ServoFit® SMS Gearheads

The ServoFit® SMS (**S**ervo **M**odular **S**ystem) line of servo gearheads, compliments the already successful MGS® line of constant speed reducers and the ServoFit® line of planetary gearheads. The SMS member of the ServoFit® family was especially designed to fit all your servo needs in applications where the compact size of a planetary gearhead is not needed. With this product expansion, STOBER Drives offers the world's largest variety of servo reducers.

Whereas with the ServoFit® line of planetary gearheads STOBER Drives offers you high precision gearing in a small package, the SMS line comes into play where precision requirements are not as high. Having said that, you will be surprised at how precise and efficient our reducers are – as a matter of fact, they reach a level that many planetary gearheads in today's market can not achieve – at a very competitive price.

As with all other STOBER products, the SMS reducers come with the services and support for which we are known in the market and which are needed for you to obtain maximum value from our products. Some of these services include:

- A North American network of the nation's finest distributors to provide timely, local response to your needs.
- Comprehensive and easy-to-read product selection aids such as this catalog and our web site.
- A staff of talented application engineers with the answers you need to solve tough gear drive problems.
- In-depth installation, maintenance, and service instructions that are available for each drive to help obtain the maximum benefit from our products today — and in the future.
- Responsive customer service personnel that you can depend on to provide the right product at the right time — anytime.
- Export assistance. In addition to meeting North American standards, we can also provide products to meet international standards such as DIN and IEC.

On behalf of the worldwide family of STÖBER employees, we thank you for trying our products and pledge to continue to meet your product and service needs with the newest solutions.

Sincerely,

Bernd Stöber, President
STOBER Drives, Inc.

Peter Feil, VP/General Manager
STOBER Drives, Inc.

Table of Contents

"C" Series–Concentric Helical ServoFit® SMS Gearhead

These versatile gear drives offer you performance, durability, and economy for a wide range of applications. High efficiency helical gearing keeps motor size to a minimum while running almost silently.

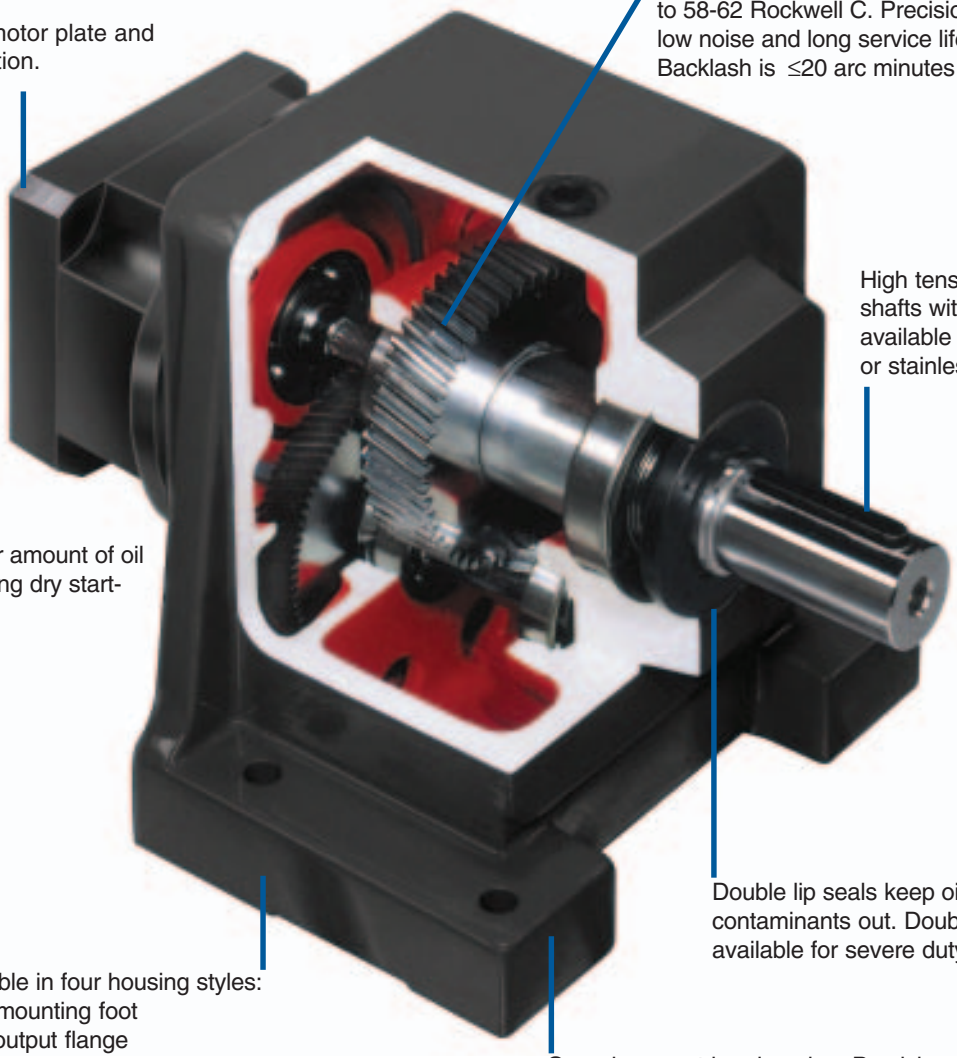
Performance Specifications:

- Input RPM up to 4,500 RPM
- Nominal output torque – 97 to 62,000 in.lbs. (21-7,000 Nm)
- Reducer ratios from 2:1 to 276:1
- 5 year limited warranty (2 years on bearings, seals, etc.)
- Ambient temperature – 0°C to +40°C (104°F)
- Noise level – as low as 53 dB(A)
- Up to ≥ 95.5% Efficiency
- Maintenance free

Motor plate can easily be changed to fit your choice of motors.

See Page 5 for more motor plate and motor adapter information.

High quality helical gearing is case hardened to 58-62 Rockwell C. Precision finished for low noise and long service life. Backlash is ≤20 arc minutes



High tensile strength shafts with captured keys available inches, metric, or stainless.

Shipped with the proper amount of oil to prevent gear damaging dry start-ups

Double lip seals keep oil in and contaminants out. Double seals available for severe duty applications.

Available in four housing styles:
- N-mounting foot
- F-output flange
- Q-square output flange
- G-tapped holes

One-piece cast iron housing. Precision machined bearing supports assure gearset alignment, prolongs bearing life, provides exceptional overhung load capacities to eliminate leakage problems common to drives with bolt-on output covers.

Also available in washdown, food duty, and beverage duty.
* Maximum 10 working days for custom motor plates.

"F" Series—Offset Helical ServoFit® SMS Gearhead

Compact size and flexibility make these gear drives a popular choice for applications that require high performance, efficiency, and durability. Series "F" gear drives, like all SMS units, are available with a wide selection of configurations to match almost any mounting requirement.

Performance Specifications:

- Input RPM up to 4,500 RPM
- Nominal output torque – 200 to 9,700 in. lbs. (22-1,100 Nm)
- Reducer ratios from 4.1:1 to 540:1
- 5 year limited warranty (2 years on bearings, seals, etc.)
- Ambient temperature – 0°C to +40°C (104°F)
- Noise level – as low as 53 dB(A)
- ≥ 95.5% Efficiency
- Maintenance free

STANDARD 3-DAY DELIVERY

Motor plate can easily be changed to fit your choice of motors. See Page 5 for more motor plate and motor adapter information.

One-piece cast iron housing with precision machined bearing supports assure gearset alignment, prolongs bearing life, provides exceptional overhung load capacities, and eliminates leakage problems common to two-piece housings.

Shipped with the proper amount of oil to prevent gear damaging dry start-ups

Double lip seals keep oil in and contaminants out. Double seals available for severe duty applications.

High quality helical gearing is case hardened to 58-62 Rockwell C. Precision finished for low noise and long service life.
Standard backlash is ≤11 arc minutes
Reduced backlash is ≤7 arc minutes

Output Options:
- Solid shaft
- Hollow
- Backlash free, wobble free bushings

Also available in metric or stainless shaft or quill.

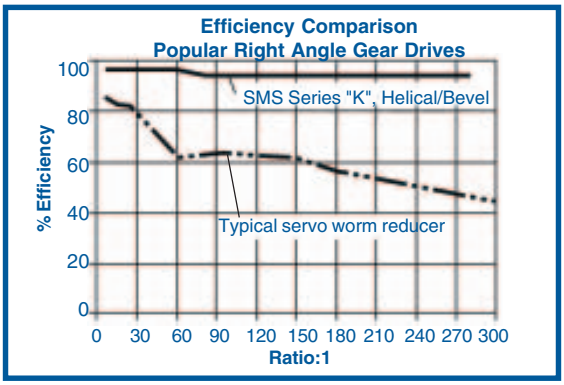
Also available in washdown and poultry duty.
* Maximum 10 working days for custom motor plates.

"K" Series—Right Angle Helical/Bevel ServoFit® SMS Gearhead

Right angle helical/bevel gear drives offer higher input-to-output efficiencies than conventional worm gear drives. This added efficiency reduces your costs today through smaller gear drive and motor sizing. Tomorrow, you'll benefit through optimum energy savings. SMS helical/bevel gear drives offer consistent, higher efficiencies than single worm drives.

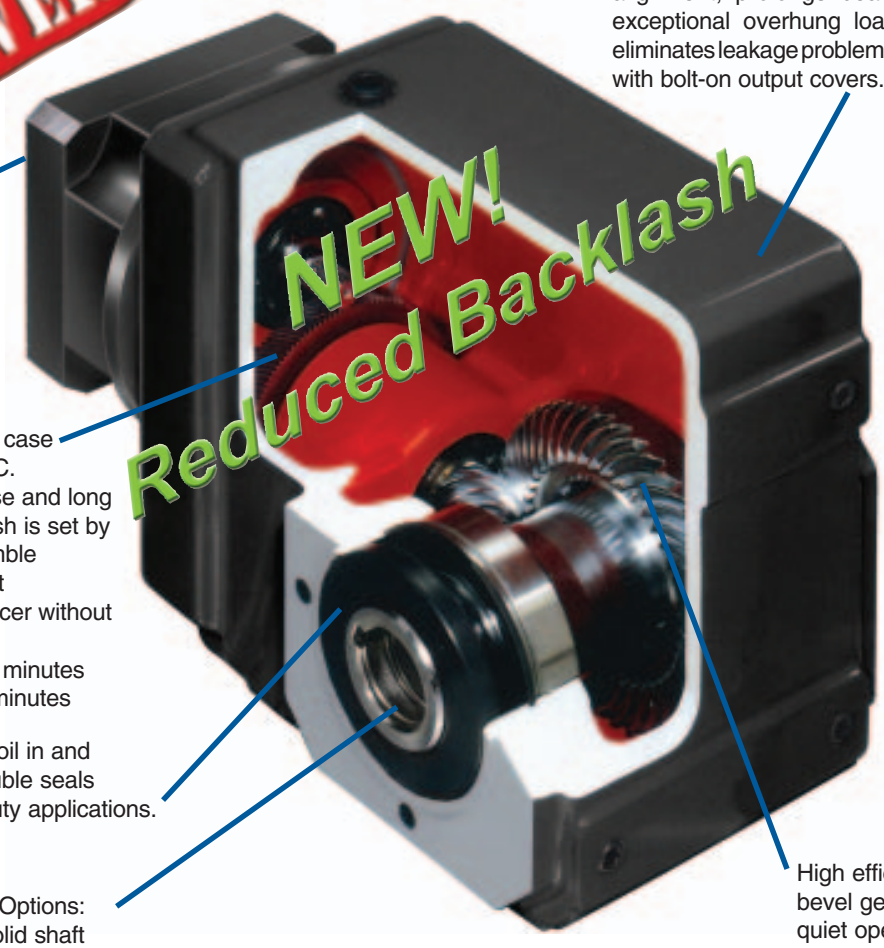
Performance Specifications:

- Input RPM up to 4,500 RPM
- Nominal output torque–109 to 106,000 in. lbs. (12-11,900Nm)
- Reducer ratios from 4:1 to 381:1
- 5 year limited warranty (2 years on bearings, seals, etc.)
- Ambient temperature – 0°C to +40°C (104°F)
- Noise level – as low as 53 dB(A)
- Maintenance free



One-piece cast iron housing with precision machined bearing supports assure gearset alignment, prolongs bearing life, provides exceptional overhung load capacities, and eliminates leakage problems common to drives with bolt-on output covers.

Motor plate can easily be changed to fit your choice of motors. See Page 5 for more motor plate and motor adapter information.



High quality helical gearing is case hardened to 58-62 Rockwell C. Precision finished for low noise and long service life. When the backlash is set by our manufacturing and assemble methods it remains consistent throughout the life of the reducer without further need for adjustment.
Standard backlash is ≤12 arc minutes
Reduced backlash is ≤6 arc minutes

Double lip seals keep oil in and contaminants out. Double seals available for severe duty applications.

Output Options:
- Solid shaft
- Hollow
- Backlash free, wobble free bushings

Also available in metric or stainless shaft or quill

High efficiency spiral bevel gearing provides quiet operation and excellent torque carrying capacity

Shipped with the proper amount of oil to prevent gear damaging dry start-ups.

Also available in washdown, poultry duty, food duty, and beverage duty.
* Maximum 10 working days for custom motor plates.

Beverage, Food, and Poultry Duty ServoFit® SMS Gearhead

- Lubricated for Life
- Maintenance Free
- Totally Enclosed – no breather
- 5 Year Warranty – your guarantee of our confidence in the SMS reducer line.
- 97% Efficiency – for high quality and reliability plus cost savings in energy and maintenance

Standard Coating – BEVERAGE - Industrial 316 Stainless Steel Epoxy
– FOOD - Multilayer Industrial 316 Stainless Steel Epoxy
Coating Options – Additional Layer of Ultra Clear Industrial Epoxy
– White Epoxy

Inside Split Cover Cap – enables easy assembly onto the shaft

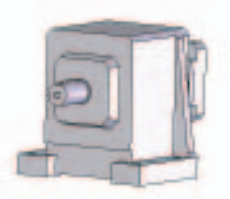
Outside Closed Cover Cap – protects seals from high pressure washing

ALL Stainless Steel Hardware

Patented(1) Stainless Steel Double Sided Bushing Mounted into Stainless Steel Output Quill – easily mounts onto standard cold finished, ground, or stainless shafting.

Double Sealed Output – with a dual lip outer seal and a single lip inner seal

One Standard Unit for ALL Horizontal Mounting Positions <u>Without</u> Changing the Oil Level.

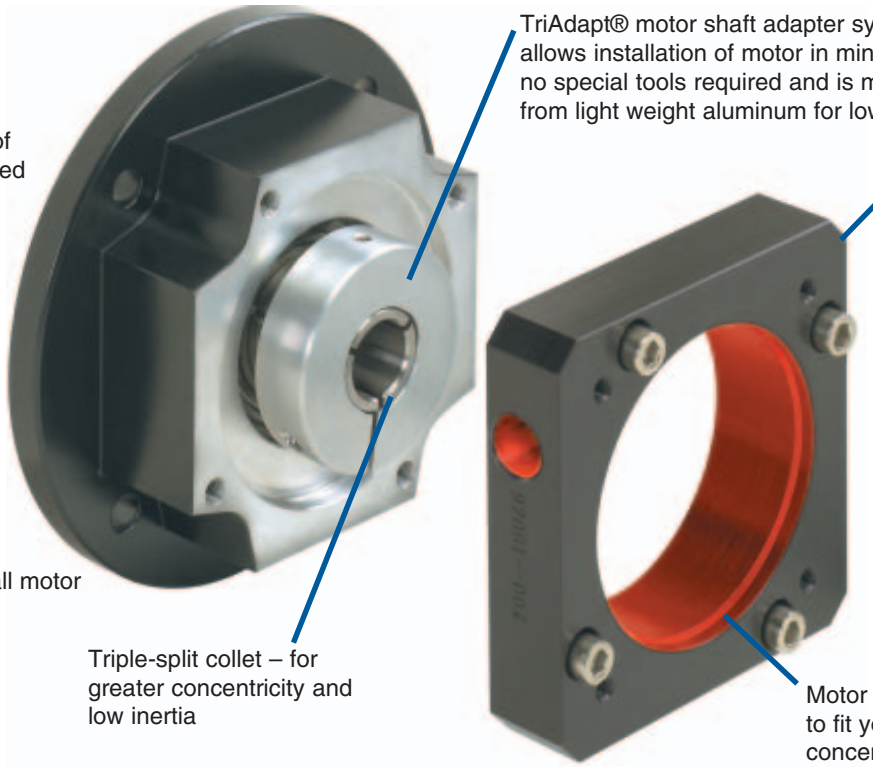


Also available in "C" Series, "K" Series Solid and Hollow, and "F" Series Hollow Output.
Stainless steel output is not available in all sizes. Contact Stober.

(1) U.S. Patent Number 5,496,127

TriAdapt® Motor Adapter Features ServoFit® SMS Gearhead

The patented TriAdapt® motor coupling has been proven in the ClassicLine of ServoFit® Precision Planetary gearheads. It is designed to allow thermal expansion of the motor shaft–ensuring long motor life by preventing thrust load on the motor bearings. Some features are:



Stober ServoFit SMS Gearheads will fit the motor of your choice by assembling the correct motor mounting plate between the motor and the reducer. When ordering an SMS reducer, specify the motor manufacturer and part number, provide the motor drawing with dimensions (preferred), or specify the motor mounting dimensions to be sure the correct mounting plate is provided.

The following dimensions are required:

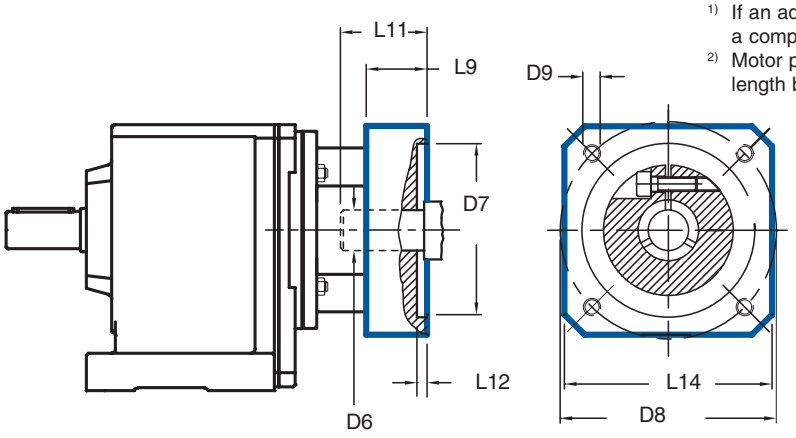
1. D6 Motor Shaft Diameter (See Table No. 1 for maximum possible.) *
2. D7 Pilot Diameter
3. D8 Bolt Circle Diameter
4. D9 Bolt Size
5. L11 Motor Shaft Length
6. L12 Pilot Depth
7. L14 Square Flange Dimension
   (Motor plate will typically be made to match the motor square.)

Table No. 1

"MT" Motor Plate Thickness Dimensions

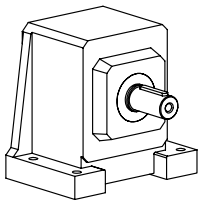
Motor Adapter	Motor Shaft D6 Max. [1]		Motor Plate Thickness [2] L9 ≥ L11 - X_1 ≥ X_2			
			X_1		X_2	
	mm	ins.	mm	inches	mm	inches
MT10	19	.748	22	.866	21	.827
MT20	24	945	26	1.024	24	.945
MT30	38	1.260	35	1.378	25	.984
MT40	48	1.890	44	1.732	33	1.299

[1] If an adapter bushing is required it will be supplied as a component of the motor mounting plate.
[2] Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_2 shown above.

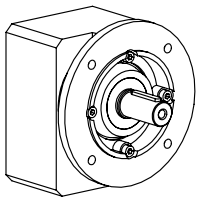


"C" Series–Concentric Helical ServoFit® SMS Gearhead

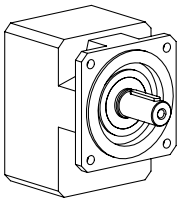
Housing Styles:



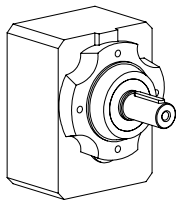
Style N, Foot Mount



Style F, Round Flange

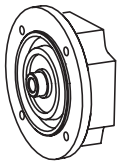


Style Q, Square Flange

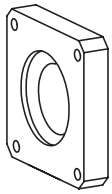


Style G, Tapped Holes

TriAdapt® Motor Adapter Input:

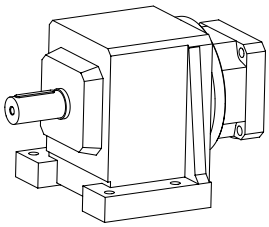


MT
Motor Adapter

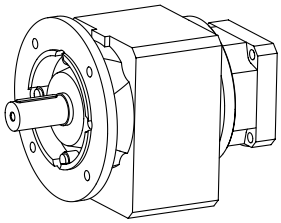


Motor Plate
to fit any servo motor

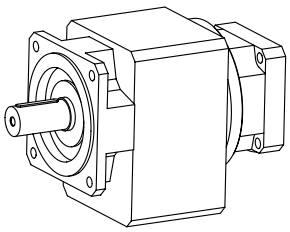
Gearhead Configurations:



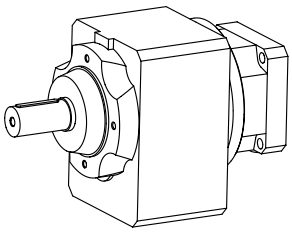
Style N, Foot Mount
See Page 26



Style F, Round Flange
See Page 28



Style Q, Square Flange
See Page 30



Style G, Tapped Holes
See Page 32

Accessories:

Optional Round Flanges
See Page 34

See web site for drawings.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
												Nominal [2] $T_{2N} \leq n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C002 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 55 dB(A)** [4]	
184	21	C002_0020 MT10	2.0	1480/741	1.3	20	7	0.8	3,500	3,000	4,000	184	21	184	21	230	26
272	31	C002_0020 MT20	2.0	1480/741	1.9	20	7	0.8	3,500	3,000	4,000	226	26	346	39	433	49
241	27	C002_0028 MT10	2.8	36/13	1.0	20	9	1.0	3,500	3,000	4,000	241	27	241	27	302	34
304	34	C002_0028 MT20	2.8	36/13	1.6	20	9	1.0	3,500	3,000	4,000	252	28	455	51	568	64
263	30	C002_0031 MT10	3.1	46/15	1.0	20	9	1.0	3,700	3,600	4,200	256	29	263	30	329	37
314	35	C002_0031 MT20	3.1	46/15	1.6	20	9	1.0	3,500	3,500	4,200	256	29	495	56	619	70
284	32	C002_0033 MT10	3.3	1702/513	1.0	20	9	1.0	3,700	3,600	4,200	263	30	284	32	356	40
323	36	C002_0033 MT20	3.3	1702/513	1.6	20	9	1.1	3,500	3,500	4,200	263	30	536	60	669	76
316	36	C002_0038 MT10	3.8	441/115	0.9	20	10	1.1	3,700	3,600	4,200	276	31	316	36	395	45
339	38	C002_0038 MT20	3.8	441/115	1.5	20	10	1.1	3,500	3,500	4,200	276	31	572	65	743	84
342	39	C002_0041 MT10	4.1	1813/437	0.9	20	10	1.1	3,700	3,600	4,200	283	32	342	39	427	48
348	39	C002_0041 MT20	4.1	1813/437	1.5	20	10	1.1	3,500	3,500	4,200	283	32	576	65	804	91
362	41	C002_0047 MT10	4.7	117/25	0.8	20	10	1.1	4,000	4,000	4,500	287	32	372	42	465	53
362	41	C002_0047 MT20	4.7	117/25	1.4	20	10	1.1	3,500	3,500	4,500	287	32	576	65	876	99
371	42	C002_0051 MT10	5.1	481/95	0.8	20	10	1.1	4,000	4,000	4,500	295	33	403	45	503	57
371	42	C002_0051 MT20	5.1	481/95	1.4	20	10	1.2	3,500	3,500	4,500	295	33	576	65	948	107
389	44	C002_0058 MT10	5.8	99/17	0.7	20	10	1.2	4,000	4,000	4,500	309	35	445	50	556	63
389	44	C002_0058 MT20	5.8	99/17	1.3	20	10	1.2	3,500	3,500	4,500	309	35	576	65	974	110
399	45	C002_0063 MT10	6.3	2035/323	0.7	20	10	1.2	4,000	4,000	4,500	317	36	481	54	601	68
399	45	C002_0063 MT20	6.3	2035/323	1.3	20	11	1.2	3,500	3,500	4,500	317	36	576	65	974	110
427	48	C002_0077 MT10	7.7	54/7	0.7	20	11	1.2	4,000	4,000	4,500	339	38	561	63	701	79
427	48	C002_0077 MT20	7.7	54/7	1.3	20	11	1.2	3,500	3,500	4,500	339	38	561	63	701	79
516	58	C002_0082 MT10	8.2	667/81	0.9	16	14	1.5	3,700	3,600	4,200	420	47	638	72	882	100
516	58	C002_0082 MT20	8.2	667/81	1.5	16	14	1.5	3,500	3,500	4,200	420	47	638	72	1,063	120
531	60	C002_0092 MT10	9.2	1495/162	0.9	16	14	1.5	3,700	3,600	4,200	437	49	576	65	989	112
531	60	C002_0092 MT20	9.2	1495/162	1.5	16	14	1.6	3,500	3,500	4,200	437	49	576	65	1,063	120
531	60	C002_0105 MT10	10.3	1421/138	0.8	16	14	1.6	3,700	3,600	4,200	453	51	638	72	1,060	120
531	60	C002_0105 MT20	10.3	1421/138	1.4	16	14	1.6	3,500	3,500	4,200	453	51	638	72	1,063	120
531	60	C002_0115 MT10	11.5	3185/276	0.8	16	14	1.6	3,700	3,600	4,200	470	53	576	65	1,063	120
531	60	C002_0115 MT20	11.5	3185/276	1.4	16	14	1.6	3,500	3,500	4,200	470	53	576	65	1,063	120
531	60	C002_0125 MT10	12.6	377/30	0.8	16	14	1.6	4,000	4,000	4,500	472	53	638	72	1,063	120
531	60	C002_0125 MT20	12.6	377/30	1.4	16	14	1.6	3,500	3,500	4,500	472	53	638	72	1,063	120
531	60	C002_0140 MT10	14.1	169/12	0.8	16	14	1.6	4,000	4,000	4,500	490	55	576	65	1,063	120
531	60	C002_0140 MT20	14.1	169/12	1.4	16	14	1.6	3,500	3,500	4,500	490	55	576	65	1,063	120
531	60	C002_0155 MT10	15.6	1595/102	0.7	16	14	1.6	4,000	4,000	4,500	507	57	638	72	1,063	120
531	60	C002_0155 MT20	15.6	1595/102	1.3	16	14	1.6	3,500	3,500	4,500	507	57	638	72	1,063	120
531	60	C002_0175 MT10	17.5	3575/204	0.7	16	14	1.6	4,000	4,000	4,500	527	59	576	65	1,063	120
531	60	C002_0175 MT20	17.5	3575/204	1.3	16	14	1.6	3,500	3,500	4,500	527	59	576	65	1,063	120
531	60	C002_0210 MT10	20.7	145/7	0.7	16	14	1.6	4,000	4,000	4,500	531	60	638	72	1,063	120
531	60	C002_0210 MT20	20.7	145/7	1.3	16	14	1.6	3,500	3,500	4,500	531	60	638	72	1,063	120

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A) Measured at 1 meter distance with 3000 RPM input.

DIRECTION OF ROTATION:

2 Stage units (C002 through C812)
If input turns clockwise, output turns clockwise.

3 Stage units (C103 through C913)
If input turns clockwise, output turns counterclockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL5 or EL6
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

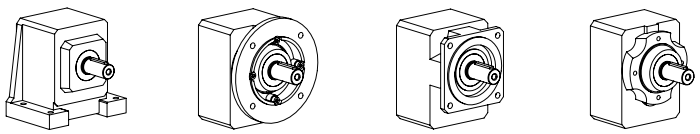
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C002 with MT TriAdapt® Motor Adapter (Continued)																**Noise Level ≤ 55 dB(A) [4]**	
531	60	C002_0230 MT10	23.2	325/14	0.7	16	14	1.6	4,000	4,000	4,500	531	60	576	65	1,063	120
531	60	C002_0230 MT20	23.2	325/14	1.3	16	14	1.6	3,500	3,500	4,500	531	60	576	65	1,063	120
531	60	C002_0250 MT10	25.0	899/36	0.7	16	14	1.6	4,000	4,000	4,500	531	60	638	72	1,063	120
531	60	C002_0250 MT20	25.0	899/36	1.3	16	14	1.6	3,500	3,500	4,500	531	60	638	72	1,063	120
531	60	C002_0280 MT10	28.0	2015/72	0.7	16	14	1.6	4,000	4,000	4,500	531	60	576	65	1,063	120
531	60	C002_0280 MT20	28.0	2015/72	1.3	16	14	1.6	3,500	3,500	4,500	531	60	576	65	1,063	120
531	60	C002_0310 MT10	31.3	2813/90	0.6	16	14	1.6	4,000	4,000	4,500	531	60	638	72	1,063	120
531	60	C002_0310 MT20	31.3	2813/90	1.2	16	14	1.6	3,500	3,500	4,500	531	60	638	72	1,063	120
531	60	C002_0350 MT10	35.0	1261/36	0.6	16	14	1.6	4,000	4,000	4,500	531	60	576	65	1,063	120
531	60	C002_0350 MT20	35.0	1261/36	1.2	16	14	1.6	3,500	3,500	4,500	531	60	576	65	1,063	120
531	60	C002_0420 MT10	41.8	3509/84	0.6	16	14	1.6	4,000	4,000	4,500	531	60	638	72	1,063	120
531	60	C002_0470 MT10	46.8	7865/168	0.6	16	14	1.6	4,000	4,000	4,500	531	60	576	65	1,063	120
531	60	C002_0500 MT10	49.9	899/18	0.6	16	14	1.6	4,000	4,000	4,500	531	60	638	72	1,048	118
531	60	C002_0560 MT10	56.0	2015/36	0.6	16	14	1.6	4,000	4,000	4,500	531	60	576	65	1,063	120
531	60	C002_0620 MT10	62.4	1247/20	0.6	16	14	1.6	4,000	4,000	4,500	531	60	638	72	1,063	120
531	60	C002_0700 MT10	69.9	559/8	0.6	16	14	1.6	4,000	4,000	4,500	531	60	576	65	1,063	120
C102/C103 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 55 dB(A) [4]**	
195	22	C102_0020 MT10	2.0	1128/559	2.5	18	12	1.3	3,100	2,700	3,600	195	22	195	22	243	27
547	62	C102_0020 MT20	2.0	1128/559	3.1	18	12	1.4	3,100	2,700	3,600	472	53	763	86	1,076	121
547	62	C102_0020 MT30	2.0	1128/559	7.9	18	16	1.8	3,100	2,700	3,600	472	53	861	97	1,076	121
210	24	C102_0022 MT10	2.2	468/215	2.4	18	13	1.4	3,100	2,700	3,600	210	24	210	24	263	30
561	63	C102_0022 MT20	2.2	468/215	3.0	18	13	1.5	3,100	2,700	3,600	484	55	823	93	1,161	131
561	63	C102_0022 MT30	2.2	468/215	7.8	18	17	1.9	3,100	2,700	3,600	484	55	929	105	1,161	131
579	65	C102_0024 MT20	2.4	2303/962	2.7	18	15	1.7	3,100	2,700	3,600	500	56	905	102	1,260	142
579	65	C102_0024 MT30	2.4	2303/962	7.5	18	18	2.0	3,100	2,700	3,600	500	56	978	110	1,260	142
593	67	C102_0026 MT20	2.6	1911/740	2.7	18	16	1.8	3,100	2,700	3,600	513	58	976	110	1,359	153
593	67	C102_0026 MT30	2.6	1911/740	7.5	18	19	2.1	3,100	2,700	3,600	513	58	1,003	113	1,359	153
282	32	C102_0031 MT10	3.1	2491/806	1.6	18	17	2.0	3,600	3,200	4,100	282	32	282	32	352	40
630	71	C102_0031 MT20	3.1	2491/806	2.2	18	18	2.0	3,500	3,200	4,100	518	58	1,065	120	1,556	176
630	71	C102_0031 MT30	3.1	2491/806	7.0	18	21	2.4	3,500	3,200	4,000	518	58	1,065	120	1,556	176
304	34	C102_0033 MT10	3.3	2067/620	1.6	18	18	2.1	3,600	3,200	4,100	304	34	304	34	380	43
646	73	C102_0033 MT20	3.3	2067/620	2.2	18	19	2.1	3,500	3,200	4,100	531	60	1,092	123	1,678	189
646	73	C102_0033 MT30	3.3	2067/620	7.0	18	22	2.4	3,500	3,200	4,000	531	60	1,092	123	1,678	189
342	39	C102_0039 MT10	3.9	1363/351	1.3	18	20	2.3	3,600	3,200	4,100	342	39	342	39	427	48
680	77	C102_0039 MT20	3.9	1363/351	1.9	18	21	2.3	3,500	3,200	4,100	559	63	1,149	130	1,888	213
680	77	C102_0039 MT30	3.9	1363/351	6.7	18	23	2.6	3,500	3,200	4,000	559	63	1,149	130	1,888	213
369	42	C102_0042 MT10	4.2	377/90	1.3	18	21	2.4	3,600	3,200	4,100	369	42	369	42	461	52
697	79	C102_0042 MT20	4.2	377/90	1.9	18	22	2.4	3,500	3,200	4,100	573	65	1,152	130	1,949	220
697	79	C102_0042 MT30	4.2	377/90	6.7	18	24	2.7	3,500	3,200	4,000	573	65	1,152	130	1,949	220

Motor Shaft

Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Contact Stober Drives for availability of "Q" housing style.

See page 84 for required ordering information and part number example.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C102/C103 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 55 dB(A)** [4]	
396	45	C102_0047 MT10	4.7	3149/676	1.1	18	22	2.5	3,800	3,600	4,300	396	45	396	45	494	56
722	82	C102_0047 MT20	4.7	3149/676	1.7	18	22	2.5	3,500	3,500	4,300	583	66	1,152	130	1,949	220
722	82	C102_0047 MT30	4.7	3149/676	6.5	18	24	2.7	3,500	3,500	4,000	583	66	1,152	130	1,949	220
427	48	C102_0050 MT10	5.0	201/40	1.1	18	23	2.6	3,800	3,600	4,300	427	48	427	48	533	60
741	84	C102_0050 MT20	5.0	201/40	1.7	18	23	2.6	3,500	3,500	4,300	598	68	1,152	130	1,949	220
741	84	C102_0050 MT30	5.0	201/40	6.5	18	25	2.8	3,500	3,500	4,000	598	68	1,152	130	1,949	220
480	54	C102_0059 MT10	5.9	47/8	1.0	18	24	2.7	3,800	3,600	4,300	480	54	480	54	600	68
781	88	C102_0059 MT20	5.9	47/8	1.6	18	24	2.7	3,500	3,500	4,300	630	71	1,152	130	1,949	220
781	88	C102_0059 MT30	5.9	47/8	6.4	18	25	2.9	3,500	3,500	4,000	630	71	1,152	130	1,949	220
517	58	C102_0063 MT10	6.3	507/80	1.0	18	24	2.7	3,800	3,600	4,300	517	58	517	58	647	73
801	90	C102_0063 MT20	6.3	507/80	1.6	18	25	2.8	3,500	3,500	4,300	646	73	1,152	130	1,949	220
801	90	C102_0063 MT30	6.3	507/80	6.4	18	26	2.9	3,500	3,500	4,000	646	73	1,152	130	1,949	220
602	68	C102_0078 MT10	7.8	3243/416	0.8	18	25	2.9	4,000	4,000	4,500	602	68	602	68	752	85
858	97	C102_0078 MT20	7.8	3243/416	1.4	18	26	2.9	3,500	3,500	4,500	681	77	1,152	130	1,949	220
858	97	C102_0078 MT30	7.8	3243/416	6.2	18	26	3.0	3,500	3,500	4,000	681	77	1,152	130	1,949	220
753	85	C102_0083 MT10	8.3	1537/186	1.3	15	32	3.6	3,600	3,200	4,100	753	85	753	85	941	106
1,033	117	C102_0083 MT20	8.3	1537/186	1.9	15	32	3.6	3,500	3,200	4,100	849	96	1,222	138	2,126	240
1,033	117	C102_0083 MT30	8.3	1537/186	6.7	15	33	3.7	3,500	3,200	4,000	849	96	1,222	138	2,126	240
850	96	C102_0093 MT10	9.3	3180/341	1.3	15	32	3.6	3,600	3,200	4,100	850	96	850	96	1,062	120
1,063	120	C102_0093 MT20	9.3	3180/341	1.9	15	32	3.7	3,500	3,200	4,100	884	100	1,222	138	2,126	240
1,063	120	C102_0093 MT30	9.3	3180/341	6.7	15	33	3.8	3,500	3,200	4,000	884	100	1,222	138	2,126	240
914	103	C102_0105 MT10	10.4	841/81	1.1	15	33	3.7	3,600	3,200	4,100	914	103	914	103	1,142	129
1,063	120	C102_0105 MT20	10.4	841/81	1.7	15	33	3.7	3,500	3,200	4,100	917	103	1,222	138	2,126	240
1,063	120	C102_0105 MT30	10.4	841/81	6.5	15	34	3.8	3,500	3,200	4,000	917	103	1,222	138	2,126	240
1,031	116	C102_0115 MT10	11.7	1160/99	1.1	15	33	3.7	3,600	3,200	4,100	954	108	1,031	116	1,289	146
1,063	120	C102_0115 MT20	11.7	1160/99	1.7	15	33	3.8	3,500	3,200	4,100	954	108	1,222	138	2,126	240
1,063	120	C102_0115 MT30	11.7	1160/99	6.5	15	34	3.8	3,500	3,200	4,000	954	108	1,222	138	2,126	240
1,058	119	C102_0125 MT10	12.5	1943/156	1.0	15	33	3.8	3,800	3,600	4,300	957	108	1,058	119	1,322	149
1,063	120	C102_0125 MT20	12.5	1943/156	1.6	15	33	3.8	3,500	3,500	4,300	957	108	1,222	138	2,126	240
1,063	120	C102_0125 MT30	12.5	1943/156	6.4	15	34	3.8	3,500	3,500	4,000	957	108	1,222	138	2,126	240
1,063	120	C102_0140 MT10	14.1	2010/143	1.0	15	34	3.8	3,800	3,600	4,300	996	112	1,194	135	1,492	168
1,063	120	C102_0140 MT20	14.1	2010/143	1.6	15	34	3.8	3,500	3,500	4,300	996	112	1,222	138	2,126	240
1,063	120	C102_0140 MT30	14.1	2010/143	6.4	15	34	3.9	3,500	3,500	4,000	996	112	1,222	138	2,126	240
1,063	120	C102_0155 MT10	15.7	377/24	0.9	15	34	3.8	3,800	3,600	4,300	1,033	117	1,222	138	1,603	181
1,063	120	C102_0155 MT20	15.7	377/24	1.5	15	34	3.8	3,500	3,500	4,300	1,033	117	1,222	138	2,126	240
1,063	120	C102_0155 MT30	15.7	377/24	6.3	15	34	3.9	3,500	3,500	4,000	1,033	117	1,222	138	2,126	240
1,063	120	C102_0175 MT10	17.7	195/11	0.9	15	34	3.8	3,800	3,600	4,300	1,063	120	1,222	138	1,809	204
1,063	120	C102_0175 MT20	17.7	195/11	1.5	15	34	3.9	3,500	3,500	4,300	1,063	120	1,222	138	2,126	240
1,063	120	C102_0175 MT30	17.7	195/11	6.3	15	34	3.9	3,500	3,500	4,000	1,063	120	1,222	138	2,126	240
1,063	120	C102_0210 MT10	20.8	667/32	0.8	15	34	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,012	227
1,063	120	C102_0210 MT20	20.8	667/32	1.4	15	34	3.9	3,500	3,500	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0210 MT30	20.8	667/32	6.2	15	34	3.9	3,500	3,500	4,000	1,063	120	1,222	138	2,126	240

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A) Measured at 1 meter distance with 3000 RPM input.

DIRECTION OF ROTATION:

2 Stage units (C002 through C812)
If input turns clockwise, output turns clockwise.

3 Stage units (C103 through C913)
If input turns clockwise, output turns counterclockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL5 or EL6
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

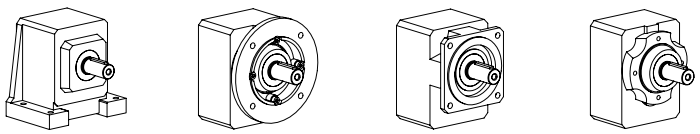
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C102/C103 with MT TriAdapt® Motor Adapter (Continued)																**Noise Level ≤ 55 dB(A) [4]**	
1,063	120	C102_0240 MT10	23.5	1035/44	0.8	15	34	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0240 MT20	23.5	1035/44	1.4	15	34	3.9	3,500	3,500	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0240 MT30	23.5	1035/44	6.2	15	35	3.9	3,500	3,500	4,000	1,063	120	1,222	138	2,126	240
1,063	120	C102_0250 MT10	25.1	377/15	0.8	15	34	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0250 MT20	25.1	377/15	1.4	15	34	3.9	3,500	3,500	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0250 MT30	25.1	377/15	6.2	15	35	3.9	3,500	3,500	4,000	1,063	120	1,222	138	2,126	240
1,063	120	C102_0280 MT10	28.4	312/11	0.8	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0280 MT20	28.4	312/11	1.4	15	35	3.9	3,500	3,500	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0280 MT30	28.4	312/11	6.2	15	35	3.9	3,500	3,500	4,000	1,063	120	1,222	138	2,126	240
1,063	120	C102_0310 MT10	31.1	435/14	0.7	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0310 MT20	31.1	435/14	1.3	15	35	3.9	3,500	3,500	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0310 MT30	31.1	435/14	6.1	15	35	3.9	3,500	3,500	4,000	1,063	120	1,222	138	2,126	240
1,063	120	C102_0350 MT10	35.1	2700/77	0.7	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0350 MT20	35.1	2700/77	1.3	15	35	3.9	3,500	3,500	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0350 MT30	35.1	2700/77	6.1	15	35	3.9	3,500	3,500	4,000	1,063	120	1,222	138	2,126	240
1,063	120	C102_0420 MT10	41.6	1247/30	0.7	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0420 MT20	41.6	1247/30	1.3	15	35	3.9	3,500	3,500	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0470 MT10	46.9	516/11	0.7	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0470 MT20	46.9	516/11	1.3	15	35	3.9	3,500	3,500	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C102_0500 MT10	49.9	899/18	0.6	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,089	236
1,063	120	C102_0560 MT10	56.4	620/11	0.6	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,054	119	C102_0620 MT10	62.4	4495/72	0.6	15	35	3.9	4,000	4,000	4,500	1,054	119	1,222	138	2,108	238
1,063	120	C102_0700 MT10	70.5	775/11	0.6	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C103_0820 MT10	81.6	31349/384	0.7	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C103_0920 MT10	92.1	16215/176	0.7	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C103_1110 MT10	111.1	1222/11	0.7	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C103_1370 MT10	137.3	10575/77	0.7	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C103_1840 MT10	183.7	2021/11	0.6	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C103_2210 MT10	220.8	7285/33	0.6	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
1,063	120	C103_2760 MT10	275.9	36425/132	0.6	15	35	3.9	4,000	4,000	4,500	1,063	120	1,222	138	2,126	240
C202/C203 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 53 dB(A) [4]**	
690	78	C202_0020 MT20	2.0	432/215	5.1	17	15	1.7	3,000	2,600	3,500	690	78	760	86	1,114	126
834	94	C202_0020 MT30	2.0	432/215	9.9	17	21	2.4	3,000	2,600	3,500	728	82	1,408	159	2,874	324
751	85	C202_0022 MT20	2.2	2160/989	4.9	17	17	2.0	3,000	2,600	3,500	749	85	826	93	1,211	137
857	97	C202_0022 MT30	2.2	2160/989	9.7	17	23	2.6	3,000	2,600	3,500	749	85	1,448	163	3,100	350
851	96	C202_0025 MT20	2.5	99/40	4.1	17	20	2.3	3,000	2,600	3,500	781	88	936	106	1,328	150
894	101	C202_0025 MT30	2.5	99/40	8.9	17	27	3.0	3,000	2,600	3,500	781	88	1,062	120	1,328	150

Motor Shaft

Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Contact Stober Drives for availability of "Q" housing style.

See page 84 for required ordering information and part number example.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C202/C203 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 53 dB(A)** [4]	
919	104	C202_0027 MT20	2.7	495/184	4.0	17	23	2.5	3,000	2,600	3,500	803	91	1,017	115	1,443	163
919	104	C202_0027 MT30	2.7	495/184	8.8	17	29	3.3	3,000	2,600	3,500	803	91	1,155	130	1,443	163
964	109	C202_0031 MT20	3.1	90/29	3.3	17	26	3.0	3,500	3,100	4,000	800	90	1,173	132	1,618	183
964	109	C202_0031 MT30	3.1	90/29	8.1	17	33	3.7	3,500	3,100	4,000	800	90	1,295	146	1,618	183
991	112	C202_0034 MT20	3.4	2250/667	3.2	17	29	3.2	3,500	3,100	4,000	822	93	1,275	144	1,759	199
991	112	C202_0034 MT30	3.4	2250/667	8.0	17	35	3.9	3,500	3,100	4,000	822	93	1,407	159	1,759	199
1,039	117	C202_0039 MT20	3.9	486/125	2.7	17	32	3.6	3,500	3,100	4,000	862	97	1,470	166	1,954	221
1,039	117	C202_0039 MT30	3.9	486/125	7.5	17	38	4.3	3,500	3,100	4,000	862	97	1,563	176	1,954	221
1,068	121	C202_0042 MT20	4.2	486/115	2.6	17	34	3.9	3,500	3,100	4,000	886	100	1,598	180	2,124	240
1,068	121	C202_0042 MT30	4.2	486/115	7.4	17	40	4.5	3,500	3,100	4,000	886	100	1,699	192	2,124	240
1,104	125	C202_0047 MT20	4.7	14/3	2.3	17	37	4.1	3,500	3,500	4,200	899	102	1,764	199	2,261	255
1,104	125	C202_0047 MT30	4.7	14/3	7.1	17	42	4.7	3,500	3,500	4,000	899	102	1,772	200	2,261	255
1,135	128	C202_0051 MT20	5.1	350/69	2.3	17	39	4.4	3,500	3,500	4,200	925	104	1,772	200	2,457	277
1,135	128	C202_0051 MT30	5.1	350/69	7.1	17	43	4.9	3,500	3,500	4,000	925	104	1,772	200	2,457	277
488	55	C202_0058 MT10	5.8	666/115	1.4	17	40	4.5	3,700	3,500	4,200	488	55	488	55	610	69
1,186	134	C202_0058 MT20	5.8	666/115	2.0	17	41	4.7	3,500	3,500	4,200	966	109	1,772	200	2,696	304
1,186	134	C202_0058 MT30	5.8	666/115	6.8	17	45	5.1	3,500	3,500	4,000	966	109	1,772	200	2,696	304
530	60	C202_0063 MT10	6.3	3330/529	1.4	17	42	4.7	3,700	3,500	4,200	530	60	530	60	663	75
1,220	138	C202_0063 MT20	6.3	3330/529	2.0	17	43	4.8	3,500	3,500	4,200	994	112	1,772	200	2,930	331
1,220	138	C202_0063 MT30	6.3	3330/529	6.8	17	46	5.2	3,500	3,500	4,000	994	112	1,772	200	2,930	331
618	70	C202_0078 MT10	7.8	39/5	1.1	17	45	5.1	4,000	3,900	4,500	618	70	618	70	772	87
1,310	148	C202_0078 MT20	7.8	39/5	1.7	17	46	5.2	3,500	3,500	4,500	1,040	117	1,772	200	3,100	350
1,310	148	C202_0078 MT30	7.8	39/5	6.5	17	48	5.5	3,500	3,500	4,000	1,040	117	1,772	200	3,100	350
1,692	191	C202_0082 MT20	8.2	475/58	2.7	14	61	6.9	3,500	3,100	4,000	1,404	159	2,037	230	3,543	400
1,692	191	C202_0082 MT30	8.2	475/58	7.5	14	65	7.4	3,500	3,100	4,000	1,404	159	2,037	230	3,543	400
1,771	200	C202_0094 MT20	9.4	2450/261	2.7	14	64	7.2	3,500	3,100	4,000	1,470	166	2,037	230	3,543	400
1,771	200	C202_0094 MT30	9.4	2450/261	7.5	14	67	7.6	3,500	3,100	4,000	1,470	166	2,037	230	3,543	400
1,772	200	C202_0105 MT20	10.3	513/50	2.3	14	65	7.3	3,500	3,100	4,000	1,514	171	2,037	230	3,543	400
1,772	200	C202_0105 MT30	10.3	513/50	7.1	14	68	7.7	3,500	3,100	4,000	1,514	171	2,037	230	3,543	400
1,772	200	C202_0120 MT20	11.8	294/25	2.3	14	67	7.5	3,500	3,100	4,000	1,584	179	2,037	230	3,543	400
1,772	200	C202_0120 MT30	11.8	294/25	7.1	14	69	7.8	3,500	3,100	4,000	1,584	179	2,037	230	3,543	400
1,772	200	C202_0125 MT20	12.3	665/54	2.1	14	67	7.6	3,500	3,500	4,200	1,579	178	2,037	230	3,543	400
1,772	200	C202_0125 MT30	12.3	665/54	6.9	14	70	7.9	3,500	3,500	4,000	1,579	178	2,037	230	3,543	400
1,772	200	C202_0140 MT20	14.1	3430/243	2.0	14	69	7.8	3,500	3,500	4,200	1,653	187	2,037	230	3,543	400
1,772	200	C202_0140 MT30	14.1	3430/243	6.8	14	70	8.0	3,500	3,500	4,000	1,653	187	2,037	230	3,543	400
1,287	145	C202_0155 MT10	15.3	703/46	1.2	14	69	7.8	3,700	3,500	4,200	1,287	145	1,287	145	1,609	182
1,772	200	C202_0155 MT20	15.3	703/46	1.8	14	69	7.8	3,500	3,500	4,200	1,697	192	2,037	230	3,543	400
1,772	200	C202_0155 MT30	15.3	703/46	6.6	14	71	8.0	3,500	3,500	4,000	1,697	192	2,037	230	3,543	400
1,476	167	C202_0175 MT10	17.5	3626/207	1.2	14	70	7.9	3,700	3,500	4,200	1,476	167	1,476	167	1,844	208
1,772	200	C202_0175 MT20	17.5	3626/207	1.8	14	70	7.9	3,500	3,500	4,200	1,772	200	2,037	230	3,543	400
1,772	200	C202_0175 MT30	17.5	3626/207	6.6	14	71	8.1	3,500	3,500	4,000	1,772	200	2,037	230	3,543	400

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A) Measured at 1 meter distance with 3000 RPM input.

DIRECTION OF ROTATION:

2 Stage units (C002 through C812)
If input turns clockwise, output turns clockwise.

3 Stage units (C103 through C913)
If input turns clockwise, output turns counterclockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL5 or EL6
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

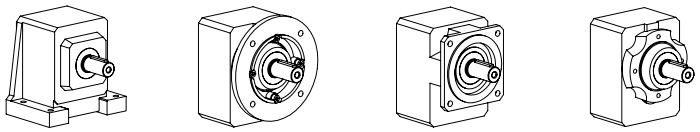
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	$kgcm^2$	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C202/C203 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 53 dB(A)** [4]	
1,631	184	C202_0210 MT10	20.6	247/12	1.0	14	71	8.0	4,000	3,900	4,500	1,631	184	1,631	184	2,038	230
1,772	200	C202_0210 MT20	20.6	247/12	1.6	14	71	8.0	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C202_0210 MT30	20.6	247/12	6.4	14	72	8.1	3,500	3,500	4,000	1,772	200	2,037	230	3,543	400
1,772	200	C202_0240 MT10	23.6	637/27	1.0	14	71	8.1	4,000	3,900	4,500	1,772	200	1,869	211	2,337	264
1,772	200	C202_0240 MT20	23.6	637/27	1.6	14	72	8.1	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C202_0240 MT30	23.6	637/27	6.4	14	72	8.2	3,500	3,500	4,000	1,772	200	2,037	230	3,543	400
1,772	200	C202_0250 MT10	24.6	1577/64	0.9	14	72	8.1	4,000	3,900	4,500	1,772	200	1,889	213	2,362	267
1,772	200	C202_0250 MT20	24.6	1577/64	1.5	14	72	8.1	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C202_0250 MT30	24.6	1577/64	6.3	14	72	8.2	3,500	3,500	4,000	1,772	200	2,037	230	3,543	400
1,772	200	C202_0280 MT10	28.2	4067/144	0.9	14	72	8.1	4,000	3,900	4,500	1,772	200	2,037	230	2,707	306
1,772	200	C202_0280 MT20	28.2	4067/144	1.5	14	72	8.2	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C202_0280 MT30	28.2	4067/144	6.3	14	73	8.2	3,500	3,500	4,000	1,772	200	2,037	230	3,543	400
1,772	200	C202_0310 MT10	30.7	399/13	0.8	14	72	8.2	4,000	3,900	4,500	1,772	200	2,037	230	2,793	315
1,772	200	C202_0310 MT20	30.7	399/13	1.4	14	72	8.2	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C202_0310 MT30	30.7	399/13	6.2	14	73	8.2	3,500	3,500	4,000	1,772	200	2,037	230	3,543	400
1,772	200	C202_0350 MT10	35.2	1372/39	0.8	14	73	8.2	4,000	3,900	4,500	1,772	200	2,037	230	3,201	361
1,772	200	C202_0350 MT20	35.2	1372/39	1.4	14	73	8.2	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C202_0350 MT30	35.2	1372/39	6.2	14	73	8.2	3,500	3,500	4,000	1,772	200	2,037	230	3,543	400
1,772	200	C202_0410 MT10	40.9	817/20	0.7	14	73	8.2	4,000	3,900	4,500	1,772	200	2,037	230	3,493	394
1,772	200	C202_0410 MT20	40.9	817/20	1.3	14	73	8.2	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C202_0410 MT30	40.9	817/20	6.1	14	73	8.2	3,500	3,500	4,000	1,772	200	2,037	230	3,543	400
1,772	200	C202_0470 MT10	46.8	2107/45	0.7	14	73	8.2	4,000	3,900	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C202_0470 MT20	46.8	2107/45	1.3	14	73	8.2	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C202_0470 MT30	46.8	2107/45	6.1	14	73	8.3	3,500	3,500	4,000	1,772	200	2,037	230	3,543	400
1,772	200	C202_0490 MT10	49.2	1083/22	0.7	14	73	8.2	4,000	3,900	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C202_0490 MT20	49.2	1083/22	1.3	14	73	8.2	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C202_0560 MT10	56.4	1862/33	0.7	14	73	8.3	4,000	3,900	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C202_0560 MT20	56.4	1862/33	1.3	14	73	8.3	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,658	187	C202_0610 MT10	61.4	2945/48	0.7	14	73	8.3	4,000	3,900	4,500	1,658	187	1,989	225	2,518	284
1,772	200	C202_0700 MT10	70.3	7595/108	0.7	14	73	8.3	4,000	3,900	4,500	1,772	200	2,037	230	2,886	326
1,772	200	C203_0800 MT20	79.6	7163/90	1.4	14	73	8.3	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C203_0810 MT10	80.6	11609/144	0.7	14	73	8.3	4,000	3,900	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C203_0910 MT20	91.2	36946/405	1.4	14	73	8.3	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C203_0920 MT10	92.4	29939/324	0.7	14	73	8.3	4,000	3,900	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C203_1090 MT20	109.2	117943/1080	1.4	14	73	8.3	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C203_1110 MT10	110.6	191149/1728	0.7	14	73	8.3	4,000	3,900	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C203_1360 MT20	136.0	79576/585	1.4	14	73	8.3	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C203_1380 MT10	137.8	16121/117	0.7	14	73	8.3	4,000	3,900	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C203_1810 MT20	181.0	122206/675	1.4	14	73	8.3	3,500	3,500	4,500	1,772	200	2,037	230	3,543	400

Motor Shaft

Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Contact Stober Drives for availability of "Q" housing style.

See page 84 for required ordering information and part number example.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C202/C203 with MT TriAdapt® Motor Adapter (Continued)																**Noise Level ≤ 53 dB(A) [4]**	
1,772	200	C203_1830 MT10	183.4	99029/540	0.7	14	73	8.3	4,000	3,900	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C203_2210 MT10	221.0	43757/198	0.7	14	73	8.3	4,000	3,900	4,500	1,772	200	2,037	230	3,543	400
1,772	200	C203_2750 MT10	275.4	356965/1296	0.6	14	73	8.3	4,000	3,900	4,500	1,772	200	2,037	230	2,885	326
C302/C303 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 53 dB(A) [4]**	
694	78	C302_0020 MT20	2.0	608/301	8.2	16	16	1.8	2,700	2,300	3,200	694	78	764	86	1,159	131
1,367	154	C302_0020 MT30	2.0	608/301	13.0	16	23	2.6	2,700	2,300	3,200	1,237	140	1,814	205	2,988	337
1,367	154	C302_0020 MT40	2.0	608/301	17.0	16	34	3.9	2,700	2,300	3,200	1,237	140	2,309	261	2,988	337
748	84	C302_0022 MT20	2.2	468/215	7.8	16	18	2.1	2,700	2,300	3,200	748	84	823	93	1,249	141
1,402	158	C302_0022 MT30	2.2	468/215	12.6	16	25	2.8	2,700	2,300	3,200	1,268	143	1,955	221	3,221	364
1,402	158	C302_0022 MT40	2.2	468/215	16.6	16	37	4.1	2,700	2,300	3,200	1,268	143	2,368	267	3,221	364
863	97	C302_0025 MT20	2.5	1634/651	6.3	16	22	2.5	2,700	2,300	3,200	863	97	949	107	1,398	158
1,470	166	C302_0025 MT30	2.5	1634/651	11.1	16	29	3.3	2,700	2,300	3,200	1,330	150	2,254	254	3,607	407
1,470	166	C302_0025 MT40	2.5	1634/651	15.1	16	41	4.6	2,700	2,300	3,200	1,330	150	2,483	280	3,607	407
930	105	C302_0027 MT20	2.7	1677/620	6.1	16	24	2.7	2,700	2,300	3,200	930	105	1,023	115	1,507	170
1,507	170	C302_0027 MT30	2.7	1677/620	10.9	16	32	3.6	2,700	2,300	3,200	1,363	154	2,429	274	3,887	439
1,507	170	C302_0027 MT40	2.7	1677/620	14.9	16	43	4.8	2,700	2,300	3,200	1,363	154	2,546	287	3,887	439
1,069	121	C302_0031 MT20	3.1	1045/336	4.8	16	28	3.2	3,200	2,800	3,700	1,069	121	1,176	133	1,669	188
1,579	178	C302_0031 MT30	3.1	1045/336	9.6	16	36	4.1	3,200	2,800	3,700	1,350	152	2,667	301	4,304	486
1,579	178	C302_0031 MT40	3.1	1045/336	13.6	16	46	5.2	3,000	2,800	3,500	1,350	152	2,667	301	4,304	486
1,152	130	C302_0034 MT20	3.4	429/128	4.7	16	31	3.5	3,200	2,800	3,700	1,152	130	1,267	143	1,798	203
1,618	183	C302_0034 MT30	3.4	429/128	9.5	16	38	4.3	3,200	2,800	3,700	1,384	156	2,734	309	4,639	524
1,618	183	C302_0034 MT40	3.4	429/128	13.5	16	48	5.4	3,000	2,800	3,500	1,384	156	2,734	309	4,639	524
1,333	150	C302_0039 MT20	3.9	190/49	3.8	16	35	4.0	3,200	2,800	3,700	1,284	145	1,466	166	2,012	227
1,699	192	C302_0039 MT30	3.9	190/49	8.6	16	42	4.8	3,200	2,800	3,700	1,453	164	2,870	324	4,872	550
1,699	192	C302_0039 MT40	3.9	190/49	12.6	16	51	5.8	3,000	2,800	3,500	1,453	164	2,870	324	4,872	550
1,436	162	C302_0042 MT20	4.2	117/28	3.7	16	38	4.3	3,200	2,800	3,700	1,384	156	1,580	178	2,169	245
1,742	197	C302_0042 MT30	4.2	117/28	8.5	16	44	5.0	3,200	2,800	3,700	1,489	168	2,923	330	4,872	550
1,742	197	C302_0042 MT40	4.2	117/28	12.5	16	52	5.9	3,000	2,800	3,500	1,489	168	2,923	330	4,872	550
1,552	175	C302_0047 MT20	4.7	589/126	3.2	16	41	4.6	3,500	3,100	4,000	1,288	145	1,767	200	2,334	264
1,808	204	C302_0047 MT30	4.7	589/126	8.0	16	47	5.3	3,500	3,100	4,000	1,501	169	2,923	330	4,872	550
1,808	204	C302_0047 MT40	4.7	589/126	12.0	16	54	6.1	3,000	3,000	3,500	1,501	169	2,923	330	4,872	550
1,672	189	C302_0050 MT20	5.0	403/80	3.1	16	43	4.9	3,500	3,100	4,000	1,388	157	1,905	215	2,515	284
1,854	209	C302_0050 MT30	5.0	403/80	7.9	16	49	5.5	3,500	3,100	4,000	1,538	174	2,923	330	4,872	550
1,854	209	C302_0050 MT40	5.0	403/80	11.9	16	55	6.2	3,000	3,000	3,500	1,538	174	2,923	330	4,872	550
1,702	192	C302_0059 MT20	5.9	2584/441	2.6	16	47	5.3	3,500	3,100	4,000	1,412	159	2,215	250	2,829	319
1,950	220	C302_0059 MT30	5.9	2584/441	7.4	16	52	5.9	3,500	3,100	4,000	1,618	183	2,923	330	4,872	550
1,950	220	C302_0059 MT40	5.9	2584/441	11.4	16	57	6.4	3,000	3,000	3,500	1,618	183	2,923	330	4,872	550
1,834	207	C302_0063 MT20	6.3	221/35	2.6	16	49	5.5	3,500	3,100	4,000	1,522	172	2,387	269	3,049	344
1,999	226	C302_0063 MT30	6.3	221/35	7.4	16	53	6.0	3,500	3,100	4,000	1,659	187	2,923	330	4,872	550
1,999	226	C302_0063 MT40	6.3	221/35	11.4	16	58	6.5	3,000	3,000	3,500	1,659	187	2,923	330	4,872	550

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A) Measured at 1 meter distance with 3000 RPM input.

DIRECTION OF ROTATION:

2 Stage units (C002 through C812)
If input turns clockwise, output turns clockwise.

3 Stage units (C103 through C913)
If input turns clockwise, output turns counterclockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL5 or EL6
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

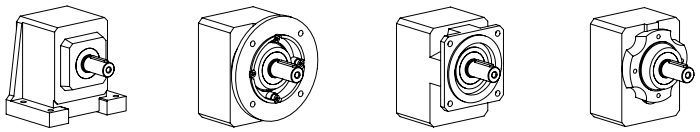
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C302/C303 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 53 dB(A)** [4]	
1,771	200	C302_0078 MT20	7.8	494/63	2.1	16	53	5.9	3,500	3,500	4,300	1,430	161	2,845	321	3,556	401
2,148	243	C302_0078 MT30	7.8	494/63	6.9	16	56	6.3	3,500	3,500	4,000	1,735	196	2,923	330	4,872	550
2,148	243	C302_0078 MT40	7.8	494/63	10.9	16	59	6.7	3,000	3,000	3,500	1,735	196	2,923	330	4,872	550
2,638	298	C302_0083 MT20	8.3	33/4	3.8	13	64	7.2	3,200	2,800	3,700	2,255	255	3,119	352	4,426	500
2,638	298	C302_0083 MT30	8.3	33/4	8.6	13	68	7.7	3,200	2,800	3,700	2,255	255	3,543	400	6,201	700
2,638	298	C302_0083 MT40	8.3	33/4	12.6	13	73	8.2	3,000	2,800	3,500	2,255	255	3,543	400	6,201	700
2,746	310	C302_0093 MT20	9.3	3575/384	3.7	13	66	7.5	3,200	2,800	3,700	2,348	265	3,100	350	4,995	564
2,746	310	C302_0093 MT30	9.3	3575/384	8.5	13	70	7.9	3,200	2,800	3,700	2,348	265	3,100	350	6,201	700
2,746	310	C302_0093 MT40	9.3	3575/384	12.5	13	74	8.3	3,000	2,800	3,500	2,348	265	3,100	350	6,201	700
2,839	321	C302_0105 MT20	10.3	72/7	3.1	13	68	7.7	3,200	2,800	3,700	2,427	274	3,543	400	5,338	603
2,839	321	C302_0105 MT30	10.3	72/7	7.9	13	71	8.1	3,200	2,800	3,700	2,427	274	3,543	400	6,201	700
2,839	321	C302_0105 MT40	10.3	72/7	11.9	13	74	8.4	3,000	2,800	3,500	2,427	274	3,543	400	6,201	700
2,956	334	C302_0115 MT20	11.6	325/28	3.1	13	70	7.9	3,200	2,800	3,700	2,527	285	3,100	350	6,023	680
2,956	334	C302_0115 MT30	11.6	325/28	7.9	13	73	8.2	3,200	2,800	3,700	2,527	285	3,100	350	6,201	700
2,956	334	C302_0115 MT40	11.6	325/28	11.9	13	75	8.5	3,000	2,800	3,500	2,527	285	3,100	350	6,201	700
3,022	341	C302_0125 MT20	12.4	62/5	2.7	13	71	8.0	3,500	3,100	4,000	2,507	283	3,543	400	6,191	699
3,022	341	C302_0125 MT30	12.4	62/5	7.5	13	73	8.3	3,500	3,100	4,000	2,507	283	3,543	400	6,201	700
3,022	341	C302_0125 MT40	12.4	62/5	11.5	13	75	8.5	3,000	3,000	3,500	2,507	283	3,543	400	6,201	700
3,100	350	C302_0140 MT20	14.0	2015/144	2.7	13	72	8.1	3,500	3,100	4,000	2,610	295	3,100	350	6,201	700
3,100	350	C302_0140 MT30	14.0	2015/144	7.5	13	74	8.4	3,500	3,100	4,000	2,610	295	3,100	350	6,201	700
3,100	350	C302_0140 MT40	14.0	2015/144	11.5	13	76	8.5	3,000	3,000	3,500	2,610	295	3,100	350	6,201	700
3,100	350	C302_0155 MT20	15.5	544/35	2.3	13	73	8.2	3,500	3,100	4,000	2,703	305	3,543	400	6,201	700
3,100	350	C302_0155 MT30	15.5	544/35	7.1	13	75	8.4	3,500	3,100	4,000	2,703	305	3,543	400	6,201	700
3,100	350	C302_0155 MT40	15.5	544/35	11.1	13	76	8.6	3,000	3,000	3,500	2,703	305	3,543	400	6,201	700
3,100	350	C302_0175 MT20	17.5	1105/63	2.3	13	74	8.3	3,500	3,100	4,000	2,815	318	3,100	350	6,201	700
3,100	350	C302_0175 MT30	17.5	1105/63	7.1	13	75	8.5	3,500	3,100	4,000	2,815	318	3,100	350	6,201	700
3,100	350	C302_0175 MT40	17.5	1105/63	11.1	13	76	8.6	3,000	3,000	3,500	2,815	318	3,100	350	6,201	700
3,100	350	C302_0210 MT20	20.8	104/5	1.9	13	75	8.5	3,500	3,500	4,300	2,899	327	3,543	400	6,201	700
3,100	350	C302_0210 MT30	20.8	104/5	6.7	13	76	8.6	3,500	3,500	4,000	2,899	327	3,543	400	6,201	700
3,100	350	C302_0210 MT40	20.8	104/5	10.7	13	77	8.6	3,000	3,000	3,500	2,899	327	3,543	400	6,201	700
3,100	350	C302_0230 MT20	23.5	845/36	1.9	13	75	8.5	3,500	3,500	4,300	3,018	341	3,100	350	6,201	700
3,100	350	C302_0230 MT30	23.5	845/36	6.7	13	76	8.6	3,500	3,500	4,000	3,018	341	3,100	350	6,201	700
3,100	350	C302_0230 MT40	23.5	845/36	10.7	13	77	8.7	3,000	3,000	3,500	3,018	341	3,100	350	6,201	700
3,100	350	C302_0250 MT20	24.8	124/5	1.7	13	76	8.5	3,500	3,500	4,300	3,074	347	3,543	400	6,201	700
3,100	350	C302_0250 MT30	24.8	124/5	6.5	13	76	8.6	3,500	3,500	4,000	3,074	347	3,543	400	6,201	700
3,100	350	C302_0250 MT40	24.8	124/5	10.5	13	77	8.7	3,000	3,000	3,500	3,074	347	3,543	400	6,201	700
3,100	350	C302_0280 MT20	28.0	2015/72	1.7	13	76	8.6	3,500	3,500	4,300	3,100	350	3,100	350	6,201	700
3,100	350	C302_0280 MT30	28.0	2015/72	6.5	13	76	8.6	3,500	3,500	4,000	3,100	350	3,100	350	6,201	700
3,100	350	C302_0280 MT40	28.0	2015/72	10.5	13	77	8.7	3,000	3,000	3,500	3,100	350	3,100	350	6,201	700
3,100	350	C302_0310 MT20	31.0	776/25	1.6	13	76	8.6	3,500	3,500	4,300	3,100	350	3,543	400	6,201	700
3,100	350	C302_0310 MT30	31.0	776/25	6.4	13	77	8.7	3,500	3,500	4,000	3,100	350	3,543	400	6,201	700
3,100	350	C302_0310 MT40	31.0	776/25	10.4	13	77	8.7	3,000	3,000	3,500	3,100	350	3,543	400	6,201	700

Motor Shaft

Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Contact Stober Drives for availability of "Q" housing style.

See page 84 for required ordering information and part number example.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C302/C303 with MT TriAdapt® Motor Adapter (Continued)																**Noise Level ≤ 53 dB(A) [4]**	
3,100	350	C302_0350 MT20	35.0	1261/36	1.6	13	76	8.6	3,500	3,500	4,300	3,100	350	3,100	350	6,201	700
3,100	350	C302_0350 MT30	35.0	1261/36	6.4	13	77	8.7	3,500	3,500	4,000	3,100	350	3,100	350	6,201	700
3,100	350	C302_0350 MT40	35.0	1261/36	10.4	13	77	8.7	3,000	3,000	3,500	3,100	350	3,100	350	6,201	700
3,100	350	C302_0410 MT20	41.4	2688/65	1.4	13	77	8.7	3,500	3,500	4,300	3,100	350	3,543	400	6,201	700
3,100	350	C302_0410 MT30	41.4	2688/65	6.2	13	77	8.7	3,500	3,500	4,000	3,100	350	3,543	400	6,201	700
3,100	350	C302_0470 MT20	46.7	140/3	1.4	13	77	8.7	3,500	3,500	4,300	3,100	350	3,100	350	6,201	700
3,100	350	C302_0470 MT30	46.7	140/3	6.2	13	77	8.7	3,500	3,500	4,000	3,100	350	3,100	350	6,201	700
3,100	350	C302_0500 MT20	49.7	2736/55	1.4	13	77	8.7	3,500	3,500	4,300	3,100	350	3,543	400	6,201	700
3,100	350	C302_0500 MT30	49.7	2736/55	6.2	13	77	8.7	3,500	3,500	4,000	3,100	350	3,543	400	6,201	700
3,100	350	C302_0560 MT20	56.1	1235/22	1.4	13	77	8.7	3,500	3,500	4,300	3,100	350	3,100	350	6,201	700
3,100	350	C302_0560 MT30	56.1	1235/22	6.2	13	77	8.7	3,500	3,500	4,000	3,100	350	3,100	350	6,201	700
2,932	331	C302_0620 MT20	61.9	1548/25	1.3	13	77	8.7	3,500	3,500	4,300	2,932	331	3,518	397	4,990	563
3,100	350	C302_0700 MT20	69.9	559/8	1.3	13	77	8.7	3,500	3,500	4,300	3,100	350	3,100	350	5,631	636
3,100	350	C303_0800 MT20	80.4	6032/75	1.4	13	77	8.7	3,500	3,500	4,300	3,100	350	3,543	400	6,201	700
2,954	334	C303_0810 MT10	81.5	1222/15	0.7	13	77	8.7	3,800	3,500	4,300	2,954	334	2,954	334	3,693	417
3,100	350	C303_0910 MT20	90.8	4901/54	1.4	13	77	8.7	3,500	3,500	4,300	3,100	350	3,100	350	6,201	700
3,100	350	C303_0920 MT10	91.9	39715/432	0.7	13	77	8.7	3,800	3,500	4,300	3,100	350	3,100	350	4,167	470
3,100	350	C303_1080 MT20	108.2	11687/108	1.4	13	77	8.7	3,500	3,500	4,300	3,100	350	3,100	350	6,201	700
3,100	350	C303_1100 MT10	109.6	94705/864	0.7	13	77	8.7	3,800	3,500	4,300	3,100	350	3,100	350	4,969	561
3,100	350	C303_1350 MT20	135.4	36569/270	1.4	13	77	8.7	3,500	3,500	4,300	3,100	350	3,100	350	6,201	700
3,100	350	C303_1370 MT10	137.2	59267/432	0.7	13	77	8.7	3,800	3,500	4,300	3,100	350	3,100	350	6,201	700
3,100	350	C303_1800 MT20	180.4	1624/9	1.4	13	77	8.7	3,500	3,500	4,300	3,100	350	3,100	350	6,201	700
3,100	350	C303_1830 MT10	182.8	1645/9	0.7	13	77	8.7	3,800	3,500	4,300	3,100	350	3,100	350	6,201	700
3,100	350	C303_2170 MT20	217.1	7163/33	1.4	13	77	8.7	3,500	3,500	4,300	3,100	350	3,100	350	6,201	700
3,100	350	C303_2200 MT10	219.9	58045/264	0.7	13	77	8.7	3,800	3,500	4,300	3,100	350	3,100	350	6,201	700
3,100	350	C303_2740 MT10	273.7	26273/96	0.7	13	77	8.7	3,800	3,500	4,300	3,100	350	3,100	350	5,631	636
C402/C403 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 61 dB(A) [4]**	
1,606	181	C402_0020 MT30	2.0	551/280	23.1	15	28	3.1	2,500	2,100	3,000	1,606	181	1,767	199	3,029	342
1,971	223	C402_0020 MT40	2.0	551/280	27.1	15	49	5.5	2,500	2,100	3,000	1,830	207	2,424	274	3,029	342
1,813	205	C402_0022 MT30	2.2	171/77	21.2	15	34	3.8	2,500	2,100	3,000	1,813	205	1,994	225	3,419	386
2,052	232	C402_0022 MT40	2.2	171/77	25.2	15	57	6.4	2,500	2,100	3,000	1,905	215	2,735	309	3,419	386
2,005	226	C402_0025 MT30	2.5	609/248	18.2	15	39	4.4	2,500	2,100	3,000	1,970	222	2,205	249	3,668	414
2,122	240	C402_0025 MT40	2.5	609/248	22.2	15	64	7.2	2,500	2,100	3,000	1,970	222	2,934	331	3,668	414
2,209	249	C402_0028 MT30	2.8	945/341	17.0	15	47	5.3	2,500	2,100	3,000	2,051	232	2,488	281	4,138	467
2,209	249	C402_0028 MT40	2.8	945/341	21.0	15	73	8.3	2,500	2,100	3,000	2,051	232	3,311	374	4,138	467
2,293	259	C402_0031 MT30	3.1	1537/496	14.5	15	54	6.1	2,900	2,500	3,400	2,026	229	2,783	314	4,453	503
2,293	259	C402_0031 MT40	3.1	1537/496	18.5	15	82	9.2	2,900	2,500	3,400	2,026	229	3,562	402	4,453	503

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A) Measured at 1 meter distance with 3000 RPM input.

DIRECTION OF ROTATION:

2 Stage units (C002 through C812)
If input turns clockwise, output turns clockwise.

3 Stage units (C103 through C913)
If input turns clockwise, output turns counterclockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL5 or EL6
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

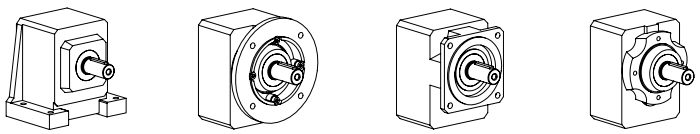
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C402/C403 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 61 dB(A)** [4]	
2,388	270	C402_0035 MT30	3.5	2385/682	13.7	15	63	7.1	2,900	2,500	3,400	2,109	238	3,140	354	5,025	567
2,388	270	C402_0035 MT40	3.5	2385/682	17.7	15	91	10.2	2,900	2,500	3,400	2,109	238	4,020	454	5,025	567
1,338	151	C402_0039 MT20	3.9	841/216	7.2	15	53	6.0	2,900	2,500	3,400	1,338	151	1,472	166	2,088	236
2,475	279	C402_0039 MT30	3.9	841/216	12.0	15	71	8.0	2,900	2,500	3,400	2,186	247	3,496	395	5,385	608
2,475	279	C402_0039 MT40	3.9	841/216	16.0	15	98	11.1	2,900	2,500	3,400	2,186	247	4,181	472	5,385	608
1,510	170	C402_0044 MT20	4.4	145/33	6.7	15	62	7.0	2,900	2,500	3,400	1,510	170	1,661	188	2,356	266
2,576	291	C402_0044 MT30	4.4	145/33	11.5	15	80	9.0	2,900	2,500	3,400	2,276	257	3,945	445	6,077	686
2,576	291	C402_0044 MT40	4.4	145/33	15.5	15	106	12.0	2,900	2,500	3,400	2,276	257	4,353	491	6,077	686
1,609	182	C402_0047 MT20	4.7	899/192	5.8	15	66	7.5	3,300	2,800	3,800	1,555	176	1,770	200	2,438	275
2,632	297	C402_0047 MT30	4.7	899/192	10.6	15	84	9.5	3,300	2,800	3,800	2,227	251	4,204	475	6,287	710
2,632	297	C402_0047 MT40	4.7	899/192	14.6	15	110	12.4	3,000	2,800	3,500	2,227	251	4,446	502	6,287	710
1,816	205	C402_0053 MT20	5.3	465/88	5.4	15	75	8.5	3,300	2,800	3,800	1,755	198	1,998	226	2,751	311
2,740	309	C402_0053 MT30	5.3	465/88	10.2	15	93	10.5	3,300	2,800	3,800	2,319	262	4,629	523	7,096	801
2,740	309	C402_0053 MT40	5.3	465/88	14.2	15	117	13.2	3,000	2,800	3,500	2,319	262	4,629	523	7,096	801
1,927	218	C402_0059 MT20	5.9	377/64	4.4	15	84	9.4	3,300	2,800	3,800	1,631	184	2,227	251	2,930	331
2,841	321	C402_0059 MT30	5.9	377/64	9.2	15	101	11.4	3,300	2,800	3,800	2,404	271	4,799	542	7,529	850
2,841	321	C402_0059 MT40	5.9	377/64	13.2	15	122	13.8	3,000	2,800	3,500	2,404	271	4,799	542	7,529	850
2,174	245	C402_0066 MT20	6.6	585/88	4.2	15	92	10.4	3,300	2,800	3,800	1,840	208	2,513	284	3,307	373
2,958	334	C402_0066 MT30	6.6	585/88	9.0	15	109	12.3	3,300	2,800	3,800	2,503	283	4,872	550	7,529	850
2,958	334	C402_0066 MT40	6.6	585/88	13.0	15	127	14.4	3,000	2,800	3,500	2,503	283	4,872	550	7,529	850
2,045	231	C402_0078 MT20	7.8	2001/256	3.3	15	103	11.7	3,500	3,200	4,000	1,697	192	2,942	332	3,677	415
3,122	352	C402_0078 MT30	7.8	2001/256	8.1	15	118	13.3	3,500	3,200	4,000	2,590	292	4,872	550	7,529	850
3,122	352	C402_0078 MT40	7.8	2001/256	12.1	15	133	15.0	3,000	3,000	3,500	2,590	292	4,872	550	7,529	850
4,432	500	C402_0083 MT30	8.3	3339/403	11.9	12	146	16.5	2,900	2,500	3,400	3,916	442	5,315	600	9,744	1,100
4,432	500	C402_0083 MT40	8.3	3339/403	15.9	12	168	18.9	2,900	2,500	3,400	3,916	442	5,315	600	9,744	1,100
4,600	519	C402_0093 MT30	9.3	3445/372	11.8	12	154	17.4	2,900	2,500	3,400	4,064	459	4,872	550	9,744	1,100
4,600	519	C402_0093 MT40	9.3	3445/372	15.8	12	172	19.5	2,900	2,500	3,400	4,064	459	4,872	550	9,744	1,100
3,578	404	C402_0105 MT20	10.4	406/39	5.6	12	145	16.4	2,900	2,500	3,400	3,578	404	3,936	444	5,582	630
4,783	540	C402_0105 MT30	10.4	406/39	10.4	12	161	18.1	2,900	2,500	3,400	4,226	477	5,315	600	9,744	1,100
4,783	540	C402_0105 MT40	10.4	406/39	14.4	12	176	19.9	2,900	2,500	3,400	4,226	477	5,315	600	9,744	1,100
3,999	451	C402_0115 MT20	11.6	1885/162	5.5	12	153	17.3	2,900	2,500	3,400	3,999	451	4,399	497	6,239	704
4,872	550	C402_0115 MT30	11.6	1885/162	10.3	12	166	18.8	2,900	2,500	3,400	4,385	495	4,872	550	9,744	1,100
4,872	550	C402_0115 MT40	11.6	1885/162	14.3	12	179	20.3	2,900	2,500	3,400	4,385	495	4,872	550	9,744	1,100
4,303	486	C402_0125 MT20	12.5	651/52	4.6	12	157	17.8	3,300	2,800	3,800	4,158	469	4,733	534	6,518	736
4,872	550	C402_0125 MT30	12.5	651/52	9.4	12	169	19.1	3,300	2,800	3,800	4,304	486	5,315	600	9,744	1,100
4,872	550	C402_0125 MT40	12.5	651/52	13.4	12	181	20.5	3,000	2,800	3,500	4,304	486	5,315	600	9,744	1,100
4,809	543	C402_0140 MT20	14.0	2015/144	4.6	12	163	18.5	3,300	2,800	3,800	4,467	504	4,872	550	7,285	822
4,872	550	C402_0140 MT30	14.0	2015/144	9.4	12	174	19.6	3,300	2,800	3,800	4,467	504	4,872	550	9,744	1,100
4,872	550	C402_0140 MT40	14.0	2015/144	13.4	12	183	20.7	3,000	2,800	3,500	4,467	504	4,872	550	9,744	1,100
4,872	550	C402_0160 MT20	15.8	63/4	3.7	12	169	19.1	3,300	2,800	3,800	4,359	492	5,315	600	7,835	884
4,872	550	C402_0160 MT30	15.8	63/4	8.5	12	178	20.0	3,300	2,800	3,800	4,646	525	5,315	600	9,744	1,100
4,872	550	C402_0160 MT40	15.8	63/4	12.5	12	185	20.9	3,000	2,800	3,500	4,646	525	5,315	600	9,744	1,100

Motor Shaft

Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Contact Stober Drives for availability of "Q" housing style.

See page 84 for required ordering information and part number example.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
												Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C402/C403 with MT TriAdapt® Motor Adapter (Continued)																**Noise Level ≤ 61 dB(A) [4]**	
4,872	550	C402_0175 MT20	17.6	845/48	3.7	12	173	19.6	3,300	2,800	3,800	4,822	544	4,872	550	8,757	989
4,872	550	C402_0175 MT30	17.6	845/48	8.5	12	180	20.4	3,300	2,800	3,800	4,822	544	4,872	550	9,744	1,100
4,872	550	C402_0175 MT40	17.6	845/48	12.5	12	187	21.1	3,000	2,800	3,500	4,822	544	4,872	550	9,744	1,100
4,872	550	C402_0210 MT20	20.9	4347/208	2.9	12	179	20.2	3,500	3,200	4,000	4,538	512	5,315	600	9,744	1,100
4,872	550	C402_0210 MT30	20.9	4347/208	7.7	12	184	20.8	3,500	3,200	4,000	4,872	550	5,315	600	9,744	1,100
4,872	550	C402_0210 MT40	20.9	4347/208	11.7	12	189	21.3	3,000	3,000	3,500	4,872	550	5,315	600	9,744	1,100
4,872	550	C402_0230 MT20	23.4	1495/64	2.9	12	181	20.5	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0230 MT30	23.4	1495/64	7.7	12	186	21.0	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0230 MT40	23.4	1495/64	11.7	12	190	21.4	3,000	3,000	3,500	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0250 MT20	24.9	324/13	2.5	12	183	20.6	3,500	3,200	4,000	4,735	535	5,315	600	9,744	1,100
4,872	550	C402_0250 MT30	24.9	324/13	7.3	12	187	21.1	3,500	3,200	4,000	4,872	550	5,315	600	9,744	1,100
4,872	550	C402_0250 MT40	24.9	324/13	11.3	12	190	21.5	3,000	3,000	3,500	4,872	550	5,315	600	9,744	1,100
4,872	550	C402_0280 MT20	27.9	195/7	2.5	12	185	20.9	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0280 MT30	27.9	195/7	7.3	12	188	21.2	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0280 MT40	27.9	195/7	11.3	12	191	21.5	3,000	3,000	3,500	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0310 MT20	31.2	405/13	2.1	12	186	21.0	3,500	3,200	4,000	4,867	549	5,315	600	9,744	1,100
4,872	550	C402_0310 MT30	31.2	405/13	6.9	12	189	21.3	3,500	3,200	4,000	4,872	550	5,315	600	9,744	1,100
4,872	550	C402_0310 MT40	31.2	405/13	10.9	12	191	21.6	3,000	3,000	3,500	4,872	550	5,315	600	9,744	1,100
4,872	550	C402_0350 MT20	34.8	975/28	2.1	12	188	21.2	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0350 MT30	34.8	975/28	6.9	12	190	21.4	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0350 MT40	34.8	975/28	10.9	12	192	21.6	3,000	3,000	3,500	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0420 MT20	41.8	7056/169	1.8	12	189	21.4	3,500	3,200	4,000	4,872	550	5,315	600	9,744	1,100
4,872	550	C402_0420 MT30	41.8	7056/169	6.6	12	191	21.5	3,500	3,200	4,000	4,872	550	5,315	600	9,744	1,100
4,872	550	C402_0420 MT40	41.8	7056/169	10.6	12	192	21.7	3,000	3,000	3,500	4,872	550	5,315	600	9,744	1,100
4,872	550	C402_0470 MT20	46.7	140/3	1.7	12	190	21.5	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0470 MT30	46.7	140/3	6.5	12	191	21.6	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0470 MT40	46.7	140/3	10.5	12	192	21.7	3,000	3,000	3,500	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0500 MT20	50.2	1305/26	1.6	12	191	21.5	3,500	3,200	4,000	4,872	550	5,315	600	8,313	938
4,872	550	C402_0500 MT30	50.2	1305/26	6.4	12	192	21.6	3,500	3,200	4,000	4,872	550	5,315	600	8,313	938
4,872	550	C402_0560 MT20	56.1	9425/168	1.6	12	191	21.6	3,500	3,200	4,000	4,872	550	4,872	550	9,292	1,049
4,872	550	C402_0560 MT30	56.1	9425/168	6.4	12	192	21.7	3,500	3,200	4,000	4,872	550	4,872	550	9,292	1,049
4,440	501	C402_0630 MT20	62.5	8127/130	1.5	12	192	21.6	3,500	3,200	4,000	4,440	501	5,315	600	8,879	1,002
4,440	501	C402_0630 MT30	62.5	8127/130	6.3	12	192	21.7	3,500	3,200	4,000	4,440	501	5,315	600	8,879	1,002
4,872	550	C402_0700 MT20	69.9	559/8	1.5	12	192	21.7	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C402_0700 MT30	69.9	559/8	6.3	12	192	21.7	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C403_0810 MT20	80.8	42021/520	1.5	12	192	21.7	3,500	3,200	4,000	4,872	550	5,315	600	9,744	1,100
4,872	550	C403_0900 MT20	90.3	8671/96	1.5	12	192	21.7	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C403_1080 MT20	107.7	754/7	1.5	12	193	21.8	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C403_1350 MT20	134.6	1885/14	1.4	12	193	21.8	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C403_1800 MT20	180.4	1624/9	1.4	12	193	21.8	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100
4,872	550	C403_2170 MT20	216.9	54665/252	1.4	12	193	21.8	3,500	3,200	4,000	4,872	550	4,872	550	9,291	1,049
4,872	550	C403_2700 MT20	270.2	16211/60	1.4	12	193	21.8	3,500	3,200	4,000	4,872	550	4,872	550	9,744	1,100

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A) Measured at 1 meter distance with 3000 RPM input.

DIRECTION OF ROTATION:

2 Stage units (C002 through C812)
If input turns clockwise, output turns clockwise.

3 Stage units (C103 through C913)
If input turns clockwise, output turns counterclockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL5 or EL6
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

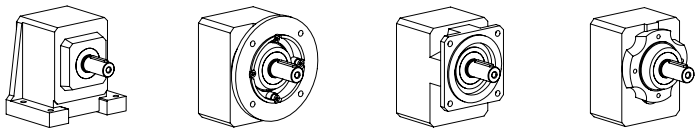
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C502/C503 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 61 dB(A)** [4]	
1,613	182	C502_0020 MT30	2.0	81/41	36.0	14	29	3.3	2,400	2,000	2,900	1,613	182	1,774	200	3,142	355
2,514	284	C502_0020 MT40	2.0	81/41	40.0	14	52	5.9	2,400	2,000	2,900	2,514	284	2,514	284	3,142	355
1,834	207	C502_0022 MT30	2.2	645/287	33.8	14	36	4.0	2,400	2,000	2,900	1,834	207	2,018	228	3,573	403
2,859	323	C502_0022 MT40	2.2	645/287	37.8	14	62	7.0	2,400	2,000	2,900	2,859	323	2,859	323	3,573	403
2,000	226	C502_0025 MT30	2.5	49/20	27.6	14	41	4.6	2,400	2,000	2,900	2,000	226	2,200	248	3,784	427
3,027	342	C502_0025 MT40	2.5	49/20	31.6	14	70	7.9	2,400	2,000	2,900	3,027	342	3,027	342	3,784	427
2,275	257	C502_0028 MT30	2.8	301/108	26.1	14	50	5.6	2,400	2,000	2,900	2,275	257	2,502	283	4,305	486
3,431	387	C502_0028 MT40	2.8	301/108	30.1	14	81	9.2	2,400	2,000	2,900	3,229	365	3,444	389	4,305	486
2,512	284	C502_0031 MT30	3.1	477/155	21.3	14	58	6.5	2,800	2,400	3,300	2,512	284	2,763	312	4,595	519
3,546	400	C502_0031 MT40	3.1	477/155	25.3	14	91	10.2	2,800	2,400	3,300	3,170	358	3,676	415	4,595	519
2,858	323	C502_0035 MT30	3.5	2279/651	20.4	14	68	7.7	2,800	2,400	3,300	2,858	323	3,144	355	5,228	590
3,702	418	C502_0035 MT40	3.5	2279/651	24.4	14	103	11.6	2,800	2,400	3,300	3,309	374	4,183	472	5,228	590
3,156	356	C502_0039 MT30	3.9	58/15	17.0	14	77	8.7	2,800	2,400	3,300	3,035	343	3,472	392	5,579	630
3,827	432	C502_0039 MT40	3.9	58/15	21.0	14	112	12.6	2,800	2,400	3,300	3,421	386	4,463	504	5,579	630
3,591	405	C502_0044 MT30	4.4	2494/567	16.4	14	89	10.1	2,800	2,400	3,300	3,452	390	3,950	446	6,346	716
3,995	451	C502_0044 MT40	4.4	2494/567	20.4	14	123	13.9	2,800	2,400	3,300	3,571	403	5,077	573	6,346	716
1,591	180	C502_0046 MT20	4.6	162/35	9.4	14	72	8.1	3,100	2,700	3,600	1,591	180	1,750	198	2,496	282
3,512	396	C502_0046 MT30	4.6	162/35	14.2	14	94	10.6	3,100	2,700	3,600	3,035	343	4,156	469	6,439	727
4,063	459	C502_0046 MT40	4.6	162/35	18.2	14	128	14.4	3,000	2,700	3,500	3,511	396	5,151	582	6,439	727
1,810	204	C502_0053 MT20	5.3	258/49	9.0	14	83	9.4	3,100	2,700	3,600	1,810	204	1,990	225	2,839	321
3,994	451	C502_0053 MT30	5.3	258/49	13.8	14	106	12.0	3,100	2,700	3,600	3,452	390	4,727	534	7,323	827
4,242	479	C502_0053 MT40	5.3	258/49	17.8	14	138	15.5	3,000	2,700	3,500	3,665	414	5,859	661	7,323	827
2,011	227	C502_0059 MT20	5.9	117/20	7.1	14	93	10.5	3,100	2,700	3,600	1,958	221	2,212	250	3,036	343
3,804	429	C502_0059 MT30	5.9	117/20	11.9	14	116	13.1	3,100	2,700	3,600	3,287	371	5,253	593	7,830	884
4,393	496	C502_0059 MT40	5.9	117/20	15.9	14	145	16.4	3,000	2,700	3,500	3,796	429	6,264	707	7,830	884
2,287	258	C502_0067 MT20	6.7	559/84	6.8	14	105	11.9	3,100	2,700	3,600	2,227	251	2,516	284	3,453	390
4,328	489	C502_0067 MT30	6.7	559/84	11.6	14	127	14.3	3,100	2,700	3,600	3,740	422	5,975	675	8,907	1,006
4,586	518	C502_0067 MT40	6.7	559/84	15.6	14	153	17.3	3,000	2,700	3,500	3,963	447	7,086	800	8,907	1,006
2,405	272	C502_0078 MT20	7.8	621/80	5.0	14	119	13.5	3,400	3,000	3,900	2,015	228	2,935	331	3,810	430
4,039	456	C502_0078 MT30	7.8	621/80	9.8	14	139	15.7	3,400	3,000	3,900	3,384	382	6,970	787	9,826	1,109
4,828	545	C502_0078 MT40	7.8	621/80	13.8	14	161	18.2	3,000	3,000	3,500	4,045	457	7,086	800	9,826	1,109
6,642	750	C502_0083 MT30	8.3	1537/186	16.9	12	150	17.0	2,800	2,400	3,300	5,938	670	7,419	838	12,340	1,393
6,642	750	C502_0083 MT40	8.3	1537/186	20.9	12	173	19.6	2,800	2,400	3,300	5,938	670	8,149	920	12,340	1,393
6,900	779	C502_0093 MT30	9.3	3445/372	16.6	12	159	17.9	2,800	2,400	3,300	6,168	696	7,529	850	13,830	1,561
6,900	779	C502_0093 MT40	9.3	3445/372	20.6	12	178	20.1	2,800	2,400	3,300	6,168	696	7,529	850	13,830	1,561
7,086	800	C502_0105 MT30	10.4	841/81	14.1	12	166	18.7	2,800	2,400	3,300	6,407	723	8,149	920	14,173	1,600
7,086	800	C502_0105 MT40	10.4	841/81	18.1	12	183	20.6	2,800	2,400	3,300	6,407	723	8,149	920	14,173	1,600
7,086	800	C502_0115 MT30	11.6	1885/162	13.9	12	172	19.4	2,800	2,400	3,300	6,655	751	7,529	850	14,173	1,600
7,086	800	C502_0115 MT40	11.6	1885/162	17.9	12	186	21.0	2,800	2,400	3,300	6,655	751	7,529	850	14,173	1,600
4,272	482	C502_0125 MT20	12.4	87/7	7.4	12	162	18.3	3,100	2,700	3,600	4,272	482	4,699	530	6,703	757
7,086	800	C502_0125 MT30	12.4	87/7	12.2	12	175	19.8	3,100	2,700	3,600	6,576	742	8,149	920	14,173	1,600
7,086	800	C502_0125 MT40	12.4	87/7	16.2	12	188	21.2	3,000	2,700	3,500	6,576	742	8,149	920	14,173	1,600

Motor Shaft

Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Contact Stober Drives for availability of "Q" housing style.

See page 84 for required ordering information and part number example.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \leq n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C502/C503 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 61 dB(A)** [4]	
4,787	540	C502_0140 MT20	13.9	195/14	7.3	12	169	19.0	3,100	2,700	3,600	4,787	540	5,266	594	7,512	848
7,086	800	C502_0140 MT30	13.9	195/14	12.1	12	180	20.3	3,100	2,700	3,600	6,831	771	7,529	850	14,173	1,600
7,086	800	C502_0140 MT40	13.9	195/14	16.1	12	190	21.5	3,000	2,700	3,500	6,831	771	7,529	850	14,173	1,600
5,399	609	C502_0155 MT20	15.7	377/24	5.8	12	175	19.7	3,100	2,700	3,600	5,257	593	5,939	670	8,151	920
7,086	800	C502_0155 MT30	15.7	377/24	10.6	12	184	20.8	3,100	2,700	3,600	7,086	800	8,149	920	14,173	1,600
7,086	800	C502_0155 MT40	15.7	377/24	14.6	12	193	21.7	3,000	2,700	3,500	7,086	800	8,149	920	14,173	1,600
6,050	683	C502_0175 MT20	17.6	845/48	5.8	12	179	20.3	3,100	2,700	3,600	5,891	665	6,655	751	9,135	1,031
7,086	800	C502_0175 MT30	17.6	845/48	10.6	12	187	21.1	3,100	2,700	3,600	7,086	800	7,529	850	14,173	1,600
7,086	800	C502_0175 MT40	17.6	845/48	14.6	12	194	21.9	3,000	2,700	3,500	7,086	800	7,529	850	14,173	1,600
6,458	729	C502_0210 MT20	20.8	667/32	4.3	12	185	20.9	3,400	3,000	3,900	5,411	611	7,880	890	10,229	1,155
7,086	800	C502_0210 MT30	20.8	667/32	9.1	12	191	21.6	3,400	3,000	3,900	7,086	800	8,149	920	14,173	1,600
7,086	800	C502_0210 MT40	20.8	667/32	13.1	12	196	22.1	3,000	3,000	3,500	7,086	800	8,149	920	14,173	1,600
7,086	800	C502_0230 MT20	23.4	1495/64	4.2	12	188	21.2	3,400	3,000	3,900	6,064	685	7,529	850	11,464	1,294
7,086	800	C502_0230 MT30	23.4	1495/64	9.0	12	193	21.8	3,400	3,000	3,900	7,086	800	7,529	850	14,173	1,600
7,086	800	C502_0230 MT40	23.4	1495/64	13.0	12	197	22.2	3,000	3,000	3,500	7,086	800	7,529	850	14,173	1,600
6,561	741	C502_0250 MT20	25.1	2407/96	3.5	12	190	21.4	3,400	3,000	3,900	5,497	621	8,149	920	11,796	1,332
7,086	800	C502_0250 MT30	25.1	2407/96	8.3	12	194	21.9	3,400	3,000	3,900	7,086	800	8,149	920	14,173	1,600
7,086	800	C502_0250 MT40	25.1	2407/96	12.3	12	198	22.3	3,000	3,000	3,500	7,086	800	8,149	920	14,173	1,600
7,086	800	C502_0280 MT20	28.1	5395/192	3.5	12	192	21.7	3,400	3,000	3,900	6,160	695	7,529	850	13,219	1,492
7,086	800	C502_0280 MT30	28.1	5395/192	8.3	12	195	22.1	3,400	3,000	3,900	7,086	800	7,529	850	14,173	1,600
7,086	800	C502_0280 MT40	28.1	5395/192	12.3	12	198	22.4	3,000	3,000	3,500	7,086	800	7,529	850	14,173	1,600
6,739	761	C502_0310 MT20	31.2	406/13	2.8	12	194	21.9	3,400	3,000	3,900	5,646	637	8,149	920	14,001	1,581
7,086	800	C502_0310 MT30	31.2	406/13	7.6	12	196	22.2	3,400	3,000	3,900	7,086	800	8,149	920	14,001	1,581
7,086	800	C502_0310 MT40	31.2	406/13	11.6	12	199	22.4	3,000	3,000	3,500	7,086	800	8,149	920	14,001	1,581
7,086	800	C502_0350 MT20	35.0	35/1	2.8	12	195	22.0	3,400	3,000	3,900	6,328	714	7,529	850	14,173	1,600
7,086	800	C502_0350 MT30	35.0	35/1	7.6	12	197	22.3	3,400	3,000	3,900	7,086	800	7,529	850	14,173	1,600
7,086	800	C502_0350 MT40	35.0	35/1	11.6	12	199	22.5	3,000	3,000	3,500	7,086	800	7,529	850	14,173	1,600
7,014	792	C502_0420 MT20	41.7	667/16	2.2	12	197	22.2	3,400	3,000	3,900	5,877	663	8,149	920	14,173	1,600
7,086	800	C502_0420 MT30	41.7	667/16	7.0	12	198	22.4	3,400	3,000	3,900	7,086	800	8,149	920	14,173	1,600
7,086	800	C502_0420 MT40	41.7	667/16	11.0	12	200	22.5	3,000	3,000	3,500	7,086	800	8,149	920	14,173	1,600
7,086	800	C502_0470 MT20	46.7	1495/32	2.2	12	198	22.3	3,400	3,000	3,900	6,587	744	7,529	850	14,173	1,600
7,086	800	C502_0470 MT30	46.7	1495/32	7.0	12	199	22.5	3,400	3,000	3,900	7,086	800	7,529	850	14,173	1,600
7,086	800	C502_0470 MT40	46.7	1495/32	11.0	12	200	22.6	3,000	3,000	3,500	7,086	800	7,529	850	14,173	1,600
7,086	800	C502_0500 MT20	49.8	1943/39	1.9	12	198	22.4	3,400	3,000	3,900	6,005	678	8,149	920	14,173	1,600
7,086	800	C502_0500 MT30	49.8	1943/39	6.7	12	199	22.5	3,400	3,000	3,900	7,086	800	8,149	920	14,173	1,600
7,086	800	C502_0500 MT40	49.8	1943/39	10.7	12	200	22.6	3,000	3,000	3,500	7,086	800	8,149	920	14,173	1,600
7,086	800	C502_0560 MT20	55.8	335/6	1.9	12	199	22.4	3,400	3,000	3,900	6,729	760	7,529	850	14,173	1,600
7,086	800	C502_0560 MT30	55.8	335/6	6.7	12	200	22.5	3,400	3,000	3,900	7,086	800	7,529	850	14,173	1,600
7,086	800	C502_0560 MT40	55.8	335/6	10.7	12	200	22.6	3,000	3,000	3,500	7,086	800	7,529	850	14,173	1,600
6,325	714	C502_0620 MT20	62.4	4495/72	1.7	12	199	22.5	3,400	3,000	3,900	6,077	686	7,590	857	10,212	1,153
6,325	714	C502_0620 MT30	62.4	4495/72	6.5	12	200	22.6	3,400	3,000	3,900	6,325	714	7,590	857	10,212	1,153

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A) Measured at 1 meter distance with 3000 RPM input.

DIRECTION OF ROTATION:

2 Stage units (C002 through C812)
If input turns clockwise, output turns clockwise.

3 Stage units (C103 through C913)
If input turns clockwise, output turns counterclockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL5 or EL6
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

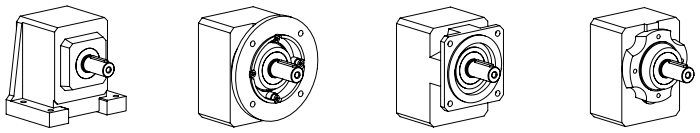
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C502/C503 with MT TriAdapt® Motor Adapter (Continued)																**Noise Level ≤ 61 dB(A) [4]**	
7,086	800	**C502_0700 MT20**	70.0	10075/144	1.7	12	199	22.5	3,400	3,000	3,900	6,811	769	7,529	850	11,444	1,292
7,086	800	**C502_0700 MT30**	70.0	10075/144	6.5	12	200	22.6	3,400	3,000	3,900	7,086	800	7,529	850	11,444	1,292
7,086	800	**C503_0810 MT20**	80.6	19343/240	1.6	12	200	22.6	3,400	3,000	3,900	7,086	800	8,149	920	10,228	1,155
7,086	800	**C503_0900 MT20**	90.3	8671/96	1.6	12	200	22.6	3,400	3,000	3,900	7,086	800	7,529	850	11,463	1,294
7,086	800	**C503_1090 MT20**	108.6	31291/288	1.5	12	200	22.6	3,400	3,000	3,900	7,086	800	7,529	850	13,218	1,492
7,086	800	**C503_1350 MT20**	135.3	406/3	1.5	12	201	22.6	3,400	3,000	3,900	7,086	800	7,529	850	14,173	1,600
7,086	800	**C503_1810 MT20**	180.6	8671/48	1.4	12	201	22.7	3,400	3,000	3,900	7,086	800	7,529	850	14,173	1,600
7,086	800	**C503_2160 MT20**	215.9	1943/9	1.4	12	201	22.7	3,400	3,000	3,900	7,086	800	7,529	850	14,173	1,600
7,086	800	**C503_2710 MT20**	270.5	58435/216	1.4	12	201	22.7	3,400	3,000	3,900	7,086	800	7,529	850	11,443	1,292
C612/C613 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 61 dB(A) [4]**	
3,415	386	**C612_0042 MT30**	4.2	2745/656	52.9	10	124	14.0	2,300	1,900	2,800	3,415	386	3,757	424	6,831	771
5,522	623	**C612_0042 MT40**	4.2	2745/656	56.9	10	217	24.5	2,300	1,900	2,800	5,522	623	5,522	623	6,902	779
4,149	468	**C612_0051 MT30**	5.1	61/12	42.1	10	168	19.0	2,300	1,900	2,800	4,149	468	4,564	515	8,147	920
6,518	736	**C612_0051 MT40**	5.1	61/12	46.1	10	277	31.3	2,300	1,900	2,800	6,518	736	6,518	736	8,147	920
5,320	601	**C612_0065 MT30**	6.5	3233/496	31.7	10	238	26.8	2,700	2,300	3,200	5,320	601	5,852	661	10,064	1,136
8,051	909	**C612_0065 MT40**	6.5	3233/496	35.7	10	358	40.4	2,700	2,300	3,200	7,649	864	8,051	909	10,064	1,136
5,804	655	**C612_0071 MT30**	7.1	64/9	38.4	10	265	29.9	2,300	1,900	2,800	5,804	655	6,385	721	11,398	1,287
8,703	983	**C612_0071 MT40**	7.1	64/9	42.4	10	386	43.6	2,300	1,900	2,800	8,307	938	9,118	1,029	11,398	1,287
6,685	755	**C612_0082 MT30**	8.2	1769/216	25.0	10	310	35.0	2,700	2,300	3,200	6,685	755	7,354	830	12,217	1,379
9,123	1,030	**C612_0082 MT40**	8.2	1769/216	29.0	10	430	48.5	2,700	2,300	3,200	8,254	932	9,773	1,103	12,217	1,379
7,443	840	**C612_0091 MT30**	9.1	848/93	29.4	10	346	39.0	2,700	2,300	3,200	7,443	840	8,187	924	14,079	1,589
9,455	1,067	**C612_0091 MT40**	9.1	848/93	33.4	10	460	52.0	2,700	2,300	3,200	8,555	966	11,263	1,272	14,079	1,589
8,253	932	**C612_0100 MT30**	10.1	3721/368	20.7	10	379	42.8	3,000	2,600	3,500	7,550	852	9,079	1,025	14,489	1,636
9,787	1,105	**C612_0100 MT40**	10.1	3721/368	24.7	10	488	55.1	3,000	2,600	3,500	8,549	965	11,592	1,309	14,489	1,636
9,352	1,056	**C612_0115 MT30**	11.5	928/81	23.6	10	418	47.2	2,700	2,300	3,200	9,232	1,042	10,287	1,161	17,090	1,929
10,203	1,152	**C612_0115 MT40**	11.5	928/81	27.6	10	517	58.4	2,700	2,300	3,200	9,232	1,042	12,224	1,380	17,090	1,929
9,091	1,026	**C612_0125 MT30**	12.6	2013/160	16.7	10	446	50.3	3,000	2,600	3,500	7,941	897	11,296	1,275	17,288	1,952
10,526	1,188	**C612_0125 MT40**	12.6	2013/160	20.7	10	537	60.6	3,000	2,600	3,500	9,195	1,038	13,830	1,561	17,288	1,952
10,945	1,236	**C612_0140 MT30**	14.1	976/69	19.7	10	478	54.0	3,000	2,600	3,500	9,562	1,079	12,224	1,380	20,270	2,288
10,945	1,236	**C612_0140 MT40**	14.1	976/69	23.7	10	558	63.0	3,000	2,600	3,500	9,562	1,079	12,224	1,380	20,270	2,288
9,634	1,088	**C612_0160 MT30**	16.2	1037/64	13.3	10	511	57.7	3,200	2,900	3,700	8,237	930	14,549	1,642	21,206	2,394
11,452	1,293	**C612_0160 MT40**	16.2	1037/64	17.3	10	579	65.3	3,000	2,900	3,500	9,792	1,105	14,616	1,650	21,206	2,394
11,515	1,300	**C612_0175 MT30**	17.6	88/5	16.1	10	529	59.7	3,000	2,600	3,500	10,284	1,161	12,224	1,380	23,031	2,600
11,515	1,300	**C612_0175 MT40**	17.6	88/5	20.1	10	590	66.6	3,000	2,600	3,500	10,284	1,161	12,224	1,380	23,031	2,600
9,917	1,120	**C612_0195 MT30**	19.6	549/28	11.4	10	550	62.1	3,200	2,900	3,700	8,479	957	14,616	1,650	24,644	2,782
12,204	1,378	**C612_0195 MT40**	19.6	549/28	15.4	10	602	67.9	3,000	2,900	3,500	10,434	1,178	14,616	1,650	24,644	2,782
11,515	1,300	**C612_0230 MT30**	22.7	68/3	12.9	10	573	64.7	3,200	2,900	3,700	10,951	1,236	12,224	1,380	23,031	2,600
11,515	1,300	**C612_0230 MT40**	22.7	68/3	16.9	10	615	69.4	3,000	2,900	3,500	10,951	1,236	12,224	1,380	23,031	2,600

Motor Shaft

Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Contact Stober Drives for availability of "Q" housing style.

See page 84 for required ordering information and part number example.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
												Nominal [2] $T_{2N} \leq n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
									Continuous		Cyclic						
in.lbs.	Nm		Nom.	Exact	$kgcm^2$	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C612/C613 with MT TriAdapt® Motor Adapter (Continued)																**Noise Level ≤ 61 dB(A) [4]**	
10,244	1,157	C612_0250 MT30	24.9	5185/208	9.7	10	586	66.2	3,200	2,900	3,700	8,759	989	14,616	1,650	25,688	2,900
12,844	1,450	C612_0250 MT40	24.9	5185/208	13.7	10	622	70.2	3,000	2,900	3,500	11,304	1,276	14,616	1,650	25,688	2,900
11,515	1,300	C612_0270 MT30	27.4	192/7	11.2	10	598	67.5	3,200	2,900	3,700	11,515	1,300	12,224	1,380	23,031	2,600
11,515	1,300	C612_0270 MT40	27.4	192/7	15.2	10	627	70.8	3,000	2,900	3,500	11,515	1,300	12,224	1,380	23,031	2,600
10,679	1,206	C612_0320 MT30	32.4	1037/32	8.4	10	613	69.2	3,200	2,900	3,700	9,131	1,031	14,616	1,650	25,688	2,900
12,844	1,450	C612_0320 MT40	32.4	1037/32	12.4	10	636	71.8	3,000	2,900	3,500	12,337	1,393	14,616	1,650	25,688	2,900
11,515	1,300	C612_0350 MT30	34.9	1360/39	9.5	10	619	69.9	3,200	2,900	3,700	11,515	1,300	12,224	1,380	23,031	2,600
11,515	1,300	C612_0350 MT40	34.9	1360/39	13.5	10	638	72.1	3,000	2,900	3,500	11,515	1,300	12,224	1,380	23,031	2,600
10,812	1,221	C612_0390 MT30	39.4	1891/48	7.7	10	627	70.8	3,200	2,900	3,700	9,250	1,044	12,975	1,465	16,479	1,860
10,812	1,221	C612_0390 MT40	39.4	1891/48	11.7	10	642	72.5	3,000	2,900	3,500	10,812	1,221	12,975	1,465	16,479	1,860
11,515	1,300	C612_0450 MT30	45.3	136/3	8.3	10	634	71.6	3,200	2,900	3,700	11,515	1,300	12,224	1,380	23,031	2,600
11,515	1,300	C612_0450 MT40	45.3	136/3	12.3	10	646	72.9	3,000	2,900	3,500	11,515	1,300	12,224	1,380	23,031	2,600
11,515	1,300	C612_0550 MT30	55.1	496/9	7.6	10	641	72.4	3,200	2,900	3,700	11,515	1,300	12,224	1,380	23,031	2,600
11,515	1,300	C612_0550 MT40	55.1	496/9	11.6	10	649	73.3	3,000	2,900	3,500	11,515	1,300	12,224	1,380	23,031	2,600
11,515	1,300	C612_0690 MT30	68.9	620/9	7.1	10	647	73.0	3,200	2,900	3,700	11,515	1,300	12,224	1,380	23,031	2,600
11,515	1,300	C612_0690 MT40	68.9	620/9	11.1	10	652	73.6	3,000	2,900	3,500	11,515	1,300	12,224	1,380	23,031	2,600
12,688	1,432	C613_0490 MT30	49.3	31537/640	7.2	10	637	72.0	3,200	2,900	3,700	10,848	1,225	13,829	1,561	17,287	1,952
12,844	1,450	C613_0630 MT30	63.5	48739/768	6.9	10	645	72.8	3,200	2,900	3,700	11,723	1,323	14,616	1,650	21,204	2,394
7,643	863	C613_0760 MT20	75.8	5307/70	1.7	10	643	72.6	3,200	2,900	3,700	7,600	858	7,643	863	9,554	1,079
12,844	1,450	C613_0770 MT30	76.8	8601/112	6.8	10	649	73.2	3,200	2,900	3,700	12,264	1,384	14,616	1,650	24,642	2,782
9,200	1,039	C613_0880 MT20	87.6	3944/45	1.8	10	647	73.0	3,200	2,900	3,700	9,200	1,039	9,200	1,039	11,500	1,298
11,515	1,300	C613_0890 MT30	88.8	799/9	6.9	10	651	73.5	3,200	2,900	3,700	11,515	1,300	12,224	1,380	23,031	2,600
12,844	1,450	C613_0980 MT30	97.6	243695/2496	6.7	10	652	73.6	3,200	2,900	3,700	12,844	1,450	14,616	1,650	25,688	2,900
10,692	1,207	C613_1060 MT20	106.1	3712/35	1.7	10	650	73.4	3,200	2,900	3,700	10,632	1,200	10,692	1,207	13,365	1,509
11,515	1,300	C613_1070 MT30	107.4	752/7	6.8	10	653	73.7	3,200	2,900	3,700	11,515	1,300	12,224	1,380	23,031	2,600
12,844	1,450	C613_1270 MT30	126.9	48739/384	6.6	10	654	73.8	3,200	2,900	3,700	12,844	1,450	14,616	1,650	25,688	2,900
11,515	1,300	C613_1350 MT20	134.8	15776/117	1.6	10	653	73.7	3,200	2,900	3,700	11,213	1,266	12,224	1,380	16,132	1,821
11,515	1,300	C613_1370 MT30	136.6	15980/117	6.7	10	654	73.9	3,200	2,900	3,700	11,515	1,300	12,224	1,380	23,031	2,600
11,515	1,300	C613_1750 MT20	175.3	7888/45	1.5	10	655	73.9	3,200	2,900	3,700	11,515	1,300	12,224	1,380	19,846	2,240
11,515	1,300	C613_1780 MT30	177.6	1598/9	6.6	10	656	74.0	3,200	2,900	3,700	11,515	1,300	12,224	1,380	23,031	2,600
11,515	1,300	C613_2130 MT20	213.1	28768/135	1.5	10	655	74.0	3,200	2,900	3,700	11,515	1,300	12,224	1,380	23,031	2,600
11,515	1,300	C613_2660 MT20	266.4	7192/27	1.4	10	656	74.1	3,200	2,900	3,700	11,515	1,300	12,224	1,380	23,031	2,600

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A) Measured at 1 meter distance with 3000 RPM input.

DIRECTION OF ROTATION:

2 Stage units (C002 through C812)
If input turns clockwise, output turns clockwise.

3 Stage units (C103 through C913)
If input turns clockwise, output turns counterclockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL5 or EL6
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

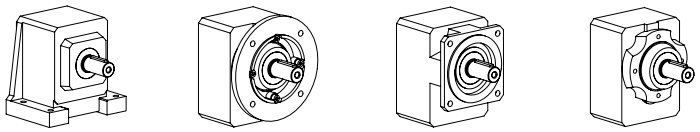
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C712/C713 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 67 dB(A)** [4]	
3,476	392	C712_0043 MT30	4.3	477/112	101.8	10	139	15.7	2,200	1,900	2,700	3,476	392	3,824	432	6,953	785
5,899	666	C712_0043 MT40	4.3	477/112	105.8	10	256	28.9	2,200	1,900	2,700	5,899	666	5,899	666	7,374	832
4,335	489	C712_0053 MT30	5.3	1827/344	77.3	10	201	22.7	2,200	1,900	2,700	4,335	489	4,769	538	8,670	979
7,120	804	C712_0053 MT40	5.3	1827/344	81.3	10	352	39.8	2,200	1,900	2,700	7,120	804	7,120	804	8,900	1,005
5,560	628	C712_0068 MT30	6.8	252/37	57.4	10	296	33.4	2,600	2,300	3,100	5,560	628	6,116	690	10,992	1,241
8,794	993	C712_0068 MT40	6.8	252/37	61.4	10	479	54.1	2,600	2,300	3,100	8,794	993	8,794	993	10,992	1,241
6,005	678	C712_0074 MT30	7.4	3480/473	70.9	10	330	37.2	2,200	1,900	2,700	6,005	678	6,606	746	12,011	1,356
9,862	1,113	C712_0074 MT40	7.4	3480/473	74.9	10	520	58.7	2,200	1,900	2,700	9,862	1,113	9,862	1,113	12,328	1,392
6,930	782	C712_0085 MT30	8.5	4347/512	44.2	10	399	45.0	2,600	2,300	3,100	6,930	782	7,623	861	13,214	1,492
10,571	1,193	C712_0085 MT40	8.5	4347/512	48.2	10	598	67.5	2,600	2,300	3,100	10,571	1,193	10,571	1,193	13,214	1,492
7,701	869	C712_0094 MT30	9.4	3840/407	53.4	10	454	51.2	2,600	2,300	3,100	7,701	869	8,472	956	15,227	1,719
12,182	1,375	C712_0094 MT40	9.4	3840/407	57.4	10	653	73.7	2,600	2,300	3,100	12,182	1,375	12,182	1,375	15,227	1,719
8,091	913	C712_0099 MT30	9.9	4599/464	37.5	10	480	54.2	2,900	2,600	3,400	8,091	913	8,900	1,005	15,052	1,699
12,041	1,359	C712_0099 MT40	9.9	4599/464	41.5	10	678	76.6	2,900	2,600	3,400	12,041	1,359	12,041	1,359	15,052	1,699
9,600	1,084	C712_0120 MT30	11.8	1035/88	41.7	10	572	64.6	2,600	2,300	3,100	9,600	1,084	10,560	1,192	18,304	2,066
14,644	1,653	C712_0120 MT40	11.8	1035/88	45.7	10	761	85.9	2,600	2,300	3,100	14,644	1,653	14,644	1,653	18,304	2,066
10,760	1,215	C712_0130 MT30	13.2	4851/368	27.6	10	633	71.4	2,900	2,600	3,400	9,954	1,124	11,836	1,336	18,890	2,133
15,112	1,706	C712_0130 MT40	13.2	4851/368	31.6	10	810	91.4	2,900	2,600	3,400	15,112	1,706	15,112	1,706	18,890	2,133
11,207	1,265	C712_0135 MT30	13.7	4380/319	35.6	10	654	73.8	2,900	2,600	3,400	11,207	1,265	12,328	1,392	20,850	2,354
16,680	1,883	C712_0135 MT40	13.7	4380/319	39.6	10	826	93.3	2,900	2,600	3,400	15,848	1,789	16,680	1,883	20,850	2,354
12,091	1,365	C712_0165 MT30	16.7	1071/64	21.1	10	751	84.8	3,100	2,900	3,600	10,448	1,179	15,025	1,696	22,994	2,596
18,395	2,077	C712_0165 MT40	16.7	1071/64	25.1	10	895	101.1	3,000	2,900	3,500	16,556	1,869	18,395	2,077	22,994	2,596
14,906	1,683	C712_0185 MT30	18.3	420/23	26.5	10	790	89.2	2,900	2,600	3,400	13,790	1,557	16,396	1,851	26,169	2,954
17,716	2,000	C712_0185 MT40	18.3	420/23	30.5	10	921	103.9	2,900	2,600	3,400	17,428	1,968	20,373	2,300	26,169	2,954
12,291	1,388	C712_0210 MT30	20.7	1323/64	16.9	10	840	94.8	3,100	2,900	3,600	10,621	1,199	18,561	2,095	27,054	3,054
20,559	2,321	C712_0210 MT40	20.7	1323/64	20.9	10	952	107.5	3,000	2,900	3,500	17,765	2,005	21,643	2,443	27,054	3,054
16,751	1,891	C712_0230 MT30	23.2	255/11	20.4	10	880	99.4	3,100	2,900	3,600	14,474	1,634	20,373	2,300	31,854	3,596
17,716	2,000	C712_0230 MT40	23.2	255/11	24.4	10	976	110.2	3,000	2,900	3,500	17,716	2,000	20,373	2,300	31,854	3,596
12,803	1,445	C712_0250 MT30	25.3	405/16	13.8	10	907	102.4	3,100	2,900	3,600	11,063	1,249	22,728	2,566	31,815	3,592
21,259	2,400	C712_0250 MT40	25.3	405/16	17.8	10	992	112.0	3,000	2,900	3,500	19,005	2,146	24,448	2,760	31,815	3,592
17,027	1,922	C712_0290 MT30	28.6	315/11	16.5	10	941	106.2	3,100	2,900	3,600	14,712	1,661	20,373	2,300	35,432	4,000
17,716	2,000	C712_0290 MT40	28.6	315/11	20.5	10	1,010	114.0	3,000	2,900	3,500	17,716	2,000	20,373	2,300	35,432	4,000
13,188	1,489	C712_0340 MT30	33.8	2163/64	10.9	10	977	110.3	3,100	2,900	3,600	11,395	1,286	24,448	2,760	39,811	4,494
21,259	2,400	C712_0340 MT40	33.8	2163/64	14.9	10	1,029	116.2	3,000	2,900	3,500	19,973	2,255	24,448	2,760	39,811	4,494
17,716	2,000	C712_0350 MT30	35.1	2700/77	13.6	10	983	111.0	3,100	2,900	3,600	15,325	1,730	20,373	2,300	35,432	4,000
17,716	2,000	C712_0350 MT40	35.1	2700/77	17.6	10	1,033	116.6	3,000	2,900	3,500	17,716	2,000	20,373	2,300	35,432	4,000
13,517	1,526	C712_0410 MT30	41.0	2625/64	9.5	10	1,008	113.8	3,100	2,900	3,600	11,680	1,319	22,265	2,514	37,108	4,189
18,554	2,095	C712_0410 MT40	41.0	2625/64	13.5	10	1,046	118.1	3,000	2,900	3,500	18,554	2,095	22,265	2,514	37,108	4,189
17,716	2,000	C712_0470 MT30	46.8	515/11	10.7	10	1,024	115.7	3,100	2,900	3,600	15,785	1,782	20,373	2,300	35,432	4,000
17,716	2,000	C712_0470 MT40	46.8	515/11	14.7	10	1,054	119.0	3,000	2,900	3,500	17,716	2,000	20,373	2,300	35,432	4,000

Motor Shaft

Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes



Contact Stober Drives for availability of "Q" housing style.

See page 84 for required ordering information and part number example.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C712/C713 with MT TriAdapt® Motor Adapter (Continued)																**Noise Level ≤ 67 dB(A) [4]**	
17,716	2,000	C712_0570 MT30	56.8	625/11	9.4	10	1,042	117.7	3,100	2,900	3,600	16,179	1,827	20,373	2,300	35,432	4,000
17,716	2,000	C712_0570 MT40	56.8	625/11	13.4	10	1,063	120.0	3,000	2,900	3,500	17,716	2,000	20,373	2,300	35,432	4,000
17,716	2,000	C712_0700 MT30	69.5	765/11	8.3	10	1,055	119.1	3,100	2,900	3,600	16,503	1,863	20,373	2,300	29,091	3,284
17,716	2,000	C712_0700 MT40	69.5	765/11	12.3	10	1,069	120.7	3,000	2,900	3,500	17,716	2,000	20,373	2,300	29,091	3,284
21,259	2,400	C713_0510 MT40	50.8	18711/368	13.1	10	1,058	119.5	3,000	2,900	3,500	21,259	2,400	24,448	2,760	36,099	4,075
21,259	2,400	C713_0650 MT40	64.5	4131/64	12.6	10	1,067	120.5	3,000	2,900	3,500	21,259	2,400	24,448	2,760	42,518	4,800
21,259	2,400	C713_0800 MT40	79.7	5103/64	12.4	10	1,072	121.1	3,000	2,900	3,500	21,259	2,400	24,448	2,760	42,518	4,800
17,492	1,975	C713_0810 MT30	81.0	20727/256	7.2	10	1,062	119.9	3,100	2,900	3,600	15,115	1,706	21,642	2,443	27,052	3,054
17,716	2,000	C713_0890 MT40	89.4	6885/77	12.6	10	1,074	121.3	3,000	2,900	3,500	17,716	2,000	20,373	2,300	35,432	4,000
21,259	2,400	C713_0980 MT40	97.6	10935/112	12.2	10	1,076	121.4	3,000	2,900	3,500	21,259	2,400	24,448	2,760	31,816	3,592
18,518	2,090	C713_0990 MT30	99.1	6345/64	7.0	10	1,069	120.7	3,100	2,900	3,600	16,001	1,806	24,448	2,760	31,812	3,591
17,716	2,000	C713_1100 MT40	110.5	1215/11	12.3	10	1,077	121.6	3,000	2,900	3,500	17,716	2,000	20,373	2,300	35,432	4,000
21,259	2,400	C713_1300 MT40	130.4	8343/64	12.0	10	1,078	121.8	3,000	2,900	3,500	21,259	2,400	24,448	2,760	39,812	4,494
19,575	2,210	C713_1320 MT30	132.4	33887/256	6.8	10	1,075	121.3	3,100	2,900	3,600	16,914	1,910	24,448	2,760	39,807	4,494
17,716	2,000	C713_1350 MT40	135.3	72900/539	12.1	10	1,079	121.8	3,000	2,900	3,500	17,716	2,000	20,373	2,300	35,432	4,000
17,716	2,000	C713_1370 MT30	137.3	10575/77	7.0	10	1,075	121.4	3,100	2,900	3,600	17,716	2,000	20,373	2,300	35,432	4,000
17,716	2,000	C713_1810 MT40	180.6	13905/77	11.9	10	1,080	122.0	3,000	2,900	3,500	17,716	2,000	20,373	2,300	35,432	4,000
17,716	2,000	C713_1830 MT30	183.4	24205/132	6.8	10	1,078	121.7	3,100	2,900	3,600	17,716	2,000	20,373	2,300	35,432	4,000
17,716	2,000	C713_2190 MT40	219.2	16875/77	11.9	10	1,081	122.0	3,000	2,900	3,500	17,716	2,000	20,373	2,300	35,432	4,000
17,716	2,000	C713_2230 MT30	222.5	29375/132	6.7	10	1,079	121.9	3,100	2,900	3,600	17,716	2,000	20,373	2,300	35,432	4,00
C812/C813 with MT TriAdapt® Motor Adapter (Continued Next Page)																**Noise Level ≤ 67 dB(A) [4]**	
15,488	1,748	C812_0125 MT40	12.7	5546/435	63.5	10	902	101.8	2,700	2,400	3,200	15,488	1,748	15,488	1,748	19,360	2,186
19,605	2,213	C812_0170 MT40	17.1	1180/69	45.2	10	1,041	117.5	2,900	2,700	3,400	19,605	2,213	19,605	2,213	24,506	2,767
21,001	2,371	C812_0175 MT40	17.3	1504/87	60.6	10	1,360	153.6	2,700	2,400	3,200	21,001	2,371	21,001	2,371	26,251	2,964
22,426	2,532	C812_0200 MT40	20.3	6077/300	37.1	10	1,102	124.4	2,900	2,700	3,400	22,426	2,532	22,426	2,532	28,032	3,165
26,583	3,001	C812_0230 MT40	23.2	1600/69	43.6	10	1,527	172.4	2,900	2,700	3,400	26,583	3,001	26,583	3,001	33,229	3,751
27,158	3,066	C812_0260 MT40	26.1	3127/120	28.3	10	1,169	131.9	2,900	2,700	3,400	23,994	2,709	27,283	3,080	34,103	3,850
30,408	3,433	C812_0270 MT40	27.5	412/15	35.9	10	1,597	180.3	2,900	2,700	3,400	30,408	3,433	30,408	3,433	38,010	4,291
28,022	3,163	C812_0340 MT40	33.6	2183/65	22.1	10	1,213	137.0	2,900	2,700	3,400	24,757	2,795	33,261	3,755	41,577	4,694
31,889	3,600	C812_0350 MT40	35.3	106/3	27.6	10	1,673	188.9	2,900	2,700	3,400	31,889	3,600	36,672	4,140	46,242	5,220
28,769	3,248	C812_0400 MT40	39.9	2596/65	18.9	10	1,234	139.4	2,900	2,700	3,400	25,417	2,869	38,126	4,304	47,658	5,380
31,889	3,600	C812_0460 MT40	45.5	592/13	21.7	10	1,723	194.5	2,900	2,700	3,400	31,889	3,600	36,672	4,140	56,374	6,364
31,889	3,600	C812_0540 MT40	54.2	704/13	18.6	10	1,746	197.1	2,900	2,700	3,400	31,889	3,600	36,672	4,140	63,778	7,200
31,889	3,600	C812_0690 MT40	68.9	620/9	15.6	10	1,767	199.5	2,900	2,700	3,400	31,889	3,600	36,672	4,140	63,778	7,200

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A) Measured at 1 meter distance with 3000 RPM input.

DIRECTION OF ROTATION:

2 Stage units (C002 through C812)
If input turns clockwise, output turns clockwise.

3 Stage units (C103 through C913)
If input turns clockwise, output turns counterclockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL5 or EL6
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"C" Series–Concentric Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 26-34 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

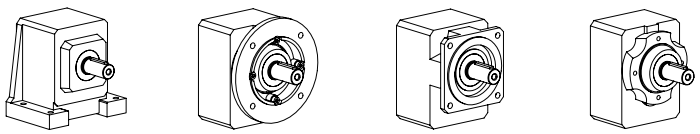
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash $\Delta\varphi$	Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
									Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	arcmins	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
C812/C813 with MT TriAdapt® Motor Adapter (Continued)																**Noise Level ≤ 67 dB(A)** [4]	
29,597	3,341	C813_0490 MT40	49.2	49914/1015	15.2	10	1,734	195.7	2,900	2,700	3,400	26,726	3,017	29,597	3,341	36,997	4,177
32,936	3,718	C813_0660 MT40	66.0	10620/161	14.0	10	1,764	199.2	2,900	2,700	3,400	29,099	3,285	37,466	4,230	46,832	5,287
34,401	3,884	C813_0780 MT40	78.1	54693/700	13.4	10	1,775	200.4	2,900	2,700	3,400	30,394	3,431	42,518	4,800	53,567	6,047
20,953	2,365	C813_0790 MT30	79.3	285619/3600	8.3	10	1,747	197.2	2,900	2,700	3,400	18,513	2,090	22,424	2,531	28,029	3,164
31,889	3,600	C813_0890 MT40	89.4	14400/161	13.9	10	1,782	201.2	2,900	2,700	3,400	31,889	3,600	36,672	4,140	63,501	7,169
24,905	2,812	C813_0910 MT30	90.8	18800/207	8.7	10	1,760	198.7	2,900	2,700	3,400	24,032	2,713	26,582	3,001	33,227	3,751
36,202	4,087	C813_1010 MT40	100.5	28143/280	12.9	10	1,786	201.7	2,900	2,700	3,400	31,985	3,611	42,518	4,800	65,171	7,357
31,889	3,600	C813_1060 MT40	105.9	3708/35	13.4	10	1,788	201.9	2,900	2,700	3,400	31,889	3,600	36,672	4,140	63,778	7,200
28,411	3,207	C813_1080 MT30	107.6	4841/45	8.2	10	1,772	200.1	2,900	2,700	3,400	25,102	2,834	30,405	3,432	38,006	4,291
37,204	4,200	C813_1300 MT40	129.5	58941/455	12.4	10	1,793	202.4	2,900	2,700	3,400	33,744	3,809	42,518	4,800	74,407	8,400
31,889	3,600	C813_1360 MT40	136.3	954/7	12.8	10	1,794	202.6	2,900	2,700	3,400	31,889	3,600	36,672	4,140	63,778	7,200
29,899	3,375	C813_1380 MT30	138.4	2491/18	7.6	10	1,784	201.5	2,900	2,700	3,400	26,416	2,982	36,672	4,140	46,238	5,220
31,889	3,600	C813_1760 MT40	175.6	15984/91	12.4	10	1,798	203.0	2,900	2,700	3,400	31,889	3,600	36,672	4,140	63,778	7,200
31,543	3,561	C813_1780 MT30	178.4	6956/39	7.3	10	1,792	202.3	2,900	2,700	3,400	27,868	3,146	36,672	4,140	56,370	6,364
31,889	3,600	C813_2090 MT40	208.9	19008/91	12.2	10	1,800	203.2	2,900	2,700	3,400	31,889	3,600	36,672	4,140	63,778	7,200
31,889	3,600	C813_2120 MT30	212.1	8272/39	7.1	10	1,795	202.7	2,900	2,700	3,400	29,035	3,278	36,672	4,140	63,778	7,200
31,889	3,600	C813_2660 MT40	265.7	1860/7	12.0	10	1,801	203.3	2,900	2,700	3,400	31,889	3,600	36,672	4,140	63,778	7,200
31,889	3,600	C813_2700 MT30	269.8	7285/27	6.9	10	1,799	203.0	2,900	2,700	3,400	30,280	3,418	36,672	4,140	63,778	7,200
C913 with MT TriAdapt® Motor Adapter																**Noise Level ≤ 73 dB(A)** [4]	
39,232	4,429	C913_0780 MT40	77.7	60939/784	15.8	10	3,374	380.9	2,800	2,600	3,300	35,070	3,959	44,280	4,999	55,351	6,249
52,907	5,973	C913_0900 MT40	90.2	55575/616	17.0	10	3,400	383.8	2,800	2,600	3,300	47,294	5,339	53,584	6,049	66,979	7,561
53,148	6,000	C913_1100 MT40	110.4	21645/196	15.6	10	3,426	386.7	2,800	2,600	3,300	49,826	5,625	57,577	6,500	78,641	8,878
53,148	6,000	C913_1390 MT40	138.9	66105/476	14.5	10	3,445	388.9	2,800	2,600	3,300	52,502	5,927	57,577	6,500	94,154	10,629
53,148	6,000	C913_1760 MT40	176.1	34515/196	13.6	10	3,458	390.3	2,800	2,600	3,300	53,148	6,000	57,577	6,500	106,296	12,000
53,148	6,000	C913_2150 MT40	215.4	3015/14	13.1	10	3,464	391.1	2,800	2,600	3,300	53,148	6,000	57,577	6,500	106,296	12,000

Motor Shaft

Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

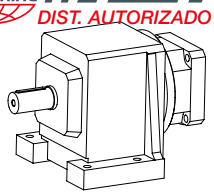
Housing Styles

N – Foot Mounted **F** – Round Flange **Q** – Square Flange **G** – Tapped Holes

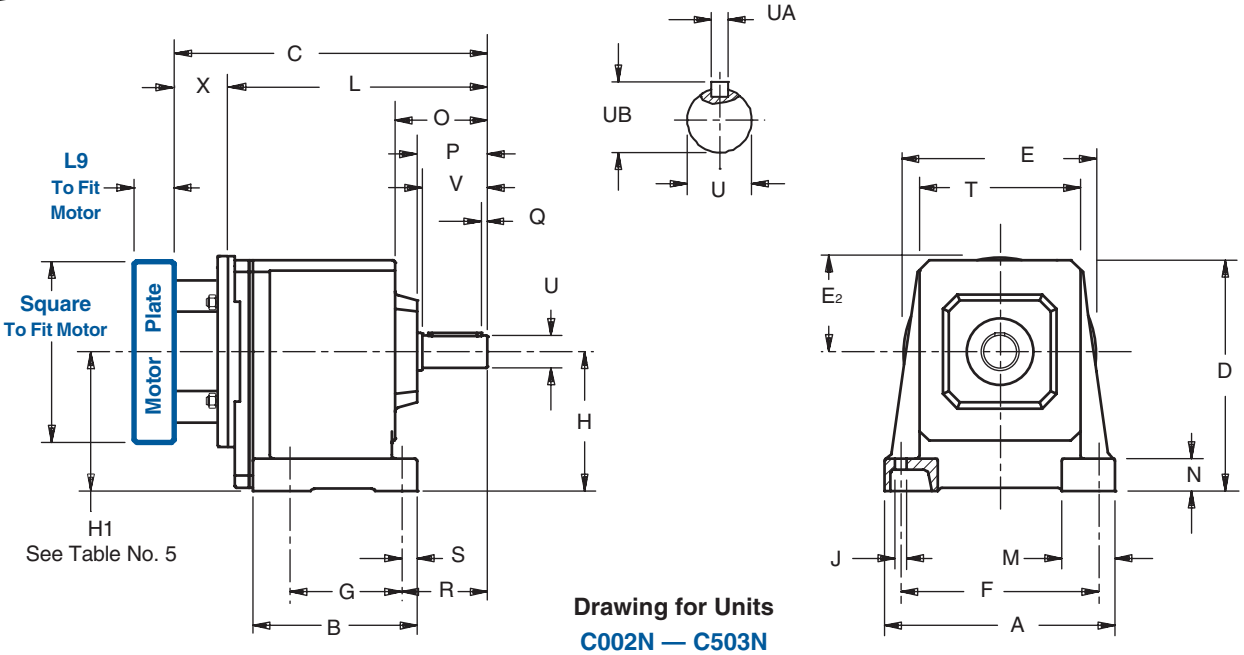


Contact Stober Drives for availability of "Q" housing style.

See page 84 for required ordering information and part number example.



"C" Series–Concentric Helical ServoFit® SMS Gearhead Dimensional Data



Drawing for Units
C002N — C503N

Table No. 1 **"C" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style**

Base Module	A	B	D	F	G	H	J	M	N	O	P	Q	R
C002	5.20	3.74	5.67	4.33	2.44	3.23	.28	1.38	.79	2.24	1.73	.16	2.17
C102/C103	6.93	4.65	6.97	5.91	2.76	4.02	.35	1.65	.98	2.72	2.13	.16	2.64
C202/C203	7.87	5.31	7.68	6.69	3.35	4.53[1)]	.43	1.97	1.18	3.39	2.56	.16	3.11
C302/C303	8.46	6.06	8.46	7.28	4.13	5.12[1)]	.43	1.97	1.18	3.35	2.56	.16	3.11
C402/C403	10.04	7.09	9.65	8.66	4.33	5.71	.55	2.36	1.38	4.17	3.39	.16	4.13
C502/C503	11.42	7.76	11.42	9.65	5.12	6.69	.71	2.76	1.57	4.21	3.39	.16	4.25
C612/C613	11.81	10.43	12.40	9.65	8.46	7.87[1)]	.71	2.95	1.57	6.02	4.17	.20	5.12
C712/C713	14.37	11.22	14.76	11.81	9.25	9.25[1)]	.71	3.54	1.97	7.28	5.00	.20	6.42
C812/C813	17.13	14.17	17.72	13.39	11.81	11.42	.87	3.74	2.17	8.58	5.83	.39	7.48
C913	20.08	16.14	20.87	15.75	13.39	13.39	1.02	4.33	2.36	10.08	7.01	.39	8.74

[1)] See Table No. 5

Table No. 2 *** Metric output available on request.**

Base Module	S	T	*U +.000/-.001	V	Z_1	UA – Key	UB
C002	.43	3.62	.750	1.57	—	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83
C102/C103	.51	4.88	1.000	1.97	—	$^1/_4 \times ^1/_4 \times 1^9/_{16}$	1.11
C202/C203	.55	5.43	1.250	2.36	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C302/C303	.55	5.91	1.250	2.36	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C402/C403	.75	6.89	1.625	3.15	—	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C502/C503	.87	7.56	1.625	3.15	—	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C612/C613	.98	6.97	2.125	3.94	6.57	$^1/_2 \times ^1/_2 \times 3^5/_{32}$	2.35
C712/C713	.98	7.56	2.375	4.72	7.91	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65
C812/C813	1.14	8.78	2.875	5.51	8.70	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21
C913	1.34	10.91	3.625	6.69	10.24	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01

Table No. 3 **"MT" Motor Plate Dimensions**

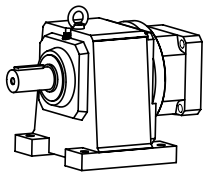
Motor Adapter	Motor Shaft D6 Max. [1)]		Motor Plate Thickness [2)] L9 ≥ L11 - X_1 ≥ X_2				Inches			Wt. lbs.
			X_1		X_2					
	mm	ins.	mm	inches	mm	inches	E	E_2	X	
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8
MT30	38	1.260	35	1.378	25	.984	7.87	3.94	2.36	12
MT40	48	1.890	44	1.732	33	1.299	9.84	4.92	3.50	18

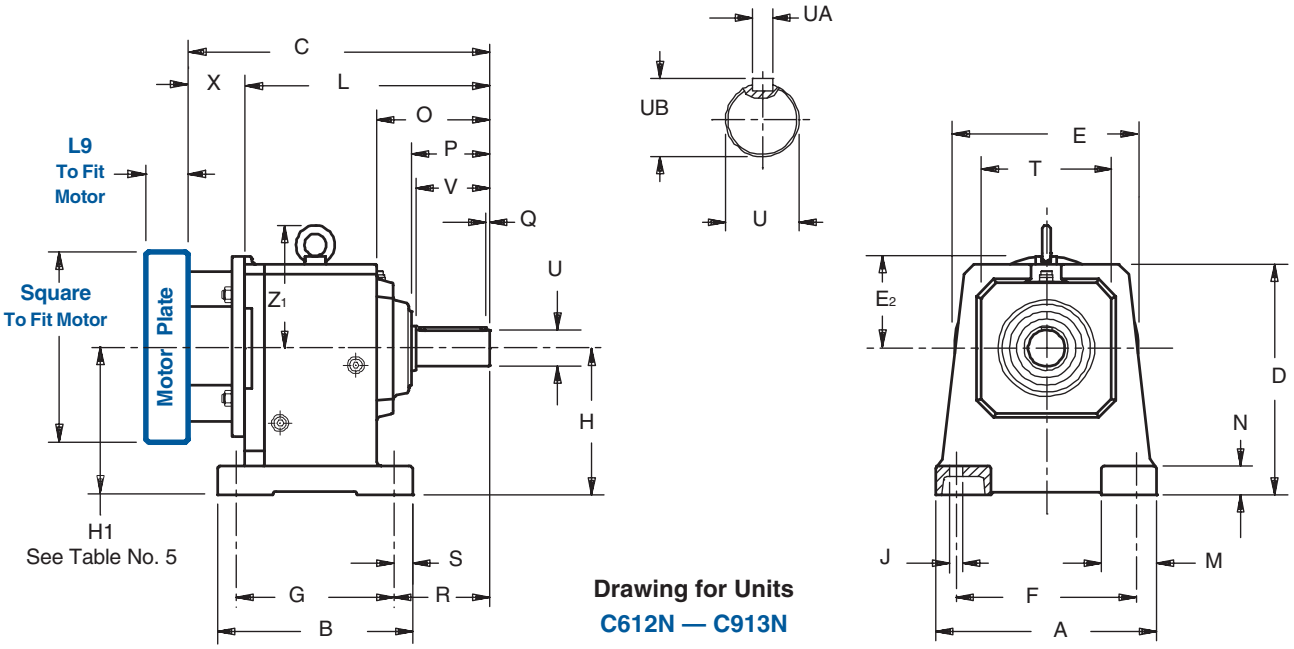
L11 is the motor shaft length.

[1)] If an adapter bushing is required it will be supplied as a component of the motor mounting plate.

[2)] Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Dimensional Data





Drawing for Units
C612N — C913N

Table No. 4

"C" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style

Base	MT10		MT20		MT30		MT40		Approx.
Module	C	L	C	L	C	L	C	L	Wt.(lbs.)
C002	7.63	6.06	8.19	6.22	—	—	—	—	18
C102	8.93	7.36	9.49	7.52	9.96	7.60	—	—	29
C103	10.39	8.82	—	—	—	—	—	—	34
C202	10.03	8.46	10.59	8.62	11.06	8.70	—	—	38
C203 [1]	11.49	9.92	12.28	10.31	—	—	—	—	45
C302	—	—	11.34	9.37	11.81	9.45	13.07	9.57	49
C303 [1]	12.24	10.67	13.03	11.06	—	—	—	—	56
C402	—	—	13.23	11.26	13.70	11.34	14.96	11.46	71
C403	—	—	14.92	12.95	—	—	—	—	78
C502	—	—	14.06	12.09	14.53	12.17	15.78	12.28	95
C503	—	—	15.75	13.78	—	—	—	—	111
C612 [1]	—	—	—	—	15.47	13.11	16.73	13.23	115
C613 [1]	—	—	16.73	14.76	17.91	15.55	—	—	159
C712	—	—	—	—	17.56	15.20	18.78	15.28	199
C713 [1]	—	—	—	—	19.96	17.60	—	—	221
C812	—	—	—	—	—	—	21.41	17.91	322
C813	—	—	—	—	22.60	20.24	24.21	20.71	342
C913	—		—	—	—	—	26.06	22.56	678

[1] See Table No. 5

Table No. 5

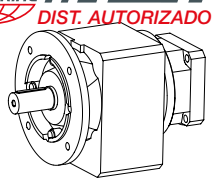
"C" Series – Input Dimension

Base	MT20	MT30	MT40
Module	H1	H1	H1
C203	3.09	–	–
C303	3.66	–	–
C612	–	7.63	7.63
C613	–	–	7.63
C713	–	–	10.00

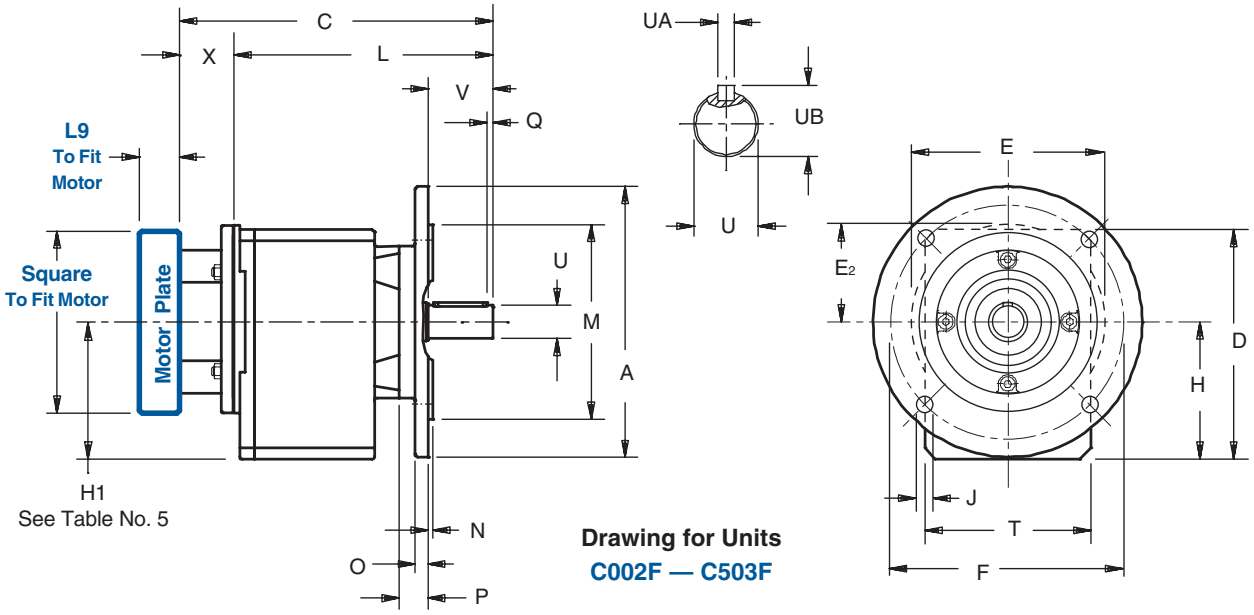
Units shown in Table 5 do not have a concentric input and output.

See pages 8-25 for SMS Reducer Selection Data and available ratios.
See pages 83-84 for lubrication and mounting position.
For approximate weight, add adapter weight from Table 3 and base module weight from Table 4.

Part No. Example
Foot Mounting with TriAdapt® Motor Adapter
C302N0620 MT10



"C" Series–Concentric Helical ServoFit® SMS Gearhead Dimensional Data



Drawing for Units
C002F — C503F

Table No. 1 "C" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style

Base Module	A	D	F	H	J	M	N	O	P	Q	T
C002	6.30	5.55	5.12	3.11	.35	4.331 +.001/-.0004	.12	.39	.71	.16	3.82
C102/C103	7.87	6.89	6.50	3.94	.43	5.118 +.001/-.0004	.14	.47	.83	.16	5.12
C202/C203	7.87	7.56	6.50	4.41 1)	.43	5.118 +.001/-.0004	.14	.47	1.06	.16	5.59
C302/C303	9.84	8.35	8.46	5.00 1)	.55	7.087 +.001/-.0004	.16	.47	1.06	.16	6.06
C402/C403	9.84	9.55	8.46	5.61	.55	7.087 +.001/-.0004	.16	.55	1.10	.16	7.01
C502/C503	11.81	11.26	10.43	6.54	.55	9.055 +.001/-.001	.16	.63	1.14	.16	7.68
C612/C613	11.81	11.97	10.43	7.44 1)	.55	9.055 +.001/-.001	.16	.67	1.42	.20	8.86
C712/C713	13.78	14.61	11.81	9.09 1)	.71	9.842 +.000/-.001	.20	.71	1.73	.20	10.43
C812/C813	15.75	17.52	13.78	11.22	.71	11.811 +.000/-.001	.20	.79	1.77	.39	12.20
C913	17.72	20.63	15.75 *	13.15	.71	13.780 +.000/-.001	.20	.91	1.97	.39	14.37

1) See Table No. 5
* C913 has 8 mounting holes (located 22.5° from horizontal) in the output flange instead of 4 as shown in the drawing.

Table No. 2 * Metric output available on request.

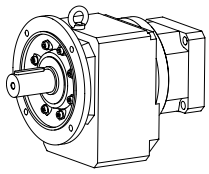
Base Module	*U +.000/-.001	V	UA	UB	Z_1
C002	.750	1.57	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83	—
C102/C103	1.000	1.97	$^1/_4 \times ^1/_4 \times 1^9/_{16}$	1.11	—
C202/C203	1.250	2.36	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36	—
C302/C303	1.250	2.36	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36	—
C402/C403	1.625	3.15	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79	—
C502/C503	1.625	3.15	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79	—
C612/C613	2.125	3.94	$^1/_2 \times ^1/_2 \times 3^5/_{32}$	2.35	6.57
C712/C713	2.375	4.72	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65	7.91
C812/C813	2.875	5.51	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21	8.70
C913	3.625	6.69	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01	10.24

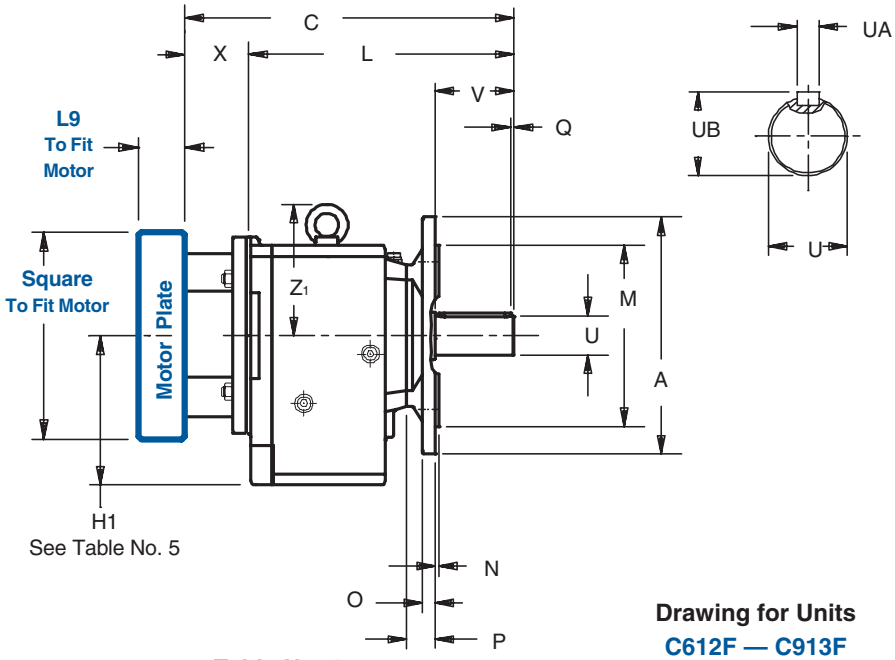
Table No. 3 "MT" Motor Plate Dimensions

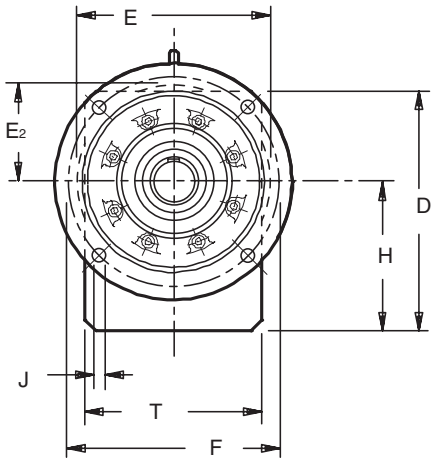
Motor Adapter	Motor Shaft D6 Max. 1)		Motor Plate Thickness 2) L9 ≥ L11 - X_1 ≥ X_2				Inches			Wt. lbs.
			X_1		X_2					
	mm	ins.	mm	inches	mm	inches	E	E_2	X	
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8
MT30	38	1.260	35	1.378	25	.984	7.87	3.94	2.36	12
MT40	48	1.890	44	1.732	33	1.299	9.84	4.92	3.50	18

L11 is the motor shaft length.
1) If an adapter bushing is required it will be supplied as a component of the motor mounting plate.
2) Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Dimensional Data







Drawing for Units
C612F — C913F

Table No. 4

"C" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style

Base	MT10		MT20		MT30		MT40		Approx.
Module	C	L	C	L	C	L	C	L	Wt.(lbs.)
C002	7.63	6.06	8.19	6.22	—	—	—	—	18
C102	8.93	7.36	9.49	7.52	9.96	7.60	—	—	29
C103	10.39	8.82	—	—	—	—	—	—	34
C202	10.03	8.46	10.59	8.62	11.06	8.70	—	—	38
C203 [1]	11.49	9.92	12.28	10.31	—	—	—	—	45
C302	—	—	11.34	9.37	11.81	9.45	13.07	9.57	49
C303 [1]	12.24	10.67	13.03	11.06	—	—	—	—	56
C402	—	—	13.23	11.26	13.70	11.34	14.96	11.46	71
C403	—	—	14.92	12.95	—	—	—	—	78
C502	—	—	14.06	12.09	14.53	12.17	15.78	12.28	95
C503	—	—	15.75	13.78	—	—	—	—	111
C612 [1]	—	—	—	—	15.47	13.11	16.73	13.23	115
C613 [1]	—	—	16.73	14.76	17.91	15.55	—	—	159
C712	—	—	—	—	17.56	15.20	18.78	15.28	199
C713 [1]	—	—	—	—	19.96	17.60	—	—	221
C812	—	—	—	—	—	—	21.41	17.91	322
C813	—	—	—	—	22.60	20.24	24.21	20.71	342
C913	—		—	—	—	—	26.06	22.56	678

[1] See Table No. 5

Table No. 5

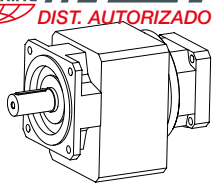
"C" Series – Input Dimension

Base	MT20	MT30	MT40
Module	H1	H1	H1
C203	2.97	–	–
C303	3.54	–	–
C612	–	7.44	7.44
C613	–	–	7.44
C713	–	–	9.84

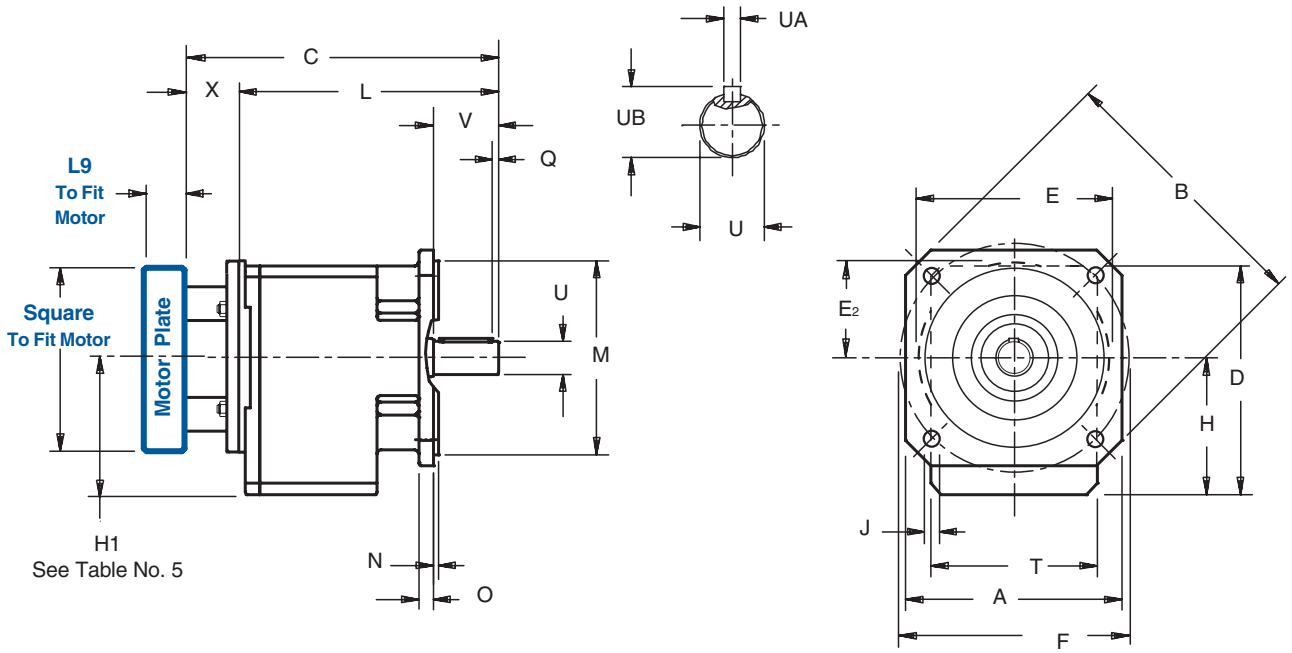
Units shown in Table 5 do not have a concentric input and output.

See pages 8-25 for SMS Reducer Selection Data and available ratios.
See pages 83-84 for lubrication and mounting position.
For approximate weight, add adapter weight from Table 3 and base module weight from Table 4.

Part No. Example
Round Flange with TriAdapt® Motor Adapter
C302F0620 MT10



"C" Series–Concentric Helical ServoFit® SMS Gearhead Dimensional Data



Drawing for Units
C002Q — C503Q

Table No. 1 **"C" Series – Square Flange Unit Dimensions (Inches) – "Q" Housing Style**

Base Module	A	B	D	F	H	J	M	N	O	Q	T
C002	4.88	6.30	5.55	5.12	3.11	.35	4.331 +.001/-.0004	.14	.35	.16	3.82
C102/C103	5.71	7.56	6.89	6.50	3.94	.43	5.118 +.001/-.0004	.14	.43	.16	5.12
C202/C203	5.71	7.56	7.56	6.50	4.41 [1)]	.43	5.118 +.001/-.0004	.14	.43	.16	5.59
C302/C303	7.87	9.84	8.35	8.46	5.00 [1)]	.55	7.087 +.001/-.0004	.16	.55	.16	6.06
C402/C403	7.87	9.84	9.55	8.46	5.61	.55	7.087 +.001/-.0004	.16	.55	.16	7.01
C502/C503	9.84	11.81	11.26	10.43	6.54	.55	9.055 +.001/-.001	.16	.63	.16	7.68

[1)]See Table No. 5

Table No. 2 *** Metric output available on request.**

Base Module	*U +.000/-.001	V	UA – Key	UB
C002	.750	1.57	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83
C102/C103	1.000	1.97	$^1/_4 \times ^1/_4 \times 1^9/_{16}$	1.11
C202/C203	1.250	2.36	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C302/C303	1.250	2.36	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C402/C403	1.625	3.15	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C502/C503	1.625	3.15	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79

Contact Stober Drives for availability of "Q" housing style.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Dimensional Data

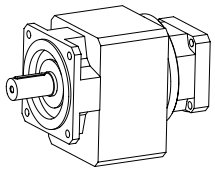


Table No. 3 "MT" Motor Plate Dimensions

Motor Adapter	Motor Shaft D6 Max. [1]		Motor Plate Thickness [2] L9 ≥ L11 - X_1 ≥ X_2				Inches			Wt.
			X_1		X_2					
	mm	ins.	mm	inches	mm	inches	E	E_2	X	lbs.
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8
MT30	38	1.260	35	1.378	25	.984	7.87	3.94	2.36	12
MT40	48	1.890	44	1.732	33	1.299	9.84	4.92	3.50	18

L11 is the motor shaft length.
[1] If an adapter bushing is required it will be supplied as a component of the motor mounting plate.
[2] Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.

Table No. 4
"C" Series – Square Flange Unit Dimensions (Inches) – "Q" Housing Style

Base Module	MT10		MT20		MT30		MT40		Approx.
	C	L	C	L	C	L	C	L	Wt.(lbs.)
C002	7.63	6.06	8.19	6.22	—	—	—	—	18
C102	8.93	7.36	9.49	7.52	9.96	7.60	—	—	29
C103	10.39	8.82	—	—	—	—	—	—	34
C202	10.03	8.46	10.59	8.62	11.06	8.70	—	—	38
C203 [1]	11.49	9.92	12.28	10.31	—	—	—	—	45
C302	—	—	11.34	9.37	11.81	9.45	13.07	9.57	49
C303 [1]	12.24	10.67	13.03	11.06	—	—	—	—	56
C402	—	—	13.23	11.26	13.70	11.34	14.96	11.46	71
C403	—	—	14.92	12.95	—	—	—	—	78
C502	—	—	14.06	12.09	14.53	12.17	15.78	12.28	95
C503	—	—	15.75	13.78	—	—	—	—	111

[1] See Table No. 5

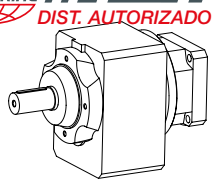
Table No. 5
Input Dimension (Inches)

Base Module	MT20
	H1
C203	2.97
C303	3.54

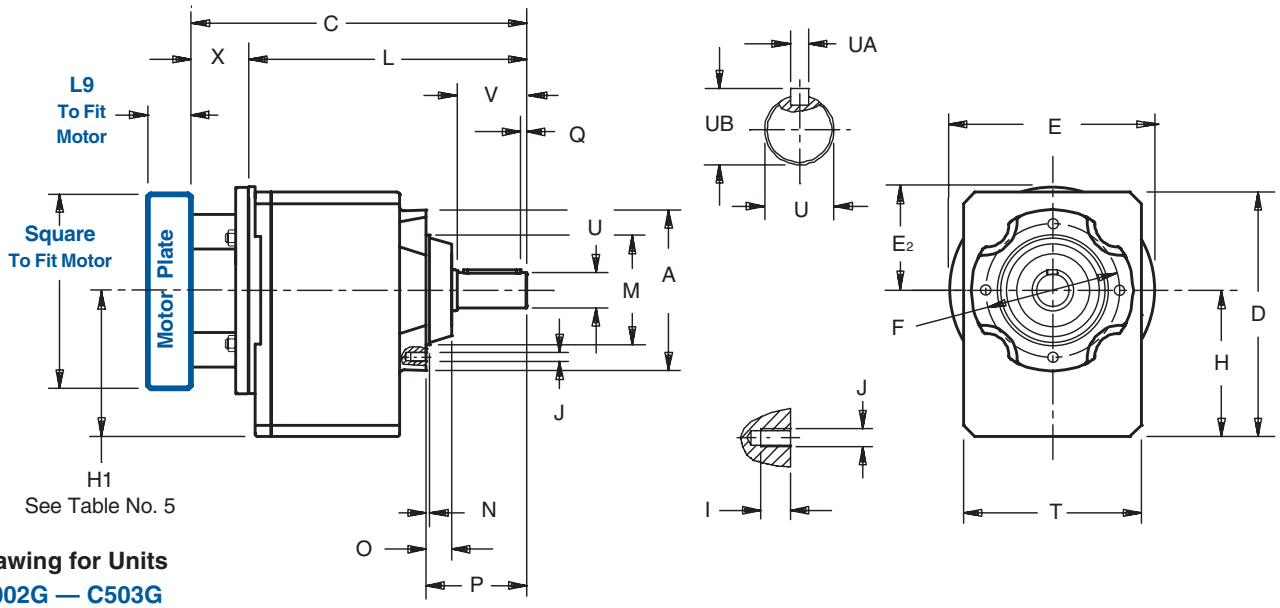
Units shown in Table 5 do not have a concentric input and output.

See pages 8-25 for SMS Reducer Selection Data and available ratios.
See pages 83-84 for lubrication and mounting position.
For approximate weight, add adapter weight from Table 3 and base module weight from Table 4.

Part No. Example
Square Flange with TriAdapt® Motor Adapter
C302Q0620 MT20



"C" Series–Concentric Helical ServoFit® SMS Gearhead Dimensional Data



Drawing for Units
C002G — C503G

Table No. 1 **"C" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style**

Base Module	A	D	F	H	I	J	M	N	O	P	Q	T
C002	3.43	5.55	2.95	3.11	.39	4-M6	2.165 +.001/-.0003	.12	.55	2.28	.16	3.82
C102/C103	4.72	6.89	3.94	3.94	.51	4-M6	3.150 +.001/-.0003	.12	.67	2.80	.16	5.12
C202/C203	5.51	7.56	4.53	4.41 [1]	.51	4-M8	3.740 +.001/-.0004	.12	.87	3.43	.16	5.59
C302/C303	5.51	8.35	4.53	5.00 [1]	.51	4-M8	3.740 +.001/-.0004	.12	.87	3.43	.16	6.06
C402/C403	6.30	9.55	5.12	5.61	.63	4-M10	4.331 +.001/-.0004	.14	.87	4.25	.16	7.01
C502/C503	7.56	11.26	6.50	6.54	.63	8-M10[2]	5.118 +.001/-.0004	.14	.91	4.29	.16	7.68
C612/C613	7.09	11.97	6.50	7.44 [1]	.63	8-M10	5.512 +.001/-.0004	.20	1.18	5.35	.20	8.86
C712/C713	7.68	14.61	7.28	9.09 [1]	.75	8-M12	6.102 +.001/-.0004	.31	1.46	6.46	.20	10.43
C812/C813	8.90	17.52	8.46	11.22	.75	8-M12	7.283 +.001/-.001	.20	1.46	7.28	.39	12.20
C913	11.02	20.63	10.43	13.15	1.02	8-M16	9.055 +.001/-.001	.20	1.65	8.66	.39	14.37

[1] See Table No. 5
[2] C502/C503 has 8 holes instead of 4 as shown in the drawing.

Table No. 2 *** Metric output available on request.**

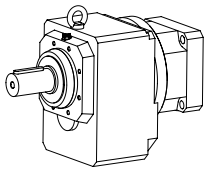
Base Module	*U +.000/-.001	V	Z_1	UA–Key	UB
C002	.750	1.57	—	$^3/_{16} \times ^3/_{16} \times 1^7/_{32}$	.83
C102/C103	1.000	1.97	—	$^1/_4 \times ^1/_4 \times 1^9/_{16}$	1.11
C202/C203	1.250	2.36	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C302/C303	1.250	2.36	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
C402/C403	1.625	3.15	—	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C502/C503	1.625	3.15	—	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
C612/C613	2.125	3.94	6.57	$^1/_2 \times ^1/_2 \times 3^5/_{32}$	2.35
C712/C713	2.375	4.72	7.91	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65
C812/C813	2.875	5.51	8.70	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21
C913	3.625	6.69	10.24	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01

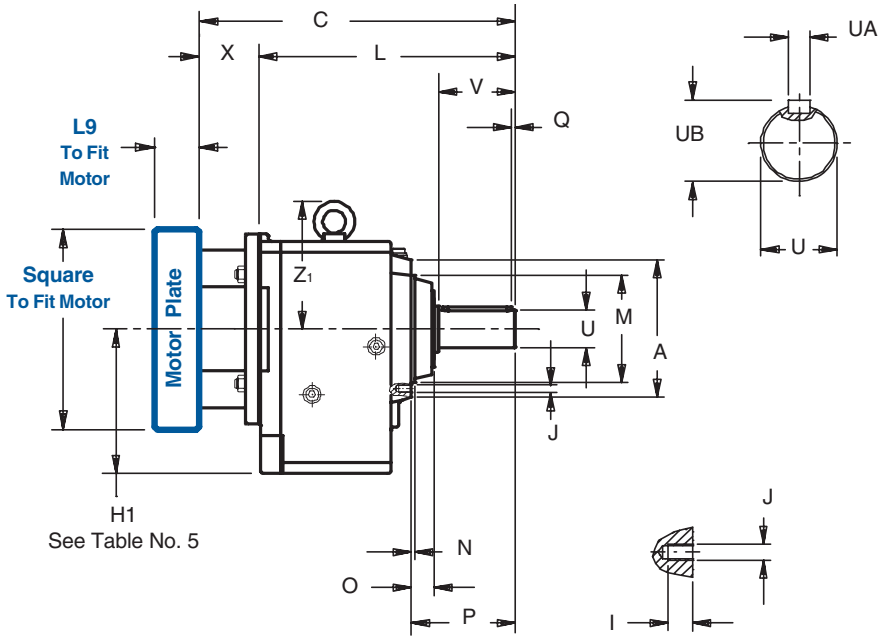
Table No. 3 **"MT" Motor Plate Dimensions**

Motor Adapter	Motor Shaft D6 Max. [1]		Motor Plate Thickness [2] L9 ≥ L11 - X_1 ≥ X_2				Inches			Wt. lbs.
			X_1		X_2					
	mm	ins.	mm	inches	mm	inches	E	E_2	X	
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8
MT30	38	1.260	35	1.378	25	.984	7.87	3.94	2.36	12
MT40	48	1.890	44	1.732	33	1.299	9.84	4.92	3.50	18

L11 is the motor shaft length.
[1] If an adapter bushing is required it will be supplied as a component of the motor mounting plate.
[2] Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.

"C" Series–Concentric Helical ServoFit® SMS Gearhead Dimensional Data





Drawing for Units
C612G — C913G

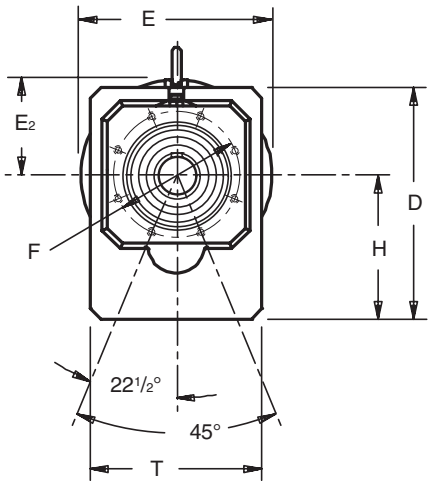


Table No. 4

"C" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

Base	MT10		MT20		MT30		MT40		Approx.
Module	C	L	C	L	C	L	C	L	Wt.(lbs.)
C002	7.63	6.06	8.19	6.22	—	—	—	—	18
C102	8.93	7.36	9.49	7.52	9.96	7.60	—	—	29
C103	10.39	8.82	—	—	—	—	—	—	34
C202	10.03	8.46	10.59	8.62	11.06	8.70	—	—	38
C203 [1]	11.49	9.92	12.28	10.31	—	—	—	—	45
C302	—	—	11.34	9.37	11.81	9.45	13.07	9.57	49
C303 [1]	12.24	10.67	13.03	11.06	—	—	—	—	56
C402	—	—	13.23	11.26	13.70	11.34	14.96	11.46	71
C403	—	—	14.92	12.95	—	—	—	—	78
C502	—	—	14.06	12.09	14.53	12.17	15.78	12.28	95
C503	—	—	15.75	13.78	—	—	—	—	111
C612 [1]	—	—	—	—	15.47	13.11	16.73	13.23	115
C613 [1]	—	—	16.73	14.76	17.91	15.55	—	—	159
C712	—	—	—	—	17.56	15.20	18.78	15.28	199
C713 [1]	—	—	—	—	19.96	17.60	—	—	221
C812	—	—	—	—	—	—	21.41	17.91	322
C813	—	—	—	—	22.60	20.24	24.21	20.71	342
C913	—		—	—	—	—	26.06	22.56	678

[1] See Table No. 5

Table No. 5

"C" Series – Input Dimension

Base	MT20	MT30	MT40
Module	H1	H1	H1
C203	2.97	–	–
C303	3.54	–	–
C612	–	7.44	7.44
C613	–	–	7.44
C713	–	–	9.84

Units shown in Table 5 do not have a concentric input and output.

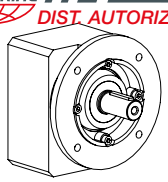
See pages 8-25 for SMS Reducer Selection Data and available ratios.
See pages 83-84 for lubrication and mounting position.
For approximate weight, add adapter weight from Table 3 and base module weight from Table 4.

Part No. Example

Tapped Holes Housing with TriAdapt® Motor Adapter

C302G0620 MT20

See web site for drawings.



"C" Series — Concentric Helical ServoFit® SMS Gearhead Optional Round Flanges

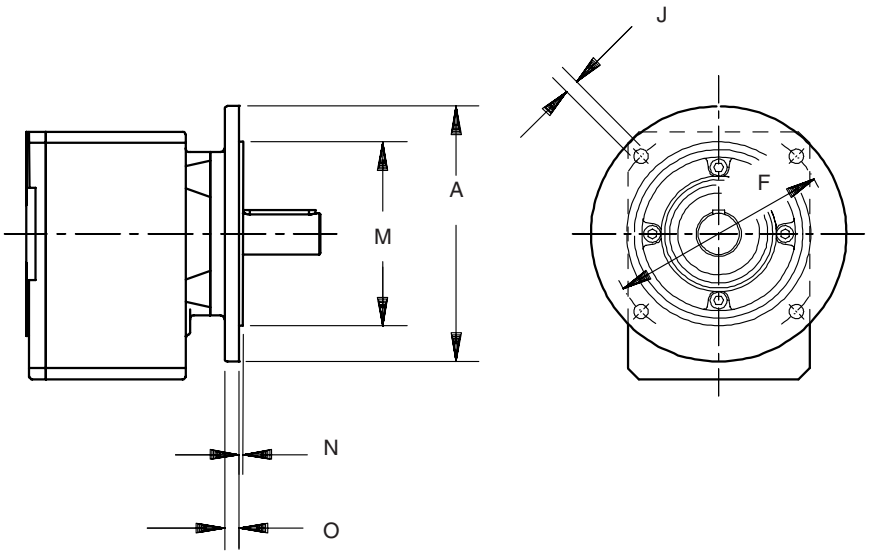


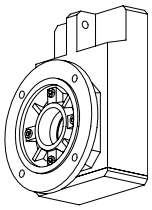
Table No. 1
"C" Series — Optional Flange Dimensions (Inches)

Base Module	Flange Designation	A	F	J	M	N	O
C0	120	4.724	3.93	.28	3.150 +.001/-.0004	.12	.39
	140	5.512	4.53	.35	3.740 +.001/-.0004	.12	.39
	160 *	6.300	5.12	.35	4.331 +.001/-.0004	.12	.39
C1	140	5.512	4.53	.35	3.740 +.001/-.0004	.14	.32
	160	6.300	5.12	.35	4.331 +.001/-.0004	.14	.39
	200 *	7.874	6.50	.43	5.118 +.001/-.0004	.14	.47
C2	160	6.300	5.12	.35	4.331 +.001/-.0004	.14	.39
	200 *	7.874	6.50	.43	5.118 +.001/-.0004	.14	.47
	250	9.843	8.46	.55	7.087 +.001/-.0004	.16	.47
C3	160	6.300	5.12	.35	4.331 +.001/-.0004	.14	.39
	200	7.874	6.50	.43	5.118 +.001/-.0004	.14	.47
	250 *	9.843	8.46	.55	7.087 +.001/-.0004	.16	.47
C4	200	7.874	6.50	.43	5.118 +.001/-.0004	.16	.55
	250 *	9.843	8.46	.55	7.087 +.001/-.0004	.16	.55
	300	11.811	10.43	.55	9.055 +.001/-.001	.16	.55
C5	250	9.843	8.46	.55	7.087 +.001/-.0004	.16	.55
	300 *	11.811	10.43	.55	9.055 +.001/-.001	.16	.63
C6	300 *	11.811	10.43	.55	9.055 +.001/-.001	.16	.67
C7	350 *	13.780	11.81	.71	9.842 +.000/-.001	.20	.71
C8	350	13.780	11.81	.71	9.842 +.000/-.001	.20	.71
	400 *	15.748	13.78	.71	11.811 +.000/-.001	.20	.79
	450	17.717	15.75	.71	13.780 +.000/-.001	.20	.79
C9	450 *	17.717	15.75	.71	13.780 +.000/-.001	.20	.91

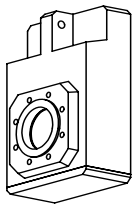
* This is the standard flange diameter.
The standard flange is shipped unless otherwise specified.

"F" Series–Offset Helical ServoFit® SMS Gearhead

Housing Styles:

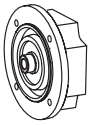


Style F, Round Flange

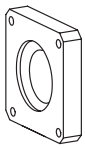


Style G, Tapped Holes

TriAdapt® Motor Adapter Input:

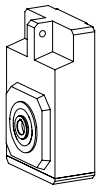


MT
Motor Adapter

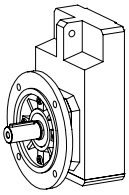


Motor Plate
to fit any servo motor

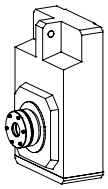
Output Options:



Type A
Hollow



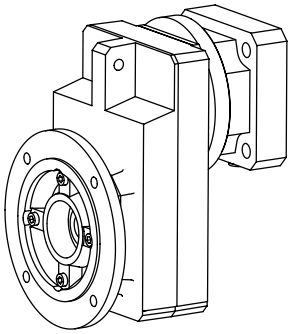
Type V
Solid



Type W
Wobble Free Bushing
See Page 45

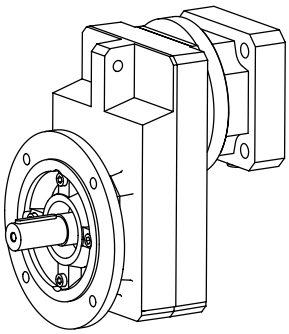
Gearhead Configurations:

Round Flange – Hollow



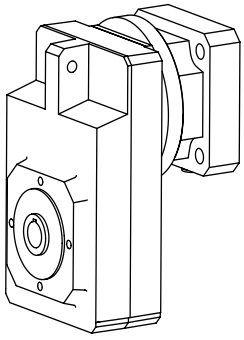
Style AF
Hollow Output
See Page 42

Round Flange – Solid



Style VF
Solid Output
See Page 43

Tapped Holes



Style AG
Hollow Output
See Page 44

Accessories:

Rubber Buffer for Mounting Torque Arm
See Page 46

"F" Series–Offset Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 42-46 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
										Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
F102 with MT TriAdapt® Motor Adapter																	**Noise Level ≤ 55 dB(A) [4]**	
396	45	F102_0043 MT10	4.3	56/13	2.1	11/8		35	4.0	3,500	3,000	4,000	396	45	396	45	496	56
539	61	F102_0043 MT20	4.3	56/13	2.7	11/8		37	4.1	3,500	3,000	4,000	448	51	746	84	933	105
563	64	F102_0065 MT10	6.5	84/13	1.4	11/8		45	5.1	3,500	3,000	4,000	512	58	563	64	704	79
617	70	F102_0065 MT20	6.5	84/13	2.0	11/8		46	5.2	3,500	3,000	4,000	512	58	930	105	1,326	150
613	69	F102_0072 MT10	7.2	322/45	1.2	11/8		47	5.3	4,000	3,600	4,500	507	57	613	69	767	87
639	72	F102_0072 MT20	7.2	322/45	1.8	11/8		48	5.4	3,500	3,500	4,500	507	57	930	105	1,444	163
688	78	F102_0089 MT10	8.9	1029/115	1.0	11/8		50	5.7	4,000	3,600	4,500	546	62	737	83	921	104
688	78	F102_0089 MT20	8.9	1029/115	1.6	11/8		51	5.8	3,500	3,500	4,500	546	62	930	105	1,734	196
735	83	F102_0110 MT10	10.9	273/25	0.9	11/8		53	5.9	4,000	4,000	4,500	584	66	868	98	1,085	123
735	83	F102_0110 MT20	10.9	273/25	1.5	11/8		53	6.0	3,500	3,500	4,500	584	66	930	105	1,772	200
791	89	F102_0135 MT10	13.6	231/17	0.8	11/8		54	6.1	4,000	4,000	4,500	628	71	930	105	1,297	146
791	89	F102_0135 MT20	13.6	231/17	1.4	11/8		55	6.2	3,500	3,500	4,500	628	71	930	105	1,772	200
876	99	F102_0185 MT10	18.5	1495/81	0.9	11/6		66	7.4	4,000	3,600	4,500	695	78	1,063	120	1,978	223
876	99	F102_0185 MT20	18.5	1495/81	1.5	11/6		66	7.5	3,500	3,500	4,500	695	78	1,063	120	2,126	240
944	107	F102_0230 MT10	23.1	3185/138	0.8	11/6		67	7.5	4,000	3,600	4,500	749	85	1,063	120	2,126	240
944	107	F102_0230 MT20	23.1	3185/138	1.4	11/6		67	7.6	3,500	3,500	4,500	749	85	1,063	120	2,126	240
1,009	114	F102_0280 MT10	28.2	169/6	0.8	11/6		67	7.6	4,000	4,000	4,500	801	90	1,063	120	2,126	240
1,009	114	F102_0280 MT20	28.2	169/6	1.4	11/6		67	7.6	3,500	3,500	4,500	801	90	1,063	120	2,126	240
1,063	120	F102_0350 MT10	35.0	3575/102	0.7	11/6		68	7.7	4,000	4,000	4,500	861	97	1,063	120	2,126	240
1,063	120	F102_0350 MT20	35.0	3575/102	1.3	11/6		68	7.7	3,500	3,500	4,500	861	97	1,063	120	2,126	240
1,063	120	F102_0460 MT10	46.4	325/7	0.7	11/6		68	7.7	4,000	4,000	4,500	946	107	1,063	120	2,126	240
1,063	120	F102_0460 MT20	46.4	325/7	1.3	11/6		68	7.7	3,500	3,500	4,500	946	107	1,063	120	2,126	240
1,063	120	F102_0560 MT10	56.0	2015/36	0.7	11/6		68	7.7	4,000	4,000	4,500	1,006	114	1,063	120	2,126	240
1,063	120	F102_0560 MT20	56.0	2015/36	1.3	11/6		68	7.7	3,500	3,500	4,500	1,006	114	1,063	120	2,126	240
1,063	120	F102_0700 MT10	70.1	1261/18	0.6	11/6		68	7.7	4,000	4,000	4,500	1,063	120	1,063	120	2,126	240
1,063	120	F102_0700 MT20	70.1	1261/18	1.2	11/6		68	7.7	3,500	3,500	4,500	1,063	120	1,063	120	2,126	240
1,063	120	F102_0940 MT10	93.6	7865/84	0.6	11/6		68	7.7	4,000	4,000	4,500	1,063	120	1,063	120	2,126	240
1,063	120	F102_1120 MT10	111.9	2015/18	0.6	11/6		68	7.7	4,000	4,000	4,500	1,063	120	1,063	120	2,126	240
1,063	120	F102_1400 MT10	139.8	559/4	0.6	11/6		69	7.7	4,000	4,000	4,500	1,063	120	1,063	120	2,126	240
F202/F203 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 53 dB(A) [4]**	
452	51	F202_0047 MT10	4.7	2616/559	4.7	11/8		60	6.8	3,100	2,700	3,600	452	51	452	51	564	64
1,103	125	F202_0047 MT20	4.7	2616/559	5.3	11/8		64	7.2	3,100	2,700	3,600	953	108	1,769	200	2,495	282
1,103	125	F202_0047 MT30	4.7	2616/559	10.1	11/8		80	9.1	3,100	2,700	3,600	953	108	1,860	210	2,495	282
1,168	132	F202_0056 MT20	5.6	5341/962	4.2	11/8		75	8.5	3,100	2,700	3,600	1,009	114	1,860	210	2,921	330
1,168	132	F202_0056 MT30	5.6	5341/962	9.0	11/8		91	10.3	3,100	2,700	3,600	1,009	114	1,860	210	2,921	330
653	74	F202_0072 MT10	7.2	5777/806	2.5	11/8		89	10.0	3,600	3,200	4,100	653	74	653	74	816	92
1,272	144	F202_0072 MT20	7.2	5777/806	3.1	11/8		92	10.4	3,500	3,200	4,100	1,046	118	1,860	210	3,543	400
1,272	144	F202_0072 MT30	7.2	5777/806	7.9	11/8		106	11.9	3,500	3,200	4,000	1,046	118	1,860	210	3,543	400

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A) Measured at 1 meter distance with 3000 RPM input

DIRECTION OF ROTATION:

2 Stage units (F102 through F602)
If input turns clockwise, output turns clockwise.

3 Stage units (F203 through F603)
If input turns clockwise, output turns counterclockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL5 or EL6
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"F" Series–Offset Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 42-46 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

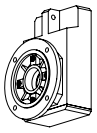
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
										Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
F202/F203 with MT TriAdapt® Motor Adapter (Continued)																	**Noise Level ≤ 53 dB(A) [4]**	
793	89	F202_0090 MT10	9.0	3161/351	1.9	11/8		102	11.5	3,600	3,200	4,100	793	89	793	89	991	112
1,372	155	F202_0090 MT20	9.0	3161/351	2.5	11/8		105	11.8	3,500	3,200	4,100	1,128	127	1,860	210	3,543	400
1,372	155	F202_0090 MT30	9.0	3161/351	7.3	11/8		115	13.0	3,500	3,200	4,000	1,128	127	1,860	210	3,543	400
917	104	F202_0110 MT10	10.8	7303/676	1.5	11/8		111	12.5	3,800	3,600	4,300	917	104	917	104	1,147	129
1,458	165	F202_0110 MT20	10.8	7303/676	2.1	11/8		113	12.8	3,500	3,500	4,300	1,177	133	1,860	210	3,543	400
1,458	165	F202_0110 MT30	10.8	7303/676	6.9	11/8		121	13.7	3,500	3,500	4,000	1,177	133	1,860	210	3,543	400
1,112	126	F202_0135 MT10	13.6	109/8	1.2	11/8		120	13.5	3,800	3,600	4,300	1,112	126	1,112	126	1,391	157
1,576	178	F202_0135 MT20	13.6	109/8	1.8	11/8		121	13.7	3,500	3,500	4,300	1,272	144	1,860	210	3,543	400
1,576	178	F202_0135 MT30	13.6	109/8	6.6	11/8		127	14.3	3,500	3,500	4,000	1,272	144	1,860	210	3,543	400
1,699	192	F202_0185 MT10	18.7	6360/341	1.5	11/6		145	16.4	3,600	3,200	4,100	1,438	162	1,699	192	2,124	240
1,749	197	F202_0185 MT20	18.7	6360/341	2.1	11/6		146	16.5	3,500	3,200	4,100	1,438	162	2,392	270	4,252	480
1,749	197	F202_0185 MT30	18.7	6360/341	6.9	11/6		151	17.0	3,500	3,200	4,000	1,438	162	2,392	270	4,252	480
1,888	213	F202_0230 MT10	23.4	2320/99	1.3	11/6		150	16.9	3,600	3,200	4,100	1,552	175	2,062	233	2,578	291
1,888	213	F202_0230 MT20	23.4	2320/99	1.9	11/6		151	17.0	3,500	3,200	4,100	1,552	175	2,392	270	4,252	480
1,888	213	F202_0230 MT30	23.4	2320/99	6.7	11/6		154	17.3	3,500	3,200	4,000	1,552	175	2,392	270	4,252	480
2,006	226	F202_0280 MT10	28.1	4020/143	1.1	11/6		152	17.2	3,800	3,600	4,300	1,619	183	2,387	269	2,984	337
2,006	226	F202_0280 MT20	28.1	4020/143	1.7	11/6		153	17.3	3,500	3,500	4,300	1,619	183	2,392	270	4,252	480
2,006	226	F202_0280 MT30	28.1	4020/143	6.5	11/6		155	17.5	3,500	3,500	4,000	1,619	183	2,392	270	4,252	480
2,126	240	F202_0350 MT10	35.5	390/11	1.0	11/6		155	17.5	3,800	3,600	4,300	1,750	198	2,392	270	3,618	408
2,126	240	F202_0350 MT20	35.5	390/11	1.6	11/6		155	17.5	3,500	3,500	4,300	1,750	198	2,392	270	4,252	480
2,126	240	F202_0350 MT30	35.5	390/11	6.4	11/6		156	17.7	3,500	3,500	4,000	1,750	198	2,392	270	4,252	480
2,126	240	F202_0470 MT10	47.0	1035/22	0.8	11/6		156	17.7	4,000	4,000	4,500	1,890	213	2,392	270	4,252	480
2,126	240	F202_0470 MT20	47.0	1035/22	1.4	11/6		157	17.7	3,500	3,500	4,500	1,890	213	2,392	270	4,252	480
2,126	240	F202_0470 MT30	47.0	1035/22	6.2	11/6		157	17.8	3,500	3,500	4,000	1,890	213	2,392	270	4,252	480
2,126	240	F202_0570 MT10	56.7	624/11	0.8	11/6		157	17.7	4,000	4,000	4,500	2,012	227	2,392	270	4,252	480
2,126	240	F202_0570 MT20	56.7	624/11	1.4	11/6		157	17.8	3,500	3,500	4,500	2,012	227	2,392	270	4,252	480
2,126	240	F202_0570 MT30	56.7	624/11	6.2	11/6		158	17.8	3,500	3,500	4,000	2,012	227	2,392	270	4,252	480
2,126	240	F202_0700 MT10	70.1	5400/77	0.7	11/6		158	17.8	4,000	4,000	4,500	2,126	240	2,392	270	4,252	480
2,126	240	F202_0700 MT20	70.1	5400/77	1.3	11/6		158	17.8	3,500	3,500	4,500	2,126	240	2,392	270	4,252	480
2,126	240	F202_0700 MT30	70.1	5400/77	6.1	11/6		158	17.9	3,500	3,500	4,000	2,126	240	2,392	270	4,252	480
2,126	240	F202_0940 MT10	93.8	1032/11	0.7	11/6		158	17.9	4,000	4,000	4,500	2,126	240	2,392	270	4,252	480
2,126	240	F202_0940 MT20	93.8	1032/11	1.3	11/6		158	17.9	3,500	3,500	4,500	2,126	240	2,392	270	4,252	480
2,126	240	F202_1130 MT10	112.7	1240/11	0.7	11/6		158	17.9	4,000	4,000	4,500	2,126	240	2,392	270	4,252	480
2,126	240	F202_1410 MT10	140.9	1550/11	0.6	11/6		158	17.9	4,000	4,000	4,500	2,126	240	2,392	270	4,252	480
2,126	240	F203_1840 MT10	184.3	16215/88	0.7	11/7		159	17.9	4,000	4,000	4,500	2,126	240	2,392	270	4,252	480
2,126	240	F203_2220 MT10	222.2	2444/11	0.7	11/7		159	17.9	4,000	4,000	4,500	2,126	240	2,392	270	4,252	480
2,126	240	F203_2750 MT10	274.7	21150/77	0.7	11/7		159	17.9	4,000	4,000	4,500	2,126	240	2,392	270	4,252	480
2,126	240	F203_3670 MT10	367.5	4042/11	0.7	11/7		159	17.9	4,000	4,000	4,500	2,126	240	2,392	270	4,252	480
2,126	240	F203_4420 MT10	441.5	14570/33	0.6	11/7		159	17.9	4,000	4,000	4,500	2,126	240	2,392	270	4,252	480
2,126	240	F203_5520 MT10	551.9	36425/66	0.6	11/7		159	17.9	4,000	4,000	4,500	2,126	240	2,392	270	4,252	480

Motor Shaft

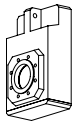
Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

F – Round Flange



G – Tapped Holes



The "F" Housing Style is available as Hollow (A) or Solid (V) Output.
"G" style is Hollow (A) or Bushing (W).

See page 85 for required ordering information and part number example.

"F" Series–Offset Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 42-46 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
													Nominal [2] $T_{2N} \leq n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	Continuous n_{1DBH}		Cyclic n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
F302/F303 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 53 dB(A)** [4]	
1,596	180	F302_0046 MT20	4.6	4992/1075	9.4	11/8		71	8.0	3,000	2,600	3,500	1,596	180	1,756	198	2,576	291
1,832	207	F302_0046 MT30	4.6	4992/1075	14.2	11/8		92	10.4	3,000	2,600	3,500	1,600	181	3,094	349	5,758	650
1,963	222	F302_0057 MT20	5.7	143/25	6.9	11/8		89	10.1	3,000	2,600	3,500	1,715	194	2,163	244	3,069	346
1,963	222	F302_0057 MT30	5.7	143/25	11.7	11/8		111	12.5	3,000	2,600	3,500	1,715	194	2,455	277	3,069	346
2,117	239	F302_0072 MT20	7.2	208/29	5.1	11/8		109	12.3	3,500	3,100	4,000	1,757	198	2,711	306	3,741	422
2,117	239	F302_0072 MT30	7.2	208/29	9.9	11/8		129	14.5	3,500	3,100	4,000	1,757	198	2,992	338	3,741	422
2,282	258	F302_0090 MT20	9.0	5616/625	3.8	11/8		128	14.4	3,500	3,100	4,000	1,894	214	3,100	350	4,516	510
2,282	258	F302_0090 MT30	9.0	5616/625	8.6	11/8		144	16.2	3,500	3,100	4,000	1,894	214	3,100	350	4,516	510
2,426	274	F302_0110 MT20	10.8	1456/135	3.1	11/8		140	15.8	3,500	3,500	4,200	1,976	223	3,100	350	5,225	590
2,426	274	F302_0110 MT30	10.8	1456/135	7.9	11/8		153	17.3	3,500	3,500	4,000	1,976	223	3,100	350	5,225	590
1,127	127	F302_0135 MT10	13.4	7696/575	1.9	11/8		149	16.9	3,700	3,500	4,200	1,127	127	1,127	127	1,409	159
2,607	294	F302_0135 MT20	13.4	7696/575	2.5	11/8		152	17.2	3,500	3,500	4,200	2,123	240	3,100	350	5,758	650
2,607	294	F302_0135 MT30	13.4	7696/575	7.3	11/8		162	18.3	3,500	3,500	4,000	2,123	240	3,100	350	5,758	650
2,918	329	F302_0190 MT20	18.8	4900/261	3.1	11/6		175	19.8	3,500	3,100	4,000	2,421	273	3,986	450	7,086	800
2,918	329	F302_0190 MT30	18.8	4900/261	7.9	11/6		182	20.5	3,500	3,100	4,000	2,421	273	3,986	450	7,086	800
3,146	355	F302_0240 MT20	23.5	588/25	2.6	11/6		182	20.5	3,500	3,100	4,000	2,610	295	3,986	450	7,086	800
3,146	355	F302_0240 MT30	23.5	588/25	7.4	11/6		186	21.0	3,500	3,100	4,000	2,610	295	3,986	450	7,086	800
3,343	377	F302_0280 MT20	28.2	6860/243	2.2	11/6		185	20.9	3,500	3,500	4,200	2,723	307	3,986	450	7,086	800
3,343	377	F302_0280 MT30	28.2	6860/243	7.0	11/6		188	21.2	3,500	3,500	4,000	2,723	307	3,986	450	7,086	800
2,951	333	F302_0350 MT10	35.0	7252/207	1.3	11/6		187	21.1	3,700	3,500	4,200	2,926	330	2,951	333	3,689	416
3,543	400	F302_0350 MT20	35.0	7252/207	1.9	11/6		188	21.2	3,500	3,500	4,200	2,926	330	3,986	450	7,086	800
3,543	400	F302_0350 MT30	35.0	7252/207	6.7	11/6		190	21.4	3,500	3,500	4,000	2,926	330	3,986	450	7,086	800
3,543	400	F302_0470 MT10	47.2	1274/27	1.1	11/6		190	21.4	4,000	3,900	4,500	3,149	355	3,738	422	4,673	528
3,543	400	F302_0470 MT20	47.2	1274/27	1.7	11/6		190	21.5	3,500	3,500	4,500	3,149	355	3,986	450	7,086	800
3,543	400	F302_0470 MT30	47.2	1274/27	6.5	11/6		191	21.6	3,500	3,500	4,000	3,149	355	3,986	450	7,086	800
3,543	400	F302_0560 MT10	56.5	4067/72	1.0	11/6		191	21.6	4,000	3,900	4,500	3,343	377	3,986	450	5,414	611
3,543	400	F302_0560 MT20	56.5	4067/72	1.6	11/6		191	21.6	3,500	3,500	4,500	3,343	377	3,986	450	7,086	800
3,543	400	F302_0560 MT30	56.5	4067/72	6.4	11/6		192	21.7	3,500	3,500	4,000	3,343	377	3,986	450	7,086	800
3,543	400	F302_0700 MT10	70.4	2744/39	0.9	11/6		192	21.6	4,000	3,900	4,500	3,543	400	3,986	450	6,402	723
3,543	400	F302_0700 MT20	70.4	2744/39	1.5	11/6		192	21.7	3,500	3,500	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F302_0700 MT30	70.4	2744/39	6.3	11/6		192	21.7	3,500	3,500	4,000	3,543	400	3,986	450	7,086	800
3,543	400	F302_0940 MT10	93.6	4214/45	0.8	11/6		192	21.7	4,000	3,900	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F302_0940 MT20	93.6	4214/45	1.4	11/6		192	21.7	3,500	3,500	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F302_0940 MT30	93.6	4214/45	6.2	11/6		193	21.8	3,500	3,500	4,000	3,543	400	3,986	450	7,086	800
3,543	400	F302_1130 MT10	112.8	3724/33	0.7	11/6		193	21.8	4,000	3,900	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F302_1130 MT20	112.8	3724/33	1.3	11/6		193	21.8	3,500	3,500	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F302_1410 MT10	140.6	7595/54	0.7	11/6		193	21.8	4,000	3,900	4,500	3,543	400	3,986	450	5,771	652
3,543	400	F303_1820 MT20	182.4	73892/405	1.4	11/7		193	21.8	3,500	3,500	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F303_1850 MT10	184.8	29939/162	0.7	11/7		193	21.8	4,000	3,900	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F303_2180 MT20	218.4	117943/540	1.4	11/7		193	21.8	3,500	3,500	4,500	3,543	400	3,986	450	7,086	800

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A) Measured at 1 meter distance with 3000 RPM input

DIRECTION OF ROTATION:

2 Stage units (F102 through F602)
If input turns clockwise, output turns clockwise.

3 Stage units (F203 through F603)
If input turns clockwise, output turns counterclockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL5 or EL6
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"F" Series–Offset Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 42-46 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

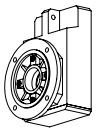
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
													Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
						Standard	Reduced			Continuous		Cyclic						
in.lbs.	Nm		Nom.	Exact	kgcm²			in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
F302/F303 with MT TriAdapt® Motor Adapter (Continued)																	**Noise Level ≤ 53 dB(A) [4]**	
3,543	400	F303_2210 MT10	221.2	191149/864	0.7	11/7		193	21.8	4,000	3,900	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F303_2720 MT20	272.1	159152/585	1.4	11/7		193	21.8	3,500	3,500	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F303_2760 MT10	275.6	32242/117	0.7	11/7		193	21.8	4,000	3,900	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F303_3620 MT20	362.1	244412/675	1.4	11/7		193	21.8	3,500	3,500	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F303_3670 MT10	366.8	99029/270	0.7	11/7		193	21.8	4,000	3,900	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F303_4420 MT10	442.0	43757/99	0.7	11/7		193	21.8	4,000	3,900	4,500	3,543	400	3,986	450	7,086	800
3,543	400	F303_5510 MT10	550.9	356965/648	0.7	11/7		193	21.8	4,000	3,900	4,500	3,543	400	3,986	450	5,771	651
F402/F403 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 53 dB(A) [4]**	
1,608	182	F402_0047 MT20	4.7	1408/301	16.0	10/7		88	9.9	2,700	2,300	3,200	1,608	182	1,769	200	2,683	303
3,033	342	F402_0047 MT30	4.7	1408/301	20.8	10/7		123	13.9	2,700	2,300	3,200	2,744	310	4,200	474	6,921	781
3,033	342	F402_0047 MT40	4.7	1408/301	24.8	10/7		186	21.0	2,700	2,300	3,200	2,744	310	4,872	550	6,921	781
1,998	226	F402_0058 MT20	5.8	3784/651	11.4	10/7		119	13.4	2,700	2,300	3,200	1,998	226	2,198	248	3,238	366
3,260	368	F402_0058 MT30	5.8	3784/651	16.2	10/7		159	17.9	2,700	2,300	3,200	2,950	333	4,872	550	8,353	943
3,260	368	F402_0058 MT40	5.8	3784/651	20.2	10/7		221	25.0	2,700	2,300	3,200	2,950	333	4,872	550	8,353	943
2,475	279	F402_0072 MT20	7.2	605/84	8.1	10/7		154	17.4	3,200	2,800	3,700	2,475	279	2,723	307	3,864	436
3,502	395	F402_0072 MT30	7.2	605/84	12.9	10/7		195	22.1	3,200	2,800	3,700	2,994	338	4,872	550	9,744	1,100
3,502	395	F402_0072 MT40	7.2	605/84	16.9	10/7		253	28.5	3,000	2,800	3,500	2,994	338	4,872	550	9,744	1,100
3,086	348	F402_0090 MT20	9.0	440/49	5.9	10/7		192	21.7	3,200	2,800	3,700	2,973	336	3,395	383	4,660	526
3,769	425	F402_0090 MT30	9.0	440/49	10.7	10/7		231	26.1	3,200	2,800	3,700	3,222	364	4,872	550	9,744	1,100
3,769	425	F402_0090 MT40	9.0	440/49	14.7	10/7		279	31.5	3,000	2,800	3,500	3,222	364	4,872	550	9,744	1,100
3,593	406	F402_0110 MT20	10.8	682/63	4.6	10/7		222	25.1	3,500	3,100	4,000	2,982	337	4,092	462	5,405	610
4,011	453	F402_0110 MT30	10.8	682/63	9.4	10/7		257	29.0	3,500	3,100	4,000	3,329	376	4,872	550	9,744	1,100
4,011	453	F402_0110 MT40	10.8	682/63	13.4	10/7		296	33.4	3,000	3,000	3,500	3,329	376	4,872	550	9,744	1,100
3,941	445	F402_0135 MT20	13.6	5984/441	3.5	10/7		255	28.8	3,500	3,100	4,000	3,271	369	4,872	550	6,552	740
4,325	488	F402_0135 MT30	13.6	5984/441	8.3	10/7		283	31.9	3,500	3,100	4,000	3,589	405	4,872	550	9,744	1,100
4,325	488	F402_0135 MT40	13.6	5984/441	12.3	10/7		311	35.2	3,000	3,000	3,500	3,589	405	4,872	550	9,744	1,100
4,806	543	F402_0185 MT20	18.6	3575/192	4.5	10/5		290	32.7	3,200	2,800	3,700	4,109	464	6,201	700	9,990	1,128
4,806	543	F402_0185 MT30	18.6	3575/192	9.3	10/5		308	34.8	3,200	2,800	3,700	4,109	464	6,201	700	12,401	1,400
4,806	543	F402_0185 MT40	18.6	3575/192	13.3	10/5		325	36.7	3,000	2,800	3,500	4,109	464	6,201	700	12,401	1,400
5,173	584	F402_0230 MT20	23.2	325/14	3.6	10/5		307	34.6	3,200	2,800	3,700	4,423	499	6,201	700	12,046	1,360
5,173	584	F402_0230 MT30	23.2	325/14	8.4	10/5		320	36.1	3,200	2,800	3,700	4,423	499	6,201	700	12,401	1,400
5,173	584	F402_0230 MT40	23.2	325/14	12.4	10/5		331	37.4	3,000	2,800	3,500	4,423	499	6,201	700	12,401	1,400
5,505	622	F402_0280 MT20	28.0	2015/72	3.0	10/5		317	35.8	3,500	3,100	4,000	4,568	516	6,201	700	12,401	1,400
5,505	622	F402_0280 MT30	28.0	2015/72	7.8	10/5		326	36.9	3,500	3,100	4,000	4,568	516	6,201	700	12,401	1,400
5,505	622	F402_0280 MT40	28.0	2015/72	11.8	10/5		335	37.8	3,000	3,000	3,500	4,568	516	6,201	700	12,401	1,400
5,936	670	F402_0350 MT20	35.1	2210/63	2.5	10/5		326	36.8	3,500	3,100	4,000	4,926	556	6,201	700	12,401	1,400
5,936	670	F402_0350 MT30	35.1	2210/63	7.3	10/5		332	37.5	3,500	3,100	4,000	4,926	556	6,201	700	12,401	1,400
5,936	670	F402_0350 MT40	35.1	2210/63	11.3	10/5		338	38.1	3,000	3,000	3,500	4,926	556	6,201	700	12,401	1,400

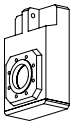
Motor Shaft

Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

F – Round Flange **G** – Tapped Holes





The "F" Housing Style is available as Hollow (A) or Solid (V) Output.
"G" style is Hollow (A) or Bushing (W).

See page 85 for required ordering information and part number example.

"F" Series–Offset Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 42-46 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
										Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
F402/F403 with MT TriAdapt® Motor Adapter (Continued)																	**Noise Level ≤ 53 dB(A) [4]**	
6,201	700	F402_0470 MT20	46.9	845/18	2.0	10/5		333	37.6	3,500	3,500	4,300	5,281	596	6,201	700	12,401	1,400
6,201	700	F402_0470 MT30	46.9	845/18	6.8	10/5		337	38.0	3,500	3,500	4,000	5,281	596	6,201	700	12,401	1,400
6,201	700	F402_0470 MT40	46.9	845/18	10.8	10/5		340	38.4	3,000	3,000	3,500	5,281	596	6,201	700	12,401	1,400
6,201	700	F402_0560 MT20	56.0	2015/36	1.8	10/5		336	37.9	3,500	3,500	4,300	5,600	632	6,201	700	12,401	1,400
6,201	700	F402_0560 MT30	56.0	2015/36	6.6	10/5		338	38.2	3,500	3,500	4,000	5,600	632	6,201	700	12,401	1,400
6,201	700	F402_0560 MT40	56.0	2015/36	10.6	10/5		341	38.5	3,000	3,000	3,500	5,600	632	6,201	700	12,401	1,400
6,201	700	F402_0700 MT20	70.1	1261/18	1.6	10/5		338	38.2	3,500	3,500	4,300	6,035	681	6,201	700	12,401	1,400
6,201	700	F402_0700 MT30	70.1	1261/18	6.4	10/5		340	38.4	3,500	3,500	4,000	6,035	681	6,201	700	12,401	1,400
6,201	700	F402_0700 MT40	70.1	1261/18	10.4	10/5		341	38.5	3,000	3,000	3,500	6,035	681	6,201	700	12,401	1,400
6,201	700	F402_0930 MT20	93.3	280/3	1.5	10/5		340	38.4	3,500	3,500	4,300	6,201	700	6,201	700	12,401	1,400
6,201	700	F402_0930 MT30	93.3	280/3	6.3	10/5		341	38.5	3,500	3,500	4,000	6,201	700	6,201	700	12,401	1,400
6,201	700	F402_1120 MT20	112.3	1235/11	1.4	10/5		341	38.5	3,500	3,500	4,300	6,201	700	6,201	700	12,401	1,400
6,201	700	F402_1120 MT30	112.3	1235/11	6.2	10/5		342	38.6	3,500	3,500	4,000	6,201	700	6,201	700	12,401	1,400
6,201	700	F402_1400 MT20	139.8	559/4	1.3	10/5		342	38.6	3,500	3,500	4,300	6,201	700	6,201	700	11,262	1,271
6,201	700	F403_1820 MT20	181.5	4901/27	1.4	10/6		342	38.6	3,500	3,500	4,300	6,201	700	6,201	700	12,401	1,400
6,201	700	F403_1840 MT10	183.9	39715/216	0.7	10/6		342	38.6	3,800	3,500	4,300	6,201	700	6,201	700	8,334	941
6,201	700	F403_2160 MT20	216.4	11687/54	1.4	10/6		342	38.6	3,500	3,500	4,300	6,201	700	6,201	700	12,401	1,400
6,201	700	F403_2190 MT10	219.2	94705/432	0.7	10/6		342	38.6	3,800	3,500	4,300	6,201	700	6,201	700	9,937	1,122
6,201	700	F403_2710 MT20	270.9	36569/135	1.4	10/6		342	38.7	3,500	3,500	4,300	6,201	700	6,201	700	12,401	1,400
6,201	700	F403_2740 MT10	274.4	59267/216	0.7	10/6		342	38.7	3,800	3,500	4,300	6,201	700	6,201	700	12,401	1,400
6,201	700	F403_3610 MT20	360.9	3248/9	1.4	10/6		343	38.7	3,500	3,500	4,300	6,201	700	6,201	700	12,401	1,400
6,201	700	F403_3660 MT10	365.6	3290/9	0.7	10/6		343	38.7	3,800	3,500	4,300	6,201	700	6,201	700	12,401	1,400
6,201	700	F403_4340 MT20	434.1	14326/33	1.4	10/6		343	38.7	3,500	3,500	4,300	6,201	700	6,201	700	12,401	1,400
6,201	700	F403_4400 MT10	439.7	58045/132	0.7	10/6		343	38.7	3,800	3,500	4,300	6,201	700	6,201	700	12,401	1,400
6,201	700	F403_5470 MT10	547.4	26273/48	0.7	10/6		343	38.7	3,800	3,500	4,300	6,201	700	6,201	700	11,261	1,271
F602/F603 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 61 dB(A) [4]**	
3,711	419	F602_0045 MT30	4.5	1273/280	42.2	10/7		141	16.0	2,500	2,100	3,000	3,711	419	4,082	461	6,998	790
5,020	567	F602_0045 MT40	4.5	1273/280	46.2	10/7		240	27.1	2,500	2,100	3,000	4,660	526	5,598	632	6,998	790
4,631	523	F602_0057 MT30	5.7	1407/248	30.5	10/7		196	22.2	2,500	2,100	3,000	4,631	523	5,094	575	8,472	956
5,405	610	F602_0057 MT40	5.7	1407/248	34.5	10/7		310	34.9	2,500	2,100	3,000	5,017	566	6,778	765	8,472	956
5,840	659	F602_0072 MT30	7.2	3551/496	22.2	10/7		265	29.9	2,900	2,500	3,400	5,160	583	6,428	726	10,287	1,161
5,840	659	F602_0072 MT40	7.2	3551/496	26.2	10/7		384	43.3	2,900	2,500	3,400	5,160	583	8,230	929	10,287	1,161
3,091	349	F602_0090 MT20	9.0	1943/216	12.1	10/7		260	29.4	2,900	2,500	3,400	3,091	349	3,401	384	4,823	545
6,302	711	F602_0090 MT30	9.0	1943/216	16.9	10/7		338	38.1	2,900	2,500	3,400	5,568	629	8,077	912	12,440	1,404
6,302	711	F602_0090 MT40	9.0	1943/216	20.9	10/7		450	50.9	2,900	2,500	3,400	5,568	629	8,858	1,000	12,440	1,404
3,718	420	F602_0110 MT20	10.8	2077/192	9.1	10/7		319	36.0	3,300	2,800	3,800	3,593	406	4,090	462	5,632	636
6,702	757	F602_0110 MT30	10.8	2077/192	13.9	10/7		396	44.7	3,300	2,800	3,800	5,672	640	8,858	1,000	14,173	1,600
6,702	757	F602_0110 MT40	10.8	2077/192	17.9	10/7		497	56.1	3,000	2,800	3,500	5,672	640	8,858	1,000	14,173	1,600

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A) Measured at 1 meter distance with 3000 RPM input

DIRECTION OF ROTATION:

2 Stage units (F102 through F602)
If input turns clockwise, output turns clockwise.

3 Stage units (F203 through F603)
If input turns clockwise, output turns counterclockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL5 or EL6
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL3, EL4
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"F" Series–Offset Helical ServoFit® SMS Gearhead Selection Data

Refer to Pages 42-46 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

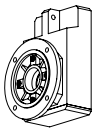
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
													Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
						Standard	Reduced			Continuous		Cyclic						
in.lbs.	Nm		Nom.	Exact	kgcm²			in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
F602/F603 with MT TriAdapt® Motor Adapter (Continued)																	**Noise Level ≤ 61 dB(A) [4]**	
4,451	502	F602_0135 MT20	13.6	871/64	6.6	10/7		392	44.2	3,300	2,800	3,800	3,767	425	5,145	581	6,770	764
7,235	817	F602_0135 MT30	13.6	871/64	11.4	10/7		461	52.1	3,300	2,800	3,800	6,123	691	8,858	1,000	14,173	1,600
7,235	817	F602_0135 MT40	13.6	871/64	15.4	10/7		542	61.2	3,000	2,800	3,500	6,123	691	8,858	1,000	14,173	1,600
8,018	905	F602_0185 MT30	18.5	3445/186	13.6	10/5		558	63.0	2,900	2,500	3,400	7,084	800	9,744	1,100	17,716	2,000
8,018	905	F602_0185 MT40	18.5	3445/186	17.6	10/5		619	69.8	2,900	2,500	3,400	7,084	800	9,744	1,100	17,716	2,000
7,998	903	F602_0230 MT20	23.3	1885/81	6.6	10/5		555	62.7	2,900	2,500	3,400	7,644	863	8,798	993	12,479	1,409
8,652	977	F602_0230 MT30	23.3	1885/81	11.4	10/5		599	67.6	2,900	2,500	3,400	7,644	863	9,744	1,100	17,716	2,000
8,652	977	F602_0230 MT40	23.3	1885/81	15.4	10/5		642	72.4	2,900	2,500	3,400	7,644	863	9,744	1,100	17,716	2,000
9,200	1039	F602_0280 MT20	28.0	2015/72	5.4	10/5		590	66.6	3,300	2,800	3,800	7,786	879	9,744	1,100	14,571	1,645
9,200	1039	F602_0280 MT30	28.0	2015/72	10.2	10/5		623	70.4	3,300	2,800	3,800	7,786	879	9,744	1,100	17,716	2,000
9,200	1039	F602_0280 MT40	28.0	2015/72	14.2	10/5		654	73.9	3,000	2,800	3,500	7,786	879	9,744	1,100	17,716	2,000
9,744	1100	F602_0350 MT20	35.2	845/24	4.2	10/5		622	70.2	3,300	2,800	3,800	8,405	949	9,744	1,100	17,514	1,977
9,744	1100	F602_0350 MT30	35.2	845/24	9.0	10/5		645	72.8	3,300	2,800	3,800	8,405	949	9,744	1,100	17,716	2,000
9,744	1100	F602_0350 MT40	35.2	845/24	13.0	10/5		666	75.1	3,000	2,800	3,500	8,405	949	9,744	1,100	17,716	2,000
9,744	1100	F602_0470 MT20	46.7	1495/32	3.1	10/5		648	73.1	3,500	3,200	4,000	9,057	1,022	9,744	1,100	17,716	2,000
9,744	1100	F602_0470 MT30	46.7	1495/32	7.9	10/5		662	74.7	3,500	3,200	4,000	9,057	1,022	9,744	1,100	17,716	2,000
9,744	1100	F602_0470 MT40	46.7	1495/32	11.9	10/5		674	76.1	3,000	3,000	3,500	9,057	1,022	9,744	1,100	17,716	2,000
9,744	1100	F602_0560 MT20	55.7	390/7	2.7	10/5		659	74.3	3,500	3,200	4,000	9,604	1,084	9,744	1,100	17,716	2,000
9,744	1100	F602_0560 MT30	55.7	390/7	7.5	10/5		669	75.5	3,500	3,200	4,000	9,604	1,084	9,744	1,100	17,716	2,000
9,744	1100	F602_0560 MT40	55.7	390/7	11.5	10/5		677	76.5	3,000	3,000	3,500	9,604	1,084	9,744	1,100	17,716	2,000
9,744	1100	F602_0700 MT20	69.6	975/14	2.2	10/5		668	75.4	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F602_0700 MT30	69.6	975/14	7.0	10/5		675	76.2	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F602_0700 MT40	69.6	975/14	11.0	10/5		680	76.8	3,000	3,000	3,500	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F602_0930 MT20	93.3	280/3	1.8	10/5		676	76.3	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F602_0930 MT30	93.3	280/3	6.6	10/5		679	76.7	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F602_0930 MT40	93.3	280/3	10.6	10/5		683	77.1	3,000	3,000	3,500	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F602_1120 MT20	112.2	9425/84	1.6	10/5		679	76.6	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F602_1120 MT30	112.2	9425/84	6.4	10/5		681	76.9	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F602_1400 MT20	139.8	559/4	1.5	10/5		681	76.9	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F602_1400 MT30	139.8	559/4	6.3	10/5		683	77.1	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F603_1810 MT20	180.6	8671/48	1.5	10/6		683	77.1	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F603_2150 MT20	215.4	1508/7	1.5	10/6		684	77.2	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F603_2690 MT20	269.3	1885/7	1.4	10/6		684	77.2	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F603_3610 MT20	360.9	3248/9	1.4	10/6		685	77.3	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F603_4340 MT20	433.8	54665/126	1.4	10/6		685	77.3	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000
9,744	1100	F603_5400 MT20	540.4	16211/30	1.4	10/6		685	77.3	3,500	3,200	4,000	9,744	1,100	9,744	1,100	17,716	2,000

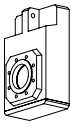
Motor Shaft

Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

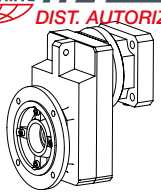
F – Round Flange **G** – Tapped Holes





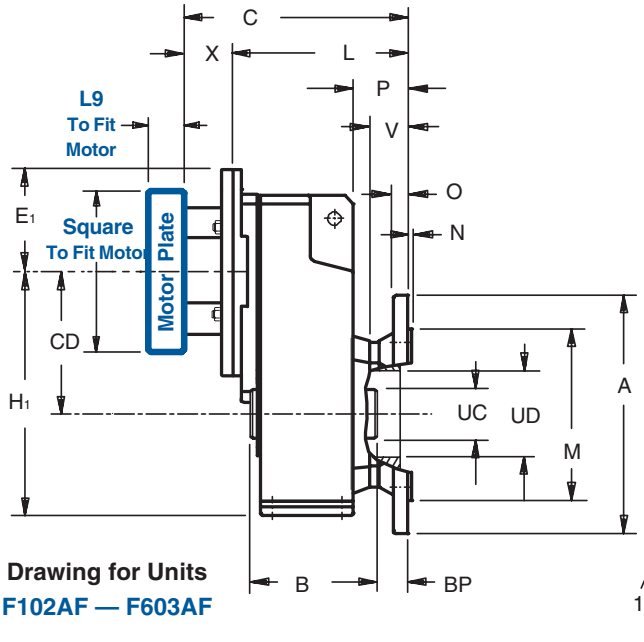
The "F" Housing Style is available as Hollow (A) or Solid (V) Output.
"G" style is Hollow (A) or Bushing (W).

See page 85 for required ordering information and part number example.

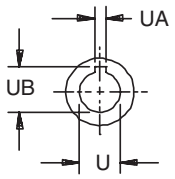


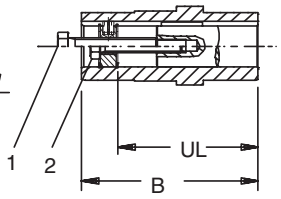
"F" Series–Offset Helical ServoFit® SMS Gearhead Dimensional Data

See Page 81 for installation of hollow ouput.



Drawing for Units
F102AF — F603AF





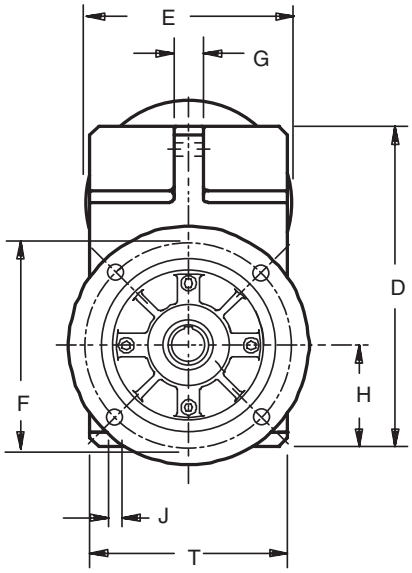


Table No. 1 "F" Series –Round Flange Unit Dimensions (Inches) – "F" Housing Style

Base Module	CD	A	B	D	F	G	H	H_1	J	M	N	O	P	T	*U +.001/-.000	BP
F102	4.02	6.30	3.74	9.37	5.12	.79	2.91	6.93	.43	4.331 +.001/-.0004	.14	.39	1.75	5.71	.750	1.00
F202/F203	5.16	7.87	4.53	11.77	6.50	.87	3.66	8.82	.43	5.118 +.001/-.0004	.14	.55	2.09	7.09	1.000	1.18
F302/F303	5.89	9.84	5.12	13.23	8.46	1.18	4.17	10.06	.55	7.087 +.001/-.0004	.16	.59	2.22	8.11	1.250	1.24
F402/F403	6.65 [1]	9.84	5.71	14.57	8.46	1.18	4.57	11.22	.55	7.087 +.001/-.0004	.16	.59	2.22	9.06	1.500	1.24
F602/F603	7.72	11.81	7.09	17.64	10.43	1.38	5.39	13.11	.87	9.055 +.001/-.001	.16	.67	2.38	10.43	2.000	1.16

[1] C.D. is 5.19 for F403 with MT20.

* Metric output available on request.

Table No. 2 "F" Series – "F" Housing Style

Base Module	UA	UB	UC	UD	UL	1
F102	.187	.84	1.38	2.05	2.87	3/8-16
F202/F203	.250	1.12	1.77	2.56	3.62	1/2-13
F302/F303	.250	1.37	1.97	2.83	4.06	1/2-13
F402/F403	.375	1.67	2.17	2.83	4.49	3/4-10
F602/F603	.500	2.23	2.76	3.15	5.63	3/4-10

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

Table No. 3

"F" Series – Unit Dimensions (Inches) – "F" Housing Style

Base	MT10		MT20		MT30		MT40		Approx.
Module	C	L	C	L	C	L	C	L	Wt. lbs.
F102	6.67	5.10	7.23	5.26	—	—	—	—	38
F202	7.59	6.02	8.15	6.18	9.62	6.26	—	—	51
F203	9.05	7.48	—	—	—	—	—	—	64
F302	8.24	6.67	8.80	6.83	9.27	6.91	—	—	67
F303	9.70	8.13	10.49	8.52	—	—	—	—	73
F402	—	—	14.62	7.42	9.86	7.50	11.12	7.62	84
F403	10.29	8.72	11.08	9.11	—	—	—	—	91
F602	—	—	10.61	8.64	11.08	8.72	12.34	8.84	165
F603	—	—	12.30	10.33	—	—	—	—	177

Table No. 4 "MT" Motor Plate Dimensions

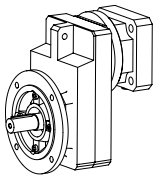
Motor Adapter	Motor Shaft D6 Max. [1]		Motor Plate Thickness [2] L9 ≥ L11 - X_1 ≥ X_2				Inches			Wt. lbs.
			X_1		X_2					
	mm	ins.	mm	inches	mm	inches	E	E_2	X	
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8
MT30	38	1.260	35	1.378	25	.984	7.87	3.94	2.36	12
MT40	48	1.890	44	1.732	33	1.299	9.84	4.92	3.50	18

L11 is the motor shaft length.
[1] If an adapter bushing is required it will be supplied as a component of the motor mounting plate.
[2] Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.

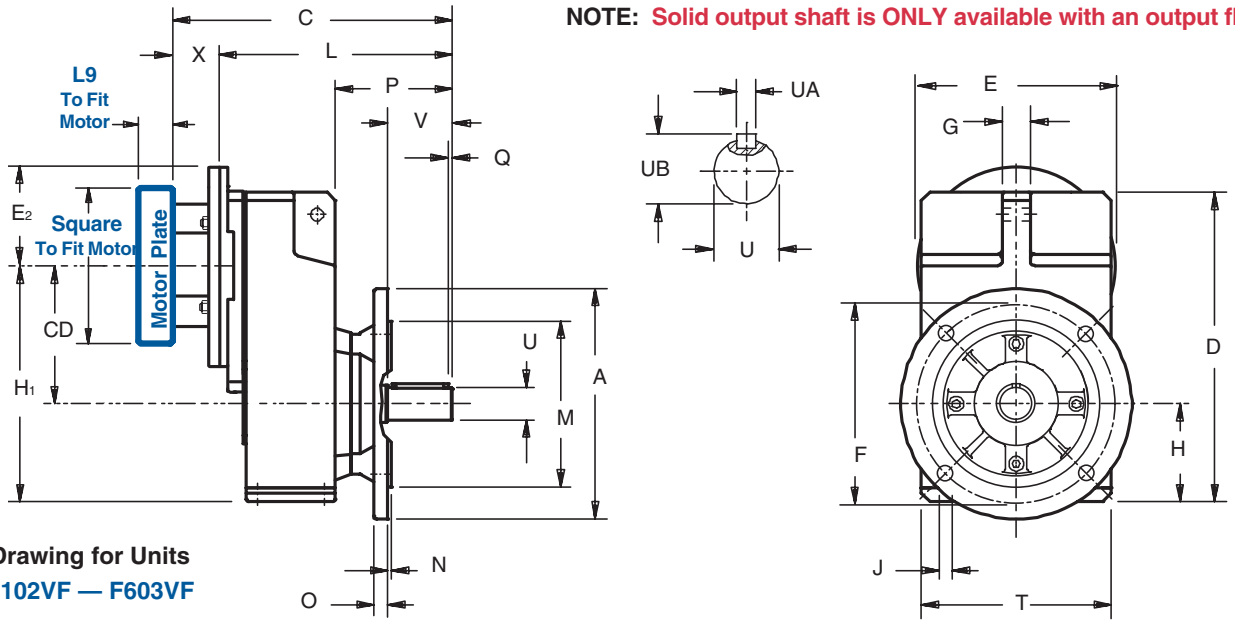
See pages 36-41 for SMS Reducer Selection Data and available ratios.
See pages 83 and 85 for lubrication and mounting position.
For approximate weight, add base module weight form Table 3 and adapter weight from Table 4.

Part No. Example
Round Flange Unit with TriAdapt® Motor Adapter
F302AF0620 MT20

"F" Series–Offset Helical ServoFit® SMS Gearhead Dimensional Data



NOTE: Solid output shaft is ONLY available with an output flange.



Drawing for Units
F102VF — F603VF

Table No. 1 "F" Series – Round Flange Dimensions (Inches) – "F" Housing Style

Base Module	CD	A	D	F	G	H	H_1	J	M	N	O	P	Q	T	U * +.000/-.001	V	UA–Key	UB
F102	4.02	6.30	9.37	5.12	.79	2.91	6.93	.35	4.331 +.001/-.0004	.14	.39	3.80	.16	5.71	1.000	1.97	$^1/_4 \times ^1/_4 \times 1^9/_{16}$	1.11
F202/F203	5.16	7.87	11.77	6.50	.87	3.66	8.82	.43	5.118 +.001/-.0004	.14	.55	4.53	.16	7.09	1.250	2.36	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
F302/F303	5.89	9.84	13.23	8.46	1.18	4.17	10.06	.55	7.087 +.001/-.0004	.16	.59	5.10	.16	8.11	1.375	2.76	$^5/_{16} \times ^5/_{16} \times 2^5/_{16}$	1.51
F402/F403	6.65 [1]	9.84	14.57	8.46	1.18	4.57	11.22	.55	7.087 +.001/-.0004	.16	.59	5.49	.16	9.06	1.625	3.15	$^3/_8 \times ^3/_8 \times 2^7/_8$	1.79
F602/F603	7.72	11.81	17.64	10.43	1.38	5.39	13.11	.55	9.055 +.001/-.001	.16	.67	6.44	.20	10.43	2.125	3.94	$^1/_2 \times ^1/_2 \times 3^5/_{32}$	2.35

[1] C.D. is 5.19 for F403 with MT20.

* Metric output available on request.

Table No. 2

"F" Series—Round Flange Dimensions (Inches)–"F" Housing Style

Base Module	MT10 C	MT10 L	MT20 C	MT20 L	MT30 C	MT30 L	MT40 C	MT40 L	Approx. Wt. lbs.
F102	8.66	7.09	9.21	7.24	—	—	—	—	38
F202	9.96	8.39	10.51	8.54	10.98	8.62	—	—	51
F203	11.41	9.84	—	—	—	—	—	—	64
F302	11.02	9.45	11.58	9.61	12.05	9.69	—	—	67
F303	12.48	10.91	13.25	11.28	—	—	—	—	73
F402	—	—	12.56	10.59	13.03	10.67	14.29	10.79	84
F403	13.46	11.89	14.25	12.28	—	—	—	—	91
F602	—	—	14.57	12.60	15.04	12.68	16.30	12.80	165
F603	—	—	16.26	14.29	—	—	—	—	177

Table No. 3 "MT" Motor Plate Dimensions

Motor Adapter	Motor Shaft D6 Max. [1] mm	Motor Shaft D6 Max. [1] ins.	Motor Plate Thickness [2] L9 ≥ L11 - X_1 ≥ X_2 X_1 mm	X_1 inches	X_2 mm	X_2 inches	Inches E	Inches E_2	Inches X	Wt. lbs.
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8
MT30	38	1.260	35	1.378	25	.984	7.87	3.94	2.36	12
MT40	48	1.890	44	1.732	33	1.299	9.84	4.92	3.50	18

L11 is the motor shaft length.

[1] If an adapter bushing is required it will be supplied as a component of the motor mounting plate.

[2] Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.

See pages 36-41 for SMS Reducer Selection Data and available ratios.
See pages 83 and 85 for lubrication and mounting position.

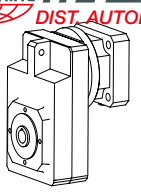
For approximate weight, add base module weight form Table 2 and adapter weight from Table 3.

Part No. Example

Round Flange with TriAdapt® Motor Adapter

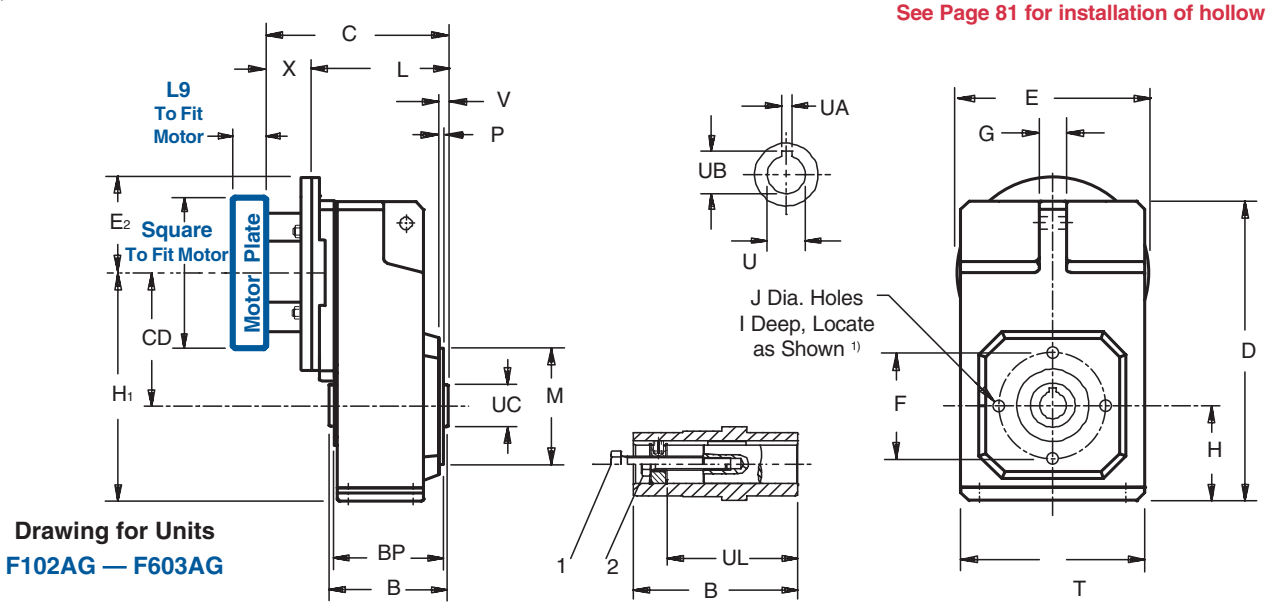
F302VF0620 MT20

See web site for drawings.



"F" Series–Offset Helical ServoFit® SMS Gearhead Dimensional Data

See Page 81 for installation of hollow ouput.



Drawing for Units
F102AG — F603AG

Table No. 1 "F" Series – Tapped Holes Unit Dimensions (Inches) – "G" Housing Style

Base Module	CD	B	D	F	G	H	H_1	I	J 1)	M	P	T	U * +.001/-.000	V	BP	UA	UB	UC	UL	1
F102	4.02	3.74	9.37	3.35	.79	2.91	6.93	.51	4-M8	2.756 +.001/-.0003	.10	5.71	.750	.26	3.43	.187	.84	1.38	2.87	3/8-16
F202/F203	5.16	4.53	11.77	4.53	.87	3.66	8.82	.51	4-M8	3.740 +.001/-.0004	.12	7.09	1.000	.31	4.13	.250	1.12	1.77	3.62	1/2-13
F302/F303	5.89	5.12	13.23	5.12	1.18	4.17	10.06	.63	4-M10	4.331 +.001/-.0004	.14	8.11	1.250	.33	4.72	.250	1.37	1.97	4.06	1/2-13
F402/F403	6.65 2)	5.71	14.57	5.12	1.18	4.57	11.22	.63	4-M10	4.331 +.001/-.0004	.14	9.06	1.500	.33	5.31	.375	1.67	2.17	4.49	3/4-10
F602/F603	7.72	7.09	17.64	6.50	1.38	5.39	13.11	.63	8-M10	5.118 +.001/-.0004	.14	10.43	2.000	.41	6.54	.500	2.23	2.76	5.63	3/4-10

1) F602 and F603 has 8 tapped holes located 22.5° from horizontal instead of 4 as shown on drawing.
2) C.D. is 5.19 for F403 with MT20.

*** Metric output available on request.**

Table No. 2
"F" Series – Dimensions (Inches) – "G" Housing Style

Base	MT10		MT20		MT30		MT40		Approx.
Module	C	L	C	L	C	L	C	L	Wt. lbs.
F102	5.66	4.09	6.22	4.25	—	—	—	—	38
F202	6.41	4.84	6.97	5.00	7.44	5.08	—	—	51
F203	7.87	6.30	—	—	—	—	—	—	64
F302	7.00	5.43	7.56	5.59	8.03	5.67	—	—	67
F303	8.46	6.89	9.25	7.28	—	—	—	—	73
F402	—	—	8.15	6.18	8.62	6.26	9.88	6.38	84
F403	9.05	7.48	9.84	7.87	—	—	—	—	91
F602	—	—	9.45	7.48	9.92	7.56	11.18	7.68	165
F603	—	—	11.14	9.17	—	—	—	—	177

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See pages 36-41 for SMS Reducer Selection Data and available ratios.
See pages 83 and 85 for lubrication and mounting position.

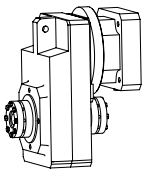
Table No. 3 "MT" Motor Plate Dimensions

Motor Adapter	Motor Shaft D6 Max. 1)		Motor Plate Thickness 2) L9 ≥ L11 - X_1 ≥ X_2				Inches			Wt. lbs.
			X_1		X_2					
	mm	ins.	mm	inches	mm	inches	E	E_2	X	
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8
MT30	38	1.260	35	1.378	25	.984	7.87	3.94	2.36	12
MT40	48	1.890	44	1.732	33	1.299	9.84	4.92	3.50	18

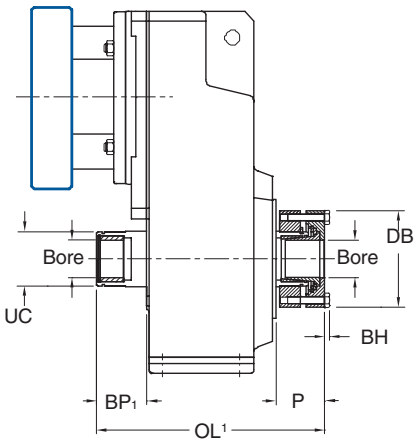
L11 is the motor shaft length.
1) If an adapter bushing is required it will be supplied as a component of the motor mounting plate.
2) Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.
For approximate weight, add base module weight form Table 2 and adapter weight from Table 3.

Part No. Example
Tapped Holes Housing with TriAdapt® Motor Adapter
F302AG0620 MT20

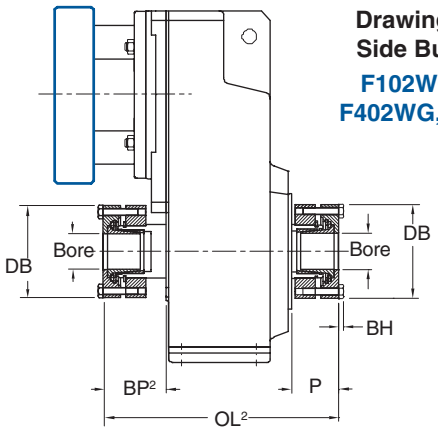
"F" Series–Offset Helical ServoFit® SMS Gearhead Dimensional Data



Drawing for Single Side Bushing Units
F102WG — F603WG



Drawing for Double Side Bushing Units
F102WG, F202WG, F402WG, and F602WG



IMPORTANT: A 1/32 x 45° chamfer minimum is recommended for the shaft end.

The bushing will accept a shaft with a tolerance of +.000/-.005.

* The double bushing cannot be mounted on sizes F203, F303, F403, or F603.

Table No. 1 "WF" and "WFN" Bushing Dimensions (Inches)

Base Module	BH	BP1	BP2	DB	OL1	OL2	P	UC	Capscrews No.–Size	Tight. Torque (in/lbs.)	Tight. Torque Nm
F102	.16	1.77	2.11	2.68	6.40	6.73	1.18	1.34	6–M6 x 25 mm	89	10
F202	.16	1.59	2.09	3.07	7.26	7.77	1.54	1.73	8–M6 x 30 mm	89	10
* F203	.16	1.59	–	3.07	7.26	–	1.54	1.73	8–M6 x 30 mm	89	10
F302	.16	1.67	2.19	3.31	7.95	8.46	1.54	1.89	8–M6 x 30 mm	89	10
* F303	.16	1.67	–	3.31	7.95	–	1.54	1.89	8–M6 x 30 mm	89	10
F402	.20	1.83	2.46	3.82	8.93	9.57	1.78	2.13	8–M8 x 30 mm	221	25
* F403	.20	1.83	–	3.82	8.93	–	1.78	2.13	8–M8 x 30 mm	221	25
F602	.24	1.93	2.58	4.13	10.24	10.84	1.77	2.52	8–M10 x 35 mm	434	49
* F603	.24	1.93	–	4.13	10.24	–	1.77	2.52	8–M10 x 35 mm	434	49

Part No. Example

Unit with TriAdapt® Motor Adapter
1 3/8" Bore Single Bushing
F402WG0560 MT20
WF4–106

Unit with TriAdapt® Motor Adapter
1 3/8" Bore Double Bushing – No Covers
F402WG0560 MT20
WFN4–106

Bushing Part No. Explanation

WF 4 – 106
106 = Output Bore in inches – 1 3/8
4 = Base Module Size example: F402/F403)
WF = Wobble Free

WF N 4 – 106
N = No Covers

Table No. 3 "WF" and "WFN" Bushing – Stock Bore Sizes

Base Module	Bores Sizes 3/4	1	1 3/16	1 1/4	1 3/8	1 7/16	1 1/2	1 5/8	1 11/16	1 3/4	1 7/8	1 15/16	2
F102	x	—	—	—	—	—	—	—	—	—	—	—	—
F202/F203	—	x	x	—	—	—	—	—	—	—	—	—	—
F302/F303	—	x	x	x	x	x	x	—	—	—	—	—	—
F402/F403	—	x	x	x	x	x	x	—	—	—	—	—	—
F602/F603	—	—	x	—	—	x	x	x	x	x	x	x	x

NOTES: A complete bushing kit includes the locking ring assembly, tapered cone, support ring, and all hardware to mount the kit into the SMS reducer.

Table No. 2 Bushing Kit Part Numbers

Bore Size	Single Side	Double Side No Covers
3/4	WF1-075	WFN1-075
1	WF2-100	WFN2-100
1 3/16	WF2-103	WFN2-103
1	WF3-100	WFN3-100
1 3/16	WF3-103	WFN3-103
1 1/4	WF3-104	WFN3-104
1 3/8	WF3-106	WFN3-106
1 7/16	WF3-107	WFN3-107
1 1/2	WF3-108	WFN3-108
1	WF4-100	WFN4-100
1 3/16	WF4-103	WFN4-103
1 1/4	WF4-104	WFN4-104
1 3/8	WF4-106	WFN4-106
1 7/16	WF4-107	WFN4-107
1 1/2	WF4-108	WFN4-108
1 7/16	WF5-107	WFN5-107
1 1/2	WF5-108	WFN5-108
1 5/8	WF5-110	WFN5-110
1 11/16	WF5-111	WFN5-111
1 3/4	WF5-112	WFN5-112
1 7/8	WF5-114	WFN5-114
1 15/16	WF5-115	WFN5-115
2	WF5-200	WFN5-200

NOTE: THE F602/F603 UNITS USE A WF5 OR WFN5 BUSHING KIT.

See web site for drawings.

"F" Series–Offset Helical ServoFit® SMS Gearhead Rubber Buffer for Torque Arm Mounting

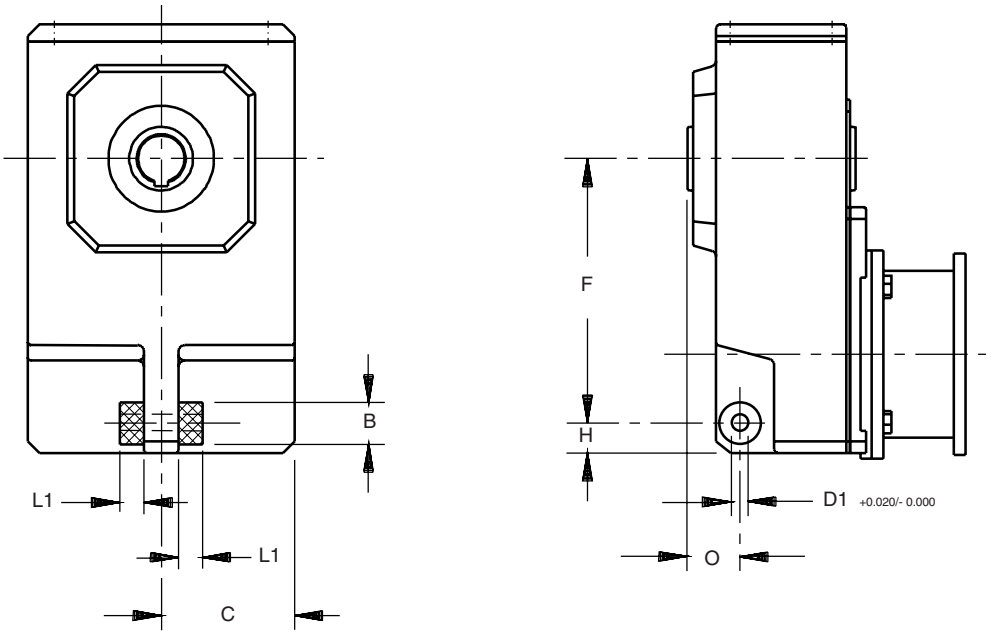


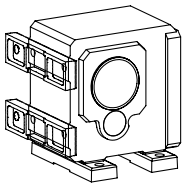
Table No. 1 "F" Series — Rubber Buffer Dimensions (Inches)

Base Module	Part No.	B	C	F	H	D1	L1	O
F102/F103	25192	1.18	2.86	5.91	.55	.43	.59	1.38
F202/F203	25192	1.18	3.55	7.12	.98	.43	.59	1.57
F302/F303	25193	1.57	4.06	8.07	.96	.55	.79	1.77
F402/F403	25193	1.57	4.53	8.98	1.02	.55	.79	1.77
F602/F603	25194	2.36	5.22	10.63	1.02	.57	1.18	2.77

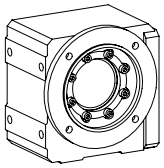
Order two (2) rubber buffers for each unit.
Torque arms are not supplied by Stober.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead

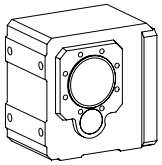
Housing Styles:



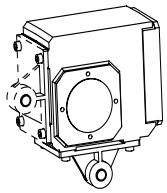
Style N, Foot Mount



Style F, Round Flange

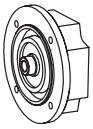


Style G, Tapped Holes

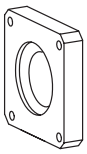


Style BD, Torque Arm Bracket

TriAdapt® Motor Adapter Input:

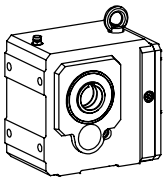


MT
Motor Adapter

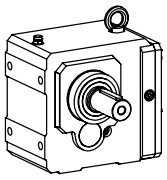


Motor Plate
to fit any servo motor

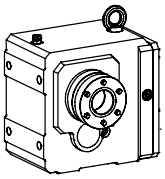
Output Options:



Type A
Hollow Output



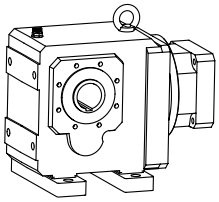
Type V
Solid Output



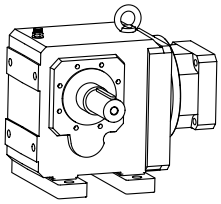
Type W
Wobble Free Bushing
See Page 74

Gearhead Configurations:

Foot Mount

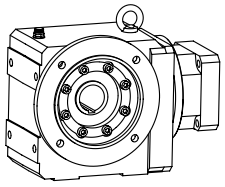


Style AN
Hollow Output
Available

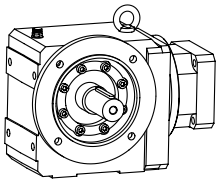


Style VN
Solid Output
See Page 66

Round Flange

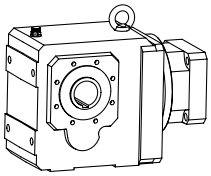


Style AF
Hollow Output
Available

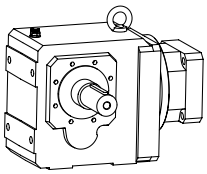


Style VF
Solid Output
See Page 68

Tapped Holes



Style AG
Hollow Output
See Page 70



Style VG
Solid Output
Available

Accessories:

Torque Arm Brackets
See Page 78

Optional Round Flanges
See Page 79

See web site for drawings.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
													Nominal [2] $T_{2N} \leq n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	Continuous n_{1DBH}	n_{1DBV}	Cyclic n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K102 with MT TriAdapt® Motor Adapter																	**Noise Level ≤ 53 dB(A) [4]**	
368	42	K102_0040 MT10	4.0	4/1	1.4	12/6		25	2.8	3,300	2,800	3,800	368	42	368	42	460	52
512	58	K102_0040 MT20	4.0	4/1	2.0	12/6		25	2.9	3,300	2,800	3,800	434	49	693	78	866	98
512	58	K102_0056 MT10	5.6	1520/273	1.3	12/6		38	4.3	3,300	2,800	3,800	484	55	512	58	640	72
572	65	K102_0056 MT20	5.6	1520/273	1.9	12/6		39	4.5	3,300	2,800	3,800	484	55	965	109	1,206	136
523	59	K102_0060 MT10	6.0	6/1	1.1	12/6		30	3.4	3,300	2,800	3,800	496	56	523	59	654	74
587	66	K102_0060 MT20	6.0	6/1	1.7	12/6		30	3.4	3,300	2,800	3,800	496	56	985	111	1,231	139
570	64	K102_0066 MT10	6.6	299/45	1.0	12/6		31	3.5	3,900	3,400	4,400	486	55	570	64	712	80
607	69	K102_0066 MT20	6.6	299/45	1.6	12/6		31	3.5	3,500	3,400	4,400	486	55	1,025	116	1,340	151
654	74	K102_0083 MT10	8.3	1911/230	0.9	12/6		33	3.7	3,900	3,400	4,400	523	59	684	77	855	97
654	74	K102_0083 MT20	8.3	1911/230	1.5	12/6		33	3.7	3,500	3,400	4,400	523	59	1,104	125	1,611	182
678	76	K102_0092 MT10	9.2	1748/189	0.9	12/6		46	5.2	3,900	3,400	4,400	542	61	793	90	991	112
678	76	K102_0092 MT20	9.2	1748/189	1.5	12/6		46	5.2	3,500	3,400	4,400	542	61	1,145	129	1,866	211
699	79	K102_0100 MT10	10.1	507/50	0.8	12/6		34	3.8	4,000	3,800	4,500	555	63	806	91	1,008	114
699	79	K102_0100 MT20	10.1	507/50	1.4	12/6		34	3.8	3,500	3,500	4,500	555	63	1,107	125	1,898	214
730	82	K102_0115 MT10	11.6	266/23	0.8	12/6		48	5.4	3,900	3,400	4,400	584	66	952	108	1,190	134
730	82	K102_0115 MT20	11.6	266/23	1.4	12/6		48	5.4	3,500	3,400	4,400	584	66	1,196	135	2,126	240
751	85	K102_0125 MT10	12.6	429/34	0.7	12/6		34	3.9	4,000	3,800	4,500	596	67	963	109	1,204	136
751	85	K102_0125 MT20	12.6	429/34	1.3	12/6		35	3.9	3,500	3,500	4,500	596	67	1,107	125	1,949	220
780	88	K102_0140 MT10	14.1	494/35	0.8	12/6		49	5.5	4,000	3,800	4,500	619	70	1,122	127	1,403	158
780	88	K102_0140 MT20	14.1	494/35	1.4	12/6		49	5.6	3,500	3,500	4,500	619	70	1,196	135	2,126	240
825	93	K102_0165 MT10	16.7	117/7	0.7	12/6		35	4.0	4,000	4,000	4,500	655	74	1,107	125	1,520	172
825	93	K102_0165 MT20	16.7	117/7	1.3	12/6		35	4.0	3,500	3,500	4,500	655	74	1,107	125	1,520	172
839	95	K102_0175 MT10	17.6	2090/119	0.7	12/6		50	5.6	4,000	3,800	4,500	666	75	1,196	135	1,676	189
839	95	K102_0175 MT20	17.6	2090/119	1.3	12/6		50	5.6	3,500	3,500	4,500	666	75	1,196	135	2,126	240
878	99	K102_0200 MT10	20.2	403/20	0.7	12/6		35	4.0	4,000	4,000	4,500	697	79	1,107	125	1,763	199
878	99	K102_0200 MT20	20.2	403/20	1.3	12/6		35	4.0	3,500	3,500	4,500	697	79	1,107	125	1,763	199
921	104	K102_0230 MT10	23.3	1140/49	0.7	12/6		51	5.7	4,000	4,000	4,500	731	83	1,196	135	2,115	239
921	104	K102_0230 MT20	23.3	1140/49	1.3	12/6		51	5.7	3,500	3,500	4,500	731	83	1,196	135	2,115	239
851	96	K102_0250 MT10	25.2	1261/50	0.6	12/6		36	4.0	4,000	4,000	4,500	751	85	1,021	115	1,701	192
851	96	K102_0250 MT20	25.2	1261/50	1.2	12/6		36	4.0	3,500	3,500	4,500	751	85	1,021	115	1,701	192
981	111	K102_0280 MT10	28.0	589/21	0.7	12/6		51	5.7	4,000	4,000	4,500	778	88	1,196	135	2,126	240
981	111	K102_0280 MT20	28.0	589/21	1.3	12/6		51	5.8	3,500	3,500	4,500	778	88	1,196	135	2,126	240
647	73	K102_0340 MT10	33.7	4719/140	0.6	12/6		36	4.0	4,000	4,000	4,500	647	73	776	88	1,293	146
1,057	119	K102_0350 MT10	35.1	3686/105	0.6	12/6		51	5.8	4,000	4,000	4,500	839	95	1,196	135	2,126	240
1,057	119	K102_0350 MT20	35.1	3686/105	1.2	12/6		51	5.8	3,500	3,500	4,500	839	95	1,196	135	2,126	240
544	61	K102_0400 MT10	40.3	403/10	0.6	12/6		36	4.1	4,000	4,000	4,500	544	61	653	74	846	96
900	102	K102_0470 MT10	46.9	2299/49	0.6	12/6		51	5.8	4,000	4,000	4,500	900	102	1,080	122	1,800	203
442	50	K102_0500 MT10	50.3	5031/100	0.6	12/6		36	4.1	4,000	4,000	4,500	442	50	531	60	885	100
758	86	K102_0560 MT10	56.1	1178/21	0.6	12/6		51	5.8	4,000	4,000	4,500	758	86	909	103	1,178	133
616	70	K102_0700 MT10	70.0	2451/35	0.6	12/6		51	5.8	4,000	4,000	4,500	616	70	739	83	1,232	139

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A)Measured at 1 meter distance with 3000 RPM input

DIRECTION OF ROTATION:

2 Stage units (K102 through K402)
If input turns clockwise, output (side 4) turns clockwise.

3 Stage units (K203 through K913)
If input turns clockwise, output (side 4) turns counterclockwise.

4 Stage units (K514 through K1014)
If input turns clockwise, output (side 4) turns clockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL3 or EL4
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

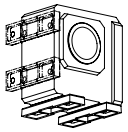
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
													Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
						Standard	Reduced			Continuous		Cyclic						
in.lbs.	Nm		Nom.	Exact	kgcm²			in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K202/K203 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 53 dB(A)** [4]	
393	44	K202_0040 MT10	4.0	4/1	3.1	10/5		33	3.8	3,000	2,600	3,500	393	44	393	44	491	55
915	103	K202_0040 MT20	4.0	4/1	3.7	10/5		35	3.9	3,000	2,600	3,500	799	90	1,512	171	2,170	245
915	103	K202_0040 MT30	4.0	4/1	8.5	10/5		41	4.7	3,000	2,600	3,500	799	90	1,546	174	2,170	245
421	48	K202_0044 MT10	4.4	48/11	2.7	10/5		36	4.1	3,000	2,600	3,500	421	48	421	48	526	59
942	106	K202_0044 MT20	4.4	48/11	3.3	10/5		37	4.2	3,000	2,600	3,500	823	93	1,591	180	2,327	263
942	106	K202_0044 MT30	4.4	48/11	8.1	10/5		43	4.9	3,000	2,600	3,500	823	93	1,591	180	2,327	263
997	113	K202_0052 MT20	5.2	2107/407	2.9	10/5		42	4.7	3,000	2,600	3,500	871	98	1,684	190	2,724	308
997	113	K202_0052 MT30	5.2	2107/407	7.7	10/5		47	5.3	3,000	2,600	3,500	871	98	1,684	190	2,724	308
579	65	K202_0060 MT10	6.0	6/1	2.3	10/5		51	5.8	3,000	2,600	3,500	579	65	579	65	724	82
1,047	118	K202_0060 MT20	6.0	6/1	2.9	10/5		53	5.9	3,000	2,600	3,500	915	103	1,769	200	3,199	361
1,047	118	K202_0060 MT30	6.0	6/1	7.7	10/5		59	6.6	3,000	2,600	3,500	915	103	1,769	200	3,199	361
609	69	K202_0067 MT10	6.7	2279/341	1.7	10/5		46	5.2	3,500	3,100	4,000	609	69	609	69	761	86
1,086	123	K202_0067 MT20	6.7	2279/341	2.3	10/5		47	5.3	3,500	3,100	4,000	901	102	1,834	207	3,364	380
1,086	123	K202_0067 MT30	6.7	2279/341	7.1	10/5		51	5.8	3,500	3,100	4,000	901	102	1,834	207	3,364	380
1,109	125	K202_0071 MT20	7.1	2107/296	2.6	10/5		57	6.4	3,000	2,600	3,500	969	109	1,873	211	3,543	400
1,109	125	K202_0071 MT30	7.1	2107/296	7.4	10/5		62	7.0	3,000	2,600	3,500	969	109	1,873	211	3,543	400
739	83	K202_0084 MT10	8.4	2494/297	1.4	10/5		50	5.7	3,500	3,100	4,000	739	83	739	83	924	104
1,171	132	K202_0084 MT20	8.4	2494/297	2.0	10/5		51	5.7	3,500	3,100	4,000	972	110	1,949	220	3,543	400
1,171	132	K202_0084 MT30	8.4	2494/297	6.8	10/5		54	6.1	3,500	3,100	4,000	972	110	1,949	220	3,543	400
837	95	K202_0092 MT10	9.2	2279/248	1.5	10/5		61	6.9	3,500	3,100	4,000	837	95	837	95	1,046	118
1,207	136	K202_0092 MT20	9.2	2279/248	2.1	10/5		62	7.0	3,500	3,100	4,000	1,002	113	1,949	220	3,543	400
1,207	136	K202_0092 MT30	9.2	2279/248	6.9	10/5		66	7.4	3,500	3,100	4,000	1,002	113	1,949	220	3,543	400
855	97	K202_0100 MT10	10.1	2881/286	1.2	10/5		52	5.9	3,900	3,500	4,400	855	97	855	97	1,069	121
1,245	141	K202_0100 MT20	10.1	2881/286	1.8	10/5		53	6.0	3,500	3,500	4,400	996	112	1,949	220	3,543	400
1,245	141	K202_0100 MT30	10.1	2881/286	6.6	10/5		55	6.2	3,500	3,500	4,000	996	112	1,949	220	3,543	400
1,016	115	K202_0115 MT10	11.5	1247/108	1.3	10/5		65	7.3	3,500	3,100	4,000	1,016	115	1,016	115	1,270	143
1,303	147	K202_0115 MT20	11.5	1247/108	1.9	10/5		66	7.4	3,500	3,100	4,000	1,081	122	1,949	220	3,543	400
1,303	147	K202_0115 MT30	11.5	1247/108	6.7	10/5		68	7.7	3,500	3,100	4,000	1,081	122	1,949	220	3,543	400
1,037	117	K202_0125 MT10	12.7	559/44	1.0	10/5		55	6.2	3,900	3,500	4,400	1,037	117	1,037	117	1,297	146
1,345	152	K202_0125 MT20	12.7	559/44	1.6	10/5		55	6.2	3,500	3,500	4,400	1,076	122	1,949	220	3,543	400
1,345	152	K202_0125 MT30	12.7	559/44	6.4	10/5		56	6.4	3,500	3,500	4,000	1,076	122	1,949	220	3,543	400
1,176	133	K202_0140 MT10	13.9	2881/208	1.1	10/5		67	7.6	3,900	3,500	4,400	1,108	125	1,176	133	1,470	166
1,384	156	K202_0140 MT20	13.9	2881/208	1.7	10/5		67	7.6	3,500	3,500	4,400	1,108	125	1,949	220	3,543	400
1,384	156	K202_0140 MT30	13.9	2881/208	6.5	10/5		69	7.8	3,500	3,500	4,000	1,108	125	1,949	220	3,543	400
1,302	147	K202_0170 MT10	16.9	2967/176	0.9	10/5		56	6.4	4,000	3,900	4,500	1,173	132	1,302	147	1,627	184
1,478	167	K202_0170 MT20	16.9	2967/176	1.5	10/5		57	6.4	3,500	3,500	4,500	1,173	132	1,949	220	3,543	400
1,478	167	K202_0170 MT30	16.9	2967/176	6.3	10/5		57	6.5	3,500	3,500	4,000	1,173	132	1,949	220	3,543	400
1,426	161	K202_0175 MT10	17.5	559/32	1.0	10/5		69	7.8	3,900	3,500	4,400	1,197	135	1,426	161	1,783	201
1,495	169	K202_0175 MT20	17.5	559/32	1.6	10/5		69	7.8	3,500	3,500	4,400	1,197	135	1,949	220	3,543	400
1,495	169	K202_0175 MT30	17.5	559/32	6.4	10/5		70	7.9	3,500	3,500	4,000	1,197	135	1,949	220	3,543	400

Motor Shaft

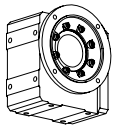
Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

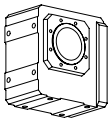
N Foot Mounted



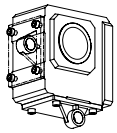
F Round Flange



G Tapped Holes



GD Torque Arm Bracket



These Housing Styles are available as Hollow (A), Bushing (W), or Solid (V) Output.

See page 86 and 87 for required ordering information and part number example.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
													Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	Continuous n_{1DBH}	Continuous n_{1DBV}	Cyclic n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K202/K203 with MT TriAdapt® Motor Adapter (Continued)																	**Noise Level ≤ 53 dB(A) [4]**	
1,504	170	K202_0200 MT10	20.3	1118/55	0.8	10/5		57	6.4	4,000	3,900	4,500	1,248	141	1,504	170	1,880	212
1,573	178	K202_0200 MT20	20.3	1118/55	1.4	10/5		57	6.5	3,500	3,500	4,500	1,248	141	1,949	220	3,541	400
1,573	178	K202_0200 MT30	20.3	1118/55	6.2	10/5		58	6.5	3,500	3,500	4,000	1,248	141	1,949	220	3,541	400
1,643	186	K202_0230 MT10	23.2	2967/128	0.8	10/5		70	7.9	4,000	3,900	4,500	1,304	147	1,790	202	2,237	253
1,643	186	K202_0230 MT20	23.2	2967/128	1.4	10/5		70	7.9	3,500	3,500	4,500	1,304	147	1,949	220	3,543	400
1,643	186	K202_0230 MT30	23.2	2967/128	6.2	10/5		71	8.0	3,500	3,500	4,000	1,304	147	1,949	220	3,543	400
1,688	191	K202_0250 MT10	25.1	1935/77	0.7	10/5		58	6.5	4,000	3,900	4,500	1,340	151	1,775	200	2,219	250
1,688	191	K202_0250 MT20	25.1	1935/77	1.3	10/5		58	6.5	3,500	3,500	4,500	1,340	151	1,949	220	3,543	400
1,688	191	K202_0250 MT30	25.1	1935/77	6.1	10/5		58	6.6	3,500	3,500	4,000	1,340	151	1,949	220	3,543	400
1,749	197	K202_0280 MT10	28.0	559/20	0.8	10/5		71	8.0	4,000	3,900	4,500	1,388	157	1,949	220	2,586	292
1,749	197	K202_0280 MT20	28.0	559/20	1.4	10/5		71	8.0	3,500	3,500	4,500	1,388	157	1,949	220	3,543	400
1,749	197	K202_0280 MT30	28.0	559/20	6.2	10/5		71	8.1	3,500	3,500	4,000	1,388	157	1,949	220	3,543	400
1,364	154	K202_0340 MT10	33.6	1849/55	0.7	10/5		58	6.6	4,000	3,900	4,500	1,364	154	1,637	185	2,729	308
1,364	154	K202_0340 MT20	33.6	1849/55	1.3	10/5		58	6.6	3,500	3,500	4,500	1,364	154	1,637	185	2,729	308
1,772	200	K202_0350 MT10	34.6	1935/56	0.7	10/5		71	8.0	4,000	3,900	4,500	1,490	168	1,949	220	3,051	344
1,772	200	K202_0350 MT20	34.6	1935/56	1.3	10/5		71	8.1	3,500	3,500	4,500	1,490	168	1,949	220	3,543	400
1,772	200	K202_0350 MT30	34.6	1935/56	6.1	10/5		72	8.1	3,500	3,500	4,000	1,490	168	1,949	220	3,543	400
1,023	116	K202_0400 MT10	40.4	1333/33	0.7	10/5		58	6.6	4,000	3,900	4,500	1,023	116	1,228	139	1,690	191
1,772	200	K202_0460 MT10	46.2	1849/40	0.7	10/5		72	8.1	4,000	3,900	4,500	1,642	185	1,949	220	3,543	400
1,772	200	K202_0460 MT20	46.2	1849/40	1.3	10/5		72	8.1	3,500	3,500	4,500	1,642	185	1,949	220	3,543	400
853	96	K202_0500 MT10	50.5	6665/132	0.6	10/5		58	6.6	4,000	3,900	4,500	853	96	1,023	116	1,705	193
1,407	159	K202_0560 MT10	55.5	1333/24	0.7	10/5		72	8.1	4,000	3,900	4,500	1,407	159	1,688	191	2,323	262
1,172	132	K202_0690 MT10	69.4	6665/96	0.6	10/5		72	8.1	4,000	3,900	4,500	1,172	132	1,407	159	2,345	265
1,431	162	K203_0390 MT10	39.5	135407/3432	0.7	10/6		58	6.6	4,000	3,900	4,500	1,431	162	1,431	162	1,788	202
1,640	185	K203_0450 MT10	45.2	58609/1296	0.7	10/6		72	8.1	4,000	3,900	4,500	1,630	184	1,640	185	2,050	231
1,772	200	K203_0500 MT10	49.8	26273/528	0.7	10/6		58	6.6	4,000	3,900	4,500	1,683	190	1,804	204	2,256	255
1,772	200	K203_0540 MT10	54.3	135407/2496	0.7	10/6		72	8.1	4,000	3,900	4,500	1,732	195	1,949	220	2,459	278
1,772	200	K203_0660 MT10	66.0	46483/704	0.7	10/6		59	6.6	4,000	3,900	4,500	1,772	200	1,949	220	2,993	338
1,772	200	K203_0680 MT10	68.4	26273/384	0.7	10/6		72	8.1	4,000	3,900	4,500	1,772	200	1,949	220	3,101	350
1,772	200	K203_0800 MT10	79.6	26273/330	0.7	10/6		59	6.6	4,000	3,900	4,500	1,772	200	1,949	220	3,540	400
1,772	200	K203_0910 MT10	90.8	46483/512	0.7	10/6		72	8.1	4,000	3,900	4,500	1,772	200	1,949	220	3,543	400
1,772	200	K203_1090 MT10	109.5	26273/240	0.7	10/6		72	8.1	4,000	3,900	4,500	1,772	200	1,949	220	3,543	400
1,772	200	K203_1350 MT10	135.3	30315/224	0.7	10/6		72	8.1	4,000	3,900	4,500	1,772	200	1,949	220	3,543	400
1,772	200	K203_1810 MT10	181.0	86903/480	0.7	10/6		72	8.1	4,000	3,900	4,500	1,772	200	1,949	220	3,543	400
1,407	159	K203_2180 MT10	217.5	62651/288	0.6	10/6		72	8.1	4,000	3,900	4,500	1,407	159	1,688	191	2,323	262
1,172	132	K203_2720 MT10	271.9	313255/1152	0.6	10/6		72	8.1	4,000	3,900	4,500	1,172	132	1,407	159	2,345	265

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A)Measured at 1 meter distance with 3000 RPM input

DIRECTION OF ROTATION:

2 Stage units (K102 through K402)
If input turns clockwise, output (side 4) turns clockwise.

3 Stage units (K203 through K913)
If input turns clockwise, output (side 4) turns counterclockwise.

4 Stage units (K514 through K1014)
If input turns clockwise, output (side 4) turns clockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL3 or EL4
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

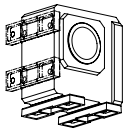
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
										Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K302/K303 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 53 dB(A)** [4]	
1,375	155	K302_0040 MT20	4.0	4/1	6.4	10/4		40	4.5	2,700	2,300	3,200	1,375	155	1,512	171	2,238	253
1,602	181	K302_0040 MT30	4.0	4/1	11.2	10/4		49	5.5	2,700	2,300	3,200	1,450	164	2,707	306	5,772	652
1,500	169	K302_0044 MT20	4.4	48/11	5.7	10/4		43	4.9	2,700	2,300	3,200	1,493	168	1,650	186	2,421	273
1,650	186	K302_0044 MT30	4.4	48/11	10.5	10/4		52	5.8	2,700	2,300	3,200	1,493	168	2,787	315	6,201	700
1,768	200	K302_0054 MT20	5.4	43/8	4.5	10/4		51	5.7	2,700	2,300	3,200	1,600	181	2,032	229	2,884	326
1,768	200	K302_0054 MT30	5.4	43/8	9.3	10/4		58	6.5	2,700	2,300	3,200	1,600	181	2,307	260	2,884	326
1,834	207	K302_0060 MT20	6.0	6/1	4.8	10/4		59	6.7	2,700	2,300	3,200	1,660	187	2,268	256	3,328	376
1,834	207	K302_0060 MT30	6.0	6/1	9.6	10/4		67	7.6	2,700	2,300	3,200	1,660	187	3,099	350	6,201	700
1,907	215	K302_0067 MT20	6.7	2150/319	3.5	10/4		57	6.5	3,200	2,800	3,700	1,630	184	2,548	288	3,515	397
1,907	215	K302_0067 MT30	6.7	2150/319	8.3	10/4		63	7.1	3,200	2,800	3,700	1,630	184	2,812	317	3,515	397
1,966	222	K302_0074 MT20	7.4	473/64	3.9	10/4		66	7.5	2,700	2,300	3,200	1,779	201	2,794	315	3,965	448
1,966	222	K302_0074 MT30	7.4	473/64	8.7	10/4		73	8.2	2,700	2,300	3,200	1,779	201	3,172	358	3,965	448
2,056	232	K302_0084 MT20	8.4	2322/275	2.8	10/4		63	7.1	3,200	2,800	3,700	1,757	198	3,192	360	4,244	479
2,056	232	K302_0084 MT30	8.4	2322/275	7.6	10/4		67	7.5	3,200	2,800	3,700	1,757	198	3,395	383	4,244	479
2,120	239	K302_0093 MT20	9.3	1075/116	3.2	10/4		72	8.2	3,200	2,800	3,700	1,813	205	3,410	385	4,833	546
2,120	239	K302_0093 MT30	9.3	1075/116	8.0	10/4		77	8.7	3,200	2,800	3,700	1,813	205	3,410	385	4,833	546
2,185	247	K302_0100 MT20	10.1	3010/297	2.4	10/4		66	7.4	3,500	3,100	4,000	1,813	205	3,410	385	4,911	554
2,185	247	K302_0100 MT30	10.1	3010/297	7.2	10/4		69	7.8	3,500	3,100	4,000	1,813	205	3,410	385	4,911	554
2,286	258	K302_0115 MT20	11.6	1161/100	2.6	10/4		77	8.6	3,200	2,800	3,700	1,954	221	3,410	385	5,835	659
2,286	258	K302_0115 MT30	11.6	1161/100	7.4	10/4		80	9.0	3,200	2,800	3,700	1,954	221	3,410	385	5,835	659
1,059	120	K302_0125 MT10	12.6	3182/253	1.5	10/4		68	7.7	3,500	3,100	4,000	1,059	120	1,059	120	1,324	150
2,348	265	K302_0125 MT20	12.6	3182/253	2.1	10/4		69	7.8	3,500	3,100	4,000	1,948	220	3,410	385	5,854	661
2,348	265	K302_0125 MT30	12.6	3182/253	6.9	10/4		71	8.0	3,500	3,100	4,000	1,948	220	3,410	385	5,854	661
2,429	274	K302_0140 MT20	13.9	1505/108	2.3	10/4		79	8.9	3,500	3,100	4,000	2,016	228	3,410	385	6,201	700
2,429	274	K302_0140 MT30	13.9	1505/108	7.1	10/4		81	9.2	3,500	3,100	4,000	2,016	228	3,410	385	6,201	700
1,342	152	K302_0170 MT10	16.9	559/33	1.1	10/4		71	8.0	3,800	3,500	4,300	1,342	152	1,342	152	1,678	189
2,592	293	K302_0170 MT20	16.9	559/33	1.7	10/4		71	8.1	3,500	3,500	4,300	2,093	236	3,410	385	6,201	700
2,592	293	K302_0170 MT30	16.9	559/33	6.5	10/4		73	8.2	3,500	3,500	4,000	2,093	236	3,410	385	6,201	700
1,457	164	K302_0175 MT10	17.3	1591/92	1.4	10/4		81	9.1	3,500	3,100	4,000	1,457	164	1,457	164	1,821	206
2,610	295	K302_0175 MT20	17.3	1591/92	2.0	10/4		81	9.2	3,500	3,100	4,000	2,166	245	3,410	385	6,201	700
2,610	295	K302_0175 MT30	17.3	1591/92	6.8	10/4		83	9.4	3,500	3,100	4,000	2,166	245	3,410	385	6,201	700
1,555	176	K302_0200 MT10	20.3	3569/176	1.0	10/4		72	8.1	3,800	3,500	4,300	1,555	176	1,555	176	1,943	219
2,753	311	K302_0200 MT20	20.3	3569/176	1.6	10/4		72	8.2	3,500	3,500	4,300	2,222	251	3,410	385	6,201	700
2,753	311	K302_0200 MT30	20.3	3569/176	6.4	10/4		73	8.3	3,500	3,500	4,000	2,222	251	3,410	385	6,201	700
1,845	208	K302_0230 MT10	23.3	559/24	1.1	10/4		83	9.4	3,800	3,500	4,300	1,845	208	1,845	208	2,307	260
2,883	325	K302_0230 MT20	23.3	559/24	1.7	10/4		83	9.4	3,500	3,500	4,300	2,328	263	3,410	385	6,201	700
2,883	325	K302_0230 MT30	23.3	559/24	6.5	10/4		84	9.5	3,500	3,500	4,000	2,328	263	3,410	385	6,201	700
1,839	208	K302_0250 MT10	25.3	3612/143	0.9	10/4		73	8.2	3,800	3,500	4,300	1,839	208	1,839	208	2,298	259
2,962	334	K302_0250 MT20	25.3	3612/143	1.5	10/4		73	8.3	3,500	3,500	4,300	2,391	270	3,410	385	4,328	489
2,962	334	K302_0250 MT30	25.3	3612/143	6.3	10/4		74	8.3	3,500	3,500	4,000	2,391	270	3,410	385	4,328	489

Motor Shaft

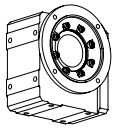
Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

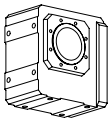
N Foot Mounted



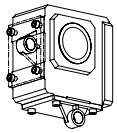
F Round Flange



G Tapped Holes



GD Torque Arm Bracket



These Housing Styles are available as Hollow (A), Bushing (W), or Solid (V) Output.

See page 86 and 87 for required ordering information and part number example.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
										Continuous		Cyclic	Nominal [2] $T_{2N} \leq n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K302/K303 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 53 dB(A)** [4]	
2,138	241	K302_0280 MT10	27.9	3569/128	1.0	10/4		84	9.4	3,800	3,500	4,300	2,138	241	2,138	241	2,672	302
3,061	346	K302_0280 MT20	27.9	3569/128	1.6	10/4		84	9.5	3,500	3,500	4,300	2,471	279	3,410	385	6,201	700
3,061	346	K302_0280 MT30	27.9	3569/128	6.4	10/4		85	9.5	3,500	3,500	4,000	2,471	279	3,410	385	6,201	700
2,217	250	K302_0340 MT10	33.6	1849/55	0.8	10/4		74	8.3	3,800	3,500	4,300	2,066	233	2,299	260	2,874	324
2,217	250	K302_0340 MT20	33.6	1849/55	1.4	10/4		74	8.3	3,500	3,500	4,300	2,217	250	2,660	300	4,434	501
2,217	250	K302_0340 MT30	33.6	1849/55	6.2	10/4		74	8.4	3,500	3,500	4,000	2,217	250	2,660	300	4,434	501
2,528	285	K302_0350 MT10	34.7	903/26	0.9	10/4		84	9.5	3,800	3,500	4,300	2,528	285	2,528	285	3,160	357
3,100	350	K302_0350 MT20	34.7	903/26	1.5	10/4		84	9.5	3,500	3,500	4,300	2,659	300	3,410	385	5,951	672
3,100	350	K302_0350 MT30	34.7	903/26	6.3	10/4		85	9.6	3,500	3,500	4,000	2,659	300	3,410	385	5,951	672
1,705	193	K302_0410 MT10	40.5	4902/121	0.7	10/4		74	8.4	3,800	3,500	4,300	1,705	193	2,046	231	3,334	376
1,705	193	K302_0410 MT20	40.5	4902/121	1.3	10/4		74	8.4	3,500	3,500	4,300	1,705	193	2,046	231	3,334	376
3,048	344	K302_0460 MT10	46.2	1849/40	0.8	10/4		85	9.6	3,800	3,500	4,300	2,841	321	3,162	357	3,952	446
3,048	344	K302_0460 MT20	46.2	1849/40	1.4	10/4		85	9.6	3,500	3,500	4,300	2,925	330	3,410	385	6,097	688
3,048	344	K302_0460 MT30	46.2	1849/40	6.2	10/4		85	9.6	3,500	3,500	4,000	2,925	330	3,410	385	6,097	688
1,364	154	K302_0500 MT10	50.5	6665/132	0.7	10/4		74	8.4	3,800	3,500	4,300	1,364	154	1,637	185	2,072	234
2,345	265	K302_0560 MT10	55.7	2451/44	0.7	10/4		85	9.6	3,800	3,500	4,300	2,345	265	2,814	318	4,584	517
2,345	265	K302_0560 MT20	55.7	2451/44	1.3	10/4		85	9.6	3,500	3,500	4,300	2,345	265	2,814	318	4,584	517
1,876	212	K302_0690 MT10	69.4	6665/96	0.7	10/4		85	9.6	3,800	3,500	4,300	1,876	212	2,251	254	2,849	322
3,100	350	K303_0330 MT20	32.6	44892/1375	1.5	10/5		74	8.3	3,500	3,500	4,300	2,605	294	3,394	383	4,243	479
3,100	350	K303_0360 MT20	35.8	215/6	1.5	10/5		85	9.5	3,500	3,500	4,300	2,687	303	3,410	385	4,833	546
3,100	350	K303_0390 MT20	39.2	34916/891	1.4	10/5		74	8.4	3,500	3,500	4,300	2,768	313	3,410	385	4,910	554
3,100	350	K303_0450 MT20	44.9	11223/250	1.4	10/5		85	9.6	3,500	3,500	4,300	2,897	327	3,410	385	5,834	659
1,786	202	K303_0490 MT10	49.3	74777/1518	0.7	10/5		74	8.4	3,800	3,500	4,300	1,786	202	1,786	202	2,233	252
3,100	350	K303_0490 MT20	48.6	184556/3795	1.4	10/5		74	8.4	3,500	3,500	4,300	2,975	336	3,410	385	5,854	661
3,100	350	K303_0540 MT20	53.9	8729/162	1.4	10/5		85	9.6	3,500	3,500	4,300	3,078	348	3,410	385	6,201	700
1,979	223	K303_0550 MT10	54.6	70735/1296	0.7	10/5		85	9.6	3,800	3,500	4,300	1,979	223	1,979	223	2,474	279
3,100	350	K303_0650 MT20	65.5	32422/495	1.4	10/5		75	8.4	3,500	3,500	4,300	3,100	350	3,410	385	6,201	700
2,406	272	K303_0660 MT10	66.3	26273/396	0.7	10/5		75	8.4	3,800	3,500	4,300	2,150	243	2,406	272	3,007	340
3,100	350	K303_0670 MT20	66.9	46139/690	1.4	10/5		85	9.6	3,500	3,500	4,300	3,100	350	3,410	385	6,201	700
2,456	277	K303_0680 MT10	67.7	74777/1104	0.7	10/5		85	9.6	3,800	3,500	4,300	2,456	277	2,456	277	3,070	347
3,100	350	K303_0780 MT20	78.4	103501/1320	1.4	10/5		75	8.4	3,500	3,500	4,300	3,100	350	3,410	385	6,201	700
2,832	320	K303_0790 MT10	79.4	167743/2112	0.7	10/5		75	8.4	3,800	3,500	4,300	2,287	258	2,880	325	3,600	406
3,100	350	K303_0900 MT20	90.1	16211/180	1.4	10/5		85	9.6	3,500	3,500	4,300	3,100	350	3,410	385	6,201	700
3,100	350	K303_0910 MT10	91.2	26273/288	0.7	10/5		85	9.6	3,800	3,500	4,300	2,956	334	3,308	373	4,135	467
3,100	350	K303_1080 MT20	107.8	103501/960	1.4	10/5		85	9.6	3,500	3,500	4,300	3,100	350	3,410	385	6,201	700
3,100	350	K303_1090 MT10	109.2	167743/1536	0.7	10/5		85	9.6	3,800	3,500	4,300	3,100	350	3,410	385	4,950	559
3,100	350	K303_1340 MT20	134.3	8729/65	1.4	10/5		85	9.7	3,500	3,500	4,300	3,100	350	3,410	385	5,950	672

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A)Measured at 1 meter distance with 3000 RPM input

DIRECTION OF ROTATION:

2 Stage units (K102 through K402)
If input turns clockwise, output (side 4) turns clockwise.

3 Stage units (K203 through K913)
If input turns clockwise, output (side 4) turns counterclockwise.

4 Stage units (K514 through K1014)
If input turns clockwise, output (side 4) turns clockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL3 or EL4
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

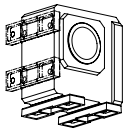
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
										Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K302/K303 with MT TriAdapt® Motor Adapter (Continued)																	**Noise Level ≤ 53 dB(A)** [4]	
3,100	350	K303_1360 MT10	136.0	14147/104	0.7	10/5		85	9.7	3,800	3,500	4,300	3,100	350	3,410	385	5,950	672
3,048	344	K303_1790 MT20	178.7	53621/300	1.4	10/5		86	9.7	3,500	3,500	4,300	3,048	344	3,410	385	6,097	688
3,048	344	K303_1810 MT10	181.0	86903/480	0.7	10/5		86	9.7	3,800	3,500	4,300	3,048	344	3,410	385	6,097	688
2,345	265	K303_2180 MT10	218.2	38399/176	0.7	10/5		86	9.7	3,800	3,500	4,300	2,345	265	2,814	318	4,583	517
1,876	212	K303_2720 MT10	271.9	313255/1152	0.7	10/5		86	9.7	3,800	3,500	4,300	1,876	212	2,251	254	2,849	322
K402/K403 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 51 dB(A)** [4]	
1,375	155	K402_0040 MT20	4.0	4/1	11.4	10/4		55	6.2	2,600	2,200	3,100	1,375	155	1,512	171	2,311	261
2,405	271	K402_0040 MT30	4.0	4/1	16.2	10/4		72	8.2	2,600	2,200	3,100	2,203	249	3,592	405	5,960	673
2,405	271	K402_0040 MT40	4.0	4/1	20.2	10/4		99	11.2	2,600	2,200	3,100	2,203	249	4,062	459	5,960	673
1,500	169	K402_0044 MT20	4.4	48/11	10.1	10/4		61	6.9	2,600	2,200	3,100	1,500	169	1,650	186	2,503	283
2,475	279	K402_0044 MT30	4.4	48/11	14.9	10/4		79	8.9	2,600	2,200	3,100	2,268	256	3,918	442	6,456	729
2,475	279	K402_0044 MT40	4.4	48/11	18.9	10/4		105	11.8	2,600	2,200	3,100	2,268	256	4,182	472	6,456	729
1,863	210	K402_0054 MT20	5.4	1849/341	7.5	10/4		77	8.7	2,600	2,200	3,100	1,863	210	2,050	231	3,021	341
2,661	300	K402_0054 MT30	5.4	1849/341	12.3	10/4		95	10.7	2,600	2,200	3,100	2,438	275	4,496	508	7,791	880
2,661	300	K402_0054 MT40	5.4	1849/341	16.3	10/4		117	13.2	2,600	2,200	3,100	2,438	275	4,496	508	7,791	880
2,062	233	K402_0060 MT20	6.0	6/1	8.4	10/4		92	10.4	2,600	2,200	3,100	2,062	233	2,268	256	3,442	389
2,752	311	K402_0060 MT30	6.0	6/1	13.2	10/4		113	12.8	2,600	2,200	3,100	2,522	285	4,650	525	8,877	1,002
2,752	311	K402_0060 MT40	6.0	6/1	17.2	10/4		139	15.7	2,600	2,200	3,100	2,522	285	4,650	525	8,877	1,002
2,309	261	K402_0067 MT20	6.7	215/32	5.6	10/4		93	10.5	3,000	2,600	3,500	2,309	261	2,540	287	3,605	407
2,858	323	K402_0067 MT30	6.7	215/32	10.4	10/4		108	12.2	3,000	2,600	3,500	2,497	282	4,829	545	9,298	1,050
2,858	323	K402_0067 MT40	6.7	215/32	14.4	10/4		127	14.3	3,000	2,600	3,500	2,497	282	4,829	545	9,298	1,050
2,563	289	K402_0075 MT20	7.5	1849/248	6.4	10/4		111	12.5	2,600	2,200	3,100	2,563	289	2,819	318	4,154	469
2,959	334	K402_0075 MT30	7.5	1849/248	11.2	10/4		129	14.6	2,600	2,200	3,100	2,711	306	4,999	564	9,744	1,100
2,959	334	K402_0075 MT40	7.5	1849/248	15.2	10/4		150	17.0	2,600	2,200	3,100	2,711	306	4,999	564	9,744	1,100
2,879	325	K402_0084 MT20	8.4	645/77	4.3	10/4		107	12.1	3,000	2,600	3,500	2,687	303	3,167	358	4,347	491
3,076	347	K402_0084 MT30	8.4	645/77	9.1	10/4		120	13.6	3,000	2,600	3,500	2,687	303	5,197	587	9,744	1,100
3,076	347	K402_0084 MT40	8.4	645/77	13.1	10/4		134	15.1	3,000	2,600	3,500	2,687	303	5,197	587	9,744	1,100
3,175	358	K402_0092 MT20	9.2	2365/256	4.9	10/4		128	14.4	3,000	2,600	3,500	2,777	313	3,493	394	4,956	560
3,178	359	K402_0092 MT30	9.2	2365/256	9.7	10/4		143	16.1	3,000	2,600	3,500	2,777	313	5,315	600	9,744	1,100
3,178	359	K402_0092 MT40	9.2	2365/256	13.7	10/4		159	17.9	3,000	2,600	3,500	2,777	313	5,315	600	9,744	1,100
3,274	370	K402_0100 MT20	10.1	1333/132	3.5	10/4		118	13.3	3,400	3,000	3,900	2,743	310	3,818	431	5,042	569
3,274	370	K402_0100 MT30	10.1	1333/132	8.3	10/4		128	14.5	3,400	3,000	3,900	2,743	310	5,315	600	9,744	1,100
3,274	370	K402_0100 MT40	10.1	1333/132	12.3	10/4		138	15.6	3,000	3,000	3,500	2,743	310	5,315	600	9,744	1,100
3,421	386	K402_0115 MT20	11.5	645/56	3.9	10/4		141	16.0	3,000	2,600	3,500	2,988	337	4,354	492	5,977	675
3,421	386	K402_0115 MT30	11.5	645/56	8.7	10/4		153	17.3	3,000	2,600	3,500	2,988	337	5,315	600	9,744	1,100
3,421	386	K402_0115 MT40	11.5	645/56	12.7	10/4		164	18.6	3,000	2,600	3,500	2,988	337	5,315	600	9,744	1,100
3,530	399	K402_0125 MT20	12.7	2924/231	2.8	10/4		127	14.4	3,400	3,000	3,900	2,958	334	4,785	540	6,113	690
3,530	399	K402_0125 MT30	12.7	2924/231	7.6	10/4		135	15.2	3,400	3,000	3,900	2,958	334	5,315	600	9,744	1,100
3,530	399	K402_0125 MT40	12.7	2924/231	11.6	10/4		142	16.1	3,000	3,000	3,500	2,958	334	5,315	600	9,744	1,100

Motor Shaft

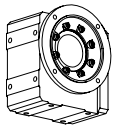
Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

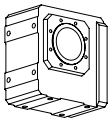
N Foot Mounted



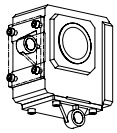
F Round Flange



G Tapped Holes



GD Torque Arm Bracket



These Housing Styles are available as Hollow (A), Bushing (W), or Solid (V) Output.

See page 86 and 87 for required ordering information and part number example.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
										Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K402/K403 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 51 dB(A)** [4]	
3,641	411	**K402_0140 MT20**	13.9	1333/96	3.2	10/4		151	17.0	3,400	3,000	3,900	3,051	344	5,249	593	6,933	783
3,641	411	**K402_0140 MT30**	13.9	1333/96	8.0	10/4		160	18.0	3,400	3,000	3,900	3,051	344	5,315	600	9,744	1,100
3,641	411	**K402_0140 MT40**	13.9	1333/96	12.0	10/4		168	19.0	3,000	3,000	3,500	3,051	344	5,315	600	9,744	1,100
3,827	432	**K402_0170 MT20**	16.9	559/33	2.2	10/4		136	15.4	3,500	3,300	4,100	3,146	355	5,315	600	7,682	867
3,890	439	**K402_0170 MT30**	16.9	559/33	7.0	10/4		141	15.9	3,500	3,300	4,000	3,198	361	5,315	600	9,744	1,100
3,890	439	**K402_0170 MT40**	16.9	559/33	11.0	10/4		145	16.4	3,000	3,000	3,500	3,198	361	5,315	600	9,744	1,100
3,926	443	**K402_0175 MT20**	17.4	731/42	2.6	10/4		159	18.0	3,400	3,000	3,900	3,289	371	5,315	600	8,405	949
3,926	443	**K402_0175 MT30**	17.4	731/42	7.4	10/4		165	18.7	3,400	3,000	3,900	3,289	371	5,315	600	9,744	1,100
3,926	443	**K402_0175 MT40**	17.4	731/42	11.4	10/4		171	19.3	3,000	3,000	3,500	3,289	371	5,315	600	9,744	1,100
3,964	447	**K402_0200 MT20**	20.2	1333/66	1.9	10/4		140	15.8	3,500	3,300	4,100	3,258	368	5,315	600	8,842	998
4,125	466	**K402_0200 MT30**	20.2	1333/66	6.7	10/4		143	16.2	3,500	3,300	4,000	3,391	383	5,315	600	8,842	998
4,125	466	**K402_0200 MT40**	20.2	1333/66	10.7	10/4		147	16.5	3,000	3,000	3,500	3,391	383	5,315	600	8,842	998
4,326	488	**K402_0230 MT20**	23.3	559/24	2.1	10/4		166	18.8	3,500	3,300	4,100	3,556	401	5,315	600	9,744	1,100
4,326	488	**K402_0230 MT30**	23.3	559/24	6.9	10/4		170	19.2	3,500	3,300	4,000	3,556	401	5,315	600	9,744	1,100
4,326	488	**K402_0230 MT40**	23.3	559/24	10.9	10/4		173	19.6	3,000	3,000	3,500	3,556	401	5,315	600	9,744	1,100
4,079	460	**K402_0250 MT20**	25.3	4171/165	1.7	10/4		143	16.2	3,500	3,300	4,100	3,353	379	5,315	600	8,868	1,001
4,434	501	**K402_0250 MT30**	25.3	4171/165	6.5	10/4		146	16.4	3,500	3,300	4,000	3,655	413	5,315	600	8,868	1,001
4,434	501	**K402_0250 MT40**	25.3	4171/165	10.5	10/4		148	16.7	3,000	3,000	3,500	3,655	413	5,315	600	8,868	1,001
4,587	518	**K402_0280 MT20**	27.8	1333/48	1.9	10/4		169	19.1	3,500	3,300	4,100	3,771	426	5,315	600	9,744	1,100
4,587	518	**K402_0280 MT30**	27.8	1333/48	6.7	10/4		172	19.4	3,500	3,300	4,000	3,771	426	5,315	600	9,744	1,100
4,587	518	**K402_0280 MT40**	27.8	1333/48	10.7	10/4		174	19.7	3,000	3,000	3,500	3,771	426	5,315	600	9,744	1,100
3,445	389	**K402_0340 MT20**	33.7	4816/143	1.5	10/4		146	16.5	3,500	3,300	4,100	3,445	389	4,134	467	5,620	634
3,445	389	**K402_0340 MT30**	33.7	4816/143	6.3	10/4		147	16.6	3,500	3,300	4,000	3,445	389	4,134	467	5,620	634
4,872	550	**K402_0350 MT20**	34.8	4171/120	1.7	10/4		172	19.4	3,500	3,300	4,100	4,064	459	5,315	600	9,744	1,100
4,872	550	**K402_0350 MT30**	34.8	4171/120	6.5	10/4		173	19.6	3,500	3,300	4,000	4,064	459	5,315	600	9,744	1,100
4,872	550	**K402_0350 MT40**	34.8	4171/120	10.5	10/4		175	19.7	3,000	3,000	3,500	4,064	459	5,315	600	9,744	1,100
2,729	308	**K402_0410 MT20**	40.5	4902/121	1.4	10/4		147	16.6	3,500	3,300	4,100	2,729	308	3,274	370	5,457	616
2,729	308	**K402_0410 MT30**	40.5	4902/121	6.2	10/4		148	16.7	3,500	3,300	4,000	2,729	308	3,274	370	5,457	616
4,737	535	**K402_0460 MT20**	46.3	602/13	1.5	10/4		174	19.6	3,500	3,300	4,100	4,472	505	5,315	600	7,728	872
4,737	535	**K402_0460 MT30**	46.3	602/13	6.3	10/4		175	19.7	3,500	3,300	4,000	4,472	505	5,315	600	7,728	872
2,387	270	**K402_0500 MT20**	50.4	5547/110	1.4	10/4		148	16.7	3,500	3,300	4,100	2,387	270	2,865	323	4,064	459
3,752	424	**K402_0560 MT20**	55.7	2451/44	1.4	10/4		174	19.7	3,500	3,300	4,100	3,752	424	4,502	508	7,504	847
3,752	424	**K402_0560 MT30**	55.7	2451/44	6.2	10/4		175	19.8	3,500	3,300	4,000	3,752	424	4,502	508	7,504	847
3,283	371	**K402_0690 MT20**	69.3	5547/80	1.3	10/4		175	19.8	3,500	3,300	4,100	3,283	371	3,939	445	5,588	631
3,477	393	**K403_0320 MT20**	32.4	2494/77	1.6	10/5		146	16.4	3,500	3,300	4,100	3,477	393	3,477	393	4,346	491
3,965	448	**K403_0360 MT20**	35.7	13717/384	1.6	10/5		172	19.4	3,500	3,300	4,100	3,965	448	3,965	448	4,956	560
4,033	455	**K403_0390 MT20**	39.0	38657/990	1.5	10/5		147	16.6	3,500	3,300	4,100	4,033	455	4,033	455	5,042	569
4,781	540	**K403_0450 MT20**	44.5	1247/28	1.5	10/5		173	19.6	3,500	3,300	4,100	4,414	498	4,781	540	5,976	675
4,872	550	**K403_0490 MT20**	48.9	169592/3465	1.5	10/5		148	16.7	3,500	3,300	4,100	4,555	514	4,890	552	6,112	690
4,872	550	**K403_0540 MT20**	53.7	38657/720	1.5	10/5		174	19.7	3,500	3,300	4,100	4,698	530	5,315	600	6,932	783

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A)Measured at 1 meter distance with 3000 RPM input

DIRECTION OF ROTATION:

2 Stage units (K102 through K402)
If input turns clockwise, output (side 4) turns clockwise.

3 Stage units (K203 through K913)
If input turns clockwise, output (side 4) turns counterclockwise.

4 Stage units (K514 through K1014)
If input turns clockwise, output (side 4) turns clockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL3 or EL4
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
													Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
						Standard	Reduced			Continuous		Cyclic						
in.lbs.	Nm		Nom.	Exact	kgcm²			in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K402/K403 with MT TriAdapt® Motor Adapter (Continued)																	**Noise Level ≤ 51 dB(A) [4]**	
4,872	550	K403_0650 MT20	65.5	32422/495	1.4	10/5		148	16.8	3,500	3,300	4,100	4,872	550	5,315	600	7,681	867
2,406	272	K403_0660 MT10	66.3	26273/396	0.7	10/5		148	16.8	3,600	3,300	4,100	2,406	272	2,406	272	3,007	340
4,872	550	K403_0670 MT20	67.3	21199/315	1.4	10/5		175	19.8	3,500	3,300	4,100	4,872	550	5,315	600	8,404	949
2,472	279	K403_0680 MT10	68.2	34357/504	0.7	10/5		175	19.7	3,600	3,300	4,100	2,472	279	2,472	279	3,090	349
4,872	550	K403_0780 MT20	78.1	38657/495	1.4	10/5		149	16.8	3,500	3,300	4,100	4,872	550	5,315	600	8,842	998
2,869	324	K403_0790 MT10	79.1	62651/792	0.7	10/5		149	16.8	3,600	3,300	4,100	2,610	295	2,869	324	3,586	405
4,872	550	K403_0900 MT20	90.1	16211/180	1.4	10/5		176	19.8	3,500	3,300	4,100	4,872	550	5,315	600	9,744	1,100
3,308	373	K403_0910 MT10	91.2	26273/288	0.7	10/5		176	19.8	3,600	3,300	4,100	3,308	373	3,308	373	4,135	467
4,872	550	K403_1070 MT20	107.4	38657/360	1.4	10/5		176	19.8	3,500	3,300	4,100	4,872	550	5,315	600	9,744	1,100
3,944	445	K403_1090 MT10	108.8	62651/576	0.7	10/5		176	19.8	3,600	3,300	4,100	3,588	405	3,944	445	4,930	557
4,872	550	K403_1340 MT20	134.4	120959/900	1.4	10/5		176	19.9	3,500	3,300	4,100	4,872	550	5,315	600	9,744	1,100
4,581	517	K403_1360 MT10	136.1	196037/1440	0.7	10/5		176	19.9	3,600	3,300	4,100	3,766	425	4,937	557	6,171	697
4,737	535	K403_1790 MT20	179.1	34916/195	1.4	10/5		176	19.9	3,500	3,300	4,100	4,737	535	5,315	600	7,727	872
4,737	535	K403_1810 MT10	181.4	14147/78	0.7	10/5		176	19.9	3,600	3,300	4,100	4,012	453	5,315	600	7,727	872
3,752	424	K403_2150 MT20	215.4	23693/110	1.4	10/5		176	19.9	3,500	3,300	4,100	3,752	424	4,502	508	7,504	847
3,752	424	K403_2180 MT10	218.2	38399/176	0.7	10/5		176	19.9	3,600	3,300	4,100	3,752	424	4,502	508	7,504	847
3,283	371	K403_2720 MT10	271.6	86903/320	0.7	10/5		176	19.9	3,600	3,300	4,100	3,283	371	3,939	445	5,587	631
K513/K514 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 61 dB(A) [4]**	
5,461	617	K513_0073 MT30	7.3	551/75	23.1	10/5		172	19.4	1,900	1,800	2,900	5,555	627	6,502	734	11,147	1,258
5,461	617	K513_0073 MT40	7.3	551/75	27.1	10/5		213	24.0	1,900	1,800	2,900	5,555	627	8,858	1,000	11,147	1,258
5,649	638	K513_0081 MT30	8.1	17081/2100	21.2	10/5		185	20.8	1,900	1,800	2,900	5,747	649	7,198	813	12,341	1,393
5,649	638	K513_0081 MT40	8.1	17081/2100	25.2	10/5		222	25.0	1,900	1,800	2,900	5,747	649	8,858	1,000	12,341	1,393
5,879	664	K513_0092 MT30	9.2	1421/155	18.2	10/5		198	22.3	1,900	1,800	2,900	5,981	675	8,113	916	13,494	1,523
5,879	664	K513_0092 MT40	9.2	1421/155	22.2	10/5		230	26.0	1,900	1,800	2,900	5,981	675	8,858	1,000	13,494	1,523
6,082	687	K513_0100 MT30	10.2	203/20	17.0	10/5		208	23.5	1,900	1,800	2,900	6,187	698	8,858	1,000	14,939	1,686
6,082	687	K513_0100 MT40	10.2	203/20	21.0	10/5		237	26.7	1,900	1,800	2,900	6,187	698	8,858	1,000	14,939	1,686
6,353	717	K513_0115 MT30	11.6	10759/930	14.5	10/5		220	24.8	2,300	2,200	3,300	6,064	685	8,858	1,000	15,944	1,800
6,353	717	K513_0115 MT40	11.6	10759/930	18.5	10/5		244	27.5	2,300	2,200	3,300	6,064	685	8,858	1,000	15,944	1,800
6,573	742	K513_0130 MT30	12.8	1537/120	13.7	10/5		228	25.7	2,300	2,200	3,300	6,273	708	8,858	1,000	15,944	1,800
6,573	742	K513_0130 MT40	12.8	1537/120	17.7	10/5		248	28.0	2,300	2,200	3,300	6,273	708	8,858	1,000	15,944	1,800
4,924	556	K513_0145 MT20	14.5	5887/405	7.2	10/5		219	24.7	2,300	2,200	3,300	4,924	556	5,416	611	7,682	867
6,856	774	K513_0145 MT30	14.5	5887/405	12.0	10/5		236	26.6	2,300	2,200	3,300	6,544	739	8,858	1,000	15,944	1,800
6,856	774	K513_0145 MT40	14.5	5887/405	16.0	10/5		253	28.6	2,300	2,200	3,300	6,544	739	8,858	1,000	15,944	1,800
5,451	615	K513_0160 MT20	16.1	26071/1620	6.7	10/5		227	25.6	2,300	2,200	3,300	5,451	615	5,996	677	8,505	960
7,092	801	K513_0160 MT30	16.1	26071/1620	11.5	10/5		242	27.3	2,300	2,200	3,300	6,769	764	8,858	1,000	15,944	1,800
7,092	801	K513_0160 MT40	16.1	26071/1620	15.5	10/5		256	28.9	2,300	2,200	3,300	6,769	764	8,858	1,000	15,944	1,800

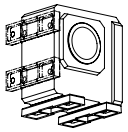
"K" Series

Motor Shaft

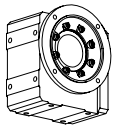
Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

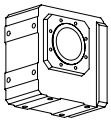
N Foot Mounted



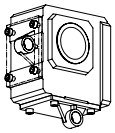
F Round Flange



G Tapped Holes



GD Torque Arm Bracket



These Housing Styles are available as Hollow (A), Bushing (W), or Solid (V) Output.

See page 86 and 87 for required ordering information and part number example.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
													Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	Continuous n_{1DBH}	n_{1DBV}	Cyclic n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K513/K514 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 61 dB(A)** [4]	
5,921	668	K513_0175 MT20	17.5	6293/360	5.8	10/5		232	26.2	2,800	2,500	3,700	5,921	668	6,513	735	8,970	1,013
7,291	823	K513_0175 MT30	17.5	6293/360	10.6	10/5		246	27.7	2,800	2,500	3,700	6,517	736	8,858	1,000	15,944	1,800
7,291	823	K513_0175 MT40	17.5	6293/360	14.6	10/5		258	29.1	2,800	2,500	3,500	6,517	736	8,858	1,000	15,944	1,800
6,555	740	K513_0195 MT20	19.4	27869/1440	5.4	10/5		239	26.9	2,800	2,500	3,700	6,555	740	7,211	814	9,931	1,121
7,542	851	K513_0195 MT30	19.4	27869/1440	10.2	10/5		250	28.2	2,800	2,500	3,700	6,742	761	8,858	1,000	15,944	1,800
7,542	851	K513_0195 MT40	19.4	27869/1440	14.2	10/5		260	29.4	2,800	2,500	3,500	6,742	761	8,858	1,000	15,944	1,800
7,089	800	K513_0220 MT20	22.0	2639/120	4.4	10/5		245	27.7	2,800	2,500	3,700	6,337	715	8,194	925	10,782	1,217
7,870	888	K513_0220 MT30	22.0	2639/120	9.2	10/5		254	28.7	2,800	2,500	3,700	7,035	794	8,858	1,000	15,944	1,800
7,870	888	K513_0220 MT40	22.0	2639/120	13.2	10/5		263	29.6	2,800	2,500	3,500	7,035	794	8,858	1,000	15,944	1,800
7,849	886	K513_0240 MT20	24.3	11687/480	4.2	10/5		249	28.2	2,800	2,500	3,700	7,016	792	8,858	1,000	11,937	1,348
7,972	900	K513_0240 MT30	24.3	11687/480	9.0	10/5		257	29.0	2,800	2,500	3,700	7,278	822	8,858	1,000	15,944	1,800
7,972	900	K513_0240 MT40	24.3	11687/480	13.0	10/5		264	29.8	2,800	2,500	3,500	7,278	822	8,858	1,000	15,944	1,800
7,525	850	K513_0290 MT20	29.2	4669/160	3.3	10/5		256	28.8	3,400	3,000	3,900	6,305	712	8,858	1,000	13,530	1,527
7,972	900	K513_0290 MT30	29.2	4669/160	8.1	10/5		261	29.5	3,400	3,000	3,900	7,246	818	8,858	1,000	15,944	1,800
7,972	900	K513_0290 MT40	29.2	4669/160	12.1	10/5		266	30.0	3,000	3,000	3,500	7,246	818	8,858	1,000	15,944	1,800
7,972	900	K513_0320 MT20	32.3	20677/640	3.2	10/5		258	29.1	3,400	3,000	3,900	6,981	788	8,858	1,000	14,980	1,691
7,972	900	K513_0320 MT30	32.3	20677/640	8.0	10/5		263	29.7	3,400	3,000	3,900	7,496	846	8,858	1,000	15,944	1,800
7,972	900	K513_0320 MT40	32.3	20677/640	12.0	10/5		267	30.1	3,000	3,000	3,500	7,496	846	8,858	1,000	15,944	1,800
7,852	886	K513_0350 MT20	34.8	174/5	2.8	10/5		260	29.3	3,400	3,000	3,900	6,579	743	8,858	1,000	15,606	1,762
7,972	900	K513_0350 MT30	34.8	174/5	7.6	10/5		264	29.8	3,400	3,000	3,900	7,684	868	8,858	1,000	15,606	1,762
7,972	900	K513_0350 MT40	34.8	174/5	11.6	10/5		267	30.2	3,000	3,000	3,500	7,684	868	8,858	1,000	15,606	1,762
7,972	900	K513_0390 MT20	38.5	2697/70	2.7	10/5		262	29.5	3,400	3,000	3,900	7,284	822	8,858	1,000	15,944	1,800
7,972	900	K513_0390 MT30	38.5	2697/70	7.5	10/5		265	29.9	3,400	3,000	3,900	7,950	897	8,858	1,000	15,944	1,800
7,972	900	K513_0390 MT40	38.5	2697/70	11.5	10/5		268	30.2	3,000	3,000	3,500	7,950	897	8,858	1,000	15,944	1,800
7,972	900	K513_0440 MT20	43.5	87/2	2.3	10/5		264	29.8	3,400	3,000	3,900	6,763	763	8,858	1,000	15,944	1,800
7,972	900	K513_0440 MT30	43.5	87/2	7.1	10/5		266	30.1	3,400	3,000	3,900	7,972	900	8,858	1,000	15,944	1,800
7,972	900	K513_0440 MT40	43.5	87/2	11.1	10/5		268	30.3	3,000	3,000	3,500	7,972	900	8,858	1,000	15,944	1,800
7,972	900	K513_0480 MT20	48.2	2697/56	2.2	10/5		265	29.9	3,400	3,000	3,900	7,487	845	8,858	1,000	15,944	1,800
7,972	900	K513_0480 MT30	48.2	2697/56	7.0	10/5		267	30.1	3,400	3,000	3,900	7,972	900	8,858	1,000	15,944	1,800
7,972	900	K513_0480 MT40	48.2	2697/56	11.0	10/5		269	30.3	3,000	3,000	3,500	7,972	900	8,858	1,000	15,944	1,800
7,972	900	K513_0580 MT20	58.3	11368/195	1.9	10/5		267	30.1	3,400	3,000	3,900	6,925	782	8,858	1,000	15,944	1,800
7,972	900	K513_0580 MT30	58.3	11368/195	6.7	10/5		268	30.3	3,400	3,000	3,900	7,972	900	8,858	1,000	15,944	1,800
7,972	900	K513_0580 MT40	58.3	11368/195	10.7	10/5		269	30.4	3,000	3,000	3,500	7,972	900	8,858	1,000	15,944	1,800
7,972	900	K513_0650 MT20	64.5	12586/195	1.8	10/5		267	30.2	3,400	3,000	3,900	7,667	866	8,858	1,000	15,944	1,800
7,972	900	K513_0650 MT30	64.5	12586/195	6.6	10/5		269	30.3	3,400	3,000	3,900	7,972	900	8,858	1,000	15,944	1,800
7,972	900	K513_0650 MT40	64.5	12586/195	10.6	10/5		270	30.4	3,000	3,000	3,500	7,972	900	8,858	1,000	15,944	1,800
7,268	821	K513_0700 MT20	70.1	841/12	1.7	10/5		268	30.2	3,400	3,000	3,900	7,067	798	8,722	985	11,440	1,291
7,268	821	K513_0700 MT30	70.1	841/12	6.5	10/5		269	30.3	3,400	3,000	3,900	7,268	821	8,722	985	11,440	1,291
7,972	900	K513_0780 MT20	77.6	26071/336	1.7	10/5		268	30.3	3,400	3,000	3,900	7,824	883	8,858	1,000	12,666	1,430
7,972	900	K513_0780 MT30	77.6	26071/336	6.5	10/5		269	30.4	3,400	3,000	3,900	7,972	900	8,858	1,000	12,666	1,430
6,105	689	K513_0870 MT20	87.3	8729/100	1.5	10/5		269	30.3	3,400	3,000	3,900	6,105	689	7,326	827	12,211	1,378
6,105	689	K513_0870 MT30	87.3	8729/100	6.3	10/5		269	30.4	3,400	3,000	3,900	6,105	689	7,326	827	12,211	1,378

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A)Measured at 1 meter distance with 3000 RPM input

DIRECTION OF ROTATION:

2 Stage units (K102 through K402)
If input turns clockwise, output (side 4) turns clockwise.

3 Stage units (K203 through K913)
If input turns clockwise, output (side 4) turns counterclockwise.

4 Stage units (K514 through K1014)
If input turns clockwise, output (side 4) turns clockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL3 or EL4
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
													Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	Continuous n_{1DBH}	n_{1DBV}	Cyclic n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K513/K514 with MT TriAdapt® Motor Adapter (Continued)																		**Noise Level ≤ 61 dB(A) [4]**
6,761	763	K513_0970 MT20	96.6	38657/400	1.5	10/5		269	30.4	3,400	3,000	3,900	6,761	763	8,113	916	13,522	1,527
6,761	763	K513_0970 MT30	96.6	38657/400	6.3	10/5		270	30.4	3,400	3,000	3,900	6,761	763	8,113	916	13,522	1,527
7,972	900	K514_0850 MT20	85.0	76531/900	1.6	10/6		269	30.3	3,400	3,000	3,900	7,972	900	8,625	974	10,781	1,217
7,972	900	K514_0940 MT20	94.1	338923/3600	1.6	10/6		269	30.4	3,400	3,000	3,900	7,972	900	8,858	1,000	11,936	1,347
7,972	900	K514_1130 MT20	112.8	135401/1200	1.5	10/6		269	30.4	3,400	3,000	3,900	7,972	900	8,858	1,000	13,529	1,527
7,972	900	K514_1250 MT20	124.9	599633/4800	1.5	10/6		270	30.4	3,400	3,000	3,900	7,972	900	8,858	1,000	14,979	1,691
7,972	900	K514_1350 MT20	134.6	3364/25	1.5	10/6		270	30.5	3,400	3,000	3,900	7,972	900	8,858	1,000	15,604	1,762
7,972	900	K514_1490 MT20	149.0	26071/175	1.5	10/6		270	30.5	3,400	3,000	3,900	7,972	900	8,858	1,000	15,944	1,800
7,972	900	K514_1680 MT20	168.2	841/5	1.4	10/6		270	30.5	3,400	3,000	3,900	7,972	900	8,858	1,000	15,944	1,800
7,972	900	K514_1860 MT20	186.2	26071/140	1.4	10/6		270	30.5	3,400	3,000	3,900	7,972	900	8,858	1,000	15,944	1,800
7,972	900	K514_2250 MT20	225.4	659344/2925	1.4	10/6		270	30.5	3,400	3,000	3,900	7,972	900	8,858	1,000	15,944	1,800
7,972	900	K514_2500 MT20	249.6	729988/2925	1.4	10/6		270	30.5	3,400	3,000	3,900	7,972	900	8,858	1,000	15,944	1,800
7,268	821	K514_2710 MT20	271.0	24389/90	1.4	10/6		270	30.5	3,400	3,000	3,900	7,268	821	8,722	985	11,439	1,291
7,972	900	K514_3000 MT20	300.0	756059/2520	1.4	10/6		270	30.5	3,400	3,000	3,900	7,972	900	8,858	1,000	12,665	1,430
6,105	689	K514_3380 MT20	337.5	253141/750	1.4	10/6		270	30.5	3,400	3,000	3,900	6,105	689	7,326	827	12,211	1,378
6,761	763	K514_3740 MT20	373.7	1121053/3000	1.4	10/6		270	30.5	3,400	3,000	3,900	6,761	763	8,113	916	13,522	1,527
K613/K614 with MT TriAdapt® Motor Adapter (Continued Next Page)																		**Noise Level ≤ 61 dB(A) [4]**
5,891	665	K613_0073 MT30	7.3	19215/2624	37.9	10/5		216	24.4	1,800	1,700	2,800	5,891	665	6,480	732	11,477	1,296
7,208	814	K613_0073 MT40	7.3	19215/2624	41.9	10/5		285	32.2	1,800	1,700	2,800	7,466	843	9,182	1,037	11,477	1,296
6,522	736	K613_0081 MT30	8.1	85095/10496	34.8	10/5		236	26.6	1,800	1,700	2,800	6,522	736	7,174	810	12,706	1,434
7,457	842	K613_0081 MT40	8.1	85095/10496	38.8	10/5		301	33.9	1,800	1,700	2,800	7,723	872	10,165	1,148	12,706	1,434
7,306	825	K613_0091 MT30	9.1	20923/2304	28.8	10/5		257	29.0	1,800	1,700	2,800	7,306	825	8,036	907	13,823	1,561
7,744	874	K613_0091 MT40	9.1	20923/2304	32.8	10/5		317	35.7	1,800	1,700	2,800	8,021	906	11,059	1,248	13,823	1,561
8,012	904	K613_0100 MT30	10.1	92659/9216	26.8	10/5		275	31.1	1,800	1,700	2,800	8,088	913	8,897	1,004	15,305	1,728
8,012	904	K613_0100 MT40	10.1	92659/9216	30.8	10/5		329	37.2	1,800	1,700	2,800	8,298	937	12,244	1,382	15,305	1,728
8,356	943	K613_0115 MT30	11.4	22631/1984	22.1	10/5		296	33.4	2,200	2,000	3,200	8,095	914	10,094	1,140	16,789	1,895
8,356	943	K613_0115 MT40	11.4	22631/1984	26.1	10/5		343	38.7	2,200	2,000	3,200	8,095	914	13,431	1,516	16,789	1,895
8,644	976	K613_0125 MT30	12.6	3233/256	20.9	10/5		311	35.1	2,200	2,000	3,200	8,374	945	11,176	1,262	18,588	2,098
8,644	976	K613_0125 MT40	12.6	3233/256	24.9	10/5		352	39.7	2,200	2,000	3,200	8,374	945	14,173	1,600	18,588	2,098
9,017	1,018	K613_0145 MT30	14.3	12383/864	17.4	10/5		327	36.9	2,200	2,000	3,200	8,735	986	12,683	1,432	20,378	2,301
9,017	1,018	K613_0145 MT40	14.3	12383/864	21.4	10/5		361	40.8	2,200	2,000	3,200	8,735	986	14,173	1,600	20,378	2,301
9,328	1,053	K613_0160 MT30	15.9	54839/3456	16.6	10/5		338	38.2	2,200	2,000	3,200	9,036	1,020	14,042	1,585	22,562	2,547
9,328	1,053	K613_0160 MT40	15.9	54839/3456	20.6	10/5		368	41.5	2,200	2,000	3,200	9,036	1,020	14,173	1,600	22,562	2,547
5,811	656	K613_0170 MT20	17.2	549/32	9.7	10/5		319	36.0	2,600	2,300	3,500	5,811	656	6,392	722	9,119	1,029
9,574	1,081	K613_0170 MT30	17.2	549/32	14.5	10/5		346	39.0	2,600	2,300	3,500	8,772	990	14,173	1,600	23,519	2,655
9,574	1,081	K613_0170 MT40	17.2	549/32	18.5	10/5		372	42.0	2,600	2,300	3,500	8,772	990	14,173	1,600	23,519	2,655

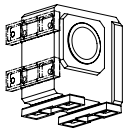
"K" Series

Motor Shaft

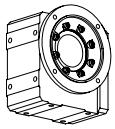
Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

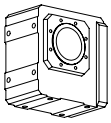
N Foot Mounted



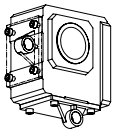
F Round Flange



G Tapped Holes



GD Torque Arm Bracket



These Housing Styles are available as Hollow (A), Bushing (W), or Solid (V) Output.

See page 86 and 87 for required ordering information and part number example.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
													Nominal [2] $T_{2N} \leq n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	Continuous n_{1DBH}	n_{1DBV}	Cyclic n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K613/K614 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 61 dB(A)** [4]	
6,434	726	K613_0190 MT20	19.0	17019/896	9.2	10/5		331	37.4	2,600	2,300	3,500	6,434	726	7,077	799	10,095	1,140
9,904	1,118	K613_0190 MT30	19.0	17019/896	14.0	10/5		355	40.0	2,600	2,300	3,500	9,075	1,024	14,173	1,600	25,688	2,900
9,904	1,118	K613_0190 MT40	19.0	17019/896	18.0	10/5		377	42.5	2,600	2,300	3,500	9,075	1,024	14,173	1,600	25,688	2,900
7,345	829	K613_0220 MT20	21.7	5551/256	7.3	10/5		345	39.0	2,600	2,300	3,500	7,345	829	8,080	912	11,090	1,252
10,351	1,169	K613_0220 MT30	21.7	5551/256	12.1	10/5		364	41.1	2,600	2,300	3,500	9,484	1,071	14,173	1,600	25,688	2,900
10,351	1,169	K613_0220 MT40	21.7	5551/256	16.1	10/5		382	43.1	2,600	2,300	3,500	9,484	1,071	14,173	1,600	25,688	2,900
8,132	918	K613_0240 MT20	24.0	24583/1024	6.9	10/5		354	40.0	2,600	2,300	3,500	8,132	918	8,945	1,010	12,278	1,386
10,708	1,209	K613_0240 MT30	24.0	24583/1024	11.7	10/5		370	41.8	2,600	2,300	3,500	9,812	1,108	14,173	1,600	25,688	2,900
10,708	1,209	K613_0240 MT40	24.0	24583/1024	15.7	10/5		385	43.5	2,600	2,300	3,500	9,812	1,108	14,173	1,600	25,688	2,900
8,786	992	K613_0290 MT20	28.8	29463/1024	5.1	10/5		367	41.4	3,100	2,800	3,700	7,592	857	10,721	1,210	13,916	1,571
11,374	1,284	K613_0290 MT30	28.8	29463/1024	9.9	10/5		379	42.7	3,100	2,800	3,700	9,828	1,110	14,173	1,600	25,688	2,900
11,374	1,284	K613_0290 MT40	28.8	29463/1024	13.9	10/5		389	43.9	3,000	2,800	3,500	9,828	1,110	14,173	1,600	25,688	2,900
9,727	1,098	K613_0320 MT20	31.9	130479/4096	4.9	10/5		372	42.0	3,100	2,800	3,700	8,405	949	11,869	1,340	15,407	1,739
11,767	1,328	K613_0320 MT30	31.9	130479/4096	9.7	10/5		382	43.2	3,100	2,800	3,700	10,168	1,148	14,173	1,600	25,688	2,900
11,767	1,328	K613_0320 MT40	31.9	130479/4096	13.7	10/5		391	44.2	3,000	2,800	3,500	10,168	1,148	14,173	1,600	25,688	2,900
8,925	1,008	K613_0350 MT20	34.6	35441/1024	4.1	10/5		376	42.5	3,100	2,800	3,700	7,712	871	12,838	1,449	16,048	1,812
12,097	1,366	K613_0350 MT30	34.6	35441/1024	8.9	10/5		385	43.4	3,100	2,800	3,700	10,453	1,180	14,173	1,600	25,688	2,900
12,097	1,366	K613_0350 MT40	34.6	35441/1024	12.9	10/5		392	44.3	3,000	2,800	3,500	10,453	1,180	14,173	1,600	25,688	2,900
9,882	1,116	K613_0380 MT20	38.3	156953/4096	3.9	10/5		380	42.9	3,100	2,800	3,700	8,539	964	14,173	1,600	17,767	2,006
12,514	1,413	K613_0380 MT30	38.3	156953/4096	8.7	10/5		387	43.7	3,100	2,800	3,700	10,813	1,221	14,173	1,600	25,688	2,900
12,514	1,413	K613_0380 MT40	38.3	156953/4096	12.7	10/5		394	44.4	3,000	2,800	3,500	10,813	1,221	14,173	1,600	25,688	2,900
9,168	1,035	K613_0430 MT20	43.1	8967/208	3.2	10/5		384	43.4	3,100	2,800	3,700	7,922	894	14,173	1,600	19,048	2,150
12,844	1,450	K613_0430 MT30	43.1	8967/208	8.0	10/5		390	44.0	3,100	2,800	3,700	11,247	1,270	14,173	1,600	19,048	2,150
12,844	1,450	K613_0430 MT40	43.1	8967/208	12.0	10/5		395	44.6	3,000	2,800	3,500	11,247	1,270	14,173	1,600	19,048	2,150
10,150	1,146	K613_0480 MT20	47.7	39711/832	3.1	10/5		387	43.7	3,100	2,800	3,700	8,771	990	14,173	1,600	21,089	2,381
12,844	1,450	K613_0480 MT30	47.7	39711/832	7.9	10/5		392	44.2	3,100	2,800	3,700	11,635	1,313	14,173	1,600	21,089	2,381
12,844	1,450	K613_0480 MT40	47.7	39711/832	11.9	10/5		396	44.7	3,000	2,800	3,500	11,635	1,313	14,173	1,600	21,089	2,381
9,542	1,077	K613_0580 MT20	57.5	29463/512	2.4	10/5		391	44.1	3,100	2,800	3,700	8,246	931	14,173	1,600	23,893	2,697
12,844	1,450	K613_0580 MT30	57.5	29463/512	7.2	10/5		394	44.5	3,100	2,800	3,700	12,383	1,398	14,173	1,600	23,893	2,697
12,844	1,450	K613_0580 MT40	57.5	29463/512	11.2	10/5		397	44.8	3,000	2,800	3,500	12,383	1,398	14,173	1,600	23,893	2,697
10,565	1,193	K613_0640 MT20	63.7	130479/2048	2.4	10/5		392	44.3	3,100	2,800	3,700	9,129	1,031	14,173	1,600	25,688	2,900
12,844	1,450	K613_0640 MT30	63.7	130479/2048	7.2	10/5		395	44.6	3,100	2,800	3,700	12,810	1,446	14,173	1,600	25,688	2,900
12,844	1,450	K613_0640 MT40	63.7	130479/2048	11.2	10/5		397	44.9	3,000	2,800	3,500	12,810	1,446	14,173	1,600	25,688	2,900
9,750	1,101	K613_0690 MT20	68.8	28609/416	2.1	10/5		393	44.4	3,100	2,800	3,700	8,425	951	13,967	1,577	23,278	2,628
11,639	1,314	K613_0690 MT30	68.8	28609/416	6.9	10/5		396	44.7	3,100	2,800	3,700	11,639	1,314	13,967	1,577	23,278	2,628
11,639	1,314	K613_0690 MT40	68.8	28609/416	10.9	10/5		398	44.9	3,000	2,800	3,500	11,639	1,314	13,967	1,577	23,278	2,628
10,794	1,219	K613_0760 MT20	76.1	126697/1664	2.0	10/5		394	44.5	3,100	2,800	3,700	9,327	1,053	14,173	1,600	25,688	2,900
12,844	1,450	K613_0760 MT30	76.1	126697/1664	6.8	10/5		396	44.7	3,100	2,800	3,700	12,844	1,450	14,173	1,600	25,688	2,900
12,844	1,450	K613_0760 MT40	76.1	126697/1664	10.8	10/5		398	44.9	3,000	2,800	3,500	12,844	1,450	14,173	1,600	25,688	2,900
8,600	971	K613_0860 MT20	86.2	66185/768	1.8	10/5		395	44.6	3,100	2,800	3,700	8,526	963	10,320	1,165	13,893	1,568
8,600	971	K613_0860 MT30	86.2	66185/768	6.6	10/5		397	44.8	3,100	2,800	3,700	8,600	971	10,320	1,165	13,893	1,568

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A)Measured at 1 meter distance with 3000 RPM input

DIRECTION OF ROTATION:

2 Stage units (K102 through K402)
If input turns clockwise, output (side 4) turns clockwise.

3 Stage units (K203 through K913)
If input turns clockwise, output (side 4) turns counterclockwise.

4 Stage units (K514 through K1014)
If input turns clockwise, output (side 4) turns clockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL3 or EL4
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
													Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
						Standard	Reduced			Continuous		Cyclic						
in.lbs.	Nm		Nom.	Exact	kgcm²			in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K613/K614 with MT TriAdapt® Motor Adapter (Continued)																	**Noise Level ≤ 61 dB(A) [4]**	
9,524	1,075	K613_0950 MT20	95.4	293105/3072	1.8	10/5		396	44.7	3,100	2,800	3,700	9,440	1,066	11,429	1,290	15,382	1,736
9,524	1,075	K613_0950 MT30	95.4	293105/3072	6.6	10/5		397	44.9	3,100	2,800	3,700	9,524	1,075	11,429	1,290	15,382	1,736
8,871	1,001	K614_0840 MT20	83.8	160979/1920	1.8	10/6		395	44.6	3,100	2,800	3,700	8,871	1,001	8,871	1,001	11,088	1,252
9,821	1,109	K614_0930 MT20	92.8	712907/7680	1.7	10/6		396	44.7	3,100	2,800	3,700	9,821	1,109	9,821	1,109	12,277	1,386
11,132	1,257	K614_1110 MT20	111.3	284809/2560	1.6	10/6		397	44.8	3,100	2,800	3,700	11,132	1,257	11,132	1,257	13,915	1,571
12,325	1,391	K614_1230 MT20	123.2	1261297/10240	1.6	10/6		397	44.9	3,100	2,800	3,700	12,325	1,391	12,325	1,391	15,406	1,739
12,837	1,449	K614_1340 MT20	133.8	1027789/7680	1.6	10/6		398	44.9	3,100	2,800	3,700	11,773	1,329	12,837	1,449	16,046	1,812
12,844	1,450	K614_1480 MT20	148.2	4551637/30720	1.5	10/6		398	44.9	3,100	2,800	3,700	12,844	1,450	14,173	1,600	17,766	2,006
12,844	1,450	K614_1670 MT20	166.7	86681/520	1.5	10/6		398	45.0	3,100	2,800	3,700	12,328	1,392	14,173	1,600	19,047	2,150
12,844	1,450	K614_1850 MT20	184.6	383873/2080	1.5	10/6		399	45.0	3,100	2,800	3,700	12,844	1,450	14,173	1,600	21,087	2,381
12,844	1,450	K614_2230 MT20	222.5	284809/1280	1.4	10/6		399	45.0	3,100	2,800	3,700	12,844	1,450	14,173	1,600	23,891	2,697
12,844	1,450	K614_2460 MT20	246.3	1261297/5120	1.4	10/6		399	45.0	3,100	2,800	3,700	12,844	1,450	14,173	1,600	25,688	2,900
11,639	1,314	K614_2660 MT20	265.9	829661/3120	1.4	10/6		399	45.0	3,100	2,800	3,700	11,639	1,314	13,967	1,577	23,278	2,628
12,844	1,450	K614_2940 MT20	294.4	3674213/12480	1.4	10/6		399	45.1	3,100	2,800	3,700	12,844	1,450	14,173	1,600	25,688	2,900
8,600	971	K614_3330 MT20	333.2	383873/1152	1.4	10/6		399	45.1	3,100	2,800	3,700	8,600	971	10,320	1,165	13,892	1,568
9,524	1,075	K614_3690 MT20	368.9	1700009/4608	1.4	10/6		399	45.1	3,100	2,800	3,700	9,524	1,075	11,429	1,290	15,380	1,736
K713/K714 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 59 dB(A) [4]**	
6,084	687	K713_0076 MT30	7.6	19845/2624	71.2	10/5		295	33.4	1,700	1,600	2,700	6,084	687	6,693	756	12,169	1,374
9,837	1,111	K713_0076 MT40	7.6	19845/2624	75.2	10/5		428	48.3	1,700	1,600	2,700	9,837	1,111	9,837	1,111	12,297	1,388
6,736	760	K713_0084 MT30	8.4	87885/10496	66.3	10/5		331	37.4	1,700	1,600	2,700	6,736	760	7,410	836	13,472	1,521
10,891	1,230	K713_0084 MT40	8.4	87885/10496	70.3	10/5		463	52.2	1,700	1,600	2,700	10,891	1,230	10,891	1,230	13,614	1,537
7,392	834	K713_0092 MT30	9.2	147/16	54.4	10/5		365	41.2	1,700	1,600	2,700	7,392	834	8,131	918	14,515	1,639
11,612	1,311	K713_0092 MT40	9.2	147/16	58.4	10/5		492	55.6	1,700	1,600	2,700	11,612	1,311	11,612	1,311	14,515	1,639
8,183	924	K713_0100 MT30	10.2	651/64	51.2	10/5		401	45.3	1,700	1,600	2,700	8,183	924	9,002	1,016	16,069	1,814
12,855	1,451	K713_0100 MT40	10.2	651/64	55.2	10/5		523	59.0	1,700	1,600	2,700	12,855	1,451	12,855	1,451	16,069	1,814
9,478	1,070	K713_0120 MT30	11.8	23373/1984	39.2	10/5		452	51.0	2,000	1,900	3,000	9,478	1,070	10,425	1,177	17,928	2,024
13,823	1,561	K713_0120 MT40	11.8	23373/1984	43.2	10/5		562	63.4	2,000	1,900	3,000	13,823	1,561	14,342	1,619	17,928	2,024
10,493	1,185	K713_0130 MT30	13.0	3339/256	37.2	10/5		485	54.8	2,000	1,900	3,000	10,493	1,185	11,542	1,303	19,849	2,241
14,300	1,614	K713_0130 MT40	13.0	3339/256	41.2	10/5		585	66.1	2,000	1,900	3,000	14,300	1,614	15,879	1,793	19,849	2,241
11,908	1,344	K713_0150 MT30	14.8	1421/96	29.8	10/5		523	59.1	2,000	1,900	3,000	11,908	1,344	13,099	1,479	21,761	2,457
14,916	1,684	K713_0150 MT40	14.8	1421/96	33.8	10/5		611	68.9	2,000	1,900	3,000	14,916	1,684	17,409	1,965	21,761	2,457
13,184	1,488	K713_0165 MT30	16.4	6293/384	28.5	10/5		551	62.2	2,000	1,900	3,000	13,184	1,488	14,502	1,637	24,092	2,720
15,431	1,742	K713_0165 MT40	16.4	6293/384	32.5	10/5		628	70.9	2,000	1,900	3,000	15,431	1,742	19,274	2,176	24,092	2,720
14,702	1,660	K713_0185 MT30	18.3	26901/1472	23.8	10/5		577	65.2	2,400	2,200	3,300	14,487	1,635	16,172	1,826	25,811	2,914
16,001	1,806	K713_0185 MT40	18.3	26901/1472	27.8	10/5		644	72.7	2,400	2,200	3,300	15,058	1,700	20,649	2,331	25,811	2,914
16,277	1,838	K713_0200 MT30	20.2	119133/5888	23.0	10/5		599	67.6	2,400	2,200	3,300	15,578	1,759	17,905	2,021	28,576	3,226
16,554	1,869	K713_0200 MT40	20.2	119133/5888	27.0	10/5		657	74.1	2,400	2,200	3,300	15,578	1,759	22,861	2,581	28,576	3,226

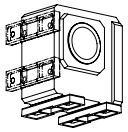
"K" Series

Motor Shaft

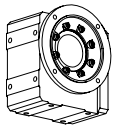
Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

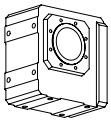
N Foot Mounted



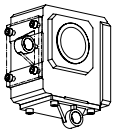
F Round Flange



G Tapped Holes



GD Torque Arm Bracket



These Housing Styles are available as Hollow (A), Bushing (W), or Solid (V) Output.

See page 86 and 87 for required ordering information and part number example.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
										Continuous		Cyclic	Nominal [2] $T_{2N} \leq n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K713/K714 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 59 dB(A)** [4]	
16,193	1,828	K713_0230 MT30	22.7	14553/640	18.8	10/5		621	70.1	2,400	2,200	3,300	15,238	1,720	20,122	2,272	30,795	3,476
17,211	1,943	K713_0230 MT40	22.7	14553/640	22.8	10/5		669	75.5	2,400	2,200	3,300	16,196	1,828	23,031	2,600	30,795	3,476
17,804	2,010	K713_0250 MT30	25.2	64449/2560	18.2	10/5		637	71.9	2,400	2,200	3,300	16,755	1,891	22,278	2,515	34,094	3,849
17,804	2,010	K713_0250 MT40	25.2	64449/2560	22.2	10/5		677	76.5	2,400	2,200	3,300	16,755	1,891	23,031	2,600	34,094	3,849
17,161	1,937	K713_0290 MT30	29.3	7497/256	14.5	10/5		656	74.1	2,900	2,600	3,600	15,162	1,712	23,031	2,600	37,773	4,264
18,725	2,114	K713_0290 MT40	29.3	7497/256	18.5	10/5		688	77.6	2,900	2,600	3,500	16,544	1,868	23,031	2,600	37,773	4,264
19,000	2,145	K713_0320 MT30	32.4	33201/1024	14.2	10/5		667	75.3	2,900	2,600	3,600	16,787	1,895	23,031	2,600	41,821	4,721
19,371	2,187	K713_0320 MT40	32.4	33201/1024	18.2	10/5		693	78.3	2,900	2,600	3,500	17,115	1,932	23,031	2,600	41,821	4,721
17,666	1,994	K713_0350 MT30	35.4	567/16	12.2	10/5		675	76.2	2,900	2,600	3,600	15,608	1,762	23,031	2,600	42,518	4,800
19,954	2,253	K713_0350 MT40	35.4	567/16	16.2	10/5		697	78.7	2,900	2,600	3,500	17,629	1,990	23,031	2,600	42,518	4,800
19,558	2,208	K713_0390 MT30	39.2	2511/64	12.0	10/5		683	77.1	2,900	2,600	3,600	17,280	1,951	23,031	2,600	42,518	4,800
20,642	2,330	K713_0390 MT40	39.2	2511/64	16.0	10/5		701	79.2	2,900	2,600	3,500	18,238	2,059	23,031	2,600	42,518	4,800
18,248	2,060	K713_0450 MT30	45.1	37485/832	10.2	10/5		691	78.0	2,900	2,600	3,600	16,122	1,820	23,031	2,600	42,518	4,800
21,259	2,400	K713_0450 MT40	45.1	37485/832	14.2	10/5		705	79.6	2,900	2,600	3,500	19,098	2,156	23,031	2,600	42,518	4,800
20,203	2,281	K713_0500 MT30	49.9	166005/3328	10.1	10/5		696	78.6	2,900	2,600	3,600	17,850	2,015	23,031	2,600	42,518	4,800
21,259	2,400	K713_0500 MT40	49.9	166005/3328	14.1	10/5		708	79.9	2,900	2,600	3,500	19,757	2,230	23,031	2,600	42,518	4,800
19,023	2,148	K713_0590 MT30	58.6	7497/128	8.7	10/5		702	79.3	2,900	2,600	3,600	16,807	1,897	23,031	2,600	42,518	4,800
21,259	2,400	K713_0590 MT40	58.6	7497/128	12.7	10/5		711	80.3	2,900	2,600	3,500	20,844	2,353	23,031	2,600	42,518	4,800
21,061	2,378	K713_0650 MT30	64.8	33201/512	8.6	10/5		705	79.6	2,900	2,600	3,600	18,608	2,101	23,031	2,600	42,518	4,800
21,259	2,400	K713_0650 MT40	64.8	33201/512	12.6	10/5		712	80.4	2,900	2,600	3,500	21,259	2,400	23,031	2,600	42,518	4,800
19,244	2,173	K713_0710 MT30	71.2	4557/64	7.9	10/5		707	79.9	2,900	2,600	3,600	17,027	1,922	23,031	2,600	29,355	3,314
19,244	2,173	K713_0710 MT40	71.2	4557/64	11.9	10/5		713	80.5	2,900	2,600	3,500	19,244	2,173	23,031	2,600	29,355	3,314
21,259	2,400	K713_0790 MT30	78.8	20181/256	7.8	10/5		710	80.1	2,900	2,600	3,600	18,851	2,128	23,031	2,600	32,500	3,669
21,259	2,400	K713_0790 MT40	78.8	20181/256	11.8	10/5		714	80.7	2,900	2,600	3,500	21,259	2,400	23,031	2,600	32,500	3,669
14,803	1,671	K713_0890 MT30	89.0	22785/256	7.3	10/5		712	80.3	2,900	2,600	3,600	14,803	1,671	17,764	2,005	29,607	3,342
14,803	1,671	K713_0890 MT40	89.0	22785/256	11.3	10/5		715	80.8	2,900	2,600	3,500	14,803	1,671	17,764	2,005	29,607	3,342
16,394	1,851	K713_0990 MT30	98.5	100905/1024	7.2	10/5		713	80.5	2,900	2,600	3,600	16,394	1,851	19,672	2,221	32,787	3,701
16,394	1,851	K713_0990 MT40	98.5	100905/1024	11.2	10/5		716	80.8	2,900	2,600	3,500	16,394	1,851	19,672	2,221	32,787	3,701
21,259	2,400	K714_0890 MT30	89.1	227997/2560	7.3	10/6		712	80.3	2,900	2,600	3,600	19,968	2,254	23,031	2,600	30,792	3,476
21,259	2,400	K714_0990 MT30	98.6	1009701/10240	7.2	10/6		713	80.5	2,900	2,600	3,600	21,259	2,400	23,031	2,600	34,091	3,849
11,715	1,323	K714_1130 MT20	113.2	72471/640	1.9	10/6		712	80.3	2,900	2,600	3,600	11,715	1,323	11,715	1,323	14,644	1,653
21,259	2,400	K714_1150 MT30	114.7	117453/1024	7.0	10/6		714	80.7	2,900	2,600	3,600	21,259	2,400	23,031	2,600	37,770	4,264
12,970	1,464	K714_1250 MT20	125.4	320943/2560	1.9	10/6		713	80.5	2,900	2,600	3,600	12,970	1,464	12,970	1,464	16,213	1,830
21,259	2,400	K714_1270 MT30	127.0	520149/4096	7.0	10/6		715	80.8	2,900	2,600	3,600	21,259	2,400	23,031	2,600	41,817	4,721
13,615	1,537	K714_1370 MT20	137.0	5481/40	1.8	10/6		714	80.6	2,900	2,600	3,600	13,615	1,537	13,615	1,537	17,018	1,921
21,259	2,400	K714_1390 MT30	138.8	8883/64	6.9	10/6		716	80.8	2,900	2,600	3,600	21,259	2,400	23,031	2,600	42,518	4,800
15,073	1,702	K714_1520 MT20	151.7	24273/160	1.8	10/6		715	80.7	2,900	2,600	3,600	15,073	1,702	15,073	1,702	18,842	2,127
21,259	2,400	K714_1540 MT30	153.7	39339/256	6.8	10/6		716	80.9	2,900	2,600	3,600	21,259	2,400	23,031	2,600	42,518	4,800

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A)Measured at 1 meter distance with 3000 RPM input

DIRECTION OF ROTATION:

2 Stage units (K102 through K402)
If input turns clockwise, output (side 4) turns clockwise.

3 Stage units (K203 through K913)
If input turns clockwise, output (side 4) turns counterclockwise.

4 Stage units (K514 through K1014)
If input turns clockwise, output (side 4) turns clockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL3 or EL4
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

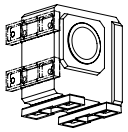
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
													Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
						Standard	Reduced			Continuous		Cyclic						
in.lbs.	Nm		Nom.	Exact	kgcm²			in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K713/K714 with MT TriAdapt® Motor Adapter (Continued)																	**Noise Level ≤ 59 dB(A) [4]**	
16,434	1,855	K714_1740 MT20	174.2	72471/416	1.6	10/6		716	80.8	2,900	2,600	3,600	14,755	1,666	16,434	1,855	20,542	2,319
21,259	2,400	K714_1760 MT30	176.5	587265/3328	6.7	10/6		717	80.9	2,900	2,600	3,600	21,259	2,400	23,031	2,600	42,518	4,800
18,194	2,054	K714_1930 MT20	192.9	320943/1664	1.6	10/6		716	80.9	2,900	2,600	3,600	16,336	1,844	18,194	2,054	22,743	2,567
21,259	2,400	K714_1950 MT30	195.4	2600745/13312	6.7	10/6		717	81.0	2,900	2,600	3,600	21,259	2,400	23,031	2,600	42,518	4,800
17,798	2,009	K714_2260 MT20	226.5	72471/320	1.5	10/6		717	81.0	2,900	2,600	3,600	15,725	1,775	20,216	2,282	25,271	2,853
21,259	2,400	K714_2290 MT30	229.4	117453/512	6.6	10/6		718	81.0	2,900	2,600	3,600	21,259	2,400	23,031	2,600	42,518	4,800
19,705	2,225	K714_2510 MT20	250.7	320943/1280	1.5	10/6		717	81.0	2,900	2,600	3,600	17,410	1,965	22,382	2,527	27,978	3,159
21,259	2,400	K714_2540 MT30	254.0	520149/2048	6.6	10/6		718	81.1	2,900	2,600	3,600	21,259	2,400	23,031	2,600	42,518	4,800
18,362	2,073	K714_2750 MT20	275.3	44051/160	1.5	10/6		718	81.0	2,900	2,600	3,600	16,223	1,831	23,031	2,600	29,352	3,314
20,330	2,295	K714_3050 MT20	304.8	195083/640	1.5	10/6		718	81.0	2,900	2,600	3,600	17,961	2,028	23,031	2,600	32,497	3,669
14,803	1,671	K714_3440 MT20	344.1	44051/128	1.4	10/6		718	81.1	2,900	2,600	3,600	14,803	1,671	17,764	2,005	29,607	3,342
16,394	1,851	K714_3810 MT20	381.0	195083/512	1.4	10/6		718	81.1	2,900	2,600	3,600	16,394	1,851	19,672	2,221	32,787	3,701
K813/K814 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 65 dB(A) [4]**	
5,989	676	K813_0074 MT30	7.4	3127/420	161.2	10/5		350	39.5	1,600	1,500	2,600	5,989	676	6,588	744	11,979	1,352
10,163	1,147	K813_0074 MT40	7.4	3127/420	165.2	10/5		564	63.7	1,600	1,500	2,600	10,163	1,147	10,163	1,147	12,704	1,434
6,631	749	K813_0082 MT30	8.2	96937/11760	142.9	10/5		404	45.6	1,600	1,500	2,600	6,631	749	7,294	823	13,263	1,497
11,252	1,270	K813_0082 MT40	8.2	96937/11760	146.9	10/5		628	70.8	1,600	1,500	2,600	11,252	1,270	11,252	1,270	14,065	1,588
7,469	843	K813_0093 MT30	9.3	11977/1290	115.5	10/5		471	53.2	1,600	1,500	2,600	7,469	843	8,216	927	14,938	1,686
12,266	1,385	K813_0093 MT40	9.3	11977/1290	119.5	10/5		702	79.2	1,600	1,500	2,600	12,266	1,385	12,266	1,385	15,333	1,731
8,269	934	K813_0105 MT30	10.3	53041/5160	103.7	10/5		533	60.1	1,600	1,500	2,600	8,269	934	9,096	1,027	16,539	1,867
13,581	1,533	K813_0105 MT40	10.3	53041/5160	107.7	10/5		763	86.2	1,600	1,500	2,600	13,581	1,533	13,581	1,533	16,976	1,916
9,578	1,081	K813_0120 MT30	11.9	6608/555	80.6	10/5		624	70.4	1,900	1,800	2,900	9,578	1,081	10,536	1,189	18,938	2,138
15,150	1,710	K813_0120 MT40	11.9	6608/555	84.6	10/5		848	95.7	1,900	1,800	2,900	15,150	1,710	15,150	1,710	18,938	2,138
10,605	1,197	K813_0130 MT30	13.2	7316/555	73.4	10/5		687	77.6	1,900	1,800	2,900	10,605	1,197	11,665	1,317	20,967	2,367
16,774	1,894	K813_0130 MT40	13.2	7316/555	77.4	10/5		901	101.8	1,900	1,800	2,900	16,774	1,894	16,774	1,894	20,967	2,367
11,940	1,348	K813_0150 MT30	14.8	9499/640	59.2	10/5		760	85.8	1,900	1,800	2,900	11,940	1,348	13,134	1,483	22,766	2,570
18,213	2,056	K813_0150 MT40	14.8	9499/640	63.2	10/5		958	108.2	1,900	1,800	2,900	18,213	2,056	18,213	2,056	22,766	2,570
13,219	1,492	K813_0165 MT30	16.4	42067/2560	54.5	10/5		819	92.5	1,900	1,800	2,900	13,219	1,492	14,541	1,642	25,205	2,845
20,164	2,276	K813_0165 MT40	16.4	42067/2560	58.5	10/5		1,001	113.1	1,900	1,800	2,900	20,164	2,276	20,164	2,276	25,205	2,845
13,939	1,574	K813_0175 MT30	17.3	30149/1740	48.4	10/5		849	95.8	2,300	2,100	3,200	13,939	1,574	15,333	1,731	25,932	2,928
20,746	2,342	K813_0175 MT40	17.3	30149/1740	52.4	10/5		1,022	115.4	2,300	2,100	3,200	20,746	2,342	20,746	2,342	25,932	2,928
15,432	1,742	K813_0190 MT30	19.2	133517/6960	45.1	10/5		902	101.8	2,300	2,100	3,200	15,432	1,742	16,976	1,916	28,710	3,241
22,968	2,593	K813_0190 MT40	19.2	133517/6960	49.1	10/5		1,058	119.4	2,300	2,100	3,200	22,968	2,593	22,968	2,593	28,710	3,241
18,539	2,093	K813_0230 MT30	23.0	31801/1380	33.8	10/5		987	111.4	2,300	2,100	3,200	18,529	2,092	20,392	2,302	32,546	3,674
26,037	2,939	K813_0230 MT40	23.0	31801/1380	37.8	10/5		1,111	125.4	2,300	2,100	3,200	26,037	2,939	26,037	2,939	32,546	3,674
20,525	2,317	K813_0260 MT30	25.5	140833/5520	31.9	10/5		1,027	115.9	2,300	2,100	3,200	20,514	2,316	22,577	2,549	36,033	4,068
28,827	3,254	K813_0260 MT40	25.5	140833/5520	35.9	10/5		1,134	128.1	2,300	2,100	3,200	28,827	3,254	28,827	3,254	36,033	4,068

Motor Shaft

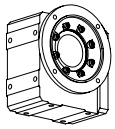
Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

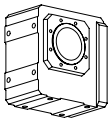
N Foot Mounted



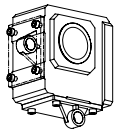
F Round Flange



G Tapped Holes



GD Torque Arm Bracket



These Housing Styles are available as Hollow (A), Bushing (W), or Solid (V) Output.

See page 86 and 87 for required ordering information and part number example.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
										Continuous		Cyclic	Nominal [2] $T_{2N} \leq n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K813/K814 with MT TriAdapt® Motor Adapter (Continued Next Page)																	**Noise Level ≤ 65 dB(A)** [4]	
20,833	2,352	K813_0290 MT30	29.3	7021/240	24.9	10/5		1,073	121.2	2,800	2,500	3,500	18,623	2,102	25,888	2,923	39,618	4,473
31,694	3,578	K813_0290 MT40	29.3	7021/240	28.9	10/5		1,161	131.0	2,800	2,500	3,500	28,963	3,270	31,694	3,578	39,618	4,473
23,065	2,604	K813_0320 MT30	32.4	31093/960	23.7	10/5		1,102	124.4	2,800	2,500	3,500	20,618	2,328	28,662	3,236	43,863	4,952
33,519	3,784	K813_0320 MT40	32.4	31093/960	27.7	10/5		1,176	132.8	2,800	2,500	3,500	29,963	3,383	35,091	3,961	43,863	4,952
21,177	2,391	K813_0360 MT30	36.1	2891/80	19.4	10/5		1,129	127.4	2,800	2,500	3,500	18,930	2,137	31,980	3,610	46,613	5,262
34,766	3,925	K813_0360 MT40	36.1	2891/80	23.4	10/5		1,191	134.4	2,800	2,500	3,500	31,077	3,508	37,290	4,210	46,613	5,262
23,446	2,647	K813_0400 MT30	40.0	12803/320	18.6	10/5		1,150	129.8	2,800	2,500	3,500	20,958	2,366	35,405	3,997	51,606	5,826
35,965	4,060	K813_0400 MT40	40.0	12803/320	22.6	10/5		1,201	135.6	2,800	2,500	3,500	32,149	3,629	41,190	4,650	51,606	5,826
22,059	2,490	K813_0440 MT30	44.3	177/4	15.5	10/5		1,167	131.8	2,800	2,500	3,500	19,718	2,226	39,158	4,421	54,814	6,188
37,194	4,199	K813_0440 MT40	44.3	177/4	19.5	10/5		1,210	136.6	2,800	2,500	3,500	33,247	3,753	41,190	4,650	54,814	6,188
24,422	2,757	K813_0490 MT30	49.0	5487/112	15.0	10/5		1,182	133.4	2,800	2,500	3,500	21,831	2,465	41,190	4,650	60,687	6,851
37,204	4,200	K813_0490 MT40	49.0	5487/112	19.0	10/5		1,218	137.5	2,800	2,500	3,500	34,395	3,883	41,190	4,650	60,687	6,851
22,721	2,565	K813_0590 MT30	59.1	42539/720	11.8	10/5		1,203	135.8	2,800	2,500	3,500	20,311	2,293	41,190	4,650	68,590	7,743
37,204	4,200	K813_0590 MT40	59.1	42539/720	15.8	10/5		1,228	138.7	2,800	2,500	3,500	35,600	4,019	41,190	4,650	68,590	7,743
25,155	2,840	K813_0650 MT30	65.4	188387/2880	11.5	10/5		1,212	136.8	2,800	2,500	3,500	22,487	2,539	41,190	4,650	74,407	8,400
37,204	4,200	K813_0650 MT40	65.4	188387/2880	15.5	10/5		1,233	139.2	2,800	2,500	3,500	37,204	4,200	41,190	4,650	74,407	8,400
23,288	2,629	K813_0720 MT30	71.7	10325/144	10.1	10/5		1,218	137.5	2,800	2,500	3,500	20,817	2,350	38,322	4,326	63,869	7,210
31,935	3,605	K813_0720 MT40	71.7	10325/144	14.1	10/5		1,236	139.5	2,800	2,500	3,500	31,935	3,605	38,322	4,326	63,869	7,210
25,783	2,911	K813_0790 MT30	79.4	45725/576	9.9	10/5		1,225	138.2	2,800	2,500	3,500	23,048	2,602	41,190	4,650	70,731	7,985
35,365	3,992	K813_0790 MT40	79.4	45725/576	13.9	10/5		1,239	139.9	2,800	2,500	3,500	35,365	3,992	41,190	4,650	70,731	7,985
23,753	2,682	K813_0880 MT30	87.8	7021/80	8.8	10/5		1,229	138.8	2,800	2,500	3,500	21,233	2,397	28,945	3,268	36,182	4,085
24,838	2,804	K813_0880 MT40	87.8	7021/80	12.8	10/5		1,241	140.1	2,800	2,500	3,500	24,838	2,804	28,945	3,268	36,182	4,085
26,298	2,969	K813_0970 MT30	97.2	31093/320	8.7	10/5		1,234	139.3	2,800	2,500	3,500	23,508	2,654	32,047	3,618	40,058	4,522
27,506	3,105	K813_0970 MT40	97.2	31093/320	12.7	10/5		1,243	140.4	2,800	2,500	3,500	27,506	3,105	32,047	3,618	40,058	4,522
37,204	4,200	K814_0670 MT40	66.8	38763/580	14.5	10/6		1,234	139.3	2,800	2,500	3,500	36,220	4,089	39,644	4,476	49,555	5,594
37,204	4,200	K814_0740 MT40	74.0	1201653/16240	14.3	10/6		1,237	139.6	2,800	2,500	3,500	37,204	4,200	41,190	4,650	54,864	6,194
37,204	4,200	K814_0890 MT40	88.9	40887/460	13.5	10/6		1,242	140.2	2,800	2,500	3,500	37,204	4,200	41,190	4,650	62,195	7,021
37,204	4,200	K814_0980 MT40	98.4	181071/1840	13.4	10/6		1,244	140.4	2,800	2,500	3,500	37,204	4,200	41,190	4,650	68,859	7,774
37,204	4,200	K814_1130 MT40	112.8	9027/80	12.9	10/6		1,246	140.6	2,800	2,500	3,500	37,204	4,200	41,190	4,650	74,407	8,400
29,076	3,282	K814_1150 MT30	114.6	329987/2880	7.7	10/6		1,239	139.8	2,800	2,500	3,500	25,991	2,934	31,692	3,578	39,615	4,472
37,204	4,200	K814_1250 MT40	124.9	279837/2240	12.8	10/6		1,247	140.8	2,800	2,500	3,500	37,204	4,200	41,190	4,650	74,407	8,400
32,191	3,634	K814_1270 MT30	126.9	1461371/11520	7.7	10/6		1,241	140.1	2,800	2,500	3,500	28,776	3,249	35,087	3,961	43,859	4,951
37,204	4,200	K814_1390 MT40	139.4	11151/80	12.5	10/6		1,248	140.9	2,800	2,500	3,500	37,204	4,200	41,190	4,650	74,407	8,400
30,138	3,402	K814_1420 MT30	141.5	135877/960	7.4	10/6		1,243	140.4	2,800	2,500	3,500	26,940	3,041	37,287	4,209	46,608	5,262
37,204	4,200	K814_1540 MT40	154.3	49383/320	12.5	10/6		1,249	141.0	2,800	2,500	3,500	37,204	4,200	41,190	4,650	74,407	8,400
33,367	3,767	K814_1570 MT30	156.7	601741/3840	7.3	10/6		1,245	140.6	2,800	2,500	3,500	29,827	3,367	41,190	4,650	51,602	5,825
37,204	4,200	K814_1710 MT40	170.7	4779/28	12.3	10/6		1,249	141.0	2,800	2,500	3,500	37,204	4,200	41,190	4,650	54,816	6,188
31,904	3,602	K814_1730 MT30	173.3	2773/16	7.1	10/6		1,246	140.7	2,800	2,500	3,500	28,519	3,220	41,190	4,650	54,810	6,188
37,204	4,200	K814_1890 MT40	189.0	148149/784	12.2	10/6		1,250	141.1	2,800	2,500	3,500	37,204	4,200	41,190	4,650	60,690	6,851

[1] Output torque for input speed ≤ 2000 RPM.
[2] Maximum torque for continuous input RPM - horizontal output position.
[3] Maximum momentary torque for emergency stops or heavy shock load. Admissible stops per life of reducer = 1,000 stops maximum.
[4] dB(A)Measured at 1 meter distance with 3000 RPM input

DIRECTION OF ROTATION:

2 Stage units (K102 through K402)
If input turns clockwise, output (side 4) turns clockwise.

3 Stage units (K203 through K913)
If input turns clockwise, output (side 4) turns counterclockwise.

4 Stage units (K514 through K1014)
If input turns clockwise, output (side 4) turns clockwise.

Index of Symbols

i ... Exact Ratio = Exact Tooth Count
J1 ... Reducer Inertia
C_t ... Torsional Stiffness
n_{1DBH} ... Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
n_{1DBV} ... Maximum Continuous Input RPM Vertical Position - EL3 or EL4
n_{1ZB} ... Maximum Cyclic Input RPM
T_{2N} ... Nominal Torque @ 2000 RPM Input
$T_{2N(n1DBH)}$ ... Rated Torque @ Maximum Continuous Input RPM Horizontal Position - EL1, EL2, EL5, EL6
T_{2B} ... Acceleration Torque Maximum
T_{2PEAK} ... Peak Torque

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Selection Data

Refer to Pages 64-77 for ServoFit SMS Dimensions and Page 92 for Selection Procedure.

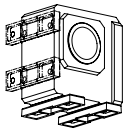
Output Torque ≤ 2000 RPM Nominal [1] T_{2N}		Part Number	Reducer Ratio i		Input Inertia J_1	Backlash Δφ arcmins		Torsional Stiffness per arcmin C_t		Maximum Input RPM			Output Torque					
										Continuous		Cyclic	Nominal [2] $T_{2N} \le n_{1DBH}$		Acceleration T_{2B}		Peak [3] T_{2PEAK}	
in.lbs.	Nm		Nom.	Exact	kgcm²	Standard	Reduced	in.lbs.	Nm	n_{1DBH}	n_{1DBV}	n_{1ZB}	in.lbs.	Nm	in.lbs.	Nm	in.lbs.	Nm
K813/K814 with MT TriAdapt® Motor Adapter (Continued)															**Noise Level ≤ 65 dB(A)** [4]			
35,323	3,988	K814_1920 MT30	191.9	85963/448	7.1	10/6		1,247	140.8	2,800	2,500	3,500	31,575	3,565	41,190	4,650	60,682	6,851
37,204	4,200	K814_2280 MT40	227.9	18231/80	12.0	10/6		1,251	141.2	2,800	2,500	3,500	37,204	4,200	41,190	4,650	68,593	7,744
33,726	3,807	K814_2310 MT30	231.4	1999333/8640	6.9	10/6		1,249	141.0	2,800	2,500	3,500	30,148	3,403	41,190	4,650	68,584	7,743
37,204	4,200	K814_2520 MT40	252.3	565161/2240	12.0	10/6		1,251	141.2	2,800	2,500	3,500	37,204	4,200	41,190	4,650	74,407	8,400
37,204	4,200	K814_2560 MT30	256.2	8854189/34560	6.9	10/6		1,250	141.1	2,800	2,500	3,500	33,378	3,768	41,190	4,650	74,407	8,400
31,935	3,605	K814_2770 MT40	276.6	4425/16	11.9	10/6		1,251	141.2	2,800	2,500	3,500	31,935	3,605	38,322	4,326	63,869	7,210
31,935	3,605	K814_2810 MT30	280.8	485275/1728	6.8	10/6		1,250	141.1	2,800	2,500	3,500	31,427	3,548	38,322	4,326	63,869	7,210
35,365	3,992	K814_3060 MT40	306.2	137175/448	11.9	10/6		1,251	141.3	2,800	2,500	3,500	35,365	3,992	41,190	4,650	70,731	7,985
35,365	3,992	K814_3110 MT30	310.9	2149075/6912	6.8	10/6		1,250	141.2	2,800	2,500	3,500	34,794	3,928	41,190	4,650	70,731	7,985
K913/K914 with MT TriAdapt® Motor Adapter															**Noise Level ≤ 65 dB(A)** [4]			
28,667	3,236	K913_0240 MT40	23.9	88877/3712	73.0	10/5		1,585	178.9	2,200	2,100	3,100	28,667	3,236	28,667	3,236	35,834	4,045
36,287	4,097	K913_0320 MT40	32.1	47275/1472	50.5	10/5		1,697	191.6	2,600	2,500	3,300	36,287	4,097	36,287	4,097	45,359	5,121
41,507	4,686	K913_0380 MT40	38.0	194773/5120	40.9	10/5		1,742	196.6	2,600	2,500	3,300	41,507	4,686	41,507	4,686	51,884	5,857
50,266	5,675	K913_0490 MT40	48.9	100223/2048	30.6	10/5		1,788	201.8	2,600	2,500	3,300	46,057	5,200	50,497	5,701	63,122	7,126
51,864	5,855	K913_0630 MT40	63.1	209901/3328	23.5	10/5		1,817	205.1	2,600	2,500	3,300	47,521	5,365	61,561	6,950	76,952	8,687
53,248	6,011	K913_0750 MT40	75.0	62403/832	19.9	10/5		1,830	206.6	2,600	2,500	3,300	48,789	5,508	68,207	7,700	88,210	9,958
47,620	5,376	K913_0950 MT40	95.4	293105/3072	16.4	10/5		1,843	208.0	2,600	2,500	3,300	47,620	5,376	57,144	6,451	95,240	10,752
54,781	6,184	K914_0920 MT40	92.4	2399679/25984	15.9	10/5		1,841	207.9	2,600	2,500	3,300	51,301	5,792	54,781	6,184	68,477	7,730
25,351	2,862	K914_0940 MT30	93.8	4177219/44544	10.6	10/5		1,819	205.3	2,600	2,500	3,300	25,351	2,862	28,664	3,236	35,831	4,045
60,960	6,882	K914_1240 MT40	123.9	1276425/10304	14.3	10/5		1,851	208.9	2,600	2,500	3,300	55,856	6,306	68,207	7,700	86,680	9,785
34,011	3,840	K914_1260 MT30	125.8	2221925/17664	9.1	10/5		1,838	207.5	2,600	2,500	3,300	34,011	3,840	36,284	4,096	45,355	5,120
62,006	7,000	K914_1470 MT40	146.7	5258871/35840	13.7	10/5		1,854	209.3	2,600	2,500	3,300	58,341	6,586	68,207	7,700	99,147	11,193
38,782	4,378	K914_1490 MT30	149.0	9154331/61440	8.5	10/5		1,845	208.3	2,600	2,500	3,300	35,534	4,012	41,503	4,685	51,879	5,857
62,006	7,000	K914_1890 MT40	188.8	2706021/14336	13.0	10/5		1,858	209.7	2,600	2,500	3,300	61,395	6,931	68,207	7,700	120,623	13,617
40,812	4,607	K914_1920 MT30	191.7	4710481/24576	7.8	10/5		1,852	209.1	2,600	2,500	3,300	37,395	4,222	50,493	5,700	63,116	7,125
62,006	7,000	K914_2430 MT40	243.3	5667327/23296	12.5	10/5		1,860	210.0	2,600	2,500	3,300	62,006	7,000	68,207	7,700	124,012	14,000
43,056	4,861	K914_2470 MT30	247.0	3288449/13312	7.4	10/5		1,856	209.6	2,600	2,500	3,300	39,451	4,454	61,556	6,949	76,945	8,687
44,860	5,064	K914_2940 MT30	293.8	977647/3328	7.1	10/5		1,858	209.8	2,600	2,500	3,300	41,103	4,640	68,207	7,700	88,202	9,957
46,783	5,281	K914_3740 MT30	373.7	13775935/36864	6.9	10/5		1,860	210.0	2,600	2,500	3,300	42,865	4,839	57,144	6,451	95,240	10,752
K1014 with MT TriAdapt® Motor Adapter															**Noise Level ≤ 65 dB(A)** [4]			
70,302	7,937	K1014_1220 MT40	121.6	556605/4576	18.4	10/5		4,062	458.5	2,500	2,300	3,200	65,262	7,368	71,200	8,038	89,000	10,047
74,065	8,361	K1014_1490 MT40	148.9	30969/208	16.5	10/5		4,082	460.8	2,500	2,300	3,200	68,756	7,762	83,596	9,437	104,495	11,797
78,043	8,811	K1014_1870 MT40	187.2	662067/3536	15.1	10/5		4,097	462.5	2,500	2,300	3,200	72,449	8,179	100,087	11,299	125,108	14,124
81,994	9,256	K1014_2370 MT40	237.4	49383/208	14.0	10/5		4,106	463.6	2,500	2,300	3,200	76,116	8,593	116,926	13,200	150,564	16,998
84,369	9,525	K1014_2900 MT40	290.4	392553/1352	13.3	10/5		4,112	464.2	2,500	2,300	3,200	78,321	8,842	116,926	13,200	175,508	19,813

Motor Shaft

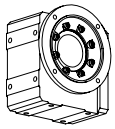
Motor Adapter	Max. Shaft Diameter
MT10	19
MT20	24
MT30	38
MT40	48

Housing Styles

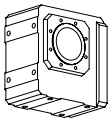
N Foot Mounted



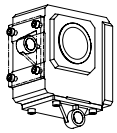
F Round Flange



G Tapped Holes

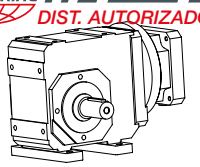


GD Torque Arm Bracket



These Housing Styles are available as Hollow (A), Bushing (W), or Solid (V) Output.

See page 86 and 87 for required ordering information and part number example.



"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead K102 Dimensional Data

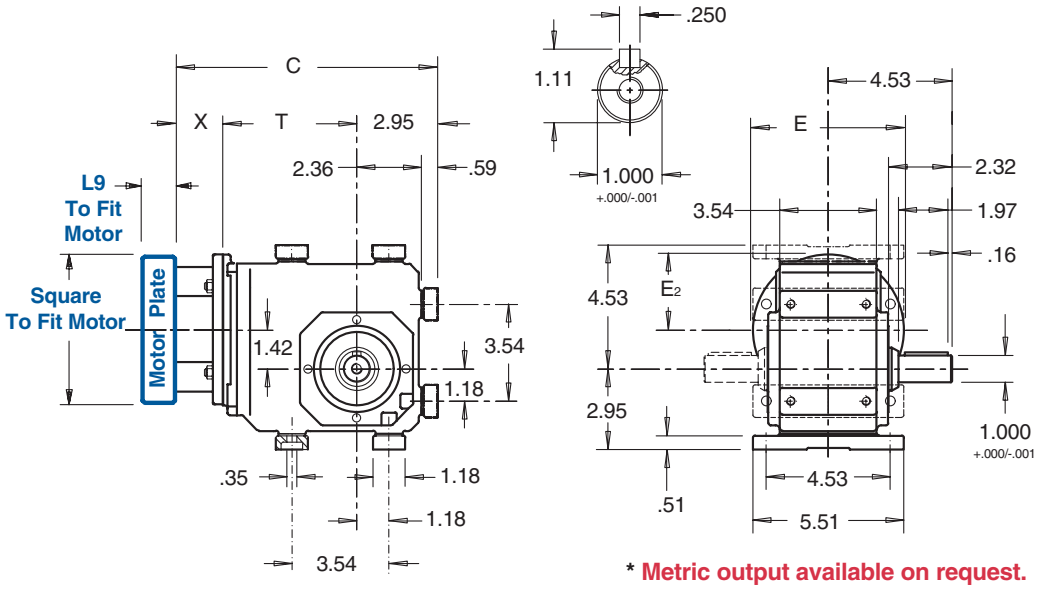
Drawing for Unit K102VN

Part No. Example

Foot Mounting Unit with TriAdapt® Motor Adapter

K102VN0175 MT20

Base Module Weight - 31 lbs.



*** Metric output available on request.**

Table No. 1 "MT" Motor Plate Dimensions

Motor Adapter	Motor Shaft D6 Max. 1)		Motor Plate Thickness 2) L9 ≥ L11 - X1 ≥ X2				Inches			Wt. lbs.
			X1		X2					
	mm	ins.	mm	inches	mm	inches	E	E2	X	
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8

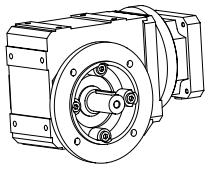
L11 is the motor shaft length.

1) If an adapter bushing is required it will be supplied as a component of the motor mounting plate.

2) Motor plate thickness (L9) will vary with motor shaft length but will not be less than X1 shown above.

See pages 48-63 for SMS Reducer Selection Data and available ratios.
See pages 83 and 86 for lubrication and mounting positions.
For approximate weight, add adapter weight from Table 1 and base module.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead K102 Dimensional Data



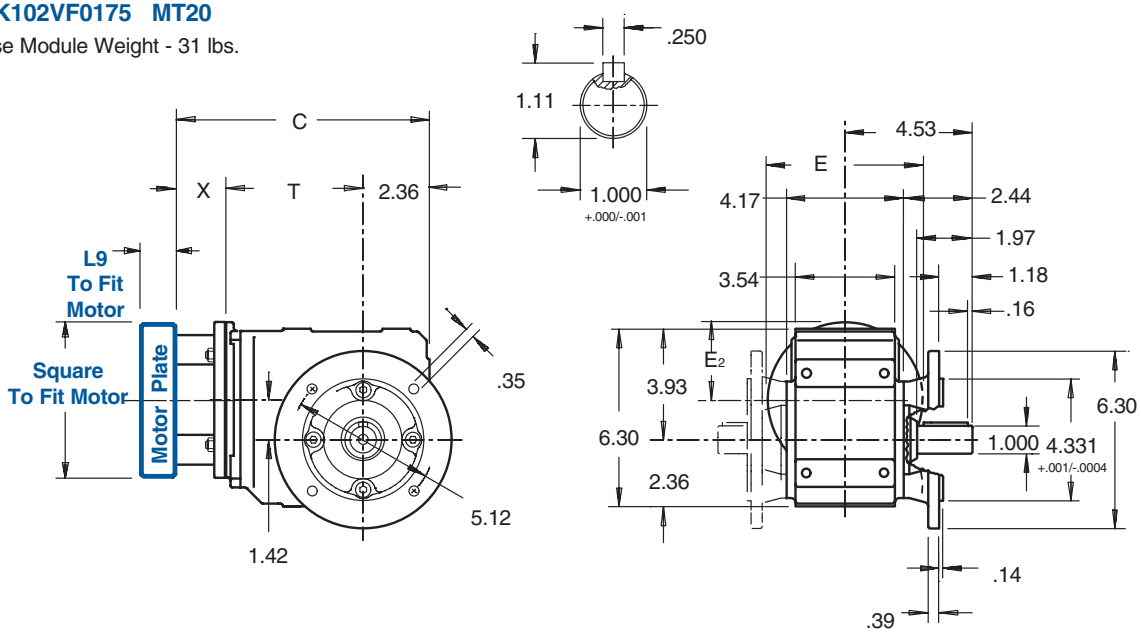
Drawing for Unit K102VF

Part No. Example

Round Flange with TriAdapt® Motor Adapter

K102VF0175 MT20

Base Module Weight - 31 lbs.



*** Metric output available on request.**

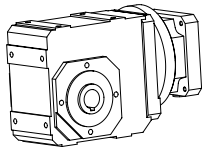
Drawing for Unit K102AG

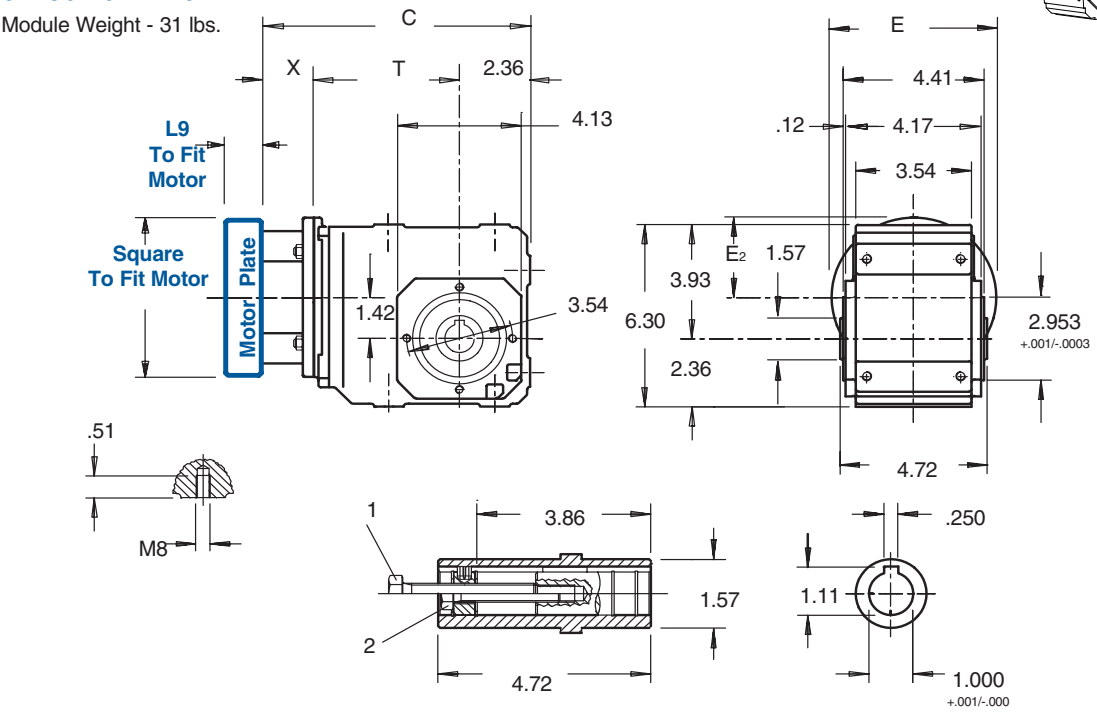
Part No. Example

Tapped Hole Housing with TriAdapt® Motor Adapter

K102AG0175 MT20

Base Module Weight - 31 lbs.



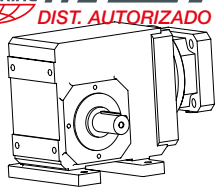


*** Metric output available on request.**

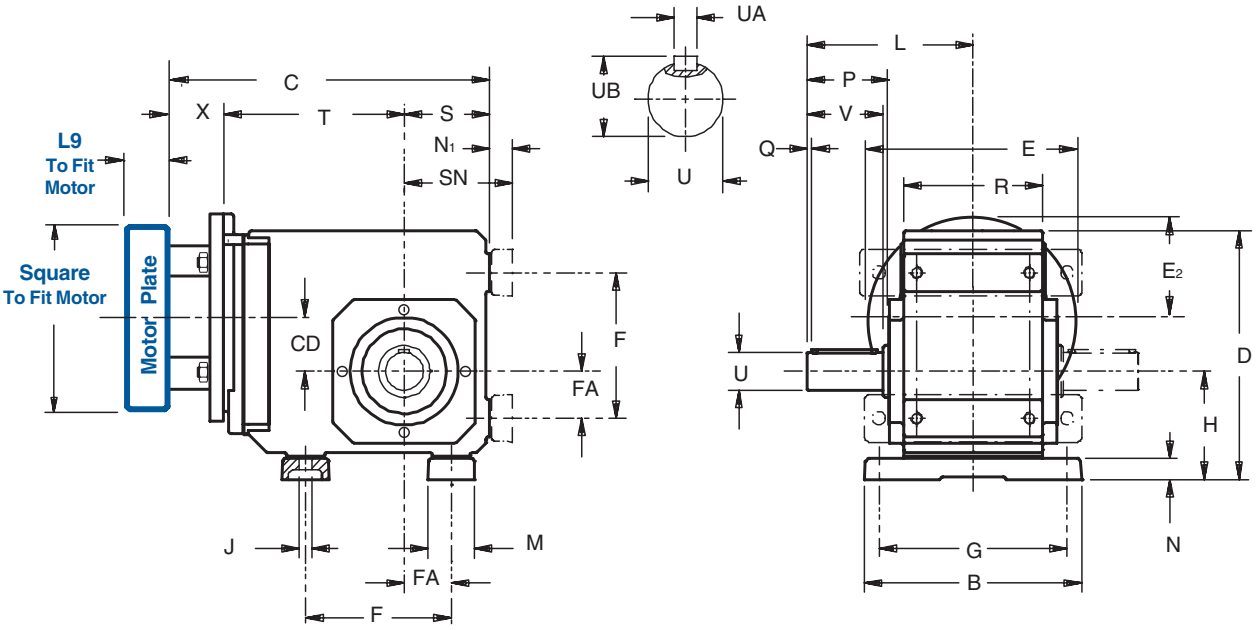
1. Removal Bolt ½-13 — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

See Page 81 for installation of hollow ouput.

See web site for drawings.



"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Dimensional Data



Drawing for Units
K202VN — K403VN

Table No. 1 **"K" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style**

Base Module	B	D	F	G	H	J	L	M	N	O	P	Q	R	S
K202/203	7.28	8.39	4.53	6.10	3.46	.43	5.31	1.57	.79	—	2.56	.16	4.53	2.56
K302/303	7.87	9.29	5.12	6.69	3.86	.43	5.59	1.77	.79	—	2.60	.16	5.12	2.95
K402/403	9.06	10.43	6.10	7.87	4.53	.55	6.54	1.97	.87	—	3.39	.16	5.83	3.54
K513/514	9.45	11.42	5.51	7.87	7.48	.71	8.74	2.36	1.06	5.10	3.90	.16	6.30	3.94
K613/614	9.84	13.39	6.30	8.27	8.66	.71	9.29	2.56	1.06	5.35	4.31	.16	6.61	4.72
K713/714	11.42	14.96	7.09	9.45	9.84	.87	10.91	2.76	1.38	6.46	5.14	.16	7.48	4.92
K813/814	14.17	17.91	9.45	11.81	12.20	1.02	12.83	3.35	1.61	7.28	5.94	.20	9.25	5.71
K913/914	16.93	21.46	11.02	14.17	14.37	1.30	15.16	3.74	1.81	8.66	7.13	.31	11.22	7.09

Table No. 2 *** Metric output available on request.**

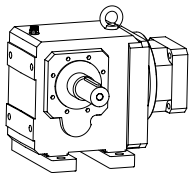
Base Module	*U +.000/.001	V	Z_1	BO	FA	N_1	SN	UA – Key	UB
K202/203	1.2500	2.36	—	—	1.38	.91	3.46	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
K302/303	1.2500	2.36	—	—	1.57	.91	3.86	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
K402/403	1.3750	2.76	—	—	1.97	.98	4.53	$^5/_{16} \times ^5/_{16} \times 2^5/_{16}$	1.51
K513/514	1.7500	3.54	5.98	7.28	1.57	1.18	5.12	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92
K613/614	1.7500	3.94	6.77	7.87	1.97	1.18	5.91	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92
K713/714	2.3750	4.72	7.52	8.90	2.17	1.50	6.42	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65
K813/814	2.8750	5.51	8.11	11.10	2.95	1.77	7.48	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21
K913/914	3.6250	6.69	9.84	12.99	3.74	1.97	9.06	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01

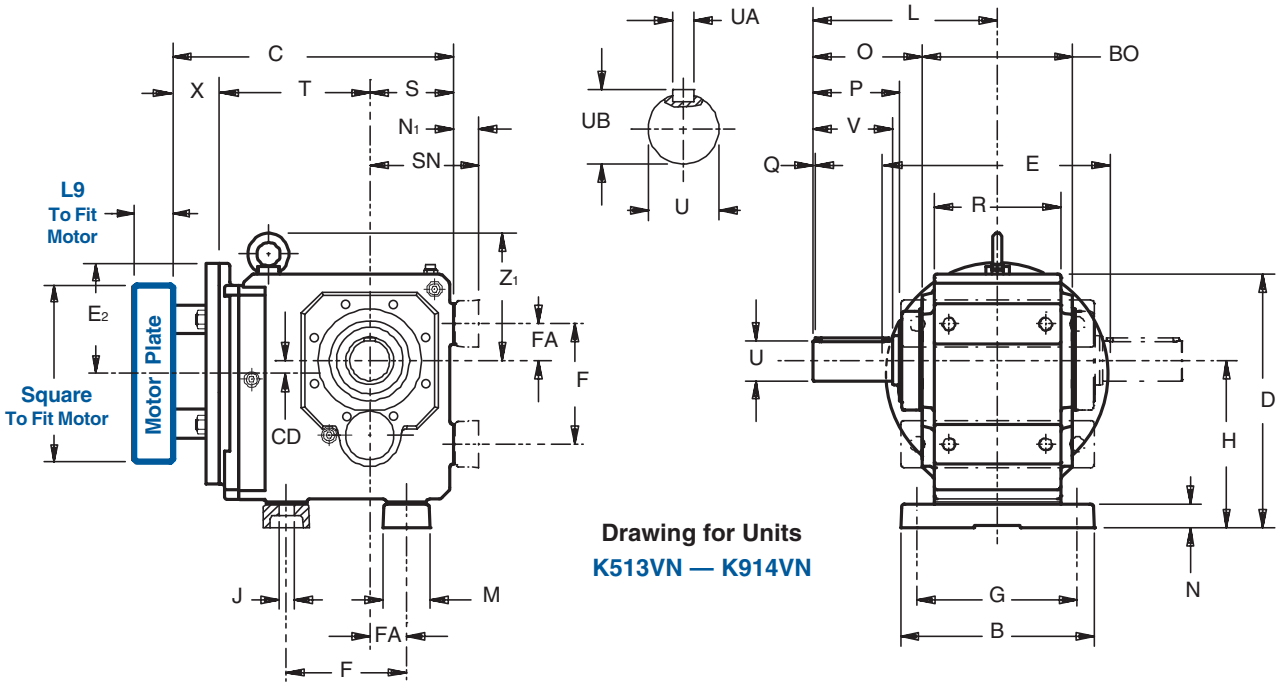
Table No. 3 **"MT" Motor Plate Dimensions**

Motor Adapter	Motor Shaft D6 Max. 1)		Motor Plate Thickness 2) L9 ≥ L11 - $X_1 \geq X_2$				Inches			Wt. lbs.
			X_1		X_2					
	mm	ins.	mm	inches	mm	inches	E	E_2	X	
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8
MT30	38	1.260	35	1.378	25	.984	7.87	3.94	2.36	12
MT40	48	1.890	44	1.732	33	1.299	9.84	4.92	3.50	18

L11 is the motor shaft length.
1) If an adapter bushing is required it will be supplied as a component of the motor mounting plate.
2) Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Dimensional Data





Drawing for Units
K513VN — K914VN

Table No. 4

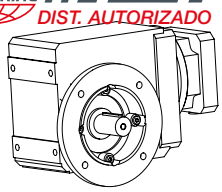
"K" Series – Foot Mounting Unit Dimensions (Inches) – "N" Housing Style

Base	MT10			MT20			MT30			MT40			Wt.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	9.76	5.63	1.81	10.32	5.79	1.81	10.79	5.87	—	—	—	40
K203	1.81	11.22	7.09	—	—	—	—	—	—	—	—	—	53
K302	2.07	10.94	6.42	2.07	11.49	6.57	2.07	11.96	6.65	—	—	—	67
K303	2.07	12.39	7.87	.63	13.19	8.27	—	—	—	—	—	—	73
K402	—	—	—	2.36	12.87	7.36	2.36	13.34	7.44	2.36	14.60	7.56	93
K403	2.36	13.77	8.66	.91	14.57	9.06	—	—	—	—	—	—	100
K513	—	—	—	.59	12.68	6.77	.59	13.15	6.85	.59	14.41	6.97	106
K514	—	—	—	.59	14.37	8.46	—	—	—	—	—	—	109
K613	—	—	—	.71	14.21	7.52	.71	14.68	7.60	.71	15.94	7.72	170
K614	—	—	—	.71	15.90	9.21	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	15.98	8.70	.79	17.24	8.82	221
K714	—	—	—	.79	17.24	10.35	.79	18.42	11.14	—	—	—	234
K813	—	—	—	—	—	—	.94	17.79	9.72	.94	19.01	9.80	309
K814	—	—	—	—	—	—	.94	20.20	12.13	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	.98	22.16	11.57	508
K914	—	—	—	—	—	—	.98	23.35	13.90	.98	24.96	14.37	530

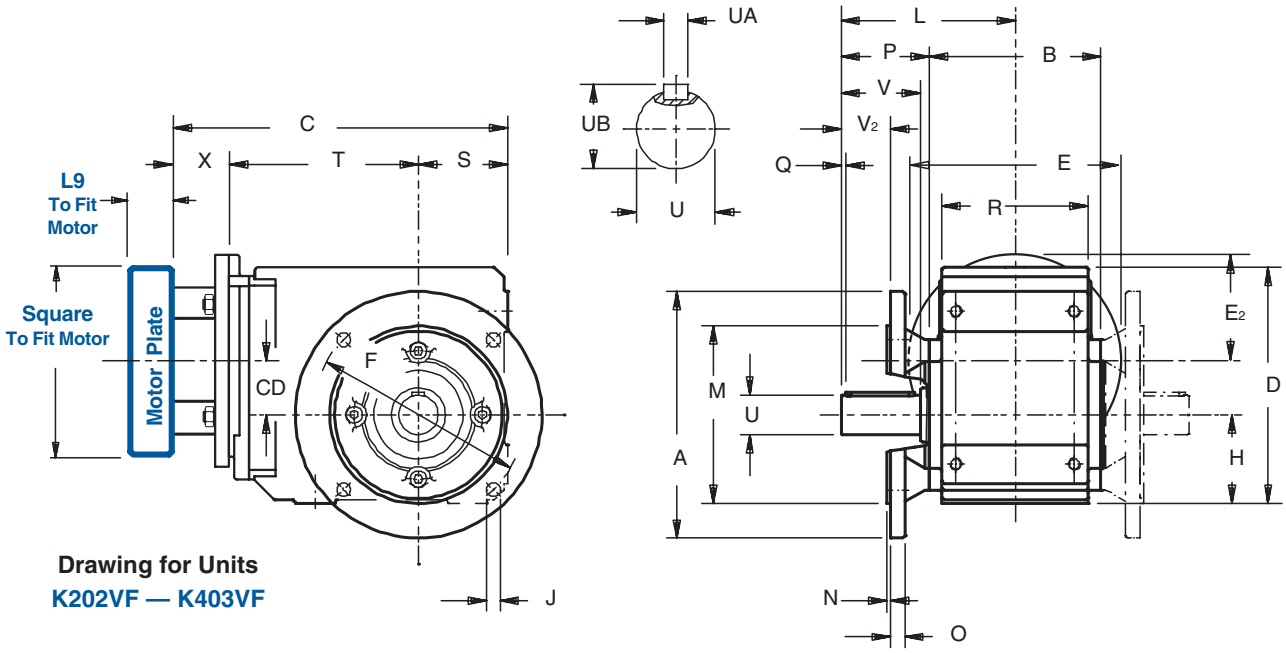
See pages 48-63 for SMS Reducer Selection Data and available ratios.
See pages 83, 86, and 87 for lubrication and mounting positions.
For approximate weight, add adapter weight from Table 3 and base module weight from Table 4.

Part No. Example
Foot Mounting with TriAdapt® Motor Adapter
K303VN0650 MT20

See web site for drawings.



"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Dimensional Data



Drawing for Units
K202VF — K403VF

Table No. 1 **"K" Series – Round Flange Unit Dimensions (Inches) – "F" Housing Style**

Base Module	A	B	D	F	H	J	L	M	N	O	P	Q	R	S
K202/203	7.87	5.28	7.48	6.50	2.56	.43	5.31	5.118 +.001/-.0004	.14	.47	2.68	.16	4.53	2.56
K302/303	7.87	5.75	8.39	6.50	2.95	.43	5.59	5.118 +.001/-.0004	.14	.55	2.72	.16	5.12	2.95
K402/403	9.84	6.81	9.45	8.46	3.54	.55	6.54	7.087 +.001/-.0004	.16	.59	3.52	.16	5.83	3.54
K513/514	9.84	7.28	10.24	8.46	6.30	.55	8.74	7.087 +.001/-.0004	.16	.59	5.10	.16	6.30	3.94
K613/614	11.81	7.87	12.20	10.43	7.48	.55	9.29	9.055 +.001/-.001	.16	.67	5.35	.16	6.61	4.72
K713/714	13.78	8.90	13.46	11.81	8.35	.71	10.91	9.842 +.000/-.001	.20	.71	6.46	.16	7.48	4.92
K813/814	15.75	11.10	16.14	13.78	10.43	.71	12.83	11.811 +.000/-.001	.20	.79	7.28	.20	9.25	5.71
K913/914	17.72	12.99	19.49	15.75 *	12.40	.71	15.16	13.780 +.000/-.001	.20	.91	8.66	.31	11.22	7.09

* K913 and K914 has 8 mounting holes in the output flange instead of 4 as shown in drawing.

Table No. 2 *** Metric output available on request.**

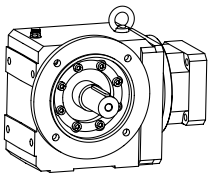
Base Module	*U +.000/-.001	V	V_2	Z_1	UA – Key	UB
K202/203	1.250	2.36	1.42	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
K302/303	1.250	2.36	1.22	—	$^1/_4 \times ^1/_4 \times 1^{15}/_{16}$	1.36
K402/403	1.375	2.76	1.95	—	$^5/_{16} \times ^5/_{16} \times 2^5/_{16}$	1.51
K513/514	1.750	3.54	—	5.98	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92
K613/614	1.750	3.94	—	6.77	$^3/_8 \times ^3/_8 \times 3^5/_{32}$	1.92
K713/714	2.375	4.72	—	7.52	$^5/_8 \times ^5/_8 \times 3^{15}/_{16}$	2.65
K813/814	2.875	5.51	—	8.11	$^3/_4 \times ^3/_4 \times 4^5/_{16}$	3.21
K913/914	3.625	6.69	—	9.84	$^7/_8 \times ^7/_8 \times 5^1/_2$	4.01

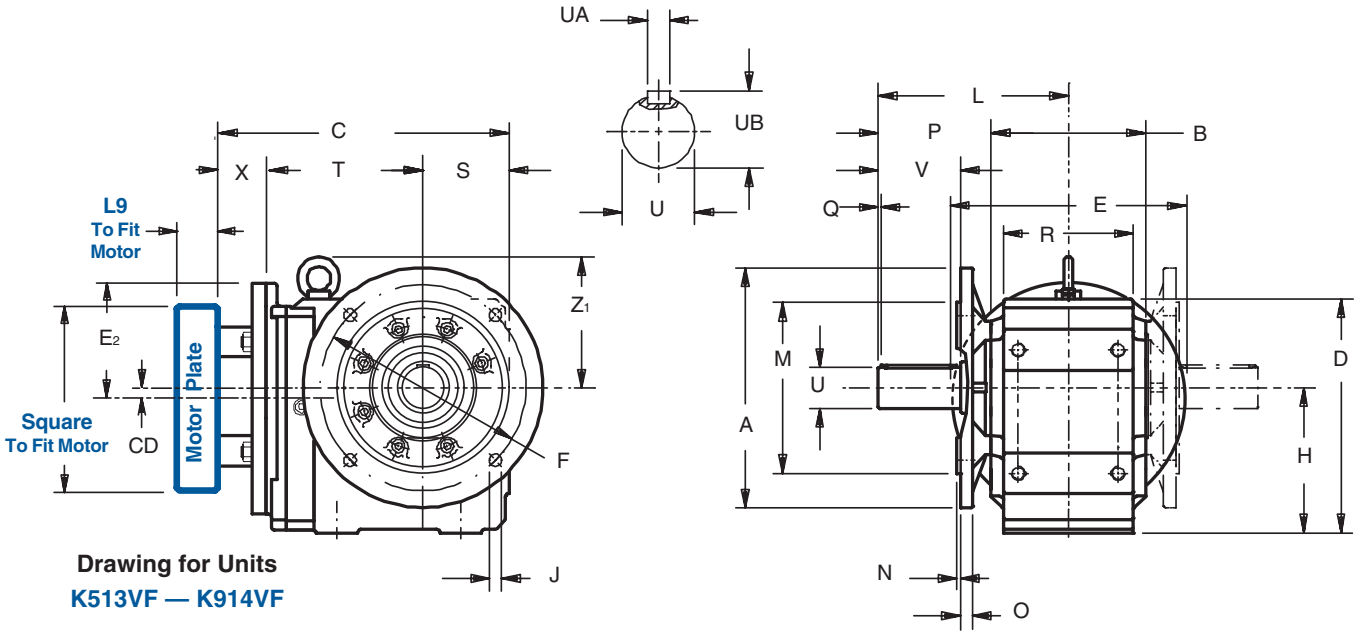
Table No. 3 **"MT" Motor Plate Dimensions**

Motor Adapter	Motor Shaft D6 Max. 1)		Motor Plate Thickness 2) L9 ≥ L11 - X_1 ≥ X_2				Inches			Wt. lbs.
			X_1		X_2					
	mm	ins.	mm	inches	mm	inches	E	E_2	X	
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8
MT30	38	1.260	35	1.378	25	.984	7.87	3.94	2.36	12
MT40	48	1.890	44	1.732	33	1.299	9.84	4.92	3.50	18

L11 is the motor shaft length.
1) If an adapter bushing is required it will be supplied as a component of the motor mounting plate.
2) Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Dimensional Data





Drawing for Units
K513VF — K914VF

Table No. 4

"K" Series – Flange Mounting Unit Dimensions (Inches) – "F" Housing Style

Base	MT10			MT20			MT30			MT40			Wt.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	9.76	5.63	1.81	10.32	5.79	1.81	10.79	5.87	—	—	—	40
K203	1.81	11.22	7.09	—	—	—	—	—	—	—	—	—	53
K302	2.07	10.94	6.42	2.07	11.49	6.57	2.07	11.96	6.65	—	—	—	67
K303	2.07	12.39	7.87	.63	13.19	8.27	—	—	—	—	—	—	73
K402	—	—	—	2.36	12.87	7.36	2.36	13.34	7.44	2.36	14.60	7.56	93
K403	2.36	13.77	8.66	.91	14.57	9.06	—	—	—	—	—	—	100
K513	—	—	—	.59	12.68	6.77	.59	13.15	6.85	.59	14.41	6.97	106
K514	—	—	—	.59	14.37	8.46	—	—	—	—	—	—	109
K613	—	—	—	.71	14.21	7.52	.71	14.68	7.60	.71	15.94	7.72	170
K614	—	—	—	.71	15.90	9.21	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	15.98	8.70	.79	17.24	8.82	221
K714	—	—	—	.79	17.24	10.35	.79	18.42	11.14	—	—	—	234
K813	—	—	—	—	—	—	.94	17.79	9.72	.94	19.01	9.80	309
K814	—	—	—	—	—	—	.94	20.20	12.13	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	.98	22.16	11.57	508
K914	—	—	—	—	—	—	.98	23.35	13.90	.98	24.96	14.37	530

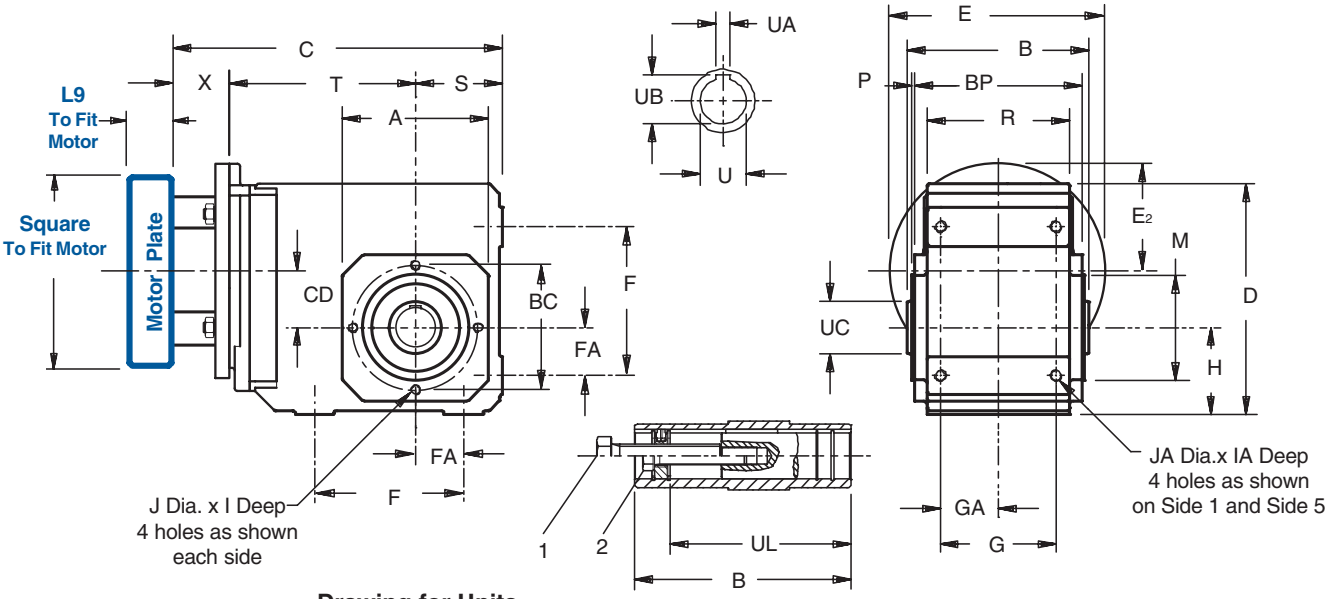
See pages 48-63 for SMS Reducer Selection Data and available ratios.
See pages 83, 86, and 87 for lubrication and mounting positions.
For approximate weight, add adapter weight from Table 3 and base module weight from Table 4.

Part No. Example
Round Flange with TriAdapt® Motor Adapter
K303VF0650 MT20

See web site for drawings.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Dimensional Data

See Page 81 for installation of hollow ouput.



Drawing for Units
K202AG — K403AG

Table No. 1 **"K" Series – Tapped Hole Unit Dimensions (Inches) – "G" Housing Style**

Base Module	A	B	D	F	G	H	I	J	M	P	R	S	*U +.001/.000	Z_1
K202/203	4.57	5.83	7.48	4.53	3.54	2.56	.51	4-M8	3.228 +.001/-.001	.12	4.53	2.56	1.1875	—
K302/303	5.20	6.30	8.39	5.12	4.13	2.95	.51	4-M8	3.740 +.001/-.0004	.12	5.12	2.95	1.375	—
K402/403	5.98	7.40	9.45	6.10	4.72	3.54	.63	4-M10	4.331 +.001/-.0004	.14	5.83	3.54	1.500	—
K513/514	5.71	7.87	10.24	5.51	4.92	6.30	.63	8-M10	4.331 +.001/-.0004	.14	6.30	3.94	2.000	5.98
K613/614	7.09	8.46	12.20	6.30	5.12	7.48	.63	8-M10	5.512 +.001/-.0004	.14	6.61	4.72	2.000	6.77
K713/714	7.68	9.53	13.46	7.09	5.71	8.35	.75	8-M12	6.102 +.001/-.0004	.14	7.48	4.92	2.375	7.52
K813/814	8.90	11.81	16.14	9.45	7.28	10.43	.75	8-M12	7.283 +.001/-.001	.16	9.25	5.71	2.750	8.11
K913/914	11.02	13.78	19.49	11.02	8.86	12.40	1.02	8-M16	9.055 +.001/-.001	.20	11.22	7.09	3.250	9.84

* Metric output available on request.

Table No. 2

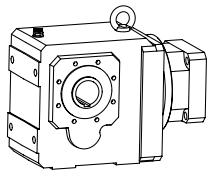
Base Module	BC	BP	FA	GA	IA	JA	UA	UB	UC	UL	1
K202/203	3.94	5.28	1.38	1.77	.63	M10	.250	1.31	1.77	4.78	1/2-13
K302/303	4.53	5.75	1.57	2.07	.63	M10	.312	1.52	1.97	4.92	5/8-11
K402/403	5.12	6.81	1.97	2.36	.75	M12	.375	1.67	2.17	6.18	3/4-10
K513/514	5.12	7.28	1.57	2.46	1.02	M16	.500	2.13	2.56	6.46	3/4-10
K613/614	6.50	7.87	1.97	2.56	1.02	M16	.500	2.23	2.76	7.05	3/4-10
K713/714	7.28	8.90	2.17	2.85	1.22	M20	.625	2.66	3.35	8.43	1-8
K813/814	8.46	11.10	2.95	3.64	1.50	M24	.625	3.03	3.94	10.35	1-8
K913/914	10.43	12.99	3.74	4.43	1.89	M30	.750	3.59	4.33	12.32	1-8

Table No. 3 **"MT" Motor Plate Dimensions**

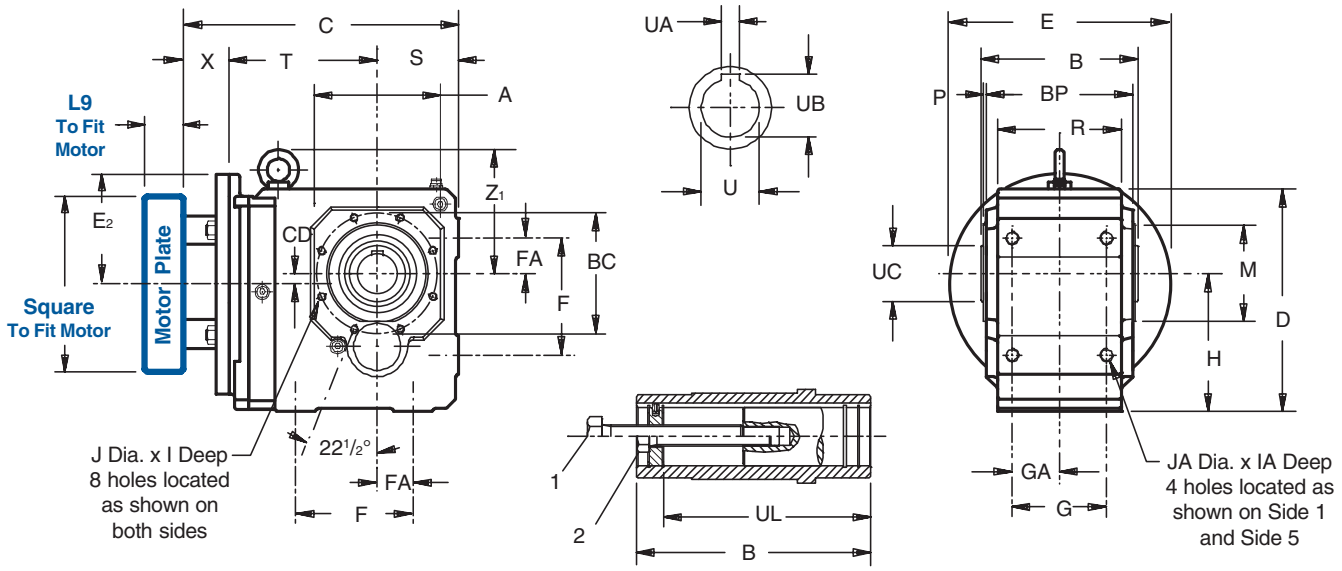
Motor Adapter	Motor Shaft D6 Max. 1)		Motor Plate Thickness 2) L9 ≥ L11 - X_1 ≥ X_2				Inches			Wt. lbs.
			X_1		X_2					
	mm	ins.	mm	inches	mm	inches	E	E_2	X	
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8
MT30	38	1.260	35	1.378	25	.984	7.87	3.94	2.36	12
MT40	48	1.890	44	1.732	33	1.299	9.84	4.92	3.50	18

L11 is the motor shaft length.
1) If an adapter bushing is required it will be supplied as a component of the motor mounting plate.
2) Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Dimensional Data



See Page 81 for installation of hollow ouput.



Drawing for Units
K513AG — K914AG

Table No. 4

"K" Series – Tapped Hole Unit Dimensions (Inches) – "G" Housing Style

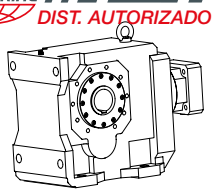
Base	MT10			MT20			MT30			MT40			Wt.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	9.76	5.63	1.81	10.32	5.79	1.81	10.79	5.87	—	—	—	40
K203	1.81	11.22	7.09	—	—	—	—	—	—	—	—	—	53
K302	2.07	10.94	6.42	2.07	11.49	6.57	2.07	11.96	6.65	—	—	—	67
K303	2.07	12.39	7.87	.63	13.19	8.27	—	—	—	—	—	—	73
K402	—	—	—	2.36	12.87	7.36	2.36	13.34	7.44	2.36	14.60	7.56	93
K403	2.36	13.77	8.66	.91	14.57	9.06	—	—	—	—	—	—	100
K513	—	—	—	.59	12.68	6.77	.59	13.15	6.85	.59	14.41	6.97	106
K514	—	—	—	.59	14.37	8.46	—	—	—	—	—	—	109
K613	—	—	—	.71	14.21	7.52	.71	14.68	7.60	.71	15.94	7.72	170
K614	—	—	—	.71	15.90	9.21	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	15.98	8.70	.79	17.24	8.82	221
K714	—	—	—	.79	17.24	10.35	.79	18.42	11.14	—	—	—	234
K813	—	—	—	—	—	—	.94	17.79	9.72	.94	19.01	9.80	309
K814	—	—	—	—	—	—	.94	20.20	12.13	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	.98	22.16	11.57	508
K914	—	—	—	—	—	—	.98	23.35	13.90	.98	24.96	14.37	530

1. Removal Bolt — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

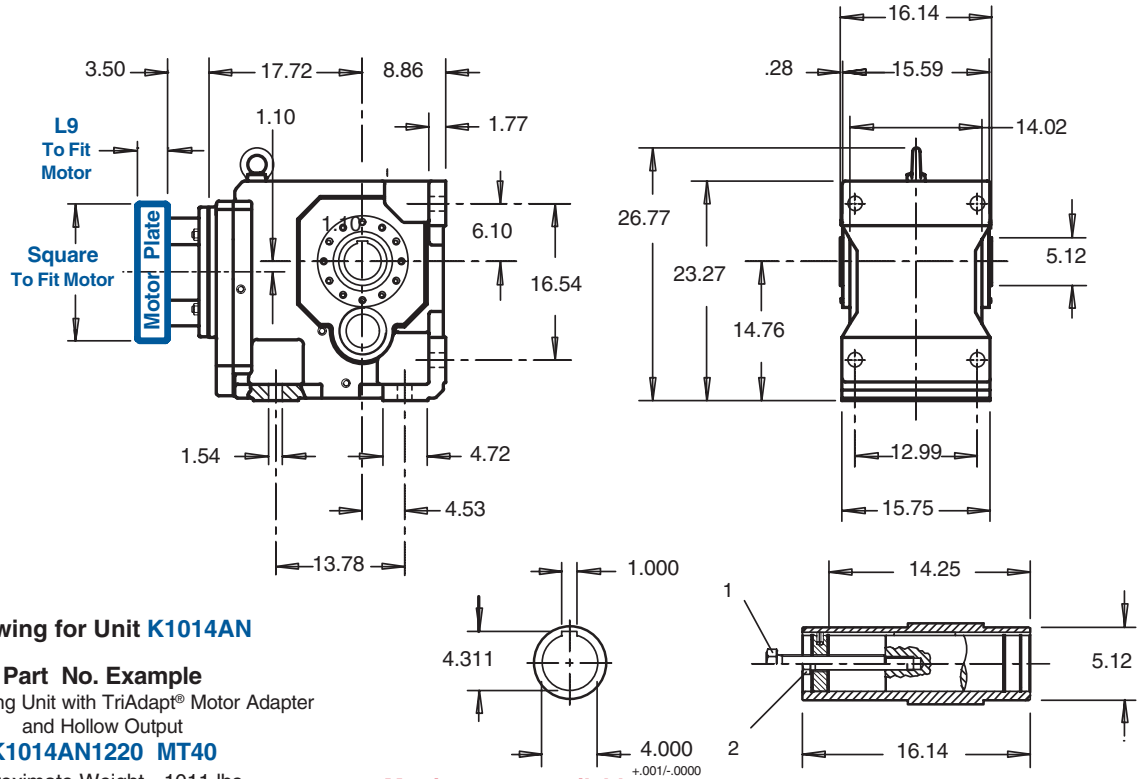
See pages 48-63 for SMS Reducer Selection Data and available ratios.
See pages 83, 86, and 87 for lubrication and mounting positions.
For approximate weight, add adapter weight from Table 3 and base module weight from Table 4.

Part No. Example
Tapped Holes Housing with TriAdapt® Motor Adapter
K303AG0650 MT20

See web site for drawings.



"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead K1014 Dimensional Data



Drawing for Unit K1014AN

Part No. Example

Foot Mounting Unit with TriAdapt® Motor Adapter and Hollow Output

K1014AN1220 MT40

Approximate Weight - 1011 lbs.

Metric output available on request.

Drawing for Unit K1014AG

Part No. Example

Tapped Hole Unit with TriAdapt® Motor Adapter and Hollow Output

K1014AG1220 MT40

Approximate Weight - 1011 lbs.

See Page 81 for installation of hollow ouput.

1. Removal Bolt $1^{1}/_{4}$-7 — not supplied.
2. Mounting Bolt — must be smaller than removal bolt.

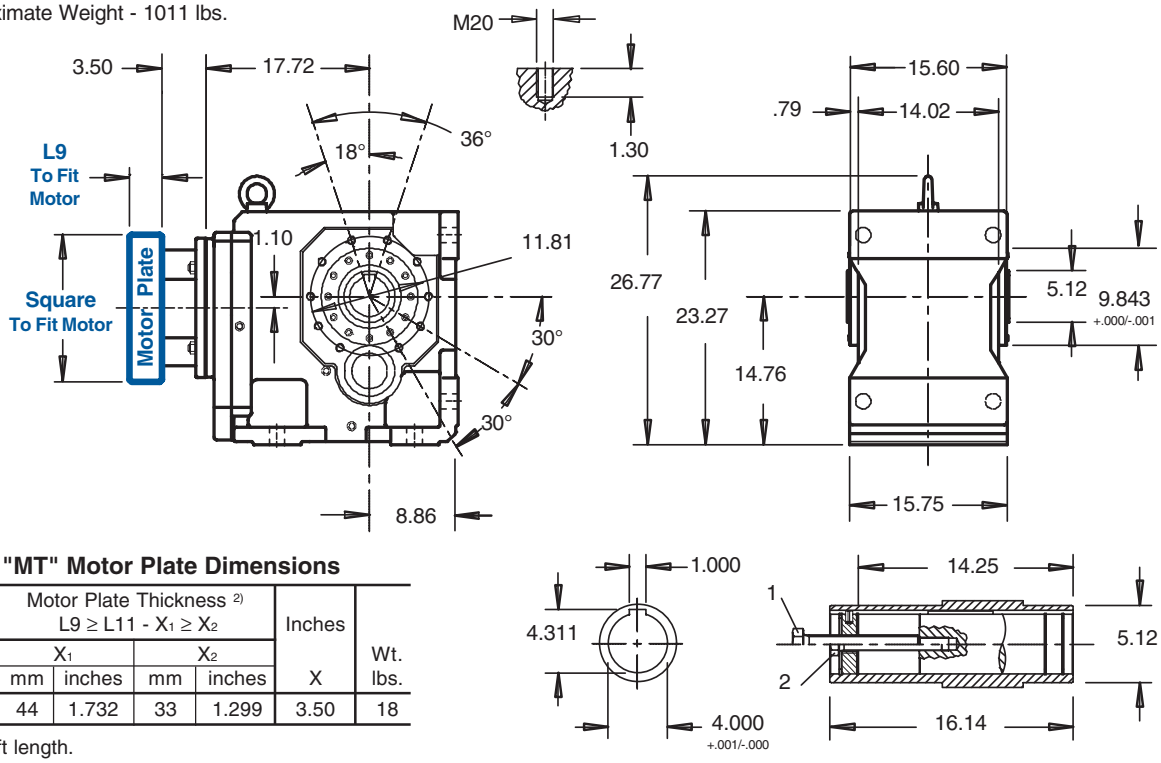


Table No. 1 "MT" Motor Plate Dimensions

Motor Adapter	Motor Shaft D6 Max. [1]		Motor Plate Thickness [2] L9 ≥ L11 - X_1 ≥ X_2				Inches	Wt. lbs.
			X_1		X_2			
	mm	ins.	mm	inches	mm	inches	X	
MT40	48	1.890	44	1.732	33	1.299	3.50	18

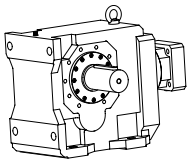
L11 is the motor shaft length.

[1] If an adapter bushing is required it will be supplied as a component of the motor mounting plate.

[2] Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.

Metric output available on request.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead K1014 Dimensional Data



Drawing for Unit K1014VF

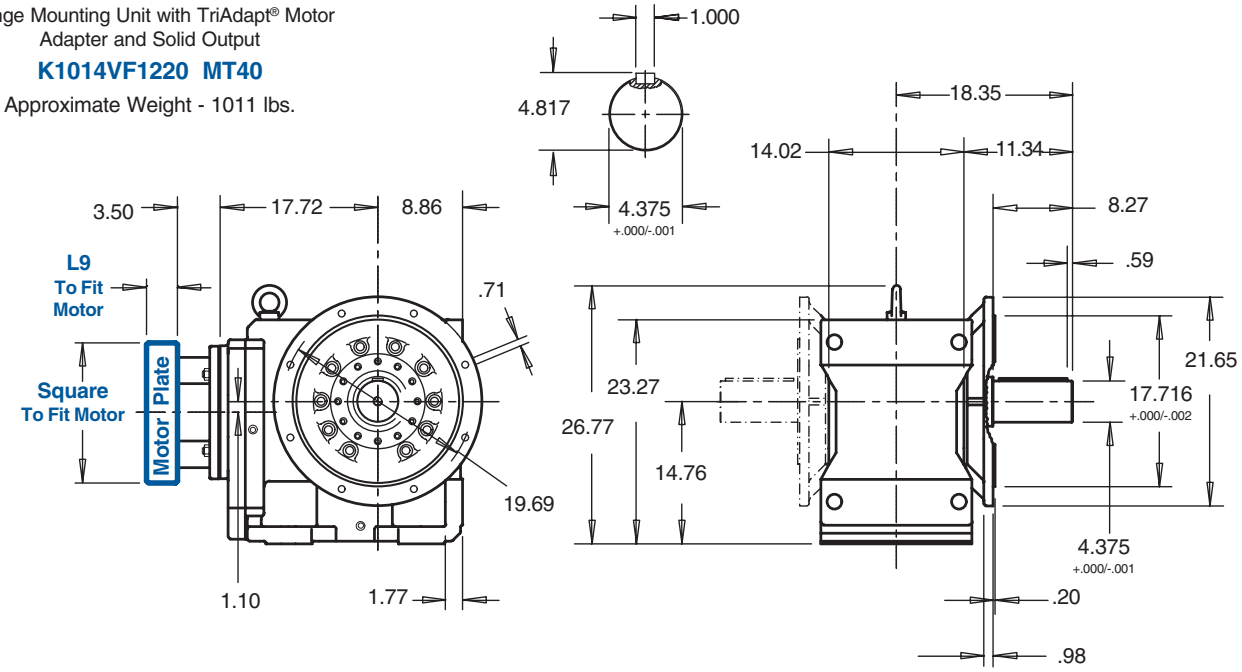
Part No. Example

Flange Mounting Unit with TriAdapt® Motor Adapter and Solid Output

K1014VF1220 MT40

Approximate Weight - 1011 lbs.

Metric output available on request.



Drawing for Unit K1014VN

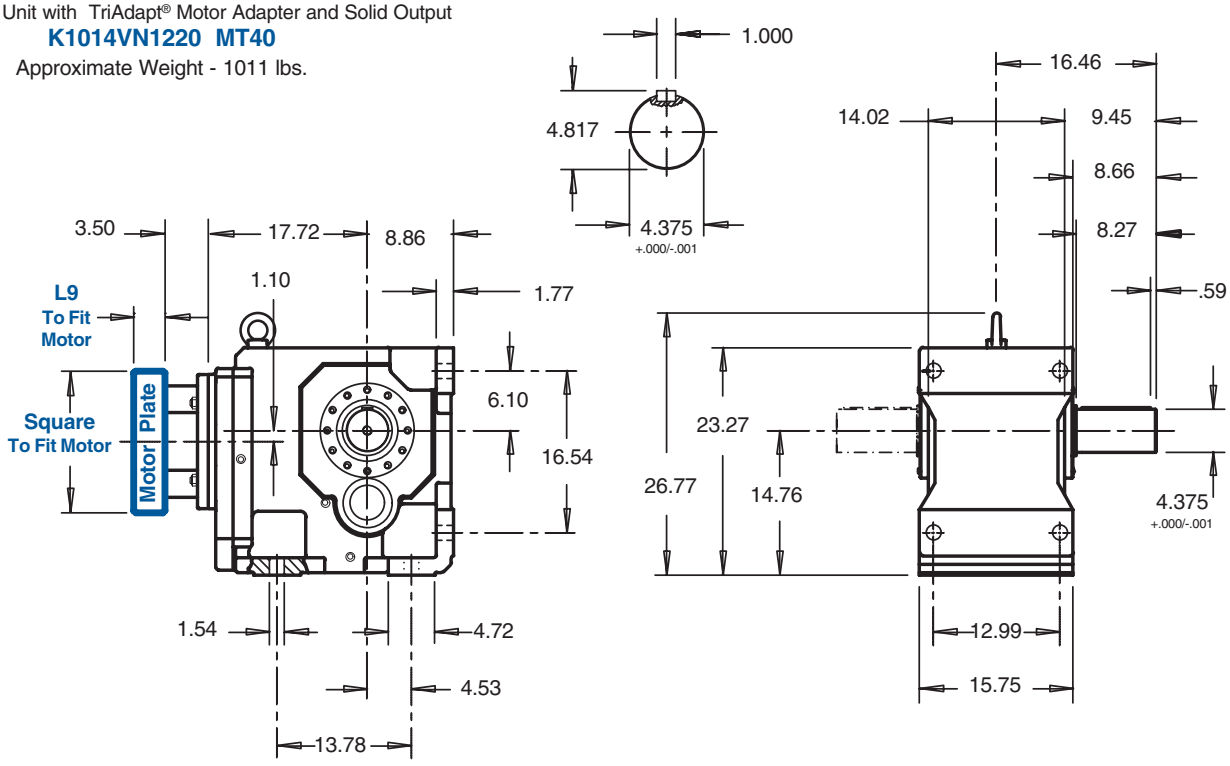
Part No. Example

Foot Mounting Unit with TriAdapt® Motor Adapter and Solid Output

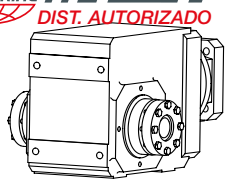
K1014VN1220 MT40

Approximate Weight - 1011 lbs.

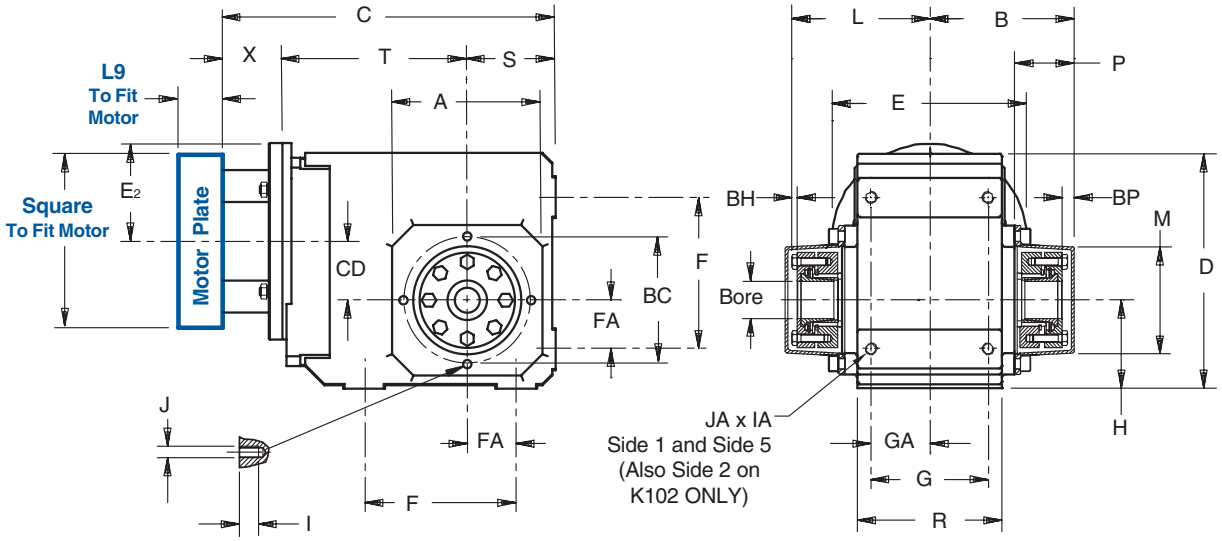
Metric output available on request.



See pages 48-63 for SMS Reducer Selection Data and available ratios.
See pages 83 and 87 for lubrication and mounting positions.
All weights are approximate.



"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Double Side Wobble Free Bushing



Drawing for Units
K102WG — K403WG

Important: A 1/32 x 45° chamfer minimum is recommended for the shaft end.
The bushing will accept a shaft with a tolerance of +.000/-.005.

Table No. 1 "K" Series – Double Wobble Free – Unit Dimensions (Inches)

Base Module	Max. Bore	A	B	D	F	G	H	I	J	L
K102	1.000	4.13	3.90	6.30	3.54	2.76	2.36	.51	4-M8	3.82
K202/203	1.1875	4.57	4.68	7.48	4.53	3.54	2.56	.51	4-M8	4.45
K302/303	1.500	5.20	4.98	8.39	5.12	4.13	2.95	.51	4-M8	4.70
K402/403	1.500	5.98	5.80	9.45	6.10	4.72	3.54	.63	4-M10	5.53
K513/514	2.000	5.71	6.05	10.24	5.51	4.92	6.30	.63	8-M10	5.81
K613/614	2.1875	7.09	6.61	12.20	6.30	5.12	7.48	.63	8-M10	6.34
K713/714	2.375	7.68	7.68	13.46	7.09	5.71	8.35	.75	8-M12	7.53
K813/814	2.750	8.90	9.34	16.14	9.45	7.28	10.43	.75	8-M12	9.01

Table No. 2

Base Module	M	P	R	S	Z_1	BC	BP	BH	FA	GA	IA	JA
K102	3.07	1.97	3.54	2.36	—	3.54	.24	.16	1.18	1.38	.51	M8
K202/203	3.46	2.05	4.53	2.56	—	3.94	.39	.16	1.38	1.77	.63	M10
K302/303	3.78	2.09	5.12	2.95	—	4.53	.43	.16	1.57	2.07	.63	M10
K402/403	4.33	2.40	5.83	3.54	—	5.12	.47	.20	1.97	2.36	.75	M12
K513/514	4.54	2.40	6.30	3.94	5.98	5.12	.43	.20	1.57	2.46	1.02	M16
K613/614	5.00	2.68	6.61	4.72	6.77	6.50	.51	.24	1.97	2.56	1.02	M16
K713/714	5.75	2.91	7.48	4.92	7.52	7.28	.39	.24	2.17	2.85	1.22	M20
K813/814	6.95	3.43	9.25	5.71	8.11	8.46	.64	.31	2.95	3.64	1.50	M24

Table No. 3 "MT" Motor Plate Dimensions

Motor Adapter	Motor Shaft D6 Max. [1]		Motor Plate Thickness [2] L9 ≥ L11 - X_1 ≥ X_2				Inches			Wt. lbs.
			X_1		X_2					
	mm	ins.	mm	inches	mm	inches	E	E_2	X	
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8
MT30	38	1.260	35	1.378	25	.984	7.87	3.94	2.36	12
MT40	48	1.890	44	1.732	33	1.299	9.84	4.92	3.50	18

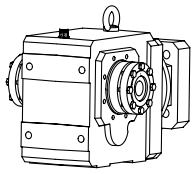
L11 is the motor shaft length.
[1] If an adapter bushing is required it will be supplied as a component of the motor mounting plate.
[2] Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.

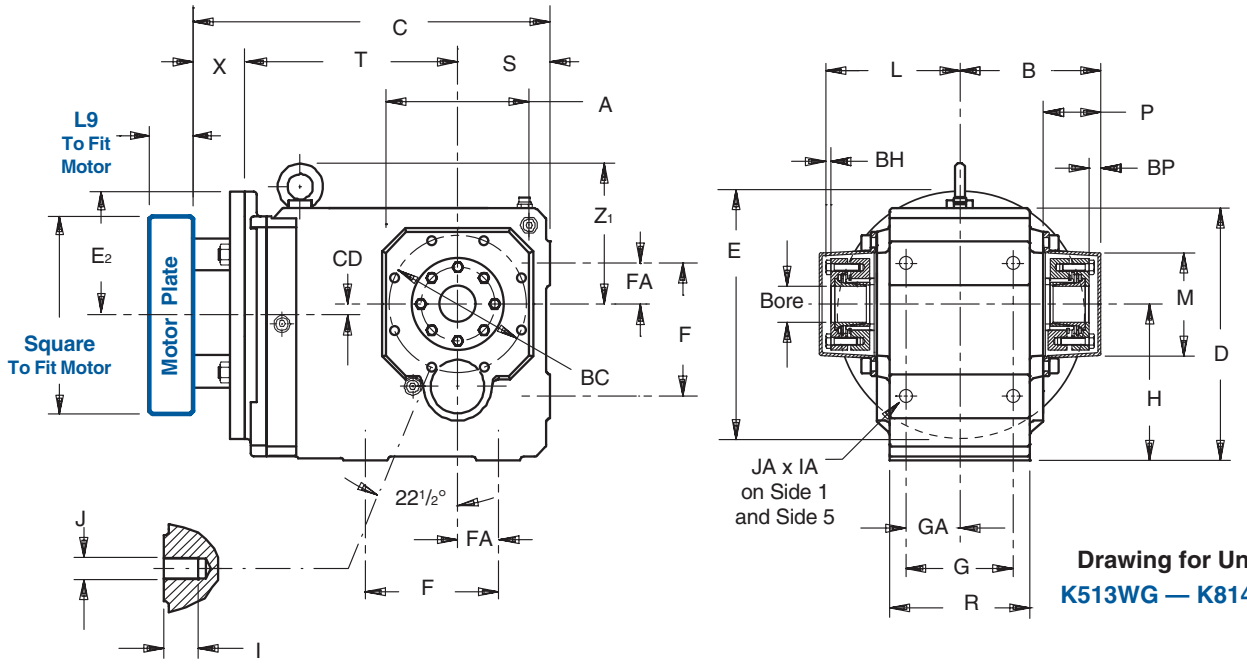
Table No. 4 "WFB" Bushing Kits

Bushing Kit No.	Bore-inches
WFB1-100	1
WFB2-100	1
WFB2-103	1 3/16
WFB3-100	1
WFB3-103	1 3/16
WFB3-104	1 1/4
WFB3-106	1 3/8
WFB3-107	1 7/16
WFB3-108	1 1/2
WFB4-100	1
WFB4-103	1 3/16
WFB4-104	1 1/4
WFB4-106	1 3/8
WFB4-107	1 7/16
WFB4-108	1 1/2
WFB5-107	1 7/16
WFB5-108	1 1/2
WFB5-110	1 5/8
WFB5-111	1 11/16
WFB5-112	1 3/4
WFB5-114	1 7/8
WFB5-115	1 15/16
WFB5-200	2
WFB6-107	1 7/16
WFB6-108	1 1/2
WFB6-110	1 5/8
WFB6-111	1 11/16
WFB6-112	1 3/4
WFB6-115	1 15/16
WFB6-200	2
WFB6-203	2 3/16
WFB7-115	1 15/16
WFB7-200	2
WFB7-203	2 3/16
WFB7-206	2 3/8
WFB8-203	2 3/16
WFB8-206	2 3/8
WFB8-207	2 7/16
WFB8-212	2 3/4

Bushing Kit No.	Bore-Metric
WFB4-40	40mm
WFB5-40	40mm
WFB6-40	40mm

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Double Side Wobble Free Bushing





Drawing for Units
K513WG — K814WG

Table No. 5 "K" Series – Double Wobble Free – Unit Dimensions (Inches)

Base	MT10			MT20			MT30			MT40			Wt.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	9.76	5.63	1.81	10.32	5.79	1.81	10.79	5.87	—	—	—	40
K203	1.81	11.22	7.09	—	—	—	—	—	—	—	—	—	53
K302	2.07	10.94	6.42	2.07	11.49	6.57	2.07	11.96	6.65	—	—	—	67
K303	2.07	12.39	7.87	.63	13.19	8.27	—	—	—	—	—	—	73
K402	—	—	—	2.36	12.87	7.36	2.36	13.34	7.44	2.36	14.60	7.56	93
K403	2.36	13.77	8.66	.91	14.57	9.06	—	—	—	—	—	—	100
K513	—	—	—	.59	12.68	6.77	.59	13.15	6.85	.59	14.41	6.97	106
K514	—	—	—	.59	14.37	8.46	—	—	—	—	—	—	109
K613	—	—	—	.71	14.21	7.52	.71	14.68	7.60	.71	15.94	7.72	170
K614	—	—	—	.71	15.90	9.21	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	15.98	8.70	.79	17.24	8.82	221
K714	—	—	—	.79	17.24	10.35	.79	18.42	11.14	—	—	—	234
K813	—	—	—	—	—	—	.94	17.79	9.72	.94	19.01	9.80	309
K814	—	—	—	—	—	—	.94	20.20	12.13	—	—	—	331

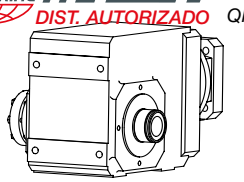
Table No. 6 "WFB" Bushing – Stock Bores

Base	INCHES																METRIC
Module	1	1 3/16	1 1/4	1 3/8	1 7/16	1 1/2	1 5/8	1 11/16	1 3/4	1 7/8	1 15/16	2	2 3/16	2 3/8	2 7/16	2 3/4	40mm
K102	x	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K202/K203	x	x	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K302/K303	x	x	x	x	x	x	—	—	—	—	—	—	—	—	—	—	—
K402/K403	x	x	x	x	x	x	—	—	—	—	—	—	—	—	—	—	x
K513/K514	—	—	—	—	x	x	x	x	x	x	x	x	—	—	—	—	x
K613/K614	—	—	—	—	x	x	x	x	x	—	x	x	x	—	—	—	x
K713/K714	—	—	—	—	—	—	—	—	—	—	x	x	x	x	—	—	—
K813/K814	—	—	—	—	—	—	—	—	—	—	—	—	x	x	x	x	—

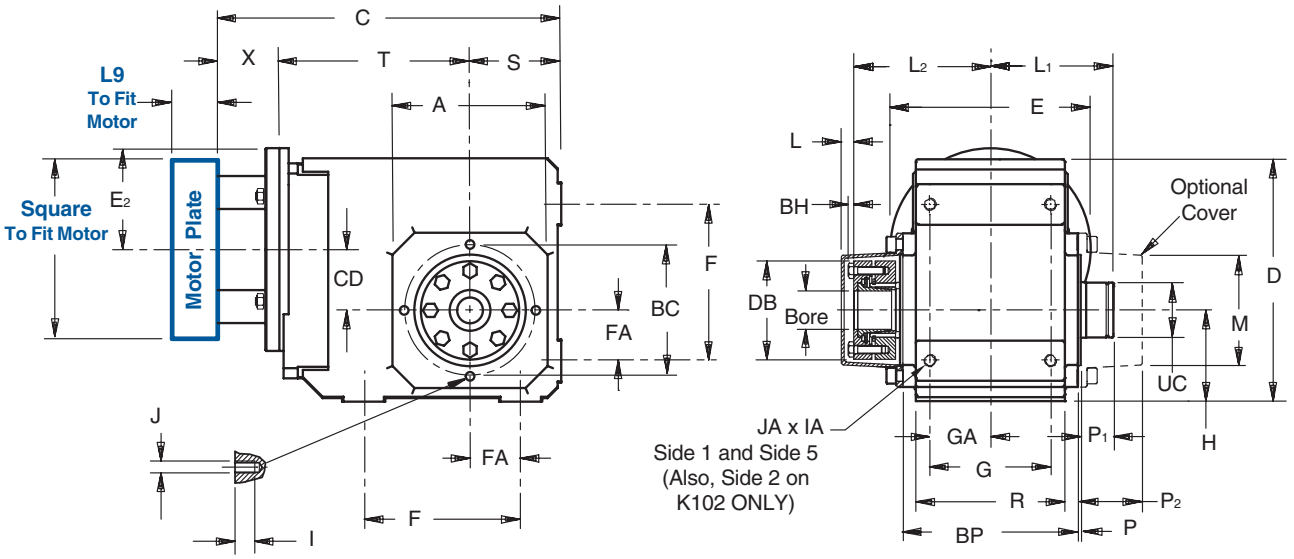
Part No. Example

Unit with TriAdapt® Motor Adapter
1 3/8" Bore Double Bushing
K402WG0560 MT20
WFB4–106

NOTES: A complete bushing kit includes the locking ring assembly, tapered cone, support ring, and all hardware to mount the kit into the SMS reducer. The WFB1-100 bushing does not have a tapered cone.



"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Single Side Wobble Free Bushing



Drawing for Units
K102WG — K403WG

Important: A 1/32 x 45° chamfer minimum is recommended for the shaft end.
The bushing will accept a shaft with a tolerance of +.000/-.005.

Table No. 1 "K" Series – Single Side Wobble Free – Unit Dimensions (Inches)

Base Module	Max. Bore	A	D	F	G	H	I	J	L	L_1	L_2	M
K102	1.000	4.13	6.30	3.54	2.76	2.36	.51	4-M8	.24	3.15	3.66	3.07
K202/203	1.1875	4.57	7.48	4.53	3.54	2.56	.51	4-M8	.39	3.78	4.27	3.46
K302/303	1.500	5.20	8.39	5.12	4.13	2.95	.51	4-M8	.43	4.02	4.54	3.78
K402/403	1.500	5.98	9.45	6.10	4.72	3.54	.63	4-M10	.47	4.69	5.32	4.33
K513/514	2.000	5.71	10.24	5.51	4.92	6.30	.63	8-M10	.43	4.96	5.61	4.54
K613/614	2.1875	7.09	12.20	6.30	5.12	7.48	.63	8-M10	.51	5.12	6.10	5.00
K713/714	2.375	7.68	13.46	7.09	5.71	8.35	.75	8-M12	–	6.20	7.29	–
K813/814	2.750	8.90	16.14	9.45	7.28	10.43	.75	8-M12	–	7.58	8.70	–

Table No. 2

Base Module	P	P_1	P_2	R	S	Z_1	BC	BH	BP	DB	FA	GA	IA	JA
K102	.12	.95	1.62	3.54	2.36	—	3.54	.16	4.17	2.76	1.18	1.38	.51	M8
K202/203	.12	1.02	1.54	4.53	2.56	—	3.94	.16	5.28	3.07	1.38	1.77	.63	M10
K302/303	.12	1.02	1.55	5.12	2.95	—	4.53	.16	5.75	3.31	1.57	2.07	.63	M10
K402/403	.14	1.14	1.83	5.83	3.54	—	5.12	.20	6.81	3.82	1.97	2.36	.75	M12
K513/514	.14	1.18	1.87	6.30	3.94	5.98	5.12	.20	7.28	4.13	1.57	2.46	1.02	M16
K613/614	.14	1.38	2.11	6.61	4.72	6.77	6.50	.24	7.87	4.65	1.97	2.56	1.02	M16
K713/714	.14	1.61	2.70	7.48	4.92	7.52	7.28	.24	8.90	5.43	2.17	2.85	1.22	M20
K813/814	.16	2.03	2.99	9.25	5.71	8.11	8.46	.31	11.10	6.22	2.95	3.64	1.50	M24

Table No. 3 "MT" Motor Plate Dimensions

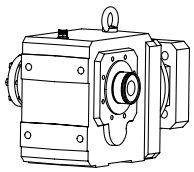
Motor Adapter	Motor Shaft D6 Max. [1]		Motor Plate Thickness [2] L9 ≥ L11 - X_1 ≥ X_2				Inches			Wt. lbs.
			X_1		X_2					
	mm	ins.	mm	inches	mm	inches	E	E_2	X	
MT10	19	.748	22	.866	21	.827	5.51	2.75	1.57	5
MT20	24	945	26	1.024	24	.945	6.30	3.15	1.97	8
MT30	38	1.260	35	1.378	25	.984	7.87	3.94	2.36	12
MT40	48	1.890	44	1.732	33	1.299	9.84	4.92	3.50	18

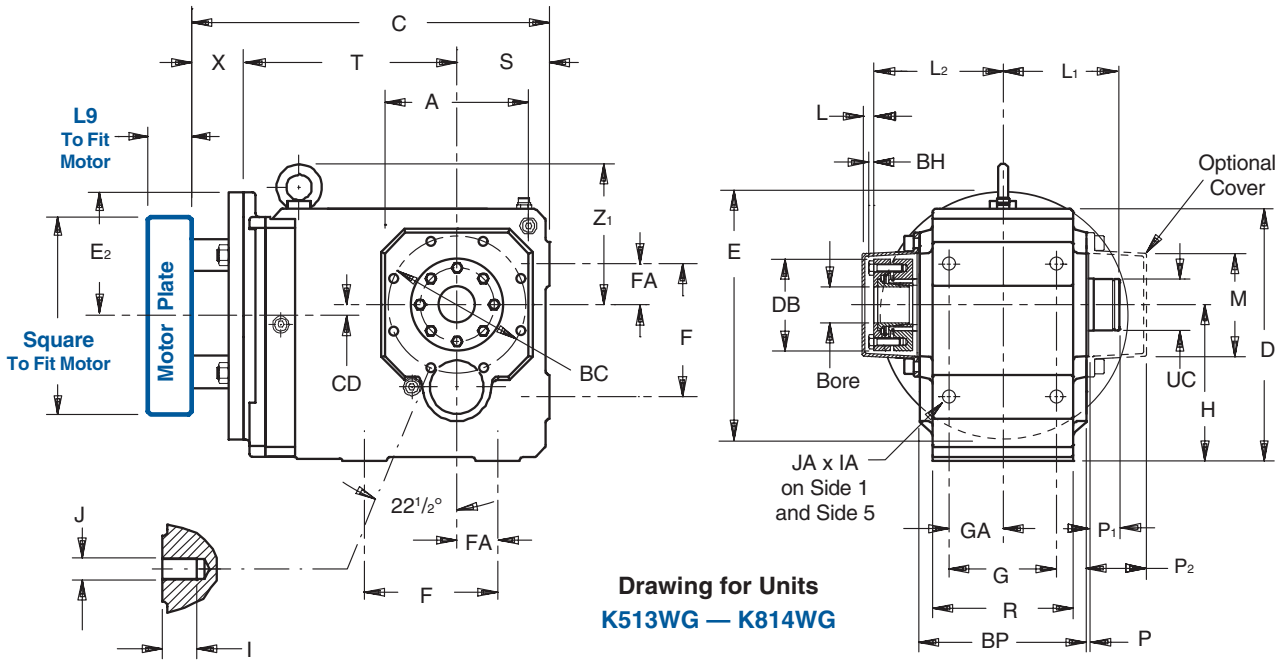
L11 is the motor shaft length.
[1] If an adapter bushing is required it will be supplied as a component of the motor mounting plate.
[2] Motor plate thickness (L9) will vary with motor shaft length but will not be less than X_1 shown above.

Table No. 4 "WF" Bushing Kits

Bushing Kit No.	Bore inches
WF1-100	1
WF2-100	1
WF2-103	1 3/16
WF3-100	1
WF3-103	1 3/16
WF3-104	1 1/4
WF3-106	1 3/8
WF3-107	1 7/16
WF3-108	1 1/2
WF4-100	1
WF4-103	1 3/16
WF4-104	1 1/4
WF4-106	1 3/8
WF4-107	1 7/16
WF4-108	1 1/2
WF5-107	1 7/16
WF5-108	1 1/2
WF5-110	1 5/8
WF5-111	1 11/16
WF5-112	1 3/4
WF5-114	1 7/8
WF5-115	1 15/16
WF5-200	2
WF6-107	1 7/16
WF6-108	1 1/2
WF6-110	1 5/8
WF6-111	1 11/16
WF6-112	1 3/4
WF6-115	1 15/16
WF6-200	2
WF6-203	2 3/16
WF7-115	1 15/16
WF7-200	2
WF7-203	2 3/16
WF7-206	2 3/8
WF8-203	2 3/16
WF8-206	2 3/8
WF8-207	2 7/16
WF8-212	2 3/4

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Single Side Wobble Free Bushing





Drawing for Units
K513WG — K814WG

Table No. 5 "K" Series – Single Side Wobble Free – Unit Dimensions (Inches)

Base	MT10			MT20			MT30			MT40			Wt.
Module	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K202	1.81	9.76	5.63	1.81	10.32	5.79	1.81	10.79	5.87	—	—	—	40
K203	1.81	11.22	7.09	—	—	—	—	—	—	—	—	—	53
K302	2.07	10.94	6.42	2.07	11.49	6.57	2.07	11.96	6.65	—	—	—	67
K303	2.07	12.39	7.87	.63	13.19	8.27	—	—	—	—	—	—	73
K402	—	—	—	2.36	12.87	7.36	2.36	13.34	7.44	2.36	14.60	7.56	93
K403	2.36	13.77	8.66	.91	14.57	9.06	—	—	—	—	—	—	100
K513	—	—	—	.59	12.68	6.77	.59	13.15	6.85	.59	14.41	6.97	106
K514	—	—	—	.59	14.37	8.46	—	—	—	—	—	—	109
K613	—	—	—	.71	14.21	7.52	.71	14.68	7.60	.71	15.94	7.72	170
K614	—	—	—	.71	15.90	9.21	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	.79	15.98	8.70	.79	17.24	8.82	221
K714	—	—	—	.79	17.24	10.35	.79	18.42	11.14	—	—	—	234
K813	—	—	—	—	—	—	.94	17.79	9.72	.94	19.01	9.80	309
K814	—	—	—	—	—	—	.94	20.20	12.13	—	—	—	331

Table No. 6 "WF" Bushing – Stock Bores

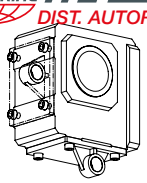
Base	INCHES															
Module	1	1 3/16	1 1/4	1 3/8	1 7/16	1 1/2	1 5/8	1 11/16	1 3/4	1 7/8	1 15/16	2	2 3/16	2 3/8	2 7/16	2 3/4
K102	x	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K202/K203	x	x	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K302/K303	x	x	x	x	x	x	—	—	—	—	—	—	—	—	—	—
K402/K403	x	x	x	x	x	x	—	—	—	—	—	—	—	—	—	—
K513/K514	—	—	—	—	x	x	x	x	x	x	x	x	—	—	—	—
K613/K614	—	—	—	—	x	x	x	x	x	—	x	x	x	—	—	—
K713/K714	—	—	—	—	—	—	—	—	—	—	x	x	x	x	—	—
K813/K814	—	—	—	—	—	—	—	—	—	—	—	—	x	x	x	x

Part No. Example

Unit with TriAdapt® Motor Adapter
1 3/8" Bore Single Bushing
K402WG0560 MT20
WF4–106

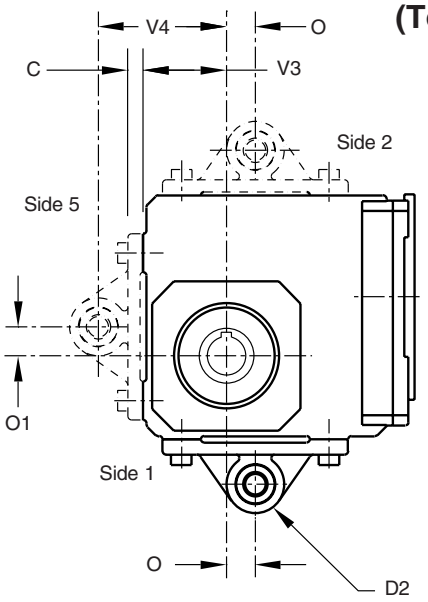
SPECIFY BUSHING SIDE WHEN ORDERING

NOTES: A complete bushing kit includes the locking ring assembly, tapered cone, support ring, and all hardware to mount the kit into the SMS reducer. The WF1-100 bushing does not have a tapered cone.
The optional cover caps can be ordered separately.

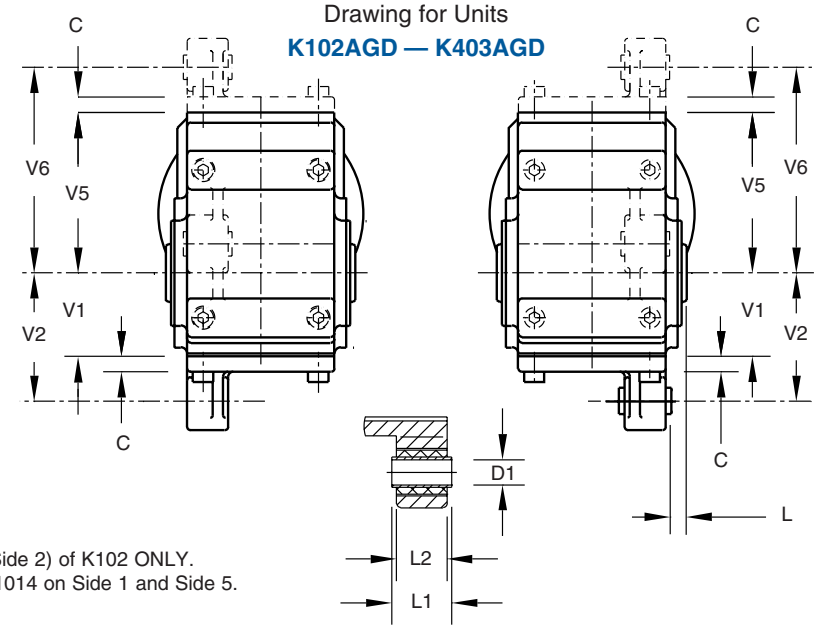


"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Torque Arm Bracket

(Torque arm supplied by others.)



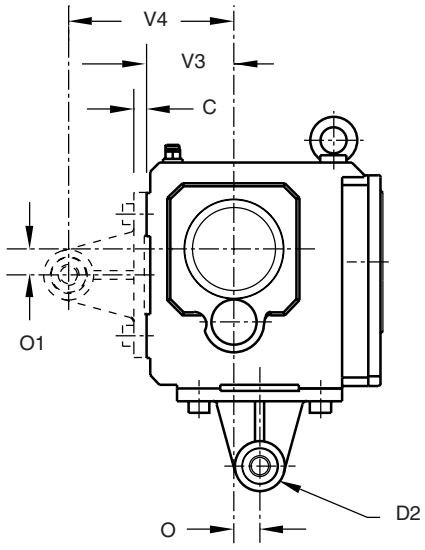
Drawing for Units
K102AGD — K403AGD



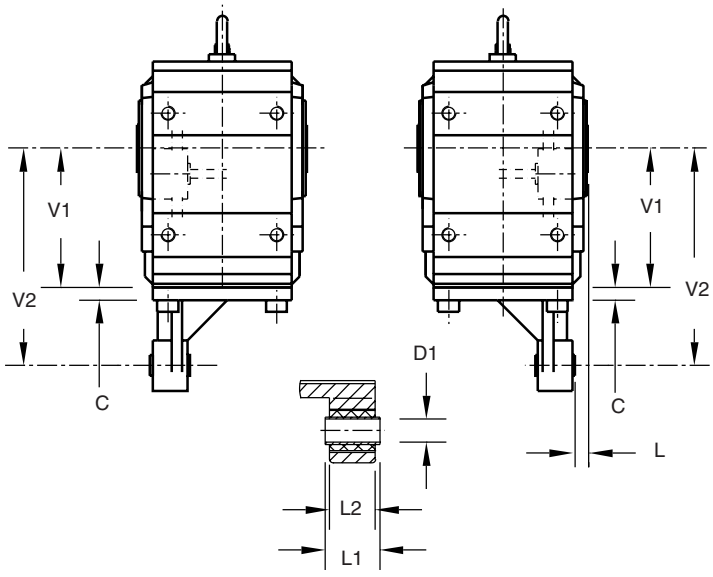
The bracket as shown can be mounted on the top side (Side 2) of K102 ONLY.
All brackets can be mounted on all units K102 through K1014 on Side 1 and Side 5.

Table No. 1 **"K" Series — Torque Arm Bracket Dimensions (Inches)**

Base Module	C	D1	D2	L	L1	L2	O	O1	V1	V2	V3	V4	V5	V6
K102	.39	.47 +0.0017/-0.0000	1.69	.51	1.10	.94	.59	.59	2.36	3.54	2.36	3.54	3.93	5.12
K202/K203	.47	.63 +0.0017/-0.0000	1.77	.53	1.50	1.26	.89	.89	2.56	3.93	2.56	3.93	–	–
K302/K303	.47	.63 +0.0017/-0.0000	1.77	.47	1.50	1.26	.98	.98	2.95	4.72	2.95	4.72	–	–
K402/K403	.55	.79 +0.0021/-0.0000	2.17	.67	1.81	1.57	1.08	1.08	3.54	5.91	3.54	5.91	–	–
K513/K514	.59	.79 +0.0021/-0.0000	2.28	.67	1.81	1.57	1.18	1.18	6.30	9.84	3.93	7.48	–	–
K613/K614	.59	.79 +0.0021/-0.0000	2.28	.81	1.81	1.57	1.18	1.18	7.48	9.84	4.72	7.09	–	–
K713/K714	.67	.79 +0.0021/-0.0000	2.68	.91	2.76	2.52	1.38	1.38	8.35	11.81	4.92	8.39	–	–
K813/K814	.67	.94 +0.0021/-0.0000	2.83	1.02	4.53	4.02	1.77	1.77	10.43	13.78	5.71	9.06	–	–
K913/K914	.79	.94 +0.0021/-0.0000	2.95	1.02	4.53	4.02	1.77	1.77	12.40	17.72	7.09	12.40	–	–
K1014	1.65	1.57 +0.0024/-0.0000	4.72	.24	4.88	4.65	2.36	2.17	14.76	21.65	10.63	17.52	–	–



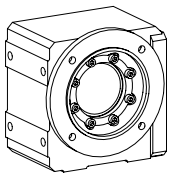
Drawing for Units
K513AGD — K1014AGD

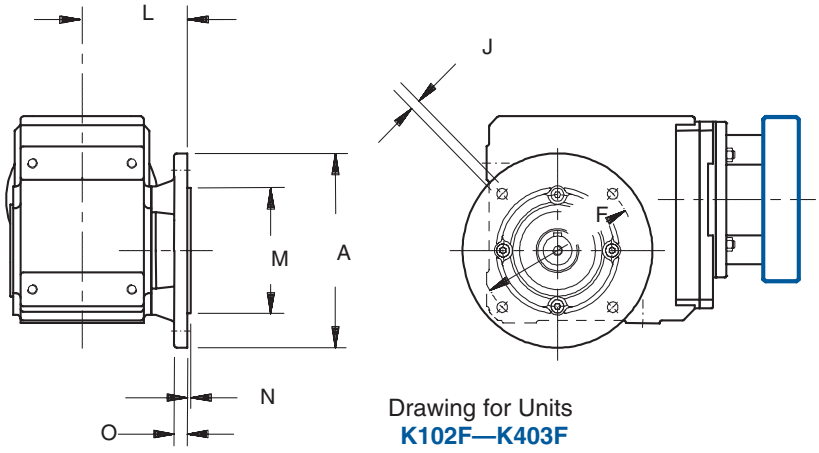


Part No. Example

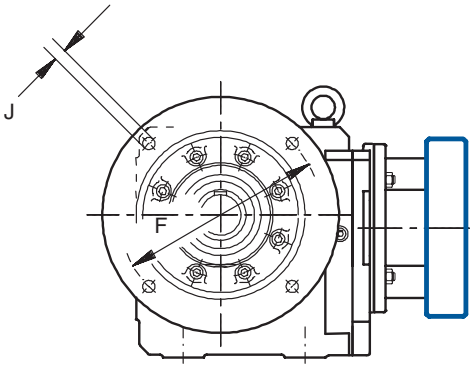
Basic Unit with Torque Arm Bracket and Hollow Output
K513AGD0650

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Optional Round Flanges

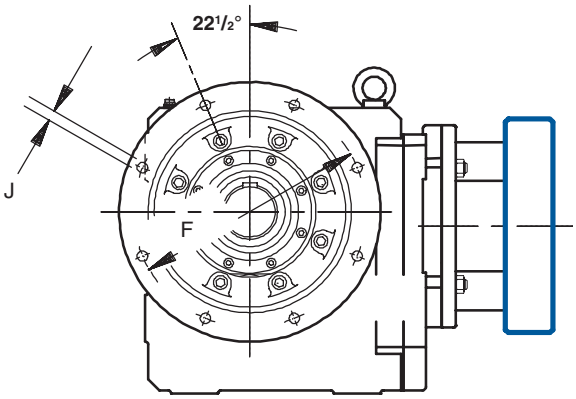




Drawing for Units
K102F—K403F



Drawing for Units
K513F—K814F



Drawing for Units
K913-K1014F

Table No. 1 "K" Series — Optional Flange Dimensions (Inches)

Base Module	Flange Designation	A	F	J	L	M	N	O
K102	140	5.51	4.53	.35	3.35	3.740 +0.001/-0.0004	.12	.39
	160 *	6.30	5.12	.35	3.35	4.331 +0.001/-0.0004	.14	.39
K202/K203	160	6.30	5.12	.35	3.90	4.331 +0.001/-0.0004	.14	.47
	200 *	7.87	6.50	.43	3.90	5.118 +0.001/-0.0004	.14	.47
K302/K303	160	6.30	5.12	.35	4.37	4.331 +0.001/-0.0004	.14	.55
	200 *	7.87	6.50	.43	4.37	5.118 +0.001/-0.0004	.14	.55
	250	9.84	8.46	.55	4.37	7.087 +0.001/-0.0004	.14	.55
K402/K403	**250** *	9.84	8.46	.55	4.98	7.087 +0.001/-0.0004	.16	.59
K513/K514	**250** *	9.84	8.46	.55	5.20	7.087 +0.001/-0.0004	.16	.59
K613/K614	**300** *	11.81	10.43	.55	5.35	9.055 +0.001/-0.0005	.16	.67
K713/K714	**350** *	13.78	11.81	.71	6.18	9.843 +0.000/-0.001	.20	.71
K813/K814	350	13.78	11.81	.71	7.32	9.843 +0.000/-0.001	.20	.79
	400 *	15.75	13.78	.71	7.32	11.811 +0.000/-0.001	.20	.79
	450	17.72	15.75	.71	7.32	13.781 +0.000/-0.002	.20	.79
K913/K914	**450** *	17.72	15.75	.71	8.46	13.780 +0.000/-0.002	.20	.91
	550	21.65	19.69	.71	8.46	17.717 +0.000/-0.002	.20	.91
K1014	**550**	21.65	19.69	.71	10.08	17.717 +0.000/-0.002	.20	.98

* This is the standard flange diameter. For other diameters, specify at the time of ordering.

ServoFit® SMS Gearhead
Wobble Free Bushing Features

"No Key and Wobble Free"

The Stober "Wobble Free" bushing is a unique patented stainless steel system which can be supplied on a single side or double sides. These bushings can be mounted in the "F" Series and "K" Series SMS reducers. Each case size can be provided with a variety of bushing bore sizes. The unit is selected based on horsepower or torque rating, output speed or ratio, and the shaft size of the driven equipment.

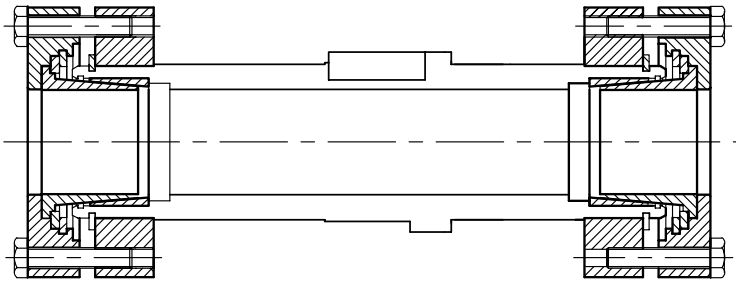
Some special features of the bushing system are:

- All quills and bushing parts are high tensile stainless steel – providing the additional benefit of corrosion resistance.
- Featuring a distinct support side and a clamp side, the dual tapered cones will overcome a wide range of tolerances normally found with standard shaft materials. There is no shaft key necessary.
- All hardware is stainless steel or nickel plated.
- Units sizes K102 through K614 can be supplied with output covers on one or both sides which protect the seals and also cover the rotating bushing. F102 through F603 can only have a cover mounted on Side 5. The closed cover has an O-ring for added protection.
- Wobble Free – tapered cones in conjunction with a support ring or support side bushing prevent the "rocking" of the reducer on the shaft, common with many bushing designs.
- The reducer output bore can be changed any time by changing the bushing kit.

Important: A $^{1}/_{32}$ x 45° chamfer minimum is recommended for the shaft end.
The bushing will accept a shaft with a tolerance of +.000/-.005.

Detailed instructions for mounting the bushing are included with each bushing kit.

Double Sided Bushing

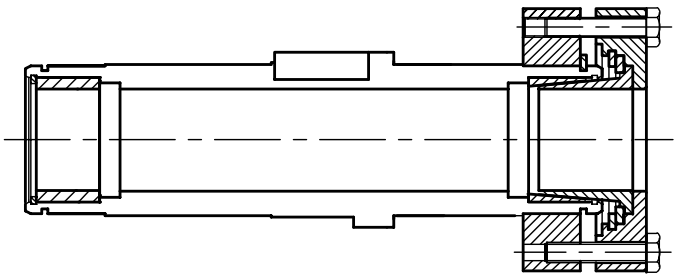


Support Side **Clamp Side**

This unique design allows the unit to be mounted on the shaft from either side of the reducer by reversing the clamp side and support side bushings. The clamp side is determined by the customer but is usually the easily accessible outside bushing.

The double sided bushing is not installed into the unit at assembly, but with easy-to-follow installation instructions, the unit and bushing can be mounted on the machinery quickly – without any special tools.

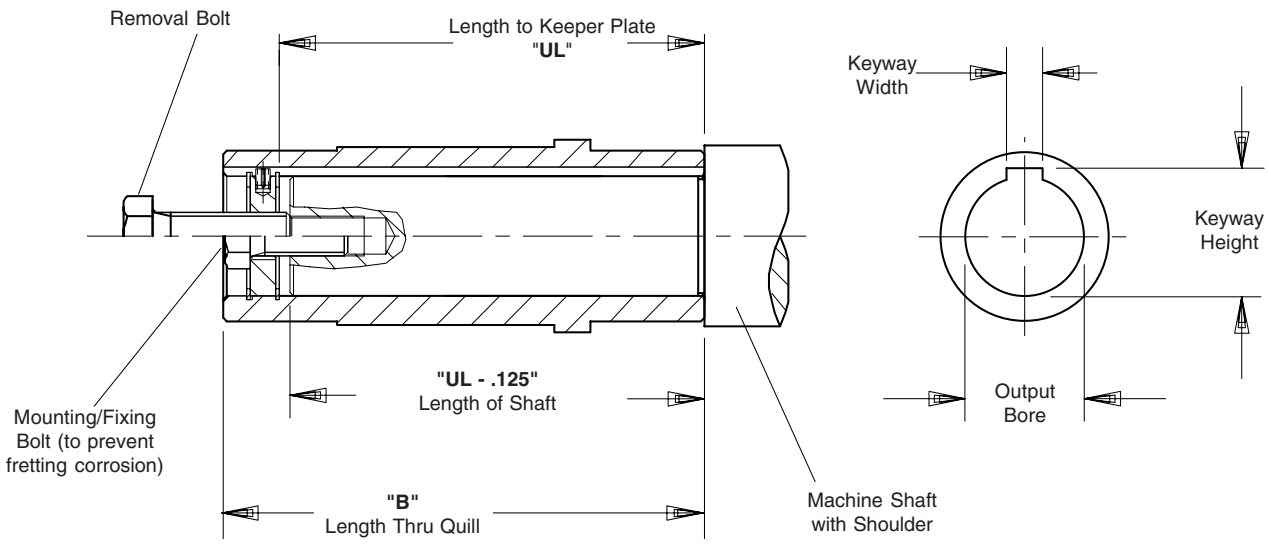
Single Sided Bushing



Support Side **Clamp Side**

The single sided bushing is assembled at the time of the order. The bushing side extension must be specified by the customer before assembly. The bushing is installed into the unit for shipping and is not interchangeable once the unit is assembled.

ServoFit® SMS Gearhead
Installation of Hollow Output



Mounting Hollow Output Reducers

A Stober hollow output reducer can be mounted from either side. The tolerance for the hollow bore is shown in the table below and the shaft should be toleranced to fit this bore accordingly.

A keeper plate inside the quill is provided with each unit to prevent axial movement. This keeper plate is held in place with snap rings and can be easily removed for location on either end. A spring pin in the keeper plate mounts into the keyway of the quill and prevents rotation. The keeper plate center hole is tapped to fit the removal bolt.

Before installation, brush the inside of the quill with rust inhibiting grease. When mounting the unit onto the shaft, avoid hammering as this may damage the bearings. Do not mount the reducer dry as removal may be impossible.

The drawing above shows a mounting or fixing bolt and a removal bolt. The mounting/fixing bolt should be smaller in size than the removal bolt. See Table No. 2.

To use the keeper plate with a mounting/fixing bolt, drill and tap the end of the shaft that will be mounted into the reducer. Insert the mounting/fixing bolt through the keeper plate and thread into the shaft end. The machine shaft length should not be longer than the “UL” dimension. A shaft length of "UL minus .125" will allow the shaft shoulder to pull against the face of the quill of the reducer.

Removal of Hollow Output Reducers

To dismantle the unit from the shaft, remove the mounting bolt. Thread the removal bolt into the keeper plate to press against the shaft and loosen the shaft from the unit. Removal of the reducer will be easier if the quill is greased before installation.

Table No. 1
Hollow Shaft — "U" Dimension

Bore Range	Tolerance
.39 – .71	+.0007 / -.0000
.71 – 1.18	+.0008 / -.0000
1.18 – 1.97	+.0010 / -.0000
1.97 – 3.15	+.0012 / -.0000
3.15 Up	+.0014 / -.0000

Table No. 2 "UL" Dimension and Removal Bolt Size

Unit	Bore	UL	Bolt	Unit	Bore	UL	Bolt
F1	.750	2.67	3/8-16 NC	K1	1.000	3.86	1/2-13 NC
F2	1.000	3.62	1/2-13 NC	K2	1.187	4.78	1/2-13 NC
F3	1.250	4.06	1/2-13 NC	K3	1.375	4.92	5/8-11 NC
F4	1.500	4.49	3/4-10 NC	K4	1.500	6.18	3/4-10 NC
F6	2.000	5.63	3/4-10 NC	K5	2.000	6.46	3/4-10 NC
				K6	2.000	7.05	3/4-10 NC
				K7	2.375	8.43	1-8 NC
				K8	2.750	10.35	1-8 NC
				K9	3.250	12.32	1-8 NC
				K10	4.000	14.25	1 1/4-7NC

ServoFit® SMS Gearhead Permissible Loads Tilting Moment

The permissible load values given are valid with the load applied to the center of the output shaft (x_2).

The permissible load and tilting moment values are based on an output speed of 20 RPM. For higher speeds the following applies, where n_2 is the desired speed:

$$F_{2RX} = \frac{F_{2R}}{\sqrt[3]{\frac{n_2}{20}}} \qquad T_{2KX} = \frac{T_{2K}}{\sqrt[3]{\frac{n_2}{20}}}$$

The application input tilting moment should be determined by the following formula:

$$T_{2A} = \frac{F_{2a} \bullet y_2 + F_{2r} \bullet (x_2 + z_2)}{1000} \leq T_{2K}$$

All formulas shown are based on METRIC values.

Upper case letters are permissible values. Lower case letters are for existing values.

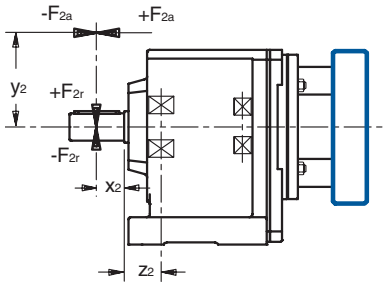


Table No. 1 Permissible Load and Tilting Moments

Unit No.	z2 mm	z2 inches	F2A N	F2A lbs.	F2R N	F2R lbs.	T2K Nm	T2K in.lbs.
C0	20	0.79	500	112	1,900	427	80	708
C1	30	1.18	850	191	3,400	765	190	1,682
C2	30	1.18	1,050	236	4,200	945	260	2,301
C3	30	1.18	1,400	315	5,650	1,271	350	3,098
C4	35	1.38	2,400	540	9,700	2,182	750	6,638
C5	42	1.65	3,000	675	11,000	2,475	900	7,965
C6	40	1.57	4,000	900	16,000	3,600	1,500	13,275
C7	45	1.77	5,500	1,237	22,000	4,950	2,400	21,240
C8	50	1.97	7,500	1,687	30,000	6,750	3,700	32,745
C9	55	2.17	9,500	2,137	37,000	8,325	5,200	46,020

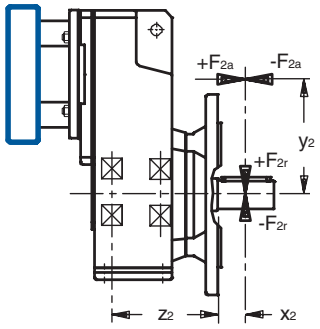
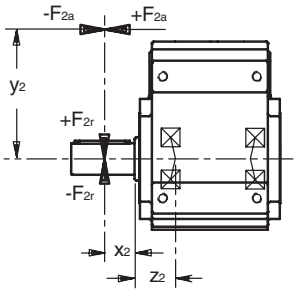


Table No. 2 Permissible Load and Tilting Moments

Unit No.	z2 mm	z2 inches	F2A N	F2A lbs.	F2R N	F2R lbs.	T2K Nm	T2K in.lbs.
F1	93	3.66	1,100	247	4,200	945	500	4,425
F2	116	4.57	1,400	351	5,400	1,215	790	6,991
F3	131	5.16	1,900	427	7,500	1,687	1250	11,062
F4	144	5.67	2,350	528	9,250	2,081	1700	15,045
F6	170	6.69	3,100	697	12,500	2,812	2750	24,337



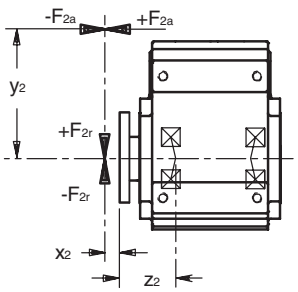


Table No. 3 Single Solid Output Permissible Load and Tilting Moments

Unit No.	z2 mm	z2 inches	F2A N	F2A lbs.	F2R N	F2R lbs.	T2K Nm	T2K in.lbs.
K1	40	1.57	1,900	427	5,000	1,125	360	3,186
K2	42	1.65	2,100	472	6,000	1,350	430	3,805
K3	45	1.77	2,400	540	7,000	1,575	525	4,646
K4	52	2.05	3,500	787	11,200	2,520	1,050	9,292
K5	72	2.83	3,500	787	13,450	3,026	1,580	13,983
K6	72	2.83	4,000	900	16,000	3,600	1,960	17,346
K7	85	3.35	5,500	1,237	22,000	4,950	3,200	28,320
K8	60	2.36	7,250	1,631	29,000	6,525	3,800	33,630
K9	70	2.76	16,500	3,712	65,000	14,625	10,100	89,385
K10	84	3.31	25,000	5,625	80,000	18,000	15,200	134,520

For DOUBLE output shaft: F_{2R} x 0.7

Table No. 4 Hollow Output with Flange Permissible Load and Tilting Moments

Unit No.	z2 mm	z2 inches	F2A N	F2A lbs.	F2R N	F2R lbs.	T2K Nm	T2K in.lbs.
K1	58.5	2.30	2,800	630	7,000	1,575	410	3,629
K2	64	2.52	3,400	765	8,500	1,913	544	4,814
K3	67	2.64	4,000	900	10,000	2,250	670	5,930
K4	72.5	2.85	5,500	1,238	13,000	2,925	943	8,346
K5	66	2.60	6,000	1,350	18,000	4,050	1,188	10,514
K6	66	2.60	7,000	1,575	20,000	4,500	1,320	11,682
K7	77.5	3.05	8,000	1,800	28,000	6,300	2,170	19,205
K8	74	2.91	10,000	2,250	35,000	7,875	2,590	22,922
K9	85	3.35	16,500	3,713	50,000	11,250	4,250	37,613

Overhung Loads

Pulling forces or overhung load of pulleys, sheaves, sprockets, etc. on the reducer output shaft must not exceed the allowable limits shown in the above calculations. The overhung load shown is measured at the center of the shaft extension.

The following formula can be used to determine actual overhung load for a given drive.

$$OHL = \frac{126{,}000 \text{ x } HP \text{ x } K}{D \text{ x } RPM}$$

where

OHL = Overhung Load (lbs.)
HP = Horsepower
D = Pitch Dia. (in.) of Sprocket, Gear, Sheave, Pulley, etc.
RPM = Maximum Speed
K = 1.00 Chain Drives
1.25 Gear Drives
1.25 Gearbelt Drives
1.50 V-Belt Drives
2.50 Flat Belt Drives

No overhung load is encountered when an reducer is flange mounted and/or coupling connected to another unit. However, the shafts of all components must be accurately aligned and secured to prevent pre-loading of the bearings and premature bearing failure.

ServoFit® SMS Gearhead Lubrication Data

All Stober SMS units are shipped filled with the required amount of lubrication. In order to provide the proper lubrication quantity **the mounting position must be specified at the time the unit is ordered**. The mounting positions and the required amount of lubricant for each position are shown on the following pages.

Maintenance

With Stober reducers very little maintenance is required under normal operating conditions.

Unless otherwise noted breathers are provided on the following units:

C612 through C913
F602 through F603
K513 through K1014

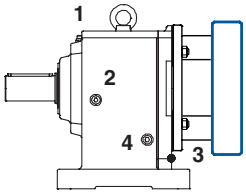
We recommend that the lubrication be changed in units supplied with breathers according to the following schedule:

Normal Operating Conditions ..... after 5000 Hours
Wet Operating Conditions ..... after 2000 Hours.

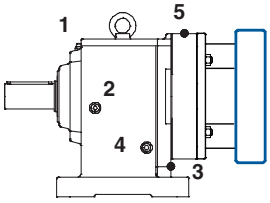
Units supplied without breathers are lubricated for life.

Table No. 1

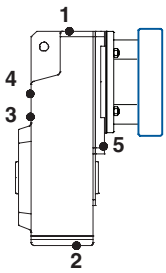
Lubricant Manufacturer	Ambient Temperature +15°F to +125°F AGMA Lubricant No. 5EP
BP	Transgear 80W90
Chevron	AW Mach. Oil 150
Exxon	Spartan EP-220
Mobil	Mobilgear 630
Shell	Permogear 220
Texaco	Meropa 220
Union	Gearlub 5EP



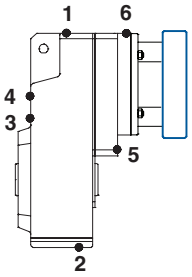
C612-C1012



C613-C1013



F602



F603

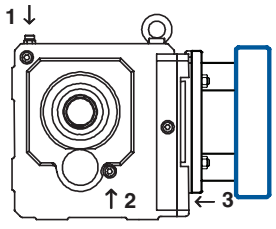
Table No. 2 Drain Plug and Vent Location

Mounting Position	1	2	2a	3	5
EL1	Vent			Drain	
EL2	Drain			Vent	
EL3		Vent	Drain		
EL4		Drain	Vent		
EL5(C612-C1012)	Drain			Vent	
EL5(C613-C1013)	Drain				Vent
EL6	Vent			Drain	

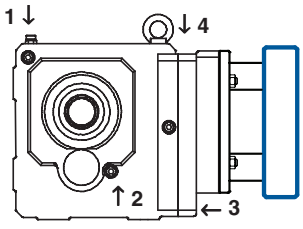
Position 2a is on the opposite side of 2.

Table No. 3 Drain Plug and Vent Location

Mounting Position	1	2	3	4	5	6
EL1	Vent	Drain				
EL2	Drain	Vent				
EL3		Drain		Vent		
EL4		Drain	Vent			
EL5–F602			Drain		Vent	
EL5–F603			Drain			Vent
EL6–F602			Vent		Drain	
EL6–F603			Vent			Drain



K513-K1013



K514-K1014

Table No. 4 Drain Plug and Vent Location

Mounting Position	1	2	2a	3	4
EL1	Vent			Drain	
EL2	Drain			Vent	
EL3		Vent	Drain		
EL4		Drain	Vent		
EL5(K513/K1013)	Drain			Vent	
EL5(K514/K1014)	Drain				Vent
EL6(K513/K1013)	Vent			Drain	
EL6(K513/K1014)	Vent				Drain

Position 2a is on the opposite side of 2.

"C" Series – Concentric Helical ServoFit® SMS Gearhead Lubrication and Ordering Information

Part No. Explanation with OPTIONS and REQUIRED INFORMATION:

C 4 0 2 N 0135 MT20 B

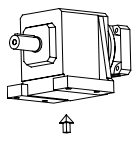
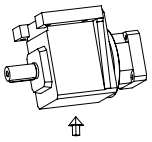
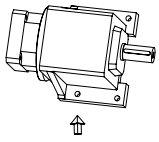
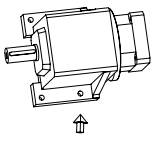
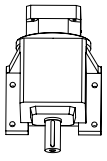
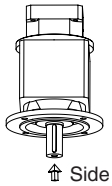
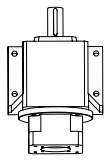
- **C** – Concentric Helical
- **4** – Unit Size No.
- **0** – Design Generation
- **2** – No. of Stages (**02** = 2 Stage, determined by ratio)
- **N** – HOUSING STYLE
  - "**N**" Housing Style – Foot Mounting
  - "**F**" Housing Style – Flange Mounting
  - "**G**" Housing Style – Tapped Holes
- **0135** – Nominal Ratio: (**0135** = 13.5:1)
- **MT20** – TriAdapt® Motor Adapter Size: **MT10**, **MT20**, **MT30**, **MT40**
- **B** – This designation is only required when ordering a:
  - **B** – Beverage Duty
  - **F** – Food Duty
  - **P** – Poultry Duty

THE FOLLOWING INFORMATION IS REQUIRED FOR ANY UNIT:

Mounting Position	–	EL1 EL2 EL3 EL4 EL5 EL6
Motor	–	Motor Manufacturer and Model Number
Paint	–	Black (Standard) ..... White ..... Stainless
Option	–	Imperial or Metric Shaft[1)]
Option (See page 5)	–	Beverge Duty ..... Food Duty ..... Poultry Duty

[1)] Not available in all sizes. Contact Stober.

Table No. 1 **Mounting Position and Quantity of Lubricant**

	 Side 1 EL1		 Side 2 EL2		 Side 3 EL3		 Side 4 EL4		 Side 5 EL5 - N Housing		 Side 5 EL5 - F or G Housing		 Side 6 EL6	
Module	ozs.	liters	ozs.	liters	ozs.	liters	ozs.	liters	ozs.	liters	ozs.	liters	ozs.	liters
C002	10	.3	14	.4	10	.3	10	.3	17	.50	15	.44	17	.5
C102	20	.6	27	.8	20	.6	20	.6	39	1.16	34.5	1.02	37	1.1
C103	27	.8	34	1.0	30	.9	30	.9	49	1.45	42.2	1.25	47	1.4
C202	27	.8	41	1.2	34	1.0	34	1.0	53	1.58	50.4	1.46	61	1.8
C203	34	1.0	51	1.5	37	1.1	37	1.1	66	1.95	62.5	1.85	68	2.0
C302	41	1.2	54	1.6	47	1.4	47	1.4	79	2.34	73.3	2.17	74	2.2
C303	47	1.4	61	1.8	51	1.5	51	1.5	90	2.65	82.8	2.45	84	2.5
C402	61	1.8	91	2.7	74	2.2	74	2.2	127	3.75	119	3.52	112	3.3
C403	68	2.0	101	3.0	78	2.3	78	2.3	144	4.30	136.5	4.04	125	3.7
C502	95	2.8	135	4.0	115	3.4	115	3.4	196	5.80	180.4	5.34	169	5.0
C503	101	3.0	152	4.5	122	3.6	122	3.6	216	6.40	206.1	6.10	182	5.4
C612	135	4.0	169	5.0	142	4.2	142	4.2	223	6.60	202.8	6.00	210	6.2
C613	145	4.3	186	5.5	152	4.5	152	4.5	253	7.50	234.9	6.95	223	6.6
C712	223	6.6	270	8.0	216	6.4	216	6.4	348	10.30	331.2	9.80	318	9.4
C713	220	6.5	291	8.6	230	6.8	230	6.8	372	11.00	351.4	10.40	338	10.0
C812	422	12.5	524	15.5	456	13.5	456	13.5	642	19.00	608.3	18.00	558	16.5
C813	456	13.5	558	16.5	490	14.5	490	14.5	726	21.50	692.7	20.50	642	19.0
C912	642	19.0	794	23.5	693	20.5	693	20.5	1081	32.00	1013.8	30.00	1031	30.5
C913	692	20.5	845	25.0	743	22.0	743	22.0	1182	35.00	1115.1	33.00	1081	32.0

Mounting position must be specified at the time the order is placed.

"F" Series – Offset Helical ServoFit® SMS Gearhead Lubrication and Ordering Information

Part No. Explanation with OPTIONS and REQUIRED INFORMATION:

F 4 0 2 V F 0135 MT20 B

- **F** – OFfset Helical
- **4** – Unit Size No.
- **0** – Design Generation
- **2** – No. of Stages (**02** = 2 Stage, determined by ratio)
- **V** – OUTPUT STYLE
  - "**V**" Solid Output – ONLY AVAILABLE with "F" Housing Style
    - **SPECIFY IN A NOTE**: Standard or Stainless Steel[1] Imperial or Metric[1]
  - "**A**" Hollow Output
    - **SPECIFY IN A NOTE**: Standard or Stainless Steel[1] Imperial or Metric[1]
  - "**W**" Wobble Free Bushing
    - **SPECIFY IN A NOTE**: Bushing Part Number; Single or Double Bushing (Double not possible on F203, F303, F403, F603); Single Side 5 or Side 6 (Side 6 not possible on F203, F303, F403, F603)
- **F** – HOUSING STYLE
  - "**F**" Housing Style – Flange Mounting
  - "**G**" Housing Style – Tapped Holes
- **0135** – Nominal Ratio: (**0135** = 13.5:1)
- **MT20** – TriAdapt® Motor Adapter Size: **MT10**, **MT20**, **MT30**, **MT40**
- **B** – This designation is only required when ordering a:
  - **B** – Beverage Duty
  - **F** – Food Duty
  - **P** – Poultry Duty

THE FOLLOWING INFORMATION IS REQUIRED FOR ANY UNIT:

Mounting Position	–	EL1 EL2 EL3 EL4 EL5 EL6
Motor	–	Motor Manufacturer and Model Number
Paint	–	Black (Standard) ..... White ..... Stainless
Option (See page 5)	–	Beverage Duty ..... Food Duty ..... Poultry Duty
Option	–	Standard or Reduced Backlash

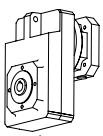
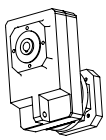
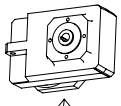
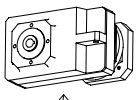
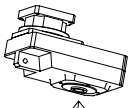
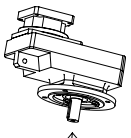
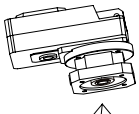
Bushing Part No. Explanation

WF 2 – 103
- **103** – Output Bore in inches – **103** = $1^{3}/_{16}$
- **2** – Base Module Size example: F202/F203)
- **WF** – **W**obble **F**ree Single Side Bushing

WFN 2 – 103
- **103** – Output Bore in inches – **103** = $1^{3}/_{16}$
- **2** – Base Module Size example: F202)
- **WFN** – **W**obble **F**ree **N**o Covers Double Side

[1] Not available in all sizes. Contact Stober.

Table No. 1 **Mounting Position and Quantity of Lubricant**

	 Side 1		 Side 2		 Side 3		 Side 4		 Side 5		 Side 5		 Side 6	
	EL1		EL2		EL3		EL4		EL5-Hollow Output		EL5-Solid Output		EL6	
Module	ozs.	liters	ozs.	liters	ozs.	liters	ozs.	liters	ozs.	liters	ozs.	liters	ozs.	liters
F102	24	.7	27	.8	24	.7	24	.7	30	.90	30	.90	24	.7
F202	47	1.4	61	1.8	41	1.2	41	1.2	71	2.10	73	2.15	54	1.6
F203	68	2.0	74	2.2	47	1.4	47	1.4	76	2.25	81	2.40	64	1.9
F302	74	2.2	84	2.5	68	2.0	68	2.0	101	3.00	113	3.35	68	2.0
F303	95	2.8	105	3.1	78	2.3	78	2.3	117	3.45	122	3.50	78	2.3
F402	101	3.0	122	3.6	95	2.8	95	2.8	155	4.60	155	4.70	101	3.0
F403	139	4.1	132	3.9	101	3.0	101	3.0	169	5.00	179	5.30	118	3.5
F602	179	5.3	203	6.0	162	4.8	162	4.8	257	7.60	257	7.70	186	5.5
F603	250	7.4	237	7.0	182	5.4	182	5.4	274	8.10	291	8.20	220	6.5

Mounting position must be specified at the time the order is placed.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Lubrication and Ordering Information

Part No. Explanation with OPTIONS and REQUIRED INFORMATION:

K 4 0 2 W G 0200 MT30 B

- **K** – Right Angle Helical/Bevel
- **4** – Unit Size No.
- **0** – Design Generation
- **2** – No. of Stages (**02** = 2 Stage, determined by ratio)
- **W** – OUTPUT STYLE
  - "**V**" Solid Output
    - **SPECIFY IN A NOTE**: Standard or Stainless Steel[1)]; Imperial or Metric[1)]; Single or Double; Single Shaft on Side 3 or Side 4
  - "**A**" Hollow Output
    - **SPECIFY IN A NOTE**: Standard or Stainless Steel[1)]; Imperial or Metric[1)]
  - "**W**" Wobble Free Bushing
    - **SPECIFY IN A NOTE**: Bushing Part Number; Single or Double Bushing; Single Side 5 or Side 6
- **G** – HOUSING STYLE
  - "**F**" Housing Style – Flange Mounting
    - **SPECIFY IN A NOTE**: Flange on Side 3 or Side 4
  - "**G**" Housing Style – Tapped Holes
  - "**GD**" Housing with Torque Arm Bracket
    - **SPECIFY IN A NOTE**: Torque Arm Bracket on Side 1 or Side 5
  - "**N**" Housing Style – Foot Mount
    - **SPECIFY IN A NOTE**: Feet on Side 1 or Side 5
- **0200** – Nominal Ratio: (**0200** = 20.2:1)
- **MT30** – TriAdapt® Motor Adapter Size: **MT10**, **MT20**, **MT30**, **MT40**
- **B** – This designation is only required when ordering a:
  - **B** – Beverage Duty
  - **F** – Food Duty
  - **P** – Poultry Duty

THE FOLLOWING INFORMATION IS REQUIRED FOR ANY UNIT:

Mounting Position	–	EL1 EL2 EL3 EL4 EL5 EL6
Motor	–	Motor Manufacturer and Model Number
Paint	–	Black (Standard) ..... White ..... Stainless
Option (See page 5)	–	Beverge Duty ..... Food Duty ..... Poultry Duty
Option	–	Standard or Reduced Backlash

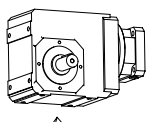
Bushing Part No. Explanation

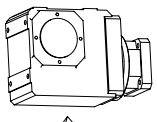
W F 2 – 103
- **103** – Output Bore in inches – **103** = $1^{3}/_{16}$
- **2** – Base Module Size example: K202/K203)
- **W F** – **W**obble **F**ree Single Side Bushing

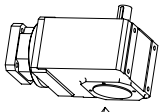
W F B 2 – 103
- **103** – Output Bore in inches – **103** = $1^{3}/_{16}$
- **2** – Base Module Size example: K202/K203)
- **W F B** – **W**obble **F**ree Double Side

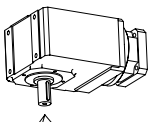
[1)] Not available in all sizes. Contact Stober.

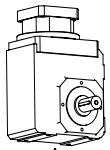
Table No. 1 **Mounting Position and Quantity of Lubricant**

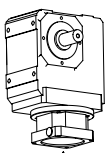

Side 1 – EL1


Side 2 – EL2


Side 3 – EL3


Side 4 – EL4


Side 5 – EL5


Side 6 – EL6

Module	EL1 ozs.	EL1 liters	EL2 ozs.	EL2 liters	EL3 ozs.	EL3 liters	EL4 ozs.	EL4 liters	EL5 ozs.	EL5 liters	EL6 ozs.	EL6 liters
K102	14	.4	37	1.1	24	.7	24	.7	46	1.36	31	.9
K202	27	.8	61	1.8	54	1.6	54	1.6	75	2.25	68	2.0
K203	51	1.5	74	2.2	64	1.9	64	1.9	84	2.50	81	2.4
K302	41	1.2	84	2.5	78	2.3	78	2.3	118	3.50	101	3.0
K303	61	1.8	101	3.0	91	2.7	91	2.7	135	4.00	118	3.5
K402	84	2.5	135	4.0	118	3.5	118	3.5	179	5.30	135	4.0
K403	118	3.5	152	4.5	135	4.0	135	4.0	191	5.65	152	4.5

Mounting position must be specified at the time the order is placed.

"K" Series–Right Angle Helical/Bevel ServoFit® SMS Gearhead Lubrication and Ordering Information

Part No. Explanation with OPTIONS and REQUIRED INFORMATION:

K 6 1 3 A GD 0580 MT40 B

- **K** – Right Angle Helical/Bevel
- **6** – Unit Size No.
- **1** – Design Generation
- **3** – No. of Stages (**3** = 3 Stage, determined by ratio)
- **A** – OUTPUT STYLE
  - "**V**" Solid Output
    - **SPECIFY IN A NOTE**: Standard or Stainless Steel[1)]
      Imperial or Metric[1)]
      Single or Double
      Single Shaft on Side 3 or Side 4
  - "**A**" Hollow Output
    - **SPECIFY IN A NOTE**: Standard or Stainless Steel[1)]
      Imperial or Metric[1)]
  - "**W**" Wobble Free Bushing
    - **SPECIFY IN A NOTE**: Bushing Part Number
      Single or Double Bushing
      Single Side 5 or Side 6
- **GD** – HOUSING STYLE
  - "**F**" Housing Style – Flange Mounting
    - **SPECIFY IN A NOTE**: Flange on Side 3 or Side 4
  - "**G**" Housing Style – Tapped Holes
  - "**GD**" G Housing Style with Torque Arm Bracket
    - **SPECIFY IN A NOTE**: Torque Arm Bracket on Side 1 or Side 5
  - "**N**" Housing Style – Foot Mount
    - **SPECIFY IN A NOTE**: Feet on Side 1 or Side 5
- **0580** – Nominal Ratio: (**0580** = 57.5:1)
- **MT40** – TriAdapt® Motor Adapter Size: **MT10**, **MT20**, **MT30**, **MT40**
- **B** – This designation is only required when ordering a:
  B – Beverage Duty
  F – Food Duty
  P – Poultry Duty

THE FOLLOWING INFORMATION IS REQUIRED FOR ANY UNIT:

Mounting Position	–	EL1 EL2 EL3 EL4 EL5 EL6
Motor	–	Motor Manufacturer and Model Number
Paint	–	Black (Standard) ..... White ..... Stainless
Option (See page 5)	–	Beverge Duty ..... Food Duty ..... Poultry Duty
Option	–	Standard or Reduced Backlash

Bushing Part No. Explanation

W F 5 – 107

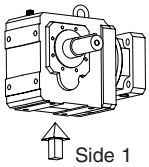
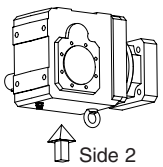
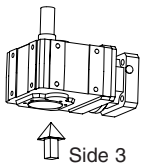
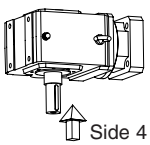
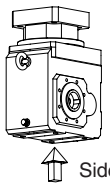
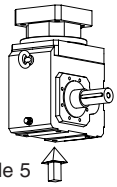
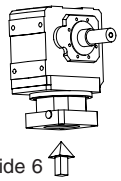
- **W F** – **W**obble **F**ree Single Side Bushing
- **5** – Base Module Size example: K**5**13/K**5**14)
- **107** – Output Bore in inches – **107** = $1\frac{7}{16}$

W F B 5 – 107

- **W F B** – **W**obble **F**ree Double Side
- **5** – Base Module Size example: K**5**13/K**5**14)
- **107** – Output Bore in inches – **107** = $1\frac{7}{16}$

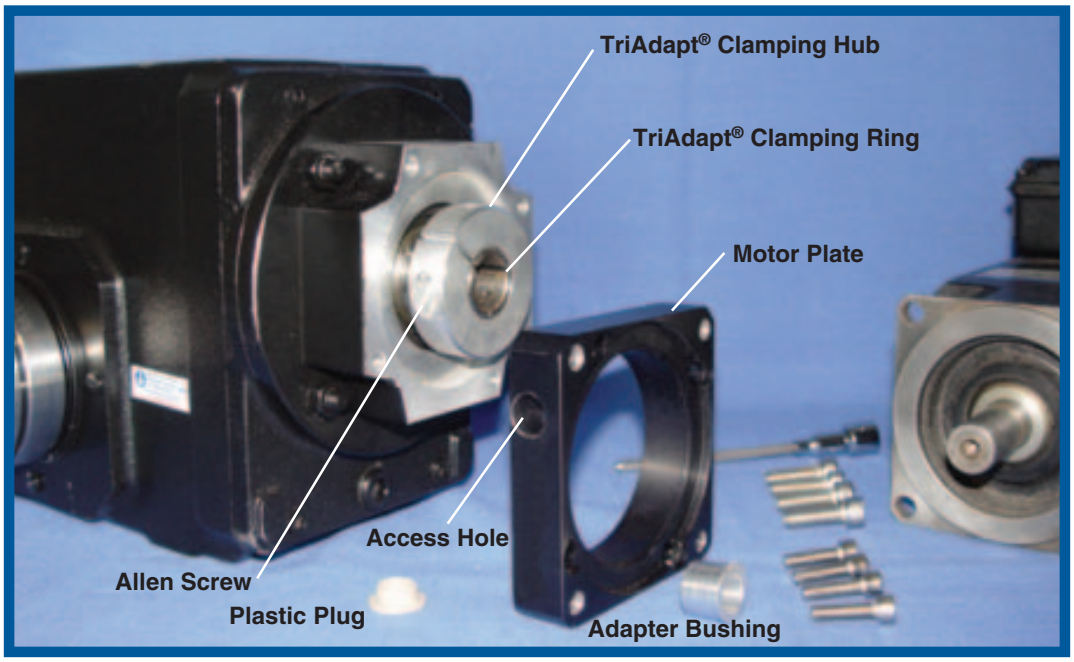
[1)] Not available in all sizes. Contact Stober.

Table No. 1 **Mounting Position and Quantity of Lubricant**

	 Side 1 EL1		 Side 2 EL2		 Side 3 EL3		 Side 4 EL4		 Side 5 EL5-Hollow Output		 Side 5 EL5-Solid Output		 Side 6 EL6	
Module	ozs.	liters	ozs.	liters	ozs.	liters	ozs.	liters	ozs.	liters	ozs.	liters	ozs.	liters
K513	101	3.0	152	4.5	118	3.5	118	3.5	193	5.7	196	5.8	135	4.0
K514	135	4.0	152	4.5	135	4.0	135	4.0	220	6.5	223	6.6	169	5.0
K613	142	4.2	230	6.8	186	5.5	186	5.5	291	8.6	296	8.75	203	6.0
K614	182	5.4	247	7.3	203	6.0	203	6.0	317	9.3	319	9.45	220	6.5
K713	203	6.0	304	9.0	237	7.0	237	7.0	372	11.0	382	11.3	287	8.5
K714	270	8.0	321	9.5	270	8.0	253	7.5	416	12.3	426	12.6	321	9.5
K813	406	12.0	507	15.0	439	13.0	439	13.0	676	20.0	710	21.0	473	14.0
K814	473	14.0	541	16.0	507	15.0	473	14.0	754	22.3	787	23.3	507	15.0
K913	710	21.0	946	28.0	878	26.0	878	26.0	1250	37.0	1284	38.0	845	25.0
K914	811	24.0	1014	30.0	980	29.0	980	29.0	1301	38.5	1362	40.3	946	28.0
K1014	1115	33.0	1757	52.0	1858	55.0	1858	55.0	2129	63.0	2129	63.0	1656	49.0

Mounting position must be specified at the time the order is placed.

SMS ServoFit® Gearhead Motor Mounting Instructions



General Information

Servo motors are mounted to ServoFit® Gearheads by using a TriAdapt® motor adapter with a clamp coupling. This patented adapter requires no key but uses a friction locking triple split collet to clamp the shaft. A split bushing is included when the motor shaft is smaller than the input bore in the gearhead. The coupling operates free of backlash and, if installed correctly, requires no maintenance.

Tolerances for the motor must be ISO j6 on the pilot diameter and ISO k6 on the motor shaft, see Table No. 1. The motor shaft does not require a key but shaft runout, pilot concentricity and perpendicularity should meet DIN standard 42955-N when possible.

Important: Clean the motor shaft with degreaser to remove any film of oil or grease.

Table No. 1 Tolerances for Motors

k6 - Shaft Diameter	Metric (µm)	Imperial (ins.)
over 6 - 10	+10 / +1	+.00039 / +.00004
over 10 - 18	+12 / +1	+.00047 / +.00004
over 18 - 30	+15 / +2	+.00059 / +.00008
over 30 - 50	+18 / +2	+.0007 / +.00008
j6 - Pilot Diameter	Metric (µm)	Imperial (ins.)
over 10 - 18	+8 / -3	+.0003 / -.00012
over 18 - 30	+9 / -4	+.00035 / -.00016
over 30 - 50	+11 / -5	+.0004 / -.0002
over 50 - 80	+12 / -7	+.00047 / -.00027
over 80 - 120	+13 / -9	+.0005 / -.00035
over 120 - 180	+14 / -11	+.00055 / -.0004
over 180 - 250	+16 / -13	+.0006 / -.0005
over 250 - 315	+16 / -16	+.0006 / -.0006
over 315 - 400	+18 / -18	+.0007 / -.0007

STEP 1. Remove the access hole plug.

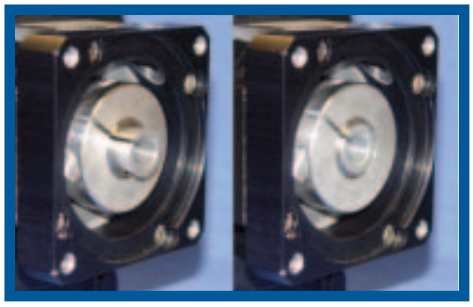
Carefully remove the plastic plug from the access hole in the motor plate.

STEP 2. Align TriAdapt screw with access hole.

Visually align the access hole with the Allen screw in the clamping ring by turning the gearhead output shaft or the input coupling. (Shown with wrench for illustration purposes.)

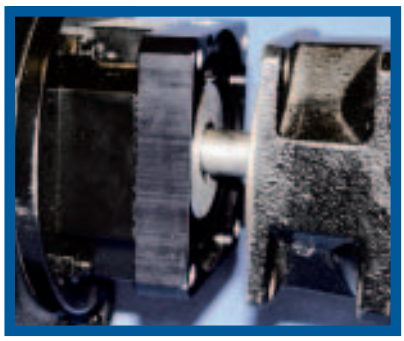
SMS ServoFit® Gearhead
Motor Mounting Instructions

STEP 3. Install bushing (when applicable).



If an adapter bushing is needed, degrease the bushing inside and outside. Align the slot in the adapter bushing with the slot in the TriAdapt coupling hub. Slide the bushing into the input bore until the collar of the bushing touches the shaft end.

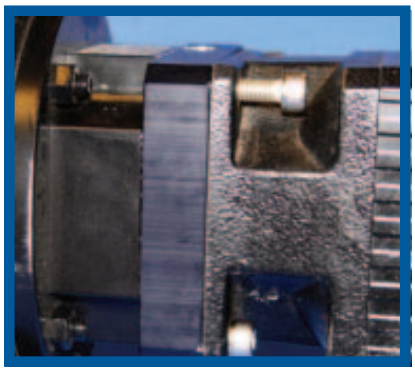
STEP 4. Carefully mount the motor.



Place the gearhead (with the bushing installed where necessary) onto the motor shaft. (If there is a keyway in the motor shaft, align the slot in the clamping hub with the keyway.) Support the gearhead while sliding it onto the motor shaft.

IT IS VERY IMPORTANT THAT THE GEARHEAD IS NOT FORCED ONTO THE SHAFT AND THE MOTOR IS CONCENTRIC WITH THE GEARHEAD COUPLING.

STEP 5. Bolt the motor to the motor plate.



Bolt the motor flange to the gearhead motor plate.

Tighten the motor bolts to the recommended tightening torque shown in Table No. 2.

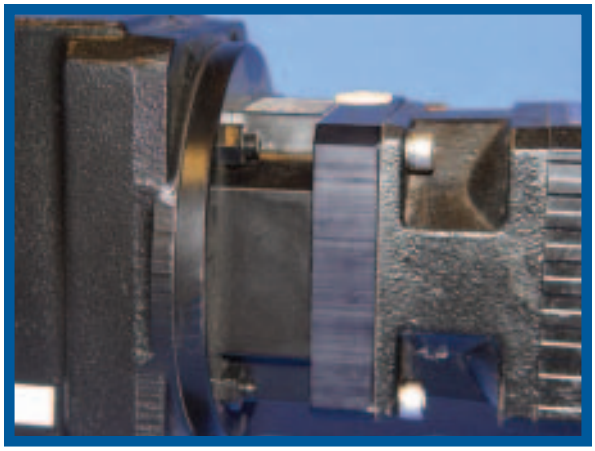
Table No. 2 Capscrew Tightening Torque

Unit	Allen Wrench Size	Tightening Torque Nm.	Tightening Torque in. lbs.
SMS Gearheads – "C", "F", or "K"			
MT10	5	10	88.5
MT20	6	25	221.25
MT30	6	25	221.25
MT40	8	45	398.25

STEP 6. Tighten the TriAdapt coupling screw.

With a torque wrench, tighten the Allen screw on the TriAdapt coupling to the recommended torque shown in Table No. 2. A torque wrench extension is provided with each gearhead. If there are two (2) screws, be sure to tighten them equally.

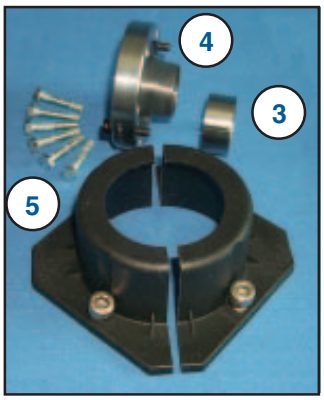
STEP 7. Re-insert the plastic plug.



Miscellaneous

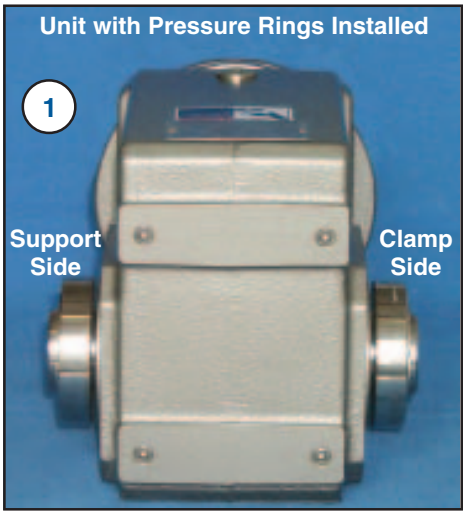
See web site for drawings.

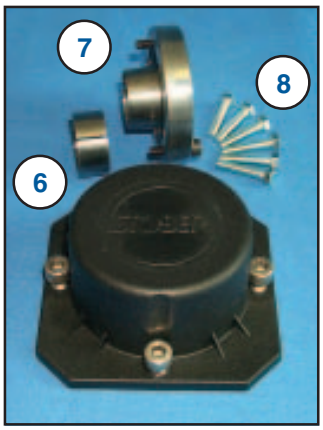
SMS ServoFit® Gearhead
"K" Series
"WFB" Bushing Installation



Support Side Bushing Components

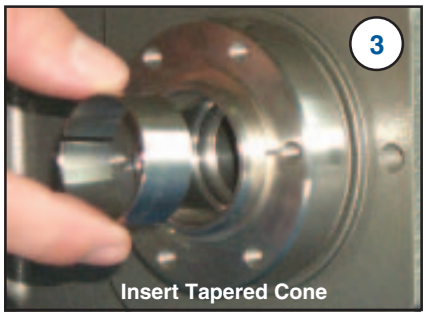
The Support Side is the bushing with the coating on the cone. Do NOT use cleaner on the coated cone.

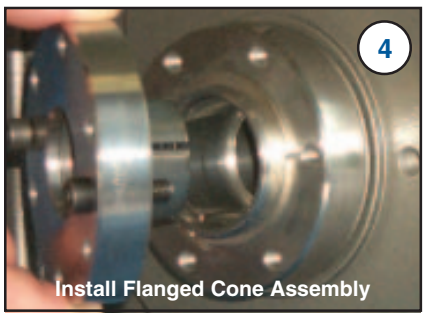




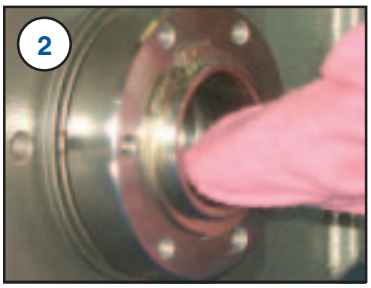
Clamp Side Bushing Components

Support Side Installation

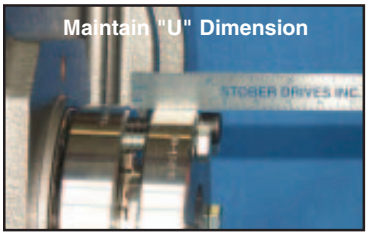




Install the Flanged Cone Assembly (4) with it's slot opposite the slot in the tapered cone (3).

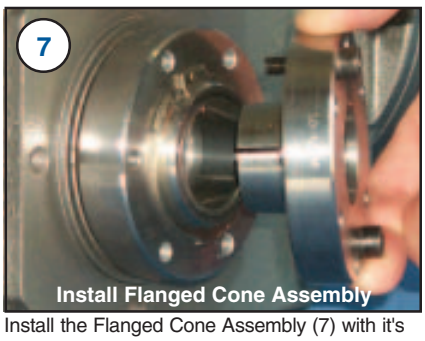


Be sure the inside of the quill is free of grease and oil before installing the tapered cones.



The "U" distance (between the rings) determined by the spacer bolts (see Table 1, Page 89) must be maintained throughout assembly of the bushing and mounting onto the shaft. Therefore DO NOT tighten the capscrews or remove the spacer bolts until the unit is mounted on the shaft.

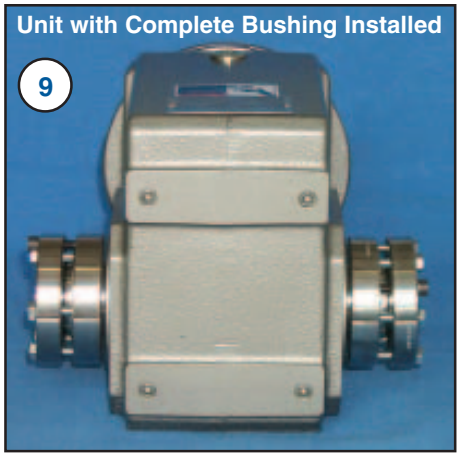
Clamp Side Installation

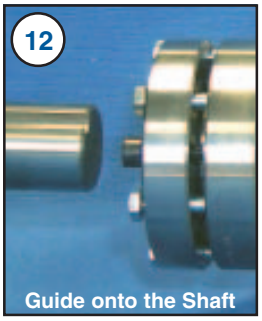


Install the Flanged Cone Assembly (7) with it's slot opposite the slot in the tapered cone (6).

Miscellaneous

SMS ServoFit® Gearhead
"K" Series
"WFB" Bushing Installation





Tighten all capscrews to the torque shown in Table 1. Use a torque wrench. The tightening should be done gradually in a rotating sequence and will require more than one rotation.

After two hours (minimum) running time, check capscrews and retighten, if necessary.

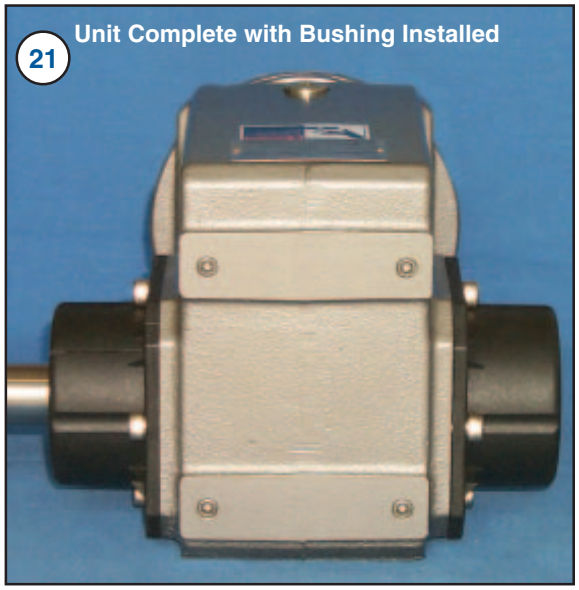


Table No. 1

Base Module	Capscrews Qty.	Capscrews Size x Length	Tightening Torque Nm.	Tightening Torque in. lbs.	U mm	U ins.	Spacer Bolts
K102	6	M6x25 mm	10	89	5	.20	M6x20mm
K202/K203	6	M6x30 mm	10	89	5	.20	M6x20mm
K302/K303	8	M6x30 mm	10	89	5	.20	M6x20mm
K402/K403	8	M8x30 mm	25	221	6	.24	M8x20mm
K513/K514	8	M8x30 mm	25	221	7	.28	M8x25mm
K613/K614	8	M10x35 mm	49	434	8.5	.33	M10x25mm
K713/K714	8	M10x40 mm	49	434	5.5	.22	M10x25mm
K813/K814	8	M12x40 mm	85	752	7	.28	M12x45mm

See web site for drawings.

ServoFit® SMS Gearhead Selection Procedures Flow Chart

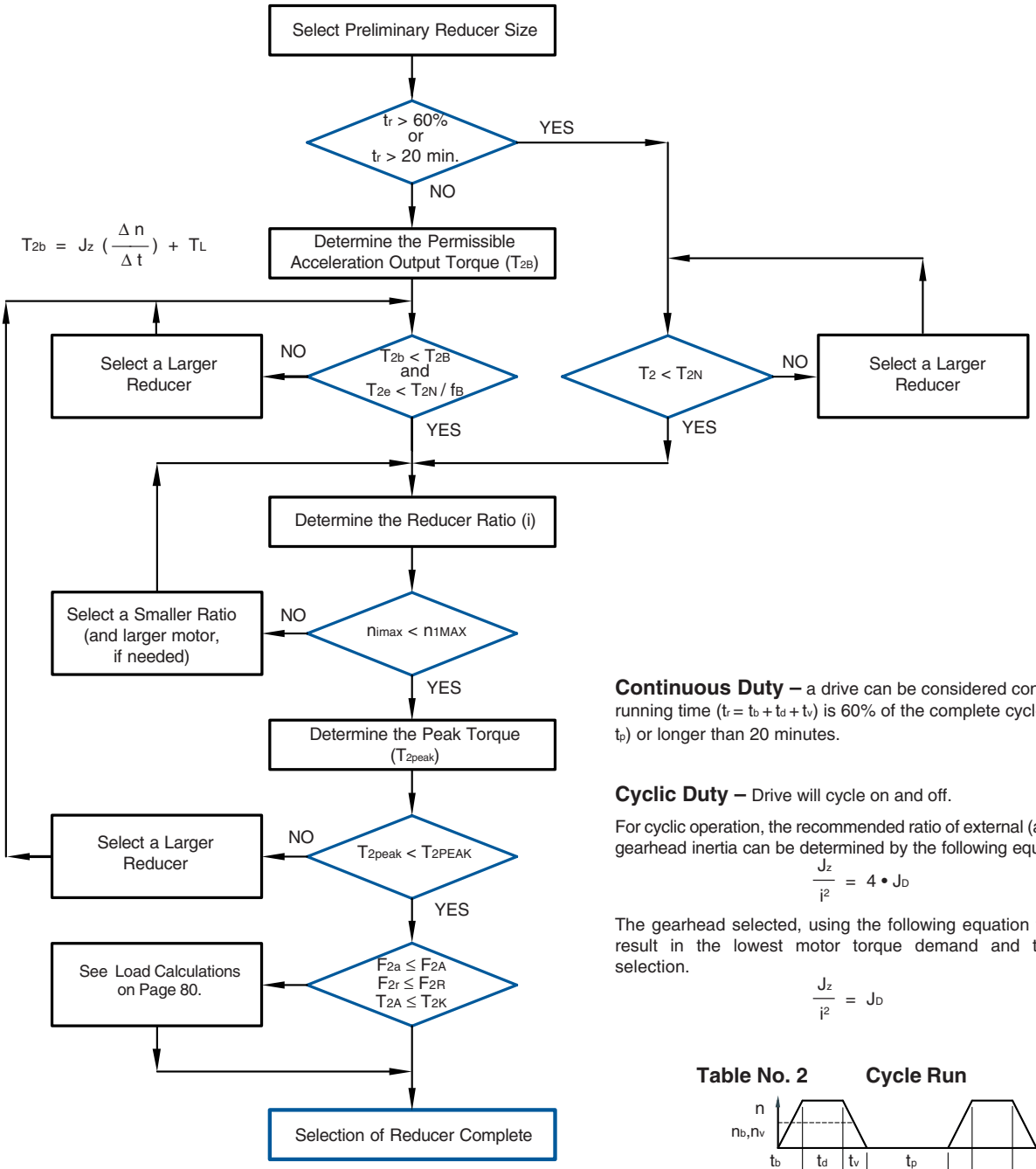


Table No. 1
Service Factor

Operating Mode	f_B
Continuous	1.0
Cylic	1.25
Cyclic-Reversing	1.4

Continuous Duty – a drive can be considered continuous duty if the running time ($t_r = t_b + t_d + t_v$) is 60% of the complete cycle time ($t_b + t_d + t_v + t_p$) or longer than 20 minutes.

Cyclic Duty – Drive will cycle on and off.

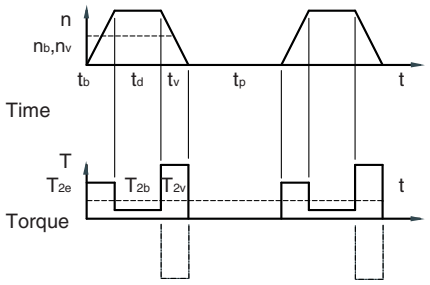
For cyclic operation, the recommended ratio of external (application) inertia to gearhead inertia can be determined by the following equation:

$$\frac{J_z}{i^2} = 4 \bullet J_D$$

The gearhead selected, using the following equation for inertia ratio, will result in the lowest motor torque demand and the optimum drive selection.

$$\frac{J_z}{i^2} = J_D$$

Table No. 2 **Cycle Run**



$$T_{2e} = \sqrt[3]{\frac{n_{2b} \bullet t_b \bullet T_{2b}^3 + \ldots + n_{2n} \bullet t_{2n} \bullet T_{2n}^3}{n_{2b} \bullet t_{2b} + \ldots + n_{2n} \bullet t_n}}$$

Miscellaneous

Table No. 3 Index of Values and Symbols

Symbol	Value			Description
	Imperial	*Multiplier*	Metric	
F_{2a}	lbs.	4.45	N	Axial Force @ Output Shaft
F_{2A}	lbs.	4.45	N	Permissible Axial Force (see Page 80)
F_{2r}	lbs.	4.45	N	Radial Force @ Output Shaft
F_{2R}	lbs.	4.45	N	Permissible Radial Load (see Page 80)
i	—	—	—	Reducer Ratio
J_D	lb-in-s^2	1.13×10^3	kgcm^2	Motor + Reducer Inertia @ Motor RPM
J_Z	lb-in-s^2	1.13×10^3	kgcm^2	Total Inertia @ Reducer RPM
n	RPM	—	min^{-1}	Speed
n_b	RPM	—	min^{-1}	Acceleration Speed
n_v	RPM	—	min^{-1}	Deceleration Speed
n_1	RPM	—	min^{-1}	Input Speed
n_2	RPM	—	min^{-1}	Reducer Output Speed
T	in.lbs.	.113	Nm	Torque
T_2	in.lbs.	.113	Nm	Application Torque
T_{2e}	in.lbs.	.113	Nm	Equivalent Torque (Average RMS Torque)
T_{2K}	in.lbs.	.113	Nm	Reducer Tilting Moment (see Page 80)
T_L	in.lbs.	.113	Nm	Friction Torque (Losses)
T_{2b}	in.lbs.	.113	Nm	Application Acceleration Torque
T_{2B}	in.lbs.	.113	Nm	Reducer Acceleration Torque
T_{2N}	in.lbs.	.113	Nm	Reducer Nominal Output Torque
T_{2peak}	in.lbs.	.113	Nm	Application Peak Torque
T_{2PEAK}	in.lbs.	.113	Nm	Reducer Peak Torque
T_{2V}	in.lbs.	.113	Nm	Application Deceleration Torque
t	seconds	—	seconds	Time
t_b	seconds	—	seconds	Acceleration Time
t_d	seconds	—	seconds	Duration Time
t_v	seconds	—	seconds	Deceleration Time
t_p	seconds	—	seconds	Pause Time
t_r	seconds	—	seconds	Running Time

Table No. 4 Backlash Comparison – Arcminute vs Linear Distance

Arcminute	Degrees	Linear Distance in Inches			
		at 3" R	at 12" R	at 24" R	at 48" R
1	.017	.0009	.0035	.0070	.0140
2	.033	.0017	.0070	.0140	.0279
3	.050	.0026	.0105	.0209	.0419
4	.067	.0035	.0140	.0279	.0558
5	.083	.0044	.0175	.0349	.0698
6	.100	.0052	.0209	.0419	.0838
7	.117	.0061	.0244	.0489	.0977
8	.133	.0070	.0279	.0558	.1117
9	.150	.0079	.0314	.0628	.1257
10	.167	.0087	.0349	.0698	.1396
11	.183	.0096	.0384	.0768	.1536
12	.200	.0105	.0419	.0838	.1675
13	.217	.0113	.0454	.0908	.1815
14	.233	.0122	.0489	.0977	.1955
15	.250	.0131	.0524	.1047	.2094
16	.267	.0140	.0558	.1117	.2234
17	.283	.0148	.0593	.1187	.2373
18	.300	.0157	.0628	.1257	.2513
19	.317	.0166	.0663	.1326	.2653
20	.333	.0175	.0698	.1396	.2792

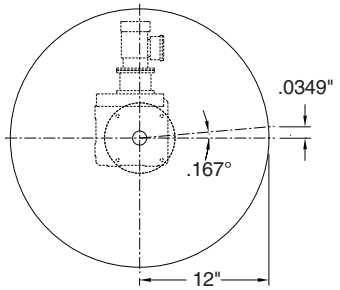
These values can be interpolated for backlash or distances not shown in the table.

Table No. 4 can be used to determine the amount of linear movement that will be realized with a given backlash value.

Example:
A "K" Series gearhead is mounted, with the output shaft vertical, under a 24" diameter turntable. The gearhead backlash is 10 arcminutes.

Reading across the table, the angular value of 10 arcminutes is .167 degrees.

Further determination indicates 10 arcminutes backlash will allow a linear movement of .0349 inches when measured at a 12 inch radius.

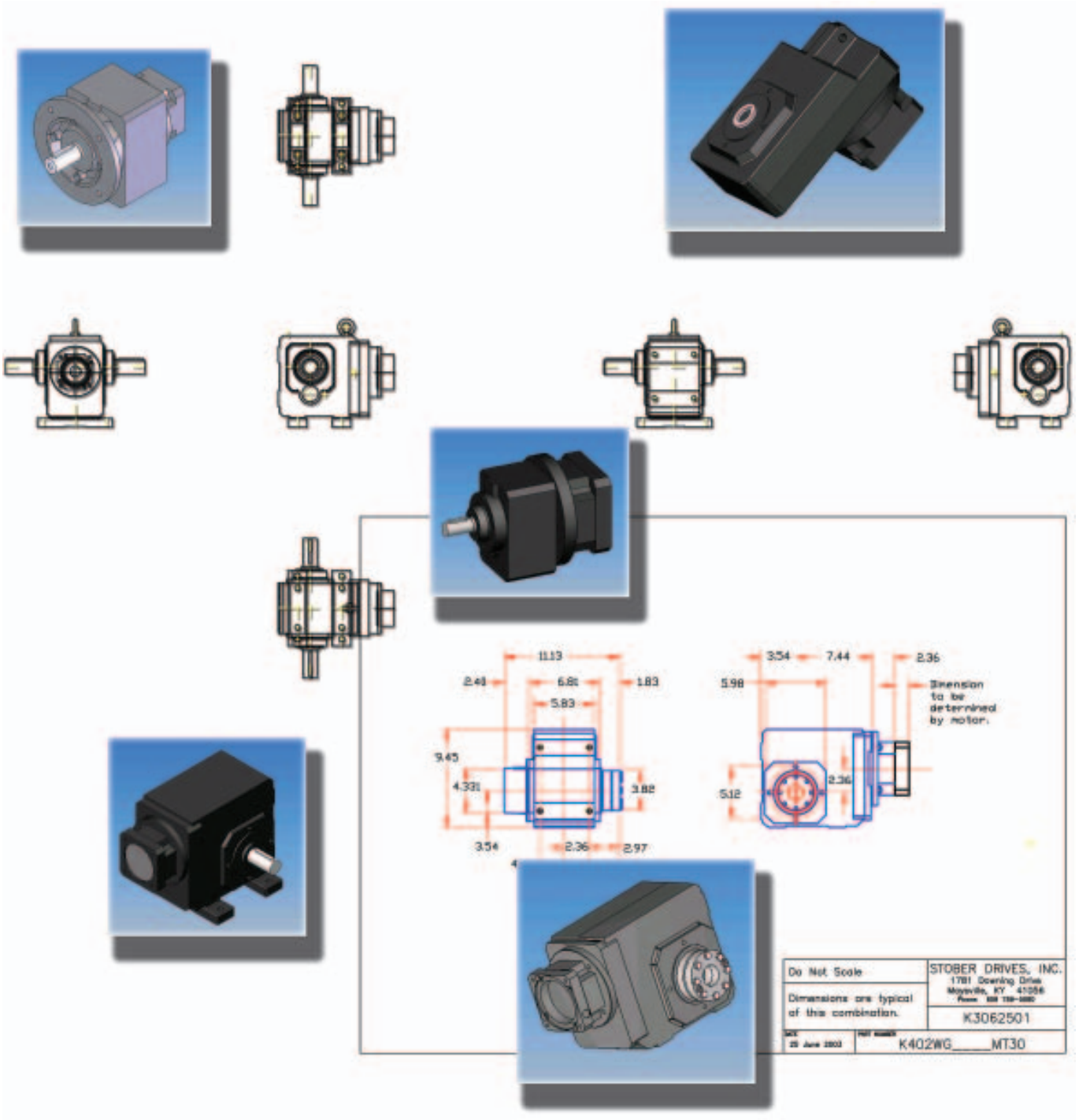


SMS ServoFit® Gearhead
2D and 3D Drawing Support

Drawings are available in a format to suit your application. We can provide eDrawings, 2D and 3D, CAD drawings with six views, or certified faxable prints.

The eDrawing application gives you the power to view 3D models and 2D drawings with no special software. The viewer and drawing are contained in one simple download. eDrawings eliminate the communication barriers that designers and engineers deal with daily. They are small enough to email, are self-viewing, and significantly easier to understand, plus, there is no more uncertainty about whether the recipient will be able to open and view the drawing file you send.

Check our web site (www.stober.com) for product drawings in the configuation you need. Call Technical Support for information that is not shown or e-mail *sales@stober.com* or *drawings@stober.com* with your request.



Miscellaneous

STÖBER International Sales Locations

STÖBER ANTRIEBSTECHNIK GmbH

Kieselbronner Strasse 12 • 75177 Pforzheim
Phone: +49 (0) 7231 5820 0 • Fax: +49 (0) 7231 582 197 • Web: www.stoeber.de • E-mail: mail@stoeber.de

Austria
STÖBER ANTRIEBSTECHNIK GmbH
Fabriksplatz 1
4662 Steyrermühl
Phone: +43 (0) 7613 76000
Fax: +43 (0) 7613 76009
Web: www@stoeber.at
E-mail: office@stoeber.at

Belgium
VAN DOREN - PILLE N.V.
Industrieterrein De Prijkels
Venecoweg 25
B-9810 Nazareth
Phone: +32 (0) 9 2521309
Fax: +32 (0) 9 2522374
Web: www@vandorenpille.be
E-mail: info@vandorenpille.be

Brazil
FRAPHE INDUSTRIA E COMERCIO
Rua Bairro Da Ponte Alta S/N
37640-000 Extrema-MG
Phone: +55 (0) 35 34355965
Fax: +55 (0) 35 34353887
Web: www@fraphe.com.br
E-mail: fraphe@fraphe.com.br

Bulgaria
Z & M PRIVATE COMPANY
5, Angel Kantcher Str
1000 Sofia
Phone: +359 2 9865855
Fax: +359 2 9865916
Web: www@bdi-usa.com
E-mail: zandm@techno-link.com

China
WK INTERSALES BEIJING
German Centre
Unit 0525-0530, Landmark Tower 2
8 North Dongsanhuan Road
Chaoyang District
Beijing 100004
Phone: +86 10 65906425
Fax: +86 10 65906785
E-mail: beijng@wk.intersales.com

Columbia
SOCOMEX LTDA.
Apdo. Aereo 11606
Santafe de Bogota D.C.
Phone: +57 2856105
Fax: +57 13350487

Denmark
EEGHOLM A/S
Grundtvigs Allé 165-169
P.O. Box 190
6400 Sønderborg
Phone: +45 73 121212
Fax: +45 73 121213
Web: www.eegholm.dk
E-mail: eggholm@eggholm.dk

Finland
EIE MASKIN OY
PL 80
10600 Tammisaari
Phone: +358 (0) 19 2461642
Fax: +358 (0) 19 2461643
Web: www.eie.fi
E-mail: eie@eie.fi

France
STÖBER S.a.r.l.
47, Rue Maurice Flandin
69003 Lyon
Phone: +33 (0) 4 72132438
Fax: +33 (0) 4 72132457
Web: www.stober.fr
E-mail: mail@stober.fr

Hungary
BDI HUNGARY LTD
Fóti Street 141, Bldg 37
1046 Budapest
Phone: +36 (0) 1 2311010
Fax: +36 (0) 1 2311030
E-mail: bdi-hun@elender.hu

Iran
OTAD sanat novin co.
Unit 1, No. 6, Khosravi Alley
North Kaargar Ave.
Tehran 1413653141
Phone: +98 21 8006830
Fax: +98 21 8006830
Web: www.otad.ir
E-mail: info@stad.ir

Italy
STÖBER TRASMISSIONI S.R.L.
Via Risorgimento, 8
20017 Mazzo di Rho (Milano)
Phone: +39 02 93 909-570
Fax: +39 02 93 909-325
Web: www.stoeber.it
E-mail: info@stoeber.it

Korea
DAE KWANG STOEBER CO. LTD.
441-41 Sangdewon-don, Joongwon-ku
Sungnam-City, Kyuunggi-do
Postcode 462-120
Phone: +82 (0) 31 7350293
Fax: +82 (0) 31 7360281
E-mail: dkstoeber@stoeber.co.kr

Netherlands
MIJNSBERGEN B.V.
Postbus 166
3640 AD Mijdrecht
Phone: +31 (0) 297 285821
Fax: +31 (0) 297 272326
Web: www.mijnsbergen.nl
E-mail: info@mijnsbergen.nl

Norway
ELMEKO AS
Postbox 80
1306 Baerum Postterminal
Phone: +47 67572270
Fax: +47 67572280
Web: www.elmeko.no
E-mail: elmeko@elmeko.no

Peru
POWERMATIC S.A.
Av. Los Ingenieros 333
Ate-Vitarte, Lima 03
Phone: +51 (0) 1 349-0184
Fax: +51 (0) 1 437-0073
E-mail: powermatic@terra.com.pe

Phillipines
LEELENG COMMERCIAL, INC.
387-393 Dasmariñas St.
P.O. Box 480
St Manuel Manila
Phone: +63 2 2418901
Fax: +63 2 24140601
E-mail: leeleng@manila.vasia.com

Poland
STOEBER POLSKA
ul.H.Kamienskiego 201-219
51-126 Wroclaw
Phone: +48 71 3207417
Fax: +48 71 3207417
E-mail: biuro@stoeber.pl

South Africa
BEARING MAN LTD
P.O. Box 33431
Jeppestown 2043
Phone: +27 (0) 11 6201500
Fax: +27 (0) 11 6201775
Web: www.bearing.co.za
E-mail: sales@bearing_man.co.za

Sweden
EIE MASKIN AB
Box 7
12421 Bandhagen 1
Phone: +46 (0) 8 7278800
Fax: +46 (0) 8 7278899
Web: www.eie.se
E-mail: eie@eie.se

Switzerland
INDUR ANTRIEBSTECHNIK AG
Margarethenstrasse 87
4008 Basel
Phone: +41 (0) 61 2792900
Fax: +41 (0) 61 2792910
Web: www.indur.ch
E-mail: info@indur.ch

Spain
S.p.i.t. KOOM s.l.
Camino Caserio Parada, 25
20015 San Sabastian
Phone: +34 94 3297809
Fax: +34 94 3297810
Web: www.spitkoom.com
E-mail: koom@spitkoom.com

Thailand
GERMAN ENGINEERING AND MACHINERY CO., LTD.
947/161 Bangna Complex
Moo 12 Bangna Trad Rd. Km 3
Bangkok 10260
Phone: +66 2 3619082
Fax: +66 2 3619089
E-mail: sale-ge@mweb.co.th

Turkey
YÜRE MAKINA SAN. ve TIC. LTD. STI.
Fevzi Cakmak Mah. 5. Cad.
19. Sok. No: 13
34200 Esenler-Istanbul
Phone: +90 212 2228750
Telex: +90 212 2228751

United Kingdom
STOBER DRIVES LIMITED
Unit 9, Abbeymead Industrial Park
Brooker Road, Waltham Abbey
Essex, EN9 1HU
Phone: +44 (0) 1992 709710
Fax: +44 (0) 1992 714111
Web: www.stober.co.uk
E-mail: mail@stober.co.uk

Terms and Conditions of Sale

1. **GENERAL.** All orders for products supplied by STOBER DRIVES INC. ("Stober") shall be subject to these terms and conditions of sales. All transactions shall be governed by the laws of the Commonwealth of Kentucky. No modifications hereto will be binding unless agreed to in writing by Stober.

2. **CUSTOMER.** The term "Customer," as used herein, means the distributor, resale dealer, original equipment manufacturer or first end-user customer that purchases the Stober products.

3. **WARRANTY.** Stober products shall be free from defects in material and workmanship for a maximum of 5-years (single shift operation or 30 months multiple shift operation) for ServoFit products; 3-years (single shift operation or 18 months multiple shift operation) for MGS products; 2-years (single shift operation or 12 months multiple shift operation) for TD products, from the date of shipment to the Customer. For ServoFit products, all normal wear items, including oil seals and bearings, shall be covered for a period of 2-years (single shift operation or 12 months multiple shift operation). In the event that a product proves to be defective, Stober's sole obligation shall be, at its option, to repair or replace the product. The repaired or replacement product will be shipped F.O.B. Stober's facilities, freight prepaid by Stober.

No employee, agent or representative of Stober has the authority to waive, alter, vary or add to the terms hereof without the prior written approval of an officer of Stober. It is expressly agreed that (a) this section constitutes the final expression of the parties' understanding with respect to the warranty and (b) this section is a complete and exclusive statement of the terms of the warranty.

Stober shall have no obligation under the warranty set forth above in the event that:

(a) The Customer fails, within the warranty period to notify Stober in writing and provide Stober with evidence satisfactory to Stober of the alleged defect within five (5) days after it becomes known to the customer;

(b) After inspection of a product, Stober determines, in its sole discretion, that it is not defective in material or workmanship;

(c) Repair or replacement of a product is required through normal wear and tear;

(d) Any part in a product or any ingredient contained in a product requires replacement or repair through routine usage or normal wear and tear;

(e) A product is not maintained or used in accordance with Stober's applicable operating and/or maintenance manuals, whether by the Customer or any third party;

(f) A product has been subject to misuse, misapplication, negligence, neglect (including, but not limited to, improper maintenance or storage), accident, catastrophe, improper installation, modification, adjustment, repair or lubrication, whether by the Customer or any third party, without the prior written consent of Stober. Misuse shall include, but not be limited to, deterioration in a product due to chemical action and wear caused by the presence of abrasive materials;

(g) The system of connected rotating parts into which the product becomes incorporated is not compatible with the product, or it is not free from critical speed or torsional or other type of vibration within the specified operating range, no matter how induced; or

(h) The transmitted load and imposed torsional thrust and overhung loads are not within the published capacity limits for the unit sold.

Items manufactured by other parties but installed in or affixed to Stober's products are not warranted by Stober and bear only those warranties, express or implied, which are given by the manufacturer of such items, if any.

THE WARRANTY SET FORTH ABOVE IS INTENDED SOLELY FOR THE BENEFIT OF THE Customer AND DOES NOT APPLY TO ANY THIRD PARTY. ALL CLAIMS MUST BE MADE BY THE Customer AND MAY NOT BE MADE BY ANY THIRD PARTY. THIS WARRANTY MAY NOT BE TRANSFERRED OR ASSIGNED, IN WHOLE OR IN PART, BY THE Customer FOR ANY REASON WHATSOEVER. ANY SUCH ATTEMPTED TRANSFER OR ASSIGNMENT SHALL BE NULL AND VOID.

THIS WARRANTY TAKES THE PLACE OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, WHICH ARE HEREBY DISCLAIMED AND EXCLUDED BY STOBER, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF USE AND ALL OBLIGATIONS OR LIABILITIES ON THE PART OF STOBER FOR DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE, REPAIR OR PERFORMANCE OF THE PRODUCTS.

4. **MODIFICATIONS.** Stober reserves the right, without notice to the Customer, to (a) change the specifications of any product, (b) improve a product in any manner that Stober deems necessary or appropriate and (c) discontinue the manufacture of any product.

5. **PURCHASE ORDERS.** The Customer will submit purchase orders for the products to Stober in writing, whether by mail or telefax, which shall set forth, at a minimum: (a) an identification of the products ordered, (b) prices for such products, (c) quantities, (d) requested delivery dates and (e) shipping instructions and shipping addresses.

6. **ACCEPTANCE OF ORDERS.** All purchase orders received from the Customer are subject to acceptance by Stober in writing.

7. **MODIFICATION OF ORDERS.** No accepted purchase order shall be modified or canceled except upon the written agreement of Stober and the Customer. Mutually agreed cancellations shall be subject to reasonable charges based upon expenses already incurred by Stober and commitments made by Stober. Mutually agreed change orders shall be subject to all provisions of these Terms and Conditions of Sale.

8. **PRICE INCREASES.** Stober may increase its prices for the products by providing the original purchaser of the products with at least thirty (30) days' prior written notice. Increased prices for products shall not apply to purchase orders accepted prior to the effective date of the price increase unless such orders provide for delivery more than thirty (30) days after the date of acceptance of the order.

9. **PRICING AND DELIVERY TERMS.** In accordance with KRS 355.2-319(1)(b), all products are delivered F.O.B. Stober's warehouse facility in Maysville, Kentucky, or such other facility as Stober may designate. Orders are then shipped per Customer's shipping instructions as set forth in Customer's purchase order. **CATALOG PRICING DOES NOT INCLUDE SHIPPING, HANDLING AND TAXES.** Once delivered to a common carrier of the Customer's choosing [or of Stober's choosing if Customer has failed to specify a common carrier on or before five (5) days prior to the requested delivery date] Stober shall have no further responsibility for the products and all risk of damage, loss or delay shall pass to the Customer. A handling fee is added to freight costs by Stober to cover the cost of having to pay the carrier within seven (7) days when the terms with the Customer are net 30. The Customer has the option of shipping collect with our carrier or the carrier of choice.

10. **PAYMENT TERMS.** Net 30 days. All orders will be shipped either prepaid by the Customer or C.O.D., at Stober's option, unless the Customer has established a previously approved credit line. If Stober approves a credit line for the Customer, all payments shall be due within thirty (30) days of the date of the invoice. If any invoice is not paid in full within such thirty (30) day period, then finance charges shall be assessed at the rate of one and one-half percent (1½%) per month (eighteen percent (18%) per year). If such rate is deemed to be usurious at any time, it shall be reduced to the maximum rate permitted by applicable law. Stober may stop or withhold shipment of products if the Customer does not fulfill its payment obligations. If Stober is insecure about payment for any reason, Stober may require full or partial payment in advance and as a condition to the continuation of its delivery of products.

11. **SECURITY INTEREST.** Unless and until the products are paid for in full, Stober reserves a security interest in them to secure the unpaid balance of the purchase price. The Customer hereby grants to Stober a power of attorney, coupled with an interest, to execute and file on behalf of the Customer all necessary financing statements and other documents required or appropriate to protect the security interest granted herein.

12. **ACCEPTANCE OF PRODUCTS.** The Customer will conduct any incoming inspection tests as soon as possible upon arrival of the products, but in no event later than ten (10) days after the date of receipt. Any products not rejected by written notice to Stober within such period shall be deemed accepted by the Customer. Stober shall not be liable for any additional costs, expenses or damages incurred by the Customer, directly or indirectly, as a result of any shortage, damage or discrepancy in a shipment.

13. **LIMITATION OF REMEDIES.**

(a) STOBER SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE CAUSED BY DELAY IN FURNISHING THE CUSTOMER WITH PRODUCTS.

(b) IN NO EVENT SHALL STOBER'S LIABILITY INCLUDE ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL LOSSES OR DAMAGES, EVEN IF STOBER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH POTENTIAL LOSS OR DAMAGE.

14. **MADE-TO-ORDER PRODUCTS.** Stober reserves the right to revoke and amend any price quotations offered to the Customer for made-to-order products, provided that such price quotations have not been accepted by the Customer prior to the date of revocation or amendment.

15. **DIES, TOOLS AND EQUIPMENT.** Charges incurred by the Customer for dies, tools and other equipment shall not confer ownership or the right to possession therein by the Customer. All such dies, tools and equipment shall remain the property of Stober, and Stober shall have the exclusive right to possession thereof. Stober shall maintain such tools and equipment in good working order.

16. **REGULATORY LAWS AND STANDARDS.** Stober makes no representation that its products conform to state or local laws, ordinances, regulations, codes or standards except as may be otherwise agreed to in writing by Stober.

17. **SIZES AND WEIGHTS.** Stober's products are made only in the sizes and to the specifications set forth in its catalogs and other literature. If any alteration is requested, such altered product will be treated as a made-to-order item. Stober assumes no responsibility for typographical errors which may appear in its catalogs or literature, and cannot accept alteration charges caused by such errors. Since weights shown in Stober's catalogs are approximate, they cannot be used in determining freight allowances set forth in its catalogs and other literature. Freight allowances will be determined at the time of shipment and shall be based on actual shipping weight.

18. **SYSTEM DESIGN.** Responsibility for system design to ensure proper use and application of Stober's products within their published specifications and ratings rests solely with the Customer. This includes, but is not limited to, an analysis of loads created by torsional vibrations within the entire system, regardless of how induced.

STOBER DRIVES INC.
1781 Downing Drive • Maysville, KY 41056
Phone: (606) 759-5090 • FAX: (606) 759-5045
www.stober.com • E-mail: sales@stober.com