			Plug LL
										LF	LG	ML	
E01	SE01	mm	100	80	90	M6x1.0	15	215	18	4	7	57	19
		in	3.937	3.150	3.54	-	0.59	8.465	0.71	0.16	0.28	2.24	0.75
E02	SE02	mm	115	95	100	M6x1.0	15	215	18	4	7	57	19
		in	4.528	3.740	3.94	-	0.59	8.465	0.71	0.16	0.28	2.24	0.75
E03	SE04	mm	130	110	120	M8x1.25	16	215	18	4	7	57	19
		in	5.118	4.331	4.72	-	0.63	8.465	0.71	0.16	0.28	2.24	0.75
E04	SE05	mm	145	110	130	M8x1.25	16	215	18	4	7	57	19
		in	5.709	4.331	5.12	-	0.63	8.465	0.71	0.16	0.28	2.24	0.75
E041	SE06	mm	145	110	130	M8x1.25	16	225	21	7	10	65	19
		in	5.709	4.331	5.12	-	0.63	8.858	0.83	0.28	0.39	2.56	0.75
E05	SE09	mm	165	130	142	M10x1.5	20	215	18	5	7	57	19
		in	6.496	5.118	5.59	-	0.79	8.465	0.71	0.20	0.28	2.24	0.75
E06	SE10	mm	200	114.3	174	M12x1.75	-	245	18	4	8	82	26.5
		in	7.874	4.500	6.85	-	-	9.646	0.71	0.16	0.31	3.23	1.04

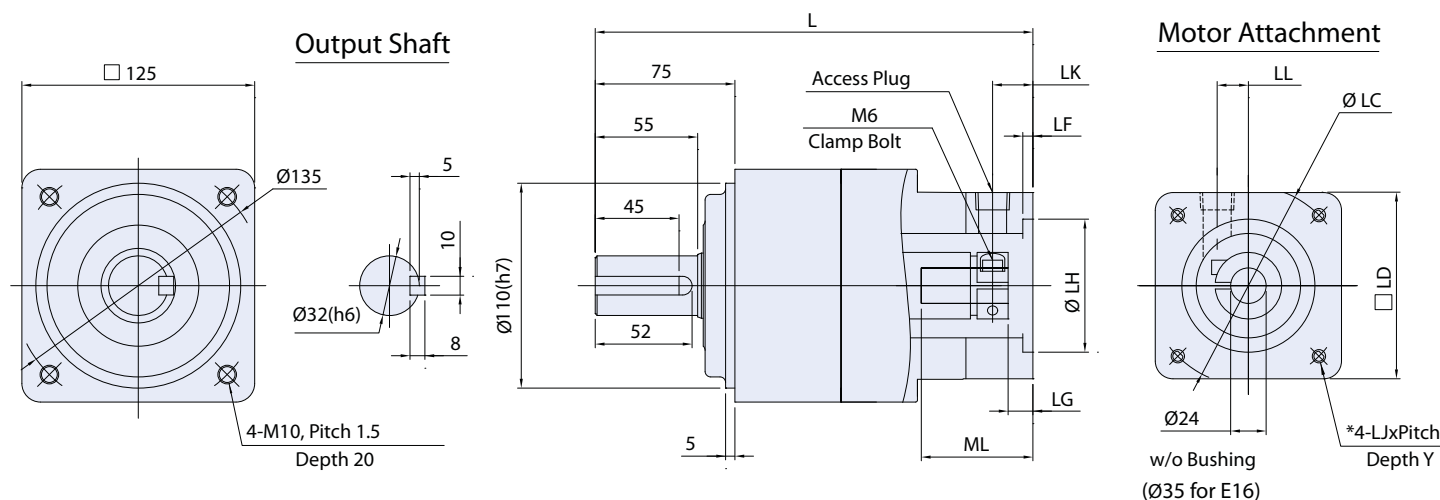
Bushing

Bushing Ordering Code		2401	2402	2403	2404	2405	2406	2407
Inside Diameter	mm	14	16	19	12.700	15.875	22	19.050
	in	0.551	0.630	0.748	0.500	0.625	0.866	0.750



E Frame VRAF Series Dimensions

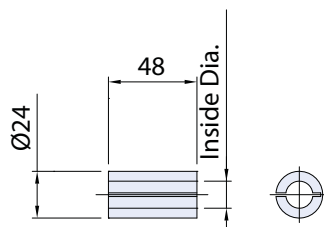
Ratios: 15:1, 20:1, 25:1, 35:1, 45:1



Adapter	CAD Download#	Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	Plug LK	Flange Depth			Plug LL
										LF	LG	ML	
E11	DE01	mm	100	80	90	M6x1.0	15	235	18	4	7	57	18
		in	3.937	3.150	3.54	-	0.59	9.252	0.71	0.16	0.28	2.24	0.71
E12	DE03	mm	115	95	100	M6x1.0	15	235	18	4	7	57	18
		in	4.528	3.740	3.94	-	0.59	9.252	0.71	0.16	0.28	2.24	0.71
E13	DE04	mm	130	110	120	M8x1.25	16	233	18	4	5	55	19
		in	5.118	4.331	4.72	-	0.63	9.173	0.71	0.16	0.20	2.17	0.75
E14	DE05	mm	145	110	130	M8x1.25	16	235	18	4	7	57	18
		in	5.709	4.331	5.12	-	0.63	9.252	0.71	0.16	0.28	2.24	0.71
E05	DE09	mm	165	130	142	M10x1.5	20	233	18	5	7	57	19
		in	6.496	5.118	5.59	-	0.79	9.173	0.71	0.20	0.28	2.24	0.75
E16	DE10	mm	200	114.300	174	M12x1.75	-	265	18	4	8	82	26.5
		in	7.874	4.500	6.85	-	-	10.433	0.71	0.16	0.31	3.23	1.04
E07	DE12	mm	149.23	114.300	130	10.2 dia.	-	235	18	5.5	7	57	15
		in	5.875	4.500	5.12	-	-	9.252	0.71	0.22	0.28	2.24	0.59
E18	DE18	mm	90	70	80	M6x1.0	15	235	18	4	7	57	18
		in	3.543	2.756	3.15	-	0.59	9.252	0.71	0.16	0.28	2.24	0.71

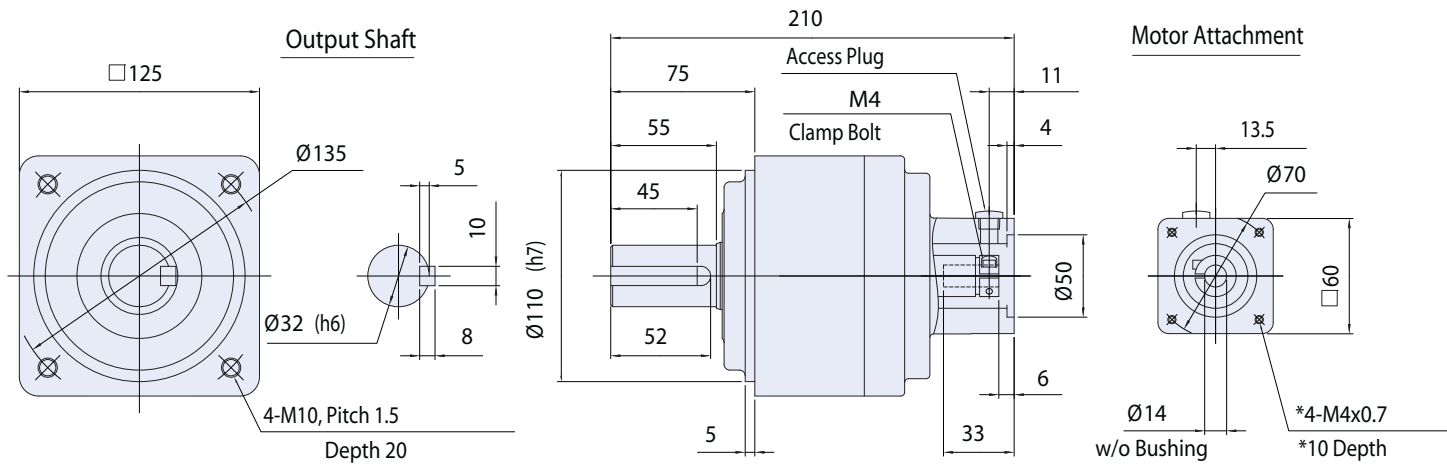
Bushings

Bushing Ordering Code		2401	2402	2403	2404	2405	2406	2407
Inside Diameter	mm	14	16	19	12.700	15.875	22	19.050
	in	0.551	0.630	0.748	0.500	0.625	0.866	0.750



E Frame VRSF Series Dimensions

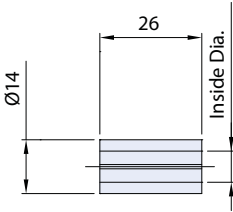
Ratios: 45, 81:1



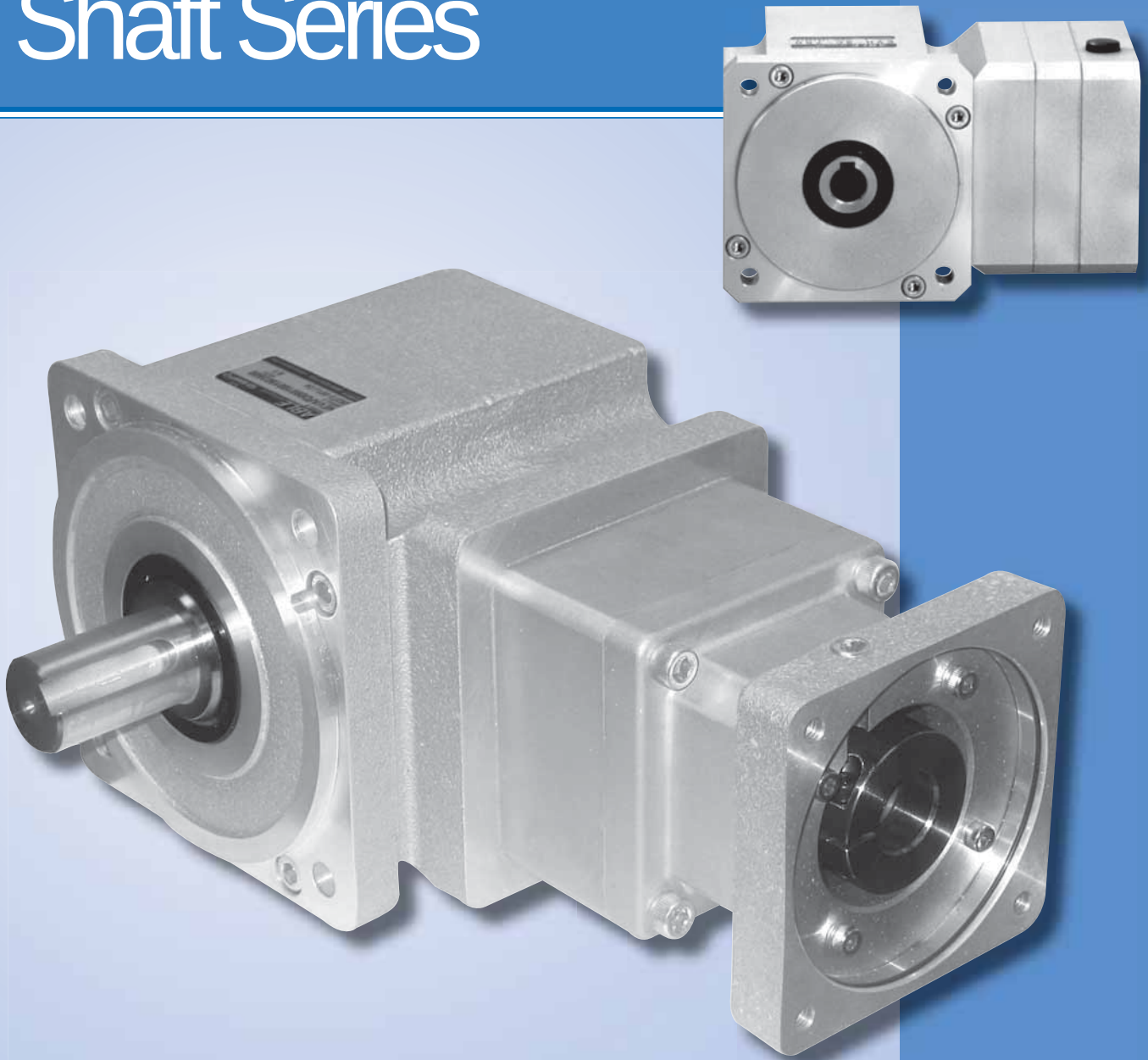
*Depending on the servo motor, this dimension is subject to change. Contact Shimpo Drives Customer Service for additional information.
Smaller motor shaft sizes can be accommodated by use of a bushing. See table below.
Dimensions are subject to change without notice.
To download CAD drawings, visit our website: www.shimpodrives.com

Bushings

Bushing Ordering Code		1401	1402	1403	1404	1405	1406	1407
Inside Diameter	mm	6	8	11	6.350	9.535	12.700	12
	in	0.236	0.315	0.433	0.250	0.375	0.500	0.472



NEV RIGHT ANGLE Shaft Series



Sizes from 50W to 4kw



Ratios from 3:1 to 105



Solid and hollow output shaft configurations



Input speeds up to 5000 RPM

NEVAF/NEVSF Right Angle Shaft Series Selection Table

Based on 3000 RPM Input

Motor Rated Output (W)	Ratio							
	3:1	5:1	9:1	15:1	27:1	45:1	75:1	105:1
50	B						C	
100	B						C	D
200	C						E	
400	C		E					
500	C	D		E				
600		D		E				
750		D		E				
1000		D		E				
1500	D							
2000								
2500	E							
3000								
3500								
4000								

3:1 is single reduction, 5:1 to 27:1 are double reduction, 45:1 to 105:1 are triple reduction.

Other sizes and ratios available. Contact Shimpo Drives Customer Service for additional information.

3:1 ratio is NEVSF style only

Frame Size	Ratio	Nominal Output Torque (1)		Maximum Acceleration Output Torque		Emergency Stop Output Torque (2)		Moment of Inertia		Torsional Stiffness		Maximum Input Speed
		Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	kgcm ²	ib-in-sec ²	Nm/ arm-min	in-lbs/ arc-min	rpm
B	3:1	5.00	44	15.0	133	17	150	0.439	0.000387	0.4	3.6	5000
	5:1	4.57	40	13.7	121	17	150	0.275	0.000243			
	9:1	4.00	35	12.0	106	17	150	0.110	0.000097			
	15:1	4.07	36	12.2	108	17	150	0.059	0.000052			
	27:1	7.31	64	21.9	193	25	221	0.146	0.000129			
	45:1	8.53	76	25.6	226	33	292	0.091	0.000080			
	75:1	8.53	76	25.6	226	33	292	0.083	0.000073			
	105:1	8.53	76	25.6	226	33	292	0.078	0.000069			
C	3:1	8.83	78	26.5	235	93	823	1.363	0.001203	1.0	9.1	5000
	5:1	5.83	52	17.5	155	93	823	0.806	0.000711			
	9:1	8.83	78	26.5	235	93	823	0.744	0.000657			
	15:1	8.83	78	26.5	235	93	823	0.415	0.000366			
	27:1	10.9	98	32.9	291	93	823	0.585	0.000516			
	45:1	12.1	107	36.5	323	93	823	0.794	0.000701			
	75:1	12.1	107	36.5	323	93	823	0.690	0.000609			
	105:1	12.1	107	36.5	323	93	823	0.590	0.000521			
D	3:1	22.6	200	67.7	598	93	823	4.974	0.004390	1.5	13.6	5000
	5:1	10.1	89	30.4	269	93	823	1.502	0.001326	1.2	10.9	
	9:1	18.2	161	54.7	484	93	823	1.254	0.001107	1.5	13.6	
	15:1	16.2	143	48.6	430	93	823	0.464	0.000410			
	27:1	29.1	257	79.1	700	93	823	0.720	0.000635	1.5	13.6	
	45:1	29.1	257	79.1	700	93	823	0.806	0.000711	1.5	13.6	
	75:1	29.1	257	79.1	700	93	823	0.694	0.000613	1.5	13.6	
	105:1	29.1	257	79.1	700	93	823	0.648	0.000572	1.5	13.6	
E	3:1	36.1	319	108	955	131	1159	8.341	0.007362	4.0	36.2	5000
	5:1	27.1	239	81.2	718	131	1159	3.559	0.003141	3.2	29.0	
	9:1	48.7	431	146	1290	131	1159	2.940	0.002595	4.0	36.2	
	15:1	40.6	359	116	1030	131	1159	1.193	0.001053	4.0	36.2	
	27:1	54.6	483	164	1450	196	1730	2.044	0.001804	4.0	36.2	
	45:1	56.8	502	170	1500	196	1730	1.878	0.001658	4.0	36.2	
	75:1	56.8	502	170	1500	196	1730	1.303	0.001150	4.0	36.2	
	105:1	56.8	502	170	1500	196	1730	1.184	0.001045	4.0	36.2	

See footnotes on next page

NEVAF/NEVSF Right Angle Shaft Series Selection Table

Based on 3000 RPM Input

Frame Size	Ratio	Output Shaft Overhung Load		Output Shaft Thrust Load		Noise Level (3)	Backlash	Efficiency (4)	Weight				
		N	lbs	N	lbs	MAX. dB(A)		arc-min	%	Solid Shaft		Hollow Shaft	
										kg	lbs	kg	lbs
B	3:1	784	176	392	88	≤73	≤30	90	2.8	6.2	2.5	5.5	
	5:1	980	220	490	110	≤73		85	3.8	8.4	3.6	7.9	
	9:1	1176	264	588	132	≤67							
	15:1	1470	330	735	165	≤65		81	3.8	8.4	3.6	7.9	
	27:1	1470	330	735	165	≤65							
	45:1	1764	396	885	198	≤63		62	3.9	8.5	-	-	
	75:1	1764	396	885	198	≤63		49	3.9	8.5	-	-	
	105:1	1764	396	885	198	≤63		35	3.9	8.5	-	-	
C	3:1	784	176	392	88	≤75	≤30	90	3.2	7.1	3.1	6.8	
	5:1	980	220	490	110	≤73		85	4.1	9.0	4.0	8.8	
	9:1	1176	264	588	132	≤67							
	15:1	1470	330	735	165	≤65		81	4.1	9.0	4.0	8.8	
	27:1	1470	330	735	165	≤65							
	45:1	1764	396	885	198	≤65		72	4.3	9.5	4.2	9.3	
	75:1	1764	396	885	198	≤63		62	4.3	9.5	4.2	9.3	
	105:1	1764	396	885	198	≤63		49	4.3	9.5	4.2	9.3	
D	3:1	980	220	490	110	≤76	≤30	90	6.6	14.5	6.2	13.6	
	5:1	1176	264	588	132	≤73		85	7.1	15.7	6.7	14.8	
	9:1	1176	264	588	132	≤72							
	15:1	1470	330	735	165	≤69		85	7.1	15.7	6.7	14.8	
	27:1	1470	330	735	165	≤69							
	45:1	1764	396	885	198	≤67		80	7.3	16.1	6.9	15.2	
	75:1	2070	465	1035	232	≤67		80	7.3	16.1	6.9	15.2	
	105:1	2370	532	1185	266	≤67		80	7.3	16.1	6.9	15.2	
E	3:1	1176	264	588	132	≤77	≤30	90	10.5	23.1	9.5	20.9	
	5:1	1470	330	735	165	≤74		85	11.0	24.3	10.0	22.1	
	9:1	1470	330	735	165	≤73		85	11.0	24.3	10.0	22.1	
	15:1	1764	396	882	198	≤71		85	11.0	24.3	10.0	22.1	
	27:1	1764	396	882	198	≤71		85	11.0	24.3	10.0	22.1	
	45:1	2070	465	1035	232	≤69		80	11.4	25.1	10.4	22.9	
	75:1	2370	532	1185	266	≤69		80	11.4	25.1	10.4	22.9	
	105:1	2670	600	1335	300	≤69		80	11.4	25.1	10.4	22.9	

Notes:

3:1 is single reduction, 5:1, 9:1, 15:1 and 27:1 are double reduction, 45:1, 75:1 and 105:1 are triple reduction.

(1) Based on B10 bearing life of 10000 hours and 3000 RPM input.

(2) Based on 1000 cycles.

(3) Measured at a distance of 1 meter at 3000 RPM input at no load.

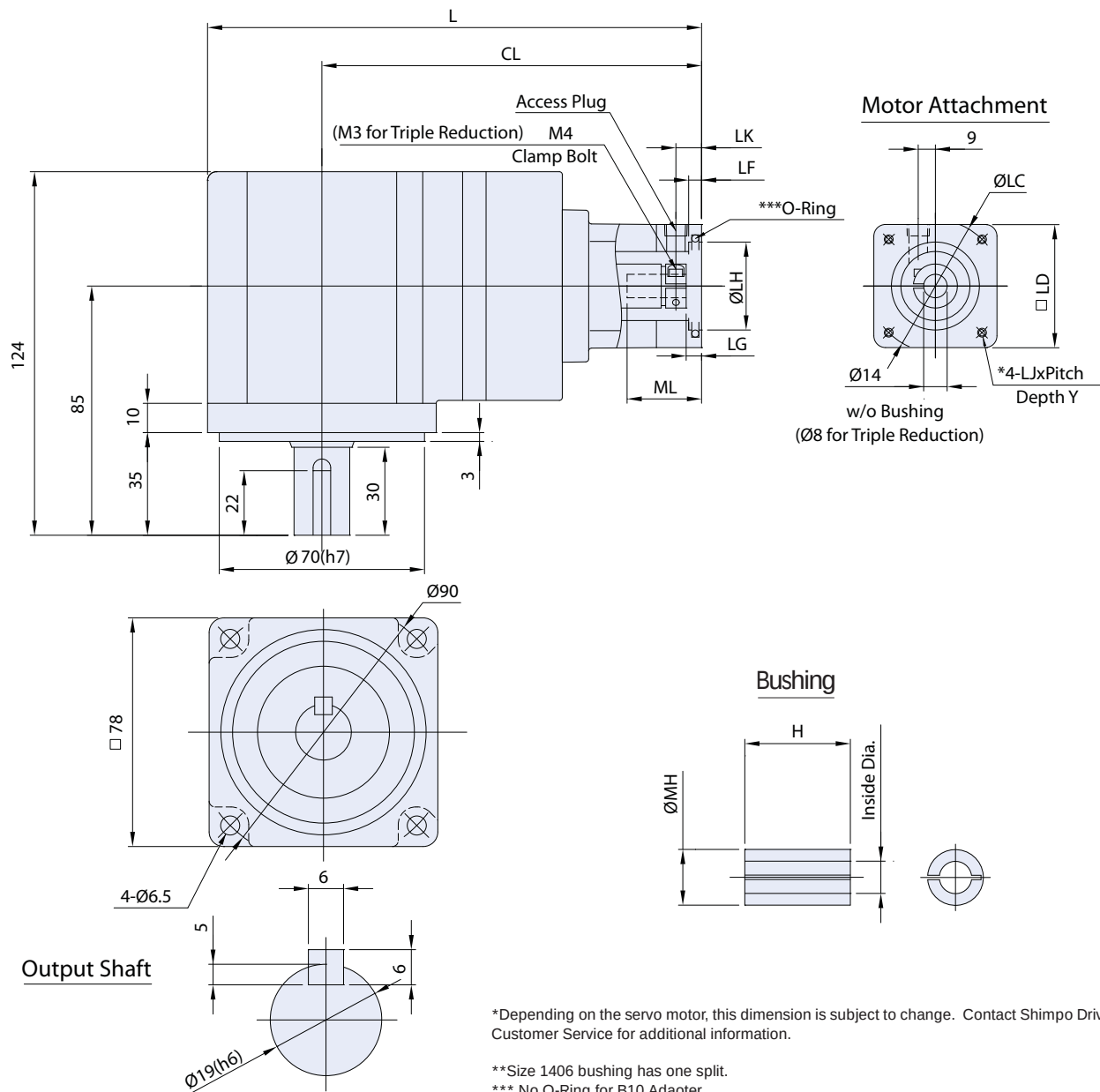
(4) Actual efficiency will vary depending on ratio, input speed, and load.

(5) Please ask Shimpo Drives customer service for other ratios and large capacity.

B Frame (78mm) NEVAF Series Dimension,

Double/Triple Reduction (Solid Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105



*Depending on the servo motor, this dimension is subject to change. Contact Shimpo Drives Customer Service for additional information.

**Size 1406 bushing has one split.

*** No O-Ring for B10 Adapter.

Double Reduction Bushings

Bushing Ordering Code	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
	in	0.236	0.315	0.433	0.250	0.375	0.500	0.472	0.394	0.354

Triple Reduction Bushings

Bushing Ordering Code		0801	0802	0803
Inside Diameter	mm	6	6.350	5
	in	0.236	0.250	0.197

B Frame (78mm) NEVAF Series Dimension, Double/Triple Reduction (Solid Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105

Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
B1	B01	TB01	mm	45	30	42	M3x0.5	8	168.5	174
			in	1.772	1.181	1.65	-	0.31	6.634	6.850
B2	B02	TB02	mm	46	30	42	M4X0.7	10	168.5	174
			in	1.811	1.181	1.65	-	0.39	6.634	6.850
B8	B02R	TB02R	mm	46	30	42	M4X0.7	10	171.5	177
			in	1.811	1.181	1.65	-	0.39	6.752	6.969
B4	B03	TB03	mm	60	50	60	M4X0.7	10	168.5	174
			in	2.362	1.969	2.36	-	0.39	6.634	6.850
B4	B04	TB04	mm	70	50	60	M4X0.7	10	168.5	174
			in	2.756	1.969	2.36	-	0.39	6.634	6.850
B9	B04R	TB04R	mm	70	50	60	M5X0.8	20	173.5	179
			in	2.756	1.969	2.36	-	0.79	6.831	7.047
B5 (NEMA23)	B05	TB05	mm	66.68	38.100	58	M4X0.7	10	168.5	174
			in	2.625	1.500	2.28	-	0.39	6.634	6.850
B5+ Spacer (NEMA23)	B05R	TB05R	mm	66.68	38.100	60	M5X0.8	-	176.5	182
			in	2.625	1.500	2.36	-	-	6.949	7.165
B6	B06	TB06	mm	90	70	80	M5X0.8	12	168.5	174
			in	3.543	2.756	3.15	-	0.47	6.634	6.850
B7 (NEMA17)	B07	TB07	mm	43.80	22	42	2-3.3 dia.	-	170.5	176
			in	1.724	0.866	1.65	2-0.13 dia.	-	6.713	6.929
B10	B10	TB10	mm	63	40	58	M4X0.7	10	168.5	174
			in	2.480	1.575	2.28	-	0.39	6.634	6.850

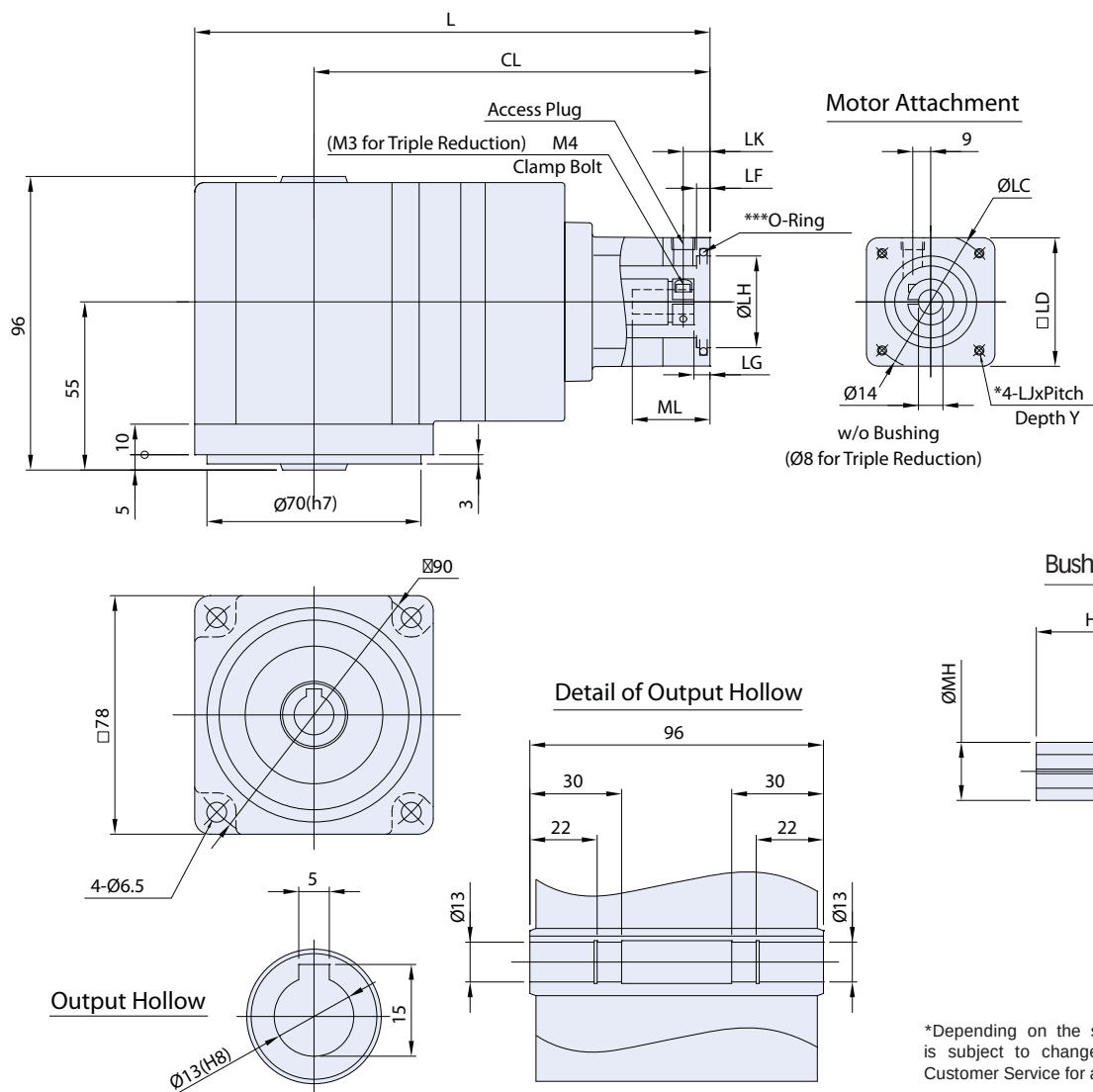
Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
B1	B01	TB01	mm	129.5	135	10	6	5	32
			in	5.098	5.315	0.39	0.24	0.20	1.26
B2	B02	TB02	mm	129.5	135	10	6	5	32
			in	5.098	5.315	0.39	0.24	0.20	1.26
B8	B02R	TB02R	mm	132.5	138	13	6	8	35
			in	5.217	5.433	0.51	0.24	0.31	1.38
B4	B03	TB03	mm	129.5	135	10	4	5	32
			in	5.098	5.315	0.39	0.16	0.20	1.26
B4	B04	TB04	mm	129.5	135	10	4	5	32
			in	5.098	5.315	0.39	0.16	0.20	1.26
B9	B04R	TB04R	mm	134.5	140	15	9	10	37
			in	5.295	5.512	0.59	0.35	0.39	1.46
B5 (NEMA23)	B05	TB05	mm	129.5	135	10	4	5	32
			in	5.098	5.315	0.39	0.16	0.20	1.26
B5+ Spacer (NEMA23)	B05R	TB05R	mm	137.5	143	18	3	13	40
			in	5.413	5.630	0.71	0.12	0.51	1.57
B6	B06	TB06	mm	129.5	135	10	4	5	32
			in	5.098	5.315	0.39	0.16	0.20	1.26
B7 (NEMA17)	B07	TB07	mm	131.5	137	12	4	7	34
			in	5.177	5.394	0.47	0.16	0.28	1.34
B10	B10	TB10	mm	129.5	135	10	4	5	32
			in	5.098	5.315	0.39	0.16	0.20	1.26

*Contact Shimpo Drives Customer Service for 3:1 Dimensions.

B Frame (78mm) NEVAF Series Dimension,

Single Reduction (Hollow Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105



Double Reduction Bushings

Bushing Ordering Code		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
	in	0.236	0.315	0.433	0.250	0.375	0.500	0.472	0.394	0.354	0.197

Triple Reduction Bushings

Bushing Ordering Code		0801	0802	0803
Inside Diameter	mm	6	6.350	5
	in	0.236	0.250	0.197

**Size 1406 bushing has one split.

*** No O-Ring for B10 Adaoter.

B Frame (78mm) NEVAF Series Dimension, Single Reduction (Hollow Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105

Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
B1	B51	TB51	mm	45	30	42	M3x0.5	8	168.5	174
			in	1.772	1.181	1.65	-	0.31	6.634	6.850
B2	B52	TB52	mm	46	30	42	M4X0.7	10	168.5	174
			in	1.811	1.181	1.65	-	0.39	6.634	6.850
B8	B52R	TB52R	mm	46	30	42	M4X0.7	10	171.5	177
			in	1.811	1.181	1.65	-	0.39	6.752	6.969
B4	B53	TB53	mm	60	50	60	M4X0.7	10	168.5	174
			in	2.362	1.969	2.36	-	0.39	6.634	6.850
B4	B54	TB54	mm	70	50	60	M4X0.7	10	168.5	174
			in	2.756	1.969	2.36	-	0.39	6.634	6.850
B9	B54R	TB54R	mm	70	50	60	M5X0.8	20	173.5	179
			in	2.756	1.969	2.36	-	0.79	6.831	7.047
B5 (NEMA23)	B55	TB55	mm	66.68	38.100	58	M4X0.7	10	168.5	174
			in	2.625	1.500	2.28	-	0.39	6.634	6.850
B5 + Spacer (NEMA23)	B55R	TB55R	mm	66.68	38.100	60	M5X0.8	-	176.5	182
			in	2.625	1.500	2.36	-	-	6.949	7.165
B6	B56	TB56	mm	90	70	80	M5X0.8	12	168.5	174
			in	3.543	2.756	3.15	-	0.47	6.634	6.850
B7 (NEMA17)	B57	TB57	mm	43.80	22	42	2-3.3 dia.	-	170.5	176
			in	1.724	0.866	1.65	2-0.13 dia.	-	6.713	6.929
B10	B60	TB60	mm	63	40	58	M4X0.7	10	168.5	174
			in	2.480	1.575	2.28	-	0.39	6.634	6.850

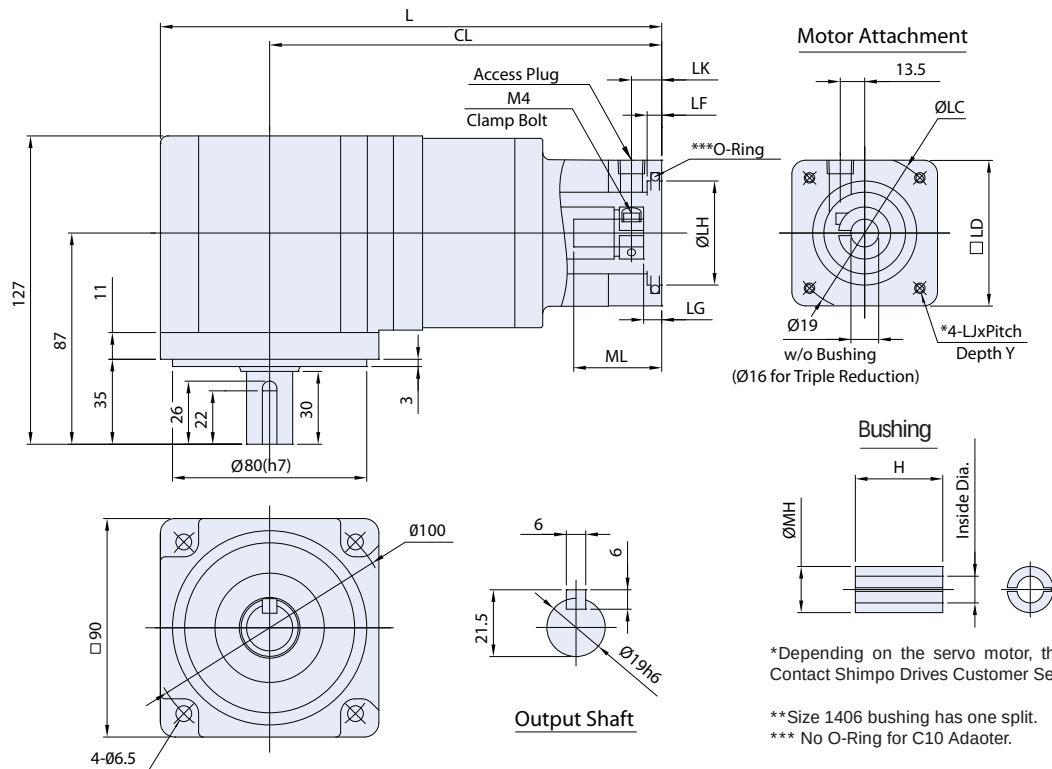
Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
B1	B51	TB51	mm	129.5	135	10	6	5	32
			in	5.098	5.315	0.39	0.24	0.20	1.26
B2	B52	TB52	mm	129.5	135	10	6	5	32
			in	5.098	5.315	0.39	0.24	0.20	1.26
B8	B52R	TB52R	mm	132.5	138	13	6	8	35
			in	5.217	5.433	0.51	0.24	0.31	1.38
B4	B53	TB53	mm	129.5	135	10	4	5	32
			in	5.098	5.315	0.39	0.16	0.20	1.26
B4	B54	TB54	mm	129.5	135	10	4	5	32
			in	5.098	5.315	0.39	0.16	0.20	1.26
B9	B54R	TB54R	mm	134.5	140	15	9	10	37
			in	5.295	5.512	0.59	0.35	0.39	1.46
B5 (NEMA23)	B55	TB55	mm	129.5	135	10	4	5	32
			in	5.098	5.315	0.39	0.16	0.20	1.26
B5 + Spacer (NEMA23)	B55R	TB55R	mm	137.5	143	18	3	13	40
			in	5.413	5.630	0.71	0.12	0.51	1.57
B6	B56	TB56	mm	129.5	135	10	4	5	32
			in	5.098	5.315	0.39	0.16	0.20	1.26
B7 (NEMA17)	B57	TB57	mm	131.5	137	12	4	5	34
			in	5.177	5.394	0.47	0.16	0.20	1.34
B10	B60	TB60	mm	129.5	135	10	4	5	32
			in	5.098	5.315	0.39	0.16	0.20	1.26

*Contact Shimpo Drives Customer Service for 3:1 Dimensions.

C Frame (90mm) NEVAF Series Dimension,

Double/Triple Reduction (Solid Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105



*Depending on the servo motor, this dimension is subject to change. Contact Shimpo Drives Customer Service for additional information.

**Size 1406 bushing has one split.
*** No O-Ring for C10 Adapter.

Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
C1	C00	TC00	mm	60	50	60	M4x0.7	10	206.5	209
			in	2.362	1.969	2.36	-	0.39	8.130	8.228
C1	C01	TC01	mm	70	50	60	M4x0.7	10	206.5	209
			in	2.756	1.969	2.36	-	0.39	8.130	8.228
C7	C01R	TC01R	mm	70	50	60	M5x0.8	12	210.5	213
			in	2.756	1.969	2.36	-	0.47	8.287	8.386
C2	C02	TC02	mm	90	70	80	M5X0.8	12	206.5	209
			in	3.543	2.756	3.15	-	0.47	8.130	8.228
C8	C02R	TC02R	mm	90	70	80	M6X1.0	21	211.5	214
			in	3.543	2.756	3.15	-	0.83	8.327	8.425
C3	C03	TC03	mm	100	80	86	M6X1.0	16	206.5	209
			in	3.937	3.150	3.39	-	0.63	8.130	8.228

Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
C1	C00	TC00	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C1	C01	TC01	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C7	C01R	TC01R	mm	165.5	168	15	6	9	46
			in	6.516	6.614	0.59	0.24	0.35	1.81
C2	C02	TC02	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C8	C02R	TC02R	mm	166.5	169	16	9	10	47
			in	6.555	6.654	0.63	0.35	0.39	1.85
C3	C03	TC03	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65

C Frame (90mm) NEVAF Series Dimension, Double/Triple Reduction (Solid Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105

Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
C4 (NEMA34)	C04	TC04	mm	98.43	73.025	83	M5X0.8	12	206.5	209
			in	3.875	2.875	3.27	-	0.47	8.130	8.228
C4 + Spacer (NEMA34)	C04R	TC04R	mm	98.43	73.025	83	M5X0.8	12	214.5	217
			in	3.875	2.875	3.27	-	0.47	8.445	8.543
C5	C05	TC05	mm	75	60	67	M5X0.8	12	206.5	209
			in	2.953	2.362	2.64	-	0.47	8.130	8.228
C6	C06	TC06	mm	115	95	100	M6X1.0	16	206.5	209
			in	4.528	3.740	3.94	-	0.63	8.130	8.228
C9 (NEMA23)	C07	TC07	mm	66.68	38.100	60	M4x0.7	10	206.5	209
			in	2.625	1.500	2.36	-	0.39	8.130	8.228
C14	C07R	TC07R	mm	66.68	38.100	60	M5x0.8	12	214.5	217
			in	2.625	1.500	2.36	-	0.47	8.445	8.543
C10	C10	TC10	mm	63	40	60	M4x0.7	10	206.5	209
			in	2.480	1.575	2.36	-	0.39	8.130	8.228
C11	C11	TC11	mm	95	80	86	M6x1.0	-	206.5	209
			in	3.740	3.150	3.39	-	-	8.130	8.228

Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
C4 (NEMA34)	C04	TC04	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C4 + Spacer (NEMA34)	C04R	TC04R	mm	169.5	172	19	3	13	50
			in	6.673	6.772	0.75	0.12	0.51	1.97
C5	C05	TC05	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C6	C06	TC06	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C9 (NEMA23)	C07	TC07	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C14	C07R	TC07R	mm	169.5	172	18	11	13	50
			in	6.673	6.772	0.71	0.43	0.51	1.97
C10	C10	TC10	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C11	C11	TC11	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65

*Contact Shimpo Drives Customer Service for 3:1 Dimensions.

Double Reduction Bushings

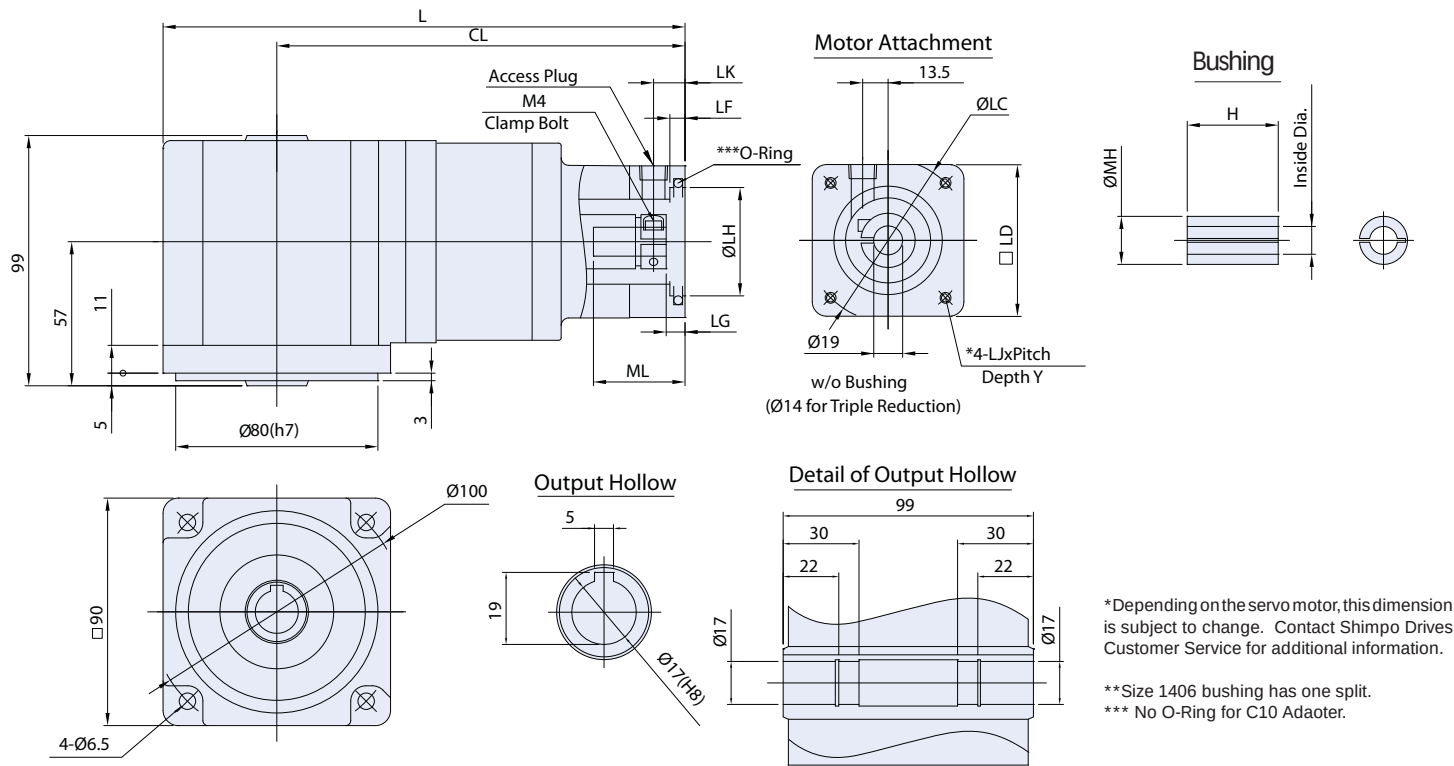
Bushing Ordering Code		1401	1402	1403	1404	1405	**1406	1407	1408	1409	1410
Inside Diameter	mm	6	8	11	6.350	9.525	12.700	12	10	9	5
	in	0.236	0.315	0.433	0.250	0.375	0.500	0.472	0.394	0.354	0.197

Triple Reduction Bushings

Bushing Ordering Code		1901	1902	1903	1904	1905	**1906	1907	1908	1909
Inside Diameter	mm	11	14	16	9.525	12.700	15.875	12	10	9
	in	0.433	0.551	0.630	0.375	0.500	0.625	0.472	0.394	0.354

C Frame (90mm) NEVAF Series Dimension, Double/Triple Reduction (Hollow Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105



Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
C1	C50	TC50	mm	60	50	60	M4x0.7	10	206.5	209
			in	2.362	1.969	2.36	-	0.39	8.130	8.228
C1	C51	TC51	mm	70	50	60	M4x0.7	10	206.5	209
			in	2.756	1.969	2.36	-	0.39	8.130	8.228
C7	C51R	TC51R	mm	70	50	60	M5x08	12	210.5	213
			in	2.756	1.969	2.36	-	0.47	8.287	8.386
C2	C52	TC52	mm	90	70	80	M5X0.8	12	206.5	209
			in	3.543	2.756	3.15	-	0.47	8.130	8.228
C8	C52R	TC52R	mm	90	70	80	M6X1.0	21	211.5	214
			in	3.543	2.756	3.15	-	0.83	8.327	8.425
C3	C53	TC53	mm	100	80	86	M6X1.0	16	206.5	209
			in	3.937	3.150	3.39	-	0.63	8.130	8.228

Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
C1	C50	TC50	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C1	C51	TC51	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C7	C51R	TC51R	mm	165.5	168	15	6	9	46
			in	6.516	6.614	0.59	0.24	0.35	1.81
C2	C52	TC52	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C8	C52R	TC52R	mm	166.5	169	16	9	10	47
			in	6.555	6.654	0.63	0.35	0.39	1.85
C3	C53	TC53	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65

C Frame (90mm) NEVAF Series Dimension,

Double/Triple Reduction (Hollow Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105

Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
C4 (NEMA34)	C54	TC54	mm	98.43	73.025	83	M5X0.8	12	206.5	209
			in	3.875	2.875	3.27	-	0.47	8.130	8.228
C4 + Spacer (NEMA34)	C54R	TC54R	mm	98.43	73.025	83	M5X0.8	12	214.5	217
			in	3.875	2.875	3.27	-	0.47	8.445	8.543
C5	C55	TC55	mm	75	60	67	M5X0.8	12	206.5	209
			in	2.953	2.362	2.64	-	0.47	8.130	8.228
C6	C56	TC56	mm	115	95	100	M6X1.0	16	206.5	209
			in	4.528	3.740	3.94	-	0.63	8.130	8.228
C9 (NEMA23)	C57	TC57	mm	66.68	38.100	60	M4x0.7	10	206.5	209
			in	2.625	1.500	2.36	-	0.39	8.130	8.228
C14	C57R	TC57R	mm	66.68	38.100	60	M5x0.8	12	214.5	217
			in	2.625	1.500	2.36	-	0.47	8.445	8.543
C10	C60	TC60	mm	63	40	60	M4x0.7	10	206.5	209
			in	2.480	1.575	2.36	-	0.39	8.130	8.228
C11	C61	TC61	mm	95	80	86	M6x1.0	-	206.5	209
			in	3.740	3.150	3.39	-	-	8.130	8.228

Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
C4 (NEMA34)	C54	TC54	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C4 + Spacer (NEMA34)	C54R	TC54R	mm	169.5	172	19	3	13	50
			in	6.673	6.772	0.75	0.12	0.51	1.97
C5	C55	TC55	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C6	C56	TC56	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C9 (NEMA23)	C57	TC57	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C14	C57R	TC57R	mm	169.5	172	18	11	13	50
			in	6.673	6.772	0.71	0.43	0.51	1.97
C10	C60	TC60	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65
C11	C61	TC61	mm	161.5	164	11	4	5	42
			in	6.358	6.457	0.43	0.16	0.20	1.65

*Contact Shimpo Drives Customer Service for 3:1 Dimensions.

Double Reduction Bushings

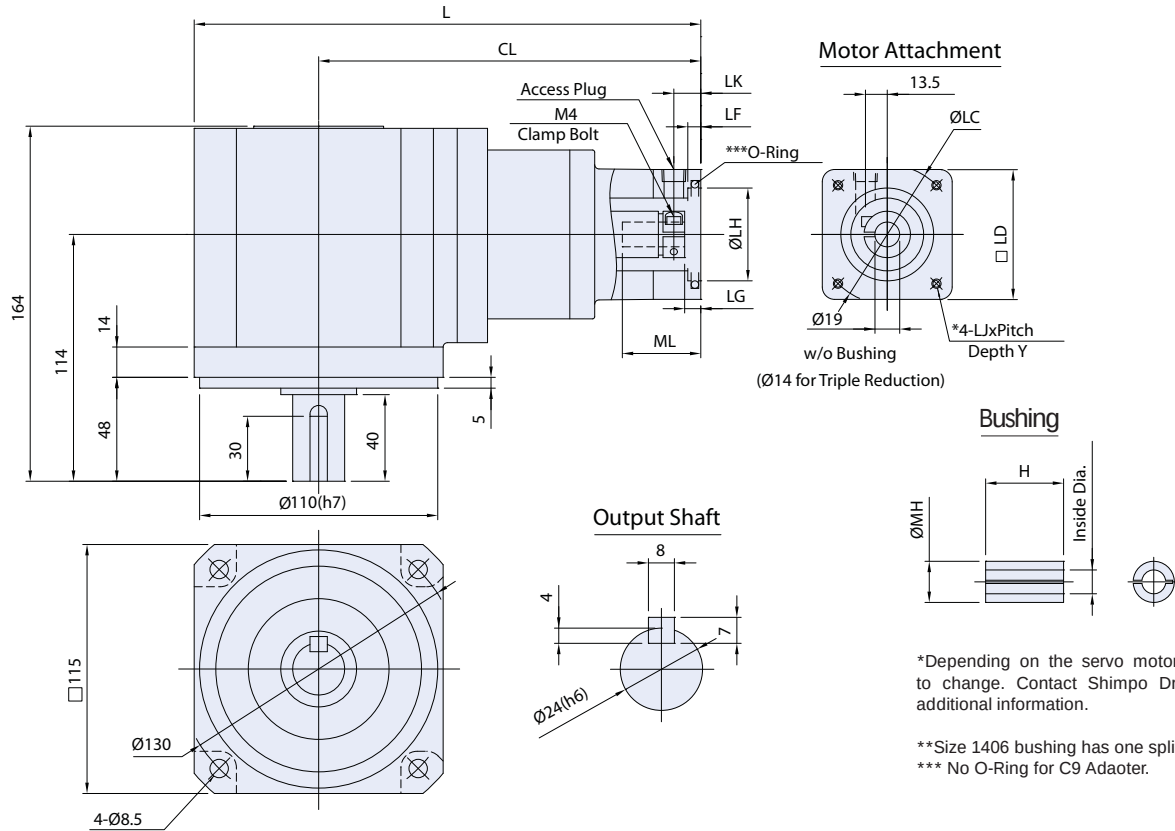
Bushing Ordering Code		1401	1402	1403	1404	1405	**1406	1407	1408	1409	1410
Inside Diameter	mm	6	8	11	6.350	9.525	12.700	12	10	9	5
	in	0.236	0.315	0.433	0.250	0.375	0.500	0.472	0.394	0.354	0.197

Triple Reduction Bushings

Bushing Ordering Code		1901	1902	1903	1904	1905	**1906	1907	1908	1909
Inside Diameter	mm	11	14	16	9.525	12.700	15.875	12	10	9
	in	0.433	0.551	0.630	0.375	0.500	0.625	0.472	0.394	0.354

D Frame (115mm) NEVAF Series Dimension, Double/Triple Reduction (Solid Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105



*Depending on the servo motor, this dimension is subject to change. Contact Shimpo Drives Customer Service for additional information.

**Size 1406 bushing has one split.

*** No O-Ring for C9 Adapter.

Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
C1	D00	TD00	mm	60	50	60	M4x0.7	10	234	236.5
			in	2.362	1.969	2.36	-	0.39	9.213	9.311
C1	D01	TD01	mm	70	50	60	M4x0.7	10	234	236.5
			in	2.756	1.969	2.36	-	0.39	9.213	9.311
C7	D01R	TD01R	mm	70	50	60	M5x0.8	12	238	240.5
			in	2.756	1.969	2.36	-	0.47	9.370	9.469
C2	D02	TD02	mm	90	70	80	M5X0.8	12	234	236.5
			in	3.543	2.756	3.15	-	0.47	9.213	9.311
C8	D02R	TD02R	mm	90	70	80	M6X1.0	21	239	241.5
			in	3.543	2.756	3.15	-	0.83	9.409	9.508
C3	D03	TD03	mm	100	80	86	M6X1.0	16	234	236.5
			in	3.937	3.150	3.39	-	0.63	9.213	9.311

Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
C1	D00	TD00	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C1	D01	TD01	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C7	D01R	TD01R	mm	180.5	183	15	6	9	46
			in	7.106	7.205	0.59	0.24	0.35	1.81
C2	D02	TD02	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C8	D02R	TD02R	mm	181.5	184	16	9	10	47
			in	7.146	7.244	0.63	0.35	0.39	1.85
C3	D03	TD03	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65

D Frame (115mm) NEVAF Series Dimension, Double/Triple Reduction (Solid Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105

Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
C4 (NEMA34)	D04	TD04	mm	98.43	73.025	83	M5X0.8	12	234	236.5
			in	3.875	2.875	3.27	-	0.47	9.213	9.311
C4+ Spacer (NEMA34)	D04R	TD04R	mm	98.43	73.025	83	M5X0.8	12	242	244.5
			in	3.875	2.875	3.27	-	0.47	9.528	9.626
C5	D05	TD05	mm	75	60	67	M5X0.8	12	234	236.5
			in	2.953	2.362	2.64	-	0.47	9.213	9.311
C6	D06	TD06	mm	115	95	100	M6X1.0	16	234	236.5
			in	4.528	3.740	3.94	-	0.63	9.213	9.311
C9 (NEMA23)	D07	TD07	mm	66.68	38.100	60	M4X0.7	10	234	236.5
			in	2.625	1.500	2.36	-	0.39	9.213	9.311
C14	D07R	TD07R	mm	66.68	38.100	60	M5X0.8	12	242	244.5
			in	2.625	1.500	2.36	-	0.47	9.528	9.626
C10	D10	TD10	mm	63	40	60	M4x0.7	10	234	236.5
			in	2.480	1.575	2.36	-	0.39	9.213	9.311
C11	D11	TD11	mm	95	80	86	M6x1.0	16	234	236.5
			in	3.740	3.150	3.39	-	0.63	9.213	9.311

Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
C4 (NEMA34)	D04	TD04	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C4+ Spacer (NEMA34)	D04R	TD04R	mm	184.5	187	19	3	13	50
			in	7.264	7.362	0.75	0.12	0.51	1.97
C5	D05	TD05	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C6	D06	TD06	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C9 (NEMA23)	D07	TD07	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C14	D07R	TD07R	mm	184.5	187	18	11	13	50
			in	7.264	7.362	0.71	0.43	0.51	1.97
C10	D10	TD10	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C11	D11	TD11	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65

*Contact Shimpo Drives Customer Service for 3:1 Dimensions.

Double Reduction Bushings

Bushing Ordering Code		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
	in	0.236	0.315	0.433	0.250	0.375	0.500	0.472	0.394	0.354	0.197

Triple Reduction Bushings

Bushing Ordering Code		1901	1902	1903	1904	1905	1906	1907	1908	1909
Inside Diameter	mm	11	14	16	9.525	12.700	15.875	12	10	9
	in	0.433	0.551	0.630	0.375	0.500	0.625	0.472	0.394	0.354

D Frame (115mm) NEVAF Series Dimension, Double/Triple Reduction (Hollow Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105

Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
C4 (NEMA34)	D54	TD54	mm	98.43	73.025	83	M5X0.8	12	234	236.5
			in	3.875	2.875	3.27	-	0.47	9.213	9.311
C4+ Spacer (NEMA34)	D54R	TD54R	mm	98.43	73.025	83	M5X0.8	12	242	244.5
			in	3.875	2.875	3.27	-	0.47	9.528	9.626
C5	D55	TD55	mm	75	60	67	M5X0.8	12	234	236.5
			in	2.953	2.362	2.64	-	0.47	9.213	9.311
C6	D56	TD56	mm	115	95	100	M6X1.0	16	234	236.5
			in	4.528	3.740	3.94	-	0.63	9.213	9.311
C9 (NEMA23)	D57	TD57	mm	66.68	38.100	60	M4X0.7	10	234	236.5
			in	2.625	1.500	2.36	-	0.39	9.213	9.311
C14	D57R	TD57R	mm	66.68	38.100	60	M5X0.8	12	242	244.5
			in	2.625	1.500	2.36	-	0.47	9.528	9.626
C10	D60	TD60	mm	63	40	60	M4x0.7	10	234	236.5
			in	2.480	1.575	2.36	-	0.39	9.213	9.311
C11	D61	TD61	mm	95	80	86	M6x1.0	16	234	236.5
			in	3.740	3.150	3.39	-	0.63	9.213	9.311

Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
C4 (NEMA34)	D54	TD54	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C4+ Spacer (NEMA34)	D54R	TD54R	mm	184.5	187	19	3	13	50
			in	7.264	7.362	0.75	0.12	0.51	1.97
C5	D55	TD55	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C6	D56	TD56	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C9 (NEMA23)	D57	TD57	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C14	D57R	TD57R	mm	184.5	187	18	11	13	50
			in	7.264	7.362	0.71	0.43	0.51	1.97
C10	D60	TD60	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65
C11	D61	TD61	mm	176.5	179	11	4	5	42
			in	6.949	7.047	0.43	0.16	0.20	1.65

*Contact Shimpco Drives Customer Service for 3:1 Dimensions.

Double Reduction Bushings

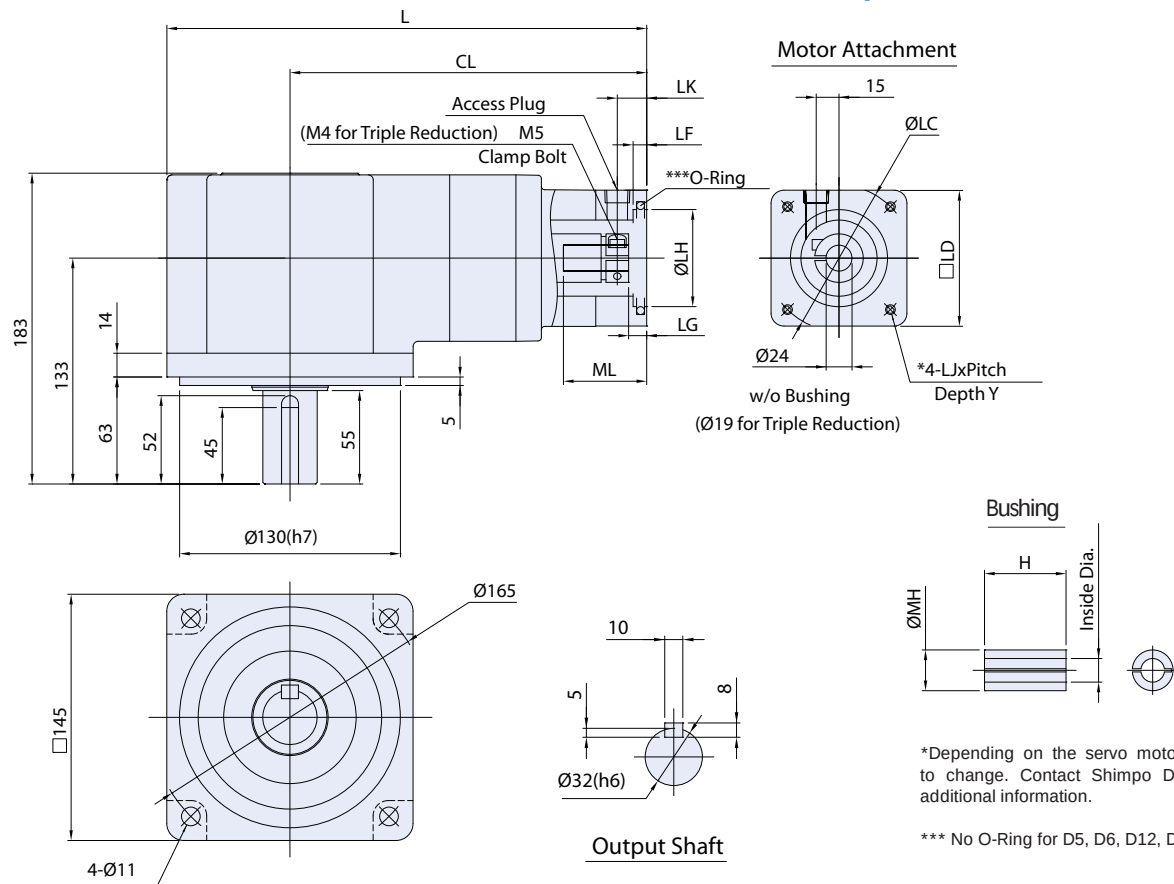
Bushing Ordering Code		1401	1402	1403	1404	1405	**1406	1407	1408	1409	1410
Inside Diameter	mm	6	8	11	6.350	9.525	12.700	12	10	9	5
	in	0.236	0.315	0.433	0.250	0.375	0.500	0.472	0.394	0.354	0.197

Triple Reduction Bushings

Bushing Ordering Code		1901	1902	1903	1904	1905	1906	1907	1908	1909
Inside Diameter	mm	11	14	16	9.525	12.700	15.875	12	10	9
	in	0.433	0.551	0.630	0.375	0.500	0.625	0.472	0.394	0.354

E Frame (145mm) NEVAF Series Dimension, Double/Triple Reduction (Solid Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105



*Depending on the servo motor, this dimension is subject to change. Contact Shimpo Drives Customer Service for additional information.

*** No O-Ring for D5, D6, D12, D13, D14 Adapter.

Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
D1	E01	TE01	mm	115	95	100	M6x1.0	15	282.5	283.5
			in	4.528	3.740	3.94	-	0.59	11.122	11.161
D2	E02	TE02	mm	90	70	80	M5x0.8	12	282.5	283.5
			in	3.543	2.756	3.15	-	0.47	11.122	11.161
D7	E02R	TE02R	mm	90	70	80	M6x1.0	15	285.5	286.5
			in	3.543	2.756	3.15	-	0.59	11.240	11.280
D3	E03	TE03	mm	100	80	90	M6x1.0	15	282.5	283.5
			in	3.937	3.150	3.54	-	0.59	11.122	11.161
D4 (NEMA42)	E04	TE04	mm	125.73	55.563	108	M6x1.0	15	282.5	283.5
			in	4.950	2.188	4.25	-	0.59	11.122	11.161

Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
D1	E01	TE01	mm	210	211	15	4	7	57
			in	8.268	8.307	0.59	0.16	0.28	2.24
D2	E02	TE02	mm	210	211	14	4	7	57
			in	8.268	8.307	0.55	0.16	0.28	2.24
D7	E02R	TE02R	mm	213	214	17	6	10	60
			in	8.386	8.425	0.67	0.24	0.39	2.36
D3	E03	TE03	mm	210	211	14	4	7	57
			in	8.268	8.307	0.55	0.16	0.28	2.24
D4 (NEMA42)	E04	TE04	mm	210	211	15	5	7	57
			in	8.268	8.307	0.59	0.20	0.28	2.24

E Frame (145mm) NEVAF Series Dimension,

Double/Triple Reduction (Solid Type)

Ratios Double: 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105

Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
D5	E05	TE05	mm	145	110	130	M8X1.25	16	285.5	286.5
			in	5.709	4.331	5.12	-	0.63	11.240	11.280
D6	E06	TE06	mm	130	110	115	M8X1.25	16	282.5	283.5
			in	5.118	4.331	4.53	-	0.63	11.122	11.161
D11 (NEMA34)	E07	TE07	mm	98.43	73.025	90	M5x0.8	12	282.5	283.5
			in	3.875	2.875	3.54	-	0.47	11.122	11.161
D12 (NEMA56)	E08	TE08	mm	149.22	114.300	130	-	-	285.5	286.5
			in	5.875	4.500	5.12	3/8UNC-16	-	11.240	11.280
D13	E13	TE13	mm	66.7	38.1	80	M4x0.7	10	282.5	283.5
			in	2.626	1.500	3.15	-	0.39	11.122	11.161
D14	E14	TE14	mm	70	50	80	M4x0.7	10	282.5	283.5
			in	2.756	1.969	3.15	-	0.39	11.122	11.161
D15	E15	TE15	mm	75	60	80	M5x0.8	12	282.5	283.5
			in	2.953	2.362	3.15	-	0.47	11.122	11.161

Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
D5	E05	TE05	mm	213	214	18	6	10	60
			in	8.386	8.425	0.71	0.24	0.39	2.36
D6	E06	TE06	mm	210	211	15	6	7	60
			in	8.268	8.307	0.59	0.24	0.28	2.36
D11 (NEMA34)	E07	TE07	mm	210	211	14	4	7	57
			in	8.268	8.307	0.55	0.16	0.28	2.24
D12 (NEMA56)	E08	TE08	mm	213	214	18	6	10	60
			in	8.386	8.425	0.71	0.24	0.39	2.36
D13	E13	TE13	mm	210	211	14	4	7	57
			in	8.268	8.307	0.55	0.16	0.28	2.24
D14	E14	TE14	mm	210	211	14	4	7	57
			in	8.268	8.307	0.55	0.16	0.28	2.24
D15	E15	TE15	mm	210	211	14	4	7	57
			in	8.268	8.307	0.55	0.16	0.28	2.24

*Contact Shimpo Drives Customer Service for 3:1 Dimensions.

Double Reduction Bushings

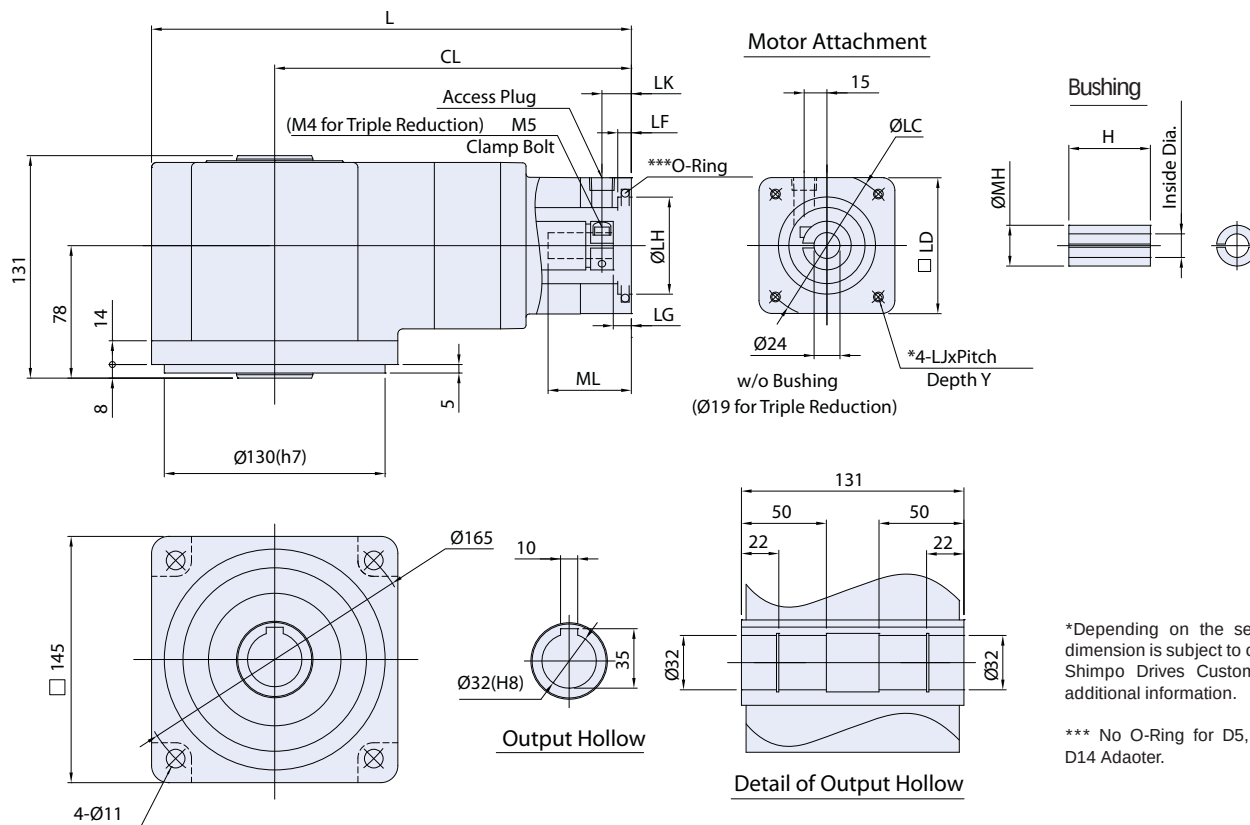
Bushing Ordering Code		1901	1902	1903	1904	1905	1906	1907	1908	1909
Inside Diameter	mm	11	14	16	9.525	12.700	15.875	12	10	9
	in	0.433	0.551	0.630	0.375	0.500	0.625	0.472	0.394	0.354

Triple Reduction Bushings

Bushing Ordering Code		2401	2402	2403	2404	2405	2406	2407
Inside Diameter	mm	14	16	19	12.700	15.875	22	19.050
	in	0.551	0.630	0.748	0.500	0.625	0.866	0.750

E Frame (145mm) NEVAF Series Dimension, Double/Triple Reduction (Hollow Type)

Ratios Double: 1:3, 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105



*Depending on the servo motor, this dimension is subject to change. Contact Shimpo Drives Customer Service for additional information.

*** No O-Ring for D5, D6, D12, D13, D14 Adapter.

Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
D1	E51	TE51	mm	115	95	100	M6x1.0	15	282.5	283.5
			in	4.528	3.740	3.94	-	0.59	11.122	11.161
D2	E52	TE52	mm	90	70	80	M5x0.8	12	282.5	283.5
			in	3.543	2.756	3.15	-	0.47	11.122	11.161
D7	E52R	TE52R	mm	90	70	80	M6x1.0	15	285.5	286.5
			in	3.543	2.756	3.15	-	0.59	11.240	11.280
D3	E53	TE53	mm	100	80	90	M6x1.0	15	282.5	283.5
			in	3.937	3.150	3.54	-	0.59	11.122	11.161
D4 (NEMA42)	E54	TE54	mm	125.73	55.563	108	M6x1.0	15	282.5	283.5
			in	4.950	2.188	4.25	-	0.59	11.122	11.161

Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
D1	E51	TE51	mm	210	211	15	4	7	57
			in	8.268	8.307	0.59	0.16	0.28	2.24
D2	E52	TE52	mm	210	211	14	4	7	57
			in	8.268	8.307	0.55	0.16	0.28	2.24
D7	E52R	TE52R	mm	213	214	17	6	10	60
			in	8.386	8.425	0.67	0.24	0.39	2.36
D3	E53	TE53	mm	210	211	14	4	7	57
			in	8.268	8.307	0.55	0.16	0.28	2.24
D4 (NEMA42)	E54	TE54	mm	210	211	15	5	7	57
			in	8.268	8.307	0.59	0.20	0.28	2.24

E Frame (145mm) NEVAF Series Dimension, Double/Triple Reduction (Hollow Type)

Ratios Double: 1:3, 1:5, 1:9, 1:15, 1:27 - Ratios Triple: 1:45, 1:75, 1:105

Adapter	CAD Download #		Unit	Bolt Circle LC	Pilot LH	Square LD	Threaded Hole LJ	Depth Y	Length L	
	Double	Triple							Double	Triple
D5	E55	TE55	mm	145	110	130	M8X1.25	16	285.5	286.5
			in	5.709	4.331	5.12	-	0.63	11.240	11.280
D6	E56	TE56	mm	130	110	115	M8X1.25	16	282.5	283.5
			in	5.118	4.331	4.53	-	0.63	11.122	11.161
D11 (NEMA34)	E57	TE57	mm	98.43	73.025	90	M5x0.8	12	282.5	283.5
			in	3.875	2.875	3.54	-	0.47	11.122	11.161
D12 (NEMA56)	E58	TE58	mm	149.22	114.300	130	-	-	285.5	286.5
			in	5.875	4.500	5.12	3/8UNC-16	-	11.240	11.280
D13	E63	TE63	mm	66.7	38.1	80	M4x0.7	10	282.5	283.5
			in	2.626	1.500	3.15	-	0.39	11.122	11.161
D14	E64	TE64	mm	70	50	80	M4x0.7	10	282.5	283.5
			in	2.756	1.969	3.15	-	0.39	11.122	11.161
D15	E65	TE65	mm	75	60	80	M5x0.8	12	282.5	283.5
			in	2.953	2.362	3.15	-	0.47	11.122	11.161

Adapter	CAD Download #		Unit	Length CL		Plug LK	Flange Depth		
	Double	Triple		Double	Triple		LF	LG	ML
D5	E55	TE55	mm	213	214	18	6	10	60
			in	8.386	8.425	0.71	0.24	0.39	2.36
D6	E56	TE56	mm	210	211	15	6	7	60
			in	8.268	8.307	0.59	0.24	0.28	2.36
D11 (NEMA34)	E57	TE57	mm	210	211	14	4	7	57
			in	8.268	8.307	0.55	0.16	0.28	2.24
D12 (NEMA56)	E58	TE58	mm	213	214	18	6	10	60
			in	8.386	8.425	0.71	0.24	0.39	2.36
D13	E63	TE63	mm	210	211	14	4	7	57
			in	8.268	8.307	0.55	0.16	0.28	2.24
D14	E64	TE64	mm	210	211	14	4	7	57
			in	8.268	8.307	0.55	0.16	0.28	2.24
D15	E65	TE65	mm	210	211	14	4	7	57
			in	8.268	8.307	0.55	0.16	0.28	2.24

*Contact Shimpo Drives Customer Service for 3:1 Dimensions.

Double Reduction Bushings

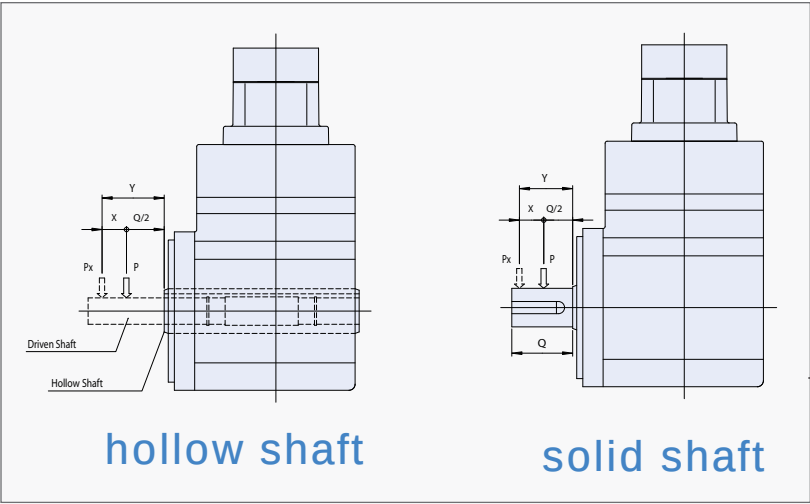
Bushing Ordering Code		1901	1902	1903	1904	1905	1906	1907	1908	1909
Inside Diameter	mm	11	14	16	9.525	12.700	15.875	12	10	9
	in	0.433	0.551	0.630	0.375	0.500	0.625	0.472	0.394	0.354

Triple Reduction Bushings

Bushing Ordering Code		2401	2402	2403	2404	2405	2406	2407
Inside Diameter	mm	14	16	19	12.700	15.875	22	19.050
	in	0.551	0.630	0.748	0.500	0.625	0.866	0.750

NEV Overhung Load

When a radial load is being applied to the shaft in a position other than the center, calculate the overhung load using the following equation >



$$P_x = [K / K + (Y - Q / 2)] \times P$$

P: Allowable radial load
(N or lbs from specification table)

K: Constant (from table below)

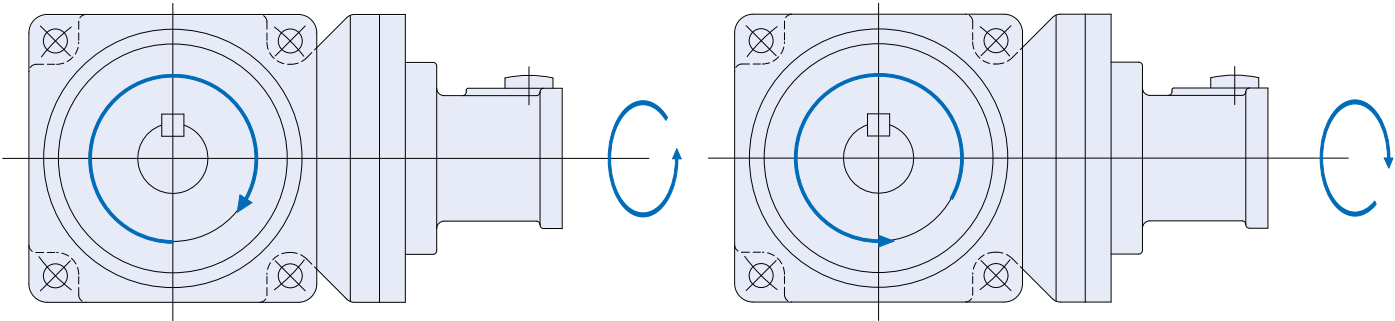
Y: Position of radial load

P_x: Actual overhung load

Q: Output shaft length

Frame Size	Constant (K)		Q	
	mm	in	mm	in
B	94.5	3.72	30	1.18
C	97.5	3.84	30	1.18
D	128	5.04	40	1.57
E	138.5	5.45	55	2.17

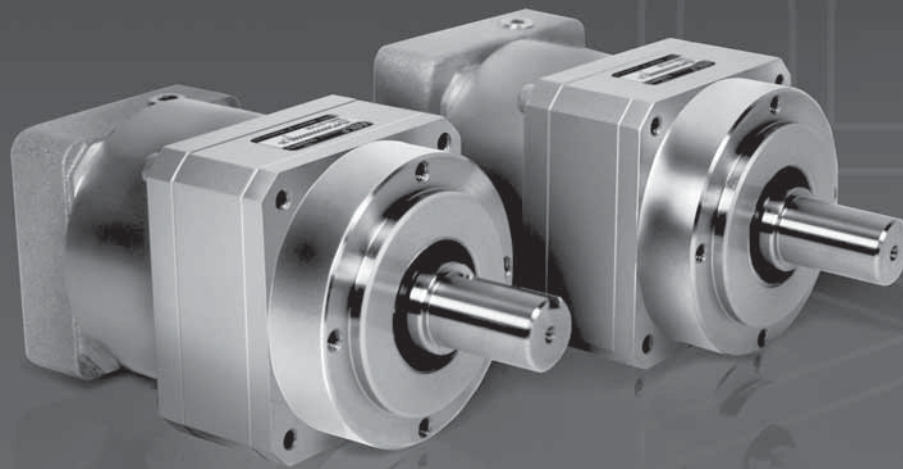
Direction of Shaft Rotation



Notes

ABLE VRAL Reducer Series

SHIMPO VRAL-Series ABLE Planetary Servo Reducers



Industry Standard Mounting Dimensions
Best-In-Class Standard Backlash (≤ 5 arc-min)
20,000 Hour Service Life
Available Selection Guides Match Reducers to Motors
In Stock, at Shimpo Prices

SHIMPO
—All for dreams

Available Now!

SHIMPO Worldwide Facilities



1

Shimpo's North American headquarters is in suburban **Chicago** where we inventory, provide sales, engineering, and product support.

2

Shimpo's Regional offices are located in **California** and **North Carolina**, providing sales, engineering, and product support.



3

Shimpo's state-of-the-art factory and sales office in **China** combine to fill out a major presence throughout Asia.



4

Shimpo's corporate offices are in **Japan** where the company performs product research, development, and international sales support. ISO 9001 certified.

5

Shimpo's European presence is represented by a sales office in **Germany**.

The Complete Line of **Shimpo Drives** Products



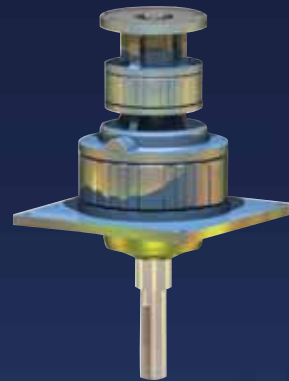
Adjustable Speed Drive



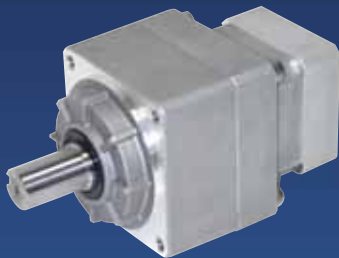
Speed Reducer



Servo Cycloidal Speed Reducer



Overhead Conveyor Speed Reducer



VRAF Servo Gearhead



VRAL Servo Gearhead

DISTRIBUTED BY:

ABLE.002.1008

SHIMPO All for dreams

SHIMPO DRIVES, INC. 1701 Glenlake Avenue Itasca, IL 60143 USA • Phone: (800) 842-1479 • Fax: (630) 924-7382
info@shimpodrives.com • www.shimpodrives.com