

# Orientalmotor

## Standard AC Motor Three-Phase High-Efficiency Induction Motor

# KIIS Series

Terminal Box Type

Right-Angle Hypoid Gear JH Gearhead

Stainless Steel Shaft / IP66

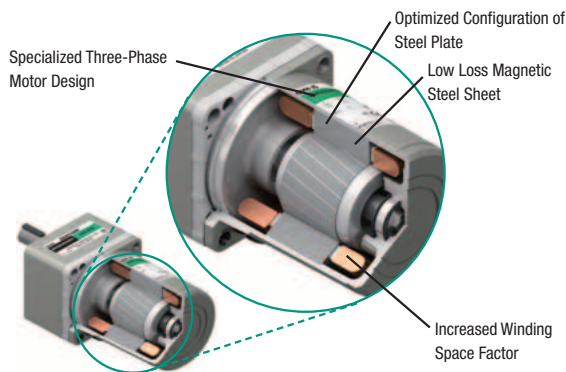
30 W (1/25 HP) / 40 W (1/19 HP) / 100 W (1/8 HP)



### High Efficiency Three-Phase Motors through Optimal Design

#### ● High Efficiency at a Maximum of 74%

Specialized components and an optimal magnetic design are used to make high efficiency three-phase motors with a maximum efficiency of 74%. Motors are fanless with increased motor torque.



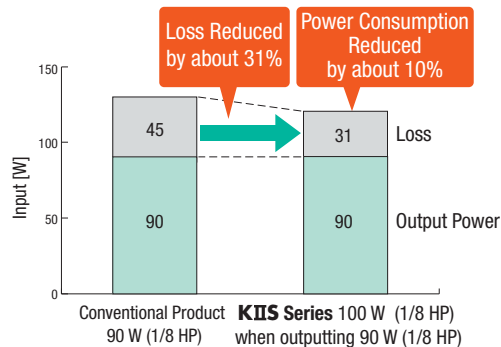
#### ● Comparison of Max. Efficiency (Reference values)

	30 W	60 W	100 W
<b>KIIS Series</b>	63.8%	69.8%	74.1%
Conventional Product	53.9% (25 W)	60.5%	64.7% (90 W)

#### ● Rated Output Power at 60 Hz

#### ● Power Consumption Reduced by up to 10%

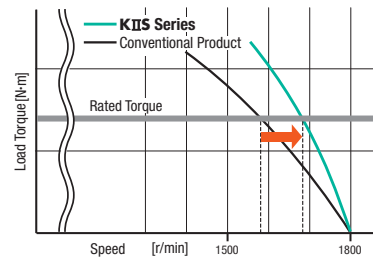
Compared to a conventional 90 W (1/8 HP) motor under the same conditions, power consumption is reduced by a maximum of about 10%, contributing to the equipment's energy savings.



#### ● High Performance

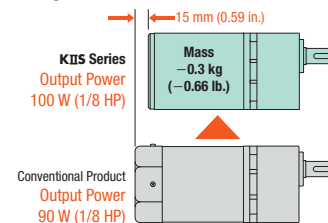
Characteristics have been improved through pursuit of the specifications required for the three-phase motor and a review of the design to create a high-performance motor with little speed reduction even with a large load.

#### ● Changes in Speed according to Load



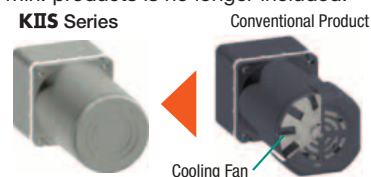
#### ● Increased Motor Output Power

Output power of 100 W (1/8 HP) in a 90 mm (3.54 in.) frame size is achieved through increased efficiency. An overall length 15 mm (0.59 in.) shorter than the conventional motor contributes to equipment downsizing.



#### ● Fanless

With reduced loss, there is less heat generation in the motor, so the cooling fan that was incorporated into the conventional 60 W (1/12 HP) min. products is no longer included.



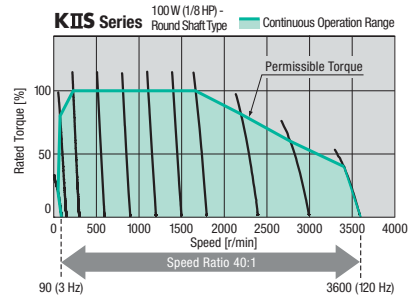
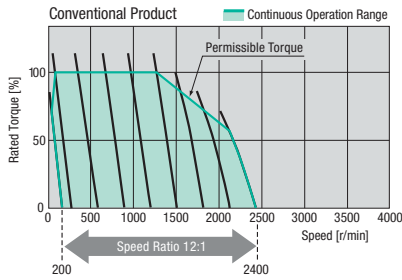
#### ● No Dust, etc.

With no cooling fan, dust is not blown around.

# Best Characteristics Achieved when Combined with an Inverter

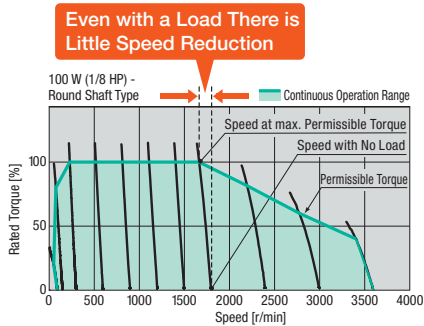
## ● Wide Range of Speeds

Speed can be controlled over a wide range using an inverter, from 3~120 Hz. Also, with improved characteristics, high torque can be exerted even at low speeds.



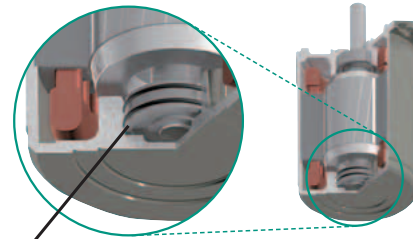
## ● Improved Speed Stability

Because it is a high-performance motor with little speed reduction even with a large load, stabilized speed control is possible.



## ● Handles High-Speed Rotation (Round shaft type)

Creep-free bearings, etc. are used in the round shaft type, and components capable of handling high-speed rotation have been selected and designed for inverter control.



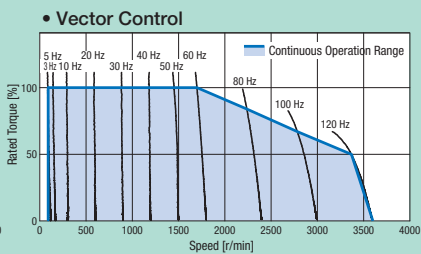
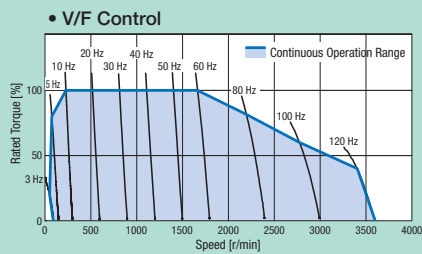
Uses Creep-Free Bearings (Round shaft type only)

## Usage with non-Oriental Motor Inverters

“Speed – Torque Characteristics” and “Inverter Parameter Setting Values” when using a non-Oriental Motor inverter have been prepared as a reference in order to make use with other inverters easier.

For details, please see the Oriental Motor website.

## ● Example characteristics when a KIIS Series 100 W Round Shaft Type is used together with a general inverter (Reference values)



## Note

No built-in overheat protection device (thermal protector). When the output shaft is locked for any reason, use the electromagnetic switch and the inverter's electronic thermal function to prevent motor burnout.

## Motors with terminal box conforming to IP66 rating for degree of protection.

- **Strengthened Seal Structure for the Motor, Gearhead and Terminal Box Components**

● The IP indication that shows the watertight and dust-resistant performance is specified under IEC 60529 and IEC 60034-5.

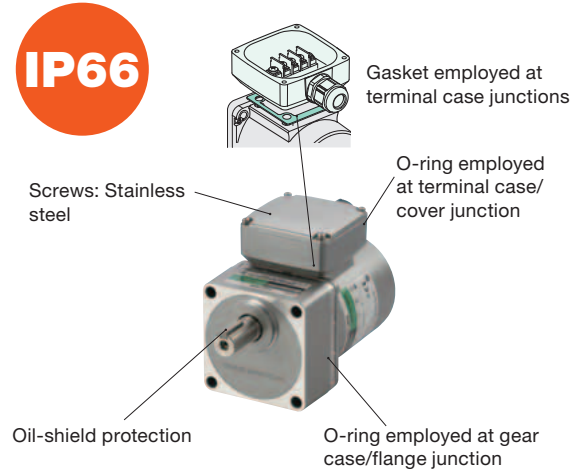
**IP66**

- 6: Protection against strong water jets such as ocean waves
- 6: Completely dust-proof design

- **Right-Angle Shaft Hollow Hypoid JH Gear**



- **Parallel Shaft Gearhead GV Gear, Round Shaft Type**



## Stainless Steel Shaft Is Included as Standard\*

- **Uses an output shaft made of stainless steel, which has excellent rust and corrosion resistance**

Parallel key and installation screws also use stainless steel.

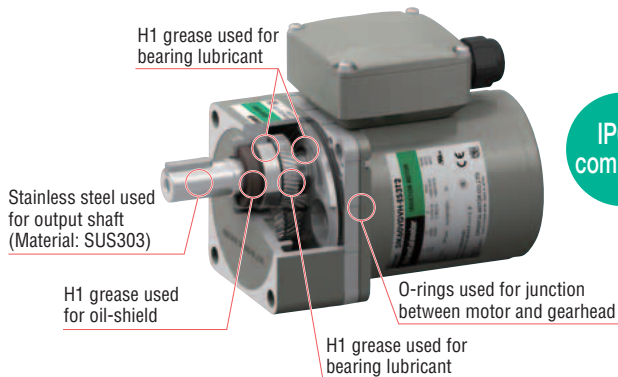
Output Shaft: Stainless steel



\*Some products do not have stainless steel shafts.  
For details, please refer to the product line on page 5.

### **NEW** H1 Food Grade Grease Compatible

H1 food grade grease is used for gear lubrication.



**IP66-compliant**

- **What is H1 Food Grade Grease?**

H1 grease is registered with the NSF as a category of lubricant which "may be used in applications where incidental contact with food products is possible".

- **What is the NSF (NSF International)?**

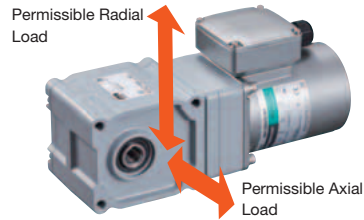
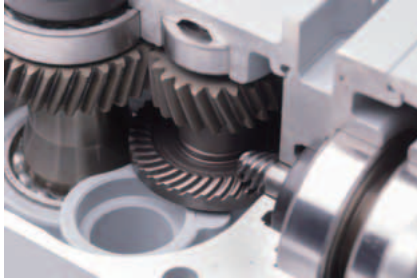
NSF International is a third party certification organization headquartered in the United States that provides a variety of global services related to the development of standard, product certification, auditing, training and risk management in the public health and environmental sector.

- **Gearhead Rated Life of 5,000 Hours**

● Motor component is conventional product.

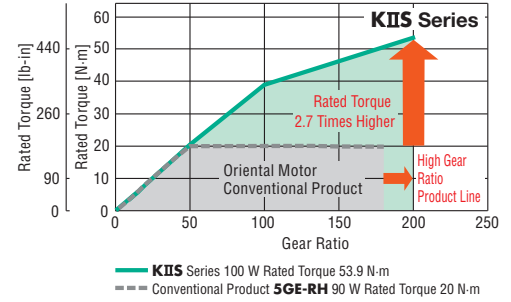
## Utilizes a Gearhead that Excels in Both Torque and Strength

### ● Right-Angle Shaft Hollow Hypoid **JH** Gear

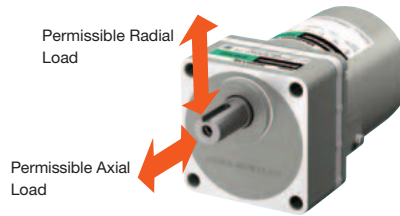


Output Power 100 W (1/8 HP)  
 Permissible Radial Load 1291 N (290 lbs.)  
 10 mm (0.39 in.) from Installation Surface  
 Permissible Axial Load 343 N (77 lbs.)

Uses high-strength hypoid gears. Greatly increased torque and reduced noise compared to conventional products. Both the radial load and the axial load have been significantly increased, contributing to decreased equipment size and improved reliability.

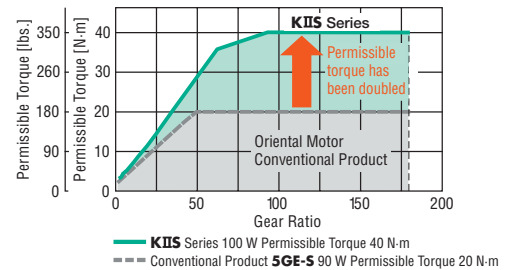


### ● Parallel Shaft Gearhead **GV** Gear



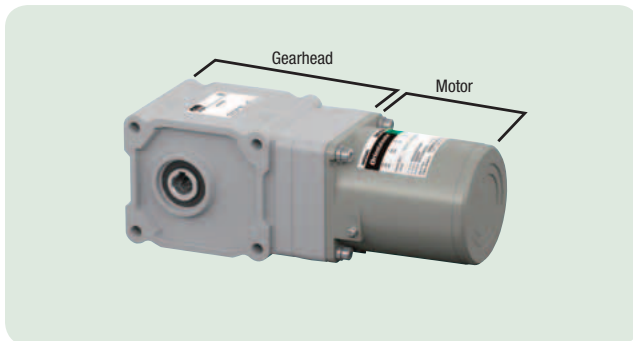
Output Power 100 W (1/8 HP)  
 Permissible Radial Load 500 N (112 lbs.)  
 (10 mm from the end of the output shaft)  
 Permissible Axial Load 150 N (33 lbs.)

By increasing the size of the output shaft bearing and adopting carburized gears, the torque, permissible radial load and permissible axial load have all been increased compared to a conventional product.



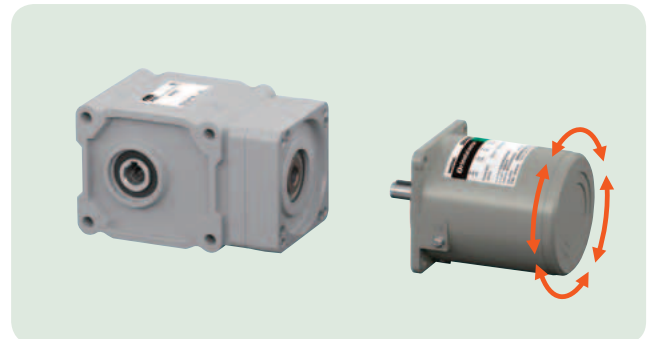
## Pre-Assembled Motor and Gearhead Combinations (Right-Angle Shaft Hollow Hypoid **JH** Gear, Parallel Shaft Gearhead **GV** Gear)

Motor and gearhead are delivered pre-assembled. This reduces assembly time and allows for immediate installation.




Gearhead can be detached.

The motor position can be rotated in 90° increments and the lead wire draw direction can also be changed. By purchasing just the gearhead, the gear ratio can be changed, or it can be replaced during maintenance.





## ■ KIIS Series Product Line

### ● Induction Motor Right-Angle Shaft Hollow Hypoid **JH** Gear

Voltage [VAC]	Type	External View, Output Shaft Material	Frame Size (mm), Output Power			
			□80	□90		
			30 W (1/25 HP)	40 W (1/19 HP)	60 W (1/12 HP)	100 W (1/8 HP)
Three-Phase 220/230/240	Terminal Box Type	 Stainless Shaft	●	●	—	*


\*100 W (1/8 HP) not available in three-phase 240 VAC.

### ● Induction Motor Parallel Shaft Gearhead **GV** Gear, Round Type Stainless Shaft

Voltage [VAC]	Type	External View, Output Shaft Material	Frame Size (mm), Output Power			
			□80	□90		
			30 W (1/25 HP)	40 W (1/19 HP)	60 W (1/12 HP)	100 W (1/8 HP)
Three-Phase 220/230/240	Terminal Box Type	 Stainless Shaft	●	●	●	●
Three-Phase 220/230/240	Terminal Box Type H1 Food Grade Grease Compatible	 Stainless Shaft	—	—	●	●



● Terminal box type with stainless shaft has been revised with a different motor structure.

### Gearhead Gear Ratio



Output		Gear Ratio
30 W (1/25 HP)		5~360
40 W (1/19 HP)		5~300
60 W (1/12 HP)		5~300
100 W (1/8 HP)		5~180
Speed*	50 Hz	300~4.1
	60 Hz	360~5
Configuration Example		

\*The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.

### ● Induction Motor Parallel Shaft Gearhead **GV** Gear Round Shaft Type

Voltage [VAC]	Type	External View, Output Shaft Material	Frame Size (mm), Output Power			
			□80	□90		
			30 W (1/25 HP)	40 W (1/19 HP)	60 W (1/12 HP)	100 W (1/8 HP)
Three-Phase 220/230	Terminal Box Type	 Iron Shaft	—	—	●	●
	Lead Wire	 Iron Shaft	—	—	●	●

### ● Motor with an Electromagnetic Brake Parallel Shaft Gearhead **GV** Gear Round Shaft Type

Voltage [VAC]	Type	External View, Output Shaft Material	Frame Size (mm), Output Power			
			□80	□90		
			30 W (1/25 HP)	40 W (1/19 HP)	60 W (1/12 HP)	100 W (1/8 HP)
Three-Phase 220/230	Terminal Box Type	 Iron Shaft	—	—	●	●
	Cables	 Iron Shaft	—	—	●	●

# System Configuration

## KIIS Series Induction Motors

Right-Angle Shaft Hollow Hypoid **JH** Gear



or

Parallel Shaft Gearhead **GV** Gear  
(Motor and gearhead)

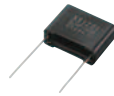


AC Power Supply  
(Main power supply)

### Peripheral Equipment (Sold separately)



**Torque Arms**  
Can be used with right-angle shaft hollow hypoid **JH** gear.



**CR Circuit for Surge Suppression**

### ● Example of System Configuration

Induction Motor Right-Angle Shaft Hollow Hypoid <b>JH</b> Gear	Sold Separately	
	Torque Arms	CR Circuit for Surge Suppression
<b>5IK100VKJST-5H10S</b>	<b>TAF2S-15-NS</b>	<b>EPCR1201-2</b>
\$472.00	\$25.00	\$5.00

● The system configuration shown above is an example. Other combinations are also available.

## Product Number

### ● Right-Angle Shaft Hollow Hypoid **JH** Gear

**5 I K 100 V K E S T - 5 H 10 S**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

Motor Product Name Gearhead Product Name

Motor Product Name	①	Motor Frame Size	<b>4</b> : 80 mm <b>5</b> : 90 mm
	②	Product Name	<b>I</b> : Induction Motor
	③	Series Name	<b>K</b> : <b>KII</b> Series
	④	Output Power (W)	(Example) <b>100</b> : 100 W
	⑤	<b>V</b> : Three-Phase High Efficiency Motor	
	⑥	Applicable Motor	<b>K</b> : Round Shaft Type (With Key)
	⑦	Power Supply Voltage/Number of Poles	<b>ES</b> : Three-Phase 220/230/240 VAC 4 Poles
	⑧	<b>T</b> : Terminal Box Type	
Gearhead Product Name	⑨	Applicable Motor Frame Size	<b>4</b> : 80 mm <b>5</b> : 90 mm
	⑩	Gearhead Type	<b>H</b> : Right-Angle Hollow Hypoid <b>JH</b> Gear
	⑪	Gear Ratio	Number: Gear ratio of gearhead
	⑫	Output Shaft Material	<b>S</b> : Stainless steel

### ● Parallel Shaft Gearhead **GV** Gear

**5 I K 100 V E S 3 T2 - 15 S**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

### ● Round Shaft Type

**5 I K 100 V A S - E S 3 T2**

① ② ③ ④ ⑤ ⑩ ⑪ ⑥ ⑦ ⑧ ⑨

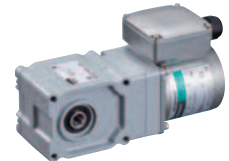
Motor Product Name	①	Motor Frame Size	<b>4</b> : 80 mm <b>5</b> : 90 mm
	②	Product Name	<b>I</b> : Induction Motor
	③	Series Name	<b>K</b> : <b>KII</b> Series
	④	Output Power (W)	(Example) <b>100</b> : 100 W
	⑤	<b>V</b> : Three-Phase High Efficiency Motor	
	⑥	Power Supply Voltage/Number of Poles	<b>ES</b> : Three-Phase 220/230/240 VAC 4 Poles
	⑦	Identification Symbol	
	⑧	<b>M</b> : With Power Off Activated Type Electromagnetic Brake	
	⑨	<b>T2</b> : Terminal Box Type Blank: Lead Wire Type or Cable Type	
Gearhead Product Name	⑩	Gear Ratio and Shaft Type	Number: Gear ratio of gearhead <b>A</b> : Round Shaft Type
	⑪	Output Shaft Material	<b>S</b> : Stainless steel None: Iron
	⑫	<b>F</b> : Compatible with H1 Food Grade Grease	

## Induction Motors

# 30 W (1/25 HP)

□80 mm (□3.15 in.)

## KIIS Series Right-Angle Hollow Shaft Hypoid JH Gear Stainless Shaft



Terminal Box Type

### Specifications – Continuous Rating



Product Name Terminal Box Type	Output W (HP)	Voltage VAC	Frequency Hz	Current A
<b>4IK30VKEST-4H□S</b>	30 (1/25)	Three-Phase 220	50	0.23
			60	0.20
		Three-Phase 230	50	0.24
			60	0.20
		Three-Phase 240	50	0.25
			60	0.20

Gear Ratio		<b>10</b>	<b>15</b>	<b>20</b>	<b>30</b>	<b>50</b>	<b>100</b>	<b>200</b>
Speed [r/min]	50 Hz	150	100	75	50	30	15	7.5
	60 Hz	180	120	90	60	36	18	9
Rated Torque Upper Level: N·m Lower Level: lb·in	50 Hz	1.13 (10)	1.69 (14.9)	2.3 (20)	3.4 (30)	5.6 (49)	11.3 (100)	20.6 (182)
	60 Hz	0.94 (8.3)	1.4 (12.3)	1.87 (16.5)	2.8 (24)	4.7 (41)	9.4 (83)	18.7 (165)
Starting Torque Upper Level: N·m Lower Level: lb·in	50 Hz	1.35 (11.9)	2.0 (17.7)	2.7 (23)	4.1 (36)	6.8 (60)	13.5 (119)	20.6 (182)
	60 Hz	0.9 (7.9)	1.35 (11.9)	1.8 (15.9)	2.7 (23)	4.5 (39)	9.0 (79)	18.0 (159)
Permissible Load Inertia J Upper Level: $\times 10^{-4}$ kg·m <sup>2</sup> Lower Level: oz·in <sup>2</sup>		100 (550)	225 (1230)	400 (2200)	900 (4900)	2500 (13700)	10000 (55000)	40000 (220000)
	Instantaneous Stop	33.3 (182)	75 (410)	133 (730)	300 (1640)	833 (4600)	3333 (18200)	13333 (73000)
Permissible Radial Load Upper Level: N Lower Level: lb.*	10 mm (0.39 in.) from Installation Surface	311 (69)	400 (90)	488 (109)	622 (139)	799 (179)	888 (199)	978 (220)
	20 mm (0.79 in.) from Installation Surface	265 (59)	341 (76)	417 (93)	531 (119)	682 (153)	758 (170)	836 (188)
Permissible Axial Load Upper Level: N Lower Level: lb.		88 (19.8)	108 (24)	137 (30)	177 (39)	226 (50)	245 (55)	275 (61)

● The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.

The actual speed is up to 20% less, depending on the load.

● No built-in overheat protection device (thermal protector).

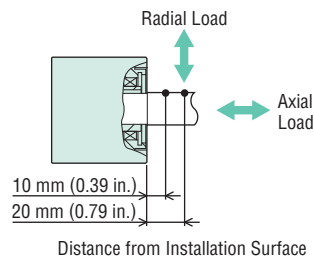
When there is an overload or the output shaft is locked, use the electromagnetic switch and the inverter's electronic thermal function to prevent motor burnout.

● Use an inverter setting frequency of 100 Hz or less when driving in combination with the inverter.

#### Note

● Do not perform instantaneous bi-directional operations.

#### ◇ Load Position



## Product Line

### ● Terminal Box Type

Product Name	Gear Ratio	List Price
<b>4IK30VKEST-4H□S</b>	<b>10, 15, 20</b>	402.00
	<b>30, 50, 100</b>	413.00
	<b>200</b>	423.00

## Included

Installation Screws	Parallel Key (Stainless)	Safety Cover	Operating Manual
1 set	1 piece	1 piece	1 copy

● A number indicating the gear ratio is entered where the box □ is located within the product name.

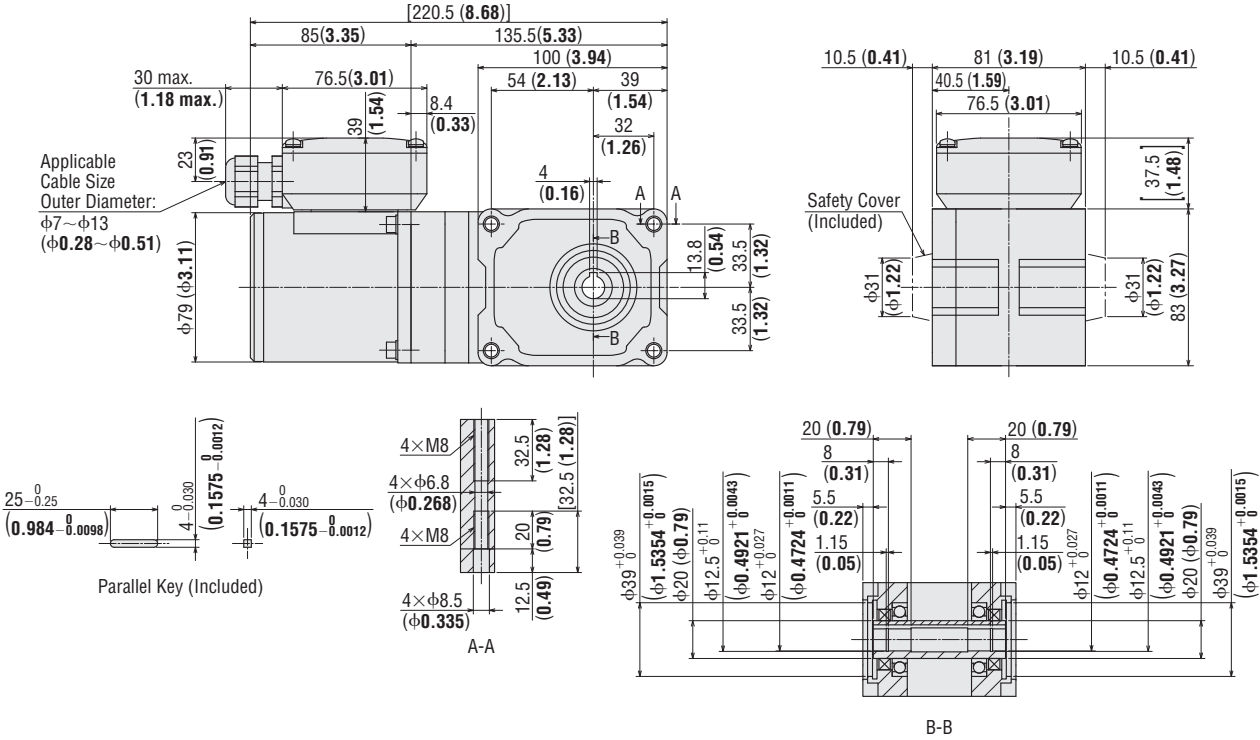
## Dimensions Unit: mm (in.)

- Installation screws are included.
- The terminal box cable outlet can be rotated and affixed in 4 possible directions.
- A number indicating the gear ratio is entered where the box □ is located within the product name.

### Terminal Box Type

2D & 3D CAD

Product Name	Motor Product Name	Gearhead Product Name	Mass kg (lb.)	2D CAD
<b>4IK30VKEST-4H□S</b>	4IK30VKEST	4H□S	3.7 (8.1)	A1673





## Induction Motors

# 40 W (1/19 HP)

□90 mm (□3.54 in.)

## KIIS Series Right-Angle Hollow Shaft Hypoid JH Gear Stainless Shaft



Terminal Box Type

### Specifications - Continuous Rating



Product Name Terminal Box Type	Output W (HP)	Voltage VAC	Frequency Hz	Current A
<b>5IK40VKEST-5H□S</b>	40 (1/19)	Three-Phase 220	50	0.27
			60	0.24
		Three-Phase 230	50	0.29
			60	0.24
		Three-Phase 240	50	0.30
			60	0.25

Gear Ratio		10	15	20	30	50	100	200
Speed [r/min]	50 Hz	150	100	75	50	30	15	7.5
	60 Hz	180	120	90	60	36	18	9
Rated Torque Upper Level: N·m Lower Level: lb·in	50 Hz	1.38 (12.2)	2.1 (18.5)	2.8 (24)	4.1 (36)	6.9 (61)	15.1 (133)	30.3 (260)
	60 Hz	1.15 (10.1)	1.73 (15.3)	2.3 (20)	3.5 (30)	5.8 (51)	12.7 (112)	25.3 (220)
Starting Torque Upper Level: N·m Lower Level: lb·in	50 Hz	2.0 (17.7)	3.0 (26)	4.0 (35)	6.0 (53)	10.0 (88)	22.0 (194)	44.0 (380)
	60 Hz	1.3 (11.5)	1.95 (17.2)	2.6 (23)	3.9 (34)	6.5 (57)	14.3 (126)	28.6 (250)
Permissible Load Inertia J Upper Level: $\times 10^{-4}$ kg·m <sup>2</sup> Lower Level: oz·in <sup>2</sup>		200 (1090)	450 (2500)	800 (4400)	1800 (9800)	5000 (27000)	20000 (109000)	80000 (440000)
	Instantaneous Stop	66.7 (360)	150 (820)	267 (1460)	600 (3300)	1667 (9100)	6667 (36000)	26667 (146000)
Permissible Radial Load Upper Level: N Lower Level: lb.*	10 mm (0.39 in.) from Installation Surface	415 (93)	554 (124)	692 (155)	923 (200)	1112 (250)	1196 (260)	1291 (290)
	20 mm (0.79 in.) from Installation Surface	363 (81)	484 (108)	605 (136)	806 (181)	971 (210)	1045 (230)	1127 (250)
Permissible Axial Load Upper Level: N Lower Level: lb.		108 (24)	147 (33)	186 (41)	245 (55)	294 (66)	324 (72)	343 (77)

● The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.

The actual speed is up to 20% less, depending on the load.

● No built-in overheat protection device (thermal protector).

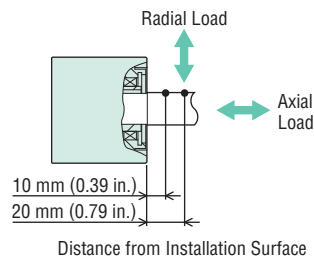
When there is an overload or the output shaft is locked, use the electromagnetic switch and the inverter's electronic thermal function to prevent motor burnout.

● Use an inverter setting frequency of 80 Hz or less (60 Hz or less with gear ratio 10) when driving in combination with the inverter.

#### Note

● Do not perform instantaneous bi-directional operations.

#### ◇ Load Position



### Product Line

#### ● Terminal Box Type

Product Name	Gear Ratio	List Price
<b>5IK40VKEST-5H□S</b>	<b>10, 15, 20</b>	457.00
	<b>30, 50, 100</b>	463.00
	<b>200</b>	465.00

### Included

Installation Screws	Parallel Key (Stainless)	Safety Cover	Operating Manual
1 set	1 piece	1 piece	1 copy

● A number indicating the gear ratio is entered where the box □ is located within the product name.

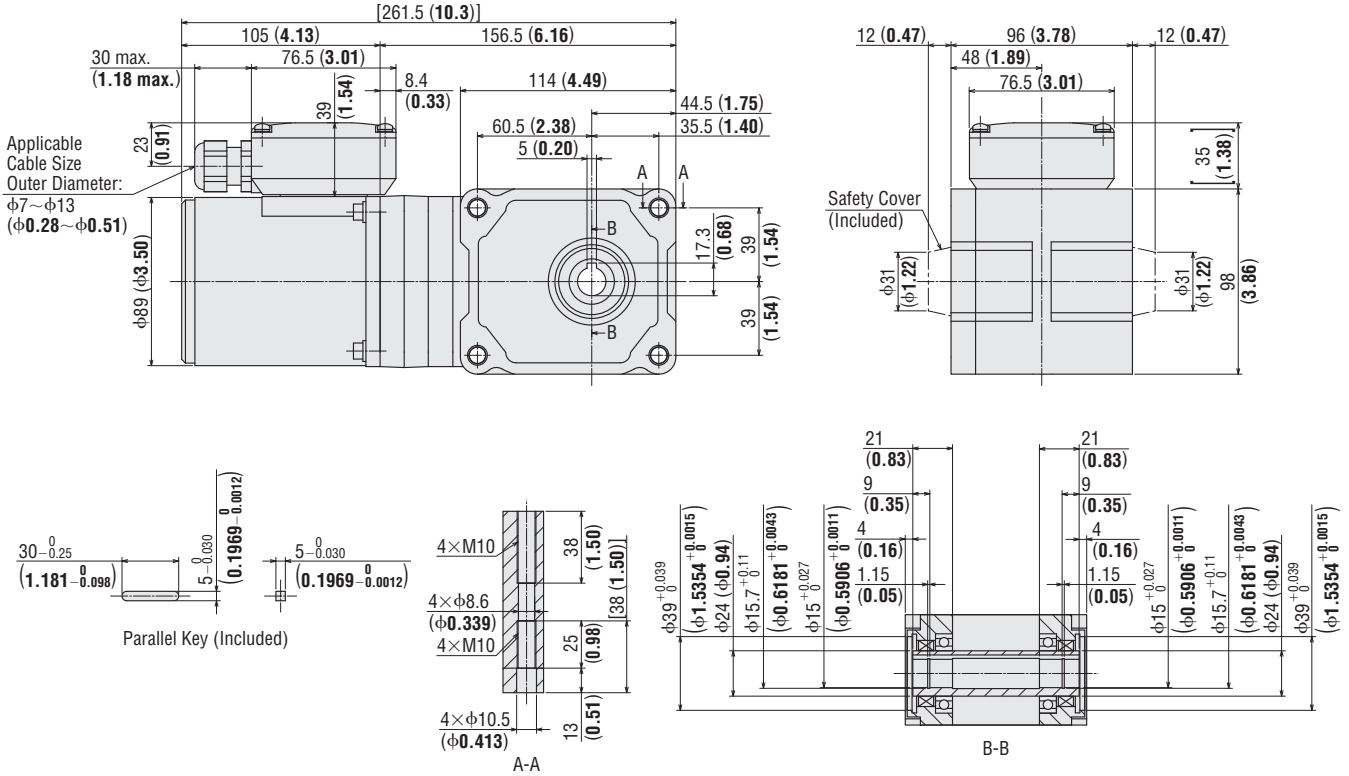
## Dimensions Unit: mm (in.)

- Installation screws are included.
- The terminal box cable outlet can be rotated and affixed in 4 possible directions.
- A number indicating the gear ratio is entered where the box □ is located within the product name.

### Terminal Box Type

2D & 3D CAD

Product Name	Motor Product Name	Gearhead Product Name	Mass kg (lb.)	2D CAD
5IK40VKEST-5H□S	5IK40VKEST	5H□S	5.2 (11.4)	A1674



## Induction Motors

# 100 W (1/8 HP)

□90 mm (□3.54 in.)

**KIIS Series Right-Angle Hollow Shaft Hypoid JH Gear  
Stainless Shaft**



Terminal Box Type

## Specifications - Continuous Rating



Product Name Terminal Box Type	Output W (HP)	Voltage VAC	Frequency Hz	Current A
<b>5IK100VKEST-5H□S</b>	100 (1/8)	Three-Phase 220	50	0.49
			60	0.46
		Three-Phase 230	50	0.49
			60	0.45

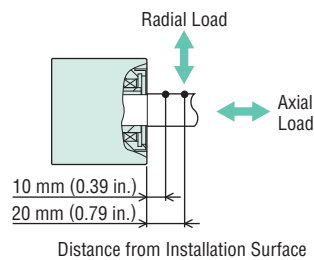
Gear Ratio		<b>10</b>	<b>15</b>	<b>20</b>	<b>30</b>	<b>50</b>	<b>100</b>	<b>200</b>
Speed [r/min]	50 Hz	150	100	75	50	30	15	7.5
	60 Hz	180	120	90	60	36	18	9
Rated Torque Upper Level: N·m Lower Level: lb·in	50 Hz	4.1 (36)	6.1 (53)	8.3 (73)	12.7 (112)	20.6 (182)	39.2 (340)	53.9 (470)
	60 Hz	4.1 (36)	6.1 (53)	8.2 (72)	12.4 (109)	20.6 (182)	39.2 (340)	53.9 (470)
Starting Torque Upper Level: N·m Lower Level: lb·in	50 Hz	4.1 (36)	6.1 (53)	8.3 (73)	12.7 (112)	20.6 (182)	39.2 (340)	53.9 (470)
	60 Hz							
Permissible Load Inertia J Upper Level: ×10 <sup>-4</sup> kg·m <sup>2</sup> Lower Level: oz·in <sup>2</sup>		200 (1090)	450 (2500)	800 (4400)	1800 (9800)	5000 (27000)	20000 (109000)	80000 (440000)
	Instantaneous Stop	66.7 (360)	150 (820)	267 (1460)	600 (3300)	1667 (9100)	6667 (36000)	26667 (146000)
Permissible Radial Load Upper Level: N Lower Level: lb.*	10 mm (0.39 in.) from Installation Surface	415 (93)	554 (124)	692 (155)	923 (200)	1112 (250)	1196 (260)	1291 (290)
	20 mm (0.79 in.) from Installation Surface	363 (81)	484 (108)	605 (136)	806 (181)	971 (210)	1045 (230)	1127 (250)
Permissible Axial Load Upper Level: N Lower Level: lb.		108 (24)	147 (33)	186 (41)	245 (55)	294 (66)	324 (72)	343 (77)

- The speed is calculated by dividing the motor's synchronous speed (50 Hz: 1500 r/min, 60 Hz: 1800 r/min) by the gear ratio.  
The actual speed is up to 20% less, depending on the load.
- No built-in overheat protection device (thermal protector).  
When there is an overload or the output shaft is locked, use the electromagnetic switch and the inverter's electronic thermal function to prevent motor burnout.
- Use an inverter setting frequency of 120 Hz or less when driving in combination with the inverter.

### Note

- Do not perform instantaneous bi-directional operations.

### ◇ Load Position



## Product Line

### ● Terminal Box Type

Product Name	Gear Ratio	List Price
<b>5IK100VKEST-5H□S</b>	<b>10, 15, 20</b>	472.00
	<b>30, 50, 100</b>	478.00
	<b>200</b>	480.00

## Included

Installation Screws	Parallel Key (Stainless)	Safety Cover	Operating Manual
1 set	1 piece	1 piece	1 copy

- A number indicating the gear ratio is entered where the box □ is located within the product name.

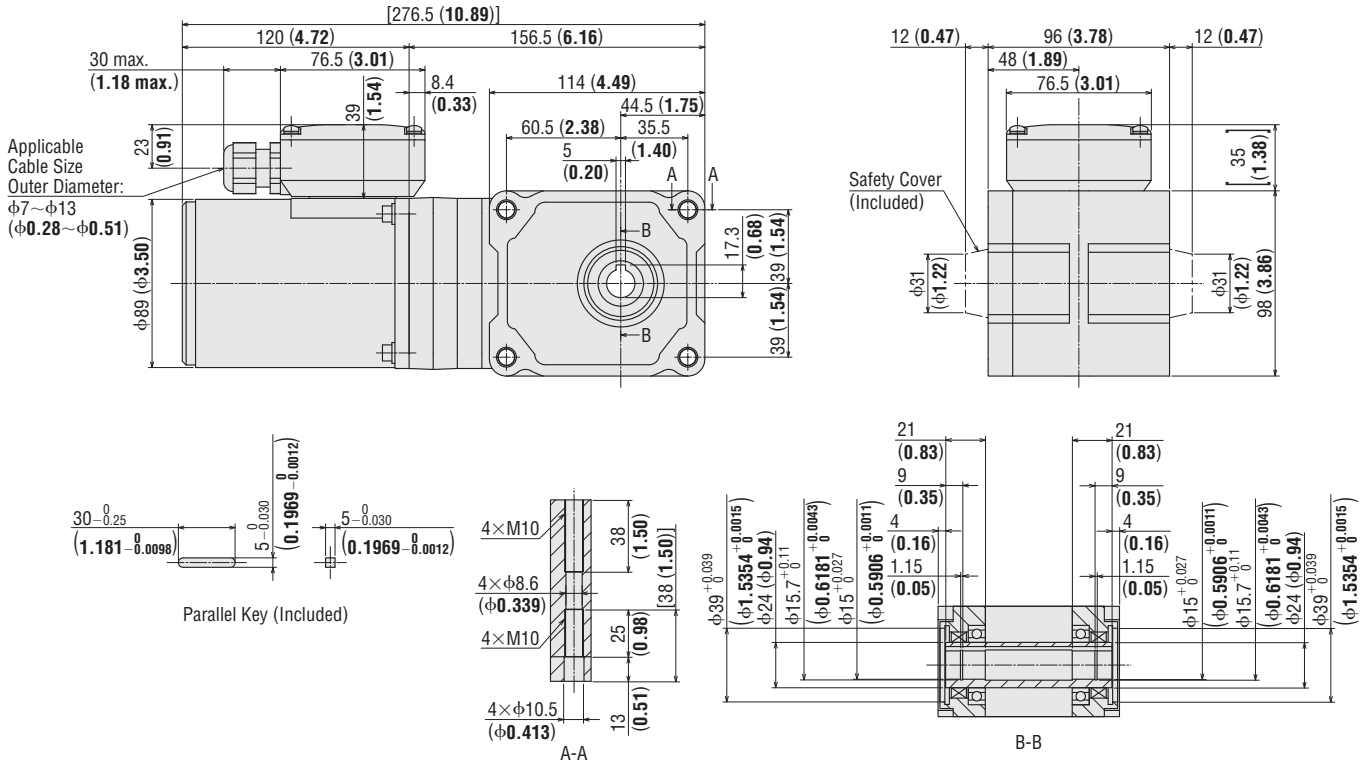
## Dimensions Unit: (mm)

- Installation screws are included.
- The terminal box cable outlet can be rotated and affixed in 4 possible directions.
- A number indicating the gear ratio is entered where the box □ is located within the product name.

### Terminal Box Type

2D & 3D CAD

Product Name	Motor Product Name	Gearhead Product Name	Mass kg (lb.)	2D CAD
5IK100VKES-5H□S	5IK100VKES	5H□S	6.0 (13.2)	A1675



## General Specifications

### Right-Angle Shaft Hollow Hypoid **JH** Gear

Item	Specifications
Insulation Resistance	100 MΩ or more when a 500 VDC megger is applied between the motor windings and the case after continuous operation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5 kVAC at 50 Hz or 60 Hz applied between the motor windings and the case for 1 minute after continuous operation under normal ambient temperature and humidity.
Temperature Rise	Temperature rise of windings is 80°C (176°F) or less measured by the resistance change method after rated load continuous operation under normal ambient temperature and humidity.
Thermal Class	130 (B)
Operating Ambient Temperature	0~+40°C (+32~+104°F) (Non-freezing)
Operating Ambient Humidity	85% or less (Non-condensing)
Degree of Protection	IP66*2

#### Note

- No built-in overheat protection device (thermal protector).

When there is an overload or the output shaft is locked, use the electromagnetic switch and the inverter's electronic thermal function to prevent motor burnout.

### Parallel Shaft Gearhead **GV** Gear, Round Shaft Type

Item	Specifications
Insulation Resistance	100 MΩ or more when a 500 VDC megger is applied between the motor windings and the case after continuous operation under normal ambient temperature and humidity.
Dielectric Strength	Sufficient to withstand 1.5 kVAC at 50 Hz or 60 Hz applied between the motor windings and the case for 1 minute after continuous operation under normal ambient temperature and humidity.
Temperature Rise	A gearhead or equivalent heat sink*1 is connected to the motor, and the winding temperature rise is measured at 80°C (176°F) or less using the resistance change method after 30 minutes continuous operation with no load under normal ambient temperature and humidity.
Thermal Class	130 (B)
Operating Ambient Temperature	-10°~+40°C (+32~+104°F) (Non-freezing)
Operating Ambient Humidity	85% or less (Non-condensing)
Degree of Protection	Terminal Box Type: IP66 *2 (Excluding the installation surface of the round shaft type.) Lead Wire Type: IP20 Cable Type: IP40

\*1 Heat sink size (Material: Aluminum)

Motor Type	Size: mm (in.)	Thickness: mm (in.)
30 W Type	135×135 (5.31×5.31)	5 (0.20)
40 W Type	165×165 (6.50×6.50)	
60 W Type	200×200 (7.87×7.87)	
100 W Type		

\*2 Materials and Surface Treatments

Terminal Box Type: IP66

Type		Output	Materials	Surface Treatment
Stainless Shaft	Right-Angle Shaft Hollow Hypoid <b>JH</b> Gear	30 W (1/25 HP), 40 W (1/19 HP), 100 W (1/8 HP)	Motor case, gear case and terminal box: Aluminum Output shaft: Stainless steel Screws: Stainless steel (externally facing screws only)	Motor case, gear case and terminal box: Painted (excluding installation surface)
	Parallel Shaft Gearheads, <b>GV</b> Gear, Round Shaft	30 W (1/25 HP), 40 W (1/19 HP), 60 W (1/12 HP), 100 W (1/8 HP)	Motor case, gear case and terminal box: Aluminum Output shaft: SUS303 Screws: Stainless steel (externally facing screws only)	Motor case, gear case and terminal box: Painted (excluding installation surface)
Type		Output	Materials	Surface Treatment
Parallel Shaft Gearheads <b>GV</b> Gear, Round Shaft		60 W (1/12 HP), 100 W (1/8 HP)	Motor case, gear case and terminal box: Aluminum Output shaft: S45C Screws: Stainless steel (externally facing screws only)	Motor case, gear case, terminal box: Painted (excluding installation surface)

#### Note

- No built-in overheat protection device (thermal protector).

When there is an overload or the output shaft is locked, use the electromagnetic switch and the inverter's electronic thermal function to prevent motor burnout.

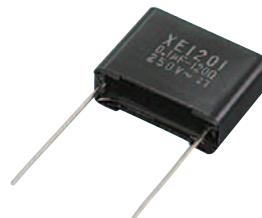
## CR Circuit for Surge Suppression

This product is used to protect the contacts of the relay or switch used in the forward/reverse circuit section or the instantaneous stop circuit section of a motor.

### Product Line

Product Name	List Price
<b>EPCR1201-2</b>	\$5.00

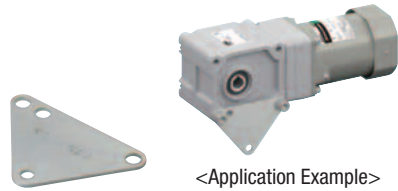
250 VAC (120 Ω, 0.1 μF)



# Peripheral Equipment (Sold separately)

## Torque Arms

A torque arm acts as an anti-spin mechanism when a right-angle shaft, hollow hypoid **JH** gear is installed to prevent gearheads from rotating due to reactive force from shafts being driven.



TAF2S-15-NS

<Application Example>

## Product Line

Product Name	Applicable Product	Major	List Price
TAF2S-12-NS	4IK25K-4H□B, 4IK30VK-T-4H□S	Material: SS400 Surface treatment: Trivalent chromate	24.00
TAF2S-15-NS	5IK40K-5H□B, 5IK40VK-T-5H□S 5IK60K-5H□B 5IK90K-5H□B, 5IK100VK-T-5H□S		25.00

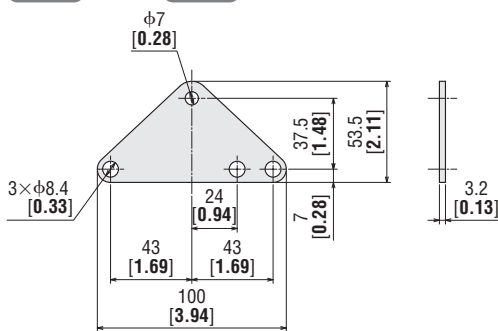
● A symbol indicating the power supply voltage (**KII** Series: **ES** **KI** Series: **JC**) is specified where the box  $\blacksquare$  is located in the applicable product.  
A number indicating the gear ratio is specified where the box  $\square$  is located in the applicable product.

## Dimensions Unit = mm (in)

### ◇ TAF2S-12-NS

Mass: 75 g (2.65 oz)

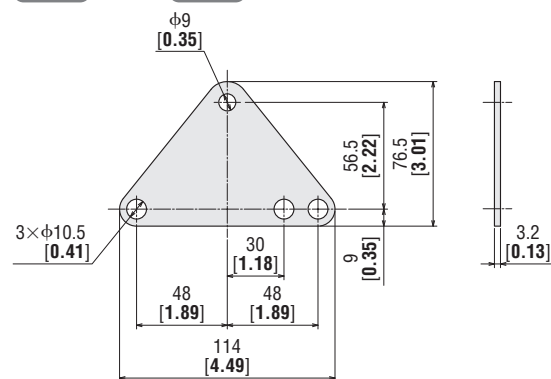
2D CAD A1608 3D CAD



### ◇ TAF2S-15-NS

Mass: 125 g (4.4 oz)

2D CAD A1609 3D CAD



Specifications are subject to change without notice. This catalog was published in June, 2019.

# ORIENTAL MOTOR U.S.A. CORP.

## Western Sales and Customer Service Center

Tel: (310) 715-3301 Fax: (310) 225-2594

### Los Angeles

Tel: (310) 715-3301

### San Jose

Tel: (408) 392-9735

### Seattle

Tel: (425) 214-7559

## Midwest Sales and Customer Service Center

Tel: (847) 871-5900 Fax: (847) 472-2623

### Chicago

Tel: (847) 871-5900

### Detroit

Tel: (734) 808-0003

### Dallas

Tel: (214) 432-3386

### Toronto

Tel: (905) 502-5333

## Eastern Sales and Customer Service Center

Tel: (781) 848-2426 Fax: (781) 848-2617

### Boston

Tel: (781) 848-2426

### Charlotte

Tel: (704) 766-1335

### New York

Tel: (973) 359-1100

### Philadelphia

Tel: (610) 605-3103

### Tampa

Tel: (813) 402-4439

## Technical Support

Tel: (800) 468-3982 / 8:30 A.M. to 5:00 P.M., P.S.T. (M-F)  
7:30 A.M. to 5:00 P.M., C.S.T. (M-F)

E-mail: [techsupport@orientalmotor.com](mailto:techsupport@orientalmotor.com)

Obtain Specifications, Online Training  
and Purchase Products at:  
[www.orientalmotor.com](http://www.orientalmotor.com)

Copyright ©2018 ORIENTAL MOTOR U.S.A. CORP.

This printed material uses ECF (Elemental Chlorine Free) paper and vegetable oil based inks. This combination is environmentally friendly.

Printed in USA 19T 1K 0.77 #528