



Servo Gear Units

***Geared to a higher
standard™***

**In-Position
Technologies**

www.iptech1.com | (877) 478-3241 | help@iptech1.com



STÖBER

Servo Gear Units



Welcome to STOBBER!

Thank you for your interest in the servo gear reducers offered by STOBBER Drives, Inc.!

In 1934, the Stöber brothers founded a small shop in Pforzheim, Germany that made machines and repaired engines. Today, STOBBER is an international organization with offices in ten countries.

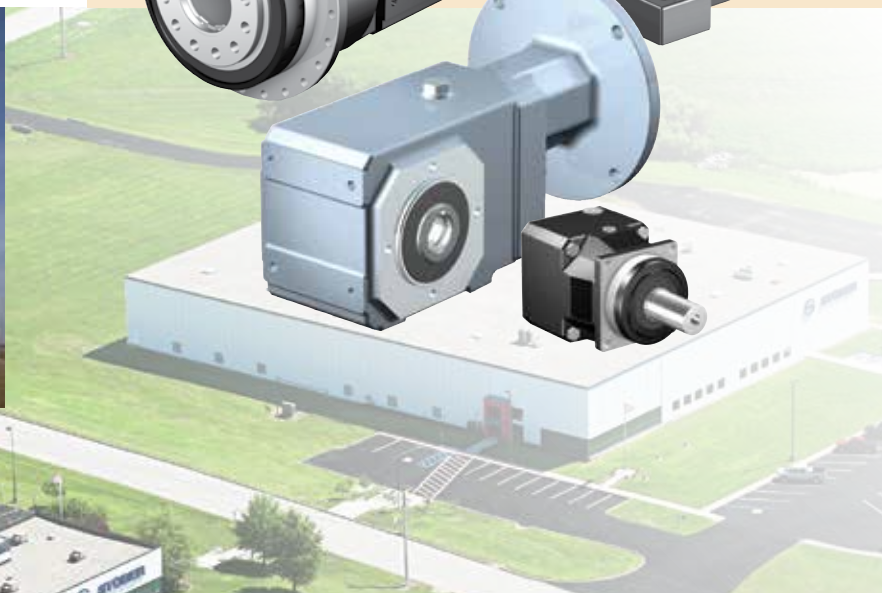
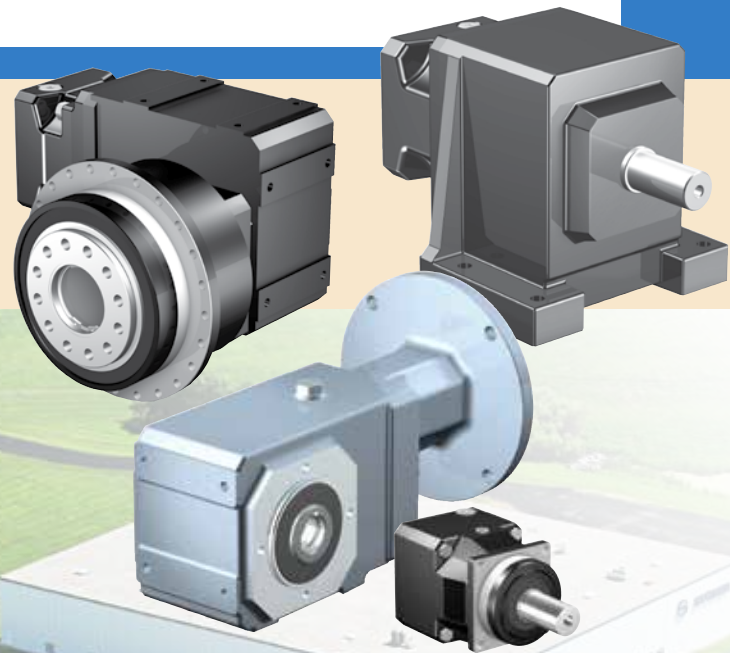
This 80 year heritage has given us expertise in servo gearing for which STOBBER is recognized worldwide as the “gold standard.” STOBBER products are of the highest quality and use only the best components.

This catalog covers our comprehensive servo gearbox products — Servo Precision Planetary and Modular Gearheads. STOBBER is recognized across the United States for its solution design, product durability, and service support. We look forward to the opportunity to work with you, and to help with your servo gearing needs.

Peter Feil, General Manager, STOBBER Drives, Inc.



STOBBER Drives Inc. was founded in 1991. Our Maysville, Kentucky campus includes 85,000 square feet of sales and service offices, assembly, manufacturing, and warehousing space for German-engineered STOBBER products for 1 day shipment nationwide.



Contents

About STOBER Drives		4-5
Servo Gear Units Features		6-7
Servo Gear Units Overview At-a-Glance		8-9
Servo Gear Units Sizing/Selection		10-11
Inline & Offset Gearhead Series	P/PA	14
	PH (A, Q, QA)	46
	PE	92
	C	102
	F	140
Right Angle Gearhead Series	K/KL	162
	PKX/PK	214
	PHKX/PHK/PHQK	248
	KS	298
	KSS	312
Technical Reference		326
Terms & Conditions of Sale		330
Other STOBER Drive Products		331



All manufactured components are inspected before being released to assembly. Our quality inspection team ensures every part meets tolerances and is in spec.

Unsurpassed:

STOBER products are designed and built to perform for the toughest applications. Reliability, adaptability and maintainability are our focus, and durability is truly our trademark.

Solution Designs that build quality around every requirement.

Product Durability that enhances the reliability and life of every application.

Service Support that is empowered to meet and exceed client expectations.



STOBER Serviced Industries:

- Beverage
- Food Processing
- Packaging
- Machine Tool
- Robotics
- Material Handling
- Semiconductor
- Printing
- Converting and many others...

Servo Gear Units

The Best you Can Buy...

At STÖBER, offering the best is not a buzz word — it is our passion and way of life. We offer the best product, provided by the best people and processes, and backed by the best service.

Why is STÖBER considered the industry Gold Standard? Our products are backed with superior service, outstanding quality, and the STÖBER guarantee.

- STÖBER gearheads survive in the toughest environments, providing long life under extreme conditions. Their high reliability and durability saves non-productive downtime and cost
- Our product reliability is backed by one of the best warranties in the industry
- We build and ship in 1 day saving you inventory hassle and cost
- Adapts to any servo motor

The Servo Gear Difference

A STÖBER Servo Gearhead helps optimize your total operational performance with:

- High torsional stiffness, superior accuracy
- Smoother running, better efficiency
- Leakage free, maintenance free
- Runs cool – a difference you can feel
- Runs measurably quieter – 16 times more quiet*
- Lower backlash
- The versatility and interchangeability of our components allow most products to be assembled and shipped in 1 day

* Noise Level

If a planetary is loud — something is WRONG!

STÖBER Servo planetary =
60 dB(A)

Convention spur gear planetary =
70-72 dB(A)

Bottom line: 1 conventional gearhead produces the same noise level as 16 STÖBER planetary gearheads with HeliCamber™ gearing

Striving Harder to Deliver the Best Gear Solutions

STÖBER Drives has been assembling products at our Maysville, Kentucky facility for over twenty years. Our expertise in the production and assembly of low-backlash gear units produces products that comply with the highest quality standards.

But, we don't remain satisfied with the status quo. We are continuously improving our modern machining production center including numerous recent acquisitions to improve our manufacture time and to ensure maximum quality levels.

All reducer components (gears, covers, material, etc.) are backed by a five year warranty. Normal wear items (oil seals, bearings, etc.) are covered for two years.

Vision: To be recognized as the gold standard

Mission: To provide the most reliable drive solutions for demanding applications in the shortest lead-time

Values: Seeking the best; operating with integrity; serving others, growth through learning





Assembly stages of “F” Series gearheads: Paint curing oven allows for one day assembly and higher paint durability (left); units awaiting final inspection prior to shipment (right).

Service Support for a Lifetime

We stand behind every drive we sell, which is why our service support is also the gold standard in the industry:

STOBER takes pride in offering knowledgeable, factory-trained USA-based service support for our customers. When you call, you won't get a call center on the other side of the globe. Your call is answered in 3 rings or less, letting you know you've found a support system that values your time.

Our easy order method insures you maintain a single contact throughout the process. And, your service representatives are directly responsible for your account. After the sale, our products are easy to install, but if you do have a question or a problem, we provide application and installation support anywhere in the US. With over 80 years gearing & 30 years motor and electronics experience, we have the expertise to solve your most difficult problems.

Application Support Programs

- For support during normal business hours: call 800-711-3588 or email sales@stober.com
- 24/7 emergency customer service hotline: 606.563.6035
- Consultative product support team available via phone or live chat on our website
- Application Sizing Software
- Online web tools: CAD and configurator
- On-site training available
- Emergency shipments available 24/7



Key STOBER Numbers

- 1 day shipping
- 1 hour quoting
- 3 rings or less when you call in — we answer the phone, not an automated switchboard!
- 100% inspected and tested during assembly for seal pressure test and ratio verification. STOBER also observes the reducer for any abnormal noise or vibrations during testing
- 5 year warranty
- 24/7 customer service



STOBER Staff Team Members

Facing page: Earl Bennington, Warehouse Team Leader, 1992, and Anita Truesdell, Picker, 2007;
From top, left to right: Stephanie Berry, LMS Administrator, 2006; Brian Sharp, Product Management Team Leader, 2003; Rick McCall, Machinist, 2007; Lee Thomas, Industrial Engineer, 2003

The Servo Gear Unit Difference

The following outlines some of our quality standards and unique STÖBER features that set Servo gearheads apart from all others...

Food and Corrosion Resistant Duty

P PKX PK C F K/KL KSS

Lifetime lubrication; double output seals (where possible); maintenance free design; stainless output bushing, shaft, or bore — finish is USDA approved for food processing and handling; heat cured.

KSS for extreme high pressure food washdown!

- IP69K certified for extreme high pressure food washdown (sprayed at close distance at 100 bars or 1,450 PSI)
- Certified against dust and water ingress
- 304 stainless steel cast housing

Explosion Proof

P PA PH PHA PHQ PHQA
PKX PHKX C F K

ATEX is often used in process control and converting where unstable gases and dust can be found

ATEX is a directive consisting of two European directives describing equipment or work environment allowed in an environment with an explosive atmosphere. ATEX derives its name from the ATmospheres EXplosible.

Please consult our product support team for assistance selecting an ATEX gearbox.

Large Input Planetary

P PA PE PH PHA PHQ PHQA KS

Equipping a Servo gearhead with the large input option allows a larger shaft diameter motor to be used, keeping gearhead size and cost down! This input is ideal for inertia matching.

ServoCool®

P PA PH PHA



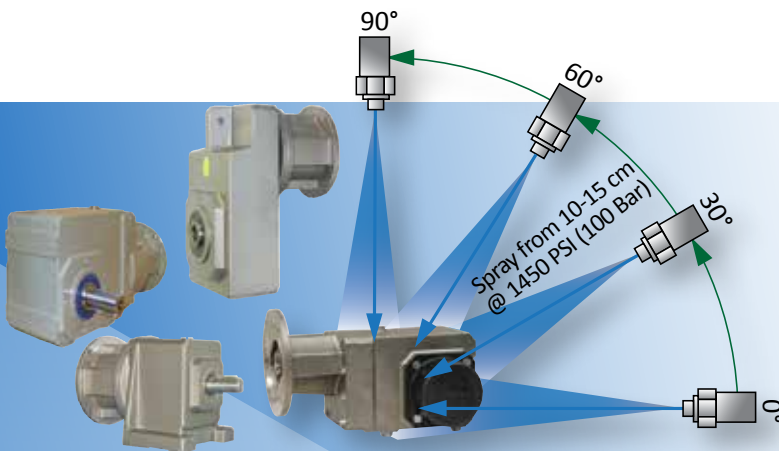
Servo gearheads with the air cooled ServoCool® option reduces the operating temperature 22°C (increases the ambient temperature limit 22°C), increases the output speed 54% and improves the servo motor rating 25%.

Servo motors are connected to Servo gearheads by using a motor adapter.

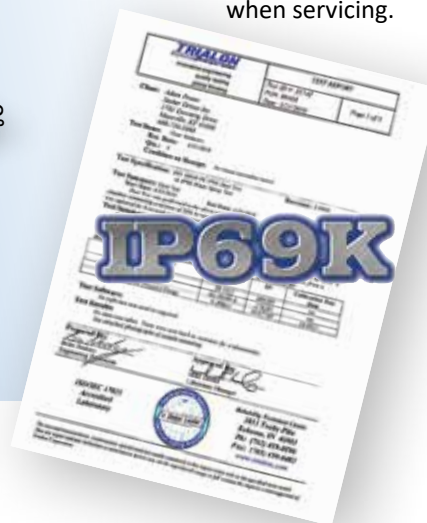
Spiral Groove Hollow Bore

F K KL KS KSS

The inside diameter on our hollow bore units feature a spiral (rifle) bore design providing an anti-seize lubricating groove. This enables the Servo gearhead to slide off freely when servicing without damage to the output shaft. With conventional smooth-surface hollow bore designs, any anti-seize lubricant applied during installation of the output shaft has no where to go except out the other end. Invariably, these designs will seize, making it necessary to cut off the output shaft when servicing.



Above: KSS Servo Gearheads are IP69K certified to withstand frequent pressure cleaning operations typical in the food industry and elsewhere. Other STÖBER products, including C, F and K Series, are optionally available with IP69K compliant protection.

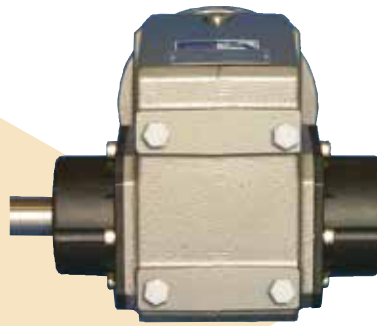


Wobble Free Bushing

F K KL KSS

The STÖBER “Wobble Free” bushing is a unique (U.S. Patent Number 5,496,127), bushing system which can be supplied on a single side or double sides. Each case size can be provided with a variety of bushing bores. The unit is selected based on torque rating, output speed or ratio, and the shaft size of the driven equipment.

- A distinct support side and a clamp side, the dual tapered cones will overcome a wide range of tolerances normally found with standard shaft materials. No shaft key necessary.
- Many unit sizes can be supplied with output covers on one or both sides which protect the seals and also cover the rotating bushing
- The reducer output bore can be changed any time by changing the bushing kit
- The quill, all bushing parts, and hardware can be supplied stainless steel to provide corrosion resistance for washdown applications



Double Sided Bushing:

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

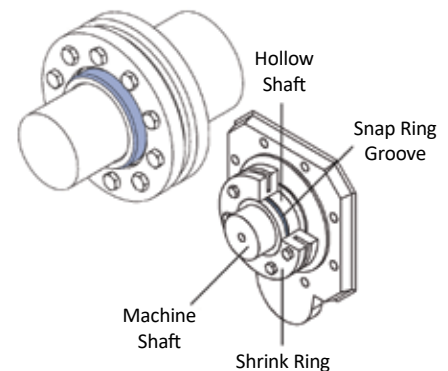
The double sided bushing is not installed into the unit at assembly, but with easy-to-follow installation instructions, the unit and bushing can be mounted on the machinery quickly – without any special tools.

Single Sided Bushing :

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

Shrink Ring Connection

F K KL KS



F, K, KL and KS Series gearheads with a hollow bore can be connected to a finished machine drive shaft by frictional engagement through compression of a shrink ring on the hollow shaft.

This shaft-hub connection is totally free of backlash. Because of its self-centering property, it can transmit high torques and axial thrusts with great accuracy.

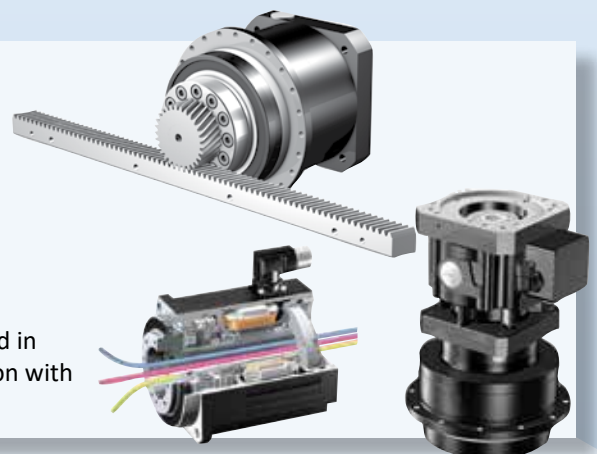
Gear units supplied with a shrink ring, are shipped with the ring installed on the hollow shaft end, ready for assembly.

See page 331 for More Servo Gearhead Compatible Products...

EZ Series Servo Motors available to fit all Servo gearheads

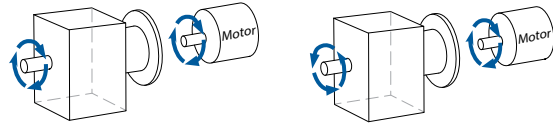
Rack and Pinion Servo gearhead systems are a ready to install engineered solution for precision automation applications requiring forces up to 122 kN (27,400 lbs.) with linear backlash as low as 7 µm

ServoStop automatic, electrically-actuated integrated holding brake used in place of a servo motor brake for dynamic safety braking, or in conjunction with the servo motor brake for redundancy in safety applications



Servo Gear Units

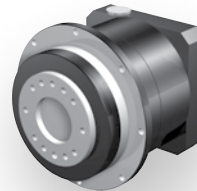
Inline & Offset Inline Gearheads



P/PA — Shaft Output *

STOB P Series is the cornerstone of most of our inline family of precision planetary gearheads. They are the most accurate and efficient planetary gearheads available. HeliCamber® gear technology provides minimum wear, low backlash and low noise. The PA Advanced Series takes backlash to the absolute minimum, and performance to the max.

- 3:1 to 100:1
- Up to 2,000 Nm torque (nom)
- Up to 8,000 RPM input speed
- Backlash: P: <3 arc min; PA: <1 arc min



PH/PHA/PHQ/PHQA — Flange Output*

STOB PH family gearheads offer a rotating flange output version of the P Series. The PHA Advanced Series takes backlash to the absolute minimum, and the PHQ and PHQA feature “Quattro” power planetary gearing for extreme torque and ratio capabilities.

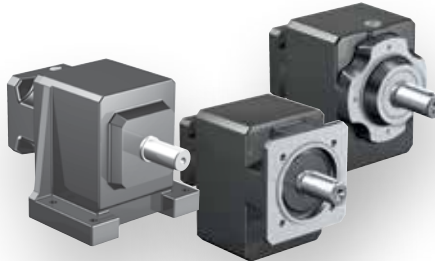
- 4:1 to 600:1
- Up to 13,000 Nm torque (nom)
- Up to 8,000 RPM input speed
- Backlash: PH/PHQ: <3 arc min; PHA/PHQA: <1 arc min



PE — Shaft Output*

STOB PE Series Servo Precision Planetary Gearheads are available for applications where very low backlash is not a criteria. They are an economical helical tooth planetary, comparable in quality to other STOB units.

- 3:1 to 100:1
- Up to 160 Nm torque (nom)
- Up to 8,000 RPM input speed
- Backlash: < 8 arc min



C — Shaft Output*

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

- 2:1 to 276:1
- Up to 7,000 Nm torque (nom)
- Up to 6,500 RPM input speed
- Backlash: < 14 arc min

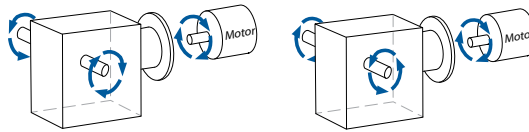
F — Versatile Outputs*

STOB F Series gear drives are a popular choice for applications that require high performance, efficiency, durability, and flexibility. F Series are available with a wide selection of configurations to match almost any mounting requirement.

- 4:1 to 551:1
- Up to 1,100 Nm torque (nom)
- Up to 7,000 RPM input speed
- Backlash: < 10 arc min

* See page 326 for comparison of all output options and sizes available

Right Angle Gearheads



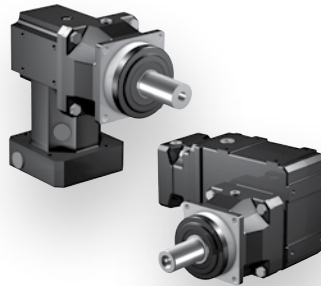
Many right angle gearheads offer output on either or both sides



K – Versatile Outputs*

STOBBER K Series helical/bevel gear drives are the most popular and versatile Servo right angle gearheads. They are the optimal drive for truly demanding continuous-duty applications, offering higher efficiencies than conventional worm gear drives or planetary gearheads.

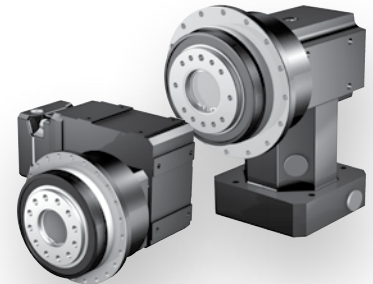
- 4:1 to 381:1
- Up to 12,000 Nm torque (nom)
- Up to 7,000 RPM input speed
- Backlash <10 arc min



PKX/PK – Shaft Output*

STOBBER PKX and PK Series precision planetary gearheads combine the P Series gearhead with the low ratio “KX” right angle platform or the reduced backlash K Series platform.

- Ratios: 3:1 to 300:1;
- Up to 2,000 Nm torque (nom)
- Up to 6,000 RPM input speed
- Backlash: PKX: ≤4 arc min;
PK: ≤3.5 arc min



PHKX/PHK/PHQK – Flange Output*

STOBBER PH right angle gearhead configurations offer a rotating flange output combining the P Series gearhead with the low ratio “KX” or reduced backlash K Series. The PHQK features the “Quattro” power planetary gearing for extreme torque and ratio capabilities.

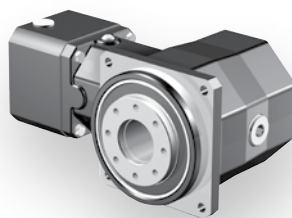
- 4:1 to 591:1
- Torque: 13,000 Nm (nom)
- Up to 7,000 RPM input speed
- Backlash <3.5 arc min



KL – Versatile Outputs*

The STOBBER KL Series offers the same output and housing versatility as the K series, but is much more compact and ideal for smaller gearhead size applications.

- 4:1 to 32:1
- Up to 50 Nm torque (nom)
- Up to 6,000 RPM input speed
- Backlash: ≤20 arc min



KS – Versatile Outputs*

STOBBER KS Series precision planetary gearheads use time-tested helical gearing and finish ground spiral bevel gears to provide a low backlash unit, that is smooth running, with high efficiency, high power density, and high input speed capacity..

- 6:1 to 200:1
- Up to 250 Nm torque (nom)
- Up to 6,000 RPM input speed
- Backlash: < 4 arc min



KSS – Versatile Outputs*

STOBBER is proud to offer our quality-proven, high-efficiency KSS Series Helical/Bevel speed reducer in a stainless steel housing necessary for the toughest washdown applications.

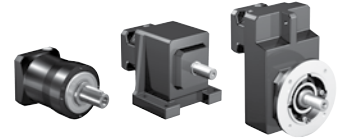
- 4:1 to 70:1
- Up to 346 Nm torque (nom)
- Up to 6,000 RPM input speed
- Backlash: < 10 arc min

Servo Gear Units

Versatility

STOBER Drives offers the world's largest variety of gearheads to fit virtually all servo needs.

INLINE & OFFSET INLINE GEARHEADS



Performance, Configurations and Options

		P	PA	PH	PHA	PHQ	PHQA	PE	C	F
		page 14		page 46				page 92	page 102	page 140
Input	Large Input	•	•	•	•	•	•	•		
	ServoCool	•	•	•	•					
Output (see page 326 for details)	Solid Shaft	•	•					•	•	•
	Hollow Bore									•
	Rotating Flange			•	•	•	•		•	•
	Shrink Ring									•
	Single Bushing									•
	Double Bushing									•
	Flange								•	•
Housing	Foot Mount								•	•
	Tapped Holes								•	•
	IP65	•	•	•	•	•	•	IP64	•	•
Protection	IP69K Washdown								Opt	Opt
	ATEX Certified	Opt	Opt	Opt	Opt	Opt	Opt		Opt	Opt
	304SS Housing									
Paint/Coatings	Standard Black	•	•	•	•	•	•	•	•	•
	Food Duty	•							•	•
	Corrosion Resistant Duty								•	•
Added Functionality	ServoStop*	•	•	•	•				•	•
	Rack and Pinion*	•	•	•				•		
Performance + Good +++ Better +++++ Best	Continuous RPM	+++	+++	++	++	++	++	+++	+++	++
	Stiffness	+++	+++	++	++++	+++++	+++++	+	+	++++
	Torque Density	+++	+++	++	++++	+++++	+++++	+	+	++++
Precision ArcMin Backlash	1	•		Opt		Opt				
	1-3			•		•			•	
	3-5				•					
	5-10						Opt			Opt
	10-15		•				•			•
	15-20							•		
Nominal Output Torque Ranges Nm	0-50	•	•	•	•			•	•	•
	50-200	•	•	•	•			•	•	•
	200-1,000	•	•			•	•	•	•	•
	1,000-5,000	•	•			•	•	•	•	•
	5,000-10,000					•	•	•	•	•
	10,000-23,000					•	•			

* See page 331 for more information

RIGHT ANGLE GEARHEADS

SS304



	K	KL	PKX	PK	PHKX	PHK	PHQK	KS	KSS
	page 162		page 214		page 248			page 298	page 312
								•	
	•	•	•	•				•	•
	•	•						•	•
	•	•			•	•	•	•	
	•	•						•	•
	•	•							•
	•	•							•
	•	•	•	•	•	•	•	•	•
	Opt	Opt							•
	Opt		Opt		Opt	Opt	Opt	Opt	•
									•
	•	•	•	•	•	•	•	•	
	•	•	•	•				•	
	•	•	•	•	•	•	•	•	
	•	•	•	•	•	•	•	•	
	++++	++	+	++	+	++	++	+++	+++
	+	+	+++	++	++++	+++	+++++	++	+
	+	+	+++	++	+++	++	++++	++	+
				•					
	Opt		•		•	•	•	•	
	•								•
		•							
	•	•	•		•		•	•	•
	•		•	•	•	•	•	•	•
	•		•	•	•	•	•	•	•
	•		•	•	•	•	•	•	•
	•		•	•	•	•	•	•	•
	•		•	•	•	•	•	•	•

Servo Gear Units Application-Tailored Solutions

Industry	Ideal Gearhead Applications	Recommended STÖBER Gearhead
Aerospace	<ul style="list-style-type: none"> Automated Guided Vehicles (AGV) Drilling and Riveting Machine Tool Testing and Inspection 	<ul style="list-style-type: none"> Carbon Fiber Placement Fuselage Space Tracking Systems Wing assembly
Automation	<ul style="list-style-type: none"> Assembly turn tables Linear presses Robotics auxiliary axis Palletizing 	<ul style="list-style-type: none"> Custom assembly machines Radar Pipe and wire bending
Automotive Manufacturing	<ul style="list-style-type: none"> Transfer lines Robotic auxiliary Machining Tire manufacturing Carbon fiber production 	<ul style="list-style-type: none"> Metal cutting and bending Pick and place Index tables Electronics assembly
Converting	<ul style="list-style-type: none"> Cutting Tension Control Web Lines 	<ul style="list-style-type: none"> Winding Paper Converting
Machine Tool	<ul style="list-style-type: none"> Horizontal and vertical mills Large gantry cranes Carbon fiber placement Flame, laser, water jet, and plasma cutting Back gauging 	<ul style="list-style-type: none"> Grinding X-Y tables Indexing tables Chip conveyors Bending and forming Tool changers
Material Handling	<ul style="list-style-type: none"> Pick and place Line diverter Sorting/diverting 	<ul style="list-style-type: none"> Linear transfer Palletizing
Medical	<ul style="list-style-type: none"> Imaging Radiation Centrifuge 	
Packaging	<ul style="list-style-type: none"> Continuous or intermittent filling applications 	
Plastics/Composites	<ul style="list-style-type: none"> Often used to replace hydraulic actuators in injection molding Injection molding Carbon fiber placement 	<ul style="list-style-type: none"> Extrusion lines Blow molding Thermoforming Rubber molding
Printing	<ul style="list-style-type: none"> Labels Flexographic printing 	<ul style="list-style-type: none"> Circuit Boards Sheet
Robotics	<ul style="list-style-type: none"> Delta Pick and place Telescoping arms 	<ul style="list-style-type: none"> Auxiliary axis to rotate and move robot Positioning axis
Semiconductor	<ul style="list-style-type: none"> Wafer polishing Wafer handling 	<ul style="list-style-type: none"> Circuit web printing
Valve Control	<ul style="list-style-type: none"> Ideal for handling rapid dithering positioning Ball, gate, and globe valves 	<ul style="list-style-type: none"> Throttle/governor valves Chokes Process valves ATEX explosion proof available

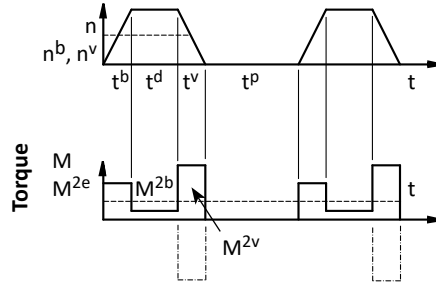
Gearhead Sizing to your Specific Application Requirements

Sizing/Selection

Use the chart on the facing page and below to determine the best series and the right size gearhead to meet your specific application requirements. In each product section of this catalog, the necessary data and a "Load/Life/Speed Calculation" section are provided to help you work through these equations..

By all means, please feel free to call or email (sales@stober.com), if you have any questions or need assistance determining the best solution for your application.

Cycle Run



$$M_{2e} = \sqrt[3]{\frac{n_{2b} \cdot t_b \cdot M_{2b}^3 + \dots + n_{2n} \cdot t_n \cdot M_{2n}^3}{n_{2b} \cdot t_b + \dots + n_{2n} \cdot t_n}}$$

Service Factor

Apply to Nominal Rating ONLY

	P, PA, PE PH, PHA PHV, PHVA, PHQ, PHQA, KS	PKX, PK, PHKX, PHK, PHQK, C, F, K, KSS
Load Factor f_B		

Operating Mode

Continuous	1.0	1.0
Cyclic	1.0	1.25
Cyclic-	1.0	1.4
Reversing		

Running Time Factor f_L

≤8 hours	1.0
≤16 hours	1.15
≤24 hours	1.2

Apply to Input RPM

Temperature Factor f_T

	Without Ventilation	Fan Cooled
<20°C	1.00	0.90
<30°C	1.10	1.00
<40°C	1.25	1.15

Continuous Duty: Drive is considered continuous duty if the running time ($t^r = t^b + t^d + t^v$) is 60% of the complete cycle time ($t^b + t^d + t^v + t^p$) or longer than 20 minutes.

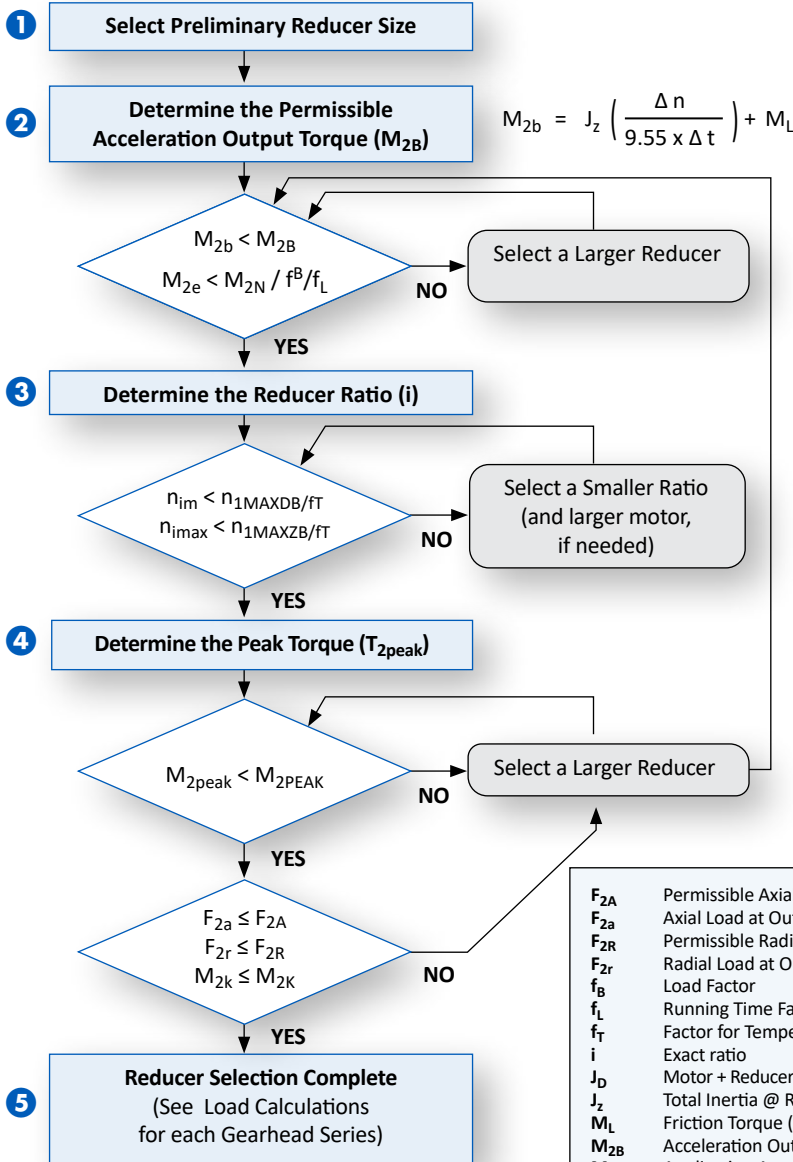
Cyclic Duty: Drive will cycle on and off.

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

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

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

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



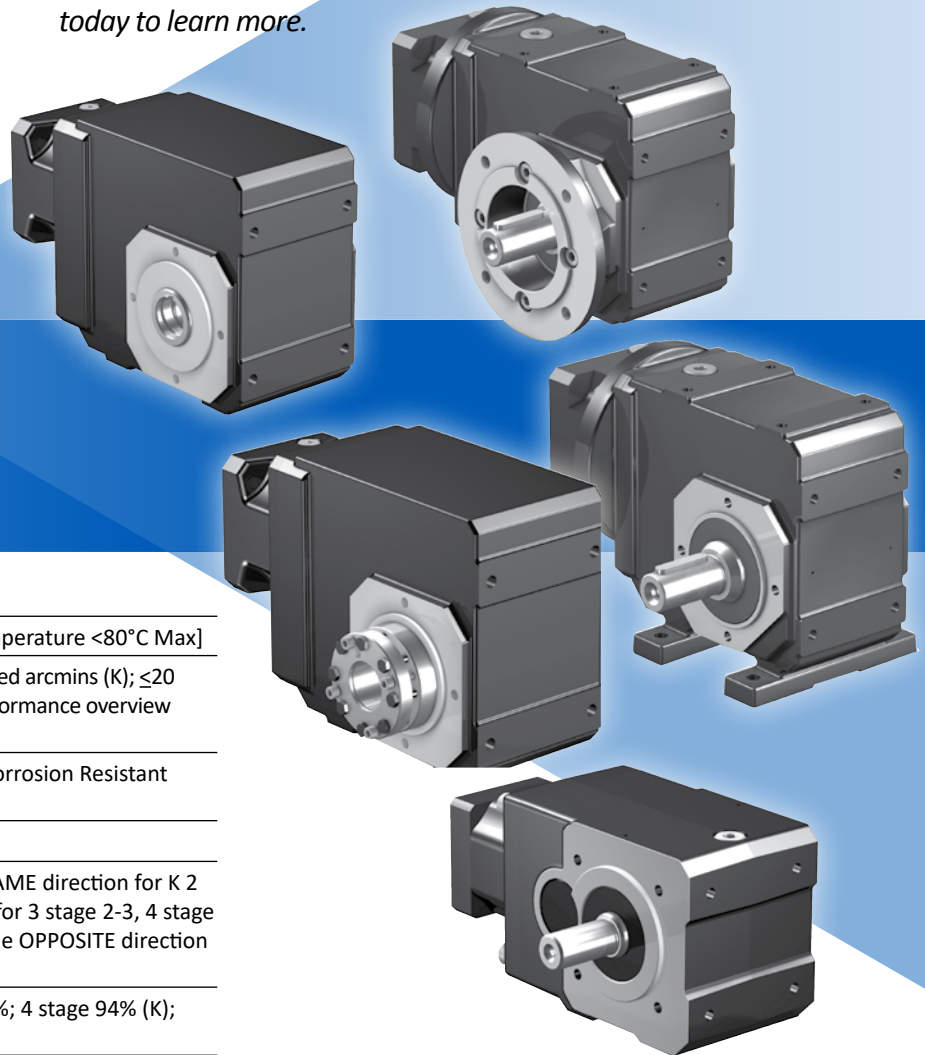
F_{2A}	Permissible Axial Load	M_{2K}	Rated Tilting Torque
F_{2a}	Axial Load at Output Shaft	M_{2k}	Equivalent Tilting Load
F_{2R}	Permissible Radial load	M_{2N}	Nominal Output Torque
F_{2r}	Radial Load at Output Shaft	M_{2peak}	Peak Output Torque
f_B	Load Factor	n_{1db}	Maximum Continuous Input
f_L	Running Time Factor	n_{1zb}	Maximum Cyclic Input
f_T	Factor for Temperature	n_{im}	Maximum Continuous Speed
i	Exact ratio	n_{imax}	Maximum Cyclic Speed
J_D	Motor + Reducer Inertia @ Motor RPM	T_{2PEAK}	Peak Torque
J_z	Total Inertia @ Reducer RPM	t_r	Running Time
M_L	Friction Torque (Losses)	t_b	Acceleration Time
M_{2B}	Acceleration Output Torque	t_d	Duration Time
M_{2b}	Application Acceleration Torque	t_v	Deceleration Time
M_{2e}	Equivalent Torque (Avg RMS Torque)		

K/KL Series: RIGHT ANGLE — Versatile Outputs

Features

- 4:1 to 381:1 ratios (K) or 4:1 to 32:1 ratios (KL) (higher ratios available. Contact STÖBER.)
- Quiet running (<51dB(A))
- Reduced backlash option for increased precision (K)
- Symmetrical design for universal mounting (KL)
- Mounting flexibility to fit the application
- Adaptability: shafts available in metric or imperial, carbon or stainless steel to meet your requirements
- Optional food and corrosion resistant package
- Dual seals for extreme duty applications
- Error free motor mounting and quick changeover with toleranced pilot on motor plate
- Magnetic oil filtration to remove contaminants to prevent breakdowns
- Build and ship in one day
- Assembled in the USA

*STÖBER K Series helical/bevel gear drives are the most versatile Servo right angle gearheads. With mounting flexibility and a variety of output options, they are **the** optimal drive when you need configuration choices. The K hollow bore can easily replace a belt and pulley, eliminating additional components and accessories. Every gearbox is made to order. STÖBER will custom whatever you need to fit your application. Contact us today to learn more.*



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

General Specifications

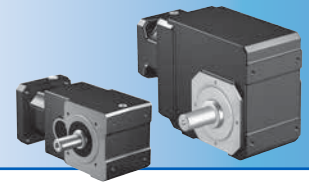
Ambient Temperature	0°C to +40°C (104°F) [Unit temperature <80°C Max]
Backlash	≤10 standard arcmins, ≤4 reduced arcmins (K); ≤20 standard arcmins (KL); (see performance overview chart, (see page 165))
Coating	Standard Black (RAL 790-4), Corrosion Resistant option, Food option
Degree of Protection	IP65
Direction of Rotation	Input and output rotate the SAME direction for K 2 stage, 3 stage, 5-10, opposite for 3 stage 2-3, 4 stage (K); Input and output rotate the OPPOSITE direction (KL); (see page 164)
Efficiency	1 and 2 stage 97%; 3 stage 96%; 4 stage 94% (K); 97% (KL)
Input RPM	Up to 6,000 RPM
Installation	Requires 10.9 fasteners for tapped holes housing. See page 328 for more information
Lubrication	Lubricated for life* - standard Mobil 600XP200, option food grade Mobil SHC CIBUS 220
Mounting Position	Must be specified, (see page 165) (K); unrestricted (KL)
Warranty	5 Year Limited (2 Years on normal wear items: bearings, seals, etc.)

* Scheduled lubrication is required for some larger frame K Series units (excluding F Food Duty and B Corrosion Resistant option). See page 166 for lubrication details.

Benefits of NEW ME Motor Adapters

- Higher torques
- Higher input speeds
- More compact with square coupling housing
- More clamp ring options, so less need for adapter bushings
- Clamp ring with roll pin

Overview



Selection Options At-a-Glance

Using the **Selection Data** table later in this section, select the K/KL Series Gearhead with the appropriate performance and design options tailored to your motor choice and exact application requirements. Use the part number guide below as a reference to build a part number for the complete gearhead assembly.

Part Number Examples:

① **K** ② **1** ③ **0** ④ **2** ⑤ **V** ⑥ **NG** ⑦ **0040** ⑧ **ME10** ⑨ **B** **EL1***

KL ① **1** ② **0** ③ **2** ④ **P** ⑤ **N** ⑥ **0040** ⑦ **MQ** ⑧ **F**

Design Option	Part Number Code	Description
① Series	K KL	Right angle helical/bevel Compact right angle helical/bevel (size 1 and 2 only)
② Size	1 2 3 4 5 6 7 8 9 10	10 sizes of gearhead (KL sizes 1 and 2 only)
③ Generation	0 1	Version of gearhead
④ # of Stages	2 3 4	Two stage (determined by ratio) Three stage (determined by ratio) Four stage (determined by ratio)
⑤ Output	A S V P G W	Hollow bore* Shrink ring* — (specify side 3 or 4) Shaft output* — K Series only (specify side 3 and/or 4) Shaft with key* — KL Series only (specify side 3 or 4) Shaft without key* — KL Series only (specify side 3 or 4) — metric only Single or double wobble-free bushing* — KL2 & K1-8 only (If single bushing, specify side 3 or 4)
⑥ Housing	F G GD NG	Output Flange (Round for K series, Square for KL) (side 3 or 4 only, please specify) Pitch Circle Diameter (PCD) tapped holes Torque arm bracket mounting — K Series only (side 1 [shown] or 5 only, also side 2 on size K1 only, please specify) Foot mounting — (side 1 or 5 only; or side 2 on size K1, please specify)
⑦ Ratio	0040	Ratios range from 4:1 to 32:1 for KL Series and 4:1 to 381:1 for K Series (0040=4:1; 0063=6.3:1; 2700=270:1)
⑧ Motor Adapter	MQ ME10 – ME50	MQ input for KL Series ME 5 input sizes for K Series (see also motor mounting plate option, page 168)
⑨ Special Options	B F	Add when ordering Corrosion Resistant Duty Add when ordering Food Duty (size KL1 and 2; K1 thru K9 only)
* Mounting Position	EL1 EL2 EL3 EL4 EL5 EL6	Required special instruction for all K Series units only, see page 165

K/KL Series: RIGHT ANGLE — Versatile Outputs

Special Options

Lubrication Options

Food grade or synthetic optionally available (contact factory)

ATEX — K Series only

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

Coating Options

- Corrosion Resistant Duty (**B** special option)
- Food Duty (**F** special option)

Food and Corrosion Resistant units are lubricated for life with double output seals (where possible), stainless output shaft, bore, or bushing, and heat cured paint.

ME Adapter Options — K Series only

(Contact factory)

- MSS1 special input seal for longer life
- Peak Torque Booster – pinion securing element for shock loads, increasing peak torque up to 80%

K/KL Series: RIGHT ANGLE — Versatile Outputs

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.

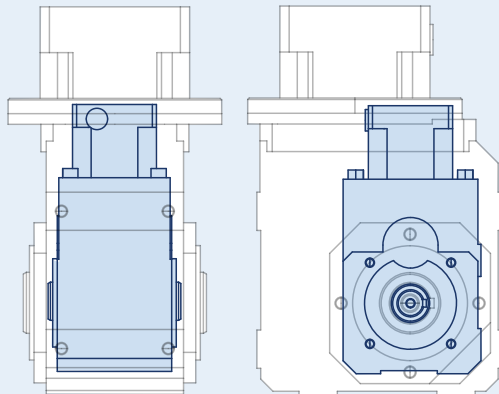
		Size/Generation	KL10	KL20	K10	K20		K30		K40	
		# of Stages	2	2	2	2	3	2	3	2	3
Permissible Acceleration Torque M_{2BMAX}	Nm		32	65	135	220		385		600	
Output Torque Nom. M_{2N}	Nm		25	50	120	200		350		550	
Torsional Stiffness C_2	Nm/arcmin		≤1.8	≤3.9	≤6.8	≤11.0		≤16.0		≤31.0	
Torsional Backlash ¹⁾ $\Delta\phi$	arcmin	Standard	≤25	≤20	≤10	≤10	≤10	≤10	≤10	≤10	≤10
		Reduced	—	—	≤5	≤5	≤6	≤4	≤5	≤4	≤5
Input Speed Max. n_{1MAX}	Continuous	EL1, 2, 5, 6	4000	4000	4000	4000		3800		3600	
		EL3, 4	4000	4000	4000	3900		3500		3300	
		Cyclic	6000	6000	7000	6500		6000		5500	
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	≤65	≤53		≤53		≤51	
Axial Load Max. F_{2AMAX}	Solid Shaft	N	280	560	1900	2100		2400		3500	
	Hollow Bore	N	250	560	1900	2100		2400		3500	
Radial Load Max. ³⁾ F_{2RMAX}	N		1900	2800	5000	6000		7000		11,200	
Tilting Moment Max. ³⁾ M_{2KMAX}	Solid Shaft	Nm	43	118	360	430		525		1050	
	Hollow Bore	Nm	43	118	240	310		380		740	

¹⁾ Tested at 1.5% of nominal torque and recorded on the output side of the gearhead. For lower backlash, contact STÖBER 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 168.

KL Series for a Compact Fit



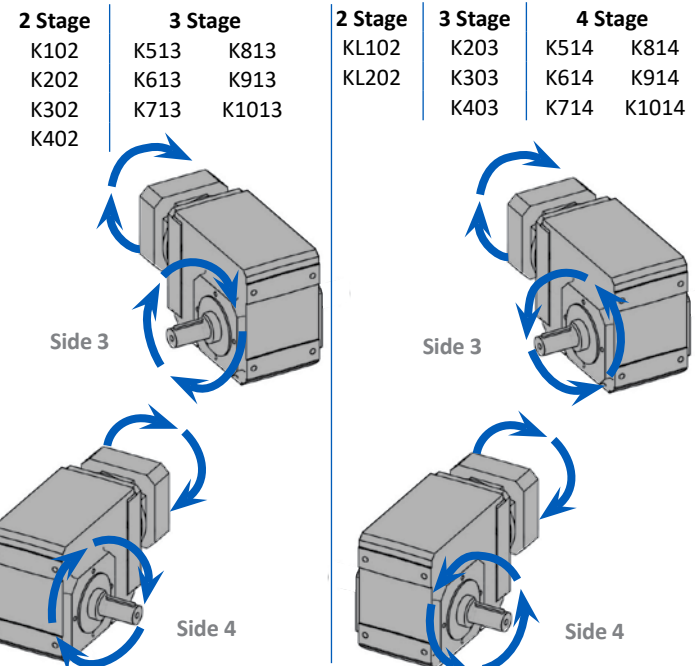
Size comparison of KL102 with K102

The STÖBER 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.

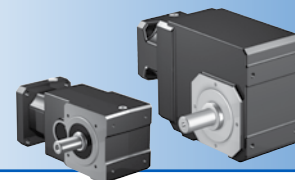
All units are lubricated for life with synthetic oil. Food grade oil available.

K/KL Series Direction of Rotation

Output available on side 3, 4 or both. Note: With a double output, the shaft rotation of Side 3 will be the OPPOSITE direction of Side 4 when viewed from Side 5.



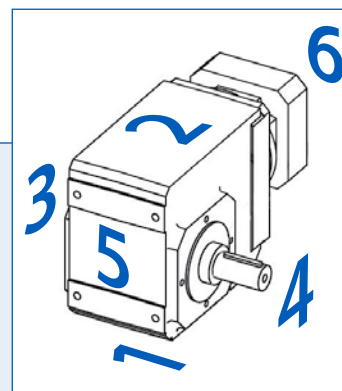
Overview



K/KL Series: RIGHT ANGLE — Versatile Outputs

K51		K61		K71		K81		K91		K101	
3	4	3	4	3	4	3	4	3	4	3	4
1000		1600		2600		4650		7700		13,200	
900		1450		2400		4200		7000		11,893	12,000
≤50.0		≤82.0		≤126.0		≤196.0		≤379.0		≤724.0	≤725.0
≤10	≤10	≤10	≤10	≤10	≤10	≤10	≤10	≤10	≤10	≤10	
≤5	≤6	≤5	≤6	≤5	≤6	≤5	≤6	≤5	≤5	≤5	
3400		3100		2900		2800		2600		2500	
3000		2800		2600		2500		2500		2300	
5000		4500		4200		4000		3800		3500	
96	94	96	94	96	94	96	94	96	94	96	94
48.0	49.4	77.0	80.2	100.1	106.0	140.0	149.9	230.1	240.1	477.9	488.8
106	109	170	177	221	234	309	331	508	530	1055	1079
≤61		≤61		≤59		≤65		≤65		≤65	
3500		4000		5500		7250		16,500		25,000	
2500		3000		4100		5300		7000		9000	
13,450		16,000		22,000		29,000		65,000		80,000	
1580		1960		3200		3800		11,200		15,200	
1000		1300		2100		2600		3600		5000	

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

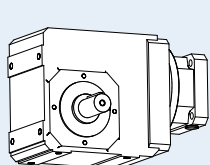


K Series Mounting Position Options

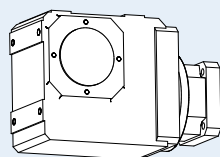
(KL units have unrestricted positioning)

When ordering, the Mounting Position **MUST BE SPECIFIED** using one of the Mounting Position order codes below.

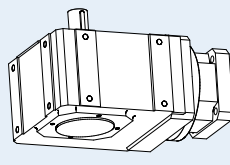
Note: the code relates to the orientation side that faces down. For example, EL1 has side 1 facing down, EL2 has side 2 facing down, etc.



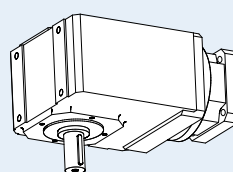
EL1



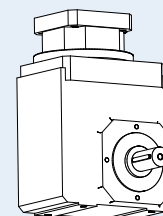
EL2



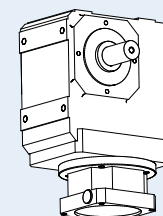
EL3



EL4



EL5



EL6

K/KL Series: RIGHT ANGLE — Versatile Outputs

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

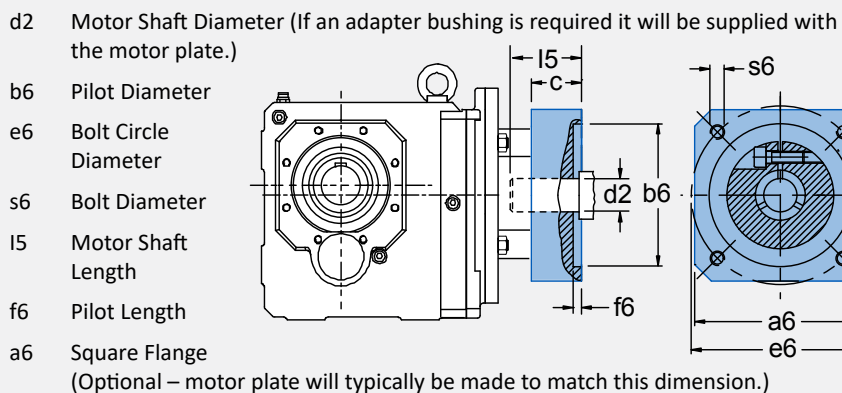
STOBER Servo Gearheads fit the motor of your choice with the appropriate motor mounting plate assembled between the motor and the gearhead.

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



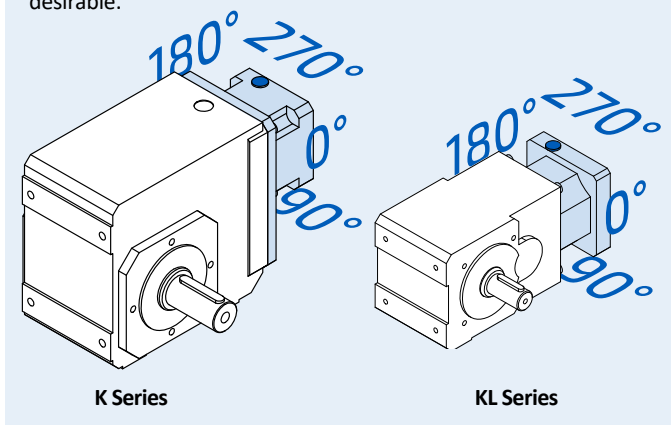
Motor Mounting Plate Dimensions — mm (Gearhead Part Number Specific)

	KL1_MQ	KL2_MQ ME10	ME20	ME30	ME40	ME50
Maximum Allowed Motor Shaft Dia. d2	16	19	32	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 Motor Mounting Plate Access Hole

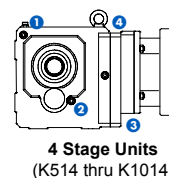
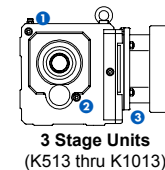
Access to the clamping screw for the motor coupling is located on the 270° side of the motor mounting plate at the location shown. If necessary, the motor mounting plate can be rotated in the field, if a 0°, 90° or 180° orientation for the access hole is desirable.



K 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.

*K513/K514 and larger units with the Food & Corrosion Resistant option exclude a breather. Contact STOBER for details.

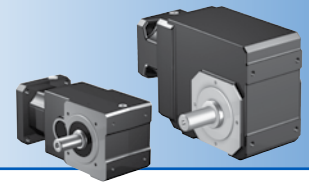


Drain Plug and Vent Location

Mounting Position	1	2*	2a*	3	4
EL1	Vent			Drain	
EL2	Drain			Vent	
EL3		Vent	Drain		
EL4		Drain	Vent		
EL5	K513-K1013 K514-K1014	Drain		Vent	
EL6	K513-K1013 K514-K1014	Vent		Drain	Drain

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

Overview



K/KL Series Output Options

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

			KL1	KL2	K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
Solid Shaft	Carbon Steel	Inches	5/8	3/4*	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	16	20	25	30	30	40	45	50	60	70	90	110
	Stainless Steel	Inches	5/8	3/4	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	16	20	25	30	—	—	45	—	—	—	—	—
Hollow Bore	Carbon Steel	Inches	5/8	3/4	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	16	20	25	30	30 35	40	40 50	50	60	70	70	—
	Stainless Steel	Inches	5/8	3/4	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	16	20	25	30	35	40	40 50	—	60	70	75	—
Wobble Free Bushing (Stainless Steel except where noted)	Inches	Single & Double	—	3/4	1	1 1-3/16 1-1/4	1** 1-3/16** 1-1/4** 1-3/8** 1-7/16** 1-1/2**	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 2-3/8 2-3/8	2-3/16 2-3/8 2-7/16 2-3/4	—	—
		Metric	Single	—	—	25	30	30 35	—	—	—	—	—	—
	Metric	Double	—	—	25	30	30 35	40	40	40	—	—	—	—
		Shrink Ring	Carbon Steel	Metric	16	20	25	30	35	40	50	50	60	70

* Shaft with key only (part number code P)

**Also available in carbon steel

K/KL Series: RIGHT ANGLE — Versatile Outputs

K Series Standard & Optional Output Flange Sizes

Base Module	Flange Size
K1	140, 160*
K2	160, 200*
K3	160, 200* , 250
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.

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:

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

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

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

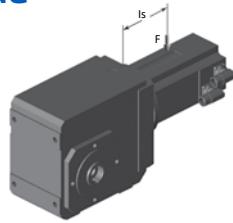
K 1.00 Single Chain Drive; 1.25 Timing Belt Drive;

1.25 Spur or Helical Gear Drive; 1.50 V-Belt Drive; 2.50 Flat Belt Drive

K/KL Series: RIGHT ANGLE – Versatile Outputs

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}	ME10	ME20	ME30	ME40	ME50
Nm	25	60	125	250	600

Permissible Output Shaft Load and Tilting Moments*

Unit	P, G, V Solid Shaft Output ¹⁾				A, S, W Hollow Output ²⁾		
	Z ₂ mm	F _{2A} N	F _{2R} N	M _{2K} Nm	Z ₂ mm	F _{2A} N	M _{2K} Nm
KL1	20	380	1900	68	18.5	250	43
KL2	22	560	2800	118	22	560	118
K1	40	1900	5000	360	40	1900	240
K2	42	2100	6000	430	42	2100	310
K3	45	2400	7000	525	45	2400	380
K4	52	3500	11,200	1050	52	3500	740
K5	72	3500	13,450	1580	39	2500	1000
K6	72	4000	16,000	1960	42	3000	1300
K7	85	5500	22,000	3200	45	4100	2100
K8	60	7250	29,000	3800	50	5300	2600
K9	87	16,500	65,000	11,200	56	7000	3600
K10	84 ³⁾	25,000	80,000 ³⁾	15,200	56	9000	5000

* 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 – z₂ 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 n₂ is the desired speed:

K Series

$$F_{2AK} = \frac{F_{2A}}{\sqrt[3]{\frac{n_2}{20}}}, \quad F_{2RK} = \frac{F_{2R}}{\sqrt[3]{\frac{n_2}{20}}}, \quad M_{2KK} = \frac{M_{2K}}{\sqrt[3]{\frac{n_2}{20}}}$$

KL Series

$$F_{2AKL} = \frac{F_{2A}}{\sqrt[3]{\frac{n_2}{100}}}, \quad F_{2RKL} = \frac{F_{2R}}{\sqrt[3]{\frac{n_2}{100}}}, \quad M_{2KKL} = \frac{M_{2K}}{\sqrt[3]{\frac{n_2}{100}}}$$

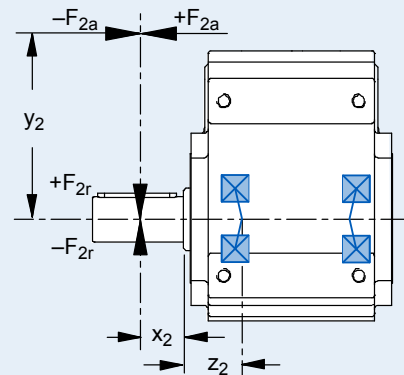
The application output tilting moment should be determined by the following formula:

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

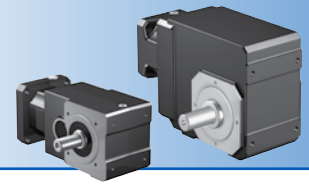
Where:

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	z₂	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			Backlash ³⁾	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Input Inertia J ₁	Torsional Stiffness C ₂ (per arcmin)
		Nominal ¹⁾ M _{2N} ≤ 2000 RPM	Acceleration M _{2B}	Peak ²⁾ M _{2PEAK}			Continuous	Cyclic			
Nom.	Exact	Nm	Nm	Nm	arcmin		EL 1,2,3,4	EL 5,6	All	kgcm ²	Nm
KL1											
4.000	4/1	15	22	29	25	KL102_0040 MQ	3500	3500	5000	0.38	1.0
8.000	8/1	23	30	58	20	KL102_0080 MQ	3500	3500	5000	0.35	1.6
16.00	16/1	25	30	60	20	KL102_0160 MQ	4000	4000	6000	0.29	1.8
32.00	32/1	25	32	64	20	KL102_0320 MQ	4000	4000	6000	0.28	1.7

KL2											
4.000	4/1	32	47	58	20	KL202_0040 MQ	3500	3500	5000	0.89	1.8
8.000	8/1	45	60	116	16	KL202_0080 MQ	3500	3500	5000	0.77	3.5
16.00	16/1	50	60	120	16	KL202_0160 MQ	4000	4000	6000	0.54	3.9
32.00	32/1	50	65	130	16	KL202_0320 MQ	4000	4000	6000	0.52	3.2

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.)

* Square motor adapter code (shaft diameter max - mm): For KL102 MQ (16), For KL202 MQ (19)

K/KL Series: RIGHT ANGLE — Versatile Outputs

K/KL Series: RIGHT ANGLE – Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{2N} ¹⁾ ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
4.000	4/1	65	93	116	12/6	K102_0040 ME10	3300	2800	5000	≤19	1.5	6.3
						K102_0040 ME20				≤24	3.4	6.6
5.568	1520/273	73	109	162	12/6	K102_0056 ME10	3300	2800	5000	≤19	1.3	6.6
						K102_0056 ME20				≤24	3.2	6.7
6.000	6/1	75	112	175	12/6	K102_0060 ME10	3300	2800	5000	≤19	1.1	6.6
						K102_0060 ME20				≤24	3.0	6.7
6.644	299/45	77	116	193	12/6	K102_0066 ME10	3600	3300	5500	≤19	1.0	6.6
						K102_0066 ME20				≤24	2.9	6.7
8.309	1911/230	83	125	220	12/6	K102_0083 ME10	3600	3300	5500	≤19	0.9	6.7
						K102_0083 ME20				≤24	2.8	
9.249	1748/189	86	129	240	12/6	K102_0092 ME10	3600	3300	5500	≤19	1.0	6.7
						K102_0092 ME20				≤24	2.9	
10.14	507/50	89	125	220	12/6	K102_0100 ME10	4000	3800	6000	≤19	0.8	6.7
						K102_0100 ME20	3700	3700		≤24	2.7	6.8
11.57	266/23	93	135	240	12/6	K102_0115 ME10	3600	3300	5500	≤19	0.9	6.7
						K102_0115 ME20				≤24	2.8	6.8
12.62	429/34	96	125	220	12/6	K102_0125 ME10	4000	3800	6000	≤19	0.8	6.7
						K102_0125 ME20	3700	3700		≤24	2.7	6.8
14.11	494/35	99	135	240	12/6	K102_0140 ME10	4000	3800	6000	≤19	0.8	6.8
						K102_0140 ME20	3700	3700		≤24	2.7	
16.71	117/7	105	125	220	12/6	K102_0165 ME10	4000	4000	7000	≤19	0.7	6.8
						K102_0165 ME20	3700	3700	6000	≤24	2.6	
17.56	2090/119	107	135	240	12/6	K102_0175 ME10	4000	3800	6000	≤19	0.8	6.8
						K102_0175 ME20	3700	3700		≤24	2.7	
20.15	403/20	110	125	220	12/6	K102_0200 ME10	4000	4000	7000	≤19	0.7	6.8
						K102_0200 ME20	3700	3700	6000	≤24	2.6	
23.27	1140/49	117	135	240	12/6	K102_0230 ME10	4000	4000	7000	≤19	0.7	6.8
						K102_0230 ME20	3700	3700	6000	≤24	2.6	
25.22	1261/50	96	115	192	12/6	K102_0250 ME10	4000	4000	7000	≤19	0.7	6.8
						K102_0250 ME20	3700	3700	6000	≤24	2.6	
28.05	589/21	120	135	240	12/6	K102_0280 ME10	4000	4000	7000	≤19	0.7	6.8
						K102_0280 ME20	3700	3700	6000	≤24	2.6	
33.71	4719/140	73	88	146	12/6	K102_0340 ME10	4000	4000	7000	≤19	0.6	6.8
35.11	3686/105	120	135	240	12/6	K102_0350 ME10	4000	4000	7000	≤19	0.7	6.8
						K102_0350 ME20	3700	3700	6000	≤24	2.6	
40.30	403/10	61	74	123	12/6	K102_0400 ME10	4000	4000	7000	≤19	0.6	6.8
46.92	2299/49	102	122	203	12/6	K102_0470 ME10	4000	4000	7000	≤19	0.6	6.8
50.31	5031/100	50	60	100	12/6	K102_0500 ME10	4000	4000	7000	≤19	0.6	6.8
56.10	1178/21	86	103	171	12/6	K102_0560 ME10	4000	4000	7000	≤19	0.6	6.8
70.03	2451/35	70	83	139	12/6	K102_0700 ME10	4000	4000	7000	≤19	0.6	6.8

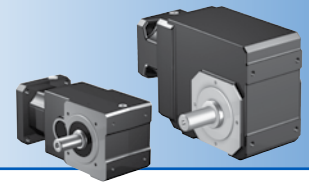
¹⁾ Maximum torque for continuous input RPM - horizontal output position.

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

Selection Data



K/KL Series: RIGHT ANGLE — Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm			
		Nominal M _{2N} ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic						
							EL 1,2,3,4	EL 5,6					All		
4.000	4/1	93	93	116	10/5	K202_0040 ME10	3000	2600	4500	≤19	3.0	9.6			
		116	174	291						K202_0040 ME20	≤32	6.4	10.0		
										K202_0040 ME30	≤38	12.0			
4.364	48/11	102	102	127	10/5	K202_0044 ME10	3000	2600	4500	≤19	2.7	9.7			
		120	180	317						K202_0044 ME20	≤32	6.1	10.0		
										K202_0044 ME30	≤38	11.0			
5.177	2107/407	127	190	377	10/5	K202_0052 ME20	3000	2600	4500	≤32	5.7	10.0			
										K202_0052 ME30	≤38	11.0			
6.000	6/1	133	140	175	10/5	K202_0060 ME10	3000	2600	4500	≤19	2.3	10.0			
			200	400						K202_0060 ME20	≤32	5.7	11.0		
										K202_0060 ME30	≤38	11.0			
6.683	2279/341	135	156	194	10/5	K202_0067 ME10	3500	3100	5000	≤19	1.7	10.0			
		138	207	400						K202_0067 ME20	≤32	5.1	11.0		
										K202_0067 ME30	≤38	10.0			
7.118	2107/296	141	211	400	10/5	K202_0071 ME20	3000	2600	4500	≤32	5.4	11.0			
										K202_0071 ME30	≤38		11.0		
8.397	2494/297	149	195	244	10/5	K202_0084 ME10	3500	3100	5000	≤19	1.4	10.0			
			220	400						K202_0084 ME20	≤32	4.8	11.0		
										K202_0084 ME30	≤38	10.0			
9.190	2279/248	153	214	267	10/5	K202_0092 ME10	3500	3100	5000	≤19	1.6	10.0			
			220	400						K202_0092 ME20	≤32	5.0	11.0		
										K202_0092 ME30	≤38	10.0			
10.07	2881/286	155	220	293	10/5	K202_0100 ME10	3900	3500	5500	≤19	1.2	10.0			
		158		400			K202_0100 ME20			3700	≤32	4.6	11.0		
							K202_0100 ME30			3500	5000	≤38		9.9	
11.55	1247/108	166	220	336	10/5	K202_0115 ME10	3500	3100	5000	≤19	1.3	11.0			
				400						K202_0115 ME20	≤32		4.7		
										K202_0115 ME30	≤38		10.0		
12.71	559/44	168	220	370	10/5	K202_0125 ME10	3900	3500	5500	≤19	1.0	11.0			
		171		400			K202_0125 ME20			3700	≤32		4.4		
							K202_0125 ME30			3500	5000		≤38	9.8	
13.85	2881/208	176	220	400	10/5	K202_0140 ME10	3900	3500	5500	≤19	1.1	11.0			
							K202_0140 ME20			3700	≤32		4.5		
										K202_0140 ME30	3500		5000	≤38	9.9
16.86	2967/176	179	220	400	10/5	K202_0170 ME10	4000	3900	6500	≤19	0.9	11.0			
		188					K202_0170 ME20			3700	3700		6000	≤32	4.3
										K202_0170 ME30	3500		3500	5000	≤38

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
* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

K/KL Series: RIGHT ANGLE – Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{2N} ¹⁾ ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
17.47	559/32	190	220	400	10/5	K202_0175 ME10	3900	3500	5500	≤19	1.0	11.0
						K202_0175 ME20	3700		≤32	4.4		
						K202_0175 ME30	3500		5000	≤38	9.7	
20.33	1118/55	182	220	400	10/5	K202_0200 ME10	4000	3900	6500	≤19	0.8	11.0
		200				K202_0200 ME20	3700	3700	6000	≤24	2.7	
23.18	2967/128	200	220	400	10/5	K202_0230 ME10	4000	3900	6500	≤19	0.9	11.0
						K202_0230 ME20	3700	3700	6000	≤32	4.3	
						K202_0230 ME30	3500	3500	5000	≤38	9.6	
25.13	1935/77	187	220	400	10/5	K202_0250 ME10	4000	3900	6500	≤19	0.8	11.0
		200				K202_0250 ME20	3700	3700	6000	≤24	2.7	
27.95	559/20	200	220	400	10/5	K202_0280 ME10	4000	3900	6500	≤19	0.8	11.0
						K202_0280 ME20	3700	3700	6000	≤24	2.7	
33.62	1849/55	154	185	308	10/5	K202_0340 ME10	4000	3900	6500	≤19	0.7	11.0
						K202_0340 ME20	3700	3700	6000	≤24	2.6	
34.55	1935/56	200	220	400	10/5	K202_0350 ME10	4000	3900	6500	≤19	0.8	11.0
						K202_0350 ME20	3700	3700	6000	≤24	2.7	
39.45	135,407/3432	200	202	253	10/6	K203_0390 ME10	4000	3900	6500	≤19	0.7	11.0
40.39	1333/33	116	139	200	10/5	K202_0400 ME10	4000	3900	6500	≤19	0.7	11.0
45.22	58,609/1296	200	217	290	10/6	K203_0450 ME10	4000	3900	6500	≤19	0.7	11.0
46.23	1849/40	200	220	400	10/5	K202_0460 ME10	4000	3900	6500	≤19	0.7	11.0
						K202_0460 ME20	3700	3700	6000	≤24	2.6	
49.76	26,273/528	200	217	319	10/6	K203_0500 ME10	4000	3900	6500	≤19	0.7	11.0
50.49	6665/132	96	116	193	10/5	K202_0500 ME10	4000	3900	6500	≤19	0.6	11.0
54.25	135,407/2496	200	217	348	10/6	K203_0540 ME10	4000	3900	6500	≤19	0.7	11.0
55.54	1333/24	159	191	275	10/5	K202_0560 ME10	4000	3900	6500	≤19	0.7	11.0
66.03	46,483/704	200	217	394	10/6	K203_0660 ME10	4000	3900	6500	≤19	0.7	11.0
68.42	26,273/384	200	217	394	10/6	K203_0680 ME10	4000	3900	6500	≤19	0.7	11.0
69.43	6665/96	132	159	265	10/5	K202_0690 ME10	4000	3900	6500	≤19	0.6	11.0
79.62	26,273/330	200	217	394	10/6	K203_0800 ME10	4000	3900	6500	≤19	0.7	11.0
90.79	46,483/512	200	217	394	10/6	K203_0910 ME10	4000	3900	6500	≤19	0.7	11.0
109.5	26,273/240	200	217	394	10/6	K203_1090 ME10	4000	3900	6500	≤19	0.7	11.0
135.3	30,315/224	200	217	394	10/6	K203_1350 ME10	4000	3900	6500	≤19	0.7	11.0
181.0	86,903/480	200	217	394	10/6	K203_1810 ME10	4000	3900	6500	≤19	0.7	11.0
217.5	62,651/288	159	191	275	10/6	K203_2180 ME10	4000	3900	6500	≤19	0.7	11.0
271.9	313,255/1152	132	159	265	10/6	K203_2720 ME10	4000	3900	6500	≤19	0.7	11.0

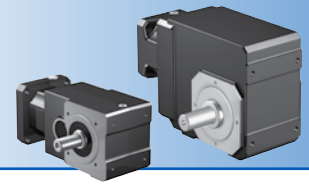
¹⁾ Maximum torque for continuous input RPM - horizontal output position.

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

Selection Data



Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{2N} ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
K3 (continued next page)												
4.000	4/1	204	233	291	10/4	K302_0040 ME20	2700	2300	4000	≤32	9.0	16.0
			306	700		K302_0040 ME30				≤38	14.0	
4.364	48/11	210	254	317	10/4	K302_0044 ME20	2700	2300	4000	≤32	8.4	16.0
			315	700		K302_0044 ME30				≤38	14.0	
5.375	43/8	225	313	391	10/4	K302_0054 ME20	2700	2300	4000	≤32	7.2	16.0
						K302_0054 ME30				≤38	13.0	
6.000	6/1	233	349	437	10/4	K302_0060 ME20	2700	2300	4000	≤32	7.5	16.0
			350	700		K302_0060 ME30				≤38	13.0	
6.740	2150/319	242	364	490	10/4	K302_0067 ME20	3200	2800	4500	≤32	6.3	16.0
						K302_0067 ME30				≤38	12.0	
7.391	473/64	250	375	538	10/4	K302_0074 ME20	2700	2300	4000	≤32	6.7	16.0
						K302_0074 ME30				≤38	12.0	
8.444	2322/275	169	197	246	10/4	K302_0084 ME10	3200	2800	4500	≤19	2.2	16.0
						K302_0084 ME20				≤32	5.6	
						K302_0084 ME30				≤38	11.0	
9.267	1075/116	270	385	674	10/4	K302_0093 ME20	3200	2800	4500	≤32	5.9	16.0
						K302_0093 ME30				≤38	11.0	
10.14	3010/297	176	236	295	10/4	K302_0100 ME10	3500	3100	5000	≤19	1.8	16.0
						K302_0100 ME20				≤32	5.2	
						K302_0100 ME30				≤38	11.0	
11.61	1161/100	232	270	338	10/4	K302_0115 ME10	3200	2800	4500	≤19	2.0	16.0
						K302_0115 ME20				≤32	5.4	
						K302_0115 ME30				≤38	11.0	
12.58	3182/253	187	293	366	10/4	K302_0125 ME10	3500	3100	5000	≤19	1.5	16.0
						K302_0125 ME20				≤32	4.9	
						K302_0125 ME30				≤38	10.0	
13.94	1505/108	242	324	406	10/4	K302_0140 ME10	3500	3100	5000	≤19	1.7	16.0
						K302_0140 ME20				≤32	5.1	
						K302_0140 ME30				≤38	10.0	
16.94	559/33	198	375	469	10/4	K302_0170 ME10	3800	3500	6000	≤19	1.2	16.0
						K302_0170 ME20				≤32	4.6	
						K302_0170 ME30	3500	5000	≤38	9.9		

K/KL Series: RIGHT ANGLE — Versatile Outputs

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

K/KL Series: RIGHT ANGLE – Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{2N} ¹⁾ ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
K3 (continued next page)												
17.29	1591/92	257	385	503	10/4	K302_0175 ME10	3500	3100	5000	≤19	1.4	16.0
		332		700		K302_0175 ME20				≤32	4.8	
						K302_0175 ME30				≤38	10.0	
20.28	3569/176	208	385	513	10/4	K302_0200 ME10	3800	3500	6000	≤19	1.0	16.0
		350		700		K302_0200 ME20	3700			≤32	4.4	
						K302_0200 ME30	3500			5000	≤38	
23.29	559/24	272	385	645	10/4	K302_0230 ME10	3800	3500	6000	≤19	1.1	16.0
		350		700		K302_0230 ME20	3700			≤32	4.5	
						K302_0230 ME30	3500			5000	≤38	
25.26	3612/143	211	385	603	10/4	K302_0250 ME10	3800	3500	6000	≤19	0.9	16.0
		347				K302_0250 ME20	3700			≤24	2.8	
27.88	3569/128	287	385	700	10/4	K302_0280 ME10	3800	3500	6000	≤19	1.0	16.0
		350				K302_0280 ME20	3700			≤32	4.4	
						K302_0280 ME30	3500			5000	≤38	
32.65	44,892/1375	350	379	577	10/5	K303_0330 ME20	3700	3500	6000	≤24	2.8	16.0
33.62	1849/55	219	300	501	10/4	K302_0340 ME10	3800	3500	6000	≤19	0.8	16.0
		250				K302_0340 ME20	3700			≤24	2.7	
34.73	903/26	291	385	700	10/4	K302_0350 ME10	3800	3500	6000	≤19	0.9	16.0
		350				K302_0350 ME20	3700			≤24	2.8	
35.83	215/6	350	379	633	10/5	K303_0360 ME20	3700	3500	6000	≤24	2.8	16.0
39.19	34,916/891	350	379	690	10/5	K303_0390 ME20	3700	3500	6000	≤24	2.7	16.0
40.51	4902/121	193	231	385	10/4	K302_0410 ME10	3800	3500	6000	≤19	0.8	16.0
						K302_0410 ME20	3700			≤24	2.7	
44.89	11,223/250	350	379	690	10/5	K303_0450 ME20	3700	3500	6000	≤24	2.8	16.0
46.23	1849/40	301	385	688	10/4	K302_0460 ME10	3800	3500	6000	≤19	0.8	16.0
		344				K302_0460 ME20	3700			≤24	2.7	
48.63	184,556/3795	350	379	690	10/5	K303_0490 ME20	3700	3500	6000	≤24	2.7	16.0
49.26	74,777/1518	253	253	316	10/5	K303_0490 ME10	3800	3500	6000	≤19	0.7	16.0
50.49	6665/132	154	179	223	10/4	K302_0500 ME10	3800	3500	6000	≤19	0.7	16.0
53.88	8729/162	350	379	690	10/5	K303_0540 ME20	3700	3500	6000	≤24	2.7	16.0
54.58	70,735/1296	280	280	350	10/5	K303_0550 ME10	3800	3500	6000	≤19	0.7	16.0
55.71	2451/44	265	318	529	10/4	K302_0560 ME10	3800	3500	6000	≤19	0.8	16.0
						K302_0560 ME20	3700			≤24	2.6	

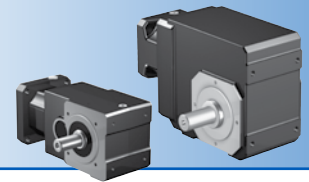
¹⁾ Maximum torque for continuous input RPM - horizontal output position.

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

Selection Data



Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal ¹⁾ M _{2N} ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic All			
							EL 1,2,3,4	EL 5,6				
K3 (continued from previous page)												
65.50	32,422/495	350	379	690	10/5	K303_0650 ME20	3700	3500	6000	≤24	2.7	16.0
66.35	26,273/396	339	341	426	10/5	K303_0660 ME10	3800	3500	6000	≤19	0.7	16.0
66.87	46,139/690	350	379	690	10/5	K303_0670 ME20	3700	3500	6000	≤24	2.7	16.0
67.73	74,777/1104	348	348	435	10/5	K303_0680 ME10	3800	3500	6000	≤19	0.7	16.0
69.43	6665/96	212	246	307	10/4	K302_0690 ME10	3800	3500	6000	≤19	0.7	16.0
78.41	103,501/1320	350	379	690	10/5	K303_0780 ME20	3700	3500	6000	≤24	2.7	16.0
79.42	167,743/2112	350	379	510	10/5	K303_0790 ME10	3800	3500	6000	≤19	0.7	16.0
90.06	16,211/180	350	379	690	10/5	K303_0900 ME20	3700	3500	6000	≤24	2.7	16.0
91.23	26,273/288	350	379	585	10/5	K303_0910 ME10	3800	3500	6000	≤19	0.7	16.0
107.8	103,501/960	350	379	690	10/5	K303_1080 ME20	3700	3500	6000	≤24	2.7	16.0
109.2	167,743/1536	350	379	690	10/5	K303_1090 ME10	3800	3500	6000	≤19	0.7	16.0
134.3	8729/65	350	379	690	10/5	K303_1340 ME20	3700	3500	6000	≤24	2.7	16.0
136.0	14,147/104	350	379	690	10/5	K303_1360 ME10	3800	3500	6000	≤19	0.7	16.0
178.7	53,621/300	344	379	688	10/5	K303_1790 ME20	3700	3500	6000	≤24	2.7	16.0
181.0	86,903/480	344	379	688	10/5	K303_1810 ME10	3800	3500	6000	≤19	0.7	16.0
218.2	38,399/176	265	318	529	10/5	K303_2180 ME10	3800	3500	6000	≤19	0.7	16.0
271.9	313,255/1152	212	246	307	10/5	K303_2720 ME10	3800	3500	6000	≤19	0.7	16.0

K/KL Series: RIGHT ANGLE — Versatile Outputs

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

K/KL Series: RIGHT ANGLE – Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm	
		Nominal M _{2N} ¹⁾ ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic				
							EL 1,2,3,4	EL 5,6					All
K4 (continued next page)													
4.000	4/1	306	459	776	10/4	K402_0040 ME30	2600	2200	3800	≤38	19.0	30.0	
						K402_0040 ME40				≤48	41.0		
4.364	48/11	315	472	847	10/4	K402_0044 ME30	2600	2200	3800	≤38	18.0	30.0	
						K402_0044 ME40				≤48	40.0		
5.422	1849/341	338	508	1052	10/4	K402_0054 ME30	2600	2200	3800	≤38	16.0	30.0	
						K402_0054 ME40				≤48	37.0		
6.000	6/1	350	525	1100	10/4	K402_0060 ME30	2600	2200	3800	≤38	16.0	30.0	
						K402_0060 ME40				≤48	38.0	30.0	
6.719	215/32	363	391	489	10/4	K402_0067 ME20	3000	2600	4500	≤32	8.3	30.0	
			545	1100		K402_0067 ME30				≤38	14.0	31.0	
						K402_0067 ME40				≤48	36.0	30.0	
7.456	1849/248	376	564	1100	10/4	K402_0075 ME30	2600	2200	3800	≤38	15.0	31.0	
						K402_0075 ME40				≤48	36.0		
8.377	645/77	391	488	609	10/4	K402_0084 ME20	3000	2600	4500	≤32	7.0	30.0	
			587	1100		K402_0084 ME30				≤38	13.0	31.0	
						K402_0084 ME40				≤48	34.0		
9.238	2365/256	404	538	672	10/4	K402_0092 ME20	3000	2600	4500	≤32	7.6	30.0	
			600	1100		K402_0092 ME30				≤38	13.0	31.0	
						K402_0092 ME40				≤48	35.0		
10.10	1333/132	416	588	735	10/4	K402_0100 ME20	3400	3000	5000	≤32	6.3	30.0	
			600	1100		K402_0100 ME30	≤38			12.0	31.0		
						K402_0100 ME40	3000			4500		≤48	34.0
11.52	645/56	435	600	838	10/4	K402_0115 ME20	3000	2600	4500	≤32	6.6	31.0	
				1100	10/4	K402_0115 ME30				≤38	12.0		
						K402_0115 ME40				≤48	34.0		
12.66	2924/231	449	600	869	10/4	K402_0125 ME20	3400	3000	5000	≤32	5.6	31.0	
				1100		10/4	K402_0125 ME30			≤38	11.0		
							K402_0125 ME40			3000	4500		≤48
13.89	1333/96	463	600	1010	10/4	K402_0140 ME20	3400	3000	5000	≤32	6.0	31.0	
				1100		10/4				K402_0140 ME30	≤38		11.0
										K402_0140 ME40	3000		4500

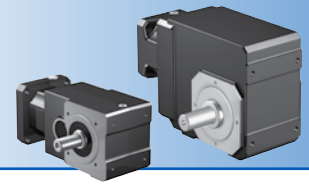
¹⁾ Maximum torque for continuous input RPM - horizontal output position.

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

Selection Data



Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{2N} ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
16.94	559/33	495	600	1013	10/4	K402_0170 ME20	3600	3300	5500	≤32	5.0	31.0
				1100		K402_0170 ME30	3500		5000	≤38	10.0	
						K402_0170 ME40	3000	3000	4500	≤48	32.0	
17.41	731/42	499	600	1100	10/4	K402_0175 ME20	3400	3000	5000	≤32	5.4	31.0
						K402_0175 ME30				≤38	11.0	
						K402_0175 ME40	3000	4500	≤48	33.0		
20.20	1333/66	524	600	1100	10/4	K402_0200 ME20	3600	3300	5500	≤32	4.8	31.0
						K402_0200 ME30	3500		5000	≤38	10.0	
23.29	559/24	550	600	1100	10/4	K402_0230 ME20	3600	3300	5500	≤32	4.9	31.0
						K402_0230 ME30	3500		5000	≤38	10.0	
						K402_0230 ME40	3000	3000	4500	≤48	32.0	
25.28	4171/165	501	600	1001	10/4	K402_0250 ME20	3600	3300	5500	≤32	4.5	31.0
						K402_0250 ME30	3500		5000	≤38	9.9	
27.77	1333/48	550	600	1100	10/4	K402_0280 ME20	3600	3300	5500	≤32	4.7	31.0
						K402_0280 ME30	3500		5000	≤38	10.0	
32.39	2494/77	458	458	572	10/5	K403_0320 ME20	3600	3300	5500	≤24	2.9	31.0
33.68	4816/143	389	467	715	10/4	K402_0340 ME20	3600	3300	5500	≤24	2.8	31.0
34.76	4171/120	550	600	1100	10/4	K402_0350 ME20	3600	3300	5500	≤32	4.5	31.0
						K402_0350 ME30	3500		5000	≤38	9.8	
35.72	13,717/384	505	505	631	10/5	K403_0360 ME20	3600	3300	5500	≤24	2.9	31.0
39.05	38,657/990	550	552	690	10/5	K403_0390 ME20	3600	3300	5500	≤24	2.8	31.0
40.51	4902/121	308	370	616	10/4	K402_0410 ME20	3600	3300	5500	≤24	2.7	31.0
44.54	1247/28	550	591	787	10/5	K403_0450 ME20	3600	3300	5500	≤24	2.8	31.0
46.31	602/13	535	600	983	10/4	K402_0460 ME20	3600	3300	5500	≤24	2.8	31.0
48.94	169,592/3465	550	591	865	10/5	K403_0490 ME20	3600	3300	5500	≤24	2.8	31.0
50.43	5547/110	270	323	539	10/4	K402_0500 ME20	3600	3300	5500	≤24	2.7	31.0
53.69	38,657/720	550	591	949	10/5	K403_0540 ME20	3600	3300	5500	≤24	2.8	31.0
55.71	2451/44	424	508	847	10/4	K402_0560 ME20	3600	3300	5500	≤24	2.7	31.0
65.50	32,422/495	550	591	1013	10/5	K403_0650 ME20	3600	3300	5500	≤24	2.7	31.0
66.35	26,273/396	341	341	426	10/5	K403_0660 ME10	3600	3300	5500	≤19	0.7	31.0
67.30	21,199/315	550	591	1084	10/5	K403_0670 ME20	3600	3300	5500	≤24	2.8	31.0
69.34	5547/80	371	445	741	10/4	K402_0690 ME20	3600	3300	5500	≤24	2.7	31.0
78.10	38,657/495	550	591	1084	10/5	K403_0780 ME20	3600	3300	5500	≤24	2.7	31.0

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

K/KL Series: RIGHT ANGLE — Versatile Outputs

K/KL Series: RIGHT ANGLE – Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{2N} ¹⁾ ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				

K4 (continued from previous page)

79.11	62,651/792	404	406	508	10/5	K403_0790 ME10	3600	3300	5500	≤19	0.7	31.0
90.06	16,211/180	550	591	1084	10/5	K403_0900 ME20	3600	3300	5500	≤24	2.7	31.0
91.23	26,273/288	468	468	585	10/5	K403_0910 ME10	3600	3300	5500	≤19	0.7	31.0
107.4	38,657/360	550	591	1084	10/5	K403_1070 ME20	3600	3300	5500	≤24	2.7	31.0
108.8	62,651/576	550	558	698	10/5	K403_1090 ME10	3600	3300	5500	≤19	0.7	31.0
134.4	120,959/900	550	591	1084	10/5	K403_1340 ME20	3600	3300	5500	≤24	2.7	31.0
136.1	196,037/1440	550	591	807	10/5	K403_1360 ME10	3600	3300	5500	≤19	0.7	31.0
179.1	34,916/195	535	591	983	10/5	K403_1790 ME20	3600	3300	5500	≤24	2.7	31.0
181.4	14,147/78	535	591	983	10/5	K403_1810 ME10	3600	3300	5500	≤19	0.7	31.0
215.4	23,693/110	424	508	847	10/5	K403_2150 ME20	3600	3300	5500	≤24	2.7	31.0
218.2	38,399/176	424	508	847	10/5	K403_2180 ME10	3600	3300	5500	≤19	0.7	31.0
271.6	86,903/320	371	445	741	10/5	K403_2720 ME10	3600	3300	5500	≤19	0.7	31.0

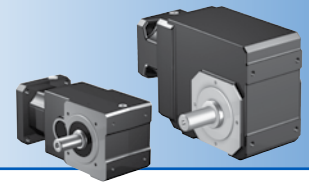
¹⁾ Maximum torque for continuous input RPM - horizontal output position.

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

Selection Data



Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{2N} ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
7.347	551/75	694	1000	1405	10/5	K513_0073 ME30	1900	1800	3200	≤38	25.0	49.0
						K513_0073 ME40				≤48	47.0	
8.134	17,081/2100	718	1000	1555	10/5	K513_0081 ME30	1900	1800	3200	≤38	24.0	49.0
						K513_0081 ME40				≤48	46.0	
9.168	1421/155	748	1000	1753	10/5	K513_0092 ME30	1900	1800	3200	≤38	21.0	49.0
						K513_0092 ME40				≤48	43.0	
10.15	203/20	773	1000	1800	10/5	K513_0100 ME30	1900	1800	3200	≤38	20.0	49.0
						K513_0100 ME40				≤48	42.0	
11.57	10,759/930	808	1000	1800	10/5	K513_0115 ME30	2300	2200	3600	≤38	17.0	49.0
						K513_0115 ME40				≤48	39.0	
12.81	1537/120	836	1000	1800	10/5	K513_0130 ME30	2300	2200	3600	≤38	17.0	49.0
						K513_0130 ME40				≤48	39.0	
14.54	5887/405	834	834	1042	10/5	K513_0145 ME20	2300	2200	3600	≤32	9.7	49.0
		872	1000	1800		K513_0145 ME30				≤38	15.0	
						K513_0145 ME40				≤48	37.0	
16.09	26,071/1620	900	923	1154	10/5	K513_0160 ME20	2300	2200	3600	≤32	9.3	49.0
			1000	1800		K513_0160 ME30				≤38	15.0	
						K513_0160 ME40				≤48	37.0	
17.48	6293/360	899	1000	1253	10/5	K513_0175 ME20	2800	2500	4200	≤32	8.4	49.0
		900		1800		K513_0175 ME30				≤38	14.0	
						K513_0175 ME40				≤48	36.0	
19.35	27,869/1440	900	1000	1388	10/5	K513_0195 ME20	2800	2500	4200	≤32	8.1	49.0
				1800		K513_0195 ME30				≤38	14.0	
						K513_0195 ME40				≤48	35.0	
21.99	2639/120	900	1000	1466	10/5	K513_0220 ME20	2800	2500	4200	≤32	7.1	49.0
				1800		K513_0220 ME30				≤38	13.0	
						K513_0220 ME40				≤48	34.0	
24.35	11,687/480	900	1000	1623	10/5	K513_0240 ME20	2800	2500	4200	≤32	6.9	49.0
				1800		K513_0240 ME30				≤38	12.0	
						K513_0240 ME40				≤48	34.0	
29.18	4669/160	900	1000	1656	10/5	K513_0290 ME20	3400	3000	5000	≤32	6.0	49.0
				1800		K513_0290 ME30				≤38	12.0	
						K513_0290 ME40	3000		4500	≤48	33.0	

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
* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

K/KL Series: RIGHT ANGLE — Versatile Outputs

K/KL Series: RIGHT ANGLE – Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{2N} ¹⁾ ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
K5 (continued from previous page)												
32.31	20,677/640	900	1000	1800	10/5	K513_0320 ME20	3400	3000	5000	≤32	5.9	49.0
						K513_0320 ME30				≤38	11.0	
						K513_0320 ME40	3000	4500	≤48	33.0		
34.80	174/5	900	1000	1781	10/5	K513_0350 ME20	3400	3000	5000	≤32	5.6	49.0
						K513_0350 ME30				≤38	11.0	
38.53	2697/70	900	1000	1800	10/5	K513_0390 ME20	3400	3000	5000	≤32	5.5	49.0
						K513_0390 ME30				≤38	11.0	
43.50	87/2	900	1000	1800	10/5	K513_0440 ME20	3400	3000	5000	≤32	5.1	49.0
						K513_0440 ME30				≤38	10.0	
48.16	2697/56	900	1000	1800	10/5	K513_0480 ME20	3400	3000	5000	≤32	5.0	49.0
						K513_0480 ME30				≤38	10.0	
58.30	11,368/195	900	1000	1800	10/5	K513_0580 ME20	3400	3000	5000	≤32	4.7	49.0
						K513_0580 ME30				≤38	10.0	50.0
64.54	12,586/195	900	1000	1800	10/5	K513_0650 ME20	3400	3000	5000	≤32	4.6	49.0
						K513_0650 ME30				≤38	10.0	50.0
70.08	841/12	821	985	1277	10/5	K513_0700 ME20	3400	3000	5000	≤24	3.0	49.0
77.59	26,071/336	900	1000	1414	10/5	K513_0780 ME20	3400	3000	5000	≤24	3.0	49.0
85.03	76,531/900	900	1000	1465	10/6	K514_0850 ME20	3400	3000	5000	≤24	2.9	49.0
87.29	8729/100	689	827	1317	10/5	K513_0870 ME20	3400	3000	5000	≤24	2.8	49.0
94.15	338,923/3600	900	1000	1623	10/6	K514_0940 ME20	3400	3000	5000	≤24	2.9	49.0
96.64	38,657/400	763	916	1458	10/5	K513_0970 ME20	3400	3000	5000	≤24	2.8	49.0
112.8	135,401/1200	900	1000	1656	10/6	K514_1130 ME20	3400	3000	5000	≤24	2.8	50.0
124.9	599,633/4800	900	1000	1800	10/6	K514_1250 ME20	3400	3000	5000	≤24	2.8	50.0
134.6	3364/25	900	1000	1781	10/6	K514_1350 ME20	3400	3000	5000	≤24	2.8	50.0
149.0	26,071/175	900	1000	1800	10/6	K514_1490 ME20	3400	3000	5000	≤24	2.8	50.0
168.2	841/5	900	1000	1800	10/6	K514_1680 ME20	3400	3000	5000	≤24	2.8	50.0
186.2	26,071/140	900	1000	1800	10/6	K514_1860 ME20	3400	3000	5000	≤24	2.8	50.0
225.4	659,344/2925	900	1000	1800	10/6	K514_2250 ME20	3400	3000	5000	≤24	2.7	50.0
249.6	729,988/2925	900	1000	1800	10/6	K514_2500 ME20	3400	3000	5000	≤24	2.7	50.0
271.0	24,389/90	821	985	1277	10/6	K514_2710 ME20	3400	3000	5000	≤24	2.7	50.0
300.0	756,059/2520	900	1000	1413	10/6	K514_3000 ME20	3400	3000	5000	≤24	2.7	50.0
337.5	253,141/750	689	827	1317	10/6	K514_3380 ME20	3400	3000	5000	≤24	2.7	50.0
373.7	1,121,053/3000	763	916	1458	10/6	K514_3740 ME20	3400	3000	5000	≤24	2.7	50.0

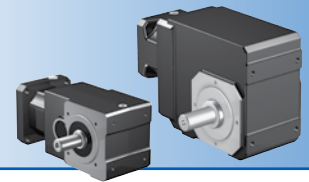
¹⁾ Maximum torque for continuous input RPM - horizontal output position.

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

Selection Data



Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm		
		Nominal M _{2N} ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic					
							EL 1,2,3,4	EL 5,6					All	
K6 (continued next page)														
7.323	19,215/2624	916	1120	1400	10/5	K613_0073 ME30	1800	1700	3000	≤38	39.0	81.0		
			1375	2625		K613_0073 ME40				≤48	61.0			
						K613_0073 ME50				≤60	89.0			
8.107	85,095/10,496	948	1240	1550	10/5	K613_0081 ME30	1800	1700	3000	≤38	36.0	81.0		
			1422	2900		K613_0081 ME40				≤48	59.0			
						K613_0081 ME50				≤60	87.0			
11.41	22,631/1984	1062	1594	2181	10/5	K613_0115 ME30	2200	2000	3500	≤38	25.0	82.0		
											K613_0115 ME40		≤48	46.0
											K613_0115 ME50		≤60	75.0
12.63	3233/256	1099	1600	2415	10/5	K613_0125 ME30	2200	2000	3500	≤38	24.0	82.0		
											K613_0125 ME40		≤48	45.0
											K613_0125 ME50		≤60	75.0
14.33	12,383/864	1146	1600	2740	10/5	K613_0145 ME30	2200	2000	3500	≤38	20.0	82.0		
											K613_0145 ME40		≤48	42.0
											K613_0145 ME50		≤60	71.0
15.87	54,839/3456	1186	1600	2900	10/5	K613_0160 ME30	2200	2000	3500	≤38	20.0	82.0		
											K613_0160 ME40		≤48	42.0
											K613_0160 ME50		≤60	71.0
17.16	549/32	984	984	1230	10/5	K613_0170 ME20	2600	2300	4000	≤32	12.0	82.0		
						K613_0170 ME30				≤38	18.0			
		1217	1600	2900		K613_0170 ME40	≤48			39.0				
						K613_0170 ME50	2500			≤60	69.0			
18.99	17,019/896	1089	1089	1362	10/5	K613_0190 ME20	2600	2300	4000	≤32	12.0	82.0		
						K613_0190 ME30				≤38	17.0			
		1259	1600	2900		K613_0190 ME40	≤48			39.0				
						K613_0190 ME50	2500			≤60	68.0			
21.68	5551/256	1316	1600	2900	10/5	K613_0220 ME30	2600	2300	4000	≤38	15.0	82.0		
											K613_0220 ME40		≤48	37.0
										K613_0220 ME50	2500		≤60	66.0
24.01	24,583/1024	1361	1600	2900	10/5	K613_0240 ME30	2600	2300	4000	≤38	15.0	82.0		
											K613_0240 ME40		≤48	37.0
										K613_0240 ME50	2500		≤60	66.0

K/KL Series: RIGHT ANGLE — Versatile Outputs

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

K/KL Series: RIGHT ANGLE – Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{2N} ¹⁾ ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
28.77	29,463/1024	1169	1448	1810	10/5	K613_0290 ME20	3100	2800	4500	≤32	7.8	82.0
						K613_0290 ME30				≤38	13.0	
		1446	1600	2900		K613_0290 ME40	3000	≤48	35.0			
						K613_0290 ME50	2500	2500	4000	≤60	64.0	
31.86	130,479/4096	1294	1600	2004	10/5	K613_0320 ME20	3100	2800	4500	≤32	7.6	82.0
										K613_0320 ME30	≤38	
		1450	2900	K613_0320 ME40		3000	≤48	35.0				
						K613_0320 ME50	2500	2500	4000	≤60	64.0	
34.61	35,441/1024	1196	1571	1964	10/5	K613_0350 ME20	3100	2800	4500	≤32	6.8	82.0
						K613_0350 ME30				≤38	12.0	
		1450	1600	2900		K613_0350 ME40	3000	≤48	34.0			
						K613_0350 ME50	2500	2500	4000	≤60	63.0	
38.32	156,953/4096	1324	1600	2175	10/5	K613_0380 ME20	3100	2800	4500	≤32	6.7	82.0
										K613_0380 ME30	≤38	
		1450	2900	K613_0380 ME40		3000	≤48	34.0				
						K613_0380 ME50	2500	2500	4000	≤60	63.0	
43.11	8967/208	1227	1600	2072	10/5	K613_0430 ME20	3100	2800	4500	≤32	6.0	82.0
		1450				K613_0430 ME30				≤38	11.0	
47.73	39,711/832	1359	1600	2294	10/5	K613_0480 ME20	3100	2800	4500	≤32	5.9	82.0
		1450				K613_0480 ME30				≤38	11.0	
57.55	29,463/512	1295	1600	2804	10/5	K613_0580 ME20	3100	2800	4500	≤32	5.2	82.0
		1450				K613_0580 ME30				≤38	11.0	
63.71	130,479/2048	1434	1600	2900	10/5	K613_0640 ME20	3100	2800	4500	≤32	5.2	82.0
		1450				K613_0640 ME30				≤38	10.0	
68.77	28,609/416	1311	1577	2628	10/5	K613_0690 ME20	3100	2800	4500	≤32	4.9	82.0
		1314				K613_0690 ME30				≤38	10.0	
76.14	126,697/1664	1450	1600	2900	10/5	K613_0760 ME20	3100	2800	4500	≤32	4.9	82.0
						K613_0760 ME30				≤38	10.0	
86.18	66,185/768	971	1165	1474	10/5	K613_0860 ME20	3100	2800	4500	≤24	3.1	82.0
95.41	293,105/3072	1075	1290	1632	10/5	K613_0950 ME20	3100	2800	4500	≤24	3.1	82.0
111.3	284,809/2560	1448	1448	1810	10/6	K614_1110 ME20	3100	2800	4500	≤24	2.9	82.0
123.2	1,261,297/10,240	1450	1600	2004	10/6	K614_1230 ME20	3100	2800	4500	≤24	2.9	82.0
133.8	1,027,789/7680	1450	1571	1964	10/6	K614_1340 ME20	3100	2800	4500	≤24	2.9	82.0

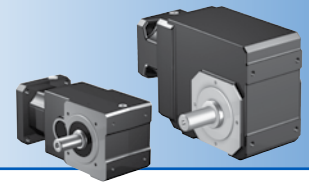
¹⁾ Maximum torque for continuous input RPM - horizontal output position.

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

Selection Data



Reducer Ratio (i)		Output Torque			Backlash ³⁾	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶	Input Inertia J ₁	Torsional Stiffness C ₂ (per arcmin)
		Nominal M _{2N} ≤ 2000 RPM	Acceleration M _{2B}	Peak ²⁾ M _{2PEAK}			Continuous	Cyclic				
Nom.	Exact	Nm	Nm	Nm	arcmin		EL 1,2,3,4	EL 5,6	All	mm	kgcm ²	Nm
K6 (continued from previous page)												
148.2	4,551,637/30,720	1450	1600	2174	10/6	K614_1480 ME20	3100	2800	4500	≤24	2.9	82.0
166.7	86,681/520	1450	1600	2072	10/6	K614_1670 ME20	3100	2800	4500	≤24	2.8	83.0
184.6	383,873/2080	1450	1600	2294	10/6	K614_1850 ME20	3100	2800	4500	≤24	2.8	83.0
222.5	284,809/1280	1450	1600	2803	10/6	K614_2230 ME20	3100	2800	4500	≤24	2.8	83.0
246.3	1,261,297/5120	1450	1600	2900	10/6	K614_2460 ME20	3100	2800	4500	≤24	2.8	83.0
265.9	829,661/3120	1314	1577	2628	10/6	K614_2660 ME20	3100	2800	4500	≤24	2.8	83.0
294.4	3,674,213/12,480	1450	1600	2900	10/6	K614_2940 ME20	3100	2800	4500	≤24	2.7	83.0
333.2	383,873/1152	971	1165	1474	10/6	K614_3330 ME20	3100	2800	4500	≤24	2.7	83.0
368.9	1,700,009/4608	1075	1290	1632	10/6	K614_3690 ME20	3100	2800	4500	≤24	2.7	83.0

K/KL Series: RIGHT ANGLE — Versatile Outputs

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

K/KL Series: RIGHT ANGLE – Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{2N} ¹⁾ ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
7.563	19,845/2624	1516	2169	2711	10/5	K713_0076 ME40	1700	1600	2700	≤48	91.0	122.0
						K713_0076 ME50				≤60	119.0	123.0
8.373	87,885/10,496	1568	2353	3002	10/5	K713_0084 ME40	1700	1600	2700	≤48	87.0	123.0
						K713_0084 ME50				≤60	115.0	124.0
9.188	147/16	1618	2427	3294	10/5	K713_0092 ME40	1700	1600	2700	≤48	76.0	123.0
						K713_0092 ME50				≤60	104.0	124.0
10.17	651/64	1674	2510	3647	10/5	K713_0100 ME40	1700	1600	2700	≤48	74.0	124.0
						K713_0100 ME50				≤60	102.0	
11.78	23,373/1984	1477	1802	2253	10/5	K713_0120 ME30	2000	1900	3200	≤38	40.0	124.0
		1758	2600	4223		K713_0120 ME40				≤48	63.0	
						K713_0120 ME50				≤60	91.0	
13.04	3339/256	1636	1995	2494	10/5	K713_0130 ME30	2000	1900	3200	≤38	39.0	124.0
		1818	2600	4676		K713_0130 ME40				≤48	61.0	
						K713_0130 ME50				≤60	89.0	
14.80	1421/96	1626	2258	2823	10/5	K713_0150 ME30	2000	1900	3200	≤38	32.0	125.0
		1896	2600	4800		K713_0150 ME40				≤48	54.0	
						K713_0150 ME50				≤60	82.0	
16.39	6293/384	1800	2500	3125	10/5	K713_0165 ME30	2000	1900	3200	≤38	31.0	125.0
		1962	2600	4800		K713_0165 ME40				≤48	53.0	
						K713_0165 ME50				≤60	81.0	
18.28	26,901/1472	1719	2562	3203	10/5	K713_0185 ME30	2400	2200	3600	≤38	26.0	125.0
		2034	2600	4800		K713_0185 ME40				≤48	49.0	
						K713_0185 ME50				≤60	77.0	
20.23	119,133/5888	1903	2600	3546	10/5	K713_0200 ME30	2400	2200	3600	≤38	26.0	125.0
		2105		4800		K713_0200 ME40				≤48	48.0	
						K713_0200 ME50				≤60	76.0	
22.74	14,553/640	1832	2600	3776	10/5	K713_0230 ME30	2400	2200	3600	≤38	22.0	125.0
		2188		4800		K713_0230 ME40				≤48	44.0	
						K713_0230 ME50				≤60	72.0	
25.18	64,449/2560	2029	2600	4180	10/5	K713_0250 ME30	2400	2200	3600	≤38	21.0	125.0
		2264		4800		K713_0250 ME40				≤48	44.0	
						K713_0250 ME50				≤60	72.0	

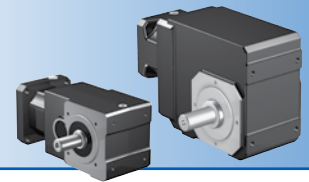
¹⁾ Maximum torque for continuous input RPM - horizontal output position.

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

Selection Data



K/KL Series: RIGHT ANGLE — Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm		
		Nominal M _{2N} ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic					
							EL 1,2,3,4	EL 5,6					All	
29.29	7497/256	1934	2600	4088	10/5	K713_0290 ME30	2900	2600	4200	≤38	18.0	125.0		
		2381		4800		K713_0290 ME40				≤48			40.0	
						K713_0290 ME50				≤60			68.0	
32.42	33,201/1024	2141	2600	4526	10/5	K713_0320 ME30	2900	2600	4200	≤38	17.0	125.0		
		2400		4800		K713_0320 ME40				≤48			40.0	
						K713_0320 ME50				≤60			68.0	
35.44	567/16	2011	2600	4559	10/5	K713_0350 ME30	2900	2600	4200	≤38	15.0	125.0		
		2400				4800				K713_0350 ME40			≤48	37.0
										K713_0350 ME50			≤60	66.0
39.23	2511/64	2226	2600	4800	10/5	K713_0390 ME30	2900	2600	4200	≤38	15.0	125.0		
		2400				4800				K713_0390 ME40			≤48	37.0
										K713_0390 ME50			≤60	66.0
45.05	37,485/832	2082	2600	4800	10/5	K713_0450 ME30	2900	2600	4200	≤38	14.0	126.0		
		2400				4800				K713_0450 ME40			≤48	35.0
										K713_0450 ME50			≤60	64.0
49.88	166,005/3328	2306	2600	4800	10/5	K713_0500 ME30	2900	2600	4200	≤38	13.0	126.0		
		2400				4800				K713_0500 ME40			≤48	35.0
										K713_0500 ME50			≤60	64.0
58.57	7497/128	2169	2600	4800	10/5	K713_0590 ME30	2900	2600	4200	≤38	12.0	126.0		
		2400				4800				K713_0590 ME40			≤48	34.0
										K713_0590 ME50			≤60	63.0
64.85	33,201/512	2400	2600	4800	10/5	K713_0650 ME30	2900	2600	4200	≤38	12.0	126.0		
						4800				K713_0650 ME40			≤48	34.0
										K713_0650 ME50			≤60	63.0
71.20	4557/64	2173	2277	2846	10/5	K713_0710 ME30	2900	2600	4200	≤38	11.0	126.0		
78.83	20,181/256	2400	2521	3151	10/5	K713_0790 ME30	2900	2600	4200	≤38	11.0	126.0		
89.00	22,785/256	1671	2005	3006	10/5	K713_0890 ME30	2900	2600	4200	≤38	11.0	126.0		
89.06	227,997/2560	2400	2600	3451	10/6	K714_0890 ME30	2900	2600	4200	≤38	11.0	126.0		
98.54	100,905/1024	1851	2221	3328	10/5	K713_0990 ME30	2900	2600	4200	≤38	11.0	126.0		
98.60	1,009,701/10,240	2400	2600	3820	10/6	K714_0990 ME30	2900	2600	4200	≤38	11.0	126.0		
114.7	117,453/1024	2400	2600	4087	10/6	K714_1150 ME30	2900	2600	4200	≤38	10.0	126.0		
127.0	520,149/4096	2400	2600	4525	10/6	K714_1270 ME30	2900	2600	4200	≤38	10.0	126.0		
137.0	5481/40	1626	1626	2032	10/6	K714_1370 ME20	2900	2600	4200	≤24	3.1	126.0		

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
* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

K/KL Series: RIGHT ANGLE – Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal ¹⁾ M _{2N} ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
138.8	8883/64	2400	2600	4559	10/6	K714_1390 ME30	2900	2600	4200	≤38	10.0	126.0
151.7	24,273/160	1800	1800	2250	10/6	K714_1520 ME20	2900	2600	4200	≤24	3.1	126.0
153.7	39,339/256	2400	2600	4800	10/6	K714_1540 ME30	2900	2600	4200	≤38	10.0	126.0
174.2	72,471/416	1751	1751	2189	10/6	K714_1740 ME20	2900	2600	4200	≤24	3.0	126.0
176.5	587,265/3328	2400	2600	4800	10/6	K714_1760 ME30	2900	2600	4200	≤38	10.0	126.0
192.9	320,943/1664	1939	1939	2424	10/6	K714_1930 ME20	2900	2600	4200	≤24	3.0	126.0
195.4	2,600,745/13,312	2400	2600	4800	10/6	K714_1950 ME30	2900	2600	4200	≤38	10.0	126.0
226.5	72,471/320	2044	2044	2555	10/6	K714_2260 ME20	2900	2600	4200	≤24	2.9	126.0
229.4	117,453/512	2400	2600	4800	10/6	K714_2290 ME30	2900	2600	4200	≤38	10.0	126.0
250.7	320,943/1280	2263	2263	2829	10/6	K714_2510 ME20	2900	2600	4200	≤24	2.9	126.0
254.0	520,149/2048	2400	2600	4800	10/6	K714_2540 ME30	2900	2600	4200	≤38	10.0	126.0
275.3	44,051/160	2173	2277	2846	10/6	K714_2750 ME20	2900	2600	4200	≤24	2.8	126.0
304.8	195,083/640	2400	2521	3151	10/6	K714_3050 ME20	2900	2600	4200	≤24	2.8	126.0
344.1	44,051/128	1671	2005	3006	10/6	K714_3440 ME20	2900	2600	4200	≤24	2.8	126.0
381.0	195,083/512	1851	2221	3328	10/6	K714_3810 ME20	2900	2600	4200	≤24	2.8	126.0

K7 (continued from previous page)

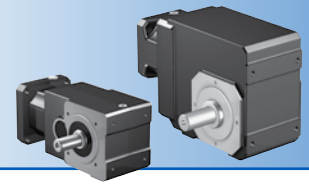
¹⁾ Maximum torque for continuous input RPM - horizontal output position.

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

Selection Data



K/KL Series: RIGHT ANGLE — Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{ZN} ≤ 2000 RPM Nm	Acceleration M _{ZB} Nm	Peak ²⁾ M _{ZPEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
7.445	3127/420	2135	2135	2669	10/5	K813_0074 ME40	1600	1500	2600	≤48	174.0	187.0
						K813_0074 ME50				≤60	202.0	191.0
8.243	96,937/11,760	2364	2364	2955	10/5	K813_0082 ME40	1600	1500	2600	≤48	161.0	189.0
						K813_0082 ME50				≤60	189.0	192.0
9.284	11,977/1290	2663	2663	3328	10/5	K813_0093 ME40	1600	1500	2600	≤48	133.0	191.0
						K813_0093 ME50				≤60	161.0	193.0
10.28	53,041/5160	2907	2948	3685	10/5	K813_0105 ME40	1600	1500	2600	≤48	125.0	192.0
						K813_0105 ME50				≤60	152.0	193.0
14.84	9499/640	3286	4257	5321	10/5	K813_0150 ME40	1900	1800	3000	≤48	82.0	194.0
						K813_0150 ME50				≤60	110.0	195.0
16.43	42,067/2560	3399	4650	5891	10/5	K813_0165 ME40	1900	1800	3000	≤48	79.0	194.0
						K813_0165 ME50				≤60	106.0	195.0
17.33	30,149/1740	2025	2650	3313	10/5	K813_0175 ME30	2300	2100	3500	≤38	49.0	194.0
		3460	4650	6212		K813_0175 ME40				≤48	72.0	195.0
						K813_0175 ME50				≤60	100.0	195.0
19.18	133,517/6960	2242	2934	3668	10/5	K813_0190 ME30	2300	2100	3500	≤38	47.0	195.0
		3579	4650	6877		K813_0190 ME40				≤48	70.0	
						K813_0190 ME50				≤60	98.0	
23.04	31,801/1380	2153	3134	3918	10/5	K813_0230 ME30	2300	2100	3500	≤38	36.0	195.0
		3805	4650	8261		K813_0230 ME40				≤48	58.0	
						K813_0230 ME50				≤60	86.0	
25.51	140,833/5520	2383	3470	4338	10/5	K813_0260 ME30	2300	2100	3500	≤38	35.0	195.0
		3936	4650	8400		K813_0260 ME40				≤48	57.0	
						K813_0260 ME50				≤60	85.0	
29.25	7021/240	2341	3750	4687	10/5	K813_0290 ME30	2800	2500	4000	≤38	28.0	196.0
		4120	4650	8400		K813_0290 ME40				≤48	50.0	
						K813_0290 ME50	2500			≤60	78.0	
32.39	31,093/960	2592	4152	5190	10/5	K813_0320 ME30	2800	2500	4000	≤38	27.0	196.0
		4200	4650	8400		K813_0320 ME40				≤48	49.0	
						K813_0320 ME50	2500			≤60	77.0	
36.14	2891/80	2370	3887	4858	10/5	K813_0360 ME30	2800	2500	4000	≤38	22.0	196.0
		4200	4650	8400		K813_0360 ME40				≤48	45.0	
						K813_0360 ME50	2500			≤60	73.0	

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
* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

K/KL Series: RIGHT ANGLE – Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{2N} ¹⁾ ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
K8 (continued next page)												
40.01	12,803/320	2624	4303	5379	10/5	K813_0400 ME30	2800	2500	4000	≤38	22.0	196.0
		4200	4650	8400		K813_0400 ME40				≤48	44.0	
						K813_0400 ME50				≤60	72.0	
44.25	177/4	2494	4368	5460	10/5	K813_0440 ME30	2800	2500	4000	≤38	19.0	196.0
		4200				K813_0440 ME40				≤48	41.0	
						K813_0440 ME50				≤60	70.0	
48.99	5487/112	2761	4650	6045	10/5	K813_0490 ME30	2800	2500	4000	≤38	18.0	196.0
		4200				K813_0490 ME40				≤48	40.0	
						K813_0490 ME50				≤60	69.0	
59.08	42,539/720	2560	4650	6391	10/5	K813_0590 ME30	2800	2500	4000	≤38	15.0	196.0
		4200				K813_0590 ME40				≤48	37.0	
						K813_0590 ME50				≤60	66.0	
65.41	188,387/2880	2835	4650	7075	10/5	K813_0650 ME30	2800	2500	4000	≤38	15.0	196.0
		4200				K813_0650 ME40				≤48	37.0	
						K813_0650 ME50				≤60	66.0	
66.83	38,763/580	4200	4650	6212	10/6	K814_0670 ME40	2800	2500	4000	≤48	36.0	196.0
71.70	10,325/144	2638	4326	7009	10/5	K813_0720 ME30	2800	2500	4000	≤38	13.0	196.0
		3605				K813_0720 ME40				≤48	35.0	
						K813_0720 ME50				≤60	64.0	
73.99	1,201,653/16,240	4200	4650	6877	10/6	K814_0740 ME40	2800	2500	4000	≤48	36.0	196.0
79.38	45,725/576	2920	4650	7760	10/5	K813_0790 ME30	2800	2500	4000	≤38	13.0	196.0
		3992				K813_0790 ME40				≤48	35.0	
						K813_0790 ME50				≤60	64.0	
87.76	7021/80	2638	2638	3298	10/5	K813_0880 ME30	2800	2500	4000	≤38	12.0	196.0
88.89	40,887/460	4200	4650	8262	10/6	K814_0890 ME40	2800	2500	4000	≤48	35.0	196.0
97.17	31,093/320	2921	2921	3651	10/5	K813_0970 ME30	2800	2500	4000	≤38	12.0	196.0
98.41	181,071/1840	4200	4650	8400	10/6	K814_0980 ME40	2800	2500	4000	≤48	35.0	196.0
112.8	9027/80	4200	4650	8400	10/6	K814_1130 ME40	2800	2500	4000	≤48	34.0	196.0
114.6	329,987/2880	3496	3551	4439	10/6	K814_1150 ME30	2800	2500	4000	≤38	11.0	196.0
124.9	279,837/2240	4200	4650	8400	10/6	K814_1250 ME40	2800	2500	4000	≤48	34.0	196.0
126.9	1,461,371/11,520	3871	3932	4915	10/6	K814_1270 ME30	2800	2500	4000	≤38	11.0	196.0
139.4	11,151/80	4200	4650	8400	10/6	K814_1390 ME40	2800	2500	4000	≤48	34.0	196.0
141.5	135,877/960	3832	3886	4858	10/6	K814_1420 ME30	2800	2500	4000	≤38	11.0	196.0

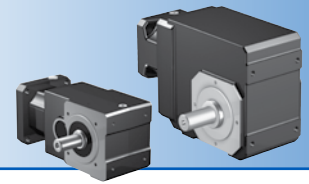
¹⁾ Maximum torque for continuous input RPM - horizontal output position.

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

Selection Data



Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal ¹⁾ M _{2N} ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
K8 (continued from previous page)												
154.3	49,383/320	4200	4650	8400	10/6	K814_1540 ME40	2800	2500	4000	≤48	34.0	196.0
156.7	601,741/3840	4200	4303	5378	10/6	K814_1570 ME30	2800	2500	4000	≤38	11.0	196.0
170.7	4779/28	4200	4368	5460	10/6	K814_1710 ME40	2800	2500	4000	≤48	34.0	196.0
173.3	2773/16	4056	4367	5459	10/6	K814_1730 ME30	2800	2500	4000	≤38	10.0	196.0
189.0	148,149/784	4200	4650	6045	10/6	K814_1890 ME40	2800	2500	4000	≤48	34.0	196.0
191.9	85,963/448	4200	4650	6044	10/6	K814_1920 ME30	2800	2500	4000	≤38	10.0	196.0
227.9	18,231/80	4200	4650	6391	10/6	K814_2280 ME40	2800	2500	4000	≤48	33.0	196.0
231.4	1,999,333/8640	4200	4650	6390	10/6	K814_2310 ME30	2800	2500	4000	≤38	10.0	196.0
252.3	565,161/2240	4200	4650	7076	10/6	K814_2520 ME40	2800	2500	4000	≤48	33.0	196.0
256.2	8,854,189/34,560	4200	4650	7075	10/6	K814_2560 ME30	2800	2500	4000	≤38	10.0	196.0
276.6	4425/16	3605	4326	7010	10/6	K814_2770 ME40	2800	2500	4000	≤48	33.0	196.0
280.8	485,275/1728	3605	4326	7009	10/6	K814_2810 ME30	2800	2500	4000	≤38	10.0	196.0
306.2	137,175/448	3992	4650	7761	10/6	K814_3060 ME40	2800	2500	4000	≤48	33.0	196.0
310.9	2,149,075/6912	3992	4650	7760	10/6	K814_3110 ME30	2800	2500	4000	≤38	10.0	196.0

K/KL Series: RIGHT ANGLE — Versatile Outputs

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

K/KL Series: RIGHT ANGLE – Versatile Outputs

Nom.	Reducer Ratio (i) Exact	Output Torque			Backlash ³⁾ arcmin	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶ mm	Input Inertia J ₁ kgcm ²	Torsional Stiffness C ₂ (per arcmin) Nm
		Nominal M _{2N} ¹⁾ ≤ 2000 RPM Nm	Acceleration M _{2B} Nm	Peak ²⁾ M _{2PEAK} Nm			Continuous		Cyclic			
							EL 1,2,3,4	EL 5,6				
12.53	73,749/5888	3592	3592	4490	10/5	K913_0125 ME40	1800	1800	2800	≤48	190.0	367.0
						K913_0125 ME50				≤60	218.0	372.0
19.06	305/16	4955	5467	6834	10/5	K913_0190 ME40	2200	2100	3300	≤48	117.0	374.0
		5467				K913_0190 ME50				≤60	145.0	376.0
23.94	88,877/3712	5252	6867	8584	10/5	K913_0240 ME40	2200	2100	3300	≤48	93.0	376.0
		6867				K913_0240 ME50				≤60	121.0	377.0
32.12	47,275/1472	5621	7700	11514	10/5	K913_0320 ME40	2600	2500	3800	≤48	71.0	377.0
		7000				K913_0320 ME50	2500			≤60	99.0	378.0
38.04	194,773/5120	5807	7700	12508	10/5	K913_0380 ME40	2600	2500	3800	≤48	62.0	378.0
		7000				K913_0380 ME50	2500			≤60	90.0	
48.94	100,223/2048	5999	7700	13792	10/5	K913_0490 ME40	2600	2500	3800	≤48	52.0	378.0
		7000				K913_0490 ME50	2500			≤60	80.0	379.0
63.07	209,901/3328	6229	7700	14000	10/5	K913_0630 ME40	2600	2500	3800	≤48	45.0	379.0
		7000				K913_0630 ME50	2500			≤60	73.0	
75.00	62,403/832	6422	6822	8527	10/5	K913_0750 ME40	2600	2500	3800	≤48	41.0	379.0
		6822				K913_0750 ME50	2500			≤60	70.0	
95.41	293,105/3072	5376	6451	9215	10/5	K913_0950 ME40	2600	2500	3800	≤48	38.0	379.0
						K913_0950 ME50	2500			≤60	67.0	
92.35	2,399,679/25,984	6867	6867	8584	10/5	K914_0920 ME40	2600	2500	3800	≤48	37.0	379.0
93.78	4,177,219/44,544	2862	2907	3633	10/5	K914_0940 ME30	2600	2500	3800	≤38	14.0	379.0
123.9	1,276,425/10,304	7000	7700	11514	10/5	K914_1240 ME40	2600	2500	3800	≤48	36.0	379.0
125.8	2,221,925/17,664	3840	3899	4873	10/5	K914_1260 ME30	2600	2500	3800	≤38	12.0	379.0
146.7	5,258,871/35,840	7000	7700	12508	10/5	K914_1470 ME40	2600	2500	3800	≤48	35.0	379.0
149.0	9,154,331/61,440	4548	4601	5751	10/5	K914_1490 ME30	2600	2500	3800	≤38	12.0	379.0
188.8	2,706,021/14,336	7000	7700	13792	10/5	K914_1890 ME40	2600	2500	3800	≤48	34.0	379.0
191.7	4,710,481/24,576	5074	5074	6343	10/5	K914_1920 ME30	2600	2500	3800	≤38	11.0	379.0
243.3	5,667,327/23,296	7000	7700	14000	10/5	K914_2430 ME40	2600	2500	3800	≤48	34.0	379.0
247.0	3,288,449/13,312	5474	5733	7166	10/5	K914_2470 ME30	2600	2500	3800	≤38	11.0	379.0
293.8	977,647/3328	5704	6821	8527	10/5	K914_2940 ME30	2600	2500	3800	≤38	10.0	379.0
373.7	13,775,935/36,864	5376	6451	9214	10/5	K914_3740 ME30	2600	2500	3800	≤38	10.0	379.0

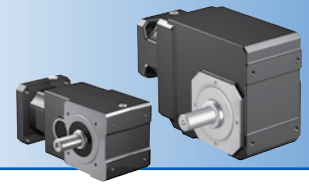
¹⁾ Maximum torque for continuous input RPM - horizontal output position.

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

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

Selection Data



Reducer Ratio (i)		Output Torque			Backlash ³⁾	Part Number* (Gearhead + Input)	Maximum Input Speed RPM			Motor Shaft Max Ø D ⁶	Input Inertia J ₁	Torsional Stiffness C ₂ (per arcmin)
		Nominal M _{ZN} ≤ 2000 RPM	Acceleration M _{ZB}	Peak ²⁾ M _{ZPEAK}			Continuous		Cyclic			
Nom.	Exact	Nm	Nm	Nm	arcmin		EL 1,2,3,4	EL 5,6	All	mm	kgcm ²	Nm
38.60	8029/208	9066	10624	13280	10/5	K1013_0390 ME50	2500	2300	3500	≤60	126.0	722.0
61.55	12,803/208	9696	12754	15942	10/5	K1013_0620 ME50	2500	2300	3500	≤60	91.0	724.0
75.28	101,773/1352	9807	13200	19570	10/5	K1013_0750 ME50	2500	2300	3500	≤60	82.0	724.0
94.33	235,445/2496	7332	7332	9165	10/5	K1013_0940 ME50	2500	2300	3500	≤60	75.0	724.0
93.34	252,399/2704	10806	12968	18197	10/5	K1014_0930 ME50	2500	2300	3500	≤60	72.0	724.0
123.7	7,359,555/59,488	12000	13200	24000	10/5	K1014_1240 ME50	2500	2300	3500	≤60	69.0	724.0
148.9	30,969/208	9417	10624	13280	10/5	K1014_1490 ME40	2500	2300	3500	≤48	38.0	724.0
151.4	409,479/2704	12000	13200	24000	10/5	K1014_1510 ME50	2500	2300	3500	≤60	67.0	724.0
190.4	514,941/2704	12000	13200	24000	10/5	K1014_1900 ME50	2500	2300	3500	≤60	66.0	725.0
237.4	49,383/208	10425	12754	15943	10/5	K1014_2370 ME40	2500	2300	3500	≤48	35.0	725.0
290.4	392,553/1352	10727	13200	19571	10/5	K1014_2900 ME40	2500	2300	3500	≤48	35.0	725.0

K10

K/KL Series: RIGHT ANGLE — Versatile Outputs

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.)

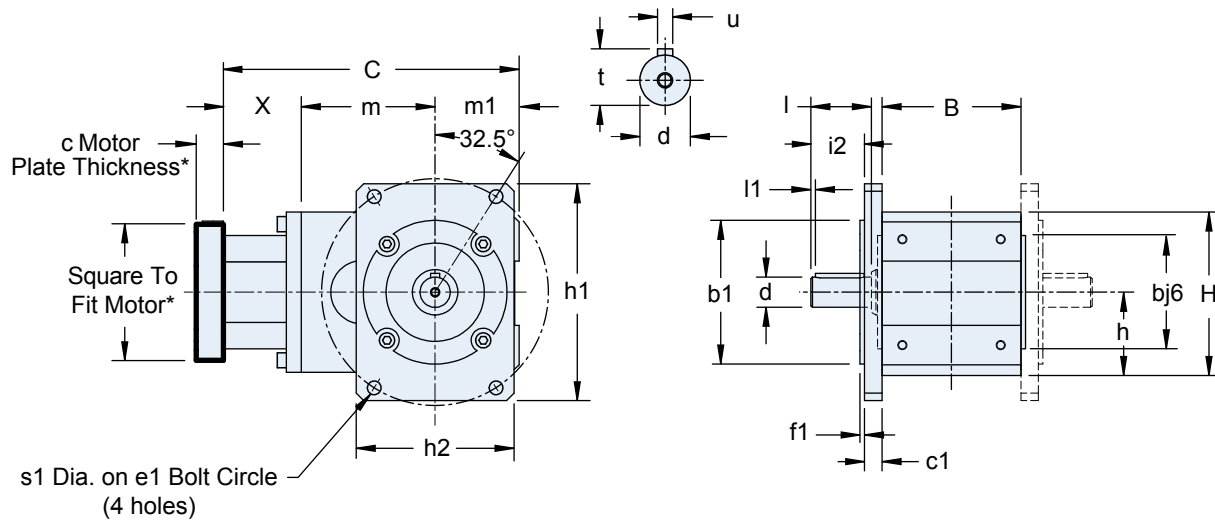
³⁾ Backlash shown standard/reduced

* Motor adapter order code (shaft diameter max - mm): ME10 (19), ME20 (32), ME30 (38), ME40 (48), ME50 (60)

K/KL Series: RIGHT ANGLE — Versatile Outputs

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

“F” Output Flange Housing Option



* See Motor Mounting Plate Option, page 166 for details.
 ** See Output Shaft Options, page xx for details.

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

Unit	B	b1	bj6	C	c1	e1	f1	H	h	h1	h2	i2	l	l1	m	m1	s1	X
KL1	75	60	60	160	11.5	130	3	90	46	128.5	88.5	26.5	32	3	67.5	46	9	46.5
KL2	92	95	75	195	11.5	150	3	108	55	143.5	104.5	35.5	40	3	88.5	55	9	51.5

Table 2 Standard “P” Solid Shaft

Unit	Shaft – inches			Metric Shaft – mm			Stainless Shaft		Wt.* lbs.
	d_{k6}	u – Key	t	d_{k6}	u – Key	t	Inches	mm	
KL1	5/8	–	–	–	M5 x 5 x 22	18	5/8	–	14
KL2	0.750	3/16 x 3/16 x 1-1/4	0.832	20	M6 x 6 x 32	23	0.750	20	21

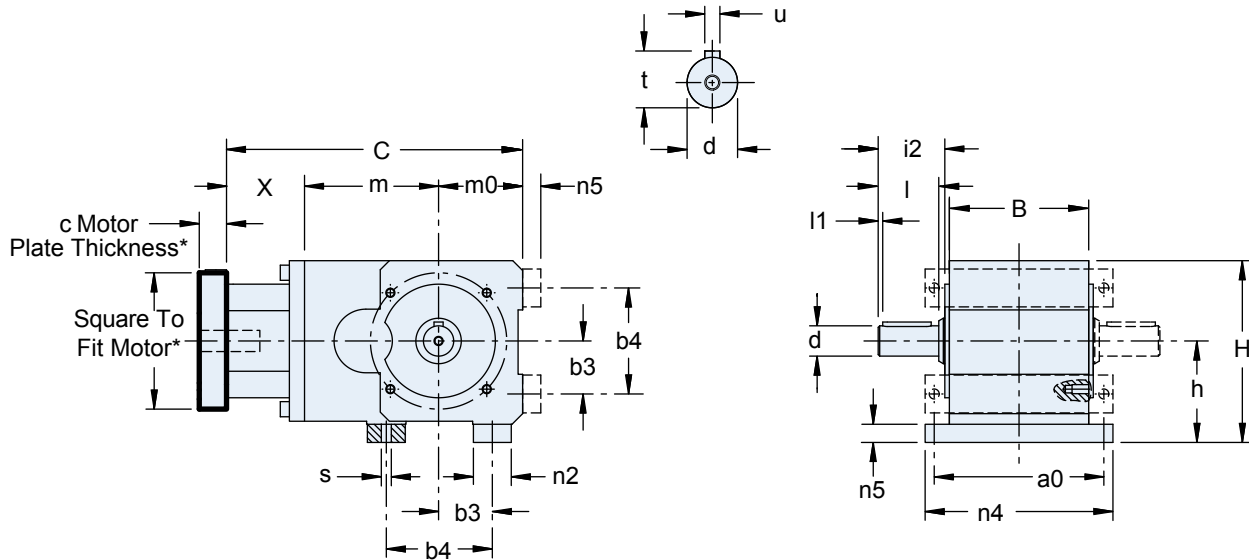
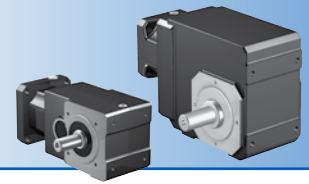
*Weight is approximate.

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 166 for details.
 ** See Output Shaft Options, page xx for details.

Table 1 KL Series Unit Dimensions (mm) – "NG" Foot Mounting Housing Option

Unit	a0	B	b3	b4	C	H	h	l	l1	l2	m	m0	n2	n4	n5	s	X
KL1	95	75	27.5	55	160	102	58	32	35	3	67.5	46	20	107	12	6.6	46.5
KL2	112	92	35	70	195	120	67	40	44	3	88.5	55	25	124	12	6.6	51.5

Table 2 Standard "P" Solid Shaft

Unit	Shaft – inches			Metric Shaft – mm			Stainless Shaft		Wt.* lbs.
	d _{k6}	u – Key	t	d _{k6}	u – Key	t	Inches	mm	
KL1	5/8	–	–	–	M5 x 5 x 22	18	5/8	–	14
KL2	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

K/KL Series: RIGHT ANGLE — Versatile Outputs

K/KL Series: RIGHT ANGLE – Versatile Outputs

KL Series with “A” Hollow Output

“F” Output Flange Housing

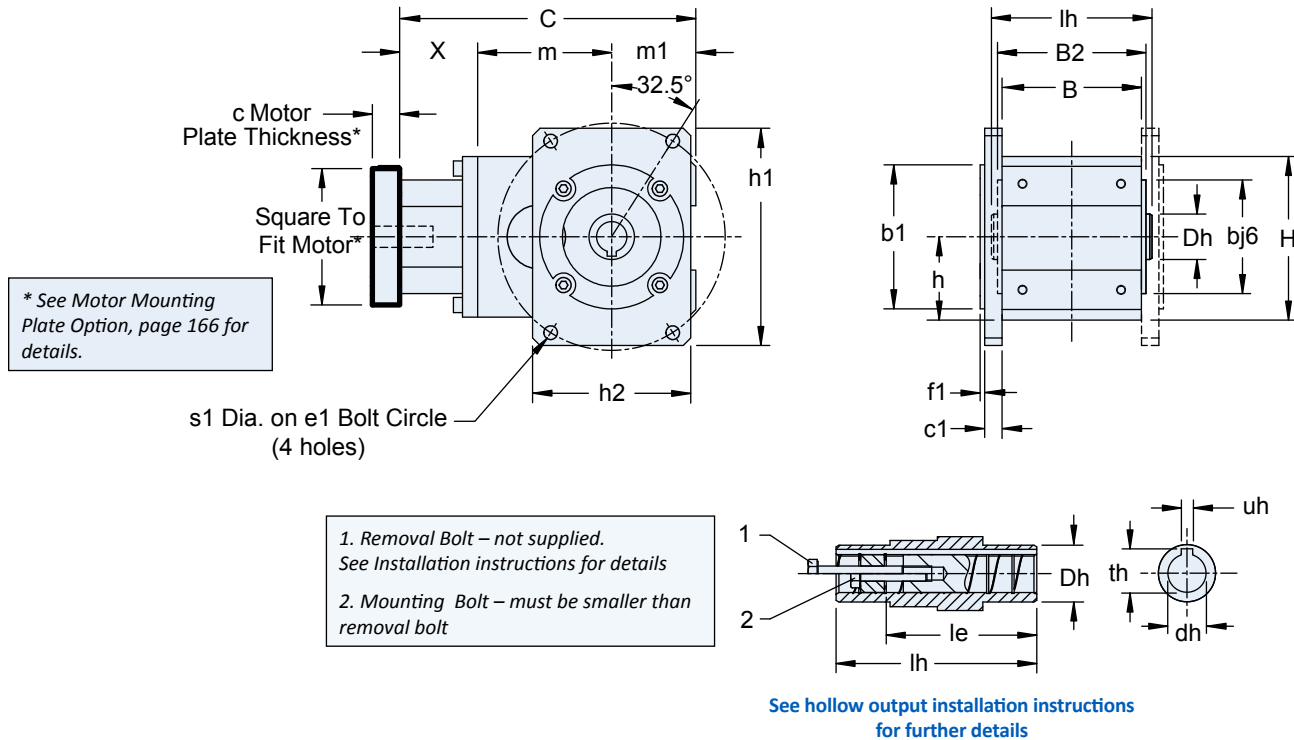


Table 1 KL Series Unit Dimensions (mm) – “F” Round Flange Housing

Unit	B	B2	b1	bj6	C	c1	Dh	e1	f1	H	h	h1	h2	le	lh	m	m1	s1	X
KL1	75	81	60	60	160	11.5	25	130	3	90	46	128.5	88.5	60.5	87	67.5	46	9	46.5
KL2	92	98	95	75	195	11.5	30	150	3	108	55	143.5	104.5	79.5	106	88.5	55	9	51.5

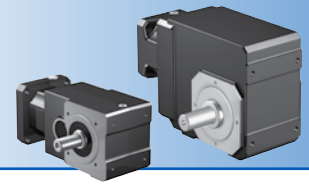
Table 2 Standard “A” Hollow Bore

Unit	Bore - inches			Metric Bore - mm			Stainless Bore		Wt.* lbs.
	dh _{G7}	uh	th	dh _{H7}	uh _{JS9}	th	Inches	mm	
KL1	0.625	0.188	0.713	16	5	18.3	0.625	16	14
KL2	0.750	0.188	0.832	20	6	22.8	0.750	20	21

*Weight is approximate.

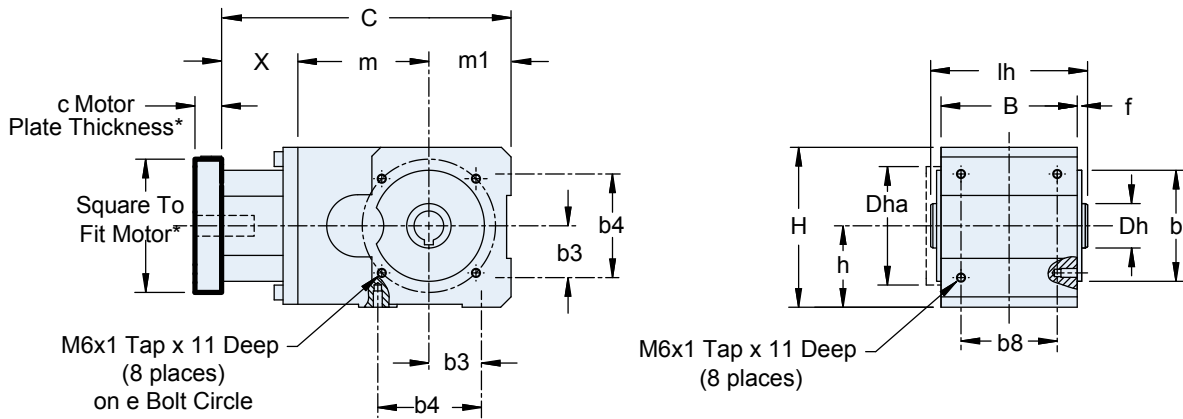
G7, H7, JS9 = actual values

Dimensional Data



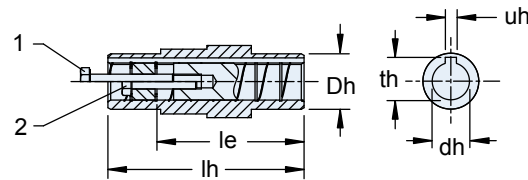
KL Series with "A" Hollow Output

"G" Pitch Circle Diameter (PCD) Tapped Holes



* See Motor Mounting Plate Option, page 166 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

K/KL Series: RIGHT ANGLE — Versatile Outputs

Table 1 KL Series Unit Dimensions (mm) – "G" Pitch Circle Diameter (PCD) Tapped Holes

Unit	B	b	b3	b4	b8	C	c6	Dh	Dha	e	f	H	h	le	lh	m	m1
KL1	75	60	27.5	55	50	160	46.5	25	70	75	3	90	46	60.5	87	67.5	46
KL2	92	75	35	70	65	195	51.5	30	80	90	3	108	55	79.5	106	88.5	55

Table 2 Standard "A" Hollow Bore

Unit	Bore - inches			Metric Bore - mm			Stainless Bore		Wt.* lbs.
	dh _{G7}	uh	th	dh _{H7}	uh _{JS9}	th	Inches	mm	
KL1	0.625	0.188	0.713	16	5	18.3	0.625	16	14
KL2	0.750	0.188	0.832	20	6	22.8	0.750	20	21

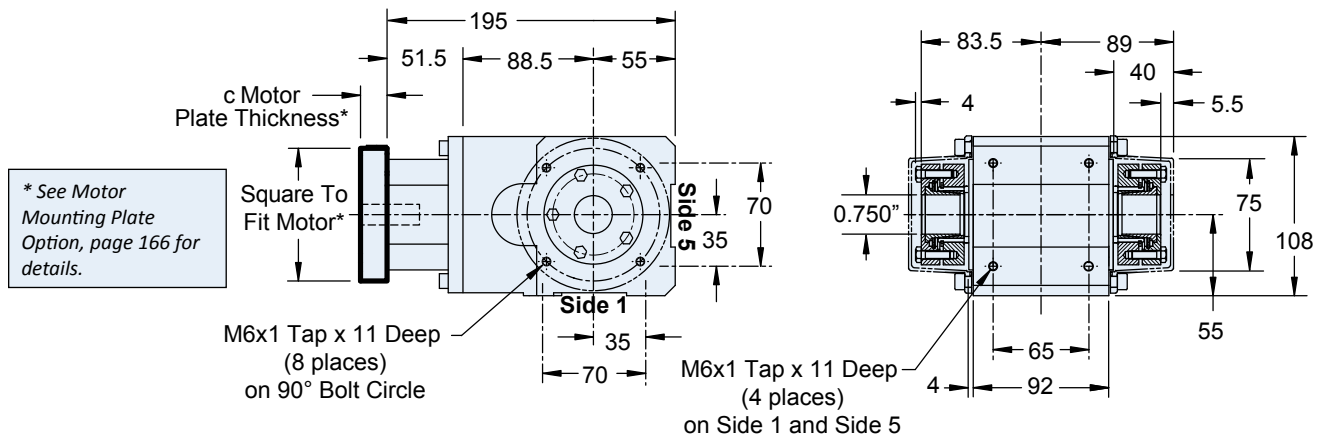
*Weight is approximate.

G7, H7, JS9 = actual values

K/KL Series: RIGHT ANGLE — Versatile Outputs

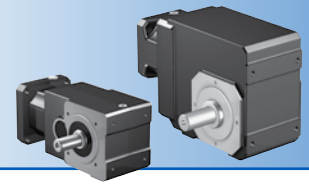
KL Series (KL202 only) with “W” Wobble Free Bushing Output

“G” Pitch Circle Diameter (PCD) Tapped Holes



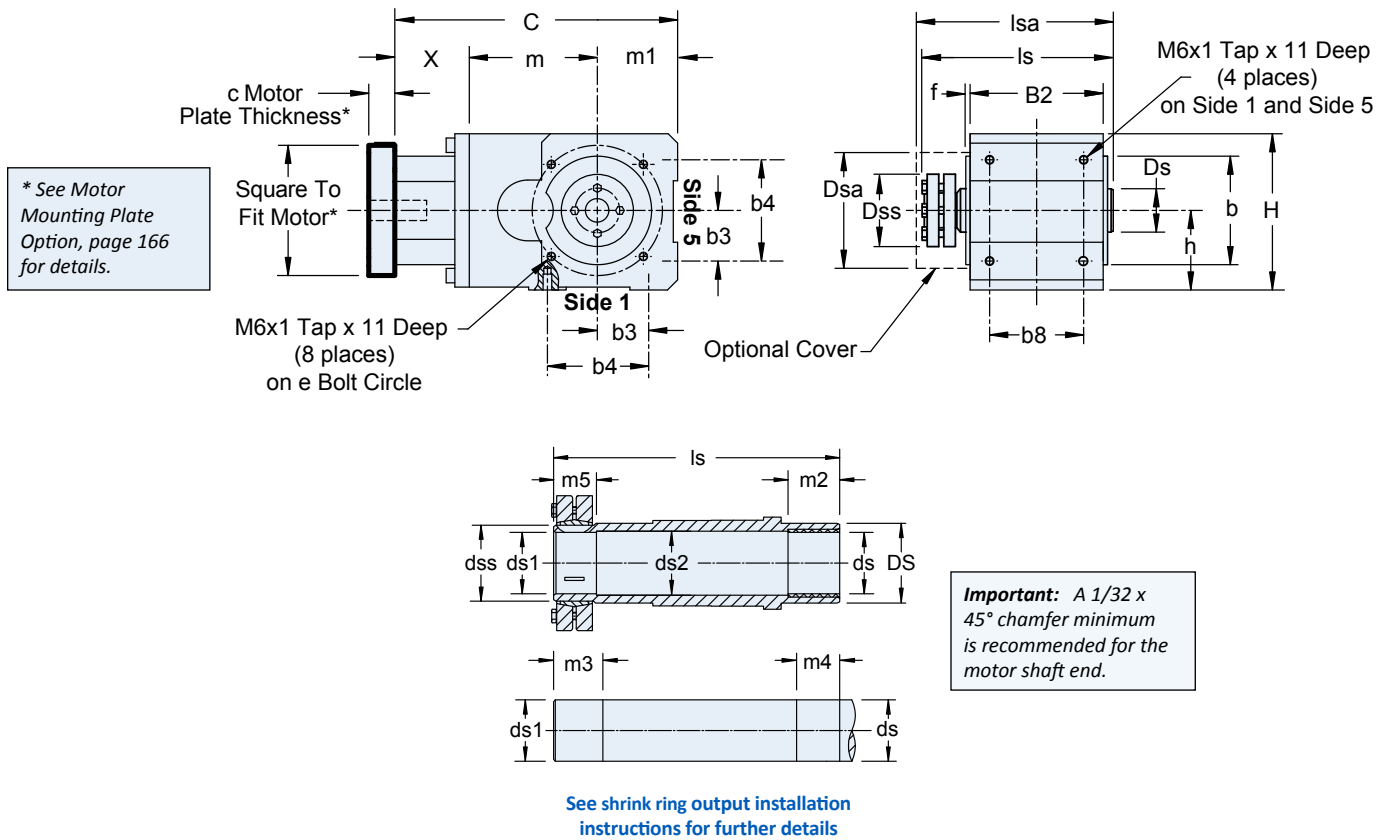
Important: A 1/32" x 45° chamfer minimum is recommended for the shaft end. The bushing will accept a shaft with a tolerance of +0.000/-0.005 inches.

Dimensional Data



KL Series with "S" Shrink Ring Output

"G" Pitch Circle Diameter (PCD) Tapped Holes



K/KL Series: RIGHT ANGLE — Versatile Outputs

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

Unit	B2	b	b3	b4	b8	C	c6	Dsa	Dss	e	f	H	h	lsa	m1	m
KL1	75	60	27.5	55	50	160	46.5	64	46.2	75	3	90	46	114.5	46	67.5
KL2	92	75	35	70	65	195	51.5	79	50.0	90	3	108	55	139	55	88.5

Table 2 Bore/Shaft Dimensions (mm)

Unit	DS	Ds	ds _{H7}	ds1		ds2	dss	ls	m2	m3	m4	m5	Wt.* lbs.
				Bore	Shaft								
KL1	46.2	25	16	16 _{H7}	16 _{h6}	17.5	20	109	17	22	28	23	14
KL2	50	30	20	20 _{H7}	20 _{h6}	21.5	24	131	22	27	31	26	21

*Weight is approximate

h6 = existing value; H7 = actual values

K/KL Series: RIGHT ANGLE — Versatile Outputs

K Series with "V" Solid Shaft Output Option, "NG" Foot Mounting Housing & "G" Pitch Circle Diameter (PCD) Tapped Holes

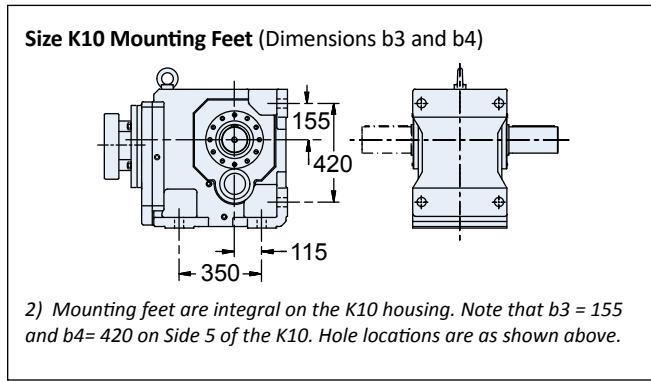
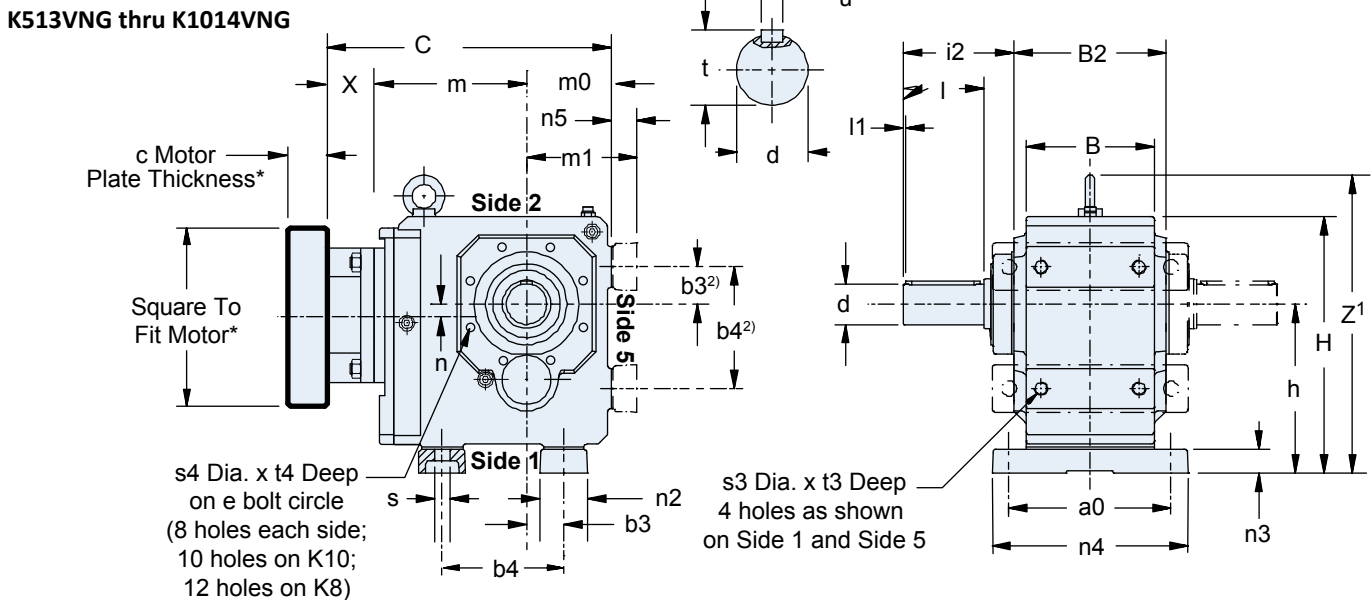
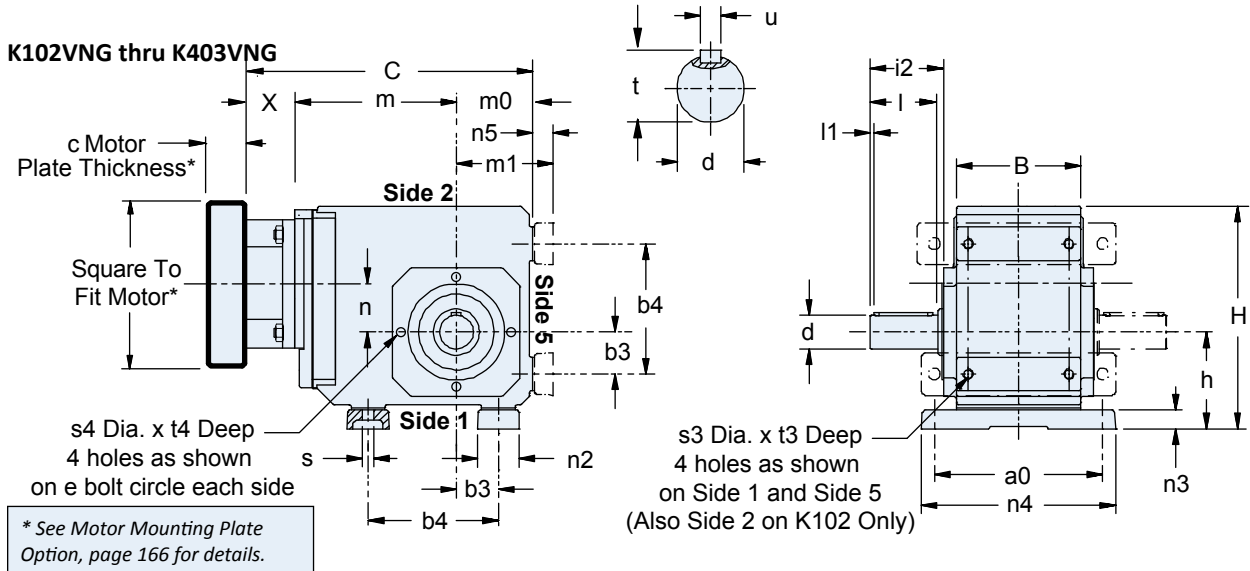
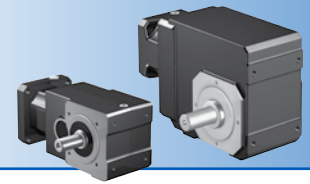


Table 4 Motor Adapter Dimensions (mm)

Motor Adapter	Thickness ⁴⁾ c Min.	Motor Shaft d2 Max. ³⁾	X	Wt. lbs.
ME10	21	19	40	5
ME20	24	32	50	8
ME30	25	38	60	15
ME40	33	48	88	28
ME50	43	60	81.5	42

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

Dimensional Data



K/KL Series: RIGHT ANGLE — Versatile Outputs

Table 1 K Series Unit Dimensions (mm) — “NG” Foot Mounting Housing

Unit	a0	B	B2	b3	b4	H	h	i2	l	l1	m0	m1	n2	n3	n4	n5	s	Z ¹
K1	115	90	—	30	90 ¹⁾	175	75	62	50	4	60	75	32	13	140	15	9	—
K2	155	115	—	35	115	213	88	68	60	4	65	88	40	20	185	23	11	—
K3	170	130	—	40	130	236	98	69	60	4	75	98	45	20	200	23	11	—
K4	200	148	—	50	155	265	115	89.5	80	4	90	115	50	22	230	25	14	—
K5	200	160	185	40	140	290	190	129.5	90	4	100	130	60	27	240	30	18	342
K6	210	168	200	50	160	340	220	136	90	4	120	150	65	27	250	30	18.5	392
K7	240 ²⁾	190	226	55	180	380	250	164	120	4	125	163	70	35	290	38	23	441
K8	300	235	282	75	240	455	310	185	140	5	145	190	85	41	360	45	27	516
K9	360	285	330	95	280	545	365	220	170	8	180	230	95	46	430	50	34	615
K10	330	356	400	115 ³⁾	350 ³⁾	680	375	240	210	15	225	225	120	45	400	45	39	680

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

²⁾ For a0 with mounting on side 1 only; a0 when mounting on optional side 5 is 241 mm.

³⁾ Mounting feet are integral on the K10 housing as shown in drawing, facing page. Note b3 = 155 and b4 = 420 on Side 5 of the K10.

Table 2 K Series Unit Dimensions (mm) — “G” Pitch Circle Diameter (PCD) Tapped Holes

Unit	e	s3	s4	t3	t4
K1	90	M8x1.25	M8x1.25	13	13
K2	100	M10x1.5	M8x1.25	16	16
K3	115	M10x1.5	M8x1.25	16	16
K4	130	M12x1.75	M10x1.5	19	19
K5	130	M16x2	M10x1.5	26	26
K6	165	M16x2	M10x1.5	26	26
K7	185	M20x2.5	M12x1.75	31	31
K8	215	M24x3	M12x1.75	38	38
K9	265	M30x3.5	M16x2	48	48
K10	300	39 ¹⁾	10-M20	45	33

¹⁾ s3 on K10 are thru holes, not tapped.

Table 3 K Series Unit Dimensions (mm) — “V” Solid Shaft Output

Shaft outputs in stainless or carbon steel. See page 167 for available shaft output options.

Unit	d _{n6} *	t	Inches		Metric (mm)			Stainless	
			u – Key		d*	t	u – Key	Inches	mm
K1	1.000	1.11	1/4 x 1/4 x 1-9/16	25 _{k6}	28	M8x7x40	1.000	25	
K2	1.250	1.36	1/4 x 1/4 x 1-15/16	30 _{k6}	33	M8x7x50	1.250	30	
K3	1.250	1.36	1/4 x 1/4 x 1-15/16	30 _{k6}	33	M8x7x50	1.250	40	
K4	1.375	1.51	5/16 x 5/16 x 2-5/16	40 _{k6}	43	M12x8x70	1.375	—	
K5	1.750	1.92	3/8 x 3/8 x 3-5/32	45 _{k6}	48.5	M14x9x80	1.750	45	
K6	1.750	1.92	3/8 x 3/8 x 3-5/32	50 _{k6}	53.5	M14x9x90	1.750	—	
K7	2.375	2.65	5/8 x 5/8 x 3-15/16	60 _{k6}	64	M18x11x110	2.375	—	
K8	2.875	3.21	3/4 x 3/4 x 4-5/16	70 _{m6}	74.5	M20x12x125	2.875	70	
K9	3.625	4.01	7/8 x 7/8 x 5-1/2	90 _{m6}	95	M25x14x140	—	90	
K10	4.375	4.82	1 x 1 x 7-1/8	110 _{m6}	116	M28x16x180	—	—	

*h6, k6, m6 = existing value

Table 5 K Series Unit Dimensions (mm)

Unit	ME10			ME20			ME30			ME40			ME50			Wt. lbs.
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	
K102	224	124	36	238	128	36	—	—	—	—	—	—	—	—	—	31
K202	248	143	46	262	147	46	274	149	46	—	—	—	—	—	—	40
K203	285	180	46	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	278	163	52.5	292	167	52.5	304	169	52.5	—	—	—	—	—	—	67
K303	315	200	52.5	335	210	16	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	327	187	60	339	189	60	370	192	60	—	—	—	93
K403	350	220	60	370	230	23	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	322	172	15	334	174	15	365	177	15	—	—	—	106
K514	—	—	—	365	215	15	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	361	191	18	373	193	18	404	196	18	411.5	210	18	170
K614	—	—	—	404	234	18	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	406	221	20	437	224	20	443.5	237	20	221
K714	—	—	—	438	263	20	468	283	20	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	452	247	24	482	249	24	488.5	262	24	309
K814	—	—	—	—	—	—	513	308	24	553	320	5	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	562	294	25	568.5	307	25	508
K914	—	—	—	—	—	—	593	353	25	633	365	25	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	698.5	392	28	1055
K1014	—	—	—	—	—	—	—	—	—	763	450	28	781.5	475	28	1079

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

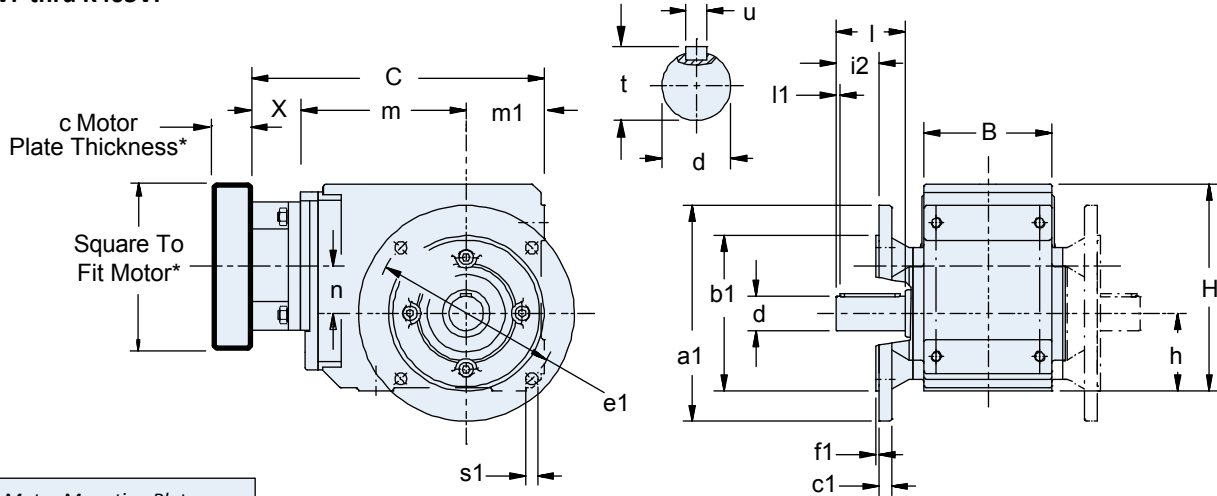
K/KL Series: RIGHT ANGLE — Versatile Outputs

K Series with "V" Solid Shaft Output

"F" Round Flange Housing

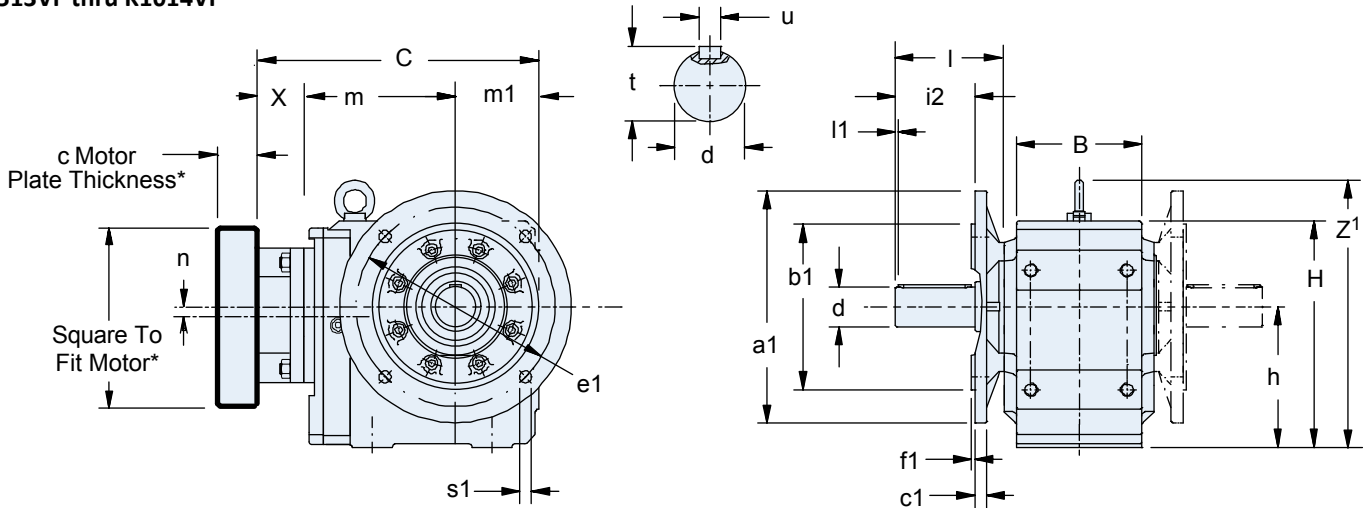
Other flange sizes available: for details see "Optional "F" Round Flange Housing Options for K Series" on page 213.

K102VF thru K403VF

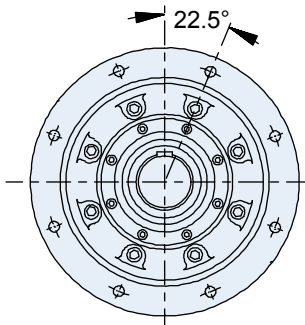


* See Motor Mounting Plate Option, page 166 for details.

K513VF thru K1014VF



Size K9 and K10 Flange



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

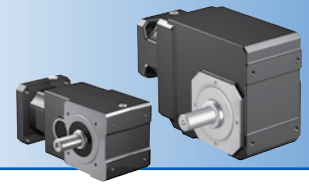
Table 3 Motor Adapter Dimensions (mm)

Motor Adapter	Thickness ²⁾ c Min.	Motor Shaft d2 Max. ¹⁾	X	Wt. lbs.
ME10	21	19	40	5
ME20	24	32	50	8
ME30	25	38	60	15
ME40	33	48	88	28
ME50	43	60	81.5	42

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

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

Dimensional Data



K/KL Series: RIGHT ANGLE — Versatile Outputs

Table 1 K Series Unit Dimensions (mm) – “F” Round Flange Housing

Unit	a1	B	b1	c1	e1	f1	H	h	i2	l	l1	m1	s1	z ¹
K1	160	90	110 _{j6}	10	130	3.5	160	60	30.0	50	4	60	9	—
K2	200	115	130 _{j6}	12	165	3.5	190	65	36.0	60	4	65	11	—
K3	200	130	130 _{j6}	14	165	3.5	213	75	31.0	60	4	75	11	—
K4	250	148	180 _{j6}	15	215	4	240	90	49.5	80	4	90	14	—
K5	250	160	180 _{j6}	15	215	4	260	160	89.9	90	4	100	14	312
K6	300	168	230 _{j6}	17	265	4	310	190	100.0	90	4	120	14	362
K7	350	190	250 _{h6}	18	300	5	342	212	119.9	120	4	125	18	403
K8	400	235	300 _{h6}	20	350	5	410	265	140.0	140	5	145	18	471
K9	450	285	350 _{h6}	23	400	5	495	315	169.9	170	8	180	18	565
K10	550	356	450 _{h6}	25	500	5	591	375	210.0	210	15	225	18	680

Table 2 K Series Unit Dimensions (mm) — “V” Solid Shaft Output

Shaft outputs in stainless or carbon steel. See page 167 for available shaft output options.

Unit	d _{h6} *	t	Inches	d*	t	u – Key	Metric (mm)	Inches	Stainless mm
			u – Key						
K1	1.000	1.11	1/4 x 1/4 x 1-9/16	25 _{k6}	28	M8 x 7 x 40	1.000	25	
K2	1.250	1.36	1/4 x 1/4 x 1-15/16	30 _{k6}	33	M8 x 7 x 50	1.250	30	
K3	1.250	1.36	1/4 x 1/4 x 1-15/16	30 _{k6}	33	M8 x 7 x 50	1.250	40	
K4	1.375	1.51	5/16 x 5/16 x 2-5/16	40 _{k6}	43	M12 x 8 x 70	1.375	—	
K5	1.750	1.92	3/8 x 3/8 x 3-5/32	45 _{k6}	48.5	M14 x 9 x 80	1.750	45	
K6	1.750	1.92	3/8 x 3/8 x 3-5/32	50 _{k6}	53.5	M14 x 9 x 90	1.750	—	
K7	2.375	2.65	5/8 x 5/8 x 3-15/16	60 _{k6}	64	M18 x 11 x 110	2.375	—	
K8	2.875	3.21	3/4 x 3/4 x 4-5/16	70 _{m6}	74.5	M20 x 12 x 125	2.875	70	
K9	3.625	4.01	7/8 x 7/8 x 5-1/2	90 _{m6}	95	M25 x 14 x 140	—	90	
K10	4.375	4.82	1 x 1 x 7-1/8	110 _{m6}	116	M28 x 16 x 180	—	—	

*h6, j6, k6, m6 = existing value

Table 4 K Series Unit Dimensions (mm)

Unit	ME10			ME20			ME30			ME40			ME50			Wt. lbs.
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	
K102	224	124	36	238	128	36	—	—	—	—	—	—	—	—	—	31
K202	248	143	46	262	147	46	274	149	46	—	—	—	—	—	—	40
K203	285	180	46	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	278	163	52.5	292	167	52.5	304	169	52.5	—	—	—	—	—	—	67
K303	315	200	52.5	335	210	16	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	327	187	60	339	189	60	370	192	60	—	—	—	93
K403	350	220	60	370	230	23	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	322	172	15	334	174	15	365	177	15	—	—	—	106
K514	—	—	—	365	215	15	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	361	191	18	373	193	18	404	196	18	411.5	210	18	170
K614	—	—	—	404	234	18	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	406	221	20	437	224	20	443.5	237	20	221
K714	—	—	—	438	263	20	468	283	20	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	452	247	24	482	249	24	488.5	262	24	309
K814	—	—	—	—	—	—	513	308	24	553	320	5	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	562	294	25	568.5	307	25	508
K914	—	—	—	—	—	—	593	353	25	633	365	25	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	698.5	392	28	1055
K1014	—	—	—	—	—	—	—	—	—	763	450	28	781.5	475	28	1079

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

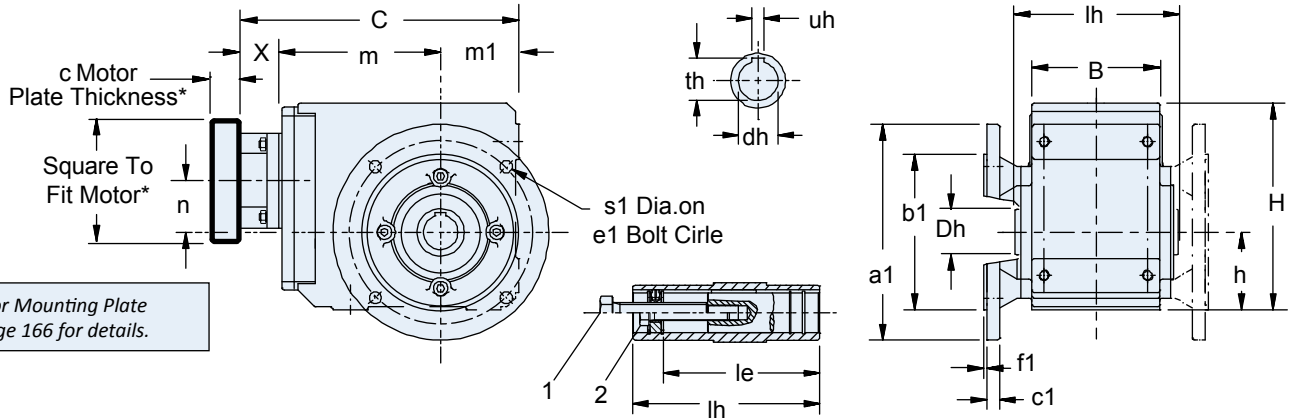
K/KL Series: RIGHT ANGLE – Versatile Outputs

K Series with "A" Hollow Output

"F" Round Flange Housing

Other flange sizes available: for details see "Optional "F" Round Flange Housing Options for K Series" on page 213.

K102AF thru K403AF

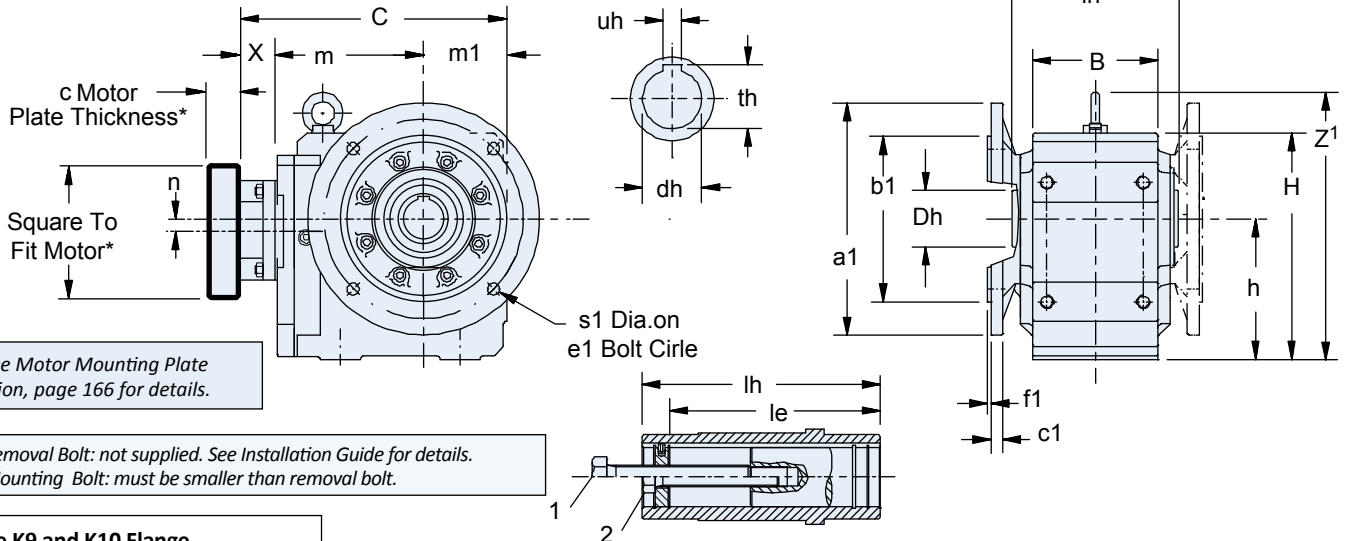


* See Motor Mounting Plate Option, page 166 for details.

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 166 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

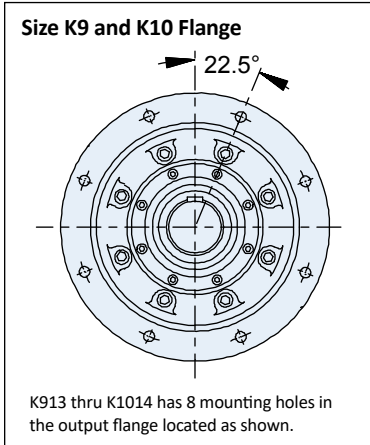


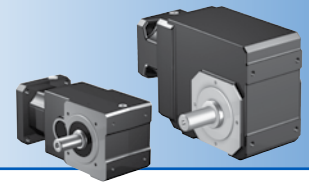
Table 3 Motor Adapter Dimensions (mm)

Motor Adapter	Thickness ²⁾ c Min.	Motor Shaft d2 Max. ¹⁾	X	Wt. lbs.
ME10	21	19	40	5
ME20	24	32	50	8
ME30	25	38	60	15
ME40	33	48	88	28
ME50	43	60	81.5	42

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

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

Dimensional Data



K/KL Series: RIGHT ANGLE — Versatile Outputs

Table 1 K Series Unit Dimensions (mm) – “F” Round Flange Housing

Unit	a1	B	b1*	c1	Dh	e1	f1	H	h	le	lh	m1	s1	Z ₁
K1	160	90	110 _{j6}	10	40	130	3.5	160	60	98	120	60	9	—
K2	200	115	130 _{j6}	12	45	165	3.5	190	65	121.5	148	65	11	—
K3	200	130	130 _{j6}	14	50	165	3.5	213	75	125	160	75	11	—
K4	250	148	180 _{j6}	15	55	215	4	240	90	157	188	90	14	—
K5	250	160	180 _{j6}	15	65	215	4	260	160	164	200	100	14	312
K6	300	168	230 _{j6}	17	70	265	4	310	190	179	215	120	14	362
K7	350	190	250 _{h6}	18	85	300	5	342	212	214	242	125	18	403
K8	400	235	300 _{h6}	20	100	350	5	410	265	263	300	145	18	471
K9	450	285	350 _{h6}	23	120	400	5	495	315	302	350	180	18	565
K10	550	356	450 _{h6}	25	130	500	5	591	375	361	410	225	18	680

Table 2 K Series Unit Dimensions (mm) — “A” Hollow Bore Output

Dimensions in **BOLD BLUE** (standard). Contact STÖBER for delivery on other sizes listed.

Unit	Carbon Steel						Stainless	
	Inches			Metric (mm)			Inches	mm
	dh _{G7} *	th	uh	dh _{H7} *	th	uh _{JS9} *		
K1	1.000	1.11	0.250	25	28.3	8	1.000	25
K2	1.1875	1.31	0.250	30	33.3	8	1.125, 1.1875, 1.250	30
K3	1.375	1.52	0.312	35	38.3	10	1.25, 1.375	35
K4	1.500	1.67	0.375	40	43.3	12	1.375, 1.500	40
K5	2.000	2.13	0.500	50	53.8	14	1.4375, 1.9375, 2.000	40, 50
K6	2.000	2.23	0.500	50	53.8	14	1.4375, 1.9375, 2.000 , 2.1875	40, 50, 60
K7	2.375	2.66	0.625	60	64.4	18	1.9375, 2.00, 2.1875, 2.375	60
K8	2.750	3.03	0.625	70	74.9	20	2.1875, 2.375, 2.5, 2.6875, 2.750	60, 70
K9	3.250	3.59	0.750	90	95.4	25	2.6875, 2.9375 , 3.000 , 3.25, 3.4375	90
K10	4.000	4.25	1.000	100	108	28	3.4375, 4.00	—

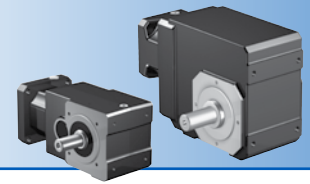
* h6, j6 = existing values; G7, H7, JS9 = actual values

Table 4 K Series Unit Dimensions (mm)

Unit	ME10			ME20			ME30			ME40			ME50			Wt. lbs.
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	
K102	224	124	36	238	128	36	—	—	—	—	—	—	—	—	—	31
K202	248	143	46	262	147	46	274	149	46	—	—	—	—	—	—	40
K203	285	180	46	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	278	163	52.5	292	167	52.5	304	169	52.5	—	—	—	—	—	—	67
K303	315	200	52.5	335	210	16	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	327	187	60	339	189	60	370	192	60	—	—	—	93
K403	350	220	60	370	230	23	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	322	172	15	334	174	15	365	177	15	—	—	—	106
K514	—	—	—	365	215	15	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	361	191	18	373	193	18	404	196	18	411.5	210	18	170
K614	—	—	—	404	234	18	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	406	221	20	437	224	20	443.5	237	20	221
K714	—	—	—	438	263	20	468	283	20	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	452	247	24	482	249	24	488.5	262	24	309
K814	—	—	—	—	—	—	513	308	24	553	320	5	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	562	294	25	568.5	307	25	508
K914	—	—	—	—	—	—	593	353	25	633	365	25	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	698.5	392	28	1055
K1014	—	—	—	—	—	—	—	—	—	763	450	28	781.5	475	28	1079

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

Dimensional Data



K/KL Series: RIGHT ANGLE — Versatile Outputs

Table 1 K Series Unit Dimensions (mm) – “G” Pitch Circle Diameter (PCD) Tapped Holes

Unit	a4	B	B2	b*	b3	b4	b8	Dh	e	H	h	i2	le	lh	m1	s3	s4	t3	t4	Z ¹
K1	105	90	106	75 _{j6}	30	90	70	40	90	160	60	3	98	120	60	M8x1.25	M8x1.25	13	13	—
K2	116	115	134	82 _{j6}	35	115	90	45	100	190	65	3	121.5	148	65	M10x1.5	M8x1.25	16	16	—
K3	132	130	146	95 _{j6}	40	130	105	50	115	213	75	3	125	160	75	M10x1.5	M8x1.25	16	16	—
K4	152	148	173	110 _{j6}	50	155	120	55	130	240	90	3.5	157	188	90	M12x1.75	M10x1.5	19	19	—
K5	145	160	185	110 _{j6}	40	140	125	65	130	260	160	3.5	164	200	100	M16x2	M10x1.5	26	26	312
K6	180	168	200	140 _{j6}	50	160	130	70	165	310	190	3.5	179	215	120	M16x2	M10x1.5	26	26	362
K7	195	190	226	155 _{j6}	55	180	145	85	185	342	212	3.5	214	242	125	M20x2.5	M12x1.75	31	31	403
K8	226	235	282	185 _{j6}	75	240	185	100	215	410	265	4	263	300	145	M24x3	M12x1.75	38	38	471
K9	280	285	330	230 _{j6}	95	280	225	120	265	495	315	5	302	350	180	M30x3.5	M16x2	48	48	565
K10	340	356	400	250 _{h6}	115 ¹⁾	350 ¹⁾	330	130	300	591	375	5	361	410	225	39 ²⁾	10-M20	45	33	680

¹⁾ Mounting feet are integral on the K10 housing as shown in drawing, facing page. Note b3 = 155 and b4 = 420 on Side 5 of the K10.

²⁾ s3 on K10 are thru holes, not tapped.

Table 2 K Series Unit Dimensions (mm) — “A” Hollow Bore Output

Dimensions in **BOLD BLUE** (standard). Contact STÖBER for delivery on other sizes listed.

Unit	Carbon Steel						Stainless	
	Inches			Metric (mm)			Inches	mm
	dh _{G7} *	th	uh	dh _{H7} *	th	uh _{JS9} *		
K1	1.000	1.11	0.250	25	28.3	8	1.000	25
K2	1.1875	1.31	0.250	30	33.3	8	1.125, 1.1875, 1.250	30
K3	1.375	1.52	0.312	35	38.3	10	1.25, 1.375	35
K4	1.500	1.67	0.375	40	43.3	12	1.375, 1.500	40
K5	2.000	2.13	0.500	50	53.8	14	1.4375, 1.9375, 2.000	40, 50
K6	2.000	2.23	0.500	50	53.8	14	1.4375, 1.9375, 2.000 , 2.1875	40, 50, 60
K7	2.375	2.66	0.625	60	64.4	18	1.9375, 2.00, 2.1875, 2.375	60
K8	2.750	3.03	0.625	70	74.9	20	2.1875, 2.375, 2.5, 2.6875, 2.750	60, 70
K9	3.250	3.59	0.750	90	95.4	25	2.6875, 2.9375 , 3.000 , 3.25, 3.4375	90
K10	4.000	4.25	1.000	100	108	28	3.4375, 4.00	—

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

Table 4 K Series Unit Dimensions (mm)

Unit	ME10			ME20			ME30			ME40			ME50			Wt. lbs.
	n	C	m	n	C	m	n	C	m	n	C	m	n	C	m	
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	370	192	—	—	—	93
K403	60	350	220	23	370	230	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	15	322	172	15	334	174	15	365	177	—	—	—	106
K514	—	—	—	15	365	215	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	18	361	191	18	373	193	18	404	196	18	411.5	210	170
K614	—	—	—	18	404	234	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	20	406	221	20	437	224	20	443.5	237	221
K714	—	—	—	20	438	263	20	468	283	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	24	452	247	24	482	249	24	488.5	262	309
K814	—	—	—	—	—	—	24	513	308	5	553	320	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	25	562	294	25	568.5	307	508
K914	—	—	—	—	—	—	25	593	353	25	633	365	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	28	698.5	392	1055
K1014	—	—	—	—	—	—	—	—	—	28	763	450	28	781.5	475	1079

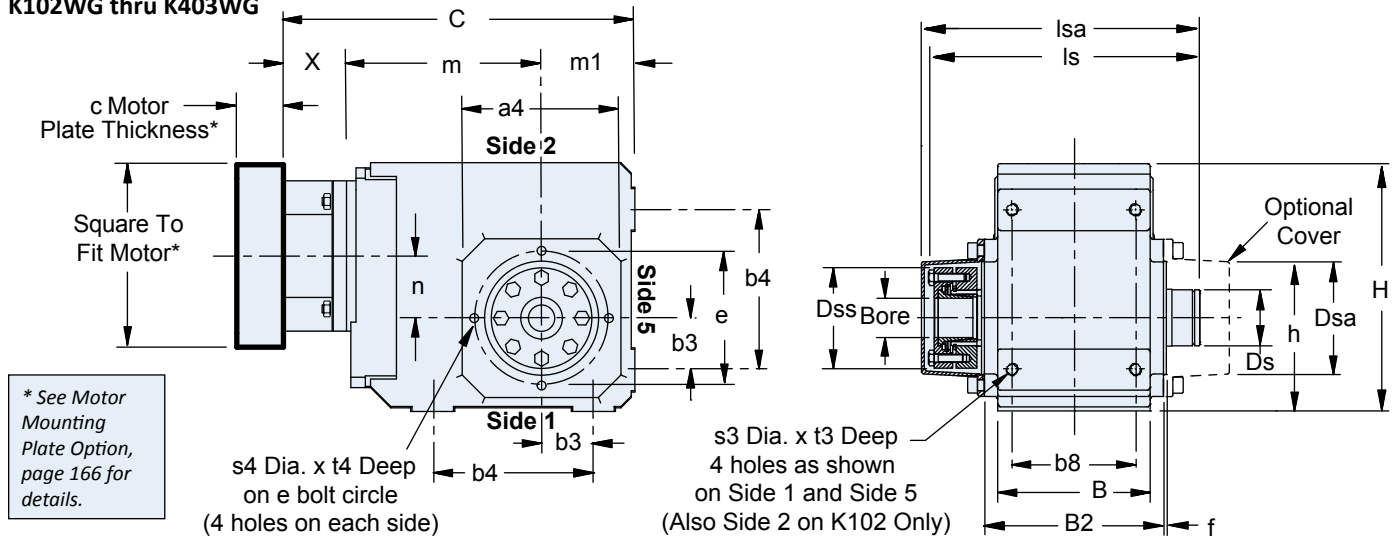
For approximate weight, add adapter weight from Table 3 and unit weight from Table 4.

K/KL Series: RIGHT ANGLE – Versatile Outputs

K Series with SINGLE “W” Wobble Free Bushing Output

“G” Pitch Circle Diameter (PCD) Tapped Holes

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

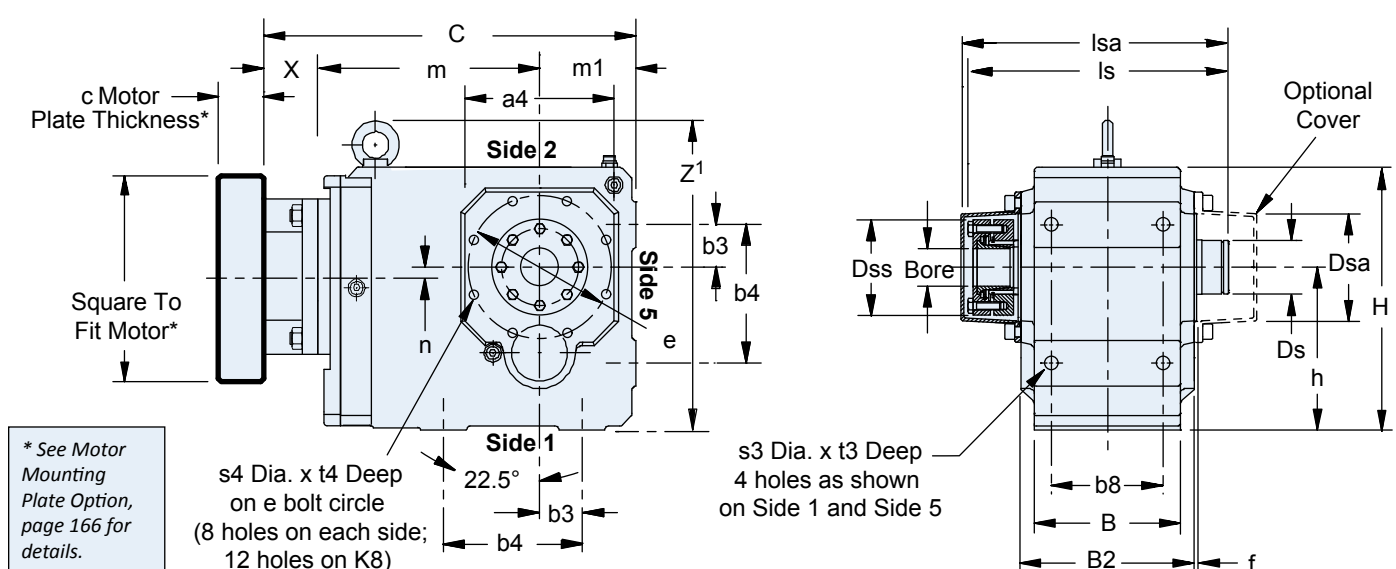


Table 3 Motor Adapter Dimensions (mm)

Motor Adapter	Thickness ²⁾ c Min.	Motor Shaft d2 Max. ¹⁾	X	Wt. lbs.
ME10	21	19	40	5
ME20	24	32	50	8
ME30	25	38	60	15
ME40	33	48	88	28
ME50	43	60	81.5	42

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

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

Dimensional Data

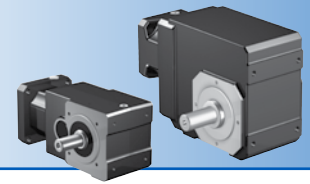


Table 1 K Series Unit Dimensions (mm) – “G” Pitch Circle Diameter (PCD) Tapped Holes

Unit	a4	B	B2	b3	b4	b8	Ds	Dsa	Dss	e	H	h	ls	lsa	m1	s3	s4	t3	t4	Z ₁
K1	105	90	106	30	90	70	39	78	70	90	160	60	149	163	60	M8x1.25	M8x1.25	13	13	—
K2	116	115	134	35	115	90	44	88	78	100	190	65	178	193	65	M10x1.5	M8x1.25	16	16	—
K3	132	130	146	40	130	105	44	88	84	115	213	75	190	206	75	M10x1.5	M8x1.25	16	16	—
K4	152	148	173	50	155	120	54	110	97	130	240	90	220	243	90	M12x1.75	M10x1.5	19	19	—
K5	145	160	185	40	140	125	65	115	105	130	260	160	237	254	100	M16x2	M10x1.5	26	26	312
K6	180	168	200	50	160	130	74	127	118	165	310	190	254	276	120	M16x2	M10x1.5	26	26	362
K7	195	190	226	55	180	145	85	146	138	185	342	212	278	288	125	M20x2.5	M12x1.75	31	31	403
K8	226	235	282	75	240	185	100	176.5	158	215	410	265	352	363	145	M24x3	M12x1.75	38	38	471

Table 2 “WF” Single Side Bushing – Stock Bore Sizes

Unit	Metric (mm)						Inches													
	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	—	WFK2-30	—	WFK2-100	WFK2-103	WFK2-104	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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)

Unit	ME10			ME20			ME30			ME40			ME50			Wt. lbs.
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	
K102	224	124	36	238	128	36	—	—	—	—	—	—	—	—	—	31
K202	248	143	46	262	147	46	274	149	46	—	—	—	—	—	—	40
K203	285	180	46	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	278	163	52.5	292	167	52.5	304	169	52.5	—	—	—	—	—	—	67
K303	315	200	52.5	335	210	16	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	327	187	60	339	189	60	370	192	60	—	—	—	93
K403	350	220	60	370	230	23	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	322	172	15	334	174	15	365	177	15	—	—	—	106
K514	—	—	—	365	215	15	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	361	191	18	373	193	18	404	196	18	411.5	210	18	170
K614	—	—	—	404	234	18	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	406	221	20	437	224	20	443.5	237	20	221
K714	—	—	—	438	263	20	468	283	20	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	452	247	24	482	249	24	488.5	262	24	309
K814	—	—	—	—	—	—	513	308	24	553	320	5	—	—	—	331

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

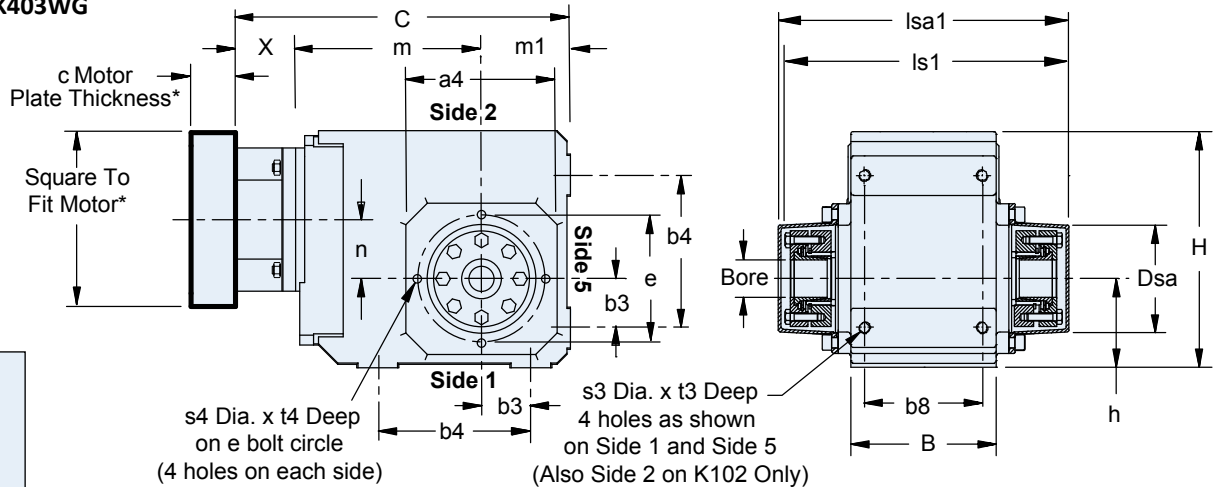
K/KL Series: RIGHT ANGLE — Versatile Outputs

K/KL Series: RIGHT ANGLE – Versatile Outputs

K Series with DOUBLE “W” Wobble Free Bushing Output

“G” Pitch Circle Diameter (PCD) Tapped Holes

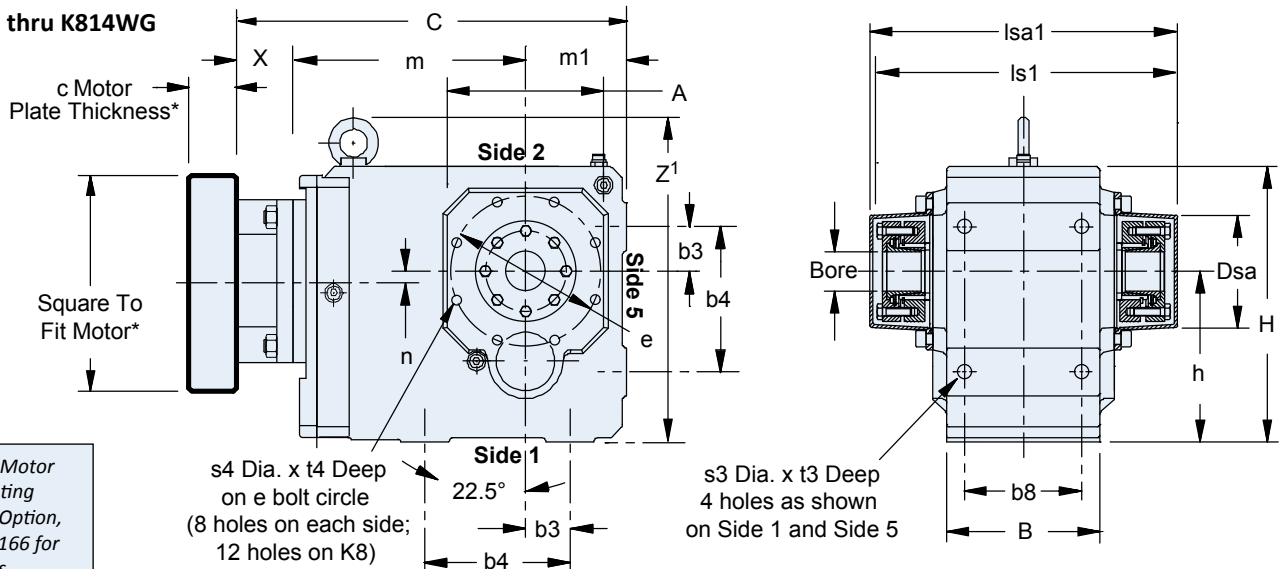
K102WG thru K403WG



* See Motor Mounting Plate Option, page 166 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 166 for details.

Table 3 Motor Adapter Dimensions (mm)

Motor Adapter	Thickness ²⁾ c Min.	Motor Shaft d2 Max. ¹⁾	X	Wt. lbs.
ME10	21	19	40	5
ME20	24	32	50	8
ME30	25	38	60	15
ME40	33	48	88	28
ME50	43	60	81.5	42

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

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

Dimensional Data

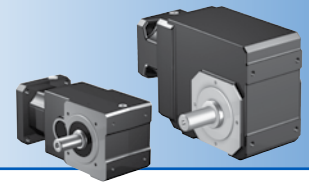


Table 1 K Series Unit Dimensions (mm) – “G” Pitch Circle Diameter (PCD) Tapped Holes

Unit	a4	B	b3	b4	b8	Dsa	e	H	h	ls1	lsa1	m1	s3	s4	t3	t4	Z ¹
K1	105	90	30	90	70	78	90	160	60	194	198	60	M8x1.25	M8x1.25	13	13	—
K2	116	115	35	115	90	88	100	190	65	226	238	65	M10x1.5	M8x1.25	16	16	—
K3	132	130	40	130	105	88	115	213	75	239	253	75	M10x1.5	M8x1.25	16	16	—
K4	152	148	50	155	120	110	130	240	90	281	295	90	M12x1.75	M10x1.5	19	19	—
K5	145	160	40	140	125	115	130	260	160	295	307	100	M16x2	M10x1.5	26	26	312
K6	180	168	50	160	130	127	165	310	190	322	336	120	M16x2	M10x1.5	26	26	362
K7	195	190	55	180	145	146	185	342	212	383	390	125	M20x2.5	M12x1.75	31	31	403
K8	226	235	75	240	185	176.5	215	410	265	458	474	145	M24x3	M12x1.75	38	38	471

Table 2 “WFB” Double Side Bushing – Stock Bore Sizes

Unit	Metric (mm)				Inches																
	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	—	WFBK2-30	—	—	WFBK2-100	WFBK2-103	WFBK2-104	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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)

Unit	ME10			ME20			ME30			ME40			ME50			Wt. lbs.
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	
K102	224	124	36	238	128	36	—	—	—	—	—	—	—	—	—	31
K202	248	143	46	262	147	46	274	149	46	—	—	—	—	—	—	40
K203	285	180	46	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	278	163	52.5	292	167	52.5	304	169	52.5	—	—	—	—	—	—	67
K303	315	200	52.5	335	210	16	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	327	187	60	339	189	60	370	192	60	—	—	—	93
K403	350	220	60	370	230	23	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	322	172	15	334	174	15	365	177	15	—	—	—	106
K514	—	—	—	365	215	15	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	361	191	18	373	193	18	404	196	18	411.5	210	18	170
K614	—	—	—	404	234	18	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	406	221	20	437	224	20	443.5	237	20	221
K714	—	—	—	438	263	20	468	283	20	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	452	247	24	482	249	24	488.5	262	24	309
K814	—	—	—	—	—	—	513	308	24	553	320	5	—	—	—	331

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

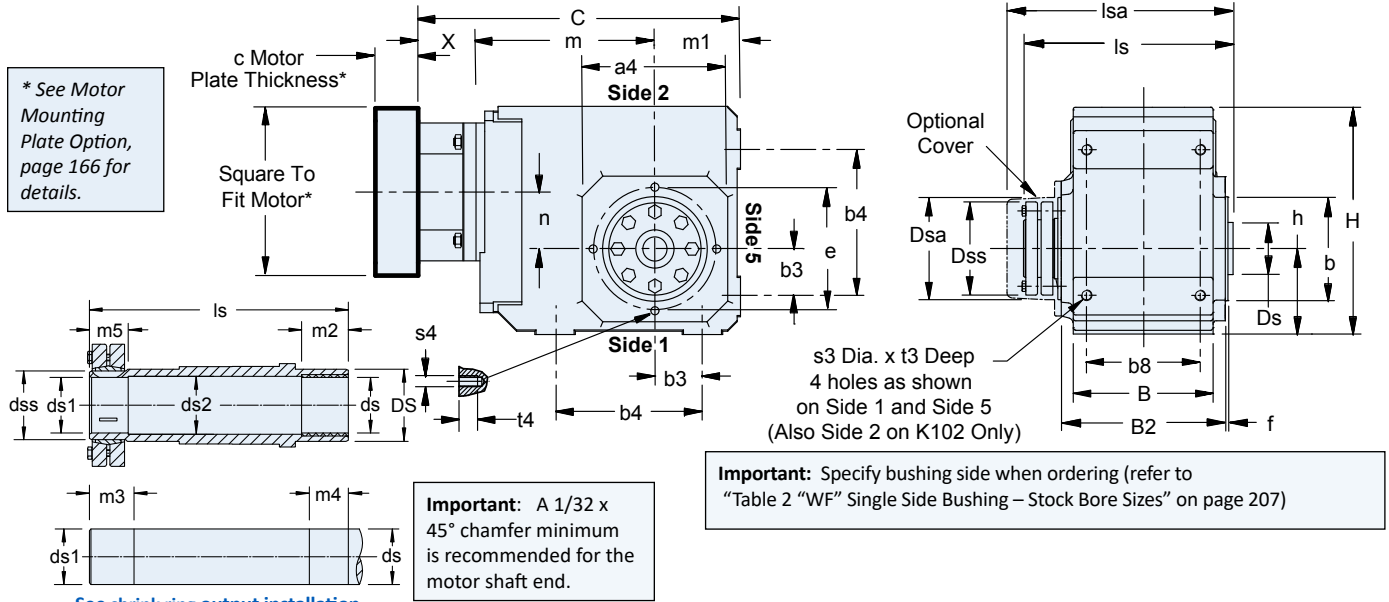
K/KL Series: RIGHT ANGLE — Versatile Outputs

K/KL Series: RIGHT ANGLE – Versatile Outputs

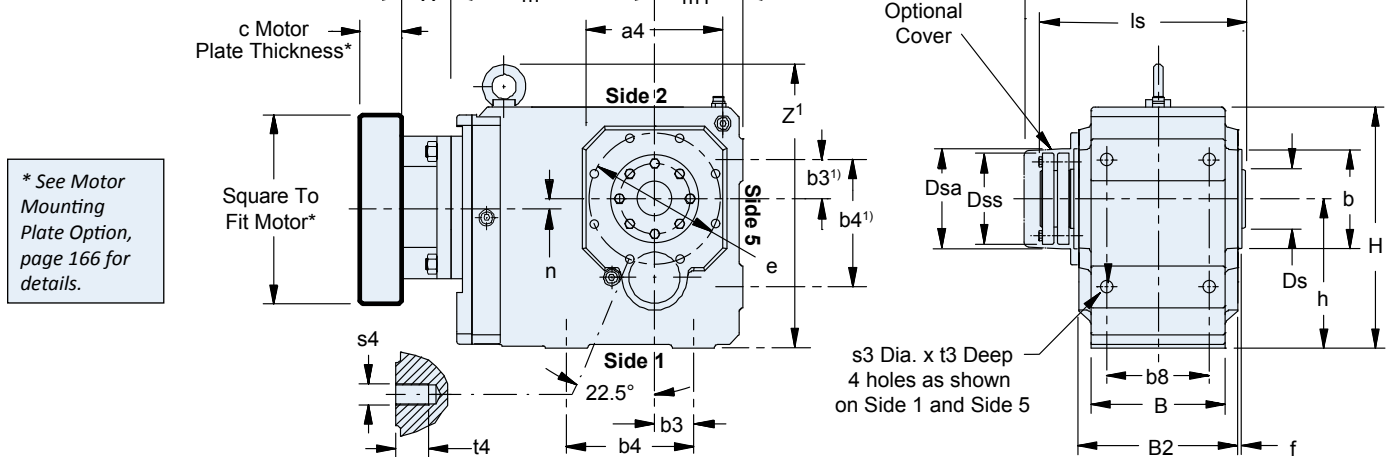
K Series with “S” Shrink Ring Output

“G” Pitch Circle Diameter (PCD) Tapped Holes

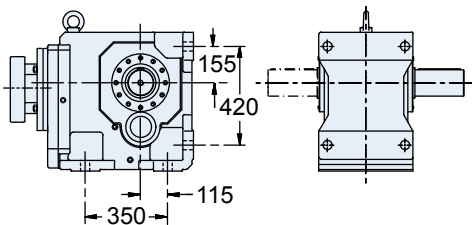
K102SG thru K403SG



K513SG thru K1014SG



Size K10 Mounting Feet (Dimensions b3 and b4)



2) Mounting feet are integral on the K10 housing. Note that b3 = 155 and b4 = 420 on Side 5 of the K10. Hole locations are as shown above.

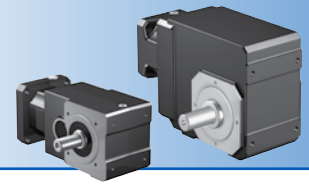
Table 3 Motor Adapter Dimensions (mm)

Motor Adapter	Thickness ³⁾ c Min.	Motor Shaft d2 Max. ²⁾	X	Wt. lbs.
ME10	21	19	40	5
ME20	24	32	50	8
ME30	25	38	60	15
ME40	33	48	88	28
ME50	43	60	81.5	42

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

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

Dimensional Data



K/KL Series: RIGHT ANGLE — Versatile Outputs

Table 1 K Series Unit Dimensions (mm) – “S” Shrink Ring Output

Unit	a4	B	B2	b	b4	b8	e	f	H	h	ls	lsa	m1	s3	s4	t3	t4	Z ₁
K1	105	90	106	75 _{j6}	90	70	90	3	160	60	149	163	60	M8x1.25	M8x1.25	13	13	—
K2	116	115	134	82 _{j6}	115	90	100	3	190	65	178	193	65	M10x1.5	M8x1.25	16	16	—
K3	132	130	146	95 _{j6}	130	105	115	3	213	75	190	206	75	M10x1.5	M8x1.25	16	16	—
K4	152	148	173	110 _{j6}	155	120	130	3.5	240	90	220	242	90	M12x1.75	M10x1.5	19	19	—
K5	145	160	185	110 _{j6}	140	125	130	3.5	260	160	237	254	100	M16x2	M10x1.5	26	26	312
K6	180	168	200	140 _{j6}	160	130	165	3.5	310	190	254	276	120	M16x2	M10x1.5	26	26	362
K7	195	190	226	155 _{j6}	180	145	185	3.5	342	212	278	288	125	M20x2.5	M12x1.75	31	31	403
K8	226	235	282	185 _{j6}	240	185	215	4	410	265	352	362	145	M24x3	M12x1.75	38	38	471
K9	280	285	330	230 _{j6}	280	225	265	5	495	315	418	425	180	M30x3.5	M16x2	48	48	565
K10	340	356	400	250 _{h6}	350 ¹⁾	330	300	5	591	375	483	497	225	39 ²⁾	10-M20	45	33	680

¹⁾ Mounting feet are integral on the K10 housing as shown in drawing, facing page. Note b3 = 155 and b4 = 420 on Side 5 of the K10.

²⁾ s3 on K10 are thru holes, not tapped.

Table 2 K Series Unit Dimensions (mm) – “S” Shrink Ring Output

Unit	b3	DS	ds	ds1		ds2	Dsa	Dss	dss	m2	m3	m4	m5
				Bore ^{H7}	Shaft								
K1	30	40	25 _{h9}	25	25 _{h9}	25.5	80	60	30	20	34	25	29
K2	35	45	30 _{h9}	30	30 _{h9}	30.5	88	72	36	25	39	30	34
K3	40	50	35 _{h9}	35	35 _{h9}	35.5	101	80	44	30	39	35	34
K4	50	55	40 _{h9}	40	40 _{h9}	40.5	114	90	50	40	39	45	34
K5	40	65	50 _{h9}	50	50 _{h9}	50.5	116	106	62	40	44	45	39
K6	50	70	50 _{h9}	50	50 _{h9}	50.5	128	106	62	40	45	45	40
K7	55	85	60 _{h6}	60	60 _{h6}	62	164	138	75	40	45	45	40
K8	75	100	70 _{h6}	70	70 _{h6}	72	203	155	90	50	60	60	50
K9	95	120	90 _{h6}	90	90 _{h6}	92	244	200	120	60	70	70	60
K10	115 ¹⁾	130	100 _{h6}	100	100 _{h6}	102	274	230	130	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)

Unit	ME10			ME20			ME30			ME40			ME50			Wt. lbs.
	C	m	n	C	m	n	C	m	n	C	m	n	C	m	n	
K102	224	124	36	238	128	36	—	—	—	—	—	—	—	—	—	31
K202	248	143	46	262	147	46	274	149	46	—	—	—	—	—	—	40
K203	285	180	46	—	—	—	—	—	—	—	—	—	—	—	—	53
K302	278	163	52.5	292	167	52.5	304	169	52.5	—	—	—	—	—	—	67
K303	315	200	52.5	335	210	16	—	—	—	—	—	—	—	—	—	73
K402	—	—	—	327	187	60	339	189	60	370	192	60	—	—	—	93
K403	350	220	60	370	230	23	—	—	—	—	—	—	—	—	—	100
K513	—	—	—	322	172	15	334	174	15	365	177	15	—	—	—	106
K514	—	—	—	365	215	15	—	—	—	—	—	—	—	—	—	109
K613	—	—	—	361	191	18	373	193	18	404	196	18	411.5	210	18	170
K614	—	—	—	404	234	18	—	—	—	—	—	—	—	—	—	177
K713	—	—	—	—	—	—	406	221	20	437	224	20	443.5	237	20	221
K714	—	—	—	438	263	20	468	283	20	—	—	—	—	—	—	234
K813	—	—	—	—	—	—	452	247	24	482	249	24	488.5	262	24	309
K814	—	—	—	—	—	—	513	308	24	553	320	5	—	—	—	331
K913	—	—	—	—	—	—	—	—	—	562	294	25	568.5	307	25	508
K914	—	—	—	—	—	—	593	353	25	633	365	25	—	—	—	530
K1013	—	—	—	—	—	—	—	—	—	—	—	—	698.5	392	28	1055
K1014	—	—	—	—	—	—	—	—	—	763	450	28	781.5	475	28	1079

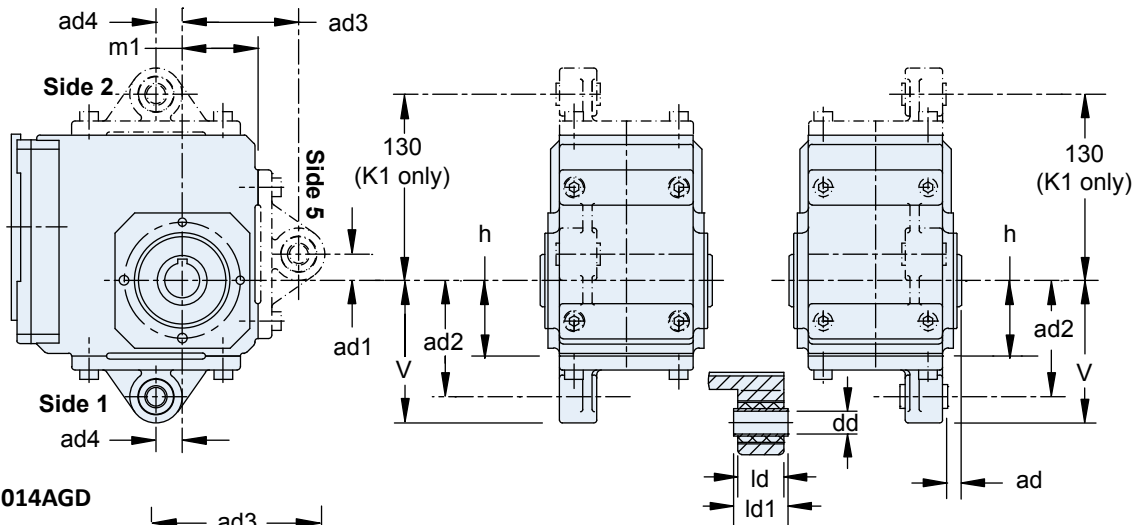
For approximate weight, add adapter weight from Table 3 and unit weight from Table 4.

K/KL Series: RIGHT ANGLE — Versatile Outputs

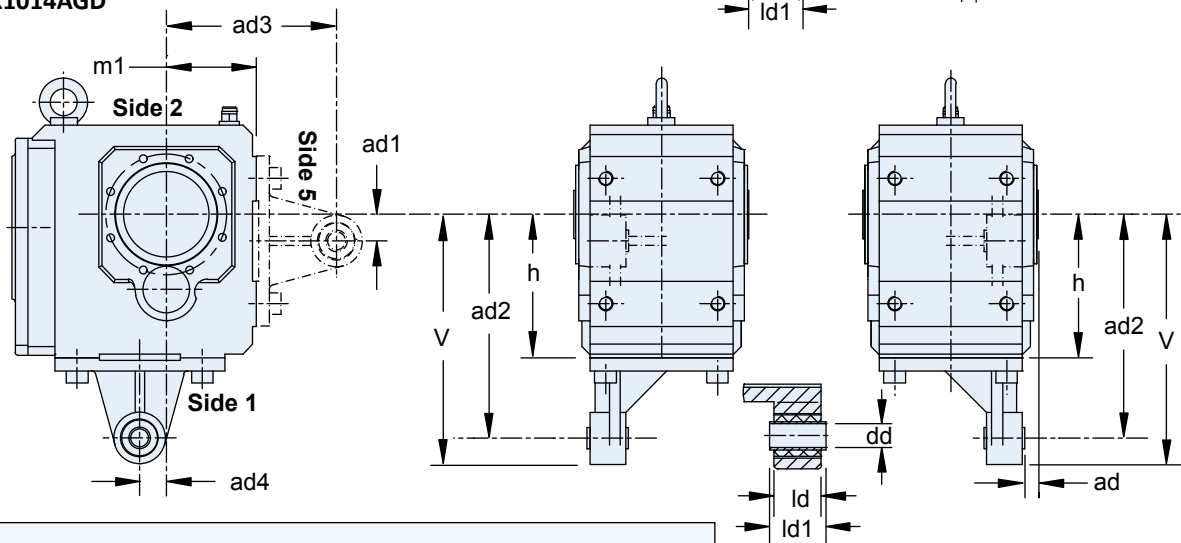
K Series with “A” Hollow Output

“GD” Torque Arm Bracket Housing (Torque arm supplied by others)

K102AGD thru K403AGD



K513AGD thru K1014AGD



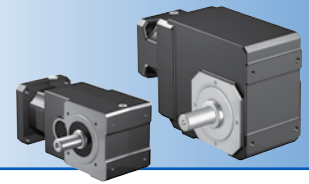
Important:

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).

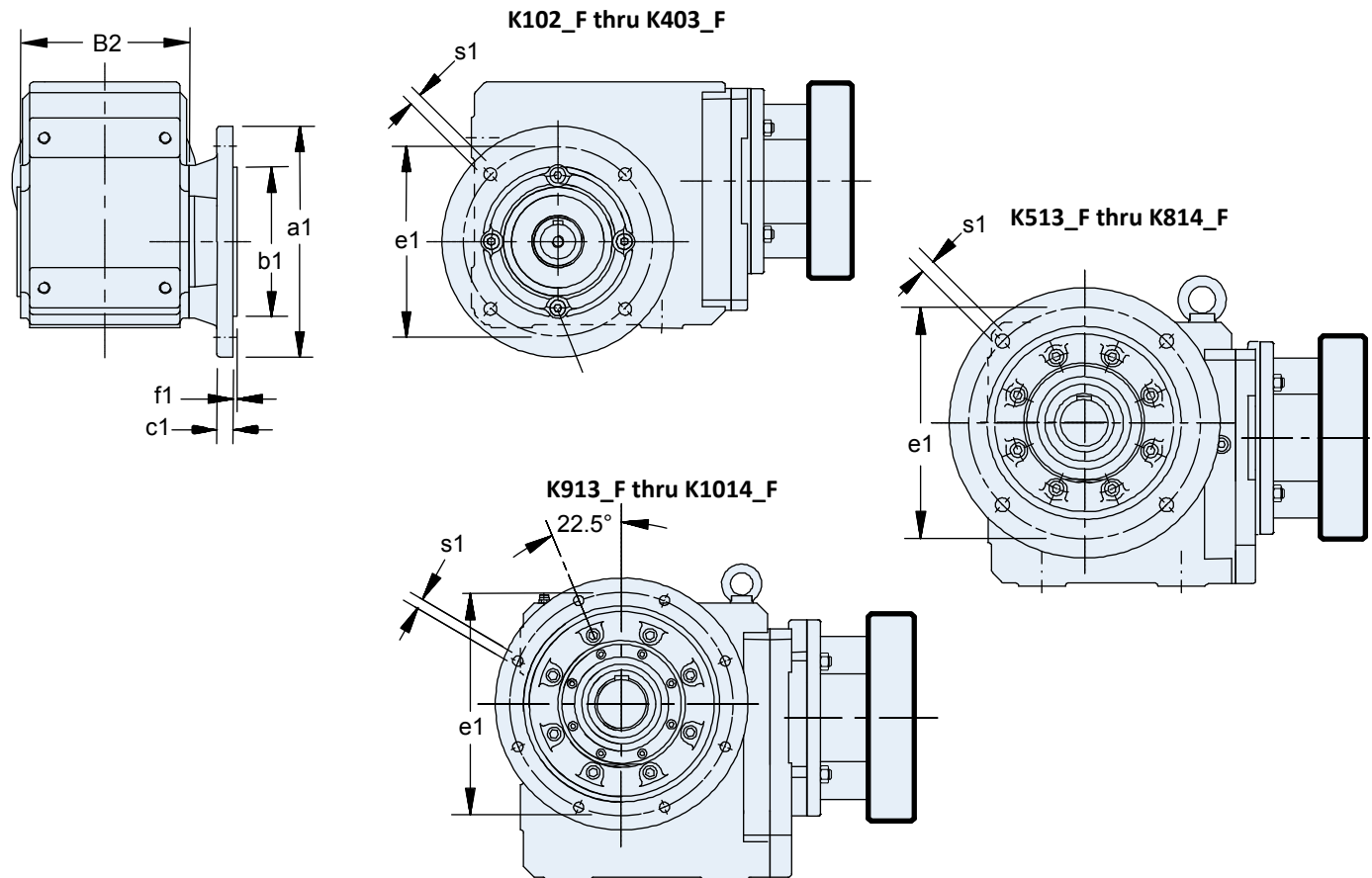
Table 1 K Series Unit Dimensions (mm) — “GD” Torque Arm Bracket Housing Option

Unit	ad	ad1	ad2	ad3	ad4	dd	h	ld	ld1	m1	V
K1	13	15	90	90	15	12 _{H9}	60	24	28	60	111.5
K2	13.5	22.5	100	100	22.5	16 _{H9}	65	32	38	65	122.5
K3	12	25	120	120	25	16 _{H9}	75	32	38	75	142.5
K4	17	27.5	150	150	27.5	20 _{H9}	90	40	46	90	177.5
K5	17	30	250	190	30	20 _{H9}	160	40	46	100	279
K6	20.5	30	250	180	30	20 _{H9}	190	40	46	120	279
K7	23	35	300	213	35	20 _{H9}	212	64	70	125	334
K8	26	45	350	230	45	24 _{H9}	265	102	115	145	386
K9	26	45	450	315	45	24 _{H9}	315	102	115	180	487.5
K10	6	55	550	400	60	40 _{H9}	375	118	124	225	610

Dimensional Data



Optional "F" Round Flange Housing Options for K Series



K/KL Series: RIGHT ANGLE — Versatile Outputs

Table 1 K Series – Optional Flange Dimensions (mm)

Unit	Flange Size a1	b1	B2	c1	e1	f1	s1
K1	140	95 _{j6}	106	10	115	3	9
	160 *	110 _{j6}	106	10	130	3.5	9
K2	160	110 _{j6}	134	12	130	3.5	9
	200 *	130 _{j6}	134	12	165	3.5	11
K3	160	110 _{j6}	146	14	130	3.5	9
	200 *	130 _{j6}	146	14	165	3.5	11
	250	180 _{j6}	146	14	215	4	14
K4	250 *	180 _{j6}	173	15	215	4	14
K5	250 *	180 _{j6}	185	15	215	4	14
K6	300 *	230 _{j6}	200	17	265	4	14
K7	350 *	250 _{h6}	226	18	300	5	18
K8	350	250 _{h6}	282	18	300	5	18
	400 *	300 _{h6}	282	20	350	5	18
	450	350 _{h6}	282	20	400	5	18
K9	450 *	350 _{h6}	330	23	400	5	18
K10	550	450 _{h6}	400	25	500	5	18

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