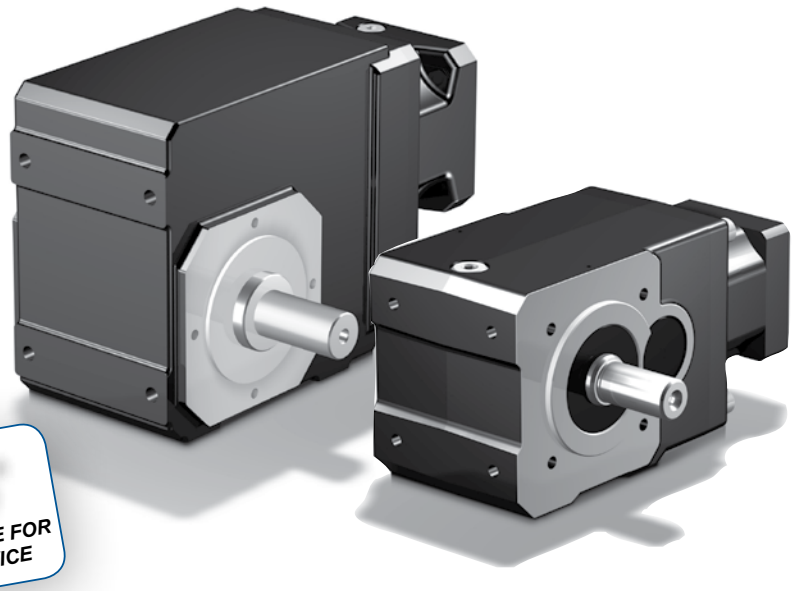
K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

STOBER's K and KL right angle helical/bevel gear drives are the most popular and versatile ServoFit gearheads. They offer higher input-to-output efficiencies than conventional worm gear drives or right angle planetary gearheads – making them the optimal drive for truly demanding continuous applications.



K Series Advantages

- 5 year limited warranty (2 years on bearings, seals, etc.)
- Input RPM up to 6,000
- Assembled in the U.S.A.

SHIPS in 1 DAY!
NO EXPEDITE FEE FOR 24 HOUR SERVICE

K Series Features

- 4:1 to 381:1 ratios
- Highly efficient spiral bevel gearsets provide quiet operation and excellent torque carrying capacity
- Standard backlash to ≤10 arc minutes; optional reduced backlash to ≤4 arc minutes
- One-piece precision machined housing
- 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
- Magnetic oil filtration
- Output Options: solid shaft, hollow output, and backlash free, wobble free bushings. Most hollow output and solid shafts are also available in metric, and in stainless steel for washdown, food, and beverage duty
- Double-sided wobble-free bushing system allows the unit to be mounted on the shaft from either side of the reducer. The corrosion resistant reducer features a distinct support side and clamp side, and dual tapered cones to overcome a wide range of tolerances normally found with standard shaft materials
- 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
- Double lip seals keep oil in and contaminants out. Double seals available for severe duty applications
- Shipped with the proper amount of oil to prevent gear damaging dry start-ups
- Motor plate can easily be changed to fit your choice of motors

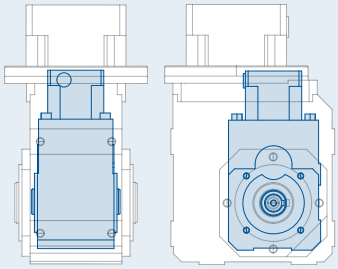
ATEX

- ATmosphere EXplosible — Please allow up to 8 weeks for delivery

KL Series

The STOBER KL Series is a much more compact version of the K Series. Available in 4:1 to 32:1 ratios with backlash of <16 arcmins, the KL Series offers an alternative right angle helical/bevel gearhead for smaller gearhead size applications. Like the K Series, the KL is available in hollow, solid shaft, and wobble free bushing output options.

All units are lubricated for life with synthetic oil. Food grade oil available.



Size comparison of KL102 with K102

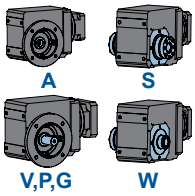
Overview

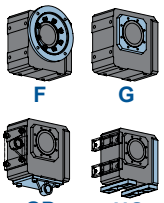
Selection Options *At-a-Glance*

K/KL Series Gearheads are available in a wide range of user-selected design options that tailor the gearhead to your motor choice and exact application requirements. Use the appropriate order codes on the following pages to build a part number for the complete gearhead assembly.

Part Number Example: K 1 0 2 A N 0040 MT10 B

Design Option	Part Number Code	Description
Series	K	Right angle helical/bevel
	KL	Compact right angle helical/bevel (size 1 and 2 only)
Gearhead Size	1 2 3 4 5 6 7 8 9 10	10 sizes of gearhead (KL sizes 1 and 2 only)
Generation	0	Version of gearhead
	1	
# of Stages	2	Two stage (determined by ratio)
	3	Three stage (determined by ratio)
	4	Four stage (determined by ratio)
Output	A	Hollow output*
	S	Shrink ring* (specify side 3 or 4 only)
	V	Shaft output* — K Series only (specify side 3 and/or 4 only)
	P	Shaft with key* — KL Series only
	G	Shaft without key* — KL Series only
	W	Single or double wobble-free bushing* (If single, specify side 3 or 4 only)
		**See pages 194-194 for details on available sizes*
Housing	F	Round output flange (side 3 or 4 only, please specify)
	G	Tapped holes on both sides of output
	GD	Torque arm bracket mounting — K Series only (side 1 [shown] or 5 only, also side 2 on size K1 only, please specify)
	NG	Foot mounting (side 1 [shown] or 5 only; also side 2 on size K1, please specify)
Ratio	0050	Ratios range from 4:1 to 381:1 (0020=2:1; 0063=6.3:1; 2700=270:1)
Motor Adapter	MQ	MQ input is for KL series, 5 MT input sizes for K Series (see also motor mounting plate option, page 191)
	MT10	
Special Options	B	Beverage Duty
	F	Food Duty (size KL1 and 2; K1 thru K9 only)





General Specifications

Lubrication	Lubricated for life — Standard: Mobilgear 600XP220 Optional: Food grade (Mobil SHC CIBUS 220) or Synthetic (Mobil SHC630)
Degree of Protection	IP65 standard; IP69K optional
Mounting Position	KL mounting is unrestricted; K mounting position must be specified (see page 192)
Direction of Rotation	See page 193
Ambient Temperature	0° C to +40°C (104° F) [Unit temperature ≤ 80° C Max.]
Coating	Standard Black (RAL 9005); food option available
Warranty	5 Year Limited

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

K/KL Series Performance Overview

K/KL Series performance is dependent on several factors including duty cycle, bearing design, gearhead size and stage configuration, among others. Use the chart below for preliminary evaluation, then use the following performance chart and selection information on the following pages for specific performance sizing and selection.

Size/Generation			KL10	KL20	K10	K20		K30		K40	
# of Stages			2	2	2	2	3	2	3	2	3
Permissible Acceleration Torque M_{2BMAX}		Nm	32	65	135	220		385		600	
		in.lbs	283	576	1196	1949		3410		5315	
Output Torque Nom. M_{2N}		Nm	25	50	119	200		350		550	
		in.lbs	221	443	1057	1772		3100		4872	
Torsional Stiffness C_2		Nm/arcmin	≤1.8	≤3.9	≤5.8	≤8.1	≤8.1	≤9.6	≤9.7	≤19.7	≤19.9
		in.lbs/arcmin	≤16	≤35	≤51	≤72	≤72	≤85	≤86	≤175	≤176
Torsional Backlash [1] $\Delta\varphi$	arcmin	Standard	≤25	≤20	≤12	≤10	≤10	≤10	≤10	≤10	≤10
		Reduced	—	—	≤6	≤5	≤6	≤4	≤5	≤4	≤5
Input Speed Max. n_{1MAX}	Continuous	EL1, 2, 5, 6	4000	4000	4000	4000	4000	3200	3800	3500	3600
		EL3, 4	4000	4000	4000	3900	3900	2800	3500	3300	3300
	Cyclic		6000	6000	6000	5500	5500	4200	5000	5000	5000
Efficiency (@nom torque)		%	97	97	97	97	96	97	96	97	96
Weight		kg	6.3	9.5	14.0	18.1	24.0	30.4	33.1	42.1	45.3
		lbs	14	21	31	40	53	67	73	93	100
Noise [2]		dB(A)	≤59	≤65		≤53		≤53		≤51	
Axial Load Max. F_{2AMAX}	Solid Shaft	N	250	560	1900	2100		2400		3500	
		lbs	56	126	427	472		540		787	
	Hollow Bore	N	250	560	1900	2100		2400		3500	
		lbs	56	126	427	472		540		788	
Radial Load Max. [3] F_{2RMAX}		N	1250	2800	5000	6000		7000		11,200	
		lbs	281	630	1125	1350		1575		2520	
Tilting Moment Max. [3] M_{2KMAX}	Solid Shaft	Nm	43	118	360	430		525		1050	
		in.lbs	381	1044	3186	3805		4646		9292	
	Hollow Bore	Nm	43	118	240	310		380		740	
		in.lbs	381	1044	2124	2744		3363		6549	

[1] *Tested at 1.5% of nominal torque and recorded on the output side of the gearhead. For lower backlash, contact STOBER technical support.*

[2] *Measurement at one (1) meter distance with input speed (n_1) of 2000 RPM.*

[3] *Rating based on output speed (n_2) of 20 RPM for K Series, 100 RPM for KL Series. For values at other speeds see page 196.*

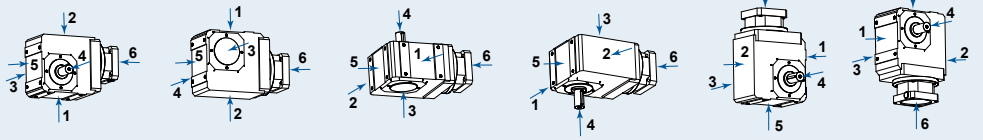
K Mounting Position Options

(KL units have unrestricted positioning)

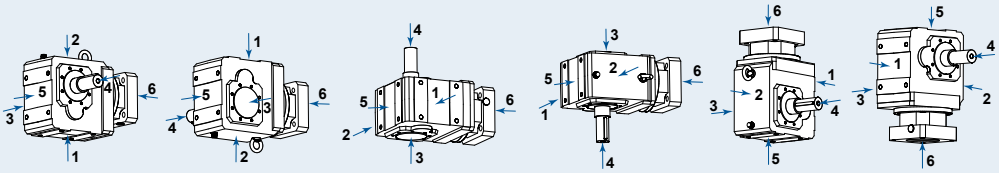
K units have the shaft on Side 3 and/or Side 4 (shown).
Shaft side must be specified when ordering.

When ordering, mounting position (EL1, EL2, EL3, EL4, EL5, EL6) MUST BE SPECIFIED

K1 thru K4



K5 thru K10

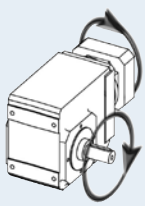
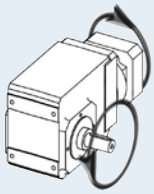
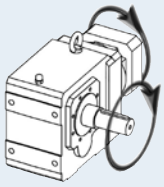
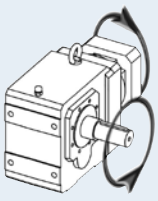


Overview

	K51		K61		K71		K81		K91		K101	
	3	4	3	4	3	4	3	4	3	4	3	4
	1000 8858		1600 14,173		2600 23,031		4650 41,190		7700 68,207		13,200 116,926	
	900 7972		1450 12,844		2400 21,259		4200 37,204		7000 62,006		11,893 105,349	12,000 106,296
	≤30.4 ≤270	≤30.5 ≤270	≤44.9 ≤398	≤45.1 ≤399	≤80.9 ≤717	≤81.1 ≤718	≤140.9 ≤1248	≤141.3 ≤1251	≤209.6 ≤1856	≤210.0 ≤1860	≤461.7 ≤4090	≤464.5 ≤4115
	≤10 ≤5	≤10 ≤6	≤10 ≤5	≤10 ≤6	≤10 ≤5	≤10 ≤6	≤10 ≤5	≤10 ≤6	≤10 ≤5	≤10 ≤5	≤10 ≤5	≤10 ≤5
	3400	3400	3100	3100	2900	2900	2800	2800	2600	2600	2500	2500
	3000	3000	2800	2800	2600	2600	2500	2500	2500	2500	2300	2300
	4500	4500	4000	4000	3800	3800	3600	3600	3400	3400	3000	3200
	96	94	96	94	96	94	96	94	96	94	96	94
	48.0 106	49.4 109	77.0 170	80.2 177	100.1 221	106.0 234	140.0 309	149.9 331	230.1 508	240.1 530	477.9 1055	488.8 1079
	≤61		≤61		≤59		≤65		≤65		≤65	
	3500 787		4000 900		5500 1237		7250 1631		16,500 3712		25,000 5625	
	2500 563		3000 675		4100 923		5300 1193		7000 1575		9000 2025	
	13,450 3026		16,000 3600		22,000 4950		29,000 6525		65,000 14625		80,000 18,000	
	1580 13,983		1960 17,346		3200 28,320		3800 33,630		11,200 89,385		15,200 134,520	
	1000 8850		1300 11,505		2100 18,585		2600 23,010		3600 31,860		5000 44,250	

K/KL Direction of Rotation

(Viewed looking into output shaft)

CW	CCW	CW	CCW
			
2 Stage K102 K202 K302 K402	**3 Stage** K203 K303 K403 **2 Stage** KL102 KL202	**3 Stage** K513 K613 K713 K813 K913 K1013	**4 Stage** K514 K614 K714 K814 K914 K1014

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

K/KL Series Motor Mounting Plate Option (Motor information required with Motor Adapter option)

STOBER ServoFit Gearheads fit the motor of your choice with the appropriate motor mounting plate assembled between the motor and the gearhead.

NOTE: When ordering a gearhead:

- Specify the motor manufacturer and part number
- Provide the motor drawing with dimensions, or specify the motor mounting dimensions (per the list shown at right)

For a precise dimension on a specific motor, or for general assistance, we recommend you contact STOBER Technical Support.

Customer Required Dimensions for Properly Sized Motor Mounting Plate

d2 Motor Shaft Diameter (If an adapter bushing is required it will be supplied with the motor plate.)

b6 Pilot Diameter

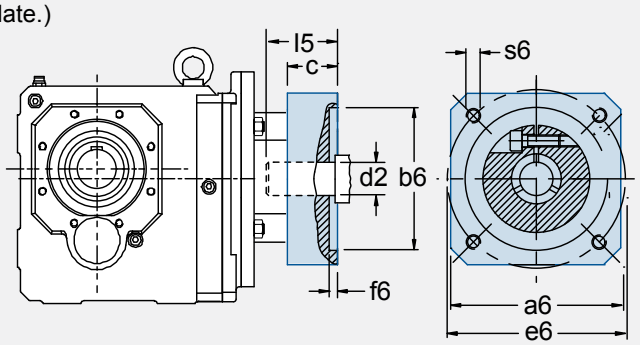
e6 Bolt Circle Diameter

s6 Bolt Diameter

l5 Motor Shaft Length

f6 Pilot Length

a6 Square Flange
(Optional – motor plate will typically be made to match this dimension.)



Motor Mounting Plate Dimensions — mm(Gearhead Part Number Specific)	KL1_MQ	KL2_MQ MT10	MT20	MT30	MT40	MT50
Maximum Allowed Motor Shaft Dia. d2	16	19	24	38	48	60
Minimum Allowed Motor Plate Thickness c*	15	21	24	25	33	43

** Note that the c motor plate thickness is determined by the motor shaft length. The minimum motor plate thickness is the value listed.*

K/KL Series Output Options

Diameters in **BOLD BLUE** are configurations readily available from inventory. Contact STOBER for delivery on other output sizes.

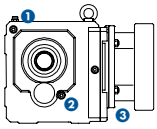
			K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Solid Shaft	Carbon Steel	Inches	**1**	**1-1/4**	**1-1/4**	**1-3/8**	**1-3/4**	**1-3/4**	**2-3/8**	**2-7/8**	**3-5/8**	**4-3/8**
		Metric	25	30	30	40	45	50	60	70	90	110
	Stainless Steel	Inches	**1**	**1-1/4**	**1-1/4**	**1-3/8**	**1-3/4**	**1-3/4**	**2-3/8**	**2-7/8**	**3-5/8**	—
		Metric	25	30	—	—	45	—	—	—	—	—
Hollow Bore	Carbon Steel	Inches	**1**	**1-3/16** 1-1/4	**1-3/8** 1-7/16	1-7/16 **1-1/2**	**2**	**2**	**2-3/8**	**2-3/4**	**3-1/4**	**4**
		Metric	25	30	30 35	40	40 50	50	60	70	70	—
	Stainless Steel	Inches	**1**	1-1/8 **1-1/4**	1 1-1/4 **1-3/8** 1-7/16	**1-1/2**	1-1/2 **2**	**2**	—	—	2-15/16 3 3-7/16	—
		Metric	25	30	35	40	40 50	—	60	70	75	—
Wobble Free Bushing (Stainless Steel except where noted)	Inches	Single & Double	1	1 1-3/16	1* 1-3/16* 1-1/4* 1-3/8* 1-7/16* 1-1/2*	1 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	1-7/16 1-1/2 1-5/8 1-11/16 1-3/4 1-7/8 1-15/16 2	1-7/16 1-1/2 1-5/8 1-11/16 1-3/4 1-15/16 2 2-3/16	1-15/16 2 2-3/16 2-3/8	2-3/16 2-3/8 2-7/16 2-3/4	—	—
	Metric	Single	25	30	30 35	—	—	—	—	—	—	—
		Double	25	25 30	30 35	40	40	40	—	—	—	—

**Also available in carbon steel*

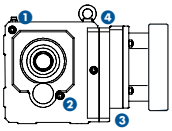
Overview

K/KL Series Lubrication Maintenance

With STOBER reducers very little maintenance is required under normal operating conditions. Units K102 thru K403 are supplied without breathers and are lubricated for life and maintenance free. Breathers are provided on standard units K513 thru K1014, located as shown to the right. STOBER recommends changing the lubrication in breather supplied units after 10,000 hours for normal operating conditions or every 5000 hours for wet operating conditions.



3 Stage Units
(K513 thru K1013)



4 Stage Units
(K514 thru K1014)

Drain Plug and Vent Location

Mounting Position		❶	❷ *	❷a *	❸	❹
EL1		Vent			Drain	
EL2		Drain			Vent	
EL3			Vent	Drain		
EL4			Drain	Vent		
EL5	K513-K1013	Drain			Vent	
	K514-K1014	Drain				Vent
EL6	K513-K1013	Vent			Drain	
	K514-K1014	Vent				Drain

** Position 2a is on the opposite side of 2.*

Overhung Load Calculations

Pulling forces or overhung load of pulleys, sheaves, sprockets, etc. on the reducer output shaft must not exceed the allowable limits shown in the load/life/speed calculations below.

Note: Overhung load is measured at the center of the shaft extension. No overhung load is encountered when a 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.

Use the following formula to determine actual overhung load for a given drive:.

$$\textbf{Imperial OHL (lbs)} = \frac{126{,}000 \times HP \times K}{D \times n}$$

$$\textbf{Metric OHL (N)} = \frac{19{,}100 \times kW \times K}{D \times n}$$

Where:

OHL	Overhung load (N or lbs)
HP	Horsepower
kW	Transmitted Kilowatt
D	Pitch Diameter (inches or meters) of Sprocket, Gear, Sheave, Pulley, etc.
n	Maximum Shaft RPM
K	1.00 Single Chain Drive; 1.25 Timing Belt Drive; 1.25 Spur or Helical Gear Drive; 1.50 V-Belt Drive; 2.50 Flat Belt Drive

K Series Standard & Optional Output Flange Sizes

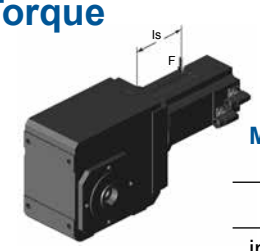
Base Module	Flange Size w/Solid Shaft Units	Flange Size w/Hollow Shaft Units
K1	140	160*
K2	160	200*
K3	160	200*
K4	250*	
K5	250*	
K6	300*	
K7	300	350*
K8	350 400* 450	
K9	450*	
K10	550*	

** This is the standard flange size shipped with the unit unless otherwise specified. Optional flanges are not available for all sizes.*

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

Permissible Motor Tilting Torque

The permissible tilting torque of the motor attached to the gear unit is a result of the static and dynamic load "F" from the motor weight, mass acceleration, and vibration multiplied by the distance from the center of gravity "l_s" of the motor.



$M_{1k} = F \times l_s \leq M_{1K}$

M_{1K}	MT10	MT20	MT30	MT40	MT50
Nm	25	60	125	250	600
in.lbs	221	531	1106	2212	5310

Permissible Output Shaft Load and Tilting Moments*

	V Solid Shaft Output [1]								A, S, W Hollow Output [2]					
	z_2		F_{2A}		F_{2R}		M_{2K}		z_2		F_{2A}		M_{2K}	
Unit	mm	in	N	lbs.	N	lbs.	Nm	in.lbs	mm	in	N	lbs.	Nm	in.lbs
KL102	18.5	0.728	250	56	1250	281	43	381	18.5	0.728	250	56	43	381
KL202	22	0.866	560	126	2800	630	118	1044	22	0.866	560	126	118	1044
K102/K103	40	1.57	1900	427	5000	1125	360	3186	40	1.57	1900	427	240	2124
K202/K203	42	1.65	2100	472	6000	1350	430	3805	42	1.65	2100	472	310	2744
K302/K303	45	1.77	2400	540	7000	1575	525	4646	45	1.77	2400	540	380	3363
K402/K403	52	2.05	3500	787	11,200	2520	1050	9292	52	2.05	3500	788	740	6549
K513/K514	72	2.83	3500	787	13,450	3026	1580	13,983	36	1.42	2500	563	1000	8850
K613/K614	72	2.83	4000	900	16,000	3600	1960	17,346	42	1.65	3000	675	1300	11,505
K713/K714	85	3.35	5500	1237	22,000	4950	3200	28,320	45	1.77	4100	923	2100	18,585
K813/K814	60	2.36	7250	1631	29,000	6525	3800	33,630	50	1.97	5300	1193	2600	23,010
K913/K914	87	3.43	16,500	3712	65,000	14,625	11,200	89,385	56	2.20	7000	1575	3600	31,860
K1013/K1014	84[3]	3.31	25,000	5625	80,000[3]	18,000	15,200	134,520	56	2.20	9000	2025	5000	44,250

** Refer to illustration and definitions below.*

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

[2] Values shown for "W" Style are for double bushings. For single bushings use value M_{2K} x 0.5 and F_{2A} x 0.5

[3] Solid Shaft unit with a Flange – z_2 value is 132mm/5.20"; F_{2R} value is 64,000N/14,400 lbs.

K/KL Series Load/Life/Speed Calculations

The permissible load and tilting moment values are based on an output speed of 20 RPM (K Series) or 100 RPM (KL Series). For higher speeds the following applies, where n_2 is the desired speed:

K Series

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

KL Series

$$F_{2AX} = \frac{F_{2A}}{\sqrt[3]{\frac{n_2}{100}}} \qquad F_{2RX} = \frac{F_{2R}}{\sqrt[3]{\frac{n_2}{100}}} \qquad M_{2KX} = \frac{M_{2K}}{\sqrt[3]{\frac{n_2}{100}}}$$

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

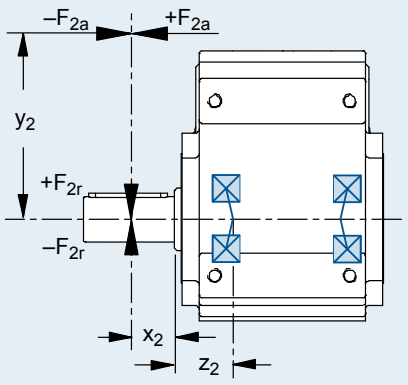
$$M_{2A} = \frac{2 \cdot F_{2a} \cdot y_2 + F_{2b} \cdot (x_2 + z_2)}{1000} \leq M_{2K}$$

Where:

F_{2a}	Axial Load at Output Shaft	M_{2K}	Rated Tilting Torque
F_{2A}	Permissible Axial Load	M_{2k}	Equivalent Tilting Load
F_{2r}	Radial Load at Output Shaft	M_{2KB}	Acceleration Tilting Torque
F_{2R}	Permissible Radial Load	z_2	Distance Factor
F_{2RB}	Acceleration Permissible Radial Load		

All formulas shown are based on METRIC values

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



Selection Data

Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia J_1 kgcm²	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ		Nm	in.lbs.
KL102		**Two Stage**												**Noise Level ≤ 59 dB(A) [3]**	
4.000	4/1	15	133	22	192	29	257	KL102_0040 MQ	3500	3500	5000	25	0.38	1.0	9
8.000	8/1	23	201	30	266	58	515	KL102_0080 MQ	3500	3500	5000	20	0.35	1.6	14
16.00	16/1	25	221	30	266	60	531	KL102_0160 MQ	4000	4000	6000	20	0.29	1.8	16
32.00	32/1	25	221	32	283	64	567	KL102_0320 MQ	4000	4000	6000	20	0.28	1.7	15
KL202		**Two Stage**												**Noise Level ≤ 65 dB(A) [4]**	
4.000	4/1	32	285	47	412	58	516	KL202_0040 MQ	3500	3500	5000	20	0.89	1.8	16
8.000	8/1	45	402	60	531	116	1031	KL202_0080 MQ	3500	3500	5000	16	0.77	3.5	31
16.00	16/1	50	443	60	531	120	1063	KL202_0160 MQ	4000	4000	6000	16	0.54	3.9	35
32.00	32/1	50	443	65	576	130	1152	KL202_0320 MQ	4000	4000	6000	16	0.52	3.2	28

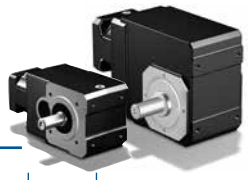
[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] dB)(A) measured at 1 meter distance with 3000 RPM input.
** Square motor adapter code (shaft diameter max - mm): For KL102 MQ (16), For KL202 MQ (19)*

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J_1 kgcm²	Nm	in.lbs.
K102		**Two Stage**													Noise Level ≤ 53 dB(A) [4]
4.000	4/1	42	368	42	368	52	460	K102_0040 MT10	3300	2800	4500	12/6	1.4	2.8	25
		58	512	78	693	98	866	K102_0040 MT20					2.0	2.9	
5.568	1520/273	58	512	58	512	72	640	K102_0056 MT10	3300	2800	4500	12/6	1.3	4.3	38
		65	572	109	965	136	1206	K102_0056 MT20					1.9	4.5	39
6.000	6/1	59	523	59	523	74	654	K102_0060 MT10	3300	2800	4500	12/6	1.1	3.4	30
		66	587	111	985	139	1231	K102_0060 MT20					1.7		
6.644	299/45	64	570	64	570	80	712	K102_0066 MT10	3600	3300	5000	12/6	1.0	3.5	31
		69	607	116	1025	151	1340	K102_0066 MT20	3500				1.6		
8.309	1911/230	74	654	77	684	97	855	K102_0083 MT10	3600	3300	5000	12/6	0.9	3.7	33
				125	1104	182	1611	K102_0083 MT20	3500				1.5		
9.249	1748/189	76	678	90	793	112	991	K102_0092 MT10	3600	3300	5000	12/6	0.9	5.2	46
				129	1145	211	1866	K102_0092 MT20	3500				1.5		
10.14	507/50	79	699	91	806	114	1008	K102_0100 MT10	4000	3800	5500	12/6	0.8	3.8	34
				125	1107	214	1898	K102_0100 MT20	3500	3500	5000		1.4		
11.57	266/23	82	730	108	952	134	1190	K102_0115 MT10	3600	3300	5000	12/6	0.8	5.4	48
				135	1196	240	2126	K102_0115 MT20	3500				1.4		
12.62	429/34	85	751	109	963	136	1204	K102_0125 MT10	4000	3800	5500	12/6	0.7	3.9	34
				125	1107	220	1949	K102_0125 MT20	3500	3500	5000		1.3		35
14.11	494/35	88	780	127	1122	158	1403	K102_0140 MT10	4000	3800	5500	12/6	0.8	5.5	49
				135	1196	240	2126	K102_0140 MT20	3500	3500	5000		1.4	5.6	
16.71	117/7	93	825	125	1107	172	1520	K102_0165 MT10	4000	4000	6000	12/6	0.7	4.0	35
								K102_0165 MT20	3500	3500	5000		1.3		
17.56	2090/119	95	839	135	1196	189	1676	K102_0175 MT10	4000	3800	5500	12/6	0.7	5.6	50
						240	2126	K102_0175 MT20	3500	3500	5000		1.3		
20.15	403/20	99	878	125	1107	199	1763	K102_0200 MT10	4000	4000	6000	12/6	0.7	4.0	35
								K102_0200 MT20	3500	3500	5000		1.3		
23.27	1140/49	104	921	135	1196	239	2115	K102_0230 MT10	4000	4000	6000	12/6	0.7	5.7	51
								K102_0230 MT20	3500	3500	5000		1.3		
25.22	1261/50	96	851	115	1021	192	1701	K102_0250 MT10	4000	4000	6000	12/6	0.6	4.0	36
								K102_0250 MT20	3500	3500	5000		1.2		
28.05	589/21	111	981	135	1196	240	2126	K102_0280 MT10	4000	4000	6000	12/6	0.7	5.7	51
								K102_0280 MT20	3500	3500	5000		1.3	5.8	
33.71	4719/140	73	647	88	776	146	1293	K102_0340 MT10	4000	4000	6000	12/6	0.6	4.0	36
35.11	3686/105	119	1057	135	1196	240	2126	K102_0350 MT10	4000	4000	6000	12/6	0.6	5.8	51
								K102_0350 MT20	3500	3500	5000		1.2		
40.30	403/10	61	544	74	653	96	846	K102_0400 MT10	4000	4000	6000	12/6	0.6	4.1	36
46.92	2299/49	102	900	122	1080	203	1800	K102_0470 MT10	4000	4000	6000	12/6	0.6	5.8	51
50.31	5031/100	50	442	60	531	100	885	K102_0500 MT10	4000	4000	6000	12/6	0.6	4.1	36
56.10	1178/21	86	758	103	909	133	1178	K102_0560 MT10	4000	4000	6000	12/6	0.6	5.8	51
70.03	2451/35	70	616	83	739	139	1232	K102_0700 MT10	4000	4000	6000	12/6	0.6	5.8	51

[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

Selection Data



Reducer Ratio (i)		Output Torque						Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Backlash (arcmins)	Input Inertia	Torsional Stiffness	
		Nominal [1] M_{2N} ≤ 2000 RPM		Acceleration M_{2B}		Peak [2] M_{2PEAK}			Continuous		Cyclic			C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J_1 kgcm²	Nm	in.lbs.
K202		**Two Stage (continued next page)**											**Noise Level ≤ 53 dB(A) [4]**		
		44	393	44	393	55	491	K202_0040 MT10					3.1	3.8	33
4.000	4/1	103	915	171	1512	245	2170	K202_0040 MT20	3000	2600	4000	10/5	3.7	3.9	35
		103	915	174	1546	245	2170	K202_0040 MT30					8.5	4.7	41
		48	421	48	421	59	526	K202_0044 MT10					2.7	4.1	36
4.364	48/11	106	942	180	1591	263	2327	K202_0044 MT20	3000	2600	4000	10/5	3.3	4.2	37
		106	942	180	1591	263	2327	K202_0044 MT30					8.1	4.9	43
5.177	2107/407	113	997	190	1684	308	2724	K202_0052 MT20	3000	2600	4000	10/5	2.9	4.7	42
								K202_0052 MT30					7.7	5.3	47
		65	579	65	579	82	724	K202_0060 MT10					2.3	5.8	51
6.000	6/1	118	1047	200	1769	361	3199	K202_0060 MT20	3000	2600	4000	10/5	2.9	5.9	53
		118	1047	200	1769	361	3199	K202_0060 MT30					7.7	6.6	59
		69	609	69	609	86	761	K202_0067 MT10			4500		1.7	5.2	46
6.683	2279/341	123	1086	207	1834	380	3364	K202_0067 MT20	3500	3100	4500	10/5	2.3	5.3	47
		123	1086	207	1834	380	3364	K202_0067 MT30			4000		7.1	5.8	51
7.118	2107/296	125	1109	211	1873	400	3543	K202_0071 MT20	3000	2600	4000	10/5	2.6	6.4	57
								K202_0071 MT30					7.4	7.0	62
		83	739	83	739	104	924	K202_0084 MT10			4500		1.4	5.7	50
8.397	2494/297	132	1171	220	1949	400	3543	K202_0084 MT20	3500	3100	4500	10/5	2.0	5.7	51
		132	1171	220	1949	400	3543	K202_0084 MT30			4000		6.8	6.1	54
		95	837	95	837	118	1046	K202_0092 MT10			4500		1.5	6.9	61
9.190	2279/248	136	1207	220	1949	400	3543	K202_0092 MT20	3500	3100	4500	10/5	2.1	7.0	62
		136	1207	220	1949	400	3543	K202_0092 MT30			4000		6.9	7.4	66
		97	855	97	855	121	1069	K202_0100 MT10	3900		5000		1.2	5.9	52
10.07	2881/286	141	1245	220	1949	400	3543	K202_0100 MT20	3500	3500	5000	10/5	1.8	6.0	53
		141	1245	220	1949	400	3543	K202_0100 MT30	3500		4000		6.6	6.2	55
		115	1016	115	1016	143	1270	K202_0115 MT10			4500		1.3	7.3	65
11.55	1247/108	147	1303	220	1949	400	3543	K202_0115 MT20	3500	3100	4500	10/5	1.9	7.4	66
		147	1303	220	1949	400	3543	K202_0115 MT30			4000		6.7	7.7	68
		117	1037	117	1037	146	1297	K202_0125 MT10	3900		5000		1.0	6.2	55
12.71	559/44	152	1345	220	1949	400	3543	K202_0125 MT20	3500	3500	5000	10/5	1.6	6.2	55
		152	1345	220	1949	400	3543	K202_0125 MT30	3500		4000		6.4	6.4	56
		133	1176	133	1176	166	1470	K202_0140 MT10	3900		5000		1.1	7.6	67
13.85	2881/208	156	1384	220	1949	400	3543	K202_0140 MT20	3500	3500	5000	10/5	1.7	7.6	67
		156	1384	220	1949	400	3543	K202_0140 MT30	3500		4000		6.5	7.8	69
		147	1302	147	1302	184	1627	K202_0170 MT10	4000	3900	5500		0.9	6.4	56
16.86	2967/176	167	1478	220	1949	400	3543	K202_0170 MT20	3500	3500	5000	10/5	1.5	6.4	57
		167	1478	220	1949	400	3543	K202_0170 MT30	3500	3500	4000		6.3	6.5	57
		161	1426	161	1426	201	1783	K202_0175 MT10	3900		5000		1.0	7.8	69
17.47	559/32	169	1495	220	1949	400	3543	K202_0175 MT20	3500	3500	5000	10/5	1.6	7.8	69
		169	1495	220	1949	400	3543	K202_0175 MT30	3500		4000		6.4	7.9	70

[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous EL 1,2,5,6	Maximum Input Speed RPM: Continuous EL 3,4	Maximum Input Speed RPM: Cyclic All	Backlash (arcmins) Δϕ	Input Inertia J_1 kgcm²	Torsional Stiffness C_2 (per arcmin) Nm	Torsional Stiffness C_2 (per arcmin) in.lbs.
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs								

K202 Two Stage (continued from previous page)

Noise Level ≤ 53 dB(A) [4]

		170	1504	170	1504	212	1880	K202_0200 MT10	4000	3900	5500		0.8	6.4	57
20.33	1118/55	178	1573	220	1949	400	3541	K202_0200 MT20	3500	3500	5000	10/5	1.4	6.5	57
		178	1573	220	1949	400	3541	K202_0200 MT30	3500	3500	4000		6.2	6.5	58
				202	1790	253	2237	K202_0230 MT10	4000	3900	5500		0.8	7.9	70
23.18	2967/128	186	1643	220	1949	400	3543	K202_0230 MT20	3500	3500	5000	10/5	1.4	7.9	70
				220	1949	400	3543	K202_0230 MT30	3500	3500	4000		6.2	8.0	71
				200	1775	250	2219	K202_0250 MT10	4000	3900	5500		0.7	6.5	
25.13	1935/77	191	1688	220	1949	400	3543	K202_0250 MT20	3500	3500	5000	10/5	1.3	6.5	58
				220	1949	400	3543	K202_0250 MT30	3500	3500	4000		6.1	6.6	
						292	2586	K202_0280 MT10	4000	3900	5500		0.8	8.0	
27.95	559/20	197	1749	220	1949	400	3543	K202_0280 MT20	3500	3500	5000	10/5	1.4	8.0	71
						400	3543	K202_0280 MT30	3500	3500	4000		6.2	8.1	
33.62	1849/55	154	1364	185	1637	308	2729	K202_0340 MT10	4000	3900	5500	10/5	0.7	6.6	58
								K202_0340 MT20	3500	3500	5000		1.3		
						344	3051	K202_0350 MT10	4000	3900	5500		0.7	8.0	71
34.55	1935/56	200	1772	220	1949	400	3543	K202_0350 MT20	3500	3500	5000	10/5	1.3	8.1	71
						400	3543	K202_0350 MT30	3500	3500	4000		6.1	8.1	72
40.39	1333/33	116	1023	139	1228	191	1690	K202_0400 MT10	4000	3900	5500	10/5	0.7	6.6	58
46.23	1849/40	200	1772	220	1949	400	3543	K202_0460 MT10	4000	3900	5500	10/5	0.7	8.1	72
								K202_0460 MT20	3500	3500	5000		1.3		
50.49	6665/132	96	853	116	1023	193	1705	K202_0500 MT10	4000	3900	5500	10/5	0.6	6.6	58
55.54	1333/24	159	1407	191	1688	262	2323	K202_0560 MT10	4000	3900	5500	10/5	0.7	8.1	72
69.43	6665/96	132	1172	159	1407	265	2345	K202_0690 MT10	4000	3900	5500	10/5	0.6	8.1	72

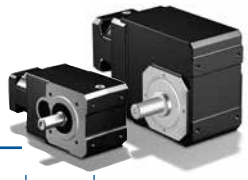
K203 Three Stage

Noise Level ≤ 53 dB(A) [4]

39.45	135,407/3432	162	1431	162	1431	202	1788	K203_0390 MT10	4000	3900	5500	10/6	0.7	6.6	58
45.22	58,609/1296	185	1640	185	1640	231	2050	K203_0450 MT10	4000	3900	5500	10/6	0.7	8.1	72
49.76	26,273/528	200	1772	204	1804	255	2256	K203_0500 MT10	4000	3900	5500	10/6	0.7	6.6	58
54.25	135,407/2496	200	1772	220	1949	278	2459	K203_0540 MT10	4000	3900	5500	10/6	0.7	8.1	72
66.03	46,483/704	200	1772	220	1949	338	2993	K203_0660 MT10	4000	3900	5500	10/6	0.7	6.6	59
68.42	26,273/384	200	1772	220	1949	350	3101	K203_0680 MT10	4000	3900	5500	10/6	0.7	8.1	72
79.62	26,273/330	200	1772	220	1949	400	3540	K203_0800 MT10	4000	3900	5500	10/6	0.7	6.6	59
90.79	46,483/512	200	1772	220	1949	400	3543	K203_0910 MT10	4000	3900	5500	10/6	0.7	8.1	72
109.5	26,273/240	200	1772	220	1949	400	3543	K203_1090 MT10	4000	3900	5500	10/6	0.7	8.1	72
135.3	30,315/224	200	1772	220	1949	400	3543	K203_1350 MT10	4000	3900	5500	10/6	0.7	8.1	72
181.0	86,903/480	200	1772	220	1949	400	3543	K203_1810 MT10	4000	3900	5500	10/6	0.7	8.1	72
217.5	62,651/288	159	1407	191	1688	262	2323	K203_2180 MT10	4000	3900	5500	10/6	0.6	8.1	72
271.9	313,255/1152	132	1172	159	1407	265	2345	K203_2720 MT10	4000	3900	5500	10/6	0.6	8.1	72

[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

Selection Data



Reducer Ratio (i)		Output Torque						Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Backlash (arcmins)	Input Inertia	Torsional Stiffness	
		Nominal [1] M_{2N} ≤ 2000 RPM		Acceleration M_{2B}		Peak [2] M_{2PEAK}			Continuous		Cyclic			C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J_1 kgcm²	Nm	in.lbs.
K302		**Two Stage (continued next page)**											Noise Level ≤ 53 dB(A) [4]		
4.000	4/1	155	1375	171	1512	253	2238	K302_0040 MT20	2700	2300	3800	10/4	6.4	4.5	40
		181	1602	306	2707	652	5772	K302_0040 MT30					11.2	5.5	49
4.364	48/11	169	1500	186	1650	273	2421	K302_0044 MT20	2700	2300	3800	10/4	5.7	4.9	43
		186	1650	315	2787	700	6201	K302_0044 MT30					10.5	5.8	52
5.375	43/8	200	1768	229	2032	326	2884	K302_0054 MT20	2700	2300	3800	10/4	4.5	5.7	51
				260	2307			K302_0054 MT30					9.3	6.5	58
6.000	6/1	207	1834	256	2268	376	3328	K302_0060 MT20	2700	2300	3800	10/4	4.8	6.7	59
				350	3099	700	6201	K302_0060 MT30					9.6	7.6	67
6.740	2150/319	215	1907	288	2548	397	3515	K302_0067 MT20	3200	2800	4200	10/4	3.5	6.5	57
				317	2812			K302_0067 MT30			4000		8.3	7.1	63
7.391	473/64	222	1966	315	2794	448	3965	K302_0074 MT20	2700	2300	3800	10/4	3.9	7.5	66
				358	3172			K302_0074 MT30					8.7	8.2	73
8.444	2322/275	232	2056	360	3192	479	4244	K302_0084 MT20	3200	2800	4200	10/4	2.8	7.1	63
				383	3395			K302_0084 MT30			4000		7.6	7.5	67
9.267	1075/116	239	2120	385	3410	546	4833	K302_0093 MT20	3200	2800	4200	10/4	3.2	8.2	72
								K302_0093 MT30			4000		8.0	8.7	77
10.14	3010/297	247	2185	385	3410	554	4911	K302_0100 MT20	3500	3100	5000	10/4	2.4	7.4	66
								K302_0100 MT30			4000		7.2	7.8	69
11.61	1161/100	258	2286	385	3410	659	5835	K302_0115 MT20	3200	2800	4200	10/4	2.6	8.6	77
								K302_0115 MT30			4000		7.4	9.0	80
12.58	3182/253	120	1059	120	1059	150	1324	K302_0125 MT10	3500	3100	5000	10/4	1.5	7.7	68
		265	2348	385	3410	661	5854	K302_0125 MT20			5000		2.1	7.8	69
		265	2348	385	3410	661	5854	K302_0125 MT30			4000		6.9	8.0	71
13.94	1505/108	274	2429	385	3410	700	6201	K302_0140 MT20	3500	3100	5000	10/4	2.3	8.9	79
								K302_0140 MT30			4000		7.1	9.2	81
16.94	559/33	152	1342	152	1342	189	1678	K302_0170 MT10	3800		5000	10/4	1.1	8.0	71
		293	2592	385	3410	700	6201	K302_0170 MT20	3500	3500	5000		1.7	8.1	71
		293	2592	385	3410	700	6201	K302_0170 MT30	3500		4000		6.5	8.2	73
17.29	1591/92	164	1457	164	1457	206	1821	K302_0175 MT10	3500	3100	5000	10/4	1.4	9.1	81
		295	2610	385	3410	700	6201	K302_0175 MT20			5000		2.0	9.2	81
		295	2610	385	3410	700	6201	K302_0175 MT30			4000		6.8	9.4	83
20.28	3569/176	176	1555	176	1555	219	1943	K302_0200 MT10	3800		5000	10/4	1.0	8.1	72
		311	2753	385	3410	700	6201	K302_0200 MT20	3500	3500	5000		1.6	8.2	72
		311	2753	385	3410	700	6201	K302_0200 MT30	3500		4000		6.4	8.3	73
23.29	559/24	208	1845	208	1845	260	2307	K302_0230 MT10	3800		5000	10/4	1.1	9.4	83
		325	2883	385	3410	700	6201	K302_0230 MT20	3500	3500	5000		1.7	9.4	83
		325	2883	385	3410	700	6201	K302_0230 MT30	3500		4000		6.5	9.5	84
25.26	3612/143	208	1839	208	1839	259	2298	K302_0250 MT10	3800		5000	10/4	0.9	8.2	73
		334	2962	385	3410	489	4328	K302_0250 MT20	3500	3500	5000		1.5	8.3	73
		334	2962	385	3410	489	4328	K302_0250 MT30	3500		4000		6.3	8.3	74
27.88	3569/128	241	2138	241	2138	302	2672	K302_0280 MT10	3800		5000	10/4	1.0	9.4	84
		346	3061	385	3410	700	6201	K302_0280 MT20	3500	3500	5000		1.6	9.5	84
		346	3061	385	3410	700	6201	K302_0280 MT30	3500		4000		6.4	9.5	85

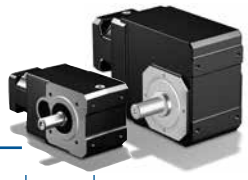
[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

Reducer Ratio (i)		Output Torque: Nominal [1] M2N ≤ 2000 RPM		Output Torque: Acceleration M2B		Output Torque: Peak [2] M2PEAK		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia	Torsional Stiffness C2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J1 kgcm²	Nm	in.lbs.
K302		**Two Stage (continued from previous page)**											Noise Level ≤ 53 dB(A) [4]		
				260	2299	324	2874	K302_0340 MT10	3800		5000		0.8	8.3	
33.62	1849/55	250	2217	300	2660	501	4434	K302_0340 MT20	3500	3500	5000	10/4	1.4	8.3	74
				300	2660	501	4434	K302_0340 MT30	3500		4000		6.2	8.4	
		285	2528	285	2528	357	3160	K302_0350 MT10	3800		5000		0.9	9.5	84
34.73	903/26	350	3100	385	3410	672	5951	K302_0350 MT20	3500	3500	5000	10/4	1.5	9.5	84
		350	3100	385	3410	672	5951	K302_0350 MT30	3500		4000		6.3	9.6	85
40.51	4902/121	193	1705	231	2046	376	3334	K302_0410 MT10	3800	3500	5000	10/4	0.7	8.4	74
								K302_0410 MT20	3500				1.3		
				357	3162	446	3952	K302_0460 MT10	3800		5000		0.8		
46.23	1849/40	344	3048	385	3410	688	6097	K302_0460 MT20	3500	3500	5000	10/4	1.4	9.6	85
				385	3410	688	6097	K302_0460 MT30	3500		4000		6.2		
50.49	6665/132	154	1364	185	1637	234	2072	K302_0500 MT10	3800	3500	5000	10/4	0.7	8.4	74
55.71	2451/44	265	2345	318	2814	517	4584	K302_0560 MT10	3800	3500	5000	10/4	0.7	9.6	85
								K302_0560 MT20	3500				1.3		
69.43	6665/96	212	1876	254	2251	322	2849	K302_0690 MT10	3800	3500	5000	10/4	0.7	9.6	85
K303		**Three Stage**											Noise Level ≤ 53 dB(A) [4]		
32.65	44,892/1375	350	3100	383	3394	479	4243	K303_0330 MT20	3500	3500	5000	10/5	1.5	8.3	74
35.83	215/6	350	3100	385	3410	546	4833	K303_0360 MT20	3500	3500	5000	10/5	1.5	9.5	85
39.19	34,916/891	350	3100	385	3410	554	4910	K303_0390 MT20	3500	3500	5000	10/5	1.4	8.4	74
44.89	11,223/250	350	3100	385	3410	659	5834	K303_0450 MT20	3500	3500	5000	10/5	1.4	9.6	85
49.26	74,777/1518	202	1786	202	1786	252	2233	K303_0490 MT10	3800	3500	5000	10/5	0.7	8.4	74
48.63	184,556/3795	350	3100	385	3410	661	5854	K303_0490 MT20	3500	3500	5000	10/5	1.4	8.4	74
53.88	8729/162	350	3100	385	3410	700	6201	K303_0540 MT20	3500	3500	5000	10/5	1.4	9.6	85
54.58	70,735/1296	223	1979	223	1979	279	2474	K303_0550 MT10	3800	3500	5000	10/5	0.7	9.6	85
65.50	32,422/495	350	3100	385	3410	700	6201	K303_0650 MT20	3500	3500	5000	10/5	1.4	8.4	75
66.35	26,273/396	272	2406	272	2406	340	3007	K303_0660 MT10	3800	3500	5000	10/5	0.7	8.4	75
66.87	46,139/690	350	3100	385	3410	700	6201	K303_0670 MT20	3500	3500	5000	10/5	1.4	9.6	85
67.73	74,777/1104	277	2456	277	2456	347	3070	K303_0680 MT10	3800	3500	5000	10/5	0.7	9.6	85
78.41	103,501/1320	350	3100	385	3410	700	6201	K303_0780 MT20	3500	3500	5000	10/5	1.4	8.4	75
79.42	167,743/2112	320	2832	325	2880	406	3600	K303_0790 MT10	3800	3500	5000	10/5	0.7	8.4	75
90.06	16,211/180	350	3100	385	3410	700	6201	K303_0900 MT20	3500	3500	5000	10/5	1.4	9.6	85
91.23	26,273/288	350	3100	373	3308	467	4135	K303_0910 MT10	3800	3500	5000	10/5	0.7	9.6	85
107.8	103,501/960	350	3100	385	3410	700	6201	K303_1080 MT20	3500	3500	5000	10/5	1.4	9.6	85
109.2	167,743/1536	350	3100	385	3410	559	4950	K303_1090 MT10	3800	3500	5000	10/5	0.7	9.6	85
134.3	8729/65	350	3100	385	3410	672	5950	K303_1340 MT20	3500	3500	5000	10/5	1.4	9.7	85
136.0	14,147/104	350	3100	385	3410	672	5950	K303_1360 MT10	3800	3500	5000	10/5	0.7	9.7	85
178.7	53,621/300	344	3048	385	3410	688	6097	K303_1790 MT20	3500	3500	5000	10/5	1.4	9.7	86
181.0	86,903/480	344	3048	385	3410	688	6097	K303_1810 MT10	3800	3500	5000	10/5	0.7	9.7	86
218.2	38,399/176	265	2345	318	2814	517	4583	K303_2180 MT10	3800	3500	5000	10/5	0.7	9.7	86
271.9	313,255/1152	212	1876	254	2251	322	2849	K303_2720 MT10	3800	3500	5000	10/5	0.7	9.7	86

[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

Selection Data



Reducer Ratio (i)		Output Torque						Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Backlash (arcmins)	Input Inertia	Torsional Stiffness	
		Nominal [1] M_{2N} ≤ 2000 RPM		Acceleration M_{2B}		Peak [2] M_{2PEAK}			Continuous		Cyclic			C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J_1 kgcm²	Nm	in.lbs.
K402		**Two Stage (continued next page)**											Noise Level ≤ 51 dB(A) [4]		
		155	1375	171	1512	261	2311	K402_0040 MT20					11.4	6.2	55
4.000	4/1	271	2405	405	3592	673	5960	K402_0040 MT30	2600	2200	3500	10/4	16.2	8.2	72
		271	2405	459	4062	673	5960	K402_0040 MT40					20.2	11.2	99
		169	1500	186	1650	283	2503	K402_0044 MT20					10.1	6.9	61
4.364	48/11	279	2475	442	3918	729	6456	K402_0044 MT30	2600	2200	3500	10/4	14.9	8.9	79
		279	2475	472	4182	729	6456	K402_0044 MT40					18.9	11.8	105
		210	1863	231	2050	341	3021	K402_0054 MT20					7.5	8.7	77
5.422	1849/341	300	2661	508	4496	880	7791	K402_0054 MT30	2600	2200	3500	10/4	12.3	10.7	95
		300	2661	508	4496	880	7791	K402_0054 MT40					16.3	13.2	117
		233	2062	256	2268	389	3442	K402_0060 MT20					8.4	10.4	92
6.000	6/1	311	2752	525	4650	1002	8877	K402_0060 MT30	2600	2200	3500	10/4	13.2	12.8	113
		311	2752	525	4650	1002	8877	K402_0060 MT40					17.2	15.7	139
		261	2309	287	2540	407	3605	K402_0067 MT20			4000		5.6	10.5	93
6.719	215/32	323	2858	545	4829	1050	9298	K402_0067 MT30	3000	2600	4000	10/4	10.4	12.2	108
		323	2858	545	4829	1050	9298	K402_0067 MT40			3500		14.4	14.3	127
		289	2563	318	2819	469	4154	K402_0075 MT20					6.4	12.5	111
7.456	1849/248	334	2959	564	4999	1100	9744	K402_0075 MT30	2600	2200	3500	10/4	11.2	14.6	129
		334	2959	564	4999	1100	9744	K402_0075 MT40					15.2	17.0	150
		325	2879	358	3167	491	4347	K402_0084 MT20			4000		4.3	12.1	107
8.377	645/77	347	3076	587	5197	1100	9744	K402_0084 MT30	3000	2600	4000	10/4	9.1	13.6	120
		347	3076	587	5197	1100	9744	K402_0084 MT40			3500		13.1	15.1	134
		358	3175	394	3493	560	4956	K402_0092 MT20			4000		4.9	14.4	128
9.238	2365/256	359	3178	600	5315	1100	9744	K402_0092 MT30	3000	2600	4000	10/4	9.7	16.1	143
		359	3178	600	5315	1100	9744	K402_0092 MT40			3500		13.7	17.9	159
				431	3818	569	5042	K402_0100 MT20	3400		4500		3.5	13.3	118
10.10	1333/132	370	3274	600	5315	1100	9744	K402_0100 MT30	3400	3000	4000	10/4	8.3	14.5	128
				600	5315	1100	9744	K402_0100 MT40	3000		3500		12.3	15.6	138
				492	4354	675	5977	K402_0115 MT20			4000		3.9	16.0	141
11.52	645/56	386	3421	600	5315	1100	9744	K402_0115 MT30	3000	2600	4000	10/4	8.7	17.3	153
				600	5315	1100	9744	K402_0115 MT40			3500		12.7	18.6	164
				540	4785	690	6113	K402_0125 MT20	3400		4500		2.8	14.4	127
12.66	2924/231	399	3530	600	5315	1100	9744	K402_0125 MT30	3400	3000	4000	10/4	7.6	15.2	135
				600	5315	1100	9744	K402_0125 MT40	3000		3500		11.6	16.1	142
				593	5249	783	6933	K402_0140 MT20	3400		4500		3.2	17.0	151
13.89	1333/96	411	3641	600	5315	1100	9744	K402_0140 MT30	3400	3000	4000	10/4	8.0	18.0	160
				600	5315	1100	9744	K402_0140 MT40	3000		3500		12.0	19.0	168
						867	7682	K402_0170 MT20	3500	3300	5000		2.2	15.4	136
16.94	559/33	432	3827	600	5315	1100	9744	K402_0170 MT30	3500	3300	4000	10/4	7.0	15.9	141
						1100	9744	K402_0170 MT40	3000	3000	3500		11.0	16.4	145

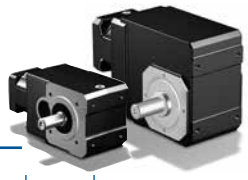
[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J_1 kgcm²	Nm	in.lbs.
K402		**Two Stage (continued from previous page)**											**Noise Level ≤ 51 dB(A) [4]**		
						949	8405	K402_0175 MT20	3400		4500		2.6	18.0	159
17.41	731/42	443	3926	600	5315	1100	9744	K402_0175 MT30	3400	3000	4000	10/4	7.4	18.7	165
						1100	9744	K402_0175 MT40	3000		3500		11.4	19.3	171
		447	3964					K402_0200 MT20	3500	3300	5000		1.9	15.8	140
20.20	1333/66	466	4125	600	5315	998	8842	K402_0200 MT30	3500	3300	4000	10/4	6.7	16.2	143
		466	4125					K402_0200 MT40	3000	3000	3500		10.7	16.5	147
								K402_0230 MT20	3500	3300	5000		2.1	18.8	166
23.29	559/24	488	4326	600	5315	1100	9744	K402_0230 MT30	3500	3300	4000	10/4	6.9	19.2	170
								K402_0230 MT40	3000	3000	3500		10.9	19.6	173
		460	4079					K402_0250 MT20	3500	3300	5000		1.7	16.2	143
25.28	4171/165	501	4434	600	5315	1001	8868	K402_0250 MT30	3500	3300	4000	10/4	6.5	16.4	146
		501	4434					K402_0250 MT40	3000	3000	3500		10.5	16.7	148
								K402_0280 MT20	3500	3300	5000		1.9	19.1	169
27.77	1333/48	518	4587	600	5315	1100	9744	K402_0280 MT30	3500	3300	4000	10/4	6.7	19.4	172
								K402_0280 MT40	3000	3000	3500		10.7	19.7	174
33.68	4816/143	389	3445	467	4134	634	5620	K402_0340 MT20	3500	3300	5000	10/4	1.5	16.5	146
								K402_0340 MT30			4000		6.3	16.6	147
								K402_0350 MT20	3500	3300	5000		1.7	19.4	172
34.76	4171/120	550	4872	600	5315	1100	9744	K402_0350 MT30	3500	3300	4000	10/4	6.5	19.6	173
								K402_0350 MT40	3000	3000	3500		10.5	19.7	175
40.51	4902/121	308	2729	370	3274	616	5457	K402_0410 MT20	3500	3300	5000	10/4	1.4	16.6	147
								K402_0410 MT30			4000		6.2	16.7	148
46.31	602/13	535	4737	600	5315	872	7728	K402_0460 MT20	3500	3300	5000	10/4	1.5	19.6	174
								K402_0460 MT30			4000		6.3	19.7	175
50.43	5547/110	270	2387	323	2865	459	4064	K402_0500 MT20	3500	3300	5000	10/4	1.4	16.7	148
55.71	2451/44	424	3752	508	4502	847	7504	K402_0560 MT20	3500	3300	5000	10/4	1.4	19.7	174
								K402_0560 MT30			4000		6.2	19.8	175
69.34	5547/80	371	3283	445	3939	631	5588	K402_0690 MT20	3500	3300	5000	10/4	1.3	19.8	175

[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

Selection Data



Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia J_1	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	kgcm²	Nm	in.lbs.
K403		**Three Stage**												Noise Level ≤ 51 dB(A) [4]	
32.39	2494/77	393	3477	393	3477	491	4346	K403_0320 MT20	3500	3300	5000	10/5	1.6	16.4	146
35.72	13,717/384	448	3965	448	3965	560	4956	K403_0360 MT20	3500	3300	5000	10/5	1.6	19.4	172
39.05	38,657/990	455	4033	455	4033	569	5042	K403_0390 MT20	3500	3300	5000	10/5	1.5	16.6	147
44.54	1247/28	540	4781	540	4781	675	5976	K403_0450 MT20	3500	3300	5000	10/5	1.5	19.6	173
48.94	169,592/3465	550	4872	552	4890	690	6112	K403_0490 MT20	3500	3300	5000	10/5	1.5	16.7	148
53.69	38,657/720	550	4872	600	5315	783	6932	K403_0540 MT20	3500	3300	5000	10/5	1.5	19.7	174
65.50	32,422/495	550	4872	600	5315	867	7681	K403_0650 MT20	3500	3300	5000	10/5	1.4	16.8	148
66.35	26,273/396	272	2406	272	2406	340	3007	K403_0660 MT10	3600	3300	5000	10/5	0.7	16.8	148
67.30	21,199/315	550	4872	600	5315	949	8404	K403_0670 MT20	3500	3300	5000	10/5	1.4	19.8	175
68.17	34,357/504	279	2472	279	2472	349	3090	K403_0680 MT10	3600	3300	5000	10/5	0.7	19.7	175
78.10	38,657/495	550	4872	600	5315	998	8842	K403_0780 MT20	3500	3300	5000	10/5	1.4	16.8	149
79.11	62,651/792	324	2869	324	2869	405	3586	K403_0790 MT10	3600	3300	5000	10/5	0.7	16.8	149
90.06	16,211/180	550	4872	600	5315	1100	9744	K403_0900 MT20	3500	3300	5000	10/5	1.4	19.8	176
91.23	26,273/288	373	3308	373	3308	467	4135	K403_0910 MT10	3600	3300	5000	10/5	0.7	19.8	176
107.4	38,657/360	550	4872	600	5315	1100	9744	K403_1070 MT20	3500	3300	5000	10/5	1.4	19.8	176
108.8	62,651/576	445	3944	445	3944	557	4930	K403_1090 MT10	3600	3300	5000	10/5	0.7	19.8	176
134.4	120,959/900	550	4872	600	5315	1100	9744	K403_1340 MT20	3500	3300	5000	10/5	1.4	19.9	176
136.1	196,037/1440	517	4581	557	4937	697	6171	K403_1360 MT10	3600	3300	5000	10/5	0.7	19.9	176
179.1	34,916/195	535	4737	600	5315	872	7727	K403_1790 MT20	3500	3300	5000	10/5	1.4	19.9	176
181.4	14,147/78	535	4737	600	5315	872	7727	K403_1810 MT10	3600	3300	5000	10/5	0.7	19.9	176
215.4	23,693/110	424	3752	508	4502	847	7504	K403_2150 MT20	3500	3300	5000	10/5	1.4	19.9	176
218.2	38,399/176	424	3752	508	4502	847	7504	K403_2180 MT10	3600	3300	5000	10/5	0.7	19.9	176
271.6	86,903/320	371	3283	445	3939	631	5587	K403_2720 MT10	3600	3300	5000	10/5	0.7	19.9	176

[1] Maximum torque for continuous input RPM - horizontal output position.

[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)

[3] Backlash shown standard/reduced

[4] dB)(A) measured at 1 meter distance with 2000 RPM input.

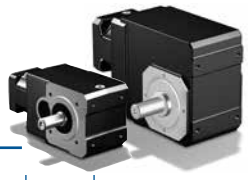
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J_1 kgcm²	Nm	in.lbs.
K513		**Three Stage**						**(continued next page)**					**Noise Level ≤ 61 dB(A) [4]**		
7.347	551/75	617	5461	734	6502	1258	11,147	K513_0073 MT30	1900	1800	3000	10/5	23.1	19.4	172
				1000	8858			K513_0073 MT40					27.1	24.0	213
8.134	17,081/2100	638	5649	813	7198	1393	12,341	K513_0081 MT30	1900	1800	3000	10/5	21.2	20.8	185
				1000	8858			K513_0081 MT40					25.2	25.0	222
9.168	1421/155	664	5879	916	8113	1523	13,494	K513_0092 MT30	1900	1800	3000	10/5	18.2	22.3	198
				1000	8858			K513_0092 MT40					22.2	26.0	230
10.15	203/20	687	6082	1000	8858	1686	14,939	K513_0100 MT30	1900	1800	3000	10/5	17.0	23.5	208
								K513_0100 MT40					21.0	26.7	237
11.57	10,759/930	717	6353	1000	8858	1800	15,944	K513_0115 MT30	2300	2200	3600	10/5	14.5	24.8	220
								K513_0115 MT40			3500		18.5	27.5	244
12.81	1537/120	742	6573	1000	8858	1800	15,944	K513_0130 MT30	2300	2200	3600	10/5	13.7	25.7	228
								K513_0130 MT40			3500		17.7	28.0	248
14.54	5887/405	556	4924	611	5416	867	7682	K513_0145 MT20	2300	2200	3600	10/5	7.2	24.7	219
		774	6856	1000	8858	1800	15,944	K513_0145 MT30			3600		12.0	26.6	236
		774	6856	1000	8858	1800	15,944	K513_0145 MT40			3500		16.0	28.6	253
16.09	26,071/1620	615	5451	677	5996	960	8505	K513_0160 MT20	2300	2200	3600	10/5	6.7	25.6	227
		801	7092	1000	8858	1800	15,944	K513_0160 MT30			3600		11.5	27.3	242
		801	7092	1000	8858	1800	15,944	K513_0160 MT40			3500		15.5	28.9	256
17.48	6293/360	668	5921	735	6513	1013	8970	K513_0175 MT20	2800	2500	4000	10/5	5.8	26.2	232
		823	7291	1000	8858	1800	15,944	K513_0175 MT30			4000		10.6	27.7	246
		823	7291	1000	8858	1800	15,944	K513_0175 MT40			3500		14.6	29.1	258
19.35	27,869/1440	740	6555	814	7211	1121	9931	K513_0195 MT20	2800	2500	4000	10/5	5.4	26.9	239
		851	7542	1000	8858	1800	15,944	K513_0195 MT30			4000		10.2	28.2	250
		851	7542	1000	8858	1800	15,944	K513_0195 MT40			3500		14.2	29.4	260
21.99	2639/120	800	7089	925	8194	1217	10,782	K513_0220 MT20	2800	2500	4000	10/5	4.4	27.7	245
		888	7870	1000	8858	1800	15,944	K513_0220 MT30			4000		9.2	28.7	254
		888	7870	1000	8858	1800	15,944	K513_0220 MT40			3500		13.2	29.6	263
24.35	11,687/480	886	7849			1348	11,937	K513_0240 MT20	2800	2500	4000	10/5	4.2	28.2	249
		900	7972	1000	8858	1800	15,944	K513_0240 MT30			4000		9.0	29.0	257
		900	7972			1800	15,944	K513_0240 MT40			3500		13.0	29.8	264
29.18	4669/160	850	7525			1527	13,530	K513_0290 MT20	3400		4500	10/5	3.3	28.8	256
		900	7972	1000	8858	1800	15,944	K513_0290 MT30	3400	3000	4000		8.1	29.5	261
		900	7972			1800	15,944	K513_0290 MT40	3000		3500		12.1	30.0	266
32.31	20,677/640					1691	14,980	K513_0320 MT20	3400		4500	10/5	3.2	29.1	258
		900	7972	1000	8858	1800	15,944	K513_0320 MT30	3400	3000	4000		8.0	29.7	263
						1800	15,944	K513_0320 MT40	3000		3500		12.0	30.1	267
34.80	174/5	886	7852					K513_0350 MT20	3400		4500	10/5	2.8	29.3	260
		900	7972	1000	8858	1762	15,606	K513_0350 MT30	3400	3000	4000		7.6	29.8	264
		900	7972					K513_0350 MT40	3000		3500		11.6	30.2	267

[1] *Maximum torque for continuous input RPM - horizontal output position.*
[2] *Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)*
[3] *Backlash shown standard/reduced*
[4] *dB)(A) measured at 1 meter distance with 2000 RPM input.*
* *Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

Selection Data



Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Acceleration M_{2B}		Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Cyclic	Backlash (arcmins)	Input Inertia J_1	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	kgcm²	Nm	in.lbs.
K513		**Three Stage**						**(continued from previous page)**					**Noise Level ≤ 61 dB(A) [4]**		
								K513_0390 MT20	3400		4500		2.7	29.5	262
38.53	2697/70	900	7972	1000	8858	1800	15,944	K513_0390 MT30	3400	3000	4000	10/5	7.5	29.9	265
								K513_0390 MT40	3000		3500		11.5	30.2	268
								K513_0440 MT20	3400		4500		2.3	29.8	264
43.50	87/2	900	7972	1000	8858	1,800	15,944	K513_0440 MT30	3400	3000	4000	10/5	7.1	30.1	266
								K513_0440 MT40	3000		3500		11.1	30.3	268
								K513_0480 MT20	3400		4500		2.2	29.9	265
48.16	2697/56	900	7972	1000	8858	1,800	15,944	K513_0480 MT30	3400	3000	4000	10/5	7.0	30.1	267
								K513_0480 MT40	3000		3500		11.0	30.3	269
								K513_0580 MT20	3400		4500		1.9	30.1	267
58.30	11,368/195	900	7972	1000	8858	1,800	15,944	K513_0580 MT30	3400	3000	4000	10/5	6.7	30.3	268
								K513_0580 MT40	3000		3500		10.7	30.4	269
								K513_0650 MT20	3400		4500		1.8	30.2	267
64.54	12,586/195	900	7972	1000	8858	1,800	15,944	K513_0650 MT30	3400	3000	4000	10/5	6.6	30.3	269
								K513_0650 MT40	3000		3500		10.6	30.4	270
70.08	841/12	821	7268	985	8722	1,291	11,440	K513_0700 MT20	3400	3000	4500	10/5	1.7	30.2	268
								K513_0700 MT30			4000		6.5	30.3	269
77.59	26,071/336	900	7972	1000	8858	1,430	12,666	K513_0780 MT20	3400	3000	4500	10/5	1.7	30.3	268
								K513_0780 MT30			4000		6.5	30.4	269
87.29	8729/100	689	6105	827	7326	1,378	12,211	K513_0870 MT20	3400	3000	4500	10/5	1.5	30.3	269
								K513_0870 MT30			4000		6.3	30.4	
96.64	38,657/400	763	6761	916	8113	1,527	13,522	K513_0970 MT20	3400	3000	4500	10/5	1.5	30.4	269
								K513_0970 MT30			4000		6.3		270
K514		**Four Stage**											**Noise Level ≤ 61 dB(A) [4]**		
85.03	76,531/900	900	7972	974	8625	1,217	10,781	K514_0850 MT20	3400	3000	4500	10/6	1.6	30.3	269
94.15	338,923/3600	900	7972	1000	8858	1,347	11,936	K514_0940 MT20	3400	3000	4500	10/6	1.6	30.4	269
112.8	135,401/1200	900	7972	1000	8858	1,527	13,529	K514_1130 MT20	3400	3000	4500	10/6	1.5	30.4	269
124.9	599,633/4800	900	7972	1000	8858	1,691	14,979	K514_1250 MT20	3400	3000	4500	10/6	1.5	30.4	270
134.6	3364/25	900	7972	1000	8858	1,762	15,604	K514_1350 MT20	3400	3000	4500	10/6	1.5	30.5	270
149.0	26,071/175	900	7972	1000	8858	1,800	15,944	K514_1490 MT20	3400	3000	4500	10/6	1.5	30.5	270
168.2	841/5	900	7972	1000	8858	1,800	15,944	K514_1680 MT20	3400	3000	4500	10/6	1.4	30.5	270
186.2	26,071/140	900	7972	1000	8858	1,800	15,944	K514_1860 MT20	3400	3000	4500	10/6	1.4	30.5	270
225.4	659,344/2925	900	7972	1000	8858	1,800	15,944	K514_2250 MT20	3400	3000	4500	10/6	1.4	30.5	270
249.6	729,988/2925	900	7972	1000	8858	1,800	15,944	K514_2500 MT20	3400	3000	4500	10/6	1.4	30.5	270
271.0	24,389/90	821	7268	985	8722	1,291	11,439	K514_2710 MT20	3400	3000	4500	10/6	1.4	30.5	270
300.0	756,059/2520	900	7972	1000	8858	1,430	12,665	K514_3000 MT20	3400	3000	4500	10/6	1.4	30.5	270
337.5	253,141/750	689	6105	827	7326	1,378	12,211	K514_3380 MT20	3400	3000	4500	10/6	1.4	30.5	270
373.7	1,121,053/3000	763	6761	916	8113	1,527	13,522	K514_3740 MT20	3400	3000	4500	10/6	1.4	30.5	270

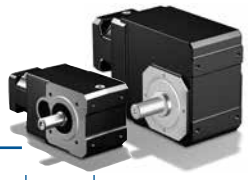
[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J_1 kgcm²	Nm	in.lbs.
K613		**Three Stage**		**(continued next page)**									**Noise Level ≤ 61 dB(A) [4]**		
		665	5891	732	6480	1,296	11,477	K613_0073 MT30					37.9	24.4	216
7.323	19,215/2624	814	7208	1037	9182	1,296	11,477	K613_0073 MT40	1800	1700	2900	10/5	41.9	32.2	285
		814	7208	1375	12,178	2,476	21,932	K613_0073 MT50					51.9	39.9	354
		736	6522	810	7174	1,434	12,706	K613_0081 MT30					34.8	26.6	236
8.107	85,095/10,496	842	7457	1148	10,165	1,434	12,706	K613_0081 MT40	1800	1700	2900	10/5	38.8	33.9	301
		842	7457	1422	12,597	2,741	24,280	K613_0081 MT50					48.8	40.8	361
		825	7306	907	8036	1561	13,823	K613_0091 MT30			2900		28.8	29.0	257
9.081	20,923/2304	874	7744	1248	11,059	1561	13,823	K613_0091 MT40	1800	1700		10/5	32.8	35.7	317
		874	7744	1477	13,083	2900	25,688	K613_0091 MT50					42.8	41.6	369
				1004	8897	1728	15,305	K613_0100 MT30			2900		26.8	31.1	275
10.05	92,659/9216	904	8012	1382	12,244	1728	15,305	K613_0100 MT40	1800	1700		10/5	30.8	37.2	329
				1528	13,534	2900	25,688	K613_0100 MT50					40.8	42.2	374
				1140	10,094	1895	16,789	K613_0115 MT30			3200		22.1	33.4	296
11.41	22,631/1984	943	8356	1516	13,431	1895	16,789	K613_0115 MT40	2200	2000	3200	10/5	26.1	38.7	343
				1516	13,431	1895	16,789	K613_0115 MT50			3000		36.1	42.8	379
				1262	11,176			K613_0125 MT30			3200		20.9	35.1	311
12.63	3233/256	976	8644	1600	14,173	2098	18,588	K613_0125 MT40	2200	2000	3200	10/5	24.9	39.7	352
				1600	14,173			K613_0125 MT50			3000		34.9	43.2	383
				1432	12,683			K613_0145 MT30			3200		17.4	36.9	327
14.33	12,383/864	1018	9017	1600	14,173	2301	20,378	K613_0145 MT40	2200	2000	3200	10/5	21.4	40.8	361
				1600	14,173			K613_0145 MT50			3000		31.4	43.6	386
				1585	14,042			K613_0160 MT30			3200		16.6	38.2	338
15.87	54,839/3456	1053	9328	1600	14,173	2547	22,562	K613_0160 MT40	2200	2000	3200	10/5	20.6	41.5	368
				1600	14,173			K613_0160 MT50			3000		30.6	43.9	389
		656	5811	722	6392	1029	9119	K613_0170 MT20	2600		3600		9.7	36.0	319
17.16	549/32	1081	9574	1600	14,173	2655	23,519	K613_0170 MT30	2600	2300	3600	10/5	14.5	39.0	346
		1081	9574	1600	14,173	2655	23,519	K613_0170 MT40	2600		3500		18.5	42.0	372
		1081	9574	1600	14,173	2655	23,519	K613_0170 MT50	2500		3000		28.5	44.1	390
		726	6434	799	7077	1140	10,095	K613_0190 MT20	2600		3600		9.2	37.4	331
18.99	17,019/896	1118	9904	1600	14,173	2900	25,688	K613_0190 MT30	2600	2300	3600	10/5	14.0	40.0	355
		1118	9904	1600	14,173	2900	25,688	K613_0190 MT40	2600		3500		18.0	42.5	377
		1118	9904	1600	14,173	2900	25,688	K613_0190 MT50	2500		3000		28.0	44.2	392
		829	7345	912	8080	1252	11,090	K613_0220 MT20	2600		3600		7.3	39.0	345
21.68	5551/256	1169	10,351	1600	14,173	2900	25,688	K613_0220 MT30	2600	2300	3600	10/5	12.1	41.1	364
		1169	10,351	1600	14,173	2900	25,688	K613_0220 MT40	2600		3500		16.1	43.1	382
		1169	10,351	1600	14,173	2900	25,688	K613_0220 MT50	2500		3000		26.1	44.4	394
		918	8132	1010	8945	1386	12,278	K613_0240 MT20	2600		3600		6.9	40.0	354
24.01	24583/1024	1209	10,708	1600	14,173	2900	25,688	K613_0240 MT30	2600	2300	3600	10/5	11.7	41.8	370
		1209	10,708	1600	14,173	2900	25,688	K613_0240 MT40	2600		3500		15.7	43.5	385
		1209	10,708	1600	14,173	2900	25,688	K613_0240 MT50	2500		3000		25.7	44.6	395

[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

Selection Data



K613 Three Stage (continued from previous page)

Noise Level ≤ 61 dB(A) [4]

Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia J_1	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	kgcm²	Nm	in.lbs.
28.77	29463/1024	992	8786	1210	10,721	1571	13,916	K613_0290 MT20	3100	2800	4000	10/5	5.1	41.4	367
		1284	11,374	1600	14,173	2900	25,688	K613_0290 MT30	3100	2800	4000		9.9	42.7	379
		1284	11,374	1600	14,173	2900	25,688	K613_0290 MT40	3000	2800	3500		13.9	43.9	389
		1284	11,374	1600	14,173	2900	25,688	K613_0290 MT50	2500	2500	3000		23.9	44.7	396
31.86	130,479/4096	1098	9727	1340	11,869	1739	15,407	K613_0320 MT20	3100	2800	4000	10/5	4.9	42.0	372
		1328	11,767	1600	14,173	2900	25,688	K613_0320 MT30	3100	2800	4000		9.7	43.2	382
		1328	11,767	1600	14,173	2900	25,688	K613_0320 MT40	3000	2800	3500		13.7	44.2	391
		1328	11,767	1600	14,173	2900	25,688	K613_0320 MT50	2500	2500	3000		23.7	44.8	397
34.61	35,441/1024	1008	8925	1449	12,838	1812	16,048	K613_0350 MT20	3100	2800	4000	10/5	4.1	42.5	376
		1366	12,097	1600	14,173	2900	25,688	K613_0350 MT30	3100	2800	4000		8.9	43.4	385
		1366	12,097	1600	14,173	2900	25,688	K613_0350 MT40	3000	2800	3500		12.9	44.3	392
		1366	12,097	1600	14,173	2900	25,688	K613_0350 MT50	2500	2500	3000		22.9	44.8	397
38.32	156,953/4096	1116	9882	1600	14,173	2006	17,767	K613_0380 MT20	3100	2800	4000	10/5	3.9	42.9	380
		1413	12,514			2900	25,688	K613_0380 MT30	3100	2800	4000		8.7	43.7	387
		1413	12,514			2900	25,688	K613_0380 MT40	3000	2800	3500		12.7	44.4	394
		1413	12,514			2900	25,688	K613_0380 MT50	2500	2500	3000		22.7	44.9	398
43.11	8967/208	1035	9168	1600	14,173	2150	19,048	K613_0430 MT20	3100		4000	10/5	3.2	43.4	384
		1450	12,844					K613_0430 MT30	3100	2800	4000		8.0	44.0	390
		1450	12,844					K613_0430 MT40	3000		3500		12.0	44.6	395
47.73	39,711/832	1146	10,150	1600	14,173	2381	21,089	K613_0480 MT20	3100		4000	10/5	3.1	43.7	387
		1450	12,844					K613_0480 MT30	3100	2800	4000		7.9	44.2	392
		1450	12,844					K613_0480 MT40	3000		3500		11.9	44.7	396
57.55	29,463/512	1077	9542	1600	14,173	2697	23,893	K613_0580 MT20	3100		4000	10/5	2.4	44.1	391
		1450	12,844					K613_0580 MT30	3100	2800	4000		7.2	44.5	394
		1450	12,844					K613_0580 MT40	3000		3500		11.2	44.8	397
63.71	130,479/2048	1193	10,565	1600	14,173	2900	25,688	K613_0640 MT20	3100		4000	10/5	2.4	44.3	392
		1450	12,844					K613_0640 MT30	3100	2800	4000		7.2	44.6	395
		1450	12,844					K613_0640 MT40	3000		3500		11.2	44.9	397
68.77	28,609/416	1101	9750	1577	13,967	2628	23,278	K613_0690 MT20			4000	10/5	2.1	44.4	393
		1314	11,639					K613_0690 MT30	3100	2800	4000		6.9	44.7	396
		1314	11,639					K613_0690 MT40			3500		10.9	44.9	398
76.14	126,697/1664	1219	10,794	1600	14,173	2900	25,688	K613_0760 MT20	3100		4000	10/5	2.0	44.5	394
		1450	12,844					K613_0760 MT30	3100	2800	4000		6.8	44.7	396
		1450	12,844					K613_0760 MT40	3000		3500		10.8	44.9	398
86.18	66,185/768	971	8600	1165	10,320	1568	13,893	K613_0860 MT20	3100	2800	4000	10/5	1.8	44.6	395
								K613_0860 MT30					6.6	44.8	397
95.41	293,105/3072	1075	9524	1290	11,429	1736	15,382	K613_0950 MT20	3100	2800	4000	10/5	1.8	44.7	396
								K613_0950 MT30					6.6	44.9	397

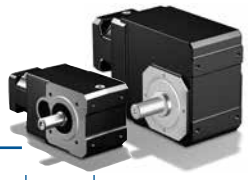
[1] *Maximum torque for continuous input RPM - horizontal output position.*
[2] *Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)*
[3] *Backlash shown standard/reduced*
[4] *dB)(A) measured at 1 meter distance with 2000 RPM input.*
* *Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J_1 kgcm²	Nm	in.lbs.
K614		**Four Stage**												Noise Level ≤ 61 dB(A) [4]	
83.84	160,979/1920	1001	8871	1001	8871	1252	11,088	K614_0840 MT20	3100	2800	4000	10/6	1.8	44.6	395
92.83	712,907/7680	1109	9821	1109	9821	1386	12,277	K614_0930 MT20	3100	2800	4000	10/6	1.7	44.7	396
111.3	284,809/2560	1257	11,132	1257	11,132	1571	13,915	K614_1110 MT20	3100	2800	4000	10/6	1.6	44.8	397
123.2	1,261,297/10,240	1391	12,325	1391	12,325	1739	15,406	K614_1230 MT20	3100	2800	4000	10/6	1.6	44.9	397
133.8	1,027,789/7680	1449	12,837	1449	12,837	1812	16,046	K614_1340 MT20	3100	2800	4000	10/6	1.6	44.9	398
148.2	4,551,637/30,720	1450	12,844	1600	14,173	2006	17,766	K614_1480 MT20	3100	2800	4000	10/6	1.5	44.9	398
166.7	86,681/520	1450	12,844	1600	14,173	2150	19,047	K614_1670 MT20	3100	2800	4000	10/6	1.5	45.0	398
184.6	383,873/2080	1450	12,844	1600	14,173	2381	21,087	K614_1850 MT20	3100	2800	4000	10/6	1.5	45.0	399
222.5	284,809/1280	1450	12,844	1600	14,173	2697	23,891	K614_2230 MT20	3100	2800	4000	10/6	1.4	45.0	399
246.3	1,261,297/5120	1450	12,844	1600	14,173	2900	25,688	K614_2460 MT20	3100	2800	4000	10/6	1.4	45.0	399
265.9	829,661/3120	1314	11,639	1577	13,967	2628	23,278	K614_2660 MT20	3100	2800	4000	10/6	1.4	45.0	399
294.4	3,674,213/12,480	1450	12,844	1600	14,173	2900	25,688	K614_2940 MT20	3100	2800	4000	10/6	1.4	45.1	399
333.2	383,873/1152	971	8600	1165	10,320	1568	13,892	K614_3330 MT20	3100	2800	4000	10/6	1.4	45.1	399
368.9	1,700,009/4608	1075	9524	1290	11,429	1736	15,380	K614_3690 MT20	3100	2800	4000	10/6	1.4	45.1	399

[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

Selection Data



Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia J_1	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	kgcm²	Nm	in.lbs.
K713		**Three Stage**		**(continued next page)**								**Noise Level ≤ 59 dB(A) [4]**			
		687	6084	756	6693	1374	12,169	**K713_0076 MT30**					71.2	33.4	295
7.563	19,845/2624	1111	9837	1111	9837	1388	12,297	**K713_0076 MT40**	1700	1600	2700	10/5	75.2	48.3	428
		1346	11,924	2122	18,798	2653	23,498	**K713_0076 MT50**					85.2	66.7	590
		760	6736	836	7410	1521	13,472	**K713_0084 MT30**					66.3	37.4	331
8.373	87,885/10,496	1230	10,891	1230	10,891	1537	13,614	**K713_0084 MT40**	1700	1600	2700	10/5	70.3	52.2	463
		1393	12,336	2349	20,812	2937	26,014	**K713_0084 MT50**					80.3	68.9	611
		834	7392	918	8131	1639	14,515	**K713_0092 MT30**					54.4	41.2	365
9.188	147/16	1311	11,612	1311	11,612	1639	14,515	**K713_0092 MT40**	1700	1600	2700	10/5	58.4	55.6	492
		1436	12,724	2427	21,495	3131	27,736	**K713_0092 MT50**					68.4	70.7	627
		924	8183	1016	9002	1814	16,069	**K713_0100 MT30**					51.2	45.3	401
10.17	651/64	1451	12,855	1451	12,855	1814	16,069	**K713_0100 MT40**	1700	1600	2700	10/5	55.2	59.0	523
		1486	13,163	2510	22,237	3467	30,706	**K713_0100 MT50**					65.2	72.4	642
		1070	9478	1177	10,425	2024	17,928	**K713_0120 MT30**					39.2	51.0	452
11.78	23,373/1984	1561	13,823	1619	14,342	2024	17,928	**K713_0120 MT40**	2000	1900	3000	10/5	43.2	63.4	562
		1561	13,823	2600	23,031	3868	34,258	**K713_0120 MT50**					53.2	74.5	660
		1185	10,493	1303	11,542	2241	19,849	**K713_0130 MT30**					37.2	54.8	485
13.04	3339/256	1614	14,300	1793	15,879	2241	19,849	**K713_0130 MT40**	2000	1900	3000	10/5	41.2	66.1	585
		1614	14,300	2600	23,031	4282	37,928	**K713_0130 MT50**					51.2	75.6	670
		1344	11,908	1479	13,099	2457	21,761	**K713_0150 MT30**					29.8	59.1	523
14.80	1421/96	1684	14,916	1965	17,409	2457	21,761	**K713_0150 MT40**	2000	1900	3000	10/5	33.8	68.9	611
		1684	14,916	2600	23,031	4694	41,582	**K713_0150 MT50**					43.8	76.8	680
		1488	13,184	1637	14,502	2720	24,092	**K713_0165 MT30**					28.5	62.2	551
16.39	6293/384	1742	15,431	2176	19,274	2720	24,092	**K713_0165 MT40**	2000	1900	3000	10/5	32.5	70.9	628
		1742	15,431	2600	23,031	4800	42,518	**K713_0165 MT50**					42.5	77.6	687
		1660	14,702	1826	16,172	2914	25,811	**K713_0185 MT30**			3400	10/5	23.8	65.2	577
18.28	26,901/1472	1806	16,001	2331	20,649	2914	25,811	**K713_0185 MT40**	2400	2200	3400		27.8	72.7	644
		1806	16,001	2600	23,031	4800	42,518	**K713_0185 MT50**			3000		37.8	78.2	693
		1838	16,277	2021	17,905	3226	28,576	**K713_0200 MT30**			3400		23.0	67.6	599
20.23	119,133/5888	1869	16,554	2581	22,861	3226	28,576	**K713_0200 MT40**	2400	2200	3400	10/5	27.0	74.1	657
		1869	16,554	2600	23,031	4800	42,518	**K713_0200 MT50**			3000		37.0	78.8	698
		1828	16,193	2272	20,122	3476	30,795	**K713_0230 MT30**			3400		18.8	70.1	621
22.74	14,553/640	1943	17,211	2600	23,031	3476	30,795	**K713_0230 MT40**	2400	2200	3400	10/5	22.8	75.5	669
		1943	17,211	2600	23,031	4800	42,518	**K713_0230 MT50**			3000		32.8	79.3	702
				2515	22,278	3849	34,094	**K713_0250 MT30**			3400		18.2	71.9	637
25.18	64,449/2560	2010	17,804	2600	23,031	3849	34,094	**K713_0250 MT40**	2400	2200	3400	10/5	22.2	76.5	677
				2600	23,031	4800	42,518	**K713_0250 MT50**			3000		32.2	79.6	705
		1937	17,161			4264	37,773	**K713_0290 MT30**	2900	2600	3800		14.5	74.1	656
29.29	7497/256	2114	18,725	2600	23,031	4264	37,773	**K713_0290 MT40**	2900	2600	3500	10/5	18.5	77.6	688
		2114	18,725			4800	42,518	**K713_0290 MT50**	2500	2500	3000		28.5	80.0	709

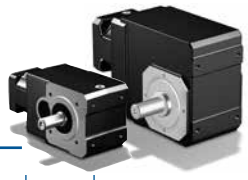
[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J_1 kgcm²	Nm	in.lbs.
K713		**Three Stage**						**(continued from previous page)**					**Noise Level ≤ 59 dB(A) [4]**		
		2145	19,000			4721	41,821	K713_0320 MT30	2900	2600	3800		14.2	75.3	667
32.42	33,201/1024	2187	19,371	2600	23,031	4721	41,821	K713_0320 MT40	2900	2600	3500	10/5	18.2	78.3	693
		2187	19,371			4800	42,518	K713_0320 MT50	2500	2500	3000		28.2	80.2	711
		1994	17,666					K713_0350 MT30	2900	2600	3800		12.2	76.2	675
35.44	567/16	2253	19,954	2600	23,031	4800	42,518	K713_0350 MT40	2900	2600	3500	10/5	16.2	78.7	697
		2253	19,954					K713_0350 MT50	2500	2500	3000		26.2	80.4	712
		2208	19,558					K713_0390 MT30	2900	2600	3800		12.0	77.1	683
39.23	2511/64	2330	20,642	2600	23,031	4800	42,518	K713_0390 MT40	2900	2600	3500	10/5	16.0	79.2	701
		2330	20,642					K713_0390 MT50	2500	2500	3000		26.0	80.5	713
		2060	18,248					K713_0450 MT30	2900	2600	3800		10.2	78.0	691
45.05	37,485/832	2400	21,259	2600	23,031	4800	42,518	K713_0450 MT40	2900	2600	3500	10/5	14.2	79.6	705
		2400	21,259					K713_0450 MT50	2500	2500	3000		24.2	80.7	715
		2281	20,203					K713_0500 MT30	2900	2600	3800		10.1	78.6	696
49.88	166,005/3328	2400	21,259	2600	23,031	4800	42,518	K713_0500 MT40	2900	2600	3500	10/5	14.1	79.9	708
		2400	21,259					K713_0500 MT50	2500	2500	3000		24.1	80.8	715
		2148	19,023					K713_0590 MT30	2900	2600	3800		8.7	79.3	702
58.57	7497/128	2400	21,259	2600	23,031	4800	42,518	K713_0590 MT40	2900	2600	3500	10/5	12.7	80.3	711
		2400	21,259					K713_0590 MT50	2500	2500	3000		22.7	80.9	716
		2378	21,061					K713_0650 MT30	2900	2600	3800		8.6	79.6	705
64.85	33,201/512	2400	21,259	2600	23,031	4800	42,518	K713_0650 MT40	2900	2600	3500	10/5	12.6	80.4	712
		2400	21,259					K713_0650 MT50	2500	2500	3000		22.6	80.9	717
71.20	4557/64	2173	19,244	2600	23,031	3314	29,355	K713_0710 MT30	2900	2600	3800	10/5	7.9	79.9	707
								K713_0710 MT40			3500		11.9	80.5	713
78.83	20,181/256	2400	21,259	2600	23,031	3669	32,500	K713_0790 MT30	2900	2600	3800	10/5	7.8	80.1	710
								K713_0790 MT40			3500		11.8	80.7	714
89.00	22,785/256	1671	14,803	2005	17,764	3342	29,607	K713_0890 MT30	2900	2600	3800	10/5	7.3	80.3	712
								K713_0890 MT40			3500		11.3	80.8	715
98.54	100,905/1024	1851	16,394	2221	19,672	3701	32,787	K713_0990 MT30	2900	2600	3800	10/5	7.2	80.5	713
								K713_0990 MT40			3500		11.2	80.8	716

[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

Selection Data



Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia J_1	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	kgcm²	Nm	in.lbs.
K714		**Four Stage**												Noise Level ≤ 59 dB(A) [4]	
89.06	227,997/2560	2400	21,259	2600	23,031	3476	30,792	K714_0890 MT30	2900	2600	3800	10/6	7.3	80.3	712
98.60	1,009,701/10,240	2400	21,259	2600	23,031	3849	34,091	K714_0990 MT30	2900	2600	3800	10/6	7.2	80.5	713
113.2	72,471/640	1323	11,715	1323	11,715	1653	14,644	K714_1130 MT20	2900	2600	3800	10/6	1.9	80.3	712
114.7	117,453/1024	2400	21,259	2600	23,031	4264	37,770	K714_1150 MT30	2900	2600	3800	10/6	7.0	80.7	714
125.4	320,943/2560	1464	12,970	1464	12,970	1830	16,213	K714_1250 MT20	2900	2600	3800	10/6	1.9	80.5	713
127.0	520,149/4096	2400	21,259	2600	23,031	4721	41,817	K714_1270 MT30	2900	2600	3800	10/6	7.0	80.8	715
137.0	5481/40	1537	13,615	1537	13,615	1921	17,018	K714_1370 MT20	2900	2600	3800	10/6	1.8	80.6	714
138.8	8883/64	2400	21,259	2600	23,031	4800	42,518	K714_1390 MT30	2900	2600	3800	10/6	6.9	80.8	716
151.7	24,273/160	1702	15,073	1702	15,073	2127	18,842	K714_1520 MT20	2900	2600	3800	10/6	1.8	80.7	715
153.7	39,339/256	2400	21,259	2600	23,031	4800	42,518	K714_1540 MT30	2900	2600	3800	10/6	6.8	80.9	716
174.2	72,471/416	1855	16,434	1855	16,434	2319	20,542	K714_1740 MT20	2900	2600	3800	10/6	1.6	80.8	716
176.5	587,265/3328	2400	21,259	2600	23,031	4800	42,518	K714_1760 MT30	2900	2600	3800	10/6	6.7	80.9	717
192.9	320,943/1664	2054	18,194	2054	18,194	2567	22,743	K714_1930 MT20	2900	2600	3800	10/6	1.6	80.9	716
195.4	2,600,745/13,312	2400	21,259	2600	23,031	4800	42,518	K714_1950 MT30	2900	2600	3800	10/6	6.7	81.0	717
226.5	72,471/320	2009	17,798	2282	20,216	2853	25,271	K714_2260 MT20	2900	2600	3800	10/6	1.5	81.0	717
229.4	117,453/512	2400	21,259	2600	23,031	4800	42,518	K714_2290 MT30	2900	2600	3800	10/6	6.6	81.0	718
250.7	320,943/1280	2225	19,705	2527	22,382	3159	27,978	K714_2510 MT20	2900	2600	3800	10/6	1.5	81.0	717
254.0	520,149/2048	2400	21,259	2600	23,031	4800	42,518	K714_2540 MT30	2900	2600	3800	10/6	6.6	81.1	718
275.3	44,051/160	2073	18,362	2600	23,031	3314	29,352	K714_2750 MT20	2900	2600	3800	10/6	1.5	81.0	718
304.8	195,083/640	2295	20,330	2600	23,031	3669	32,497	K714_3050 MT20	2900	2600	3800	10/6	1.5	81.0	718
344.1	44051/128	1671	14,803	2005	17,764	3342	29,607	K714_3440 MT20	2900	2600	3800	10/6	1.4	81.1	718
381.0	195,083/512	1851	16,394	2221	19,672	3701	32,787	K714_3810 MT20	2900	2600	3800	10/6	1.4	81.1	718

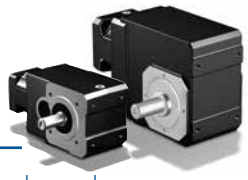
[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

Reducer Ratio (i)		Output Torque: Nominal [1] M2N ≤ 2000 RPM		Acceleration M2B		Peak [2] M2PEAK		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous EL 1,2,5,6	Continuous EL 3,4	Cyclic All	Backlash (arcmins) Δϕ	Input Inertia J1 kgcm²	Torsional Stiffness C2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs							Nm	in.lbs.
K813		**Three Stage**		**(continued next page)**								**Noise Level ≤ 65 dB(A) [4]**			
		676	5989	744	6588	1352	11,979	K813_0074 MT30					161.2	39.5	350
7.445	3127/420	1147	10,163	1147	10,163	1434	12,704	K813_0074 MT40	1600	1500	2600	10/5	165.2	63.7	564
		2192	19,420	2192	19,420	2740	24,275	K813_0074 MT50					175.2	101.6	900
		749	6631	823	7294	1497	13,263	K813_0082 MT30					142.9	45.6	404
8.243	96,937/11,760	1270	11,252	1270	11,252	1588	14,065	K813_0082 MT40	1600	1500	2600	10/5	146.9	70.8	628
		2398	21,242	2427	21,502	3034	26,877	K813_0082 MT50					156.9	107.2	949
		843	7469	927	8216	1686	14,938	K813_0093 MT30					115.5	53.2	471
9.284	11,977/1290	1385	12,266	1385	12,266	1731	15,333	K813_0093 MT40	1600	1500	2600	10/5	119.5	79.2	702
		2495	22,101	2646	23,439	3308	29,299	K813_0093 MT50					129.5	113.0	1001
		934	8269	1027	9096	1867	16,539	K813_0105 MT30					103.7	60.1	533
10.28	53,041/5160	1533	13,581	1533	13,581	1916	16,976	K813_0105 MT40	1600	1500	2600	10/5	107.7	86.2	763
		2581	22,864	2930	25,951	3662	32,439	K813_0105 MT50					117.7	117.3	1039
		1081	9578	1189	10,536	2138	18,938	K813_0120 MT30					80.6	70.4	624
11.91	6608/555	1710	15,150	1710	15,150	2138	18,938	K813_0120 MT40	1900	1800	2900	10/5	84.6	95.7	848
		2711	24,011	3268	28,950	4085	36,188	K813_0120 MT50					94.6	122.6	1086
		1197	10,605	1317	11,665	2367	20,967	K813_0130 MT30					73.4	77.6	687
13.18	7316/555	1894	16,774	1894	16,774	2367	20,967	K813_0130 MT40	1900	1800	2900	10/5	77.4	101.8	901
		2804	24,840	3619	32,053	4523	40,066	K813_0130 MT50					87.4	125.7	1113
		1348	11,940	1483	13,134	2570	22,766	K813_0150 MT30					59.2	85.8	760
14.84	9499/640	2056	18,213	2056	18,213	2570	22,766	K813_0150 MT40	1900	1800	2900	10/5	63.2	108.2	958
		2917	25,842	3929	34,803	4911	43,504	K813_0150 MT50					73.2	128.7	1140
		1492	13,219	1642	14,541	2845	25,205	K813_0165 MT30					54.5	92.5	819
16.43	42,067/2560	2276	20,164	2276	20,164	2845	25,205	K813_0165 MT40	1900	1800	2900	10/5	58.5	113.1	1001
		3018	26,734	4350	38,531	5437	48,164	K813_0165 MT50					68.5	130.9	1159
		1574	13,939	1731	15,333	2928	25,932	K813_0175 MT30			3300		48.4	95.8	849
17.33	30,149/1740	2342	20,746	2342	20,746	2928	25,932	K813_0175 MT40	2300	2100	3300	10/5	52.4	115.4	1022
		3072	27,211	4475	39,642	5594	49,553	K813_0175 MT50			3000		62.4	131.8	1168
		1742	15,432	1916	16,976	3241	28,710	K813_0190 MT30			3300		45.1	101.8	902
19.18	13,3517/6960	2593	22,968	2593	22,968	3241	28,710	K813_0190 MT40	2300	2100	3300	10/5	49.1	119.4	1058
		3178	28,149	4650	41,190	6193	54,861	K813_0190 MT50			3000		59.1	133.5	1183
		2093	18,539	2302	20,392	3674	32,546	K813_0230 MT30			3300		33.8	111.4	987
23.04	31,801/1380	2939	26,037	2939	26,037	3674	32,546	K813_0230 MT40	2300	2100	3300	10/5	37.8	125.4	1111
		3378	29,924	4650	41,190	7021	62,192	K813_0230 MT50			3000		47.8	135.8	1203
		2317	20,525	2549	22,577	4068	36,033	K813_0260 MT30			3300		31.9	115.9	1027
25.51	140,833/5520	3254	28,827	3254	28,827	4068	36,033	K813_0260 MT40	2300	2100	3300	10/5	35.9	128.1	1134
		3495	30,956	4650	41,190	7773	68,856	K813_0260 MT50			3000		45.9	136.8	1212
		2352	20,833	2923	25,888	4473	39,618	K813_0290 MT30	2800		3600		24.9	121.2	1073
29.25	7021/240	3578	31,694	3578	31,694	4473	39,618	K813_0290 MT40	2800	2500	3500	10/5	28.9	131.0	1161
		3658	32,401	4650	41,190	8400	74,407	K813_0290 MT50	2500		3000		38.9	137.9	1221

[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

Selection Data



Reducer Ratio (i)		Output Torque						Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Backlash (arcmins)	Input Inertia	Torsional Stiffness C2 (per arcmin)	
		Nominal [1] M2N ≤ 2000 RPM		Acceleration M2B		Peak [2] M2PEAK			Continuous		Cyclic				
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J1 kgcm²	Nm	in.lbs.
K813		**Three Stage (continued from previous page)**											Noise Level ≤ 65 dB(A) [4]		
		2604	23,065	3236	28,662	4952	43,863	K813_0320 MT30	2800		3600		23.7	124.4	1102
32.39	31,093/960	3784	33,519	3961	35,091	4952	43,863	K813_0320 MT40	2800	2500	3500	10/5	27.7	132.8	1176
		3784	33,519	4650	41,190	8400	74,407	K813_0320 MT50	2500		3000		37.7	138.5	1227
		2391	21,177	3610	31,980	5262	46,613	K813_0360 MT30	2800		3600		19.4	127.4	1129
36.14	2891/80	3925	34,766	4210	37,290	5262	46,613	K813_0360 MT40	2800	2500	3500	10/5	23.4	134.4	1191
		3925	34,766	4650	41,190	8400	74,407	K813_0360 MT50	2500		3000		33.4	139.1	1232
		2647	23,446	3997	35,405	5826	51,606	K813_0400 MT30	2800		3600	10/5	18.6	129.8	1150
40.01	12,803/320	4060	35,965	4650	41,190	5826	51,606	K813_0400 MT40	2800	2500	3500		22.6	135.6	1201
		4060	35,965	4650	41,190	8400	74,407	K813_0400 MT50	2500		3000		32.6	139.5	1236
		2490	22,059	4421	39,158			K813_0440 MT30	2800		3600		15.5	131.8	1167
44.25	177/4	4199	37,194	4650	41,190	6188	54,814	K813_0440 MT40	2800	2500	3500	10/5	19.5	136.6	1210
		4199	37,194	4650	41,190			K813_0440 MT50	2500		3000		29.5	139.8	1239
		2757	24,422					K813_0490 MT30	2800		3600	10/5	15.0	133.4	1182
48.99	5487/112	4200	37,204	4650	41,190	6851	60,687	K813_0490 MT40	2800	2500	3500		19.0	137.5	1218
		4200	37,204					K813_0490 MT50	2500		3000		29.0	140.1	1241
		2565	22,721					K813_0590 MT30	2800		3600		11.8	135.8	1203
59.08	42,539/720	4200	37,204	4650	41,190	7743	68,590	K813_0590 MT40	2800	2500	3500	10/5	15.8	138.7	1228
		4200	37,204					K813_0590 MT50	2500		3000		25.8	140.5	1245
		2840	25,155					K813_0650 MT30	2800		3600		11.5	136.8	1212
65.41	18,8387/2880	4200	37,204	4650	41,190	8400	74,407	K813_0650 MT40	2800	2500	3500	10/5	15.5	139.2	1233
		4200	37,204					K813_0650 MT50	2500		3000		25.5	140.7	1246
		2629	23,288					K813_0720 MT30	2800		3600		10.1	137.5	1218
71.70	10,325/144	3605	31,935	4326	38,322	7210	63,869	K813_0720 MT40	2800	2500	3500	10/5	14.1	139.5	1236
		3605	31,935					K813_0720 MT50	2500		3000		24.1	140.8	1247
		2911	25,783					K813_0790 MT30	2800		3600		9.9	138.2	1225
79.38	45725/576	3992	35,365	4650	41,190	7985	70,731	K813_0790 MT40	2800	2500	3500	10/5	13.9	139.9	1239
		3992	35,365					K813_0790 MT50	2500		3000		23.9	140.9	1248
87.76	7021/80	2682	23,753	3268	28,945	4085	36,182	K813_0880 MT30	2800	2500	3600	10/5	8.8	138.8	1229
		2804	24,838					K813_0880 MT40			3500		12.8	140.1	1241
97.17	31,093/320	2969	26,298	3618	32,047	4522	40,058	K813_0970 MT30	2800	2500	3600	10/5	8.7	139.3	1234
		3105	27,506					K813_0970 MT40			3500		12.7	140.4	1243

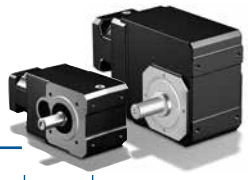
[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J_1 kgcm²	Nm	in.lbs.
K814		**Four Stage**													Noise Level ≤ 65 dB(A) [4]
66.83	38,763/580	4200	37,204	4476	39,644	5594	49,555	K814_0670 MT40	2800	2500	3500	10/6	14.5	139.3	1234
73.99	1,201,653/16,240	4200	37,204	4650	41,190	6194	54,864	K814_0740 MT40	2800	2500	3500	10/6	14.3	139.6	1237
88.89	40,887/460	4200	37,204	4650	41,190	7021	62,195	K814_0890 MT40	2800	2500	3500	10/6	13.5	140.2	1242
98.41	181,071/1840	4200	37,204	4650	41,190	7774	68,859	K814_0980 MT40	2800	2500	3500	10/6	13.4	140.4	1244
112.8	9027/80	4200	37,204	4650	41,190	8400	74,407	K814_1130 MT40	2800	2500	3500	10/6	12.9	140.6	1246
114.6	329,987/2880	3282	29,076	3578	31,692	4472	39,615	K814_1150 MT30	2800	2500	3600	10/6	7.7	139.8	1239
124.9	279,837/2240	4200	37,204	4650	41,190	8400	74,407	K814_1250 MT40	2800	2500	3500	10/6	12.8	140.8	1247
126.9	1,461,371/11,520	3634	32,191	3961	35,087	4951	43,859	K814_1270 MT30	2800	2500	3600	10/6	7.7	140.1	1241
139.4	11,151/80	4200	37,204	4650	41,190	8400	74,407	K814_1390 MT40	2800	2500	3500	10/6	12.5	140.9	1248
141.5	135,877/960	3402	30,138	4209	37,287	5262	46,608	K814_1420 MT30	2800	2500	3600	10/6	7.4	140.4	1243
154.3	49,383/320	4200	37,204	4650	41,190	8400	74,407	K814_1540 MT40	2800	2500	3500	10/6	12.5	141.0	1249
156.7	601,741/3840	3767	33,367	4650	41,190	5825	51,602	K814_1570 MT30	2800	2500	3600	10/6	7.3	140.6	1245
170.7	4779/28	4200	37,204	4650	41,190	6188	54,816	K814_1710 MT40	2800	2500	3500	10/6	12.3	141.0	1249
173.3	2773/16	3602	31,904	4650	41,190	6188	54,810	K814_1730 MT30	2800	2500	3600	10/6	7.1	140.7	1246
189.0	148,149/784	4200	37,204	4650	41,190	6851	60,690	K814_1890 MT40	2800	2500	3500	10/6	12.2	141.1	1250
191.9	85,963/448	3988	35,323	4650	41,190	6851	60,682	K814_1920 MT30	2800	2500	3600	10/6	7.1	140.8	1247
227.9	18,231/80	4200	37,204	4650	41,190	7744	68,593	K814_2280 MT40	2800	2500	3500	10/6	12.0	141.2	1251
231.4	1,999,333/8640	3807	33,726	4650	41,190	7743	68,584	K814_2310 MT30	2800	2500	3600	10/6	6.9	141.0	1249
252.3	565,161/2240	4200	37,204	4650	41,190	8400	74,407	K814_2520 MT40	2800	2500	3500	10/6	12.0	141.2	1251
256.2	8,854,189/34,560	4200	37,204	4650	41,190	8400	74,407	K814_2560 MT30	2800	2500	3600	10/6	6.9	141.1	1250
276.6	4425/16	3605	31,935	4326	38,322	7210	63,869	K814_2770 MT40	2800	2500	3500	10/6	11.9	141.2	1251
280.8	485,275/1728	3605	31,935	4326	38,322	7210	63,869	K814_2810 MT30	2800	2500	3600	10/6	6.8	141.1	1250
306.2	137,175/448	3992	35,365	4650	41,190	7985	70,731	K814_3060 MT40	2800	2500	3500	10/6	11.9	141.3	1251
310.9	2,149,075/6912	3992	35,365	4650	41,190	7985	70,731	K814_3110 MT30	2800	2500	3600	10/6	6.8	141.2	1250

[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

Selection Data



Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia J_1	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	kgcm²	Nm	in.lbs.
K913		**Three Stage**												**Noise Level ≤ 65 dB(A) [4]**	
7.934	54,839/6912	2456	21,757	2456	21,757	3070	27,197	**K913_0079 MT50**	1500	1500	2500	10/5	351.2	139.1	1232
10.12	119,133/11,776	3020	26,753	3020	26,753	3775	33,441	**K913_0100 MT50**	1500	1500	2500	10/5	248.9	159.9	1417
12.53	73,749/5888	3631	32,159	3631	32,159	4538	40,199	**K913_0125 MT50**	1800	1800	2800	10/5	186.8	174.4	1545
15.91	13,237/832	4425	39,199	4425	39,199	5532	48,999	**K913_0160 MT50**	1800	1800	2800	10/5	135.0	186.5	1652
19.06	305/16	5137	45,504	5137	45,504	6421	56,880	**K913_0190 MT50**	2200	2100	3000	10/5	108.9	193.2	1711
23.94	88,877/3712	3236	28,667	3236	28,667	4045	35,834	**K913_0240 MT40**	2200	2100	3100	10/5	73.0	178.9	1585
		6184	54,779	6184	54,779	7730	68,474	**K913_0240 MT50**			3000		83.0	199.1	1764
32.12	47,275/1472	4097	36,287	4097	36,287	5121	45,359	**K913_0320 MT40**	2600	2500	3400	10/5	50.5	191.6	1697
		6849	60,669	7700	68,207	9785	86,676	**K913_0320 MT50**	2500		3000		60.5	203.9	1806
38.04	194,773/5120	4686	41,507	4686	41,507	5857	51,884	**K913_0380 MT40**	2600	2500	3400	10/5	40.9	196.6	1742
		7000	62,006	7700	68,207	11,193	99,144	**K913_0380 MT50**	2500		3000		50.9	205.7	1822
48.94	100,223/2048	5675	50,266	5701	50,497	7126	63,122	**K913_0490 MT40**	2600	2500	3400	10/5	30.6	201.8	1788
		7000	62,006	7700	68,207	13,617	120,618	**K913_0490 MT50**	2500		3000		40.6	207.5	1838
63.07	209,901/3328	5855	51,864	6950	61,561	8687	76,952	**K913_0630 MT40**	2600	2500	3400	10/5	23.5	205.1	1817
		7000	62,006	7700	68,207	14,000	124,012	**K913_0630 MT50**	2500		3000		33.5	208.6	1848
75.00	62,403/832	6011	53,248	7700	68,207	9958	88,210	**K913_0750 MT40**	2600	2500	3400	10/5	19.9	206.6	1830
		7000	62,006					**K913_0750 MT50**	2500		3000		29.9	209.1	1852
95.41	293,105/3072	5376	47,620	6451	57,144	10,752	95,240	**K913_0950 MT40**	2600	2500	3400	10/5	16.4	208.0	1843
								K913_0950 MT50	2500		3000		26.4	209.6	1856

[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous EL 1,2,5,6	Maximum Input Speed RPM: Continuous EL 3,4	Maximum Input Speed RPM: Cyclic All	Backlash (arcmins)	Input Inertia	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs					Δϕ	J_1 kgcm²	Nm	in.lbs.
K914		**Four Stage**												**Noise Level ≤ 65 dB(A) [4]**	
92.35	2,399,679/25,984	6184	54,781	6184	54,781	7730	68,477	K914_0920 MT40	2600	2500	3400	10/5	15.9	207.9	1841
93.78	4,177,219/44,544	2862	25,351	3236	28,664	4045	35,831	K914_0940 MT30	2600	2500	3400	10/5	10.6	205.3	1819
123.9	1,276,425/10,304	6882	60,960	7700	68,207	9785	86,680	K914_1240 MT40	2600	2500	3400	10/5	14.3	208.9	1851
125.8	2,221,925/17,664	3840	34,011	4096	36,284	5120	45,355	K914_1260 MT30	2600	2500	3400	10/5	9.1	207.5	1838
146.7	5,258,871/35,840	7000	62,006	7700	68,207	11,193	99,147	K914_1470 MT40	2600	2500	3400	10/5	13.7	209.3	1854
149.0	9,154,331/61,440	4378	38,782	4685	41,503	5857	51,879	K914_1490 MT30	2600	2500	3400	10/5	8.5	208.3	1845
188.8	2,706,021/14,336	7000	62,006	7700	68,207	13,617	120,623	K914_1890 MT40	2600	2500	3400	10/5	13.0	209.7	1858
191.7	4,710,481/24,576	4607	40,812	5700	50,493	7125	63,116	K914_1920 MT30	2600	2500	3400	10/5	7.8	209.1	1852
243.3	5,667,327/23,296	7000	62,006	7700	68,207	14,000	124,012	K914_2430 MT40	2600	2500	3400	10/5	12.5	210.0	1860
247.0	3,288,449/13,312	4861	43,056	6949	61,556	8687	76,945	K914_2470 MT30	2600	2500	3400	10/5	7.4	209.6	1856
293.8	977,647/3328	5064	44,860	7700	68,207	9,957	88,202	K914_2940 MT30	2600	2500	3400	10/5	7.1	209.8	1858
373.7	13,775,935/36,864	5281	46,783	6451	57,144	10,752	95,240	K914_3740 MT30	2600	2500	3400	10/5	6.9	210.0	1860

[1] Maximum torque for continuous input RPM - horizontal output position.
[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)
[3] Backlash shown standard/reduced
[4] dB)(A) measured at 1 meter distance with 2000 RPM input.
** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

Selection Data

Reducer Ratio (i)		Output Torque: Nominal [1] M_{2N} ≤ 2000 RPM		Output Torque: Acceleration M_{2B}		Output Torque: Peak [2] M_{2PEAK}		Part Number* (Gearhead + Input)	Maximum Input Speed RPM: Continuous		Maximum Input Speed RPM: Cyclic	Backlash (arcmins)	Input Inertia	Torsional Stiffness C_2 (per arcmin)	
Nom.	Exact	Nm	in.lbs.	Nm	in.lbs.	Nm	in.lbs		EL 1,2,5,6	EL 3,4	All	Δϕ	J_1 kgcm²	Nm	in.lbs.
K1013	**Three Stage**														**Noise Level ≤ 65 dB(A) [4]**
31.5	144,305/4576	8038	71,197	8038	71,197	10,047	88,996	**K1013_0320 MT50**	2500	2300	3000	10/5	117.3	434.2	3847
38.6	8029/208	9437	83,593	9437	83,593	11,796	104,491	**K1013_0390 MT50**	2500	2300	3000	10/5	90.1	444.1	3934
48.5	171,647/3536	11299	100,084	11,299	100,084	14,123	125,105	**K1013_0490 MT50**	2500	2300	3000	10/5	68.2	451.7	4001
61.6	12803/208	11893	105,349	13,200	116,926	16,997	150,559	**K1013_0620 MT50**	2500	2300	3000	10/5	52.2	456.8	4046
75.3	101,773/1352	11336	100,417	13,200	116,926	19,813	175,501	**K1013_0750 MT50**	2500	2300	3000	10/5	42.6	459.6	4071
94.3	235,445/2496	9352	82,844	9890	87,608	12,363	109,510	**K1013_0940 MT50**	2500	2300	3000	10/5	35.1	461.7	4090
K1014	**Four Stage**														**Noise Level ≤ 65 dB(A) [4]**
93.3	252,399/2704	10806	95,723	12,786	113,260	15,983	141,576	**K1014_0930 MT50**	2500	2300	3000	10/5	32.7	461.6	4089
121.6	556,605/4576	7937	70,302	8038	71,200	10,047	89,000	**K1014_1220 MT40**	2500	2300	3200	10/5	18.4	458.5	4062
123.7	7,359,555/59,488	12000	106,296	13,200	116,926	20,036	177,477	**K1014_1240 MT50**	2500	2300	3000	10/5	29.3	463.3	4104
148.9	30,969/208	8361	74,065	9437	83,596	11,797	104,495	**K1014_1490 MT40**	2500	2300	3200	10/5	16.5	460.8	4082
151.4	409,479/2704	12000	106,296	13,200	116,926	23,524	208,376	**K1014_1510 MT50**	2500	2300	3000	10/5	27.5	464.0	4110
187.2	662,067/3536	8811	78,043	11,299	100,087	14,124	125,108	**K1014_1870 MT40**	2500	2300	3200	10/5	15.1	462.5	4097
190.4	514,941/2704	12000	106,296	13,200	116,926	24,000	212,592	**K1014_1900 MT50**	2500	2300	3000	10/5	26.1	464.5	4115
237.4	49,383/208	9256	81,994	13,200	116,926	16,998	150,564	**K1014_2370 MT40**	2500	2300	3200	10/5	14.0	463.6	4106
290.4	392,553/1352	9525	84,369	13,200	116,926	19,813	175,508	**K1014_2900 MT40**	2500	2300	3200	10/5	13.3	464.2	4112

[1] Maximum torque for continuous input RPM - horizontal output position.

[2] Maximum momentary torque for emergency stops or heavy shock load. (Admissible stops per life of gearhead = 1,000 stops maximum.)

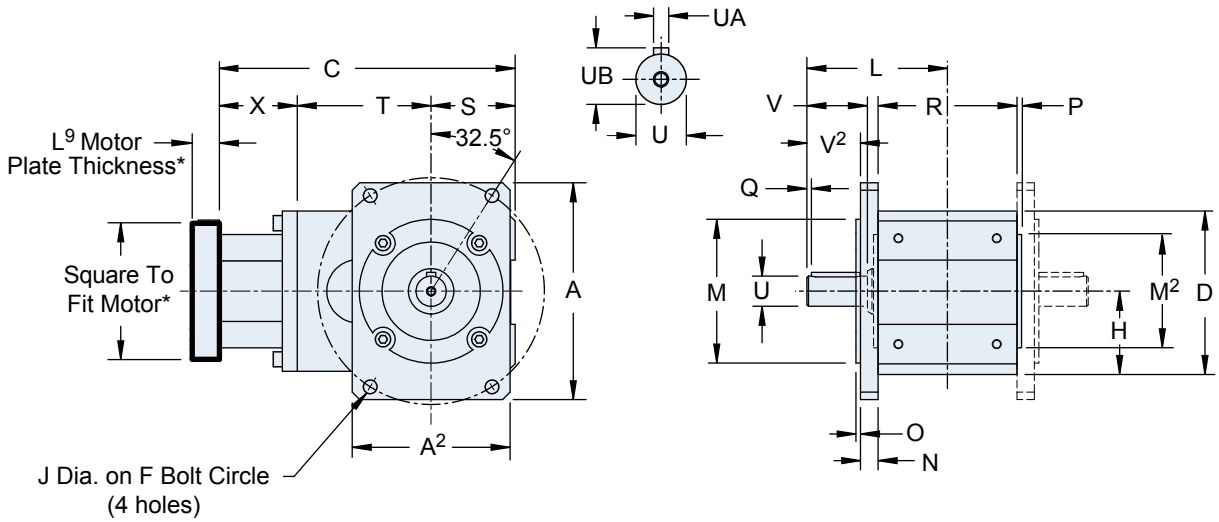
[3] Backlash shown standard/reduced

[4] dB)(A) measured at 1 meter distance with 2000 RPM input.

** Motor adapter order code (shaft diameter max - mm): MT10 (19), MT20 (24), MT30 (38), MT40 (48), MT50 (60)*

KL Series with "P" or "G" Solid Shaft Output Option

"F" Output Flange Housing Option



** See Motor Mounting Plate Option, page 194 for details.*
*** See Output Shaft Options, page xx for details.*

Table 1 KL Series Unit Dimensions (mm) – "F" Round Flange Housing Option

Unit	A	A^2	C	D	F	H	J	L	M	M^2_{j6}	N	O	P	Q	R	S	T	V	V^2	X
KL102PF	128.5	88.5	160	90	130	46	9	75.5	60	60	11.5	3	3	3	75	46	67.5	32	26.5	46.5
KL202PF	143.5	104.5	195	108	150	55	9	93	95	75	11.5	3	3	3	92	55	88.5	40	35.5	51.5

Table 2 Standard "P" Solid Shaft

Unit	Shaft – inches			Metric Shaft – mm			Stainless Shaft		Wt.* lbs.
	U_{k6}	UA – Key	UB	U_{k6}	UA – Key	UB	Inches	mm	
KL102PF	–	–	–	16	M5 x 5 x 22	18	–	16	14
KL202PF	0.750	3/16 x 3/16 x 1-1/4	0.832	20	M6 x 6 x 32	23	0.750	20	21

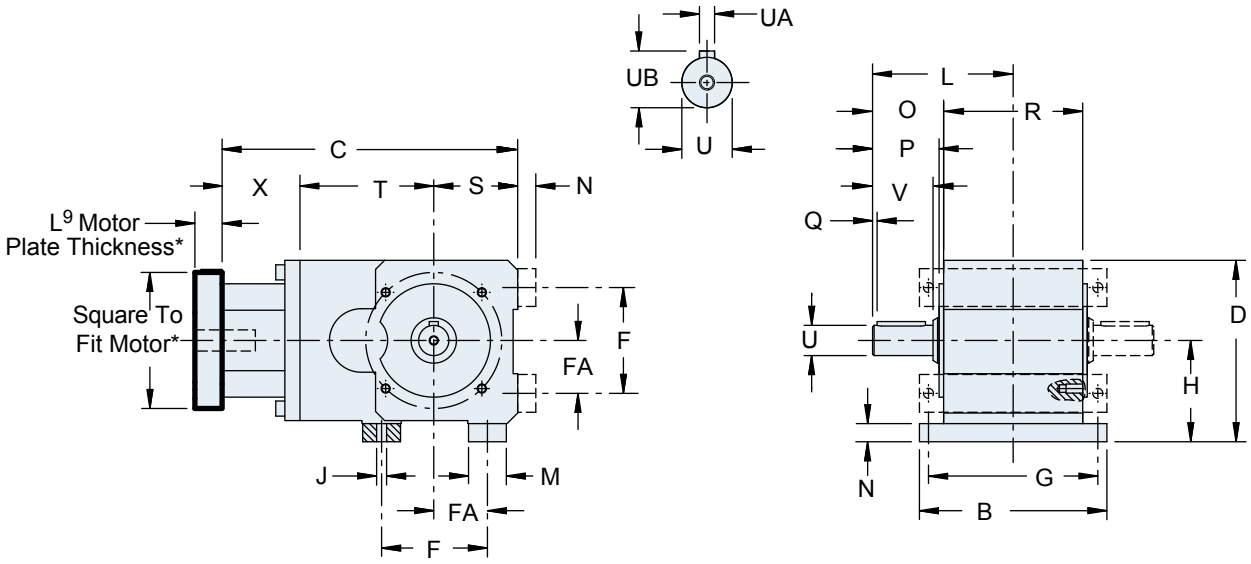
**Weight is approximate.*

k6 = existing values

Dimensional Data

KL Series with “P” or “G” Solid Shaft Output Option

“NG” Foot Mounting Housing Option



** See Motor Mounting Plate Option, page 194 for details.*
*** See Output Shaft Options, page xx for details.*

Table 1 **KL Series Unit Dimensions (mm) – “NG” Foot Mounting Housing Option**

Unit	B	C	D	F	G	H	J	L	M	N	O	P	Q	R	S	T	V	X	FA
KL102PNG	107	160	102	55	95	58	6.6	75.5	20	12	38	35	3	75	46	67.5	32	46.5	27.5
KL202PNG	124	195	120	70	112	67	6.6	93	25	12	47	44	3	92	55	88.5	40	51.5	35

Table 2 **Standard “P” Solid Shaft**

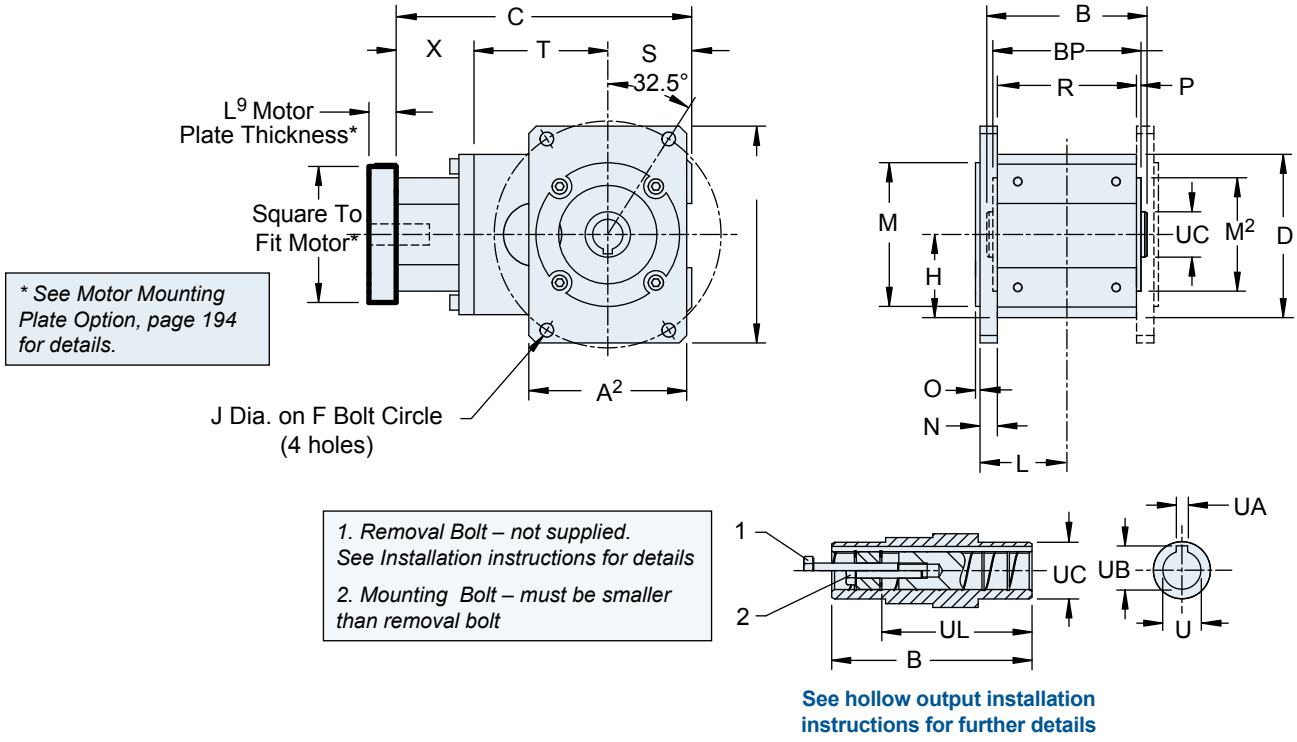
	Shaft – inches			Metric Shaft – mm			Stainless Shaft		Wt.*
Unit	U_{k6}	UA – Key	UB	U_{k6}	UA – Key	UB	Inches	mm	lbs.
KL102PNG	–	–	–	16	M5 x 5 x 22	18	–	16	14
KL202PNG	0.750	3/16 x 3/16 x 1-1/4	0.832	20	M6 x 6 x 32	23	0.750	20	21

**Weight is approximate.*

k6 = existing values

KL Series with "A" Hollow Output Option

"F" Output Flange Housing Option



** See Motor Mounting Plate Option, page 194 for details.*

1. Removal Bolt – not supplied. See Installation instructions for details

2. Mounting Bolt – must be smaller than removal bolt

See hollow output installation instructions for further details

Table 1 KL Series Unit Dimensions (mm) – "F" Round Flange Housing Option

Unit	A	A^2	B	BP	C	D	F	H	J	L	M	M^2_{j6}	N	O	P	R	S	T	X	UC	UL
KL102AF	128.5	88.5	87	81	160	90	130	46	9	49	60	60	11.5	3	3	75	46	67.5	46.5	25	60.5
KL202AF	143.5	104.5	106	98	195	108	150	55	9	57.5	95	75	11.5	3	3	92	55	88.5	51.5	30	79.5

Table 2 Standard "A" Hollow Bore

	Bore - inches			Metric Bore - mm			Stainless Bore		Wt.*
Unit	U_{G7}	UA	UB	U_{H7}	UA_{JS9}	UB	Inches	mm	lbs.
KL102AF	0.625	0.188	0.713	16	5	18.3	0.625	16	14
KL202AF	0.750	0.188	0.832	20	6	22.8	0.750	20	21

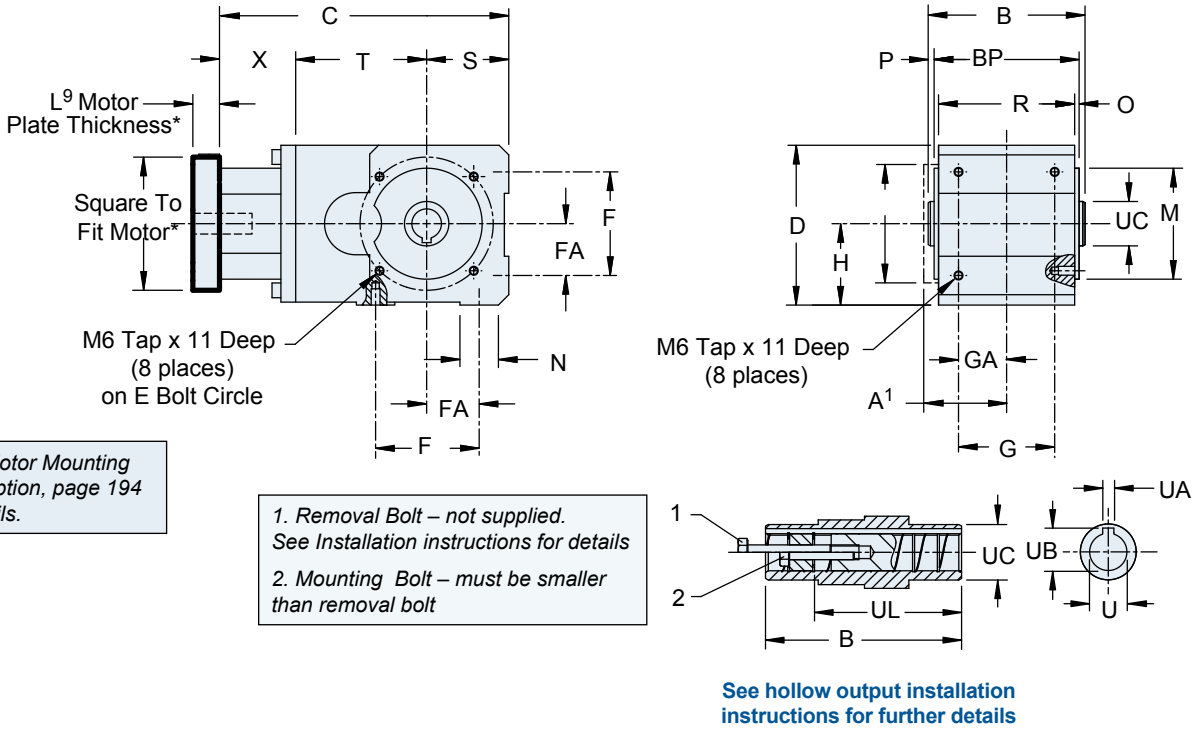
**Weight is approximate.*

G7, H7, JS9 = actual values

Dimensional Data

KL Series with "A" Hollow Output Option

"G" Tapped Holes Housing Option



** See Motor Mounting Plate Option, page 194 for details.*

1. Removal Bolt – not supplied. See Installation instructions for details

2. Mounting Bolt – must be smaller than removal bolt

See hollow output installation instructions for further details

Table 1 KL Series Unit Dimensions (mm) – "G" Tapped Hole Housing Option

Unit	A	A1	B	C	D	E	F	G	H	M	N	O	P	R	S	T	X	BP	FA	GA	UC	UL
KL102AG	70	47.5	87	160	90	75	55	50	46	60	21	3	3	75	46	67.5	46.5	81	27.5	25	25	60.5
KL202AG	80	57	106	195	108	90	70	65	55	75	26	3	4	92	55	88.5	51.5	98	35	32.5	30	79.5

Table 2 Standard "A" Hollow Bore

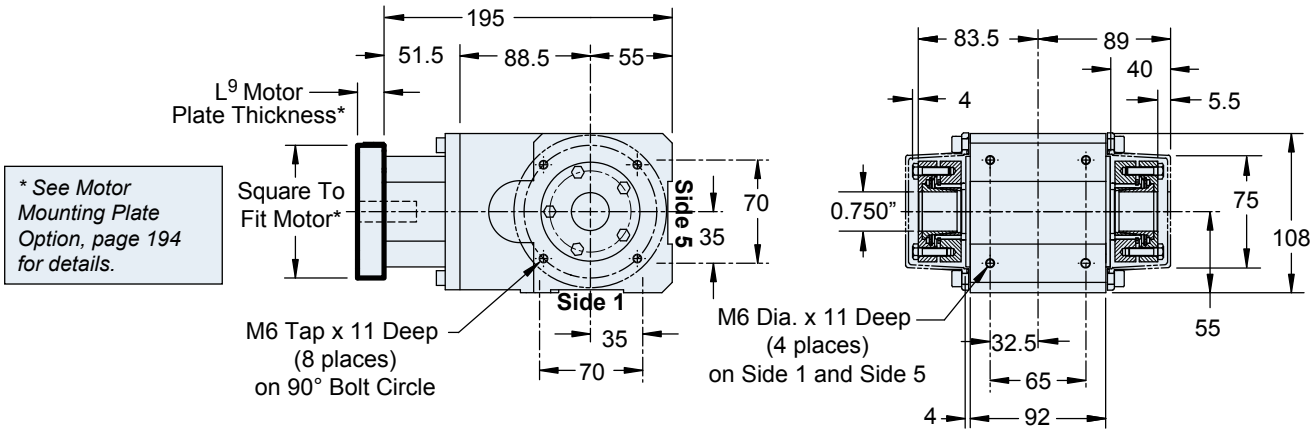
Unit	Bore - inches			Metric Bore - mm			Stainless Bore		Wt.*
	U_{G7}	UA	UB	U_{H7}	UA_{JS9}	UB	Inches	mm	lbs.
KL102AF	0.625	0.188	0.713	16	5	18.3	0.625	16	14
KL202AF	0.750	0.188	0.832	20	6	22.8	0.750	20	21

**Weight is approximate.*

G7, H7, JS9 = actual values

KL Series (KL202 only) with "W" Wobble Free Bushing Output Option

"G" Tapped Holes Housing Option

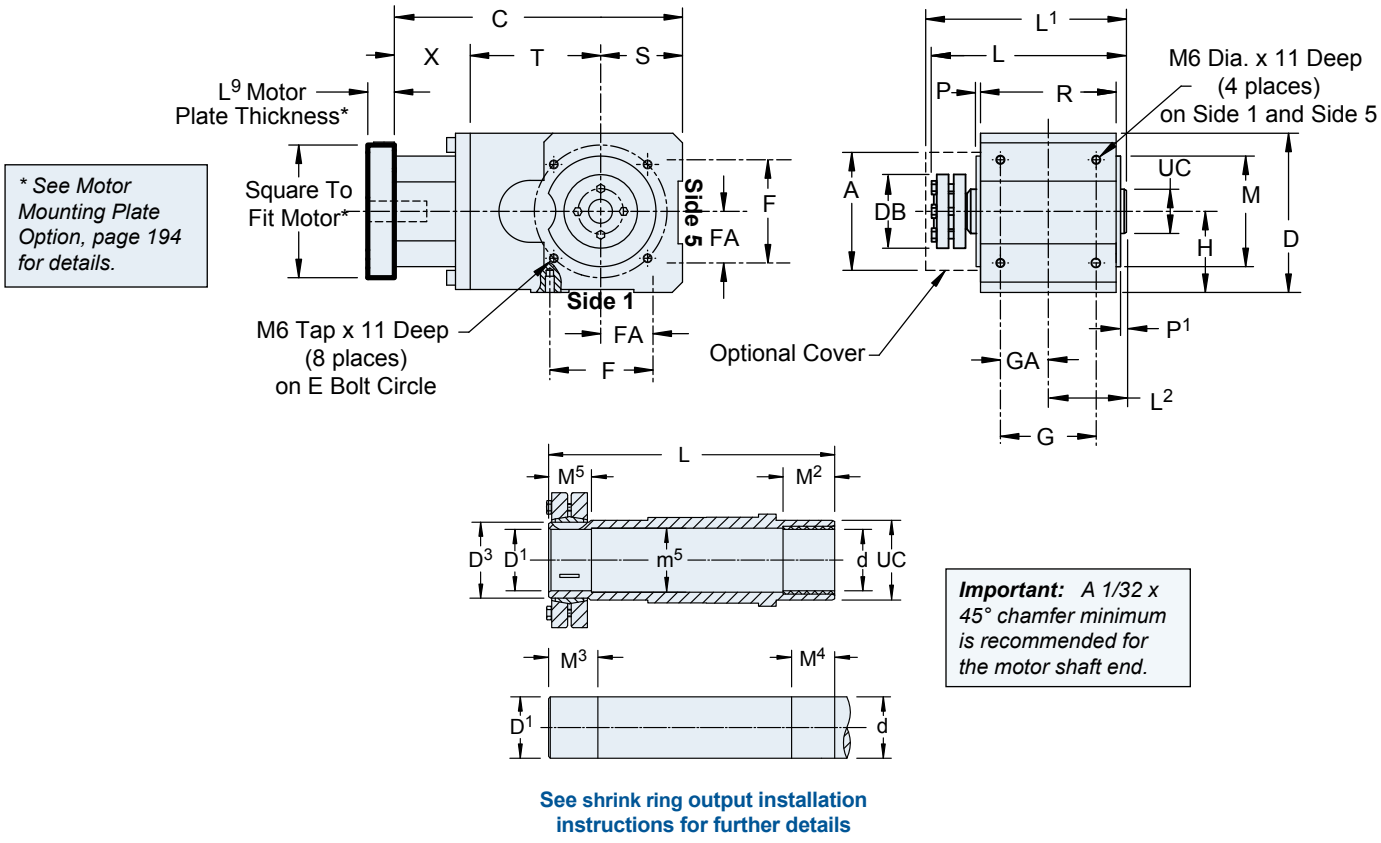


Important: *A 1/32" x 45° chamfer minimum is recommended for the shaft end. The bushing will accept a shaft with a tolerance of +0.000/-0.005 inches.*

Dimensional Data

KL Series with "S" Shrink Ring Output Option

"G" Tapped Holes Housing Option



See shrink ring output installation instructions for further details

Table 1 KL Series Unit Dimensions (mm) – "S" Single Side Shrink Ring

Unit	A	C	D	E	F	G	H	L^1	L^2	M	P	P^1	R	S	T	X	DB	FA	GA	UC
KL102SG	64	160	90	75	55	50	46	114.5	43.5	60	3	3	75	46	67.5	46.5	46.2	27.5	25	25
KL202SG	79	195	108	90	70	65	55	139	53	75	3	4	92	55	88.5	51.5	50	35	32.5	30

Table 2 Bore/Shaft Dimensions (mm)

Unit	d_{H7}	Bore d^1	Shaft d^1	d^3	d^4	L	m^2	m^3	m^4	m^5	Wt.* lbs.
KL102SG	16	16_{H7}	16_{h6}	20	17.5	109	17	22	28	23	14
KL202SG	20	20_{H7}	20_{h6}	24	21.5	131	22	27	31	26	21

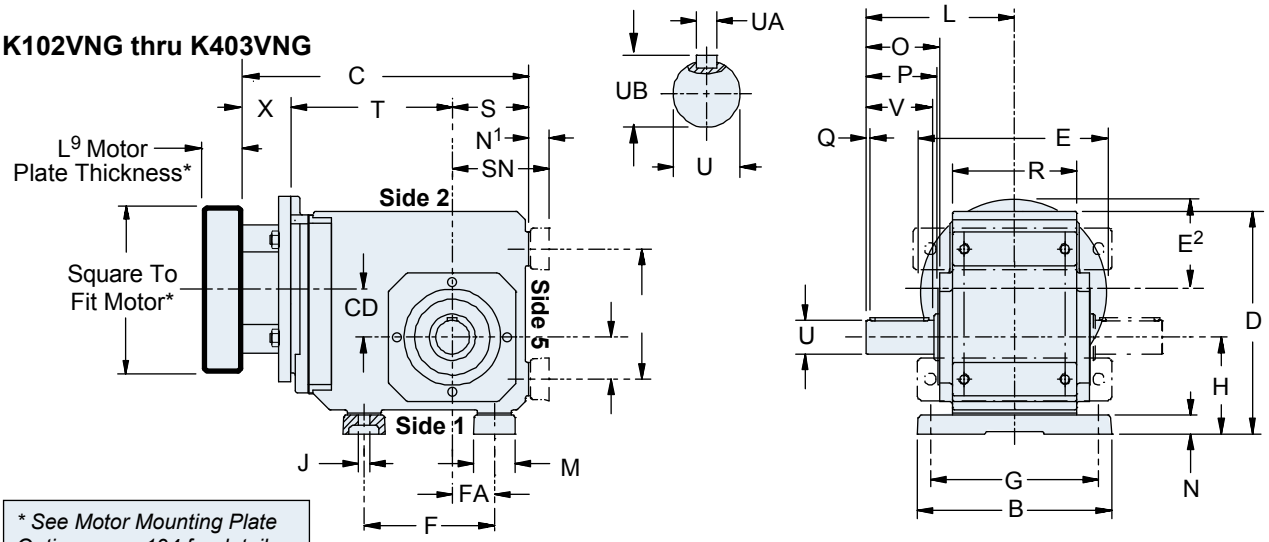
**Weight is approximate*

h6 = existing value; H7 = actual values

K Series with "V" Solid Shaft Output Option

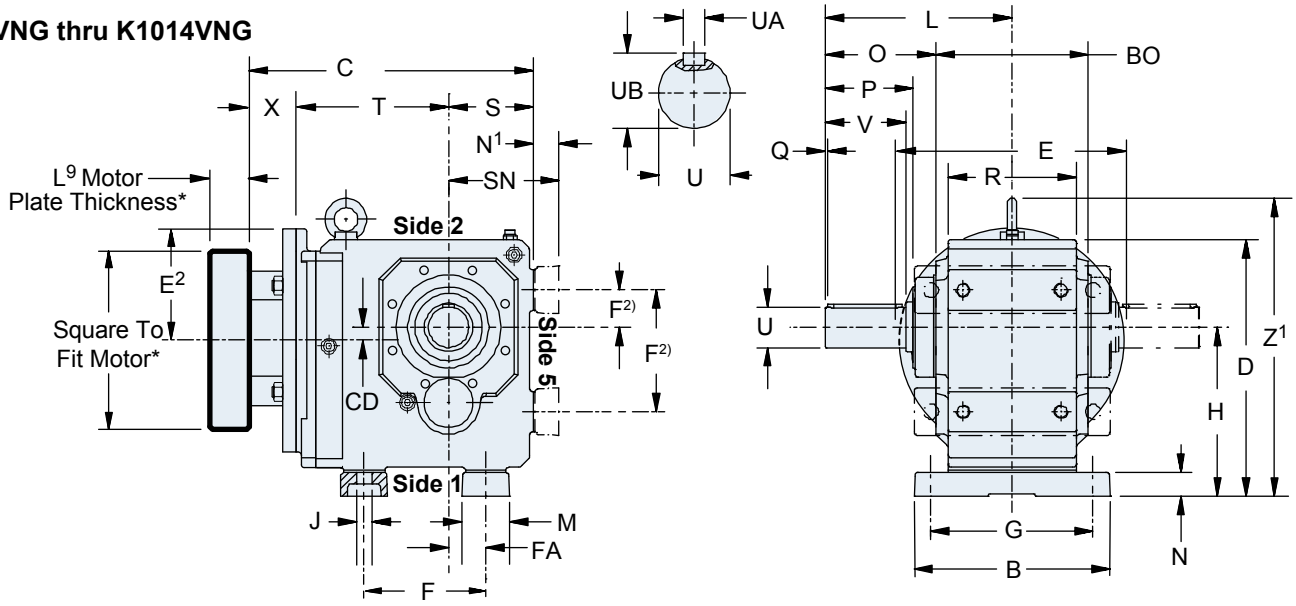
"NG" Foot Mounting Housing Option

K102VNG thru K403VNG

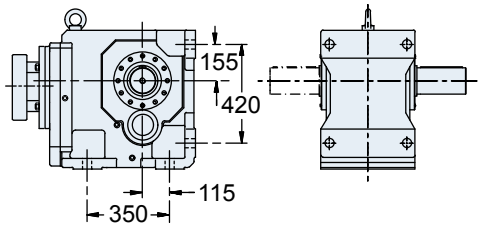


** See Motor Mounting Plate Option, page 194 for details.*

K513VNG thru K1014VNG



Size K10 Mounting Feet (Dimensions F and FA)



2) Mounting feet are integral on the K10 housing. Note that F = 420 and FA = 155 on Side 5 of the K10. Hole locations are as shown above.

Table 3 Motor Adapter Dimensions (mm)

Motor Adapter	Motor Shaft D6 Max. 3)	Thickness 4) L9 Min.	E	E2	X	Wt. lbs.
MT10	19	21	140	70	40	5
MT20	24	24	160	80	50	8
MT30	38	25	200	100	60	12
MT40	48	33	250	125	89	18
MT50	60	43	300	150	81.5	16

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

Dimensional Data

Table 1 K Series Unit Dimensions (mm) — "NG" Foot Mounting Housing Option

Unit	B	D	F	G	H	J	L	M	N	O	P	Q	R	S	V	Z[1]	BO	FA	N[1]	SN
K102	140	175	90[1)]	115	75	9	115	32	13	62	59	4	90	60	50	—	—	30	15	75
K202/203	185	213	115	155	88	11	135	40	20	68	65	4	115	65	60	—	—	35	23	88
K302/303	200	236	130	170	98	11	142	45	20	69	66	4	130	75	60	—	—	40	23	98
K402/403	230	265	155	200	115	14	176	50	22	89.5	86	4	148	90	80	—	—	50	25	115
K513/514	240	290	140	200	190	18	222	60	27	129.5	126	4	160	100	90	342	185	40	30	130
K613/614	250	340	160	210	220	18.5	236	65	27	136	109.5	4	168	120	90	392	200	50	30	150
K713/714	290	380	180	241	250	23	277	70	35	164	130.5	4	190	125	120	441	226	55	38	163
K813/814	360	455	240	300	310	27	326	85	41	185	151	5	235	145	140	516	282	75	45	190
K913/914	430	545	280	360	365	34	385	95	46	220	181	8	285	180	170	615	330	95	50	230
K1013/1014	400	680	350[2)]	330	375	39	418	120	45	240	220	15	356	225	210	680	400	115[2)]	45	225

[1)] Mounting holes are also located on Side 1 of the K1 unit ONLY.

[2)] Mounting feet are integral on the K10 housing as shown in drawing, facing page. Note F = 420 and FA = 155 on **Side 5** *of the K10.*

Table 2 K Series Unit Dimensions (mm) — "V" Solid Shaft Output Option

Shaft outputs in stainless or carbon steel. See page 194 for available shaft output options.

	Inches			Metric (mm)			Stainless	
Unit	U_{h6}*	UA – Key	UB	U*	UA – Key	UB	Inches	mm
K102	1.000	1/4 x 1/4 x 1-9/16	1.11	25_{k6}	M8 ×7×40	28	1.000	25
K202/203	1.250	1/4 x 1/4 x 1-15/16	1.36	30_{k6}	M8 ×7×50	33	1.250	30
K302/303	1.250	1/4 x 1/4 x 1-15/16	1.36	30_{k6}	M8 ×7×50	33	1.250	40
K402/403	1.375	5/16 x 5/16 x 2-5/16	1.51	40_{k6}	M12 ×8×70	43	1.375	–
K513/514	1.750	3/8 x 3/8 x 3-5/32	1.92	45_{k6}	M14 ×9×80	48.5	1.750	45
K613/614	1.750	3/8 x 3/8 x 3-5/32	1.92	50_{k6}	M14 ×9×90	53.5	1.750	–
K713/714	2.375	5/8 x 5/8 x 3-15/16	2.65	60_{k6}	M18 ×11×110	64	2.375	–
K813/814	2.875	3/4 x 3/4 x 4-5/16	3.21	70_{m6}	M20 ×12×125	74.5	2.875	70
K913/914	3.625	7/8 x 7/8 x 5-1/2	4.01	90_{m6}	M25 ×14×140	95	–	90
K1013/1014	4.375	1 x 1 x 7-1/8	4.82	110_{m6}	M28 ×16×180	116	–	–

**h6, k6, m6 = existing value*

Table 4 K Series Unit Dimensions (mm) — "MT" Motor Adapter

	MT10			MT20			MT30			MT40			MT50			Wt.
Unit	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K102	36	224	124	36	238	128	—	—	—	—	—	—	—	—	—	31
K202	46	248	143	46	262	147	46	274	149	—	—	—	—	—	—	40
K203	46	285	180	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	52.5	278	163	52.5	292	167	52.5	304	169	—	—	—	—	—	—	67
K303	52.5	315	200	16	335	210	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	60	327	187	60	339	189	60	371	192	—	—	—	93
K403	60	350	220	23	370	230	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	15	322	172	15	334	174	15	366	177	—	—	—	106
K514	—	—	—	15	365	215	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	18	361	191	18	373	193	18	405	196	18	411.5	210	170
K614	—	—	—	18	404	234	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	20	406	221	20	438	224	20	443.5	237	221
K714	—	—	—	20	438	263	20	468	283	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	24	452	247	24	483	249	24	488.5	262	309
K814	—	—	—	—	—	—	24	513	308	5	554	320	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	25	563	294	25	568.5	307	508
K914	—	—	—	—	—	—	25	593	353	25	634	365	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	28	698.5	392	1055
K1014	—	—	—	—	—	—	—	—	—	28	764	450	28	781.5	475	1079

For approximate weight, add adapter weight from Table 3 and unit weight from Table 4.

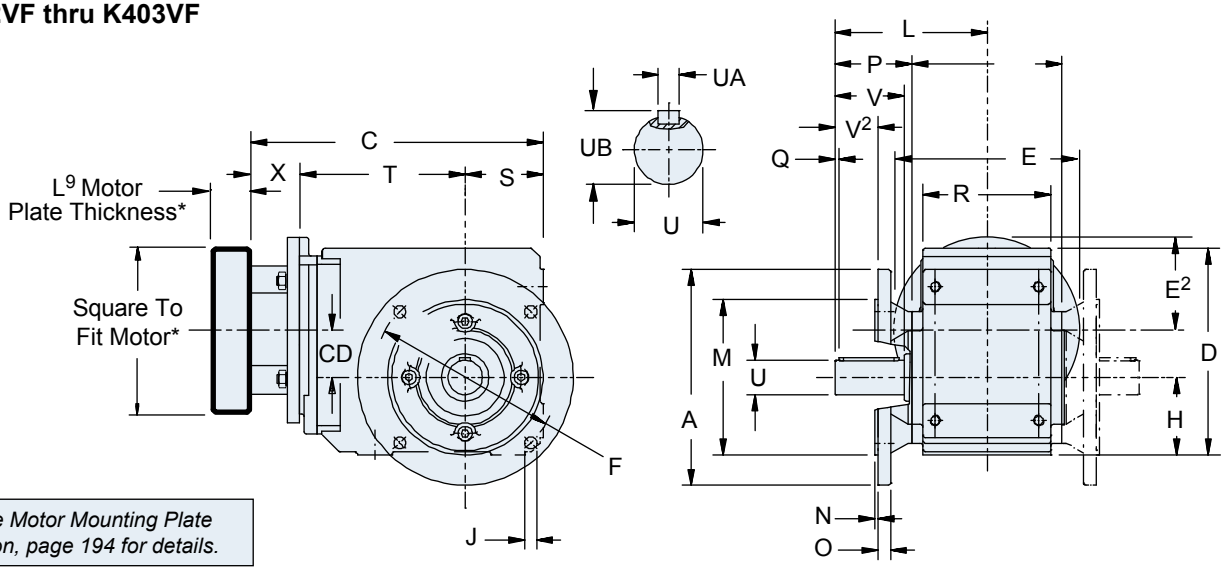
K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

K Series with "V" Solid Shaft Output Option

"F" Round Flange Housing Option

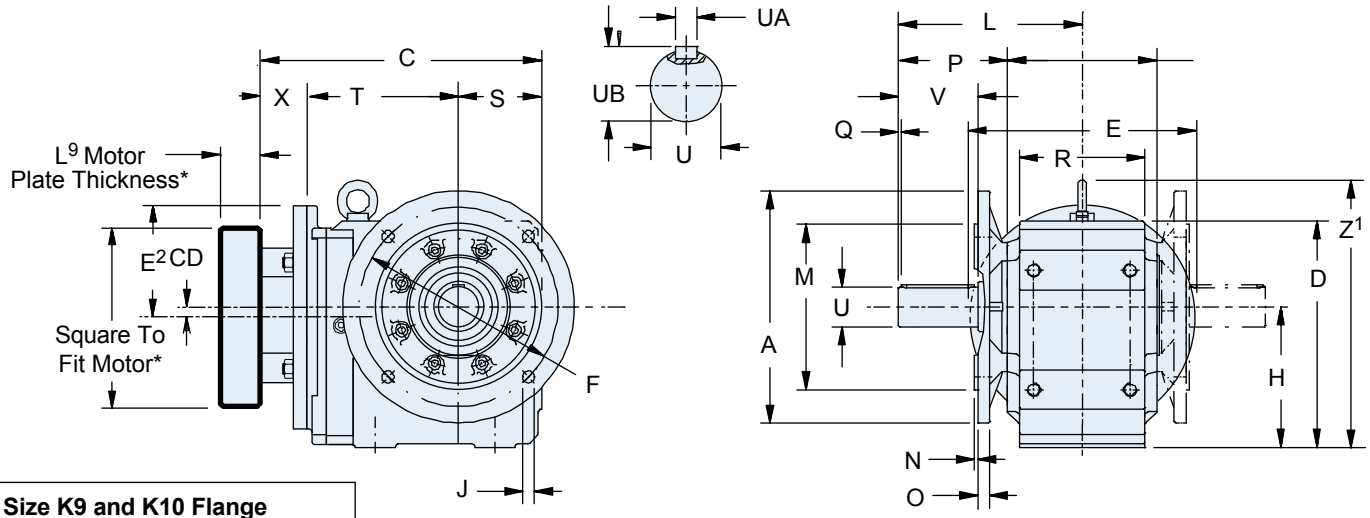
Other flange sizes available: for details see "Optional "F" Round Flange Housing Options for K Series" on page 241 .

K102VF thru K403VF

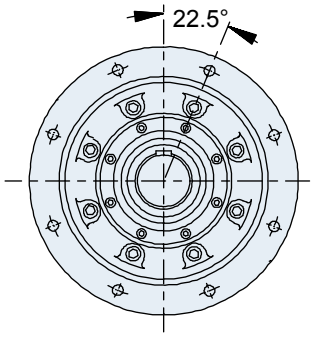


** See Motor Mounting Plate Option, page 194 for details.*

K513VF thru K1014VF



Size K9 and K10 Flange



K913 thru K1014 has 8 mounting holes in the output flange located as shown.

Table 3 Motor Adapter Dimensions (mm)

Motor Adapter	Motor Shaft D6 Max. 1)	Thickness 2) L9 Min.	E	E2	X	Wt. lbs.
MT10	19	21	140	70	40	5
MT20	24	24	160	80	50	8
MT30	38	25	200	100	60	12
MT40	48	33	250	125	89	18
MT50	60	43	300	150	81.5	16

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

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

Dimensional Data

Table 1 K Series Unit Dimensions (mm) – "F" Round Flange Housing Option

Unit	A	B	D	F	H	J	L	M*	N	O	P	Q	R	S	V	V[2]	Z[1]
K102	160	106	160	130	60	9	115	110_{j6}	3.5	10	62	4	90	60	50	30	—
K202/203	200	134	190	165	65	11	135	130_{j6}	3.5	12	68	4	115	65	60	36	—
K302/303	200	146	213	165	75	11	142	130_{j6}	3.5	14	69	4	130	75	60	31	—
K402/403	250	173	240	215	90	14	176	180_{j6}	4	15	89.5	4	148	90	80	49.5	—
K513/514	250	185	260	215	160	14	222	180_{j6}	4	15	129.5	4	160	100	90	—	312
K613/614	300	200	310	265	190	14	236	230_{j6}	4	17	136	4	168	120	90	—	362
K713/714	350	226	342	300	212	18	277	250_{h6}	5	18	164	4	190	125	120	—	403
K813/814	400	282	410	350	265	18	326	300_{h6}	5	20	195	5	235	145	140	—	471
K913/914	450	330	495	400	315	18	385	350_{h6}	5	23	220	8	285	180	170	—	565
K1013/K1014	550	400	591	500	375	18	418	450_{h6}	5	25	210	15	356	225	210	—	680

Table 2 K Series Unit Dimensions (mm) — "V" Solid Shaft Output Option

Shaft outputs in stainless or carbon steel. See page 194 for available shaft output options.

	Inches			Metric (mm)			Stainless	
Unit	U_{h6}*	UA – Key	UB	U*	UA – Key	UB	Inches	mm
K102	1.000	1/4 x 1/4 x 1-9/16	1.11	25_{k6}	M8 ×7×40	28	1.000	25
K202/203	1.250	1/4 x 1/4 x 1-15/16	1.36	30_{k6}	M8 ×7×50	33	1.250	30
K302/303	1.250	1/4 x 1/4 x 1-15/16	1.36	30_{k6}	M8 ×7×50	33	1.250	40
K402/403	1.375	5/16 x 5/16 x 2-5/16	1.51	40_{k6}	M12 ×8×70	43	1.375	–
K513/514	1.750	3/8 x 3/8 x 3-5/32	1.92	45_{k6}	M14 ×9×80	48.5	1.750	45
K613/614	1.750	3/8 x 3/8 x 3-5/32	1.92	50_{k6}	M14 ×9×90	53.5	1.750	–
K713/714	2.375	5/8 x 5/8 x 3-15/16	2.65	60_{k6}	M18 ×11×110	64	2.375	–
K813/814	2.875	3/4 x 3/4 x 4-5/16	3.21	70_{m6}	M20 ×12×125	74.5	2.875	70
K913/914	3.625	7/8 x 7/8 x 5-1/2	4.01	90_{m6}	M25 ×14×140	95	–	90
K1013/1014	4.375	1 x 1 x 7-1/8	4.82	110_{m6}	M28 ×16×180	116	–	–

**h6, j6, k6, m6 = existing value*

Table 4 K Series Unit Dimensions (mm) — "MT" Motor Adapter

	MT10			MT20			MT30			MT40			MT50			Wt.
Unit	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K102	36	224	124	36	238	128	—	—	—	—	—	—	—	—	—	31
K202	46	248	143	46	262	147	46	274	149	—	—	—	—	—	—	40
K203	46	285	180	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	52.5	278	163	52.5	292	167	52.5	304	169	—	—	—	—	—	—	67
K303	52.5	315	200	16	335	210	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	60	327	187	60	339	189	60	371	192	—	—	—	93
K403	60	350	220	23	370	230	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	15	322	172	15	334	174	15	366	177	—	—	—	106
K514	—	—	—	15	365	215	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	18	361	191	18	373	193	18	405	196	18	411.5	210	170
K614	—	—	—	18	404	234	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	20	406	221	20	438	224	20	443.5	237	221
K714	—	—	—	20	438	263	20	468	283	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	24	452	247	24	483	249	24	488.5	262	309
K814	—	—	—	—	—	—	24	513	308	5	554	320	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	25	563	294	25	568.5	307	508
K914	—	—	—	—	—	—	25	593	353	25	634	365	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	28	698.5	392	1055
K1014	—	—	—	—	—	—	—	—	—	28	764	450	28	781.5	475	1079

For approximate weight, add adapter weight from Table 3 and unit weight from Table 4.

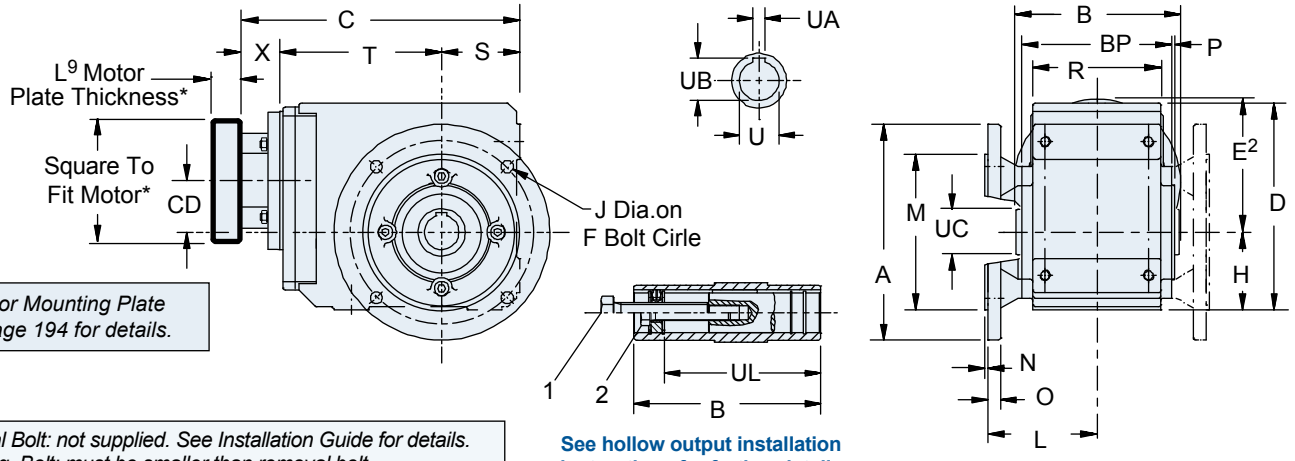
K/KL Series: RIGHT ANGLE – Solid Shaft/Hollow Output

K Series with "A" Hollow Output Option

"F" Round Flange Housing Option

Other flange sizes available: for details see "Optional "F" Round Flange Housing Options for K Series" on page 241 .

K102AF thru K403AF

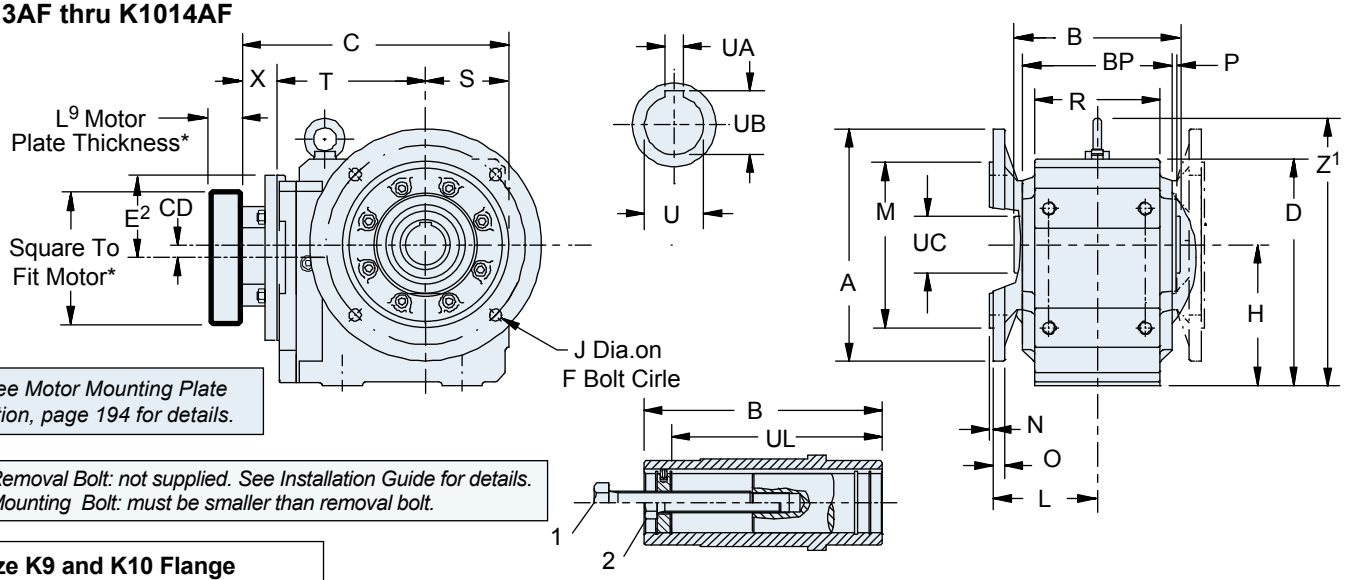


** See Motor Mounting Plate Option, page 194 for details.*

1. Removal Bolt: not supplied. See Installation Guide for details.
2. Mounting Bolt: must be smaller than removal bolt.

See hollow output installation instructions for further details

K513AF thru K1014AF

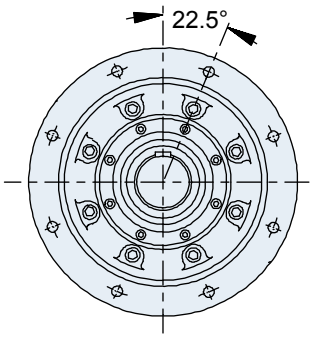


** See Motor Mounting Plate Option, page 194 for details.*

1. Removal Bolt: not supplied. See Installation Guide for details.
2. Mounting Bolt: must be smaller than removal bolt.

See hollow output installation instructions for further details

Size K9 and K10 Flange



K913 thru K1014 has 8 mounting holes in the output flange located as shown.

Table 3 Motor Adapter Dimensions (mm)

Motor Adapter	Motor Shaft D6 Max. 1)	Thickness 2) L9 Min.	E	E2	X	Wt. lbs.
MT10	19	21	140	70	40	5
MT20	24	24	160	80	50	8
MT30	38	25	200	100	60	12
MT40	48	33	250	125	89	18
MT50	60	43	300	150	81.5	16

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

Dimensional Data

Table 1 K Series Unit Dimensions (mm) – "F" Round Flange Housing Option

Unit	A	B	D	F	H	J	L	M*	N	O	P	R	S	Z_1	BP	UC	UL
K102	160	120	160	130	60	9	85	110_{j6}	3.5	10	4	90	60	—	106	40	98
K202/203	200	148	190	165	65	11	99	130_{j6}	3.5	12	4	115	65	—	134	45	121.5
K302/303	200	160	213	165	75	11	111	130_{j6}	3.5	14	4	130	75	—	146	50	125
K402/403	250	188	240	215	90	14	126.5	180_{j6}	4	15	4	148	90	—	173	55	157
K513/514	250	200	260	215	160	14	132	180_{j6}	4	15	4	160	100	312	185	65	164
K613/614	300	215	310	265	190	14	136	230_{j6}	4	17	4	168	120	362	200	70	179
K713/714	350	242	342	300	212	18	157	250_{h6}	5	18	4.5	190	125	403	226	85	214
K813/814	400	300	410	350	265	18	186	300_{h6}	5	20	5	235	145	471	282	100	263
K913/914	450	350	495	400	315	18	215	350_{h6}	5	23	5	285	180	565	330	120	302
K1013/K1014	550	410	591	500	375	18	256	450_{h6}	5	25	7	356	225	680	400	130	361

Table 2 K Series Unit Dimensions (mm) — "A" Hollow Bore Output Option

Inches (standard); Metric and Stainless available on request. Contact STOBER for delivery.

	Inches			Metric (mm)			Stainless	
Unit	U_{G7}*	UA	UB	U_{H7}*	UA_{JS9}*	UB	Inches	mm
K102	1.000	0.250	1.11	25	8	28.3	1.000	25
K202/203	1.1875	0.250	1.31	30	8	33.3	1.125, 1.1875, 1.25	30
K302/303	1.375	0.312	1.52	35	10	38.3	1.25, 1.375	35
K402/403	1.500	0.375	1.67	40	12	43.3	1.375, 1.500	40
K513/514	2.000	0.500	2.13	50	14	53.8	1.4375, 1.9375, 2.000	40, 50
K613/614	2.000	0.500	2.23	50	14	53.8	1.4375, 1.9375, 2.000, 2.1875	40, 50, 60
K713/714	2.375	0.625	2.66	60	18	64.4	1.9375, 2.00, 2.1875, 2.375	60
K813/814	2.750	0.625	3.03	70	20	74.9	2.1875, 2.375, 2.5, 2.6875, 2.750	60, 70
K913/914	3.250	0.750	3.59	90	25	95.4	2.6875, 2.9375, 3.000, 3.25, 3.4375	90
K1013/K1014	4.000	1.000	4.31	100	28	116	3.4375, 4.00	–

** h6, j6 = existing values; G7, H7, JS9 = actual values*

Table 4 K Series Unit Dimensions (mm) — "MT" Motor Adapter

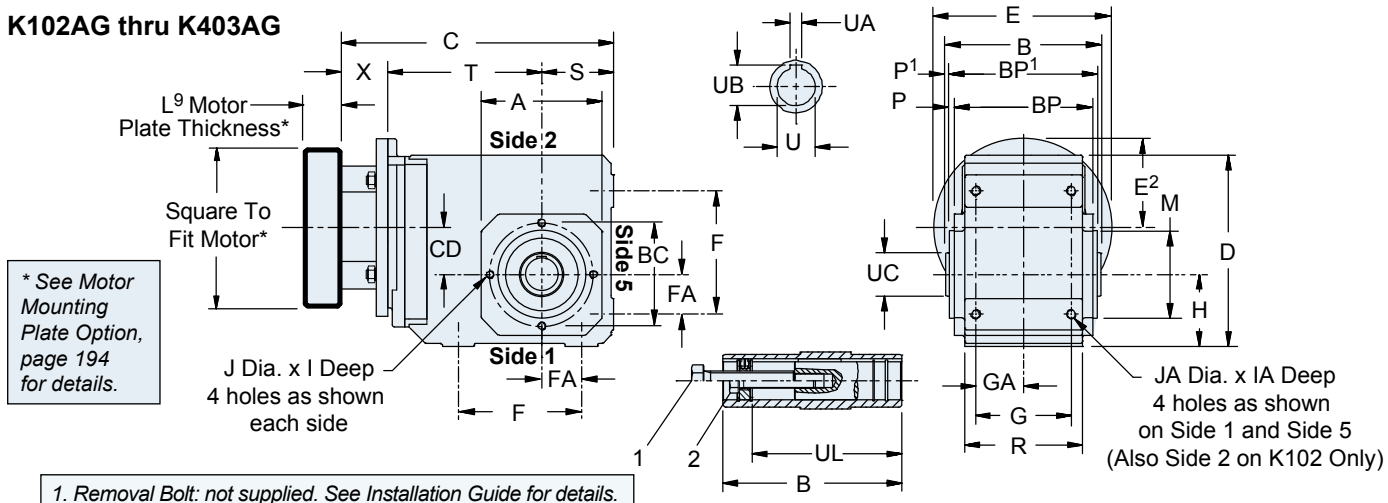
	MT10			MT20			MT30			MT40			MT50			Wt.
Unit	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K102	36	224	124	36	238	128	—	—	—	—	—	—	—	—	—	31
K202	46	248	143	46	262	147	46	274	149	—	—	—	—	—	—	40
K203	46	285	180	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	52.5	278	163	52.5	292	167	52.5	304	169	—	—	—	—	—	—	67
K303	52.5	315	200	16	335	210	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	60	327	187	60	339	189	60	371	192	—	—	—	93
K403	60	350	220	23	370	230	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	15	322	172	15	334	174	15	366	177	—	—	—	106
K514	—	—	—	15	365	215	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	18	361	191	18	373	193	18	405	196	18	411.5	210	170
K614	—	—	—	18	404	234	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	20	406	221	20	438	224	20	443.5	237	221
K714	—	—	—	20	438	263	20	468	283	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	24	452	247	24	483	249	24	488.5	262	309
K814	—	—	—	—	—	—	24	513	308	5	554	320	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	25	563	294	25	568.5	307	508
K914	—	—	—	—	—	—	25	593	353	25	634	365	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	28	698.5	392	1055
K1014	—	—	—	—	—	—	—	—	—	28	764	450	28	781.5	475	1079

For approximate weight, add adapter weight from Table 3 and unit weight from Table 4.

K Series with "A" Hollow Output Option

"G" Tapped Holes Housing Option

K102AG thru K403AG

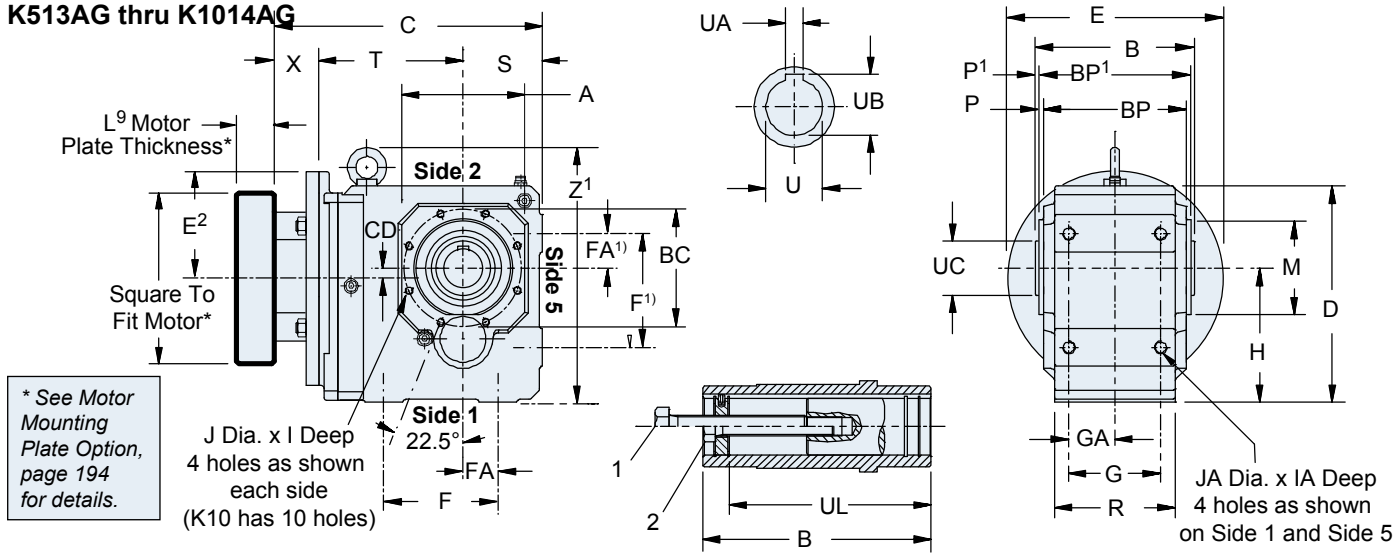


** See Motor Mounting Plate Option, page 194 for details.*

1. Removal Bolt: not supplied. See Installation Guide for details.
2. Mounting Bolt: must be smaller than removal bolt.

See hollow output installation instructions for further details

K513AG thru K1014AG

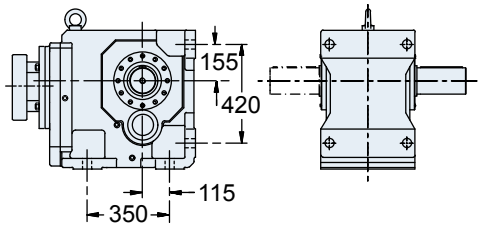


** See Motor Mounting Plate Option, page 194 for details.*

1. Removal Bolt: not supplied. See Installation Guide for details.
2. Mounting Bolt: must be smaller than removal bolt.

See hollow output installation instructions for further details

Size K10 Mounting Feet (Dimensions F and FA)



1) Mounting feet are integral on the K10 housing. Note that F = 420 and FA = 155 on Side 5 of the K10. Hole locations are as shown above.

Table 3 Motor Adapter Dimensions (mm)

Motor Adapter	Motor Shaft D6 Max. 2)	Thickness 3) L9 Min.	E	E2	X	Wt. lbs.
MT10	19	21	140	70	40	5
MT20	24	24	160	80	50	8
MT30	38	25	200	100	60	12
MT40	48	33	250	125	89	18
MT50	60	43	300	150	81.5	16

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

Dimensional Data

Table 1 K Series Unit Dimensions (mm) – "G" Tapped Hole Housing Option

Unit	A	B	D	F	G	H	I	J	M*	P	P[1]	R	S	Z[1]	BC	BP	BP[1]	FA	GA	IA	JA	UC	UL
K102	105	120	160	90	70	60	13	4-M8	75_{j6}	3	4	90	60	—	90	106	112	30	35	13	M8	40	98
K202/203	116	148	190	115	90	65	16	4-M8	82_{j6}	3	4	115	65	—	100	134	140	35	45	16	M10	45	121.5
K302/303	132	160	213	130	105	75	16	4-M8	95_{j6}	3	4	130	75	—	115	146	152	40	52.5	16	M10	50	125
K402/403	152	188	240	155	120	90	19	4-M10	110_{j6}	3.5	4	148	90	—	130	173	180	50	60	19	M12	55	157
K513/514	145	200	260	140	125	160	26	8-M10	110_{j6}	3.5	4	160	100	312	130	185	192	40	62.5	26	M16	65	164
K613/614	180	215	310	160	130	190	26	8-M10	140_{j6}	3.5	4	168	120	362	165	200	207	50	65	26	M16	70	179
K713/714	195	242	342	180	145	212	31	8-M12	155_{j6}	3.5	4.5	190	125	403	185	226	233	55	72.5	31	M20	85	214
K813/814	226	300	410	240	185	265	38	8-M12	185_{j6}	4	5	235	145	471	215	282	290	75	92.5	38	M24	100	263
K913/914	280	350	495	280	225	315	48	8-M16	230_{j6}	5	5	285	180	565	265	330	340	95	112.5	48	M30	120	302
K1013/K1014	340	410	591	350[1)]	330	375	33	10-M20	250_{h6}	5	7	356	225	680	300	400	396	115[1)]	165	45	39	130	361

[1)] *Mounting feet are integral on the K10 housing as shown in drawing, facing page. Note F = 420 and FA = 155 on* **Side 5** *of the K10.*

Table 2 K Series Unit Dimensions (mm) — "A" Hollow Bore Output Option

Inches (standard); Metric and Stainless available on request. Contact STOBER for delivery.

	Inches			Metric (mm)			Stainless	
Unit	U_{G7}*	UA	UB	U_{H7}*	UA_{JS9}*	UB	Inches	mm
K102	1.000	0.250	1.11	25	8	28.3	1.000	25
K202/203	1.1875	0.250	1.31	30	8	33.3	1.125, 1.1875, 1.25	30
K302/303	1.375	0.312	1.52	35	10	38.3	1.25, 1.375	35
K402/403	1.500	0.375	1.67	40	12	43.3	1.375, 1.500	40
K513/514	2.000	0.500	2.13	50	14	53.8	1.4375, 1.9375, 2.000	40, 50
K613/614	2.000	0.500	2.23	50	14	53.8	1.4375, 1.9375, 2.000, 2.1875	40, 50, 60
K713/714	2.375	0.625	2.66	60	18	64.4	1.9375, 2.00, 2.1875, 2.375	60
K813/814	2.750	0.625	3.03	70	20	74.9	2.1875, 2.375, 2.5, 2.6875, 2.750	60, 70
K913/914	3.250	0.750	3.59	90	25	95.4	2.6875, 2.9375, 3.000, 3.25, 3.4375	90
K1013/K1014	4.000	1.000	4.31	100	28	116	3.4375, 4.00	–

** h6, j6 = existing values; G7, H7, JS9 = actual values*

Table 4 K Series Unit Dimensions (mm) — "MT" Motor Adapter

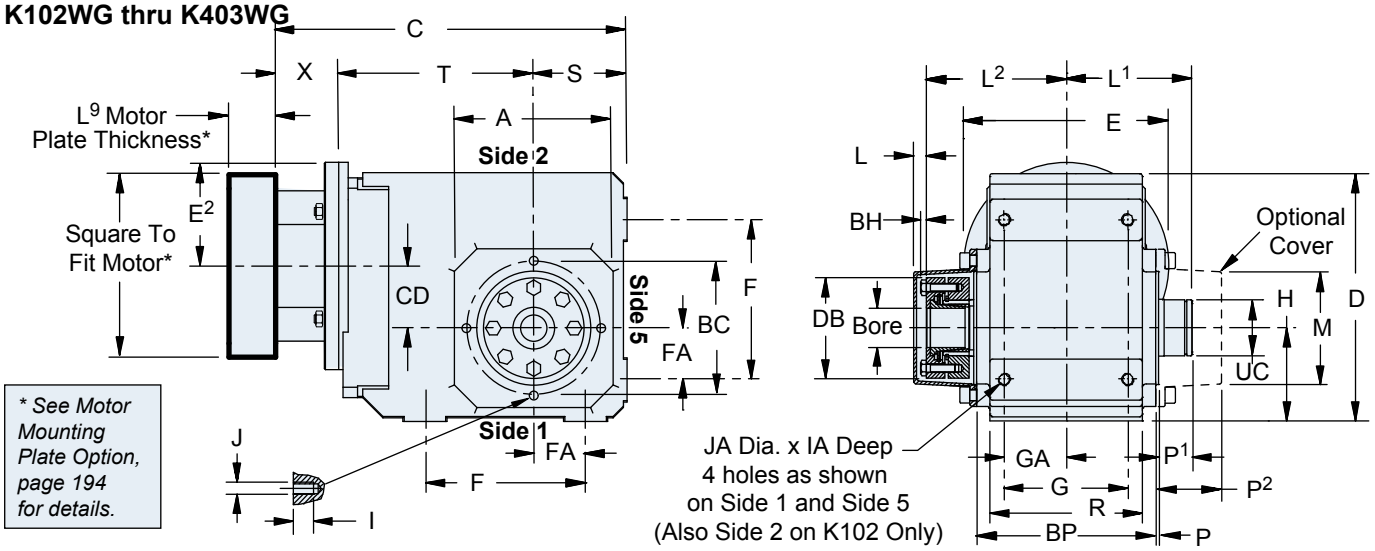
	MT10			MT20			MT30			MT40			MT50			Wt.
Unit	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K102	36	224	124	36	238	128	—	—	—	—	—	—	—	—	—	31
K202	46	248	143	46	262	147	46	274	149	—	—	—	—	—	—	40
K203	46	285	180	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	52.5	278	163	52.5	292	167	52.5	304	169	—	—	—	—	—	—	67
K303	52.5	315	200	16	335	210	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	60	327	187	60	339	189	60	371	192	—	—	—	93
K403	60	350	220	23	370	230	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	15	322	172	15	334	174	15	366	177	—	—	—	106
K514	—	—	—	15	365	215	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	18	361	191	18	373	193	18	405	196	18	411.5	210	170
K614	—	—	—	18	404	234	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	20	406	221	20	438	224	20	443.5	237	221
K714	—	—	—	20	438	263	20	468	283	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	24	452	247	24	483	249	24	488.5	262	309
K814	—	—	—	—	—	—	24	513	308	5	554	320	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	25	563	294	25	568.5	307	508
K914	—	—	—	—	—	—	25	593	353	25	634	365	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	28	698.5	392	1055
K1014	—	—	—	—	—	—	—	—	—	28	764	450	28	781.5	475	1079

For approximate weight, add adapter weight from Table 3 and unit weight from Table 4.

K Series with SINGLE "W" Wobble Free Bushing Output Option

"G" Tapped Holes Housing Option

K102WG thru 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 +0.000/-0.005 inches.

K513WG thru K814WG

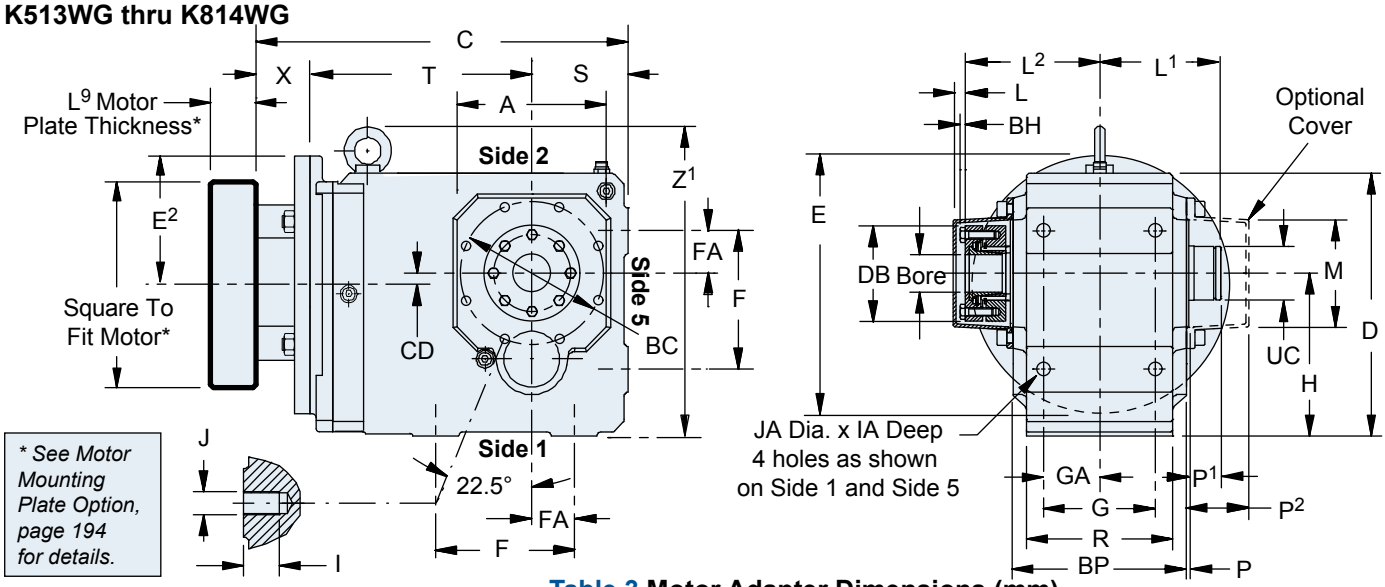


Table 3 Motor Adapter Dimensions (mm)

Motor Adapter	Motor Shaft D^6 Max. [1]	Thickness [2] L^9 Min.	E	E^2	X	Wt. lbs.
MT10	19	21	140	70	40	5
MT20	24	24	160	80	50	8
MT30	38	25	200	100	60	12
MT40	48	33	250	125	89	18
MT50	60	43	300	150	81.5	16

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

Dimensional Data

Table 1 K Series Unit Dimensions (mm) – "G" Tapped Hole Housing Option

Unit	A	D	F	G	H	I	J	L	L_1	L_2	M	P	P_1	P_2	R	S	Z_1	BC	BH	BP	DB	FA	GA	IA	JA	UC
K102	105	160	90	70	60	13	4-M8	6	80	93	78	3	24	40	90	60	—	90	4	106	70	30	35	13	M8	39
K202/203	116	190	115	90	65	16	4-M8	10	96	108.5	88	3	26	50	115	65	—	100	4	134	78	35	45	16	M10	44
K302/303	132	213	130	105	75	16	4-M8	11	102	115.5	88	3	26	52	130	75	—	115	4	146	84	40	52.5	16	M10	44
K402/403	152	240	155	120	90	19	4-M10	12	119	135	110	3.5	29	53	148	90	—	130	5	173	97	50	60	19	M12	54
K513/514	145	260	140	125	160	26	8-M10	11	126	142.5	115	3.5	30	61	160	100	312	130	5	185	105	40	62.5	26	M16	65
K613/614	180	310	160	130	190	26	8-M10	13	130	155	127	3.5	35	68	168	120	362	165	6	200	118	50	65	26	M16	74
K713/714	195	342	180	145	212	31	8-M12	10	157.5	185	146	3.5	41	74	190	125	403	185	6	226	138	55	72.5	31	M20	85
K813/814	226	410	240	185	265	38	8-M12	16	192.5	221	176.5	4	51.5	87	235	145	471	215	6	282	158	75	92.5	38	M24	100

Table 2 "WF" Single Side Bushing – Stock Bore Sizes

	Metric (mm)			Inches															
Unit	25	30	35	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
K1	WF1-25	—	—	WF1-100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K2	—	WF2-30	—	WF2-100	WF2-103	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K3	—	WF3-30	WF3-35	WF3-100	WF3-103	WF3-104	WF3-106	WF3-107	WF3-108	—	—	—	—	—	—	—	—	—	—
K4	—	—	—	WF4-100	WF4-103	WF4-104	WF4-106	WF4-107	WF4-108	—	—	—	—	—	—	—	—	—	—
K5	—	—	—	—	—	—	—	WF5-107	WF5-108	WF5-110	WF5-111	WF5-112	WF5-114	WF5-115	WF5-200	—	—	—	—
K6	—	—	—	—	—	—	—	WF6-107	WF6-108	WF6-110	WF6-111	WF6-112	—	WF6-115	WF6-200	WF6-203	—	—	—
K7	—	—	—	—	—	—	—	—	—	—	—	—	—	WF7-115	WF7-200	WF7-203	WF7-206	—	—
K8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	WF8-203	WF8-206	WB7-207	WF8-212

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

Table 4 K Series Unit Dimensions (mm) — "MT" Motor Adapter

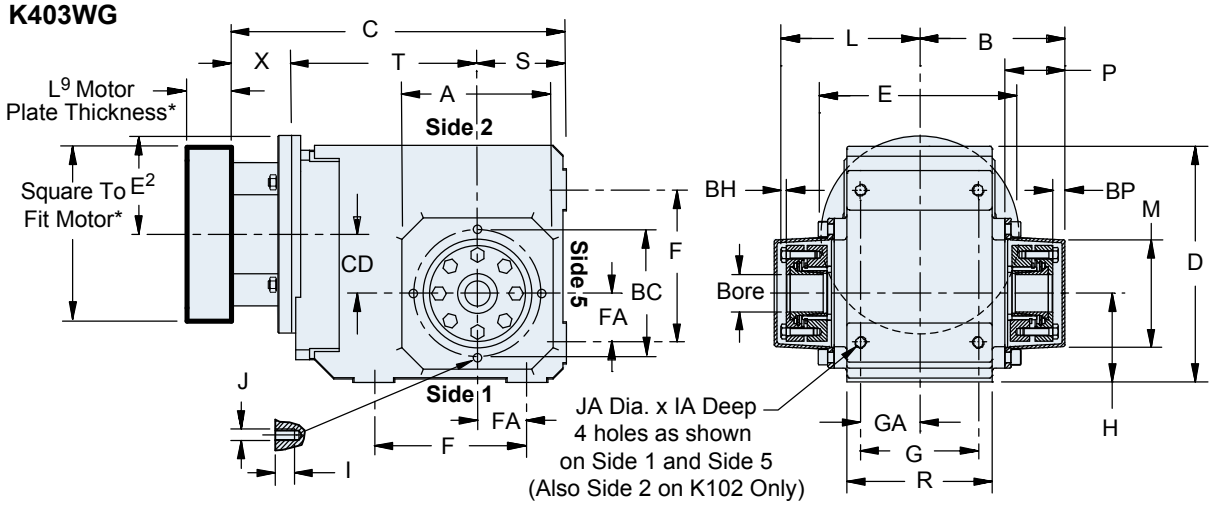
	MT10			MT20			MT30			MT40			MT50			Wt.
Unit	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K102	36	224	124	36	238	128	—	—	—	—	—	—	—	—	—	31
K202	46	248	143	46	262	147	46	274	149	—	—	—	—	—	—	40
K203	46	285	180	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	52.5	278	163	52.5	292	167	52.5	304	169	—	—	—	—	—	—	67
K303	52.5	315	200	16	335	210	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	60	327	187	60	339	189	60	371	192	—	—	—	93
K403	60	350	220	23	370	230	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	15	322	172	15	334	174	15	366	177	—	—	—	106
K514	—	—	—	15	365	215	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	18	361	191	18	373	193	18	405	196	18	411.5	210	170
K614	—	—	—	18	404	234	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	20	406	221	20	438	224	20	443.5	237	221
K714	—	—	—	20	438	263	20	468	283	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	24	452	247	24	483	249	24	488.5	262	309
K814	—	—	—	—	—	—	24	513	308	5	554	320	—	—	—	331

For approximate weight, add adapter weight from Table 3 and unit weight from Table 4.

K Series with DOUBLE "W" Wobble Free Bushing Output Option

"G" Tapped Holes Housing Option

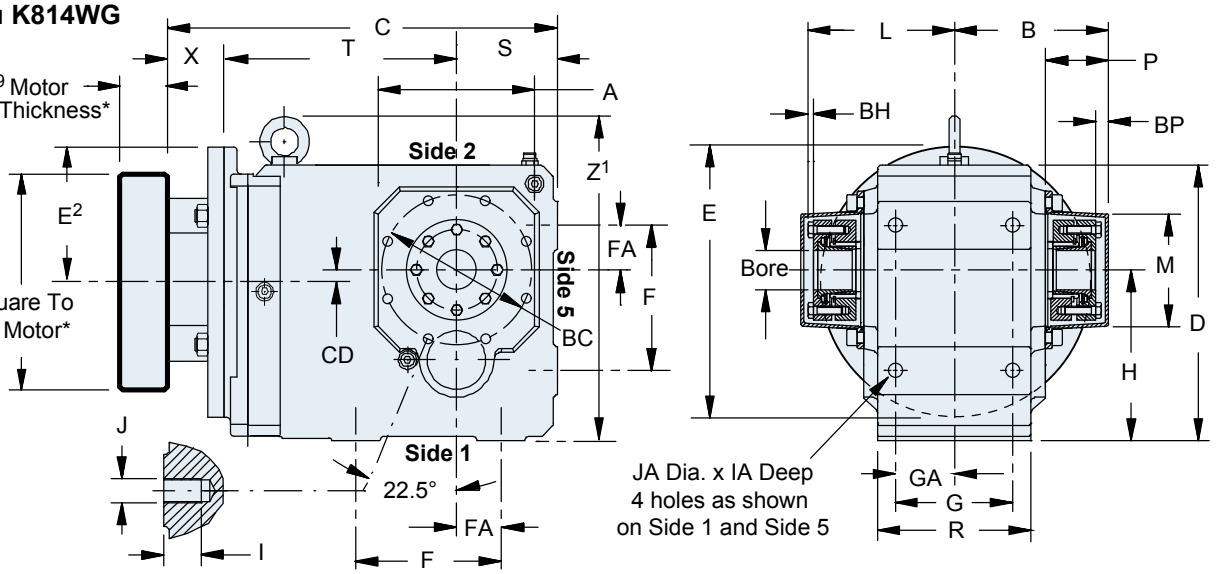
K102WG thru K403WG



** See Motor Mounting Plate Option, page 194 for details.*

Important: A **1/32"** x 45° chamfer minimum is recommended for the shaft end. The bushing will accept a shaft with a tolerance of +0.000/-0.005 inches.

K513WG thru K814WG



** See Motor Mounting Plate Option, page 194 for details.*

Table 3 Motor Adapter Dimensions (mm)

Motor Adapter	Motor Shaft D6 Max. 1)	Thickness 2) L9 Min.	E	E2	X	Wt. lbs.
MT10	19	21	140	70	40	5
MT20	24	24	160	80	50	8
MT30	38	25	200	100	60	12
MT40	48	33	250	125	89	18
MT50	60	43	300	150	81.5	16

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

Dimensional Data

Table 1 K Series Unit Dimensions (mm) – "G" Tapped Hole Housing Option

Unit	A	B	D	F	G	H	I	J	L	M	P	R	S	Z[1]	BC	BP	BH	FA	GA	IA	JA
K102	105	99	160	90	70	60	13	4-M8	97	78	50	90	60	—	90	6	4	30	35	13	M8
K202/203	116	118.5	190	115	90	65	16	4-M8	113	88	52	115	65	—	100	10	4	35	45	16	M10
K302/303	132	126.5	213	130	105	75	16	4-M8	119.5	88	53	130	75	—	115	11	4	40	52.5	16	M10
K402/403	152	147	240	155	120	90	19	4-M10	140.5	110	61	148	90	—	130	12	5	50	60	19	M12
K513/514	145	153.5	260	140	125	160	26	8-M10	147.5	115	61	160	100	312	130	11	5	40	62.5	26	M16
K613/614	180	168	310	160	130	190	26	8-M10	161	127	68	168	120	362	165	13	6	50	65	26	M16
K713/714	195	185	342	180	145	212	31	8-M12	191.5	146	74	190	125	403	185	10	6	55	72.5	31	M20
K813/814	226	221	410	240	185	265	38	8-M12	229	176.5	87	235	145	471	215	16	8	75	92.5	38	M24

Table 2 "WFB" Double Side Bushing – Stock Bore Sizes

	Metric (mm)				Inches															
Unit	25	30	35	40	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
K1	WFB1-25	—	—	—	WFB1-100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K2	WFB2-25	WFB2-30	—	—	WFB2-100	WFB2-103	—	—	—	—	—	—	—	—	—	—	—	—	—	—
K3	—	WFB3-30	WFB3-35	—	WFB3-100	WFB3-103	WFB3-104	WFB3-106	WFB3-107	WFB3-108	—	—	—	—	—	—	—	—	—	—
K4	—	—	—	WFB4-40	WFB4-100	WFB4-103	WFB4-104	WFB4-106	WFB4-107	WFB4-108	—	—	—	—	—	—	—	—	—	—
K5	—	—	—	WFB5-40	—	—	—	—	WFB5-107	WFB5-108	WFB5-110	WFB5-111	WFB5-112	WFB5-114	WFB5-115	WFB5-200	—	—	—	—
K6	—	—	—	WFB6-40	—	—	—	—	WFB6-107	WFB6-108	WFB6-110	WFB6-111	WFB6-112	—	WFB6-115	WFB6-200	WFB6-203	—	—	—
K7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	WFB7-115	WFB7-200	WFB7-203	WFB7-206	—	—
K8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	WFB8-203	WFB8-206	WB7-207	WFB8-212

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

Table 4 K Series Unit Dimensions (mm) — "MT" Motor Adapter

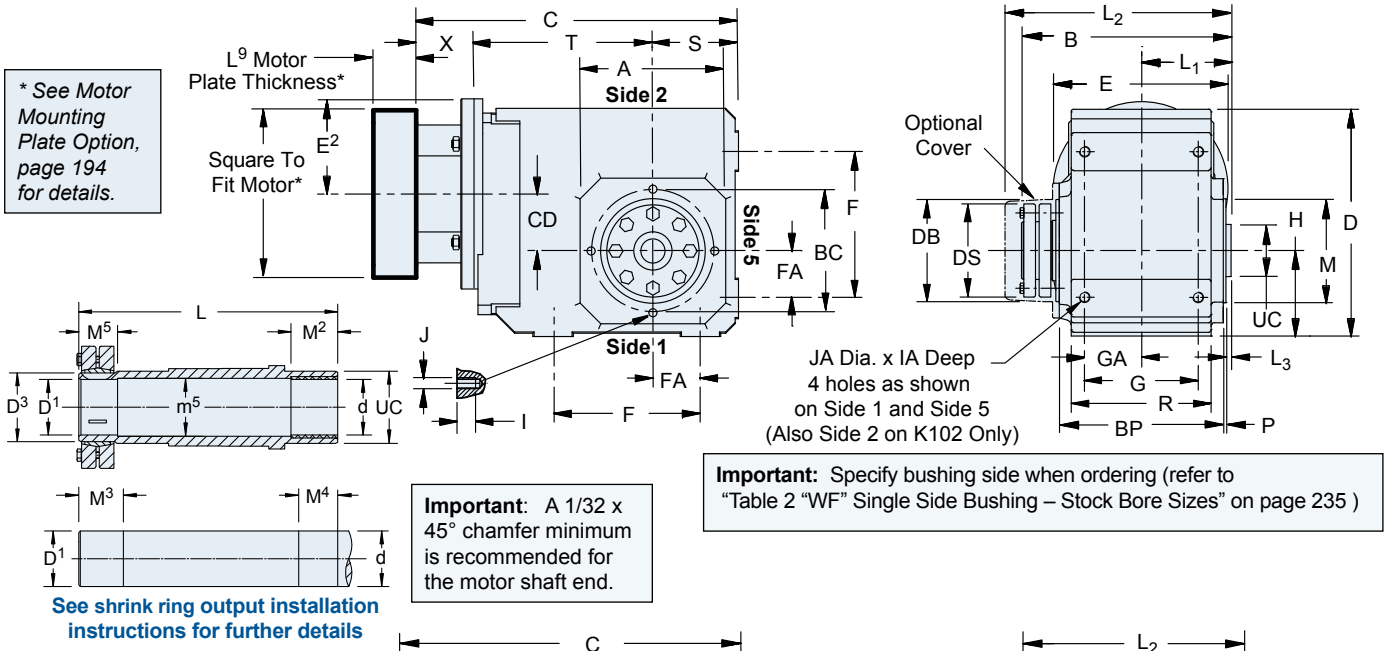
	MT10			MT20			MT30			MT40			MT50			Wt.
Unit	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K102	36	224	124	36	238	128	—	—	—	—	—	—	—	—	—	31
K202	46	248	143	46	262	147	46	274	149	—	—	—	—	—	—	40
K203	46	285	180	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	52.5	278	163	52.5	292	167	52.5	304	169	—	—	—	—	—	—	67
K303	52.5	315	200	16	335	210	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	60	327	187	60	339	189	60	371	192	—	—	—	93
K403	60	350	220	23	370	230	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	15	322	172	15	334	174	15	366	177	—	—	—	106
K514	—	—	—	15	365	215	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	18	361	191	18	373	193	18	405	196	18	411.5	210	170
K614	—	—	—	18	404	234	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	20	406	221	20	438	224	20	443.5	237	221
K714	—	—	—	20	438	263	20	468	283	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	24	452	247	24	483	249	24	488.5	262	309
K814	—	—	—	—	—	—	24	513	308	5	554	320	—	—	—	331

For approximate weight, add adapter weight from Table 3 and unit weight from Table 4.

K Series with "S" Shrink Ring Output Option

"G" Tapped Holes Housing Option

K102SG thru K403SG

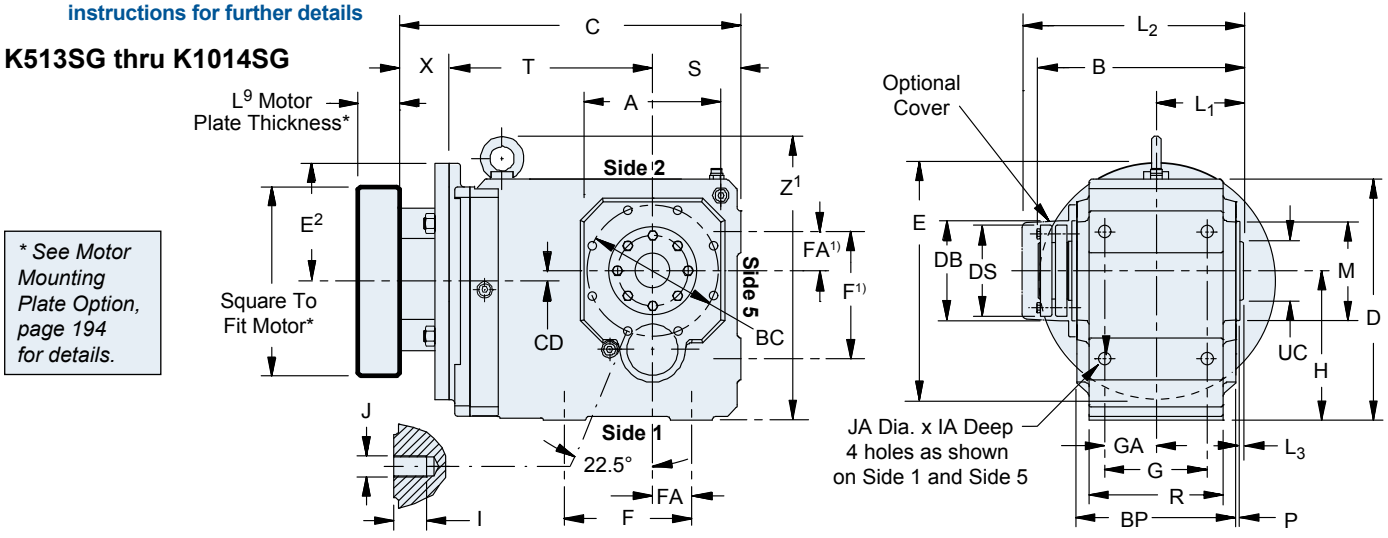


Important: A 1/32 x 45° chamfer minimum is recommended for the motor shaft end.

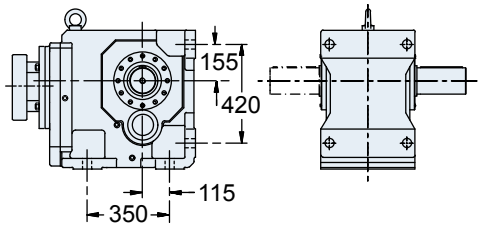
Important: Specify bushing side when ordering (refer to "Table 2 "WF" Single Side Bushing – Stock Bore Sizes" on page 235)

See shrink ring output installation instructions for further details

K513SG thru K1014SG



Size K10 Mounting Feet (Dimensions F and FA)



2) Mounting feet are integral on the K10 housing. Note that F = 420 and FA = 155 on Side 5 of the K10. Hole locations are as shown above.

Table 3 Motor Adapter Dimensions (mm)

Motor Adapter	Motor Shaft D6 Max. 2)	Thickness 3) L9 Min.	E	E2	X	Wt. lbs.
MT10	19	21	140	70	40	5
MT20	24	24	160	80	50	8
MT30	38	25	200	100	60	12
MT40	48	33	250	125	89	18
MT50	60	43	300	150	81.5	16

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

3) Motor plate maximum thickness (L9) will vary with motor shaft length but will not be less than shown.

Dimensional Data

Table 1 K Series Unit Dimensions (mm) – "S" Shrink Ring Housing Option

Unit	A	B	D	F	G	H	I	J	L_1	L_2	L_3	M	P	R	S	Z_1	BC	BP	IA	JA
K1	105	149	160	90	70	60	13	4-M8	60	163	4	75_{j6}	3	90	60	—	90	106	13	M8
K2	116	178	190	115	90	65	16	4-M8	74	193	4	82_{j6}	3	115	65	—	100	134	16	M10
K3	132	190	213	130	105	75	16	4-M8	80	206	4	95_{j6}	3	130	75	—	115	146	16	M10
K4	152	220	240	155	120	90	19	4-M10	94	242	4	110_{j6}	3.5	148	90	—	130	173	19	M12
K5	145	237	260	140	125	160	26	8-M10	100	254	4	110_{j6}	3.5	160	100	312	130	185	26	M16
K6	180	254	310	160	130	190	26	8-M10	107.5	276	4	140_{j6}	3.5	168	120	362	165	200	26	M16
K7	195	278	342	180	145	212	31	8-M12	121	288	4.5	155_{j6}	3.5	190	125	403	185	226	31	M20
K8	226	352	410	240	185	265	38	8-M12	150	362	5	185_{j6}	4	235	145	471	215	282	38	M24
K9	280	418	495	280	225	315	48	8-M16	175	425	5	230_{j6}	5	285	180	565	265	330	48	M30
K10	340	483	591	350 [1)]	330	375	33	10-M20	205	497	7	250_{h6}	5	356	225	680	300	400	45	39

[1)] Mounting feet are integral on the K10 housing as shown in drawing, facing page. Note F = 420 and FA = 155 on **Side 5** *of the K10.*

Table 2 K Series Unit Dimensions (mm) – "S" Single Side Shrink Ring

Unit	DB	DS	FA	GA	UC	d	d_1 Bore^{H7}	d_1 Shaft	d_3	d_4	m_2	m_3	m_4	m_5
K1	80	60	30	35	40	25_{h9}	25	25_{h9}	30	25.5	20	34	25	29
K2	88	72	35	45	45	30_{h9}	30	30_{h9}	36	30.5	25	39	30	34
K3	101	80	40	52.5	50	35_{h9}	35	35_{h9}	44	35.5	30	39	35	34
K4	114	90	50	60	55	40_{h9}	40	40_{h9}	50	40.5	40	39	45	34
K5	116	106	40	62.5	65	50_{h9}	50	50_{h9}	62	50.5	40	44	45	39
K6	128	106	50	65	70	50_{h9}	50	50_{h9}	62	50.5	40	45	45	40
K7	164	138	55	72.5	85	60_{h6}	60	60_{h6}	75	62	40	45	45	40
K8	203	155	75	92.5	100	70_{h6}	70	70_{h6}	90	72	50	60	60	50
K9	244	200	95	112.5	120	90_{h6}	90	90_{h6}	120	92	60	70	70	60
K10	274	230	115[1)]	165	130	100_{h6}	100	100_{h6}	130	102	60	80	70	70

[1)] Mounting feet are integral on the K10 housing as shown in drawing, facing page. Note F = 420 and FA = 155 on **Side 5** *of the K10.*

Table 4 K Series Unit Dimensions (mm) — "MT" Motor Adapter

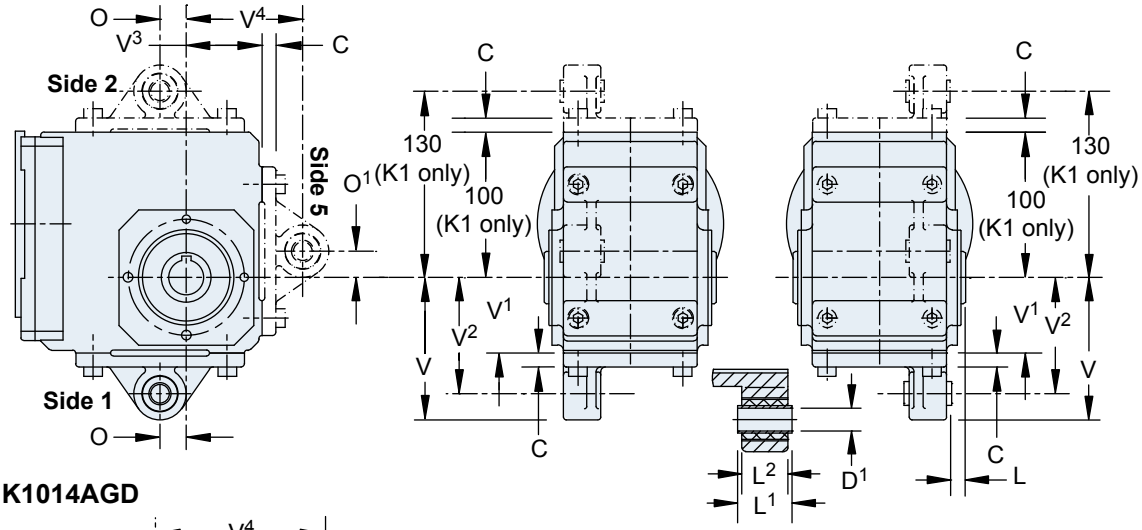
	MT10			MT20			MT30			MT40			MT50			Wt.
Unit	CD	C	T	CD	C	T	CD	C	T	CD	C	T	CD	C	T	lbs.
K102	36	224	124	36	238	128	—	—	—	—	—	—	—	—	—	31
K202	46	248	143	46	262	147	46	274	149	—	—	—	—	—	—	40
K203	46	285	180	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	52.5	278	163	52.5	292	167	52.5	304	169	—	—	—	—	—	—	67
K303	52.5	315	200	16	335	210	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	60	327	187	60	339	189	60	371	192	—	—	—	93
K403	60	350	220	23	370	230	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	15	322	172	15	334	174	15	366	177	—	—	—	106
K514	—	—	—	15	365	215	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	18	361	191	18	373	193	18	405	196	18	411.5	210	170
K614	—	—	—	18	404	234	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	20	406	221	20	438	224	20	443.5	237	221
K714	—	—	—	20	438	263	20	468	283	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	24	452	247	24	483	249	24	488.5	262	309
K814	—	—	—	—	—	—	24	513	308	5	554	320	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	25	563	294	25	568.5	307	508
K914	—	—	—	—	—	—	25	593	353	25	634	365	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	28	698.5	392	1055
K1014	—	—	—	—	—	—	—	—	—	28	764	450	28	781.5	475	1079

For approximate weight, add adapter weight from Table 3 and unit weight from Table 4.

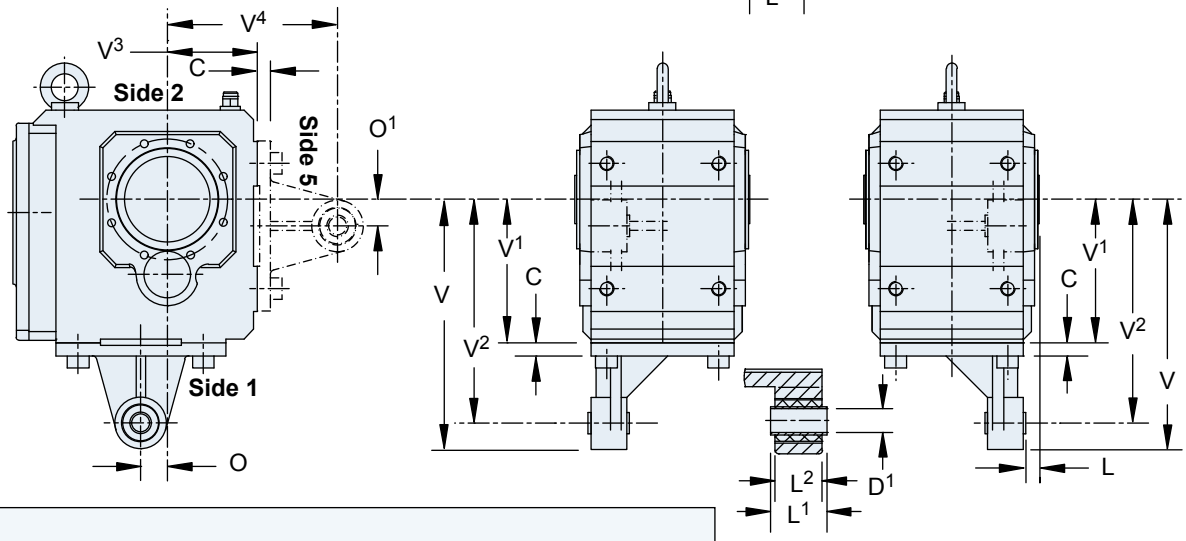
K Series with "A" Hollow Output Option

"GD" Torque Arm Housing Option (Torque arm supplied by others)

K102AGD thru K403AGD



K513AGD thru K1014AGD



Important:
On K102 thru K1014, brackets can be mounted on Side 1 (shown) or Side 5 (opposite input side). On K102 ONLY, the bracket can also be mounted on Side 2 (top).

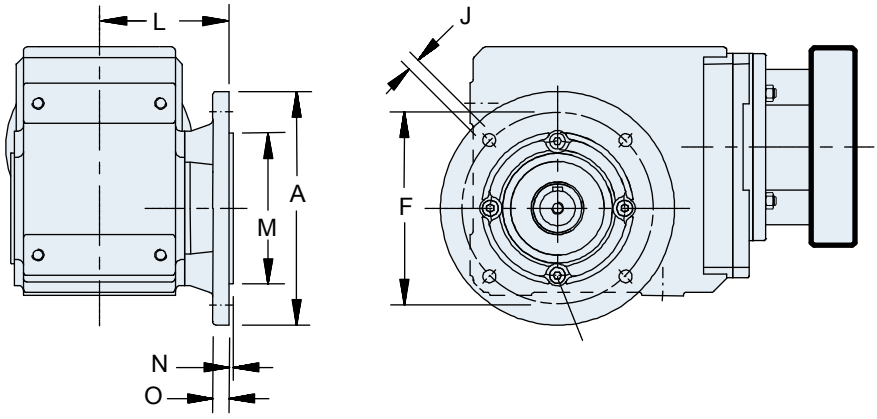
Table 1 K Series Unit Dimensions (mm) — "GD" Torque Arm Bracket Housing Option

Unit	C	D^1	L	L^1	L^2	O	O^1	V	V^1	V^2	V^3	V^4
K102	10	12_{H9}	13	28	24	15	15	111.5	60	90	60	90
K202/K203	12	16_{H9}	13.5	38	32	22.5	22.5	122.5	65	100	65	100
K302/K303	12	16_{H9}	12	38	32	25	25	142.5	75	120	75	120
K402/K403	14	20_{H9}	17	46	40	27.5	27.5	177.5	90	150	90	150
K513/K514	15	20_{H9}	17	46	40	30	30	279	160	250	100	190
K613/K614	15	20_{H9}	20.5	46	40	30	30	279	190	250	120	180
K713/K714	17	20_{H9}	23	70	64	35	35	334	212	300	125	213
K813/K814	17	24_{H9}	26	115	102	45	45	386	265	350	145	230
K913/K914	20	24_{H9}	26	115	102	45	45	487.5	315	450	180	315
K1013/1014	42	40_{H9}	6	124	118	60	55	610	375	550	225	400

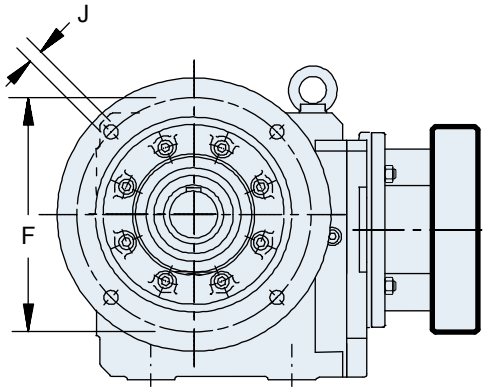
Dimensional Data

Optional “F” Round Flange Housing Options for K Series

K102_F thru K403_F



K513_F thru K814_F



K913_F thru K1014_F

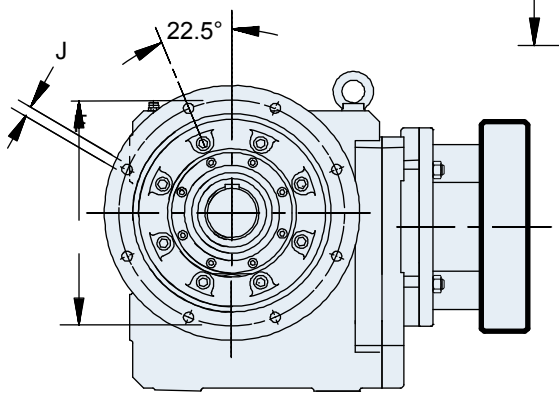


Table 1 K Series – Optional Flange Dimensions (mm)

Unit	Flange Size A	F	J	L	M	N	O
K102	140	115	9	85	95_{j6}	3	10
	160 *	130	9	85	110_{j6}	3.5	10
K202/K203	160	130	9	99	110_{j6}	3.5	12
	200 *	165	11	99	130_{j6}	3.5	12
K302/K303	160	130	9	111	110_{j6}	3.5	14
	200 *	165	11	111	130_{j6}	3.5	14
	250	215	14	111	180_{j6}	4	14
K402/K403	250 *	215	14	126.5	180_{j6}	4	15
K513/K514	250 *	215	14	132	180_{j6}	4	15
K613/K614	300 *	265	14	136	230_{j6}	4	17
K713/K714	350 *	300	18	157	250_{h6}	5	18
K813/K814	350	300	18	186	250_{h6}	5	18
	400 *	350	18	186	300_{h6}	5	20
	450	400	18	186	350_{h6}	5	20
K913/K914	450 *	400	18	215	350_{h6}	5	23
K1013/K1014	550	500	18	256	450_{h6}	5	25

** Asterisk indicates standard flange diameter. For other diameters, specify at the time of ordering.*