

# Kinematics

## Slew Drives



**TORQUE TECHNOLOGY SOLUTIONS**

## SOLUTIONS FOR THE UTILITY SCALE SOLAR INDUSTRY.

With the longest track record of delivering slew drives to the leading solar tracking technology providers, KMI continues to meet the ever-growing worldwide demand for drive volume and continuous innovation.

### POSITIONER SOLUTIONS

For manufacturing and robotics applications, KMI provides a wide range of slew drive solutions – engineered to the specifications that workflows require.

### VEHICLE SOLUTIONS

For mobile applications, including man lifts, lifting cranes and paving machines, KMI's slew drives deliver on safety, reliability and availability.

### SATELLITE SOLUTIONS

Proven to be precise, and reliable, Kinematics' dual axis slew drives deliver a high range of positioning performance per dollar spent with responsive expert support before and after the sale.

### MEDICAL SOLUTIONS

From surgical beds to X-ray machines, KMI manufactures slew drives for a variety of medical applications where compact torque and reliability are crucial.

## LP SERIES

Compared to our standard SE and KE models, KMI's LP series slewing drives are constructed with 10 percent less material. This low-profile design and reduced weight help OEMs achieve gross vehicle weight goals, increasing payload and boom reach.

With environmentally resistant enclosed housings and case seals, LP drives are ideal for solar trackers, mining equipment, aerial lifts, cranes, digger derricks, positioners, steering systems, satellite and radar dishes, and medical applications.

### LP Series Features:

Powered with KMI's patented hourglass worm technology for reliable accuracy, our LP series slew drives offer numerous features and advantages.

Low-profile gearbox for reduced weight and stack height

Enclosed design with case seals for improved sealing capability

A slew-bearing subassembly

360-degree rotation

Self-locking gearset

Standard options for metric or imperial mounting threads

Multiple input options available

Can be purchased with or without a motor



DRIVE TYPE	RACEWAY DIAMETER	SURVIVABILITY TORQUE	OVERTURNING MOMENT
LP9	229mm (9")	39.0 kN-m	33.9 kN-m
LP14	356mm (14")	54.5 kN-m	67.8 kN-m
LP17	432mm (17")	65.6 kN-m	135.6 kN-m

## SE SERIES

Ideal for situations requiring load holding and rotational torque from the same gearbox, KMI's SE series slew drives are used across a range of industries.

Featuring an enclosed housing with a lip seal, our SE drives are designed for use in mining equipment, aerial lifts, cranes, digger derricks, positioners, steering systems and utility equipment.

### SE Series Features:

Low-cost enclosed design with lip a seal

A slew-bearing subassembly

360-degree rotation

Self-locking gearset

Dual worm gear designs available on some models for increased torque capacity

Standard options for metric or imperial mounting threads

Multiple input options available

Can be purchased with or without a motor



DRIVE TYPE	RACEWAY DIAMETER	SURVIVABILITY TORQUE	OVERTURNING MOMENT
SE7	187mm (7")	7.0 kN-m	13.6 kN-m
SE9	229mm (9")	39.0 kN-m	33.9 kN-m
SE12	305mm (12")	49.9 kN-m	54.2 kN-m
SE14	356mm (14")	54.4 kN-m	67.8 kN-m
SE17	432mm (17")	65.6 kN-m	135.6 kN-m
SE21	533mm (21")	81.0 kN-m	203.4 kN-m
SE25	635mm (25")	89.1 kN-m	271.1 kN-m
SE28	711mm (28")	180.7 kN-m	457.5 kN-m

## VE SERIES

Designed for both solar trackers and applications requiring horizontal-axis output, the VE family of fully enclosed vertical slewing drives requires no additional components for mounting.

Built to hold solar arrays steady in high winds, VE drives are high-power units that rotate and accurately position very long lines of panels to provide optimal energy collection.

### VE Series Features:

Powered with KMI's patented hourglass worm technology for reliable accuracy, our VE series slewing drives offer numerous features and advantages.

Designed for single axis photovoltaic solar trackers or applications requiring horizontal axis output

Uses slew-bearing subassembly

360-degree rotation

Self-locking gearset

Input, output and mounting are customizable

Can be purchased with or without a motor



DRIVE TYPE	RACEWAY DIAMETER	SURVIVABILITY TORQUE	OVERTURNING MOMENT
VE3	76mm (3")	2.1 kN-m	0.5 kN-m
VE5	76mm (3")	4.3 kN-m	3.5 kN-m
VE7	178mm (7")	10.0 kN-m	9.5 kN-m
VE9	230mm (9")	39.0 kN-m	31.5 kN-m
VE14	76mm (3")	54.4 kN-m	47.4 kN-m
VE17	76mm (3")	65.6 kN-m	94.9 kN-m
VE21	530mm (21")	81.0 kN-m	152.3 kN-m

## HE SERIES

Designed for solar trackers and fully customizable to application requirements, the HE family of fully enclosed vertical drives is designed to deliver the highest performance.

KMI's single axis slew drives feature multiple innovations, including dual-output torque tube interfaces and integrated mounting flanges for direct post attachment, for lower costs and more efficient installation.

### HE Series Features:

Powered with KMI's patented hourglass worm technology for reliable accuracy, our HE series slewing drives offer numerous features and advantages.

Optimized for single-axis photovoltaic trackers

Integrated raceway

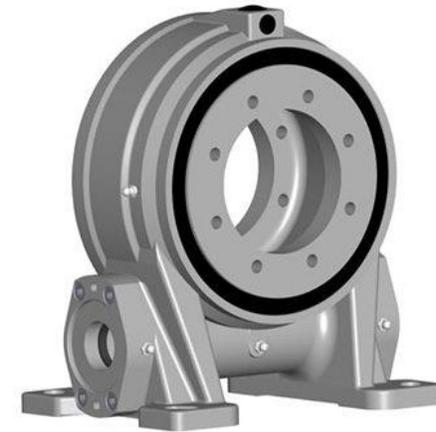
Internal hard stops

Segmented gear

Self-locking gearset

Input, output and mounting are customizable

Can be purchased with or without a motor



DRIVE TYPE	RACEWAY DIAMETER	SURVIVABILITY TORQUE	OVERTURNING MOMENT
HE3	76mm (3")	3.0 kN-m	1.0 kN-m
HE5	127mm (5")	12.0 kN-m	10.0 kN-m
HE6	152mm (6")	15.0 kN-m	11.0 kN-m
HE7	190mm (7.5")	28.0 kN-m	16.9 kN-m
HE8	210mm (8")	36.0 kN-m	16.9 kN-m
HE9	230mm (9")	40.0 kN-m	17.6 kN-m
HE9-HD	230mm (9")	60.0 kN-m	17.6 kN-m

## KE SERIES

Featuring an IP55-rated enclosed housing and case seal, KMI's KE series slewing drive is designed for low-maintenance, reducing labor costs in the field while delivering greater component protection.

KE drives are designed for use in solar trackers, mining equipment, aerial lifts, cranes, digger derricks, positioners, steering systems, satellite and radar dishes, and medical applications.

### KE Series Features:

Powered with KMI's patented hourglass worm technology for reliable accuracy, our KE series slew drives offer numerous features and advantages.

Enclosed housing with case seals for improved sealing capability

Slew-bearing subassembly

360-degree rotation

Self-locking gearset

Dual worm gear designs available on some models for increased rotational torque capacity

Standard options for metric or imperial mounting threads

Multiple input options available

Can be purchased with or without a motor



DRIVE TYPE	RACEWAY DIAMETER	SURVIVABILITY TORQUE	OVERTURNING MOMENT
KE3	76mm (3")	3.0 kN-m	1.0 kN-m
KE5	127mm (5")	4.7 kN-m	3.7 kN-m
KE7	187mm (7")	7.0 kN-m	13.5 kN-m
KE9	229mm (9")	39.0 kN-m	33.9 kN-m
KE12	305mm (12")	49.9 kN-m	54.2 kN-m
KE14	356mm (14")	54.4 kN-m	67.8 kN-m
KE17	432mm (17")	65.6 kN-m	135.6 kN-m
KE21	533mm (21")	81.0 kN-m	203.4 kN-m
KE25	635mm (25")	89.1 kN-m	271.1 kN-m

## S SERIES

With its open housing design, the S series slewing drives from KMI are excellent for low-cost manufacturing equipment that requires easy access and daily maintenance.

Their coverless design has useful applications in aerial lifts, cranes, digger derricks, steering systems, turntables and utility equipment.

### S Series Features:

Powered with KMI's patented hourglass worm technology for reliable accuracy, our S series slew drives offer numerous features and advantages.

Low-cost open-gearbox design

Slew-bearing subassembly

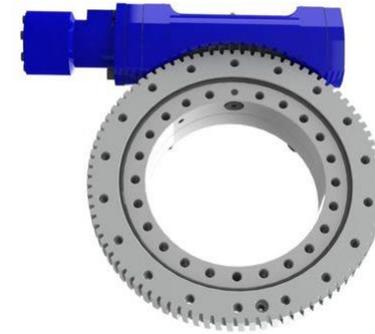
360-degree rotational torque

Self-locking gearset

Standard options for metric or imperial mounting threads

Multiple input options available

Can be purchased with or without a motor



DRIVE TYPE	RACEWAY DIAMETER	SURVIVABILITY TORQUE	OVERTURNING MOMENT
S7	178mm (7")	10.3 kN-m	13.6 kN-m
S9	229mm (9")	39.0 kN-m	33.9 kN-m
S12	305mm (12")	49.9 kN-m	54.2 kN-m
S14	356mm (14")	54.4 kN-m	67.8 kN-m
S17	432mm (17")	65.6 kN-m	135.6 kN-m
S21	533mm (21")	81.0 kN-m	203.4 kN-m
S25	635mm (25")	89.1 kN-m	271.1 kN-m

## KDE SERIES

KMI's dual axis slewing drives simultaneously rotate around two independent axes. Offering a wide range of motion and capable of supporting large loads, our KDE series delivers consistent and efficient precision.

The most common application of dual-axis KDE drives is planetary solar trackers, such as heliostats and concentrated photovoltaic, and satellite and radio dishes. Other applications include automotive lifts, robotic arm positioners and stage equipment.

### KDE Series Features:

Powered with KMI's patented hourglass worm technology for reliable accuracy, our KDE series slew drives offer numerous features and advantages.

Design allows for azimuth and elevation actuation in one complete assembly

Enclosed housings with case seals for improved sealing capability

Slew-bearing subassembly

360-degree rotational torque

Self-locking gearsets

Standard options for metric or imperial mounting threads

Multiple input options available

Can be purchased with or without a motor

Customizable interfaces to match mounting requirements



DRIVE TYPE	RACEWAY DIAMETER	SURVIVABILITY TORQUE	OVERTURNING MOMENT
KDE3	76mm (3")	2.1 kN-m	0.5 kN-m
KDE5	127mm (5")	5.5 kN-m	2.8 kN-m
KDE7	178mm (7")	10.0 kN-m	5.4 kN-m
KDE9	229mm (9")	39.0 kN-m	25.0 kN-m
KDE12	305mm (12")	49.9 kN-m	31.5 kN-m
KDE14	356mm (14")	54.4 kN-m	47.6 kN-m
KDE17	432mm (17")	65.6 kN-m	94.9 kN-m
KDE21	432mm (17")	81.0 kN-m	152.3 kN-m



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**KEEPING THE WHEELS TURNING**

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