## General Information

| Safety Standards ................................ G-2 | 0 0 0 0 0 0 0 0 0 0 |
| :---: | :---: |
| List of Safety Standard Approved Products ..... G-10 |  |
| ISO9001/ISO14001 ............................... G-26 |  |
| Global Power Supply Voltages ........... G-27 |  |
| Product Line Updates ....................... G-28 |  |
| Product Index ................................... G-31 |  |
| Oriental Motor Corporate Overview .... G-59 |  |
| Oriental Motor Global Sales Network .... G-60 |  |
| Product Recommendation Information Sheets .. G-61 |  |
| Conversion Charts ............................ G-67 |  |
|  |  |

## Safety Standards

The safety of the component parts is an important consideration in equipment design. However, a part-by-part analysis of component quality and design is too time consuming for design and quality personnel. To get around this problem, safety standards have been designed to assure component safety. The following section describes the safety standards with which Oriental Motor is concerned.

## Safety Standards

## - UL Standards (United States)



UL, or Underwriters Laboratories Inc., is a non-profit testing organization that was founded in 1894 by a group of American fire insurance companies. life and damage to property from fires and other hazards by ensuring that machinery, tools and materials were safe. To this end, UL developed a variety of tests and research methods for machinery, tools and materials, which resulted in the compilation of the UL standards. These standards are used for common items such as electronic equipment, motor-powered devices and electronic parts. The most important aspect to the UL standards for a manufacturer is that legal provisions in many American states require that such products must have passed the relevant UL safety tests and be listed in the UL Directory before being offered for sale. Although some states do not explicitly require UL-listing by law, there are cases where insurers refuse to cover the risk of fire or damage caused by a product that is not UL-listed. This is almost equivalent to the legal sales restrictions in the other states, and under such circumstances the customer will obviously only purchase items that are UL-listed. For a product that is to be sold in the United States, recognition or listing by UL is recommended.

Also, UL has been accredited as a verification agency by the Standards Council of Canada (SCC) and is recognized by all Canadian provinces. Therefore, it is possible to have testing for Canadian safety standards performed at UL. Products that are recognized as conforming with Canadian safety standards can display the c-UL mark, and their sale and use is permitted in Canada.

## - CSA Standards (Canada)



CSA stands for "Canadian Standards Association", a private, non-profit testing organization established after an inquiry by the Canadian government. To protect human life and property from fire hazard and accidents, provincial laws in Canada forbid the sale and use
of any electrical machinery, electrical parts, and so on, unless its safety has been confirmed by CSA. For this purpose, CSA has established standards detailing mandatory tests and requirements to ascertain component safety.

Also, the CSA has been accredited by the United States Occupational Safety and Health Administration (OSHA) as a national research and testing laboratory (NRTL) and is now able to undertake testing under American safety standards. Products that are recognized as conforming with American safety standards may display the CSA mark with NRTL added, and their sale and use is permitted in the United States.

## - EN Standards (EU member states)

The European Union continues to
 coordinate the industrial and safety standards of individual member states under the aegis of the Council of European Standardization (CEN) and the Council of European Electrical Standardization (CENELEC). The unified standards for all of Europe are called the Harmonized Standards. The numbers for Harmonized Standards all begin with an "EN". EN standards apply to the design and manufacture of products exported to the EU area. (IEC and VDE standards apply when an EN standard has not yet been enacted.)

Certification is given by private inspection organizations such as TÜV Rheinland, VDE and DEMKO. Qualifying products may display the various safety marks.

- Electrical Appliance and Material Safety Law


Effective April 1, 2002, Japan's Electrical Appliance and Material Control Law was revised and renamed the "Electrical Appliance and Material Safety Law". The purpose of the new law is to prevent the occurrence of danger and trouble resulting from electrical appliances and materials by regulating the manufacture, sale and other activities involving electrical appliances and materials, while promoting the voluntary efforts of private businesses in order to ensure their safety. Accordingly, the authorizations (tests) and other safety checks, which under the old law were conducted directly by the government, have become the responsibility of the manufacturers, etc., which must now ensure the safety of their own products through the introduction of a third-party certification system. The Electrical Appliance and Material

Safety Law applies to the electrical appliances and materials generally used in homes, offices, etc. They are classified into two categories- "special electrical appliances and materials" and "products other than special electrical appliances and materials" -according to the level of danger they present. Special electrical appliances and materials are subject to compliance tests and the retention of compliance certificates performed/issued by the Japan Electrical Safety \& Environment Technology Laboratories (JET) or other test laboratory certified (or approved) by the Ministry of Economy, Trade and Industry, and must also bear the diamond-shape PSE mark. Products other than special electrical appliances and materials must comply with the relevant technical standards and bear the circular PSE mark.

## Standards for Motors and Fans

The following is a listing of the standards pertaining to electrical motors and fans.

## - UL Standards

- UL1004: Electric Motors

Establishes general requirements for all types of electrical motors.

- UL2111: Overheating Protection for Motors

Establishes requirements for overheating protection for motors. Previously, requirements for impedance protected motors were established under UL519 while requirements for thermal protectors for motors were established under UL547. UL2111 was published on March 28, 1997, combining UL519 and UL547, and partially harmonizing C22.2 No. 77 (Motors with Inherent Overheating Protection) under the CSA standards.

- UL507: Electric Fans

Establishes general requirements for electrical fans and blowers that have an input voltage of 600 V or lower. Note that motor parts of fans and blowers must also comply with requirements of UL2111 and UL1004.

- UL60950-1 (=IEC60950-1):

Safety of Information Technology Equipment
This standard covers information technology equipment, including electrical business equipment.s

## - CSA Standards

- C22.2 No.100: Motors and Generators Establishes general requirements for motors.
- C22.2 No.77: Motors with Inherent Overheating Protection
Establishes special requirements for motors with inherent overheating protection that supplement those of C22.2 No. 100.
- C22.2 No.60950-1:


## Safety of Information Technology Equipment

This standard covers information technology equipment, including electrical business equipment.

- C22.2 No.113: Fans and Ventilators Establishes general requirements for fans.


## - EN Standards

VDE, TÜV and DEMKO approved motors and fans are evaluated in accordance with the items required for motors under the following standards. Forty-eight hour humidity experiments are conducted in addition to experiments with motor and fan characteristics.

## - EN60034 (= IEC60034, DIN VDE0530) Rotating Electrical Machines <br> Stipulates general requirements for motors. <br> - EN60950-1 (= IEC60950-1) <br> Safety of Information Technology Equipment <br> This standard covers information technology equipment, including electrical business equipment.

## - IEC Standards

Shown below are two standards for motors and fans under the IEC standards.

## - IEC60034 (=DIN VDE0530)

Rotating Electrical Machines
Establishes general requirements for motors. There are over 20 parts, and IEC60034 covers some parts which are not yet published by EN60034.

- IEC60664 (=DIN VDE0110)

Insulation Coordination for Equipment within Low-Voltage-Systems
Stipulates insulation distances for motors.

## Standards for Control Circuits

## - UL Standards

- UL508: Industrial Control Equipment

This standard covers industrial control devices used to start, stop, regulate, control, or protect motors. This standard covers speed control packs.

- UL508C: Power Conversion Equipment

This standard covers equipment used to supply power to control motors activated by a frequency or voltage which is different than the input supply voltage. This standard covers drivers.

- UL1917: Solid-State Fan Speed Controls

These are standards for control of single-phase 300V max variable speed fans.

- UL60950-1 (=IEC60950-1) Safety of Information Technology Equipment
This standard covers information technology equipment, including electrical business equipment.


## - CSA Standards

- C22.2 No.14: Industrial Control Equipment

This standard covers industrial control equipment used to start, stop, regulate, control or protect motors. This standard covers speed control packs and drivers.

- C22.2 No.113: Fans and Ventilators

Establishes general requirements for fans.

## - EN and Other Standards

The speed control packs and drivers approved by VDE, TÜV and DEMKO conform to the following standards.

- EN60950-1 (=IEC60950-1)


## Safety of Information Technology Equipment

This standard covers information technology equipment, including electrical business equipment.

- EN50178 (Overvoltage test, EMC excluded) Electric equipment for use in power installations General regulation of electronic equipment that can be used in power facilities.
- DIN VDE0160 (Overvoltage test, EMC excluded) Electric equipment use in electrical power installations and assembly into electrical power installations
This standard covers electric equipment use in electrical power installations and assembly into electrical power installations.
JIS: Japanese Industrial Standards National standards for Japanese mining and manufacturing industries.
IEC: International Electrotechnical Commission The IEC promotes unification and coordination of international standards on electrical and electronic equipment. IEC standards are issued with the ultimate goal of having individual countries reflect international standards within their own standards.
DIN: Deutsches Institute für Normung e. V.
The German standards association. It's standards range from basic to wide-ranging standards that cover all industrial fields.
VDE: Verband Deutscher Elektrotechniker e. V. This German association of electrical engineers enacts safety standards for electricity that are issued as DIN-VDE standards.


## Safety Considerations and Tests

A comparison of the items evaluated by various testing agency reveals that there are a few points of particular concern for motors and fans.

## - Construction

- Devices to Prevent Overheating

UL, CSA, EN and IEC standards require that any equipment using a motor also possess a device to protect the motor from overheating which can be caused by overload, intentional or unintentional locking of the rotor, etc. All Oriental Motor approved products include impedance protection or thermal protectors in the motor (brushless DC motors excluded).

## - Insulation Materials

Oriental Motor's motors and fans have class E insulation (World K Series, V Series, and BH Series have class B insulation). The insulation class indicates the division of heat-resistant grades, and is specified as shown in the table below by JIS C4003 (IEC60085).
Also, the insulation is certified as class E by EN/IEC standards (World K Series, V Series, and BH Series are class B) but recognized as class A by UL and CSA standards (World K Series, V Series, and BH Series are class B).
Table 1: Insulation Class and Temperature

| Insulation Class | Maximum Temperature |
| :---: | :---: |
| Class Y | $194^{\circ} \mathrm{F}\left(90^{\circ} \mathrm{C}\right)$ |
| Class A | $221^{\circ} \mathrm{F}\left(105^{\circ} \mathrm{C}\right)$ |
| Class E | $248^{\circ} \mathrm{F}\left(120^{\circ} \mathrm{C}\right)$ |
| Class B | $266^{\circ} \mathrm{F}\left(130^{\circ} \mathrm{C}\right)$ |
| Class F | $311^{\circ} \mathrm{F}\left(155^{\circ} \mathrm{C}\right)$ |
| Class H | $356^{\circ} \mathrm{F}\left(180^{\circ} \mathrm{C}\right)$ |


| Table 2: Insulation Materials |  |
| :--- | :--- |
| Safety Standard | Insulation Materials |
| Japanese Safety <br> Standards <br> for Electrical Equipment <br> (Fans) | Insulation materials that are registered or temporarily <br> registered with the Japan Electrical Equipment <br> Laboratory, the material experiment organization for <br> the Japanese Safety Standard for Electrical <br> Equipment, and have been assigned a heat resistance <br> grade of class E [248 $\left.{ }^{\circ} \mathrm{F}\left(120^{\circ} \mathrm{C}\right)\right]$ are used. |
| $\left.\begin{array}{l}\text { UL Standards } \\ \text { CSA Standards }\end{array} \quad \begin{array}{c}\text { Motors } \\ \text { Fans }\end{array}\right)$ | All grommets, lead wires and some slot insulations <br> are approved products while all other insulation <br> materials satisfy UL and CSA standard requirements. |
| EN Standards <br> IEC Standards (Motors | The insulation materials satisfy EN and IEC standard <br> requirements. |

## Minimum Spacing Between Live Materials

To prevent accidents caused by short circuits between live materials or between live materials and user-accessible materials (normally not live materials), minimum spacing distances between such materials have been defined. All Oriental Motor products comply with the relevant requirements.

## - Degree of Protection

IEC60529 and EN60034-5 (=IEC60034-5) classify the dust-resistance and waterproofing into grades. The test methods are shown below. A third-party certification body has certified that Oriental Motor's watertight motor FPW Series confirms to IP67.
Example IP67

> ingress of water Second number: Degree of protection against number: Degree of protection against access to hazardous parts and solid foreign objects
$A n$ " $X$ " is used when one of the two protection classes is not specified in the name (e.g., IPX5 or IP4X).

Table 3: Meanings of Markings and Testing Conditions

| IP Code | Degree of protection against access to hazardous parts and against solid foreign objects |  |
| :---: | :---: | :---: |
| First Number | Description | Definition and Test Conditions |
| IPOX | None | None |
| IP1X | Protection against approach by hands | Cannot be penetrated by a solid object $1.97 \mathrm{in} .(50 \mathrm{~mm})$ or more in diameter. |
| IP2X | Protection against approach by fingers | Cannot be penetrated by a solid object 0.79 in. ( 12 mm ) or more in diameter. |
| IP3X | Protection against tips of tools, etc. | Cannot be penetrated by a solid object 0.09 in . ( 2.5 mm ) or more in diameter. |
| IP4X | Protection against wire, etc. | Cannot be penetrated by a solid object 0.04 in . ( 1.0 mm ) or more in diameter. |
| IP5X | Protection against dust | Cannot be penetrated by dust that could interfere with normal operation. |
| IP6X | Completely dust-proof design | Cannot be penetrated by dust |
| IP Code | Degree of protection against ingress of water |  |
| Second <br> Number | Description | Definition and Test Conditions |
| IPX0 | None | None |
| IPX1 | Protection against water drops falling vertically. | Water drops falling at a rate of 3 to $5 \mathrm{~mm} / \mathrm{min}$. from a height of 7.87 in . $(200 \mathrm{~mm})$ for 10 minutes. |
| IPX2 | Protection against water drops falling vertically over a $15^{\circ}$ range. | Water drops falling over a $15^{\circ}$ range at a rate of 3 to $5 \mathrm{~mm} / \mathrm{min}$.from a height of 7.87 in . $(200 \mathrm{~mm})$ for 10 minutes. |
| IPX3 | Protection against water drops falling vertically over a $60^{\circ}$ range. | Water drops falling over a $60^{\circ}$ range at a rate of $10 \mathrm{l} / \mathrm{min}$. from a height of 7.87 in . $(200 \mathrm{~mm}$ ) for 10 minutes. |
| IPX4 | Protection from spray of water from all directions. | Water sprayed from all directions from a distance of $11.81 \mathrm{in} .(300 \mathrm{~mm})$ to 11.69 in . $(500 \mathrm{~mm})$ at a rate of $10 \mathrm{l} / \mathrm{min}$. for 10 minutes. |
| IPX5 | Protection against jets of water from all directions. | Jets of water sprayed from a distance of 9.84 ft . ( 3 m ) from all directions at a rate of $12.5 \mathrm{l} / \mathrm{min}$. at a pressure of 30 kPa for 3 minutes. |
| IPX6 | Protection against strong wave-like jets of water. | Jets of water sprayed from a distance of 9.84 ft . ( 3 m ) from all directions at a rate of $100 \mathrm{l} / \mathrm{min}$. at a pressure of 100 kPa for 3 minutes. |
| IPX7 | Usable after immersion in water under fixed conditions. | Immersion to a depth of 3.3 ft . ( 1 m ) for 30 minutes. |
| IPX8 | Usable under water | Determined through cooperation between user and manufacturer. |

## - Capacitor

Capacitors, supplied with single-phase AC motors and fans, are approved separately from the motor or fan.

## - Motor Fan Protective Gear (Finger Guards)

When a fan is used in a device, measures must be taken to protect people from harm.

Oriental Motor finger guards are designed to pass all tests stipulated under the UL Standards, CSA Standards and Japanese Safety Standards for Electrical Equipment when used on a compatible product.
(Protective gear cannot be certified as stand-alone equipment, since it is used when installed on another product as an accessory.)

## $\checkmark$ Plug Cord for Connecting Power Supply

The optional plug cord that can be used with the MU Series of fans is recognized by UL (unlisted component) and certified by CSA. Also PCA2B is certified by JET.

- Performance
- Temperature Test

| Test Item | Standard |
| :--- | :--- |
| Overload operation test for <br> thermal-protected motor | Winding temperature is $284^{\circ} \mathrm{F}\left(140^{\circ} \mathrm{C}\right) / 329^{\circ} \mathrm{F}\left(165^{\circ} \mathrm{C}\right)$ or less when temperature is stabilized and the thermal protector does not work <br> with applying maximum load. |
| Locked-rotor temperature <br> rise test for impedance- <br> protected motor | Winding temperature is $302^{\circ} \mathrm{F}\left(150^{\circ} \mathrm{C}\right) / 347^{\circ} \mathrm{F}\left(175^{\circ} \mathrm{C}\right)$ or less when a 72 -hour locked-rotor test is performed at a test voltage of 120 V or <br> 240 V (when rated voltages are 115 V or 230 V$)$ with rated capacitor connected, rotor locked or capacitor short-circuited. No <br> deterioration on insulation material of the windings after above test. |
| Locked-rotor temperature <br> rise test for thermally- <br> protected motor | Winding temperature is in the following range when 72 -hour locked-rotor test is performed at a test voltage of 115 V or $240 \mathrm{~V}($ when <br> rated voltages are 115 V or 230 V$)$ with rated capacitor connected. <br> - Maximum temperature in first hour is $392^{\circ} \mathrm{F}\left(200^{\circ} \mathrm{C}\right) / 437^{\circ} \mathrm{F}\left(225^{\circ} \mathrm{C}\right)$ or less. <br> - Maximum temperature after one hour is $347^{\circ} \mathrm{F}\left(175^{\circ} \mathrm{C}\right) / 392^{\circ} \mathrm{F}\left(200^{\circ} \mathrm{C}\right)$ or less. <br> - Calculated average value of maximum temperature and minimum temperature after one hour is $302^{\circ} \mathrm{F}\left(150^{\circ} \mathrm{C}\right) / 347^{\circ}\left(175^{\circ} \mathrm{C}\right)$ or less. |

- For winding temperature rise, Oriental Motor products are designed to meet the UL standard and CSA standard for Class A insulation. The insulation material is also a Class E heat-resistant grade under the Electrical Appliance and Material Safety Law (World $\mathbf{K}$ Series, V Series and BH Series are Class B).
- The following are tested by the Electrical Appliance and Material Safety Law: Rated operation: The constant winding temperature reached for rated operation must be no greater than $239^{\circ} \mathrm{F}\left(115^{\circ} \mathrm{C}\right)$. Rotor constraint protection performance: When the test piece is placed on a wooden table at least 10 mm thick and covered with gauze, and the constraint test is run at rated frequency and rated voltage until the temperature stabilizes, the test piece, wooden table and gauze must not burn and the insulation resistance at 500 V must be $0.1 \mathrm{M} \Omega \mathrm{min}$.
- Temperature tests are stipulated in the EN and IEC standards (Class E insulation. World $\mathbf{K}$ Series, $\mathbf{V}$ Series and $\mathbf{B H}$ Series are Class B). Oriental Motor products have all been certified to perform normally in these tests.


## - Endurance Test

| Test Item | UL2111, CSA C22.2 No.77 |
| :--- | :--- |
| Endurance test for <br> impedance-protected motor | No deterioration on insulation material of windings when continuing the locked-rotor test for another 15 days after the aforementioned <br> 72 -hour locked-rotor test for a total of 18 days. (UL60950 required another 12 days, total 15 days locked-rotor test) <br> a) No deterioration on insulation material of windings. <br> b) The fuse in the grounding conductor shall not open. <br> c) The motor shall still electrically operate. |
| Endurance test for thermal- <br> protected motor | No deterioration on insulation material of windings when continuing the locked-rotor test for another 15 days after the aforementioned <br> 72-hour locked-rotor test for a total of 18 days. <br> a) No deterioration on insulation material of windings. <br> b) The fuse in the grounding conductor shall not open. <br> c) The motor shall still electrically operate. |

- The UL and CSA standards cover the endurance tests as noted above. These rules were established to prevent motors and fans from burn-out when they are locked.
- All Oriental Motor approved products passed these tests. Our approved fans employ high-grade (V-0) non-flammable resins for the fan blades.
- Temperature tests are stipulated in the EN and IEC standards (Grade E insulation). Oriental Motor products have all been certified to perform normally in these tests.


## $\checkmark$ Dielectric Voltage - Withstand Test

All motors and fans are sufficient to withstand this test, which is carried out by applying the voltage listed in the table below between the motor case and lead wires, without insulation breakdown.

| Test Item | Standard | Electrical Appliance and Material Safety Law | UL Standard |
| :---: | :---: | :---: | :---: |

- The EN and IEC standards stipulate 1500 V for 1 minute.


## Evidence of Product Approval

## - Approved Mark

The following marks are indicated on the nameplates of approved products.

- Japanese Safety Standards
for Electrical Equipment Certified
by Japan Electrical Safety \& Environment
Technology Laboratories $\qquad$

- UL recognized component $\qquad$
- Recognized to Canadian safety requirements under the component Recognition Program of Underwriters Laboratories Inc. c
- Recognized to Canadian Safety requirements and UL under the component Recognition Program of Underwriters Laboratories Inc.
- CSA certified component

- EN and IEC certified component (indicates that VDE, TÜV Rheinland or DEMKO has certified that the product meets EN or IEC standards.) $\qquad$



## Factory Inspection

Even after a product has been recognized or certified, UL and CSA inspectors verify continued compliance of products and manufacturing process with the relevant standards by regular visits to the factory.

| UL: | Four times a year | VDE: Once a year |
| :--- | :--- | :--- |
| CSA: | Twice a year | DEMKO: Once a year |
| TÜV: | Once a year | JET: Once a year |

## - Overheating Protection Devices

Overheating may be caused by overload, no load or extremely small load, intentional or unintentional locking of the rotor, or use in very high ambient temperatures. This results in a drastic shortening of the life of the insulation system or, in extreme cases, fire. To prevent degeneration of the insulation materials and burning out the windings as a result of overheating or rotor locking, Oriental Motor products approved by UL, CSA, EN and IEC standards are equipped with the following overheat protection devices.

## - Thermally Protected Motors

AC motors with a frame size of 2.76 in . sq. ( 70 mm sq .), 3.15 in. sq. ( 80 mm sq .), and 3.54 in . sq. ( 90 mm sq .), and AC fans MRS Series, MB Series [impeller dia. 3.15 in . ( $\phi 80 \mathrm{~mm}$ ) or larger], and MF Series contain a built-in automatic reset thermal protector. The construction of a thermal protector is shown in the following figure.


The thermal protectors employ a bimetal contact, using pure silver. Pure silver has the lowest electrical resistance of all materials and has thermal conductivity second only to copper.

## - Operating temperature of thermal protector

Open: $248^{\circ} \mathrm{F} \pm 9^{\circ} \mathrm{F}\left(120^{\circ} \mathrm{C} \pm 5^{\circ} \mathrm{C}\right)$ or $266^{\circ} \mathrm{F} \pm 9^{\circ} \mathrm{F}\left(130^{\circ} \mathrm{C} \pm 5^{\circ} \mathrm{C}\right)$

Close: $170.6^{\circ} \mathrm{F} \pm 59^{\circ} \mathrm{F}\left(77^{\circ} \mathrm{C} \pm 15^{\circ} \mathrm{C}\right)$ or $179.6^{\circ} \mathrm{F} \pm 59^{\circ} \mathrm{F}\left(82^{\circ} \mathrm{C} \pm 15^{\circ} \mathrm{C}\right)$
Motor winding temperature where the thermal protector is working is slightly higher than the operating temperature listed above.

## - Impedance Protected Motors and Fans

Impedance protection is used in AC motors with frame sizes smaller than 2.36 in . sq. ( 60 mm sq ), and AC fans MU Series, MB Series [impeller $\phi 2.36 \mathrm{in}$. $(\phi 60 \mathrm{~mm}$ ) or smaller], and the SMK Series. Impedance protected motors are designed with higher impedance in the motor windings so that even if the motor locks, the increase in current (input) is reduced and temperature does not rise beyond a certain constant level.

## - Brushless DC Motors

The motor and driver are equipped with overloading and overheating protection features to control temperature rises by cutting off the input current from the driver to the motor when a malfunction occurs.

## - Stepping Motors

Stepping motors are designed with impedance protection in case they are stopped with five-phase excitation (with the rated current flowing).

## DC Fans

These fans include solid state control circuitry that incorporates a limiting, current shut-down circuit, which controls the fan during locked rotor conditions.

## CE Marking

To distribute equipment within the European Union, the CE marking is mandatory for certifying that the equipment complies with EC Directives (safety).
To obtain a ruling that the equipment satisfies the required items of each directive, the manufacturer must usually verify that the equipment complies with the EN standards applicable to the EC Directives or, if not available, with the IEC standards. The manufacturer then composes a declaration stating compliance with the directives and applies the CE marking.
(However, depending on the risk of danger, formal testing by an approving authority may be required and the selfcomposed declaration is then issued after receiving proof of formal testing.)
Products with a declaration of voluntary compliance have the following mark either on the nameplate or on the package label.

## C

The major scope of compliance and period of obligation are as follows:

## Machinery directives: 98/37/EC

Applicable to equipment with moving parts that could cause human injury. (Mandatory as of 1 January 1995) 89/392/EEC, 91/368/EEC, 93/44/EEC have been newly issued as 98/37/EC.
EMC directives: 89/336/EEC, 92/31/EEC
Applicable to equipment that could cause electromagnetic interference (EMI) and equipment that could be affected by electromagnetic interference (EMS). (Mandatory as of 1 January 1996)

## Low voltage directive: 73/23/EEC

Applicable to equipment used with 50-1000 VAC or 751500 VDC. (Mandatory as of 1 January 1997)

## - The Advantages of Approved Components

Under EC Directives, not all components in a device or piece of equipment have to be approved. However, when nonapproved components are used, the manufacturer of the equipment must evaluate and verify the safety of the component itself. If approved components are used, the manufacturer has the advantage of the benefits listed below:

1) Simplified component safety evaluation
2) Simplified documentation and testing when lodging equipment standards applications with an approving authority

## - Oriental Motor's Approach to CE Marking

To ensure that the company's products comply with the low voltage directives, we have issued a declaration of voluntary compliance with the standards imposed by the approving authorities within the EU (or a declaration of voluntary compliance based on EN standard).
Our view is that the EMC Directives do not directly pertain to our products themselves since all of Oriental Motor sales are to equipment manufacturers. The controllers used in the
company's products and equipment, as well as equipment as a whole, including electrical components, are subject to the EMC Directives. Additionally, since the properties of equipment in relation to EMC Directives will vary depending upon the controller, electrical component configuration, wiring, general configuration and level of danger, clients should verify compliance with EMC Directives themselves. When a client is using our products in other equipment, Oriental Motor will provide methods such as adequately efficient filters and ferrite cores required by EMC measures. AC motors and AC fans are outside the range of applicability of EMC Directives because it has been judged both theoretically and experimentally that there is no influence on emissions or immunity. Also, DC fans that function alone conform to EMC Directives.

## - Compliance (1)

Oriental Motor's products have received the following VDE, TÜV Rheinland and DEMKO approval.
For the recognized or certified model name, see the list starting on page G-10.

* Refer to page G-2 for the details of applicable standards of Oriental Motor's recognized or certified products. Clients should inquire at their local Oriental Motor sales office when a copy of the company's product approval or declaration of voluntary compliance with the low voltage directives is required for lodging an application with approving authorities.


## - Installation Conditions (2)

The following installation conditions must be rigidly adhered to in order to ensure that products are used with greater safety.

Over voltage: Category $\mathbb{I}$ (For AC input products)* Pollution Degree: Class 2 (Products with the protection class of IP54 can be used in pollution degree of class 3.) Protective Structure: It depends upon the models. See the following pages for details.

* For BH Series (with terminal box, single-phase $110 \mathrm{~V} / 115 \mathrm{~V}$, single-phase 220 V/230 V type) and AXU Series, Over voltage category: $\mathbb{I I}$


## - Protection Against Electrocution (3)

Oriental Motor products are designed with Class I Equipment basic insulation. When being used, the following must always be observed:

1) Install products inside protective grounded enclosures so that they are out of the direct reach of users.
or
2) Always ground any product housing that is within the direct reach of users. Be sure to ground any product using the Protective Earth terminal.
Equipment with DC input is designed with Class $\mathbb{I I}$
Equipment structure. The power should be supplied from the primary winding and a safety power supply with reinforced insulation.
(1)

- Generally, EN60204 applies to electricity in industrial equipment and EN60950 applies to electrical business equipment and information technology equipment. EN60204 satisfies the requirements of EN60034-1 (IEC60034-1) but, for the incorporation of equipment, EN60950-conforming motors can be handled likewise.
- Overvoltage Category*

This signifies the size of the shock produced at an input power terminal to which the equipment is directly connected.
Category $\mathbb{I}$ : Circuits, secondary circuits on transformers in industrial machinery, home appliances powered by commercial electrical power, office equipment and other power sources where major overvoltage is not produced.
Category III: Power supplies from primary circuits on transformers, general plant control panels and other power sources where major overvoltage is anticipated.

* The term "Installation Category" has been replaced with "Overvoltage Category".
- Pollution Degree

This signifies the level of pollution in the environment where the equipment can be used
Degree 1: No possibility of machine contamination through pollution because
the environment is normally clean, dry and completely free of pollutant particles
(inside packed with plastic, etc.)
Degree 2: Possible machine contamination through pollution due to the presence of charged particles with moderate pollutant forming tendencies (homes, offices, research laboratories).
Degree 3: Charged particles will contaminate machinery (boiler rooms and general plants).
In the event that the construction of the equipment creates internal pollution in equipment in a Degree 2 environment, that equipment must be designed to comply with a lower degree.

- Degree of protection (Degree of protection: signified by IP Code) This refers to the grade of dust-resistance and waterproofing of equipment (IEC60529). Equipment can be given a higher IP grade by providing protection with an appropriate enclosure.
- Oriental Motor's motors have been assessed under EN60034-5 (IEC60034-5, IEC60529).


## (3)

- Methods of protection against electrocution by equipment are divided into the following protection classes (Protection Class).
Class I Equipment:
Equipment with basic insulation and protective grounding for protection against electrocution; at sections where electrocution is a possible danger, protection against electrocution should be provided through protective grounding in case the basic installation is damaged.
Class II Equipment:
Equipment for which reinforced insulation or double insulation, consisting of the basic insulation plus extra insulation, is used as an added precaution. Therefore, there is no protective grounding as in Class $\mathbb{I}$ equipment.
Class III Equipment:
Equipment for which all the power is fed from a SELV circuit. Therefore, no danger of electrocution exists.

World K Series Induction Motors

| Model |  | Overheating Protection | UL File |
| :--- | :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No |  |  |  |

$* 1$ When using $\phi 0.33 \mathrm{in}$. $(\phi 8.5 \mathrm{~mm})$ cables, IP grade is 54 ; otherwise, IP40 is applied, except for the mounting surface of the round shaft motor. $* 2$ Round shaft type.

## World K Series Reversible Motors

| Model |  | Overheating Protection Device | UL File No. | Degree of Protection | EN/IEC Standard |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pinion Shaft | Round Shaft |  |  |  | Certification Body | Licence No. or Cerrificate No. |  |
| 2RK6GN-AW | 2RK6A-AW | Impedance Protection | E64199 | IP20 | VDE | 114919 | A-74 |
| 2RK6GN-AWT | 2RK6A-AWT | Impedance Protection | E64199 | IP40 | VDE | 114919 | A-74 |
| 2RK6GN-CW | 2RK6A-CW | Impedance Protection | E64199 | IP20 | VDE | 114919 | A-74 |
| 2RK6GN-CWT | 2RK6A-CWT | Impedance Protection | E64199 | IP40 | VDE | 114919 | A-74 |
| 3RK15GN-AW | 3RK15A-AW | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-78 |
| 3RK15GN-CW | 3RK15A-CW | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-78 |
| 4RK25GN-AW | 4RK25A-AW | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-82 |
| 4RK25GN-AWT | 4RK25A-AWT | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-82 |
| 4RK25GN-CW | 4RK25A-CW | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-82 |
| 4RK25GN-CWT | 4RK25A-CWT | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-82 |
| 5RK40GN-AW | 5RK40A-AW | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-87 |
| 5RK40GN-AWT | 5RK40A-AWT | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-87 |
| 5RK40GN-CW | 5RK40A-CW | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-87 |
| 5RK40GN-CWT | 5RK40A-CWT | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-87 |
| 5RK60GU-AW | 5RK60A-AW | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-92 |
| 5RK60GU-AWT | 5RK60A-AWT | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-92 |
| 5RK60GU-CW | 5RK60A-CW | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-92 |
| 5RK60GU-CWT | 5RK60A-CWT | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-92 |
| 5RK90GU-AW | 5RK90A-AW | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-97 |
| 5RK90GU-AWT | 5RK90A-AWT | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-97 |
| 5RK90GU-CW | 5RK90A-CW | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-97 |
| 5RK90GU-CWT | 5RK90A-CWT | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-97 |

World K Series Electromagnetic Brake Motors

| Model |  | Overheating Protection Device | UL File No. | Degree of Protection | EN/IEC Standard |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pinion Shaft | Round Shaft |  |  |  | Certification Body | Licence No. or Certificate No. |  |
| 2RK6GN-AWM | 2RK6A-AWM | Impedance Protection | E64199 | IP20 | VDE | 114919 | A-132 |
| 2RK6GN-CWM | 2RK6A-CWM | Impedance Protection | E64199 | IP20 | VDE | 114919 | A-132 |
| 2IK6GN-SWM | 2IK6A-SWM | Impedance Protection | E64199 | IP20 | VDE | 114919 | A-132 |
| 3RK15GN-AWM | 3RK15A-AWM | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-137 |
| 3RK15GN-CWM | 3RK15A-CWM | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-137 |
| 4RK25GN-AWM | 4RK25A-AWM | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-142 |
| 4RK25GN-CWM | 4RK25A-CWM | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-142 |
| 4IK25GN-SWM | 4IK25A-SWM | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-142 |
| 5RK40GN-AWM | 5RK40A-AWM | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-147 |
| 5RK40GN-CWM | 5RK40A-CWM | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-147 |
| 5IK40GN-SWM | 5IK40A-SWM | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-147 |
| 5RK60GU-AWM | 5RK60A-AWM | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-152 |
| 5RK60GU-CWM | 5RK60A-CWM | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-152 |
| 5IK60GU-SWM | 5IK60A-SWM | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-152 |
| 5RK90GU-AWM | 5RK90A-AWM | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-157 |
| 5RK90GU-CWM | 5RK90A-CWM | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-157 |
| 5IK90GU-SWM | 5IK90A-SWM | Thermal Protector | E64197 | IP40 | DEMKO | 138642 | A-157 |

V Series Induction Motors

| Model | Motor Model | Overheating Protection Device | UL File No. | Degree of Protection | EN/IEC Standard |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Certification Body | Licence No. |  |
| VHI206A- $\square$ U | VHI206A-GV | Impedance Protection | E64199 | IP20 | VDE | 114919 | A-20 |
| VHI206C- $\square$ E | VHI206C-GV | Impedance Protection | E64199 | IP20 | VDE | 114919 | A-20 |
| VHI315A- $\square$ U | VHI315A-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-24 |
| VHI315C- $\square$ E | VHI315C-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-24 |
| VHI425A- $\square$ U | VHI425A-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-28 |
| VHI425C- $\square$ E | VHI425C-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-28 |
| VHI425S- $\square$ | VHI425S-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-28 |
| VHI425AT- $\square$ U | VHI425AT-GV | Thermal Protector | E64197 | IP54 | VDE | 6751 | A-28 |
| VHI425CT- $\square$ E | VHI425CT-GV | Thermal Protector | E64197 | IP54 | VDE | 6751 | A-28 |
| VHI425ST- $\square$ | VHI425ST-GV | Thermal Protector | E64197 | IP54 | VDE | 6751 | A-28 |
| VHI540A- $\square$ U | VHI540A-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-34 |
| VHI540C- $\square$ E | VHI540C-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-34 |
| VHI540S- $\square$ | VHI540S-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-34 |
| VHI540AT- $\square$ U | VHI540AT-GVH | Thermal Protector | E64197 | IP54 | VDE | 6751 | A-34 |
| VHI540CT- $\square$ E | VHI540CT-GVH | Thermal Protector | E64197 | IP54 | VDE | 6751 | A-34 |
| VHI540ST- $\square$ | VHI540ST-GVH | Thermal Protector | E64197 | IP54 | VDE | 6751 | A-34 |
| VHI560A- $\square$ U | VHI560A-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-40 |
| VHI560C- $\square$ E | VHI560C-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-40 |
| VHI560S- $\square$ | VHI560S-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-40 |
| VHI560AT- $\square$ U | VHI560AT-GVH | Thermal Protector | E64197 | IP44 | VDE | 6751 | A-40 |
| VHI560CT- $\square$ E | VHI560CT-GVH | Thermal Protector | E64197 | IP44 | VDE | 6751 | A-40 |
| VHI560ST- $\square$ | VHI560ST-GVH | Thermal Protector | E64197 | IP44 | VDE | 6751 | A-40 |
| VHI590A- $\square$ U | VHI590A-GVR | Thermal Protector | E64197 | IP20 | - | - | A-47 |
| VHI590C- $\square$ E | VHI590C-GVR | Thermal Protector | E64197 | IP20 | - | - | A-47 |
| VHI590S- $\square$ | VHI590S-GVR | Thermal Protector | E64197 | IP20 | - | - | A-47 |
| VHI590AT- $\square$ U | VHI590AT-GVR | Thermal Protector | E64197 | IP44 | - | - | A-47 |
| VHI590CT- $\square$ E | VHI590CT-GVR | Thermal Protector | E64197 | IP44 | - | - | A-47 |
| VHI590ST- $\square$ | VHI590ST-GVR | Thermal Protector | E64197 | IP44 | - | - | A-47 |

[^0]- VHI590 type conforms to EN Standards.

V Series Reversible Motors

| Model | Motor Model | Overheating Protection Device | UL File No. | Degree of Protection | EN/IEC Standard |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Certification Body | Licence No. |  |
| VHR206A- $\square$ U | VHR206A-GV | Impedance Protection | E64199 | IP20 | VDE | 114919 | A-74 |
| VHR206C- $\square$ E | VHR206C-GV | Impedance Protection | E64199 | IP20 | VDE | 114919 | A-74 |
| VHR315A- $\square$ U | VHR315A-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-78 |
| VHR315C- $\square$ E | VHR315C-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-78 |
| VHR425A- $\square$ U | VHR425A-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-82 |
| VHR425C- $\square$ E | VHR425C-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-82 |
| VHR425AT- $\square$ U | VHR425AT-GV | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-82 |
| VHR425CT- $\square$ E | VHR425CT-GV | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-82 |
| VHR540A- $\square$ U | VHR540A-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-87 |
| VHR540C- $\square$ E | VHR540C-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-87 |
| VHR540AT- $\square$ U | VHR540AT-GVH | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-87 |
| VHR540CT- $\square$ E | VHR540CT-GVH | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-87 |
| VHR560A- $\square$ U | VHR560A-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-92 |
| VHR560C- $\square$ E | VHR560C-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-92 |
| VHR560AT- $\square$ U | VHR560AT-GVH | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-92 |
| VHR560CT- $\square$ E | VHR560CT-GVH | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-92 |
| VHR590A- $\square$ U | VHR590A-GVR | Thermal Protector | E64197 | IP20 | - | - | A-97 |
| VHR590C- $\square$ E | VHR590C-GVR | Thermal Protector | E64197 | IP20 | - | - | A-97 |
| VHR590AT- $\square$ U | VHR590AT-GVR | Thermal Protector | E64197 | IP40 | - | - | A-97 |
| VHR590CT- $\square$ E | VHR590CT-GVR | Thermal Protector | E64197 | IP40 | - | - | A-97 |

- Enter the gear ratio in the box ( $\square$ ) within the model name.
- VHR590 type conforms to EN Standards.


## V Series Electromagnetic Brake Motors

| Model | Motor Model | Overheating Protection Device | UL File No. | Degree of Protection | EN/IEC Standard |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Certification Body | Licence No. |  |
| VHR206AM- $\square$ U | VHR206AM-GV | Impedance Protection | E64199 | IP20 | VDE | 114919 | A-132 |
| VHR206CM- $\square$ E | VHR206CM-GV | Impedance Protection | E64199 | IP20 | VDE | 114919 | A-132 |
| VHR315AM- $\square$ U | VHR315AM-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-137 |
| VHR315CM- $\square$ | VHR315CM-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-137 |
| VHR425AM- $\square$ U | VHR425AM-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-142 |
| VHR425CM- $\square$ E | VHR425CM-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-142 |
| VHI425SM- $\square$ | VHI425SM-GV | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-142 |
| VHR540AM- $\square \mathrm{U}$ | VHR540AM-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-147 |
| VHR540CM- ${ }^{\text {E }}$ | VHR540CM-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-147 |
| VHI540SM- $\square$ | VHI540SM-GVH | Thermal Protector | E64197 | IP20 | VDE | 6751 | A-147 |
| VHR560AM- $\square$ U | VHR560AM-GVH | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-152 |
| VHR560CM- $\square$ E | VHR560CM-GVH | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-152 |
| VHI560SM- $\square$ | VHI560SM-GVH | Thermal Protector | E64197 | IP40 | VDE | 6751 | A-152 |
| VHR590AM- $\square$ U | VHR590AM-GVR | Thermal Protector | E64197 | IP40 | - | - | A-157 |
| VHR590CM- $\square$ E | VHR590CM-GVR | Thermal Protector | E64197 | IP40 | - | - | A-157 |
| VHI590SM- $\square$ | VHI590SM-GVR | Thermal Protector | E64197 | IP40 | - | - | A-157 |

- Enter the gear ratio in the box ( $\square$ ) within the model name.
- VHR590 type conforms to EN Standards.


## BH Series Induction Motors

| Model |  | UL File No. <br> Motor | Degree of <br> Protection | Page |
| :---: | :---: | :---: | :---: | :---: |
| Model | Motor Model |  | IP40 | A-54 |
| BHI62F- $\square \square$ | BHI62F-G2 | E64197 | IP54 | A-54 |
| BHI62FT- $\square$ | BHI62FT-G2 | E64197 | IP54* | A-54 |
| BHI62FT-A | - | E64197 | E64197 | IP40 |
| BHI62F-A | - | E64197 | IP40 | A-54 |
| BHI62E- $\square$ | BHI62E-G2 | E64197 | IP54 | A-55 |
| BHI62ET- $\square$ | BHI62ET-G2 | - | E64197 | IP54* |
| BHI62ET-A | - | E64197 | IP40 | A-54 |
| BHI62E-A | E64197 | IP54 | A-54 |  |
| BHI62ST- $\square$ | BHI62ST-G2 | E64197 | IP54* | A-55 |
| BHI62ST-A | - |  |  |  |

* Except for the mounting surface.
- Enter the gear ratio in the box ( $\square$ ) within the model name.
$\bullet$ Enter the shaft type "RH" or "RA" in the box ( $\square$ ) within the model name. (Right-Angle Shaft Type Only)


## BH Series Electromagnetic Brake Motors

| Model |  | UL File No. <br> Motor | Degree of <br> Protection | Page |
| :---: | :---: | :---: | :---: | :---: |
| Model | Motor Model |  | IP54 | A-163 |
| BHI62FMT- $\square \square$ | BHI62FMT-G2 | E64197 | IP54* | A-163 |
| BHI62FMT-A | - | E64197 | IP54 | A-163 |
| BHI62EMT- $\square$ | BHI62EMT-G2 | E64197 | IP54* | A-163 |
| BHI62EMT-A | - | E64197 | IP54 | A-163 |
| BHI62SMT- $\square$ | BHI62SMT-G2 | E64197 | IP54* | A-163 |
| BHI62SMT-A | - |  |  |  |

* Except for the mounting surface.
- Enter the gear ratio in the box ( $\square$ ) within the model name.
- Enter the shaft type "RH" or "RA" in the box (■) within the model name. (Right-Angle Shaft Type Only)


## Clutch and Brake Motors

| Model | Motor Model | Overheating Protection <br> Device | UL File No. <br> Motor | Degree of <br> Protection | Page |
| :---: | :---: | :---: | :---: | :---: | :---: |
| CBI540-701WU | 5IK40GN-AW-CB1 | Thermal Protector | E64197 | IP20 | A-171 |
| CBI560-801WU | 5IK60GU-AW-CB1 | Thermal Protector | E64197 | IP20 | A-171 |
| CBI590-801WU | 5IK90GU-AW-CB1 | Thermal Protector | E64197 | IP20 | A-171 |

- The clutch and brake unit is not UL recognized.


## ■ K Series Conduit Box Type

| Model |  | Overheating Protection Device | UL File No. | Degree of * Protection | Page |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Pinion Shaft | Round Shaft |  |  |  |  |
| 4IK25GN-FCH | 4IK25AA-FCH | Thermal Protector | E64197 | IP54 | A-28 |
| 4IK25GN-ECH | 4IK25AA-ECH | Thermal Protector | E64197 | IP54 | A-28 |
| 4IK25GN-SH | 4IK25AA-SH | Thermal Protector | E64197 | IP54 | A-28 |
| 5IK40GN-FCH | 5IK40AA-FCH | Thermal Protector | E64197 | IP54 | A-34 |
| 5IK40GN-ECH | 5IK40AA-ECH | Thermal Protector | E64197 | IP54 | A-34 |
| 5IK40GN-SH | 5IK40AA-SH | Thermal Protector | E64197 | IP54 | A-34 |
| 5IK60GU-FCH | 5IK60A-FCH | Thermal Protector | E64197 | IP54 | A-40 |
| 5IK60GU-ECH | 5IK60A-ECH | Thermal Protector | E64197 | IP54 | A-40 |
| 5IK60GU-SH | 5IK60A-SH | Thermal Protector | E64197 | IP54 | A-40 |
| 5IK90GU-FCH | 5IK90A-FCH | Thermal Protector | E64197 | IP54 | A-47 |
| 5IK90GU-ECH | 5IK90A-ECH | Thermal Protector | E64197 | IP54 | A-47 |
| 5IK90GU-SH | 5IK90A-SH | Thermal Protector | E64197 | IP54 | A-47 |

* Except for the mounting surface of the round shaft motor and conduit opening.


## K Series Induction Motors

| Model |  | Overheating Protection Device | UL File No. | CSA <br> Certificate No. | Degree of Protection | EN/IEC Standard |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pinion Shaft | Round Shaft |  |  |  |  | Certification Body | Licence No. |  |
| OIK1GN-AUL | OIK1A-AUL | Impedance Protection | E64199 | LR47296 | IP20 | VDE | 5876ÜG | A-18 |
| - | 4IK40A-BA | Thermal Protector | E64197 | - | IP20 | - | - | A-65 |
| - | 5IK60A-BA | Thermal Protector | E64197 | - | IP20 | - | - | A-65 |
| - | 5IK90A-BFUL | Thermal Protector | E64197 | - | IP20 | VDE | 5877ÜG | A-65 |

## ■ K Series Reversible Motors

| Model |  | Overheating Protection Device | UL File No. | CSA <br> Certificate No. | Degree of Protection | EN/IEC Standard |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pinion Shaft | Round Shaft |  |  |  |  | Certification Body | Licence No. |  |
| ORK1GN-AUL | ORK1 A-AUL | Impedance Protection | E64199 | LR47296 | IP20 | VDE | 5876ÜG | A-72 |

Synchronous Motors

| Model |  | Overheating Protection Device | UL File No. | CSA <br> Certificate No. | Degree of Protection | EN/IEC Standard |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pinion Shaft | Round Shaft |  |  |  |  | Certification Body | Licence No. |  |
| 2SK4GN-AUL | 2SK4A-AULA | Impedance Protection | E64199 | LR47296 | IP20 | VDE | 5876ÜG | A-103 |
| 3SK10GN-AUL | 3SK10A-AULA | Thermal Protector | E64197 | LR47296 | IP20 | VDE | 5877ÜG | A-103 |
| 4SK15GN-AUL | 4SK15A-AULA | Thermal Protector | E64197 | LR47296 | IP20 | VDE | 5877ÜG | A-103 |
| 5SK25GN-AUL | 5SK25A-AULA | Thermal Protector | E64197 | LR47296 | IP20 | VDE | 5877ÜG | A-103 |

Torque Motors

| Model |  | Overheating Protection Device | UL File No. | CSA <br> Certificate No. | Degree of Protection | EN/IEC Standard |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pinion Shaft | Round Shaft |  |  |  |  | Certification Body | Licence No. |  |
| 3TK6GN-AUL | 3TK6A-AULA | Thermal Protector | E64197 | LR47296 | IP20 | VDE | 5877ÜG | A-111 |
| 4TK10GN-AUL | 4TK10A-AULA | Thermal Protector | E64197 | LR47296 | IP20 | VDE | 5877ÜG | A-111 |
| 5TK20GN-AUL | 5TK20A-AULA | Thermal Protector | E64197 | LR47296 | IP20 | VDE | 5877ÜG | A-111 |

## Brake Pack

| Model | UL File No. | Degree of Protection | Page |
| :---: | :---: | :---: | :---: |
| SB50 | E91291 | IP10* | A-179 |

* When attached to a flush mounting socket.

Watertight Motors FPW Series

| Model | Overheating Protection <br> Device | UL File <br> No. | Degree of <br> Protection | Page |
| :---: | :---: | :---: | :---: | :---: |
| FPW425A- $\square$ | Thermal Protector | E 64197 | IP67 | A-119 |
| FPW425C- $\square$ | Thermal Protector | E 64197 | IP67 | $\mathrm{A}-119$ |
| FPW425S- $\square$ | Thermal Protector | E 64197 | IP67 | $\mathrm{A}-119$ |
| FPW540A- $\square$ | Thermal Protector | E 64197 | IP67 | $\mathrm{A}-119$ |
| FPW540C- $\square$ | Thermal Protector | E 64197 | IP67 | $\mathrm{A}-119$ |
| FPW540S- $\square$ | Thermal Protector | E 64197 | IP67 | $\mathrm{A}-119$ |
| FPW560A- $\square$ | Thermal Protector | E 64197 | IP67 | $\mathrm{A}-119$ |
| FPW560C- $\square$ | Thermal Protector | E 64197 | IP67 | $\mathrm{A}-119$ |
| FPW560S- $\square$ | Thermal Protector | E 64197 | IP67 | $\mathrm{A}-119$ |
| FPW690A- $\square$ | Thermal Protector | E 64197 | IP67 | $\mathrm{A}-119$ |
| FPW690C- $\square$ | Thermal Protector | E 64197 | IP67 | $\mathrm{A}-119$ |
| FPW690S- $\square$ | Thermal Protector | E 64197 | IP67 | $\mathrm{A}-119$ |

- Enter the gear ratio in the box ( $\square$ ) within the model name.


## Brushless DC Motor Systems BX Series

| Model | Motor Model | Driver Model | UL File No. |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Motor | Driver |  |
| BX230A-A | BXM230-A2 | BXD30A-A | E208200 | E171462 | B-10 |
| BX230A- $\square$ | BXM230-GFH2 | BXD30A-A | E208200 | E171462 | B-10 |
| BX230C-A | BXM230-A2 | BXD30A-C | E208200 | E171462 | B-10 |
| BX230C- $\square$ | BXM230-GFH2 | BXD30A-C | E208200 | E171462 | B-10 |
| BX460A-A | BXM460-A2 | BXD60A-A | E208200 | E171462 | B-10 |
| BX460A- $\square$ | BXM460-GFH2 | BXD60A-A | E208200 | E171462 | B-10 |
| BX460C-A | BXM460-A2 | BXD60A-C | E208200 | E171462 | B-10 |
| BX460C- $\square$ | BXM460-GFH2 | BXD60A-C | E208200 | E171462 | B-10 |
| BX5120A-A | BXM5120-A2 | BXD120A-A | E208200 | E171462 | B-10 |
| BX5120A- $\square$ | BXM5120-GFH2 | BXDI20A-A | E208200 | E171462 | B-10 |
| BX5120C-A | BXM5120-A2 | BXD120A-C | E208200 | E171462 | B-10 |
| BX5120C- $\square$ | BXM5120-GFH2 | BXDI20A-C | E208200 | E171462 | B-10 |
| BX6200A-A | BXM6200-A | BXD200A-A | E62327 | E171462 | B-10 |
| BX6200A- $\square$ | BXM6200-GH | BXD200A-A | E62327 | E171462 | B-10 |
| BX6200C-A | BXM6200-A | BXD200A-C | E62327 | E171462 | B-10 |
| BX6200C- $\square$ | BXM6200-GH | BXD200A-C | E62327 | E171462 | B-10 |
| BX6400S-A | BXM6400-A | BXD400A-S | E62327 | E171462 | B-10 |
| BX6400S- $\square$ | BXM6400-GH | BXD400B-S | E62327 | E171462 | B-10 |

- Enter the gear ratio in the box ( $\square$ ) within the model name.


## Brushless DC Motor Systems BX Series with Electromagnetic Brake

| Model | Motor Model | Driver Model | UL File No. |  | Page |
| :--- | :--- | :--- | :--- | :--- | :---: |
|  |  |  | Driver |  |  |
| BX230AM-A | BXM230M-A2 | BXD30A-A | E208200 | E 171462 | $\mathrm{~B}-10$ |
| BX230AM- $\square$ | BXM230M-GFH2 | BXD30A-A | E 208200 | E 171462 | $\mathrm{~B}-10$ |
| BX230CM-A | BXM230M-A2 | BXD30A-C | E 208200 | E 171462 | $\mathrm{~B}-10$ |
| BX230CM- $\square$ | BXM230M-GFH2 | BXD30A-C | E 208200 | E 171462 | $\mathrm{~B}-10$ |
| BX460AM-A | BXM460M-A2 | BXD60A-A | E 208200 | E 171462 | $\mathrm{~B}-10$ |
| BX460AM- $\square$ | BXM460M-GFH2 | BXD60A-A | E 208200 | E 171462 | $\mathrm{~B}-10$ |
| BX460CM-A | BXM460M-A2 | BXD60A-C | E 208200 | E 171462 | $\mathrm{~B}-10$ |
| BX460CM- $\square$ | BXM460M-GFH2 | BXD60A-C | E 208200 | E 171462 | $\mathrm{~B}-10$ |
| BX5120AM-A | BXM5120M-A2 | BXD120A-A | E 208200 | E 171462 | $\mathrm{~B}-10$ |
| BX5120AM- $\square$ | BXM5120M-GFH2 | BXD120A-A | E 208200 | E 171462 | $\mathrm{~B}-10$ |
| BX5120CM-A | BXM5120M-A2 | BXD120A-C | E 208200 | E 171462 | $\mathrm{~B}-10$ |
| BX5120CM- $\square$ | BXM5120M-GFH2 | BXD120A-C | E 208200 | E 171462 | $\mathrm{~B}-10$ |
| BX6200AM-A | BXM6200M-A | BXD200A-A | E 62327 | E 171462 | $\mathrm{~B}-10$ |
| BX6200AM- $\square$ | BXM6200M-GH | BXD200A-A | E 62327 | E 171462 | $\mathrm{~B}-10$ |
| BX6200CM-A | BXM6200M-A | BXD200A-C | E 62327 | E 171462 | $\mathrm{~B}-10$ |
| BX6200CM- $\square$ | BXM6200M-GH | BXD200A-C | E 62327 | E 171462 | $\mathrm{~B}-10$ |
| BX6400SM-A | BXM6400M-A | BXD400A-S | E 62327 | E 171462 | $\mathrm{~B}-10$ |
| BX6400SM- $\square$ | BXM6400M-GH | BXD400B-S | E 62327 | E 171462 | $\mathrm{~B}-10$ |

- Enter the gear ratio in the box ( $\square$ ) within the model name.


## Brushless DC Motor Systems FBLII Series

| Model | Motor Model | Driver Model | UL File No. |  | DEMKO Certificate No. |  | Degree of Protection |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Motor | Driver | Motor | Driver | Motor | Driver |  |
| FBL575AW- $\square$ | FBLM575W-GFB | FBLD75AW | E62327 | E171462 | 124888 | 131974 | IP40 | IP10 | B-34 |
| FBL575AW-A | FBLM575W-A | FBLD75AW | E62327 | E171462 | 124888 | 131974 | IP40 | IP10 | B-34 |
| FBL575CW- $\square$ | FBLM575W-GFB | FBLD75CW | E62327 | E171462 | 124888 | 131974 | IP40 | IP10 | B-34 |
| FBL575CW-A | FBLM575W-A | FBLD75CW | E62327 | E171462 | 124888 | 131974 | IP40 | IP10 | B-34 |
| FBL575SW- $\square$ | FBLM575W-GFB | FBLD75SW | E62327 | E171462 | 124888 | - | IP40 | IP10 | B-34 |
| FBL575SW-A | FBLM575W-A | FBLD75SW | E62327 | E171462 | 124888 | - | IP40 | IP10 | B-34 |
| FBL5 $120 A W-\square$ | FBLM5120W-GFB | FBLD120AW | E62327 | E171462 | 124888 | 131974 | IP40 | IP10 | B-34 |
| FBL5 $1204 W$-A | FBLM5120W-A | FBLD120AW | E62327 | E171462 | 124888 | 131974 | IP40 | IP10 | B-34 |
| FBL5 120 CW - $\square$ | FBLM5120W-GFB | FBLD120CW | E62327 | E171462 | 124888 | 131974 | IP40 | IP10 | B-34 |
| FBL5 120CW-A | FBLM5120W-A | FBLD120CW | E62327 | E171462 | 124888 | 131974 | IP40 | IP10 | B-34 |
| FBL5 $1205 W-\square$ | FBLM5120W-GFB | FBLD120SW | E62327 | E171462 | 124888 | - | IP40 | IP10 | B-34 |
| FBL5 $1205 W$-A | FBLM5120W-A | FBLD120SW | E62327 | E171462 | 124888 | - | IP40 | IP10 | B-34 |

[^1]- FBL575SW, FBL5 1 20SW types conform to EN Standards.

Brushless DC Motor Systems AXU Series

| Model | Motor Model | Control Unit Model | UL File No. |  | Degree of Protection |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Motor | Control Unit | Motor | Control Unit |  |
| AXU210A-GN | AXUM210-GN | AXUDIOA | E208200 | E171462 | IP65 | IP10 | B-46 |
| AXU210A-A | AXUM210-A | AXUD10A | E208200 | E171462 | IP65* | IP10 | B-46 |
| AXU210C-GN | AXUM210-GN | AXUDIOC | E208200 | E171462 | IP65 | IP10 | B-46 |
| AXU210C-A | AXUM210-A | AXUD10C | E208200 | E171462 | IP65* | IP10 | B-46 |
| AXU210S-GN | AXUM210-GN | AXUDIOS | E208200 | E171462 | IP65 | IP10 | B-46 |
| AXU210S-A | AXUM210-A | AXUDIOS | E208200 | E171462 | IP65* | IP10 | B-46 |
| AXU425A-GN | AXUM425-GN | AXUD25A | E208200 | E171462 | IP65 | IP10 | B-46 |
| AXU425A-A | AXUM425-A | AXUD25A | E208200 | E171462 | IP65* | IP10 | B-46 |
| AXU425C-GN | AXUM425-GN | AXUD25C | E208200 | E171462 | IP65 | IP10 | B-46 |
| AXU425C-A | AXUM425-A | AXUD25C | E208200 | E171462 | IP65* | IP10 | B-46 |
| AXU425S-GN | AXUM425-GN | AXUD25S | E208200 | E171462 | IP65 | IP10 | B-46 |
| AXU425S-A | AXUM425-A | AXUD25S | E208200 | E171462 | IP65* | IP10 | B-46 |
| AXU540A-GN | AXUM540-GN | AXUD40A | E208200 | E171462 | IP65 | IP10 | B-46 |
| AXU540A-A | AXUM540-A | AXUD40A | E208200 | E171462 | IP65* | IP10 | B-46 |
| AXU540C-GN | AXUM540-GN | AXUD40C | E208200 | E171462 | IP65 | IP10 | B-46 |
| AXU540C-A | AXUM540-A | AXUD40C | E208200 | E171462 | IP65* | IP10 | B-46 |
| AXU540S-GN | AXUM540-GN | AXUD40S | E208200 | E171462 | IP65 | IP10 | B-46 |
| AXU540S-A | AXUM540-A | AXUD40S | E208200 | E171462 | IP65* | IP10 | B-46 |
| AXU590A-GU | AXUM590-GU | AXUD90A | E208200 | E171462 | IP65 | IP10 | B-46 |
| AXU590A-A | AXUM590-A | AXUD90A | E208200 | E171462 | IP65* | IP10 | B-46 |
| AXU590C-GU | AXUM590-GU | AXUD90C | E208200 | E171462 | IP65 | IP10 | B-46 |
| AXU590C-A | AXUM590-A | AXUD90C | E208200 | E171462 | IP65* | IP10 | B-46 |
| AXU590S-GU | AXUM590-GU | AXUD90S | E208200 | E171462 | IP65 | IP10 | B-46 |
| AXU590S-A | AXUM590-A | AXUD90S | E208200 | E171462 | IP65* | IP10 | B-46 |

* Except for the mounting surface.


## Brushless DC Motor Systems AXH Series

| Model | Motor Model | Driver Model | UL File No. |  | Degree of Protection |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Motor | Driver | Motor | Driver |  |
| AXH015K- $\square$ | AXHM015K-■ | AXHD15K | E208200 | E208200 | IP40 | IP00 | B-58 |
| AXH015K-A | AXHM015K-A | AXHD15K | E208200 | E208200 | IP40 | IPOO | B-58 |
| AXH230KC- $\square$ | AXHM230KC-GFH | AXHD30K | E208200 | E208200 | IP65 | IP00 | B-58 |
| AXH230KC-A | AXHM230KC-A | AXHD30K | E208200 | E208200 | IP65* | IP00 | B-58 |
| AXH450KC- $\square$ | AXHM450KC-GFH | AXHD50K | E208200 | E208200 | IP65 | IP00 | B-58 |
| AXH450KC-A | AXHM450KC-A | AXHD50K | E208200 | E208200 | IP65* | IP00 | B-58 |
| AXH5100KC- $\square$ | AXHM5100KC-GFH | AXHD100K | E208200 | E208200 | IP65 | IP00 | B-58 |
| AXH5100KC-A | AXHM5100KC-A | AXHD100K | E208200 | E208200 | IP65* | IP00 | B-58 |

* Except for the mounting surface.
- Enter the gear ratio in the box ( $\square$ ) within the model name.


## AC Motor Systems BHF Series Speed Control Motor Unit

| Model | Motor Model | Speed Control Pack Model | UL File No. |  | Degree of Protection |  | Page |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Speed Control Pack | Motor | Speed Control Pack | Pag |  |
| BHF62AT- $\square \square$ | BHM62T-G2 | FSP200-1 | E64197 | E171462 | IP54 | IP10 | B-70 |
| BHF62AT-A | BHM62T-A | FSP200-1 | E64197 | E171462 | IP54* | IP10 | B-70 |
| BHF62CT- $\square$ | BHM62T-G2 | FSP200-2 | E64197 | E171462 | IP54 | IP10 | B-70 |
| BHF62CT-A | BHM62T-A | FSP200-2 | E64197 | E171462 | IP54* | IP10 | B-70 |
| BHF62ST- $\square$ | BHM62T-G2 | FSP200-3 | E64197 | E171462 | IP54 | IP10 | B-70 |
| BHF62ST-A | BHM62T-A | FSP200-3 | E64197 | E171462 | IP54* | IP10 | B-70 |

* Except for the mounting surface.
- Enter the gear ratio in the box ( $\square$ ) within the model name.
- Enter the shaft type "RH" or "RA" in the box(■) within the model name. (Right-Angle Shaft Type Only)


# AC Motor Systems BHF Series Speed Control Motor Unit with Electromagnetic Brake 

| Model | Motor Model | Speed Control Pack Model | UL File No. |  | Degree of Protection |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Motor | Speed Control Pack | Motor | Speed Control Pack |  |
| BHF62AMT- $\square$ | BHM62MT-G2 | FSP200-1 | E64197 | E171462 | IP54 | IP10 | B-70 |
| BHF62AMT-A | BHM62MT-A | FSP200-1 | E64197 | E171462 | IP54* | IP10 | B-70 |
| BHF62CMT- $\square \square$ | BHM62MT-G2 | FSP200-2 | E64197 | E171462 | IP54 | IP10 | B-70 |
| BHF62CMT-A | BHM62MT-A | FSP200-2 | E64197 | E171462 | IP54* | IP10 | B-70 |
| BHF62SMT- $\square$ | BHM62MT-G2 | FSP200-3 | E64197 | E171462 | IP54 | IP10 | B-70 |
| BHF62SMT-A | BHM62MT-A | FSP200-3 | E64197 | E171462 | IP54* | IP10 | B-70 |

* Except for the mounting surface.
- Enter the gear ratio in the box ( $\square$ ) within the model name.
- Enter the shaft type "RH" or "RA" in the box( $\square$ ) within the model name. (Right-Angle Shaft Type Only)


## AC Motor Systems Speed Controllers

| Model | UL File No. | Degree of Protection | Page |
| :---: | :---: | :---: | :---: |
| ESO1 | E91291 | IP20 | B-86 |
| ESO2 | E91291 | IP20 | B-86 |

## World K Series Speed Control Motors Induction Motors

| Model |  | Overheating Protection Device | UL File No. | Degree of Protection | Page |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Pinion Shaft | Round Shaft |  |  |  |  |
| 2IK6RGN-AW | 2IK6RA-AW | Impedance Protection | E64199 | IP20 | B-86 |
| 2IK6RGN-CW | 2IK6RA-CW | Impedance Protection | E64199 | IP20 | B-86 |
| 3IK15RGN-AW | 3IK15RA-AW | Thermal Protector | E64197 | IP20 | B-86 |
| 3IK15RGN-CW | 3IK15RA-CW | Thermal Protector | E64197 | IP20 | B-86 |
| 4IK25RGN-AW | 4IK25RA-AW | Thermal Protector | E64197 | IP20 | B-86 |
| 4IK25RGN-CW | 4IK25RA-CW | Thermal Protector | E64197 | IP20 | B-86 |
| 5IK40RGN-AW | 5IK40RA-AW | Thermal Protector | E64197 | IP20 | B-86 |
| 5IK40RGN-CW | 5IK40RA-CW | Thermal Protector | E64197 | IP20 | B-86 |
| 5IK60RGU-AW | 5IK60RA-AW | Thermal Protector | E64197 | IP40 | B-86 |
| 5IK60RGU-CW | 5IK60RA-CW | Thermal Protector | E64197 | IP40 | B-86 |

## World K Series Speed Control Motors Reversible Motors

## V Series Speed Control Motors Induction Motors

| Model |  | Overheating Protection Device | $\begin{aligned} & \text { UL File } \\ & \text { No. } \end{aligned}$ | Degree of Protection | Page |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Model | Motor Model |  |  |  |  |
| VSI206A- $\square$ U | VSI206A-GV | Impedance Protection | E64199 | IP20 | B-86 |
| VSI206C- $\square$ E | VSI206C-GV | Impedance Protection | E64199 | IP20 | B-86 |
| VSI315A- $\square$ U | VSI315A-GV | Thermal Protector | E64197 | IP20 | B-86 |
| VSI315C- $\square$ E | VSI315C-GV | Thermal Protector | E64197 | IP20 | B-86 |
| VSI425A- $\square$ U | VSI425A-GV | Thermal Protector | E64197 | IP20 | B-86 |
| VSI425C- $\square$ E | VSI425C-GV | Thermal Protector | E64197 | IP20 | B-86 |
| VSI540A- $\square$ U | VSI540A-GVH | Thermal Protector | E64197 | IP20 | B-86 |
| VSI540C- $\square$ E | VSI540C-GVH | Thermal Protector | E64197 | IP20 | B-86 |
| VSI560A- $\square$ U | VSI560A-GVH | Thermal Protector | E64197 | IP20 | B-86 |
| VSI560C- $\square$ E | VSI560C-GVH | Thermal Protector | E64197 | IP20 | B-86 |
| VSI590A- $\square$ U | VSI590A-GVR | Thermal Protector | E64197 | IP20 | B-86 |
| VSI590C- $\square$ E | VSI590C-GVR | Thermal Protector | E64197 | IP20 | B-86 |

- Enter the gear ratio in the box ( $\square$ ) within the model name.


## V Series Speed Control Motors Reversible Motors

| Model |  | Overheating Protection <br> Device |  | UL File <br> No. | Degree of <br> Protection |
| :--- | :--- | :--- | :---: | :---: | :---: |
| MSR206A- $\square \mathbf{U}$ | VSR206A-GV | Impedance Protection | E64199 | IP20 | Page |
| VSR206C- $\square \mathbf{E}$ | VSR206C-GV | Impedance Protection | E64199 | IP20 | B-86 |
| VSR315A- $\square \mathbf{U}$ | VSR315A-GV | Thermal Protector | E64197 | IP20 | B-86 |
| VSR315C- $\square \mathbf{E}$ | VSR315C-GV | Thermal Protector | E64197 | IP20 | B-86 |
| VSR425A- $\square \mathbf{U}$ | VSR425A-GV | Thermal Protector | E64197 | IP20 | B-86 |
| VSR425C- $\square \mathbf{E}$ | VSR425C-GV | Thermal Protector | E64197 | IP20 | B-86 |
| VSR540A- $\square \mathbf{U}$ | VSR540A-GVH | Thermal Protector | E64197 | IP20 | B-86 |
| VSR540C- $\square \mathbf{E}$ | VSR540C-GVH | Thermal Protector | E64197 | IP20 | B-86 |
| VSR560A- $\square \mathbf{U}$ | VSR560A-GVH | Thermal Protector | E64197 | IP20 | B-86 |
| VSR560C- $\square \mathbf{E}$ | VSR560C-GVH | Thermal Protector | E64197 | IP20 | B-86 |
| VSR590A- $\square \mathbf{U}$ | VSR590A-GVR | Thermal Protector | E64197 | IP20 | B-86 |
| VSR590C- $\square \mathbf{E}$ | VSR590C-GVR | Thermal Protector | E64197 | IP20 | B-86 |

- Enter the gear ratio in the box ( $\square$ ) within the model name.


## AC Motor Systems US Series

| Model | Motor | Control Unit | Overheating Protection Device | UL File No. |  | Degree of Protection |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Motor | Control Unit | Motor | Control Unit |  |
| US206-401U | USM206-401W | USP206-1U | Impedance Protection | E64199 | E91291 | IP20 | IP10 | B-116 |
| US206-001U | USM206-001W | USP206-1U | Impedance Protection | E64199 | E91291 | IP20 | IP10 | B-116 |
| US315-401U | USM315-401W | USP315-1U | Thermal Protector | E64197 | E91291 | IP20 | IP10 | B-116 |
| US315-001U | USM315-001W | USP315-1U | Thermal Protector | E64197 | E91291 | IP20 | IP10 | B-116 |
| US425-401U | USM425-401W | USP425-1U | Thermal Protector | E64197 | E91291 | IP20 | IP10 | B-116 |
| US425-001U | USM425-001W | USP425-1U | Thermal Protector | E64197 | E91291 | IP20 | IP10 | B-116 |
| US540-401U | USM540-401W | USP540-1U | Thermal Protector | E64197 | E91291 | IP20 | IP10 | B-116 |
| US540-001U | USM540-001W | USP540-1U | Thermal Protector | E64197 | E91291 | IP20 | IP10 | B-116 |
| US560-501U | USM560-501W | USP560-1U | Thermal Protector | E64197 | E91291 | IP40 | IP10 | B-116 |
| US560-001U | USM560-001W | USP560-1U | Thermal Protector | E64197 | E91291 | IP40 | IP10 | B-116 |
| US590-501U | USM590-501W | USP590-1U | Thermal Protector | E64197 | E91291 | IP40 | IP10 | B-116 |
| US590-001U | USM590-001W | USP590-1U | Thermal Protector | E64197 | E91291 | IP40 | IP10 | B-116 |
| US206-402E | USM206-402W | USP206-2E | Impedance Protection | E64199 | E91291 | IP20 | IP10 | B-116 |
| US206-002E | USM206-002W | USP206-2E | Impedance Protection | E64199 | E91291 | IP20 | IP10 | B-116 |
| US315-402E | USM315-402W | USP315-2E | Thermal Protector | E64197 | E91291 | IP20 | IP10 | B-116 |
| US315-002E | USM315-002W | USP315-2E | Thermal Protector | E64197 | E91291 | IP20 | IP10 | B-116 |
| US425-402E | USM425-402W | USP425-2E | Thermal Protector | E64197 | E91291 | IP20 | IP10 | B-116 |
| US425-002E | USM425-002W | USP425-2E | Thermal Protector | E64197 | E91291 | IP20 | IP10 | B-116 |
| US540-402E | USM540-402W | USP540-2E | Thermal Protector | E64197 | E91291 | IP20 | IP10 | B-116 |
| US540-002E | USM540-002W | USP540-2E | Thermal Protector | E64197 | E91291 | IP20 | IP10 | B-116 |
| US560-502E | USM560-502W | USP560-2E | Thermal Protector | E64197 | E91291 | IP40 | IP10 | B-116 |
| US560-002E | USM560-002W | USP560-2E | Thermal Protector | E64197 | E91291 | IP40 | IP10 | B-116 |
| US590-502E | USM590-502W | USP590-2E | Thermal Protector | E64197 | E91291 | IP40 | IP10 | B-116 |
| US590-002E | USM590-002W | USP590-2E | Thermal Protector | E64197 | E91291 | IP40 | IP10 | B-116 |

- $\alpha_{\text {step }}$ AS Series/AS PLUS Series


[^2]

[^3]$\alpha_{\text {step }}$ ASC Series


- Enter $\mathbf{A}$ (Standard) or $\mathbf{M}$ (electromagnetic brake) in the box ( $\square$ ) within the model names.


## Stepping Motors RK Series

In addition to the products listed on pages G-21 and G-22, we also offer products conforming to various safety standards. Refer to page C-79 for details.

| Type | Model | Motor Model | Driver Model | UL File No. | EN/IEC Standards |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Motor | Driver |  |
| Standard <br> Single-Phase 100-115 VAC | RK564 $\square$ A | PK564 $\square \mathrm{W}$ | RKD514L-A | $\begin{aligned} & \text { Motor } \\ & \text { E64199 } \end{aligned}$ | Certification Body VDE | -- | C-82 |
|  | RK566 $\square$ A | PK566 $\square \mathrm{W}$ | RKD514L-A |  |  |  |  |
|  | RK569 $\square$ A | PK569 $\square$ W | RKD514L-A |  |  |  |  |
|  | RK596 $\square$ A | PK596 $\square \mathrm{W}$ | RKD514H-A | $\begin{gathered} \text { Driver } \\ \text { E171462 } \end{gathered}$ | $\begin{gathered} \text { Licence No. } \\ 114293 \end{gathered}$ |  |  |
|  | RK599 $\square$ A | PK599 $\square$ W | RKD514H-A |  |  |  |  |
|  | RK5913 $\square$ A | PK5913 $\square \mathrm{W}$ | RKD514H-A |  |  |  |  |
| Standard <br> Single-Phase 200-230 VAC | RK564 $\square$ C | PK564 $\square \mathrm{W}$ | RKD514L-C | $\begin{aligned} & \text { Motor } \\ & \text { E64199 } \end{aligned}$ | Certification Body VDE | - |  |
|  | RK566 $\square$ C | PK566 $\square$ W | RKD514L-C |  |  |  |  |
|  | RK569 $\square$ C | PK569 $\square$ W | RKD514L-C |  |  |  |  |
|  | RK596 $\square$ C | PK596 $\square \mathrm{W}$ | RKD514H-C | Driver <br> E171462 | $\begin{gathered} \text { Licence No. } \\ 114293 \end{gathered}$ |  |  |
|  | RK599 $\square$ C | PK599 $\square$ W | RKD514H-C |  |  |  |  |
|  | RK5913 $\square$ C | PK5913 $\square \mathrm{W}$ | RKD514H-C |  |  |  |  |
| TH Geared <br> Single-Phase 100-115 VAC | RK564 $\square$ A-T3.6 | PK564 $\square$ W-T3.6 | RKD514L-A | $\begin{aligned} & \text { Motor } \\ & \text { E64199 } \end{aligned}$ | Certification Body VDE | - | C-84 |
|  | RK564 $\square$ A-T7.2 | PK564 $\square$ W-T7.2 | RKD514L-A |  |  |  |  |
|  | RK564 $\square$ A-T 10 | PK564 $\square$ W-T10 | RKD514L-A |  |  |  |  |
|  | RK564 $\square$ A-T20 | PK564 $\square \mathrm{W}-\mathrm{T} 20$ | RKD514L-A |  |  |  |  |
|  | RK564 $\square$ A-T30 | PK564 $\square$ W-T30 | RKD514L-A |  |  |  |  |
|  | RK596 $\square$ A-T3.6 | PK596 $\square$ W-T3.6 | RKD514H-A | Driver E171462 | Licence No.$114293$ |  | C-85 |
|  | RK596 $\square$ A-T7.2 | PK596 $\square$ W-T7.2 | RKD514H-A |  |  |  |  |
|  | RK596 $\square$ A-T 10 | PK596 $\square \mathrm{W} 1-\mathrm{T} 10$ | RKD514H-A |  |  |  |  |
|  | RK596 $\square$ A-T20 | PK596 $\square \mathrm{W} 1-\mathrm{T} 20$ | RKD514H-A |  |  |  |  |
|  | RK596 $\square$ A-T30 | PK596 $\square \mathrm{W} 1-\mathrm{T} 30$ | RKD514H-A |  |  |  |  |

[^4]| Type | Model | Motor Model | Driver Model | UL File No. | EN/IEC Standards |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Motor | Driver |  |
| TH Geared <br> Single-Phase 200-230 VAC | RK564 $\square$ C-T3.6 | PK564 $\square \mathrm{W}-\mathrm{T} 3.6$ | RKD514L-C | Motor <br> E64199 <br> Driver <br> E171462 | Certification Body VDE Licence No. 114293 | - | C-84 |
|  | RK564 $\square$ C-T7.2 | PK564 $\square \mathrm{W}$-T7.2 | RKD514L-C |  |  |  |  |
|  | RK564 $\square$ C-T 10 | PK564 $\square \mathrm{W}-\mathrm{T} 10$ | RKD514L-C |  |  |  |  |
|  | RK564 $\square$ C-T20 | PK564 $\square \mathrm{W}-\mathrm{T} 20$ | RKD514L-C |  |  |  |  |
|  | RK564 $\square$ C-T30 | PK564 $\square$ W-T30 | RKD514L-C |  |  |  |  |
|  | RK596 $\square$ C-T3.6 | PK596 $\square \mathrm{W}-\mathrm{T} 3.6$ | RKD514H-C |  |  |  | C-85 |
|  | RK596 $\square$ C-T7.2 | PK596 $\square \mathrm{W}-\mathrm{T7.2}$ | RKD514H-C |  |  |  |  |
|  | RK596 $\square$ C-T10 | PK596 $\square$ W1-T10 | RKD514H-C |  |  |  |  |
|  | RK596 $\square$ C-T20 | PK596 $\square$ W1-T20 | RKD514H-C |  |  |  |  |
|  | RK596 $\square$ C-T30 | PK596 $\square$ W1-T30 | RKD514H-C |  |  |  |  |
| PN Geared <br> Single-Phase 100-115 VAC | RK566 $\square$ A-N5 | PK566 $\square$ W-N5 | RKD514L-A | $\begin{gathered} \text { Motor } \\ \text { E64199 } \\ \text { Driver } \\ \text { E171462 } \end{gathered}$ | Certification Body VDE Licence No. 114293 | - | C-87 |
|  | RK566 $\square$ A-N7.2 | PK566 $\square$ W-N7.2 | RKD514L-A |  |  |  |  |
|  | RK566 $\square$ A-N10 | PK566 $\square$ W-N10 | RKD514L-A |  |  |  |  |
|  | RK564 $\square$ A-N25 | PK564 $\square \mathrm{W}-\mathrm{N} 25$ | RKD514L-A |  |  |  |  |
|  | RK564 $\square$ A-N36 | PK564 $\square \mathrm{W}-\mathrm{N} 36$ | RKD514L-A |  |  |  |  |
|  | RK564 $\square$ A-N50 | PK564 $\square \mathrm{W}-\mathrm{N} 50$ | RKD514L-A |  |  |  |  |
|  | RK599 $\square$ A-N5 | PK599 $\square$ W-N5 | RKD514H-A |  |  |  | C-88 |
|  | RK599 $\square$ A-N7.2 | PK599 $\square$ W-N7.2 | RKD514H-A |  |  |  |  |
|  | RK599 $\square$ A-N 10 | PK599 $\square \mathrm{W}-\mathrm{N} 10$ | RKD514H-A |  |  |  |  |
|  | RK596 $\square$ A-N25 | PK596 $\square \mathrm{W}-\mathrm{N} 25$ | RKD514H-A |  |  |  |  |
|  | RK596 $\square$ A-N36 | PK596 $\square \mathrm{W}-\mathrm{N} 36$ | RKD514H-A |  |  |  |  |
|  | RK596 $\square$ A-N50 | PK596 $\square$ W-N50 | RKD514H-A |  |  |  |  |
| PN Geared <br> Single-Phase 200-230 VAC | RK566 $\square$ C-N5 | PK566 $\square$ W-N5 | RKD514L-C | Motor <br> E64199 <br> Driver <br> E171462 | Certification Body VDE Licence No. 114293 | - | C-87 |
|  | RK566 $\square$ C-N7.2 | PK566 $\square$ W-N7.2 | RKD514L-C |  |  |  |  |
|  | RK566 $\square$ C-N10 | PK566 $\square \mathrm{W}-\mathrm{N} 10$ | RKD514L-C |  |  |  |  |
|  | RK564 $\square$ C-N25 | PK564 $\square \mathrm{W}-\mathrm{N} 25$ | RKD514L-C |  |  |  |  |
|  | RK564 $\square$ C-N36 | PK564 $\square$ W-N36 | RKD514L-C |  |  |  |  |
|  | RK564 $\square$ C-N50 | PK564 $\square \mathrm{W}-\mathrm{N} 50$ | RKD514L-C |  |  |  |  |
|  | RK599 $\square$ C-N5 | PK599 $\square$ W-N5 | RKD514H-C |  |  |  | C-88 |
|  | RK599 $\square$ C-N7.2 | PK599 $\square$ W-N7.2 | RKD514H-C |  |  |  |  |
|  | RK599 $\square$ C-N10 | PK599 $\square$ W-N10 | RKD514H-C |  |  |  |  |
|  | RK596 $\square$ C-N25 | PK596 $\square \mathrm{W}-\mathrm{N} 25$ | RKD514H-C |  |  |  |  |
|  | RK596 $\square$ C-N36 | PK596 $\square \mathrm{W}-\mathrm{N} 36$ | RKD514H-C |  |  |  |  |
|  | RK596 $\square$ C-N50 | PK596 $\square \mathrm{W}-\mathrm{N} 50$ | RKD514H-C |  |  |  |  |
| HG Geared <br> Single-Phase 100-115 VAC | RK564 $\square$ A-H50 | PK564 $\square$ W-H50S | RKD514L-A | Motor E64199 Driver E171462 | - | - | C-89 |
|  | RK564 $\square$ A-H100 | PK564 $\square$ W-H100S | RKD514L-A |  |  |  |  |
|  | RK596 $\square$ A-H50 | PK596 $\square \mathrm{W} 1-\mathrm{H} 50$ | RKD514H-A |  | Certification Body VDE |  |  |
|  | RK596 $\square$ A-H100 | PK596■W1-H100 | RKD514H-A |  | Licence No. <br> 114293 |  |  |
| HG GearedSingle-Phase 200-230 VAC | RK564 $\square$ C-H50 | PK564 $\square$ W-H50S | RKD514L-C | Motor <br> E64199 <br> Driver <br> E171462 | - | - |  |
|  | RK564 $\square$ C-H100 | PK564 $\square \mathrm{W}-\mathrm{H100S}$ | RKD514L-C |  |  |  |  |
|  | RK596 $\square$ C-H50 | PK596 $\square \mathrm{W} 1-\mathrm{H} 50$ | RKD514H-C |  | $\begin{aligned} & \text { Certification Body } \\ & \text { VDE } \end{aligned}$ |  |  |
|  | RK596 $\square$ C-H100 | PK596 $\square \mathrm{W} 1-\mathrm{H} 100$ | RKD514H-C |  | $\begin{gathered} \text { Licence No. } \\ 114293 \end{gathered}$ |  |  |

- Enter $\mathbf{A}$ (single shaft) or $\mathbf{B}$ (double shaft) in the box ( $\square$ ) within the model names.


## Stepping Motors 5-Phase CSK Series

| Type | Model | Motor Model | Driver Model | UL File No. | Page |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Standard | CSK543-N $\square$ TA | PK543NDWA | CSD5807N-T | Motor <br> E64199 | C-122 |
|  | CSK544-N $\square$ TA | PK544NDWA | CSD5807N-T |  |  |
|  | CSK545-N $\square$ TA | PK545N■WA | CSD5807N-T |  |  |
|  | CSK564-N $\square$ TA | PK564NDWA | CSD5814N-T |  |  |
|  | CSK566-N $\square$ TA | PK566NDWA | CSD5814N-T |  |  |
|  | CSK569-N $\square$ TA | PK569NDWA | CSD5814N-T |  |  |
| TH Geared | CSK543 $\square$ A-TG3.6 | PK543N■WA-T3.6 | CSD5807N-T |  | C-124 |
|  | CSK543■A-TG7.2 | PK543N■WA-T7.2 | CSD5807N-T |  |  |
|  | CSK543 $\square$ A-TG 10 | PK543N■WA-T10 | CSD5807N-T | Driver E171462 E208200 |  |
|  | CSK543 $\square$ A-TG20 | PK543N■WA-T20 | CSD5807N-T |  |  |
|  | CSK543 $\square$ A-TG30 | PK543N■WA-T30 | CSD5807N-T |  |  |
|  | CSK564■A-TG3.6 | PK564N $\square$ WA-T3.6 | CSD5814N-T |  | C-125 |
|  | CSK564■A-TG7.2 | PK564N■WA-T7.2 | CSD5814N-T |  |  |
|  | CSK564 $\square$ A-TG10 | PK564N■WA-T10 | CSD5814N-T |  |  |
|  | CSK564 $\square$ A-TG20 | PK564N■WA-T20 | CSD5814N-T |  |  |
|  | CSK564■A-TG30 | PK564N■WA-T30 | CSD5814N-T |  |  |

[^5]Low-Speed Synchronous Motors

| Model | Overheating Protection Device | UL File No. | Page |
| :--- | :---: | :---: | :---: |
| SMK237A-A | Impedance Protection | E64199 | $\mathrm{C}-273$ |
| SMK216A-GN | Impedance Protection | E64199 | $\mathrm{C}-273$ |
| SMK5100A-AA | Impedance Protection | E 64199 | $\mathrm{C}-273$ |
| SMK5160A-AA | Impedance Protection | E 64199 | $\mathrm{C}-273$ |
| SMK550A-GN | Impedance Protection | E 64199 | $\mathrm{C}-273$ |

## AC Axial Flow Fans MRS Series



* The MRS25 and MRS 18V2 types are recognized to Canadian safety requirements under the Component Recognition Program of Underwriters Laboratories Inc.

DC Axial Flow Fans MDS•MD Series

| Model | UL File |
| :--- | :---: | :---: | :---: | :---: | :---: |
| No. |  |

AC Axial Flow Fans
MU Series

| Model | Overheating Protection | $\begin{aligned} & \hline \text { UL File } \\ & \text { No. } \end{aligned}$ | CSA <br> Certificate No. | Degree of Protection | EN/EC Standard |  | JET <br> Certificate No. | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Device |  |  |  | Certification Body | Licence No. |  |  |
| $\begin{aligned} & \text { MU1238A-21B } \\ & \text { MU1238B-21B } \\ & \text { MU1238L-21B } \end{aligned}$ | Impedance Protection | E58377 | LR62524 | IPO0 | VDE | 5870 | 0018-91002-001 | E-36 |
| MU1238A-51B MU1238B-51B MU1238L-51B |  | E58377 | LR62524 | IP00 | VDE | 5870 | 0018-91002-002 | E-36 |
| $\begin{aligned} & \text { MU1225S-21 } \\ & \text { MU1225M-21 } \end{aligned}$ |  | E58377 | LR62524 | IP00 | VDE | 5870 | 0018-91002-001 | E-38 |
| MU1225S-5 1 <br> MU1225M-51 |  | E58377 | LR62524 | IP00 | VDE | 5870 | 0018-91002-002 <br> 0018-91002-003 | E-38 |
| $\begin{aligned} & \text { MU925S-21 } \\ & \text { MU925M-21 } \end{aligned}$ |  | E58377 | LR62524 | IP00 | VDE | 5870 | 0018-91002-001 | E-40 |
| $\begin{aligned} & \text { MU925S-5 } 1 \\ & \text { MU925M-5 } 1 \end{aligned}$ |  | E58377 | LR62524 | IP00 | VDE | 5870 | 0018-91002-002 <br> 0018-91002-003 | E-40 |
| $\begin{aligned} & \hline \text { MU825S-23 } \\ & \text { MU825S-53 } \end{aligned}$ |  | E58377 | LR62524 | IP00 | VDE | 5870 | - | E-42 |

Centrifugal Blowers MB Series

| Model | Overheating Protection Device | UL File No. | Degree of Protection | EN/IEC Standard |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Certification Body | Licence No.or Cerificate No. |  |
| MB1665-B | Thermal Protector | E58377 | IP00 | VDE | 6755 | E-66 |
| MB1665-D |  |  |  |  |  |  |
| MB1665-T |  |  |  |  |  |  |
| MB1255-B | Thermal Protector | E58377 | IP00 | VDE | 6755 | E-68 |
| MB1255-D |  |  |  |  |  |  |
| MB1255-T | Thermal Protector | E58377 | IPOO | - | - | E-68 |
| MB1040-B | Thermal Protector | E58377 | IP00 | VDE | 6755 | E-70 |
| MB1040-D |  |  |  |  |  |  |
| MB840-B | Thermal Protector | E58377 | IP00 | DEMKO | 135714 | E-72 |
| MB840-D |  |  |  |  |  |  |
| MB840-T | Thermal Protector | E58377 | IP00 | - | - | E-72 |
| MB630-B | Impedance Protection | E58377 | IP00 | VDE | 6755 | E-74 |
| MB630-D |  |  |  |  |  |  |
| MB520-B | Impedance Protection | E58377 | IP00 | VDE | 6755 | E-76 |
| MB520-D |  |  |  |  |  |  |

Cross Flow Fans MF Series

| Model | Overheating Protection Device | $\begin{gathered} \hline \text { UL File } \\ \text { No. } \end{gathered}$ | Degree of Protection | EN/IEC Standard |  | Page |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Certification Body | Licence No. |  |
| MF930-BC <br> MF930B-BC <br> MF930-DC <br> MF930B-DC | Thermal Protector | E58377 | IP00 | VDE | 5854 | E-88 |
| MF915-BC <br> MF915B-BC <br> MF915-DC <br> MF915B-DC | Thermal Protector | E58377 | IP00 | VDE | 5854 | E-90 |

Thermostats

| Model | UL File No. | CSA <br> Certificate No. | Degree of Protection | Page |
| :---: | :---: | :---: | :---: | :---: |
| AM1-WA1 <br> AM1-XA1 | E164102 | E164102 | IP00 | E-98 |

## ISO9001 and ISO14001

Quality is vital for a company operating on a worldwide scale. The quality assurance system at Oriental Motor meets all global requirements.

## ISO9000 Series

Oriental Motor has put in place a quality assurance system to ensure our products satisfy the quality needs of all customers. Our quality assurance system consists of four components: a forward-thinking product development system for creating new products that meet the anticipated needs of our customers in the future; an immediate delivery system that can flexibly address the demands for multi-product, small-lot production; a responsive sales system for answering all customer inquiries in a timely manner; and a comprehensive after-sales service system. We at Oriental Motor are continually improving these key components of our quality assurance system.

## Plants that have acquired Certification for ISO9001 and ISO14001

| Plants |  | Products |
| :--- | :--- | :--- | :--- |
|  |  |  |
| Tsuruoka Plants (Chuo, Nishi, Higashi) |  | AC Motors |
| Tsuchiura Plant |  | Brushless DC Motors |
| Takamatsu Plants (Tarumi, Kozai) |  | Stepping Motors |
| Soma Plant |  | Servo Motors |
| Kashiwa Plant |  | Fan Motors |
| U.S.A. Plant (ISO9001 Only) |  | Drive Circuits |
|  |  | Electric actuators |
|  |  | Accessories |

## ISO14000 Series

Oriental Motor plays a positive role in preserving the global environment. Protecting the global environment is a major task for all humankind. Companies in the manufacturing sector must contribute to this effort. Oriental Motor is fully aware of its environmental responsibilities. We strive to create environmentally friendly products and reduce the output of waste. We believe that acquisition of the ISO14001 standard, which is related to the environment, is an important step to promote activities of environmental preservation.

## Global Power Supply Voltages

| Country | Frequency | Voltage |
| :--- | :---: | :--- |
| Canada | 60 Hz | Single-Phase 120/347 VAC, Three-Phase 208/240/600 VAC |
| U.S.A. | 60 Hz | Single-Phase 115/230 VAC, Three-Phase 230 VAC |
| Austria | 50 Hz | Single-Phase 230 VAC, Three-Phase 400 VAC |
| Belgium | 50 Hz | Single-Phase 230 VAC, Three-Phase 400 VAC |
| Bulgaria | 50 Hz | Single-Phase 220 VAC, Three-Phase 380 VAC |
| Czech Republic | 50 Hz | Single-Phase 220 VAC, Three-Phase 380 VAC |
| Denmark | 50 Hz | Single-Phase 230 VAC, Three-Phase 400 VAC |
| Finland | 50 Hz | Single-Phase 230 VAC, Three-Phase 400 VAC |
| France | 50 Hz | Single-Phase 230 VAC, Three-Phase 400 VAC |
| Germany | 50 Hz | Single-Phase 230 VAC, Three-Phase 400 VAC |
| Greece | 50 Hz | Single-Phase 230 VAC, Three-Phase 400 VAC |
| Hungary | 50 Hz | Single-Phase 220 VAC, Three-Phase 380 VAC |
| Italy | 50 Hz | Single-Phase 220 VAC, Three-Phase 380 VAC |
| Luxembourg | 50 Hz | Single-Phase 230 VAC, Three-Phase 400 VAC |
| Netherlands | 50 Hz | Single-Phase 230 VAC, Three-Phase 400 VAC |
| Norway | 50 Hz | Single-Phase 220/230 VAC, Three-Phase 380 VAC |
| Poland | 50 Hz | Single-Phase 220 VAC, Three-Phase 380 VAC |
| Portugal | 50 Hz | Single-Phase 230 VAC, Three-Phase 400/480 VAC |
| Romania | 50 Hz | Single-Phase 220 VAC, Three-Phase 380 VAC |
| Spain | 50 Hz | Single-Phase 127/220 VAC, Three-Phase 220/380 VAC |
| Sweden | 50 Hz | Single-Phase 230/400 VAC, Three-Phase 400/690 VAC |
| Switzerland | 50 Hz | Single-Phase 230 VAC, Three-Phase 400 VAC |
| United Kingdom | 50 Hz | Single-Phase 240 VAC, Three-Phase 415VAC |
| China | 50 Hz | Single-Phase 220 VAC, Three-Phase 220 VAC |
| Japan | $50 / 60 ~ H z$ | Single-Phase 100/200 VAC, Three-Phase 200 VAC |
| Korea | 60 Hz | Single-Phase 110/220 VAC, Three-Phase 200/220/380 VAC |
| Malaysia | 50 Hz | Single-Phase 240 VAC, Three-Phase 415 VAC |
| Thailand | 50 Hz | Single-Phase 220 VAC, Three-Phase 380 VAC |
| India | 50 Hz | Single-Phase 230/240 VAC, Three-Phase 400/415 VAC |
| Singapore | 50 Hz | Single-Phase 230 VAC, Three-Phase 400 VAC |
| Taiwan | 60 Hz | Single-Phase 110/220 VAC, Three-Phase 220/380 VAC |
|  |  |  |

## Power Supply Voltage and Motor Rated Voltage

Line voltage varies from country to country and, in some places, from city to city. The line voltages and frequencies of many countries are shown in the table above. Oriental Motor offers motors and fans for worldwide use. Our wide range of products includes those that meet North American voltage specifications, as well as Asian and European voltage specifications. If a motor is to be used with a different power supply voltage than specified, a transformer must be connected between the power supply and the motor. The primary winding of the transformer should be of the same voltage as the power source, and the secondary winding voltage should be the same as the voltage rating of the motor or fan.


The transformer should be rated for a current of at least twice the rated motor current to allow for the current peak at motor start. The transformer should also possess stable transforming characteristics.

## Product Line Updates

Some products published in previous versions of this catalog may not be included in the current version. If you cannot find an Oriental Motor product in this catalog, refer to the list below. If it is listed under Previously Published Products, the equivalent Recommended Substitution is listed in the next column. If you have any questions regarding any product line updates, contact your local sales office.

Note:

- The specifications and/or drawings for the Recommended Substitution and the Previously Published Products may not be exactly the same. Please check them carefully before deciding which product to use.

Standard AC Motors

| Previously Published Products (not included in this catalog) | Recommended Substitution | Page |
| :---: | :---: | :---: |
| 2GB10XK <br> 2GB3KA <br> 2GB3.6KA <br> 2GB5KA <br> 2GB6KA <br> 2GB7.5KA <br> 2GB9KA <br> 2GB12.5KA <br> 2GB15KA <br> 2GB18KA <br> 2GB25KA <br> 2GB30KA <br> 2GB36KA <br> 2GB50KA <br> 2GB60KA <br> 2GB75KA <br> 2GB90KA <br> 2GB100KA <br> 2GB120KA <br> 2GB150KA <br> 2GB180KA | 2GN $\square$ KA Type <br> Motor and gearhead need to be replaced together. Motor and gearhead can not be replaced separately. | A-20 |
| $\begin{aligned} & \text { 2GB250KA } \\ & \text { 2GB300KA } \\ & \text { 2GB360KA } \end{aligned}$ | - | - |
| 4GB10XK 4GB3KA 4GB3.6KA 4GB5KA 4GB6KA 4GB7.5KA 4GB9KA 4GB12.5KA 4GB15KA 4GB18KA 4GB25KA 4GB30KA 4GB36KA 4GB50KA 4GB60KA 4GB75KA 4GB90KA 4GB100KA 4GB120KA 4GB150KA 4GB180KA | 4GN $\square$ KA Type <br> Motor and gearhead need to be replaced together. Motor and gearhead can not be replaced separately. | A-28 |
| 4GB250KA 4GB300KA 4GB360KA | - | - |
| 2IJ3A-AULA | 2IK6A-AWU | A-20 |
| 2IJ3GB-AUL | 2IK6GN-AWU | A-20 |
| 4IJ15A-AULA | 4IK25A-AWU | A-28 |
| 4IJ15GB-AUL | 4IK25GN-AWU | A-28 |
| 2RJ4A-AULA | 2RK6A-AWU | A-74 |
| 2RJ4GB-AUL | 2RK6GN-AWU | A-74 |
| 4RJ20A-AULA | 4RK25A-AWU | A-82 |
| 4RJ20GB-AUL | 4RK25GN-AWU | A-82 |
| 2IK6A-AULA | 2IK6A-AWU | A-20 |
| 2IK6GN-AUL | 2IK6GN-AWU | A-20 |
| 3IK15A-AULA | 3IK15A-AWU | A-24 |
| 3IK15GN-AUL | 3IK15GN-AWU | A-24 |
| 4IK25A-AULA | 4IK25A-AWU | A-28 |
| 4IK25GN-AUL | 4IK25GN-AWU | A-28 |


| Previously Published Products <br> (not included in this catalog) |  | Recommended <br> Substitution |
| :--- | :--- | :---: |
| 5IK40A-AULA | 5IK40A-AWU | Page |
| 5IK40GN-AUL | 5IK40GN-AWU | $\mathrm{A}-34$ |
| 5IK60A-AFUL | 5IK60A-AWU | $\mathrm{A}-34$ |
| 5IK60GU-AFUL | 5IK60GU-AWU | $\mathrm{A}-40$ |
| 5IK90A-AFUL | 5IK90A-AWU | $\mathrm{A}-40$ |
| 5IK90GU-AFUL | 5IK90GU-AWU | $\mathrm{A}-47$ |
| 2RK6A-AULA | 2RK6A-AWU | $\mathrm{A}-47$ |
| 2RK6GN-AUL | 2RK6GN-AWU | $\mathrm{A}-74$ |
| 2RK6A-AMULA | 2RK6A-AWMU | $\mathrm{A}-74$ |
| 2RK6GN-AMUL | 2RK6GN-AWMU | $\mathrm{A}-132$ |
| 3RK15A-AULA | 3RK15A-AWU | $\mathrm{A}-132$ |
| 3RK15GN-AUL | 3RK15GN-AWU | $\mathrm{A}-78$ |
| 3RK15A-AMULA | 3RK15A-AWMU | $\mathrm{A}-78$ |
| 3RK15GN-AMUL | 3RK15GN-AWMU | $\mathrm{A}-137$ |
| 4RK25A-AULA | 4RK25A-AWU | $\mathrm{A}-137$ |
| 4RK25GN-AUL | 4RK25GN-AWU | $\mathrm{A}-82$ |
| 4RK25A-AMULA | 4RK25A-AWMU | A-82 |
| 4RK25GN-AMUL | 4RK25GN-AWMU | $\mathrm{A}-142$ |
| 5RK40A-AULA | 5RK40A-AWU | $\mathrm{A}-142$ |
| 5RK40GN-AUL | 5RK40GN-AWU | $\mathrm{A}-87$ |
| 5RK40A-AMULA | 5RK40A-AWMU | $\mathrm{A}-87$ |
| 5RK40GN-AMUL | 5RK40GN-AWMU | $\mathrm{A}-147$ |
| 5RK60A-AMUL | 5RK60A-AWMU | $\mathrm{A}-147$ |
| 5RK60GU-AFUL | 5RK60GU-AWU | $\mathrm{A}-152$ |
| 5RK60GU-AMUL | 5RK60GU-AWMU | A-92 |
| 5RK90A-AMUL | 5RK90GU-AFUL | 5RK90A-AWMU |
| 5RK90GU-AMUL | 5RK90GU-AWU | A-152 |

## Speed Control Systems

| Previously Published Products (not included in this catalog) | Recommended Substitution | Page |
| :---: | :---: | :---: |
| 2IK6RA-AULA | 2IK6RA-AWU | B-86 |
| 2IK6RGN-AUL | 2IK6RGN-AWU | B-86 |
| 3IK15RA-AULA | 3IK15RA-AWU | B-86 |
| 3IK15RGN-AUL | 3IK15RGN-AWU | B-86 |
| 4IK22RA-AULA | 4IK22RA-AWU | B-86 |
| 4IK22RGN-AUL | 4IK22RGN-AWU | B-86 |
| 5IK40RA-AULA | 5IK40RA-AWU | B-86 |
| 5IK40RGN-AUL | 5IK40RGN-AWU | B-86 |
| HBL210K-AA | AXH230KC-A | B-58 |
| HBL210K-GN/2GN $\square$ KA | AXH230KC- $\square$ | B-58 |
| HBL425K-AA | AXH450KC-A | B-58 |
| HBL425K-GN/4GN $\square$ KA | AXH450KC- $\square$ | B-58 |
| HBL540K-AA | AXH5100KC-A | B-58 |
| HBL540K-GN/5GN $\square$ KA | AXH5100KC- $\square$ | B-58 |
| PAVR-20KY | PAVR-20KZ | A-216 |
| SC206-001WU | 2IK6RA-AWU/ESO1 | B-86 |
| SC206-002WE | 2IK6RA-CWE/ESO2 | B-86 |
| SC206-011WU | 2RK6RA-AWU/ESO 1 | B-86 |
| SC206-012WE | 2RK6RA-CWE/ES02 | B-86 |
| SC206-401 WU | 2IK6RGN-AWU/ESO1 | B-86 |
| SC206-402WE | 2IK6RGN-CWE/ESO2 | B-86 |
| SC206-411WU | 2RK6RGN-AWU/ESO1 | B-86 |
| SC206-412WE | 2RK6RGN-CWE/ESO2 | B-86 |
| SC315-001WU | 3IK15RA-AWU/ES01 | B-86 |
| SC315-002WE | 3IK15RA-CWE/ES02 | B-86 |


| Previously Published Products (not included in this catalog) | Recommended Substitution | Page |
| :---: | :---: | :---: |
| SC315-011WU | 3RK15RA-AWU/ESO1 | B-86 |
| SC315-012WE | 3RK15RA-CWE/ES02 | B-86 |
| SC315-401WU | 3IK15RGN-AWU/ESO1 | B-86 |
| SC315-402WE | 3IK15RGN-CWE/ESO2 | B-86 |
| SC315-411WU | 3RK15RGN-AWU/ESO1 | B-86 |
| SC315-412WE | 3RK15RGN-CWE/ESO2 | B-86 |
| SC425-001WU | 4IK25RA-AWU/ESO1 | B-86 |
| SC425-002WE | 4IK25RA-CWE/ESO2 | B-86 |
| SC425-011WU | 4RK25RA-AWU/ESO1 | B-86 |
| SC425-012WE | 4RK25RA-CWE/ESO2 | B-86 |
| SC425-401WU | 4IK25RGN-AWU/ESO1 | B-86 |
| SC425-402WE | 4IK25RGN-CWE/ESO2 | B-86 |
| SC425-41 IWU | 4RK25RGN-AWU/ESO1 | B-86 |
| SC425-412WE | 4RK25RGN-CWE/ESO2 | B-86 |
| SC540-001WU | 5IK40RA-AWU/ESO1 | B-86 |
| SC540-002WE | 5IK40RA-CWE/ESO2 | B-86 |
| SC540-011WU | 5RK40RA-AWU/ESO1 | B-86 |
| SC540-012WE | 5RK40RA-CWE/ESO2 | B-86 |
| SC540-401WU | 5IK40RGN-AWU/ESO1 | B-86 |
| SC540-402WE | 5IK40RGN-CWE/ESO2 | B-86 |
| SC540-411WU | 5RK40RGN-AWU/ESO1 | B-86 |
| SC540-412WE | 5RK40RGN-CWE/ESO2 | B-86 |
| SC560-001WU | 5IK60RA-AWU/ES01 | B-86 |
| SC560-002WE | 5IK60RA-CWE/ES02 | B-86 |
| SC560-01 IWU | 5RK60RA-AWU/ESO1 | B-86 |
| SC560-012WE | 5RK60RA-CWE/ES02 | B-86 |
| SC560-501WU | 5IK60RGU-AWU/ESO1 | B-86 |
| SC560-502WE | 5IK60RGU-CWE/ES02 | B-86 |
| SC560-511WU | 5RK60RGU-AWU/ESO1 | B-86 |
| SC560-512WE | 5RK60RGU-CWE/ESO2 | B-86 |
| SS21-UL | ESO1 | B-86 |


| Stepping Motors |  |  |
| :---: | :---: | :---: |
| Previously Published Products (not included in this catalog) | Recommended Substitution | Page |
| D4CL-5.0 | D4CL-5.0F | C-293 |
| D6CL-6.3 | D6CL-6.3F | C-293 |
| D6CL-8.0 | D6CL-8.0F | C-293 |
| D9CL-12.7 | D9CL-12.7F | C-293 |
| D9CL-14 | D9CL-14F | C-293 |
| PMU33AH3 | PMC33A3 | C-138 |
| PMU33BH3 | PMC33B3 | C-138 |
| PMU35AH3 | PMC35A3 | C-138 |
| PMU35BH3 | PMC35B3 | C-138 |
| PMU33AH1-MG3.6*2 | PMC33A1-MG3.6 | C-139 |
| PMU33BH1-MG3.6*2 | PMC33B 1-MG3.6 | C-139 |
| PMU33AH1-MG7.2*2 | PMC33A1-MG7.2 | C-139 |
| PMU33BH1-MG7.2*2 | PMC33B 1-MG7.2 | C-139 |
| PMU33AH1-MG10*2 | PMC33A1-MG10 | C-139 |
| PMU33BH1-MG10*2 | PMC33B1-MG10 | C-139 |
| PMU33AH1-MG20*2 | PMC33A1-MG20 | C-139 |
| PMU33BH1-MG20*2 | PMC33B1-MG20 | C-139 |
| PMU33AH 1-MG30*2 | PMC33A1-MG30 | C-139 |
| PMU33BH1-MG30*2 | PMC33B1-MG30 | C-139 |
| RFK543AA | CFK543AT | C-109 |
| RFK543BA | CFK543BT | C-109 |
| RFK544AA | CFK544AT | C-109 |
| RFK544BA | CFK544BT | C-109 |
| RFK545AA | CFK545AT | C-109 |
| RFK545BA | CFK545BT | C-109 |
| RFK564AA | CFK564AT | C-109 |
| RFK564BA | CFK564BT | C-109 |
| RFK566AA | CFK566AT | C-109 |
| RFK566BA | CFK566BT | C-109 |
| RFK569AA | CFK569AT | C-109 |
| RFK569BA | CFK569BT | C-109 |
| SMK014K-AA | SMK014A-A | C-274 |
| UFK564AW*1 | RK564AA | C-82 |
| UFK564BW* ${ }^{\text {* }}$ | RK564BA | C-82 |
| UFK566AW* ${ }^{\text {* }}$ | RK566AA | C-82 |
| UFK566BW*1 | RK566BA | C-82 |
| UFK569AW*1 | RK569AA | C-82 |

*1 AS Series is also available to replace UPK•W, UFK•W, UPK Series.
*2 ASC Series is available to replace PMU Series.

- AS Series model names apply to single shaft types. If double shaft models are required, please contact our sales office.

| Previously Published Products (not included in this catalog) | Recommended Substitution | Page |
| :---: | :---: | :---: |
| UFK569BW* ${ }^{\text {* }}$ | RK569BA | C-82 |
| UFK596AW* ${ }^{\text {* }}$ | RK596AA | C-82 |
| UFK596BW*1 | RK596BA | C-82 |
| UFK599AW* ${ }^{*}$ | RK599AA | C-82 |
| UFK599BW*1 | RK599BA | C-82 |
| UFK5913AW*1 | RK5913AA | C-82 |
| UFK5913BW** | RK5913BA | C-82 |
| UFK564AW-T3.6*1 | RK564AA-T3.6 | C-84 |
| UFK564BW-T3.6*1 | RK564BA-T3.6 | C-84 |
| UFK564AW-T7.2*1 | RK564AA-T7.2 | C-84 |
| UFK564BW-T7.2*1 | RK564BA-T7.2 | C-84 |
| UFK564AW-T10*1 | RK564AA-T 10 | C-84 |
| UFK564BW-T10*1 | RK564BA-T10 | C-84 |
| UFK564AW-T20*1 | RK564AA-T20 | C-84 |
| UFK564BW-T20*1 | RK564BA-T20 | C-84 |
| UFK564AW-T30*1 | RK564AA-T30 | C-84 |
| UFK564BW-T30*1 | RK564BA-T30 | C-84 |
| UFK596AW-T3.6*1 | RK596AA-T3.6 | C-85 |
| UFK596BW-T3.6*1 | RK596BA-T3.6 | C-85 |
| UFK596AW-T7.2*1 | RK596AA-T7.2 | C-85 |
| UFK596BW-T7.2*1 | RK596BA-T7.2 | C-85 |
| UFK596AW-T10*1 | RK596AA-T 10 | C-85 |
| UFK596BW-T10*1 | RK596BA-T10 | C-85 |
| UFK596AW-T20*1 | RK596AA-T20 | C-85 |
| UFK596BW-T20*1 | RK596BA-T20 | C-85 |
| UFK596AW-T30*1 | RK596AA-T30 | C-85 |
| UFK596BW-T30*1 | RK596BA-T30 | C-85 |
| UFK566AW-N5*1 | RK566AA-N5 | C-87 |
| UFK566BW-N5*1 | RK566BA-N5 | C-87 |
| UFK566AW-N7.2*1 | RK566AA-N7. 2 | C-87 |
| UFK566BW-N7.2*1 | RK566BA-N7.2 | C-87 |
| UFK566AW-N10*1 | RK566AA-N10 | C-87 |
| UFK566BW-N10*1 | RK566BA-N10 | C-87 |
| UFK564AW-N25*1 | RK564AA-N25 | C-87 |
| UFK564BW-N25*1 | RK564BA-N25 | C-87 |
| UFK564AW-N36*1 | RK564AA-N36 | C-87 |
| UFK564BW-N36*1 | RK564BA-N36 | C-87 |
| UFK564AW-N50*1 | RK564AA-N50 | C-87 |
| UFK564BW-N50*1 | RK564BA-N50 | C-87 |
| UPK543AA*1 | RK543AA | C-81 |
| UPK543BA*1 | RK543BA | C-81 |
| UPK544AA* ${ }^{\text {* }}$ | RK544AA | C-81 |
| UPK544BA*1 | RK544BA | C-81 |
| UPK545AA* | RK545AA | C-81 |
| UPK545BA*1 | RK545BA | C-81 |
| UPK564AA* | RK564AA | C-82 |
| UPK564BA*1 | RK564BA | C-82 |
| UPK566AA* ${ }^{\text {* }}$ | RK566AA | C-82 |
| UPK566BA*1 | RK566BA | C-82 |
| UPK569AA* ${ }^{\text {* }}$ | RK569AA | C-82 |
| UPK569BA*1 | RK569BA | C-82 |
| UPK569AHA | AS69AA | C-21 |
| UPK569BHA | AS69AA | C-21 |
| UPK596AA* | RK596AA | C-82 |
| UPK596BA*1 | RK596BA | C-82 |
| UPK599AA* ${ }^{\text {* }}$ | RK599AA | C-82 |
| UPK599BA*1 | RK599BA | C-82 |
| UPK5913AA* | RK5913AA | C-82 |
| UPK5913BA*1 | RK5913BA | C-82 |
| UPK596AHA | AS98AA | C-21 |
| UPK596BHA | AS98AA | C-21 |
| UPK599AHA | AS911AA | C-21 |
| UPK599BHA | AS911AA | C-21 |
| UPK5913AHA | AS911AA | C-21 |
| UPK5913BHA | AS911AA | C-21 |
| UPK543AW** | RK564AA | C-82 |
| UPK543BW** | RK564BA | C-82 |
| UPK544AW** | RK564AA | C-82 |
| UPK544BW** | RK564BA | C-82 |
| UPK545AW *1 | RK564AA | C-82 |
| UPK545BW * ${ }^{\text {* }}$ | RK564BA | C-82 |
| UPK564AW2 *1 | RK564AA | C-82 |
| UPK564BW2* ${ }^{\text {* }}$ | RK564BA | C-82 |
| UPK566AW2 *1 | RK566AA | C-82 |
| UPK566BW2 * ${ }^{\text {* }}$ | RK566BA | C-82 |
| UPK569AW2 *1 | RK569AA | C-82 |
| UPK569BW2*1 | RK569BA | C-82 |

*1 AS Series is also available to replace UPK-W, UFK•W, UPK Series. required, please contact our sales office.

| Previously Published Products (not included in this catalog) | Recommended Substitution | Page |
| :---: | :---: | :---: |
| UPK596AW2*1 | RK596AA | C-82 |
| UPK596BW2* | RK596BA | C-82 |
| UPK599AW2* ${ }^{\text {* }}$ | RK599AA | C-82 |
| UPK599BW2*1 | RK599BA | C-82 |
| UPK5913AW2* | RK5913AA | C-82 |
| UPK5913BW2*1 | RK5913BA | C-82 |
| UPK564AJW*1 | RK564AC | C-82 |
| UPK564BJW* ${ }^{\text {* }}$ | RK564BC | C-82 |
| UPK566AJW*1 | RK566AC | C-82 |
| UPK566BJW* ${ }^{\text {* }}$ | RK566BC | C-82 |
| UPK569AJW*1 | RK569AC | C-82 |
| UPK569BJW* ${ }^{\text {* }}$ | RK569BC | C-82 |
| UPK596AJW* | RK596AC | C-82 |
| UPK596BJW* | RK596BC | C-82 |
| UPK599AJW*1 | RK599AC | C-82 |
| UPK599BJW*1 | RK599BC | C-82 |
| UPK5913AJW*1 | RK5913AC | C-82 |
| UPK5913BJW** | RK5913BC | C-82 |
| UPK569AHW2 | AS69AA | C-21 |
| UPK569BHW2 | AS69AA | C-21 |
| UPK596AHW2 | AS98AA | C-21 |
| UPK596BHW2 | AS98AA | C-21 |
| UPK599AHW2 | AS911AA | C-21 |
| UPK599BHW2 | AS911AA | C-21 |
| UPK5913AHW2 | AS911AA | C-21 |
| UPK5913BHW2 | AS91IAA | C-21 |
| UPK543AW-T3.6*1 | RK543AA-T3.6 | C-83 |
| UPK543BW-T3.6*1 | RK543BA-T3.6 | C-83 |
| UPK543AW-T7.2*1 | RK543AA-T7. 2 | C-83 |
| UPK543BW-T7.2** | RK543BA-T7.2 | C-83 |
| UPK543AW-T10*1 | RK543AA-T10 | C-83 |
| UPK543BW-T10*1 | RK543BA-T10 | C-83 |
| UPK543AW-T20*1 | RK543AA-T20 | C-83 |
| UPK543BW-T20*1 | RK543BA-T20 | C-83 |
| UPK543AW-T30*1 | RK543AA-T30 | C-83 |
| UPK543BW-T30*1 | RK543BA-T30 | C-83 |
| UPK564AW-T3.6*1 | RK564AA-T3.6 | C-84 |
| UPK564BW-T3.6** | RK564BA-T3.6 | C-84 |
| UPK564AW-T7.2*1 | RK564AA-T7.2 | C-84 |
| UPK564BW-T7.2*1 | RK564BA-T7.2 | C-84 |
| UPK564AW-T10* | RK564AA-T10 | C-84 |
| UPK564BW-T10*1 | RK564BA-T10 | C-84 |
| UPK564AW-T20*1 | RK564AA-T20 | C-84 |
| UPK564BW-T20*1 | RK564BA-T20 | C-84 |
| UPK564AW-T30*1 | RK564AA-T30 | C-84 |
| UPK564BW-T30*1 | RK564BA-T30 | C-84 |
| UPK564AJW-T3.6*1 | RK564AC-T3.6 | C-84 |
| UPK564BJW-T3.6*1 | RK564BC-T3.6 | C-84 |
| UPK564AJW-T7.2*1 | RK564AC-T7.2 | C-84 |
| UPK564BJW-T7.2*1 | RK564BC-T7.2 | C-84 |
| UPK564AJW-T10*1 | RK564AC-T10 | C-84 |
| UPK564BJW-T10*1 | RK564BC-T10 | C-84 |
| UPK564AJW-T20*1 | RK564AC-T20 | C-84 |
| UPK564BJW-T20*1 | RK564BC-T20 | C-84 |
| UPK564AJW-T30*1 | RK564AC-T30 | C-84 |
| UPK564BJW-T30*1 | RK564BC-T30 | C-84 |
| UPK596AW-T3.6*1 | RK596AA-T3.6 | C-85 |
| UPK596BW-T3.6* ${ }^{*}$ | RK596BA-T3.6 | C-85 |
| UPK596AW-T7.2*1 | RK596AA-T7.2 | C-85 |
| UPK596BW-T7.2** | RK596BA-T7.2 | C-85 |
| UPK596AW-T10*1 | RK596AA-T10 | C-85 |
| UPK596BW-T10*1 | RK596BA-T10 | C-85 |
| UPK596AW-T20*1 | RK596AA-T20 | C-85 |
| UPK596BW-T20*1 | RK596BA-T20 | C-85 |
| UPK596AW-T30*1 | RK596AA-T30 | C-85 |
| UPK596BW-T30*1 | RK596BA-T30 | C-85 |
| UPK596BJW-T3.6*1 | RK596BC-T3.6 | C-85 |
| UPK596AJW-T3.6*1 | RK596AC-T3.6 | C-85 |
| UPK596AJW-T7.2*1 | RK596AC-T7.2 | C-85 |
| UPK596BJW-T7.2*1 | RK596BC-T7.2 | C-85 |
| UPK596AJW-T10*1 | RK596AC-T10 | C-85 |
| UPK596BJW-T10*1 | RK596BC-T10 | C-85 |
| UPK596AJW-T20*1 | RK596AC-T20 | C-85 |
| UPK596BJW-T20*1 | RK596BC-T20 | C-85 |
| UPK596AJW-T30*1 | RK596AC-T30 | C-85 |
| UPK596BJW-T30*1 | RK596BC-T30 | C-85 |
| UPK566AW-N5*1 | RK566AA-N5 | C-87 |

*1 AS Series is also available to replace UPK•W, UFK•W, UPK Series.

- AS Series model names apply to single shaft types. If double shaft models are required, please contact our sales office.

| Previously Published Products (not included in this catalog) | Recommended Substitution | Page |
| :---: | :---: | :---: |
| UPK566BW-N5*1 | RK566BA-N5 | C-87 |
| UPK566AW-N10*1 | RK566AA-N10 | C-87 |
| UPK566BW-N10*1 | RK566BA-N10 | C-87 |
| UPK566AW-N7.2*1 | RK566AA-N7.2 | C-87 |
| UPK566BW-N7.2*1 | RK566BA-N7.2 | C-87 |
| UPK564AW-N25*1 | RK564AA-N25 | C-87 |
| UPK564BW-N25*1 | RK564BA-N25 | C-87 |
| UPK564AW-N36*1 | RK564AA-N36 | C-87 |
| UPK564BW-N36*1 | RK564BA-N36 | C-87 |
| UPK564AW-N50*1 | RK564AA-N50 | C-87 |
| UPK564BW-N50*1 | RK564BA-N50 | C-87 |
| UPK566AJW-N5*1 | RK566AC-N5 | C-87 |
| UPK566BJW-N5*1 | RK566BC-N5 | C-87 |
| UPK566AJW-N7.2*1 | RK566AC-N7.2 | C-87 |
| UPK566BJW-N7.2*1 | RK566BC-N7.2 | C-87 |
| UPK566AJW-N10*1 | RK566AC-N10 | C-87 |
| UPK566BJW-N10*1 | RK566BC-N 10 | C-87 |
| UPK564AJW-N25*1 | RK564AC-N25 | C-87 |
| UPK564BJW-N25*1 | RK564BC-N25 | C-87 |
| UPK564AJW-N36*1 | RK564AC-N36 | C-87 |
| UPK564BJW-N36*1 | RK564BC-N36 | C-87 |
| UPK564AJW-N50*1 | RK564AC-N50 | C-87 |
| UPK564BJW-N50*1 | RK564BC-N50 | C-87 |

*1 AS Series is also available to replace UPK•W, UFK•W, UPK Series.

- AS Series model names apply to single shaft types. If double shaft models are required, please contact our sales office.

| Linear Motion |  |  |
| :---: | :---: | :---: |
| Previously Published Products (not included in this catalog) | Recommended Substitution | Page |
| 5LB10N- $\qquad$ <br> 5LB20N- $\square$ <br> 5LB45N- $\square$ <br> 5LF10N- $\square$ <br> 5LF20N- <br> 5LF45N- $\square$ | 5LB10U- $\square$ <br> 5LB20U- $\square$ <br> 5LB45U- $\square$ <br> 5LF10U- <br> 5LF20U- $\square$ <br> 5LF45U- $\square$ | $\begin{aligned} & \mathrm{D}-30 \\ & \mathrm{D}-30 \\ & \mathrm{D}-30 \\ & \mathrm{D}-30 \\ & \mathrm{D}-30 \\ & \mathrm{D}-30 \end{aligned}$ |
| - Enter the number which indicates the stroke length in the box ( $\square$ ) within the model name. <br> - Motor and linear head need to be replaced together. |  |  |
| Cooling Fans |  |  |
| Previously Published Products (not included in this catalog) | Recommended Substitution | Page |
| FG4B FG5B FG6B | $\begin{aligned} & \text { FG4D } \\ & \text { FG5D } \\ & \text { FG6D } \end{aligned}$ | $\begin{aligned} & \text { E-102 } \\ & \text { E-102 } \\ & \text { E-102 } \end{aligned}$ |


| Model |  |
| :---: | :---: |
|  |  |
| 0 N (Gearheads) |  |
| OGN100KA.................................. A-18 |  |
| OGN 1 2.5KA ............................... A-18 |  |
| OGN1 20KA .............................. A-1 |  |
| OGN 1 50KA................................. A-18 |  |
| OGN1 5KA .................................. A-18 |  |
|  |  |
| OGN 1 8KA .................................... A-18 |  |
| OGN25KA .................................. A-18 |  |
| OGN3.6KA .............................. A-18 |  |
| OGN30KA ................................... A-18 |  |
| OGN36KA .................................. A-18 |  |
| OGN3KA ................................. A-18 |  |
| OGN50KA .................................... A-18 |  |
| OGN5KA ................................... A-18 |  |
| OGN60KA .................................. A-18 |  |
| OGN6KA ...................................... A-18 |  |
| OGN7.5KA ................................ A-18 |  |
| OGN75KA .................................. A-18 |  |
| OGN90KA .................................... A-18 |  |
| OGN9KA ................................... A-18 |  |

OIK (Induction Motors)


|  | (Linear Heads) |
| :---: | :---: |
| OLB5N-1 | ..... D-20 |
| OLB5N-2. | ...... D-20 |
| OLB10N-1 | ................. D-20 |
| OLB10N-2 | ............ D-20 |
| OLB2ON-1 | ........... D-20 |
| OLB2ON-2 | ...... D-20 |
| OLF5N-1 | ......... D-20 |
| OLF5N-2 | ..... D-20 |
| OLF 10N-1 | ...... D-20 |
| OLF 10N-2 | ................... D-20 |
| OLF20N-1 | ... D-20 |
| OLF2ON-2 | ..... D-20 |

## ORK (Reversible Motors)

ORK 1 A-AUL ...................................... A-72
ORK1GN-AUL................................ A-72


2GN (Gearheads)
2GN100KA

| Model | Pag |
| :---: | :---: |
| 2GN10XK |  |
| 2GN12.5KA | A-20 |
| 2GN120KA | A-20 |
| 2GN150KA | A-20 |
| 2GN15KA | A-20 |
| 2GN180KA | A-20 |
| 2GN18KA | A-20 |
| 2GN25KA | A-20 |
| 2GN3.6KA. | A-20 |
| 2GN30KA | A-20 |
| 2GN36KA | A-20 |
| 2GN3KA | A-20 |
| 2GN50KA | A-20 |
| 2GN5KA | A-20 |
| 2GN60KA | A-20 |
| 2GN6KA | A-20 |
| 2GN7.5KA. | A-20 |
| 2GN75KA | A-20 |
| 2GN90KA | A-20 |
| 2GN9KA | A-20 |

2TK (Induction Motors)
2IK6A-AWTU ................................. A-20
2IK6A-AWU .................................. A-20
2IK6A-CWE ..... A-20
2IK6A-CWTE ..... A-20
2IK6A-SWM ..... A-20
2IK6A-SWT................................... A-20
2IK6GN-AWTU............................. A-20
2IK6GN-AWU ..... A-20
2IK6GN-CWE ..... A-20
2IK6GN-CWTE ..... A-20
2IK6GN-SW ..... A-20
2IK6GN-SWM ..... A-132
2IK6GN-SWT ..... A-202IK6RA-CWE ................................................ B-88
2IK6RGN-AWU ............................. B-88
2IK6RGN-CWE ............................. B-88



| 21 | (Linear Heads) |
| :---: | :---: |
| 2LB10N-1 .................................. D-22 |  |
| 2LB10N-2 .................................. D-22 |  |
| 2LB10N-3 .................................. D-22 |  |
| 2LB 1 ON-4 .................................. D-22 |  |
| 2LB10N-5 .................................. D-22 |  |
|  |  |



2SK (Synchronous Motors)
2SK4A-AULA ................................ A-105
2SK4GN-AUL ................................ A-105


## 3GN (Gearheads)

|  |  |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |

- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).

| Model | Page |
| :---: | :---: |
| 3GN15KA | A-24 |
| 3GN180KA | A-24 |
| 3GN18KA | A-24 |
| 3GN25KA | A-24 |
| 3GN3.6KA | A-24 |
| 3GN30KA | A-24 |
| 3GN36KA | A-24 |
| 3GN3KA | A-24 |
| 3GN50KA | A-24 |
| 3GN5KA | A-24 |
| 3GN60KA | A-24 |
| 3GN6KA | A-24 |
| 3GN7.5KA | A-24 |
| 3GN75KA | A-24 |
| 3GN90KA | A-24 |
| 3GN9KA | A-24 |


| 3IK (Induction Motors) |
| :---: |
| 15A-AWU.............................. A-24 |
| 3IK 15A-CWE .............................. A-24 |
| 3IK15GN-AWU .......................... A-24 |
| K15GN-CWE ........................... A-24 |
| 3IK 1 5RA-AWU ........................... B-88 |
| 15RA-CWE ........................... B-88 |
| 15RGN-AWU........................ B-88 |
| IK15RGN-CWE ........................... B-88 |


| 3 KK (Reversible Motors) |
| :---: |
| 3RK15A-AWMU |
| 3RK15A-AWU............................ A-78 |
| 3RK15A-CWE ............................. A-7 |
| 3RK15A-CWME .......................... A-137 |
| 3RK15GN-AWMU...................... A-137 |
| 3RK15GN-AWU ......................... A-78 |
| 3RK15GN-CWE.......................... A-78 |
| 3RK15GN-CWME ....................... A-137 |
| 3RK15RA-AWU .......................... B-88 |
| 3RK15RA-CWE............................ B-88 |
| 3RK15RGN-AWU....................... B-88 |
|  |

3SK (Synchronous Motors)
3SK 10A-AULA .............................................................
3SK 10GN-AUL............
3 3TK (Torque Motors)
3TK6A-AULA ................................................................

| Model Page | Model Page |
| :---: | :---: |
|  | 4IK25GN-CWE .......................... A-28 |
|  | 4IK25GN-CWTE ......................... A-28 |
|  | 4IK25GN-ECH............................ A-28 |
|  |  |
| 4GN (Gearheads) |  |
|  | 4IK25GN-SW............................. A-28 |
|  | 4IK25GN-SWM ........................ A-142 |
| 4GN10XK.................................. A-28 | 4IK25GN-SWT.......................... A-28 |
| 4GN1 2.5KA ................................ A-28 | 4IK25RA-AWU ......................... B-88 |
| 4GN 1 20KA $\ldots$............................. A-28 | 4IK25RA-CWE ........................... B-88 |
| 4GN1 20RAA .............................. A-190 | 4IK25RGN-AWU ....................... B-88 |
|  | 4IK25RGN-CWE ........................ B-88 |
| 4GN1 50KA .............................. A-28 | 4IK40A-BA .............................. A-65 |
| 4GN1 5KA .................................. A-28 |  |
| 4GN15RAA ................................. A-190 |  |
| 4GN1 5RH ................................. A-190 | 4.J (Accessories) |
| 4GN1 80KA................................ A-28 |  |
| 4GN 180RAA ................................ A-190 | 4J-1A2...................................... D-40 |
| 4GN1 80RH ............................... A-190 |  |
| 4GN 1 8KA ................................. A-28 |  |
| 4GN18RAA ................................ A-190 | 4J-4A2 ....................................... D-40 |
| 4GN18RH ................................... A-190 | 4J-5A2 $\ldots$..................................... D-40 |
| 4GN25KA .................................. A-28 | 4JB-1 A2 ..................................... D-39 |
| 4GN3.6KA ................................ A-28 | 4JB-2A2 ..................................... D-39 |
| 4GN3.6RAA ............................... A-190 | 4JB-3A2 .................................... D-39 |
| 4GN3.6RH ................................. A-190 | 4JB-4A2 ..................................... D-39 |
| 4GN30KA ................................. A-28 | 4JB-5A2 ..................................... D-39 |
| 4GN30RAA .............................. A-190 | 4JF-1A2 ${ }^{\text {-................................... D-38 }}$ |
| 4GN30RH .................................. A-190 | 4JF-2A2 ..................................... D-38 |
| 4GN36KA .................................. A-28 | 4JF-3A2 ..................................... D-38 |
| 4GN36RAA .............................. A-190 | 4JF-4A2 ..................................... D-38 |
| 4GN36RH ................................. A-190 | 4JF-5A2 ..................................... D-38 |
| 4GN3KA ................................... A-28 |  |
| 4GN50KA .................................. A-28 |  |
| 4GN5KA ................................... A-28 | $4 \square \square$ (Linear Heads) |
| 4GN60KA ................................. A-28 |  |
| 4GN60RAA .............................. A-190 | 4LB10N-1 .................................. D-26 |
| 4GN60RH ................................. A-190 | 4LB10N-2 .................................. D-26 |
| 4GN6KA .................................. A-28 | 4LB 1 ON-3 ................................. D-26 |
| 4GN6RAA ................................. A-190 | 4LB 1 ON-4 .................................. D-26 |
| 4GN6RH................................... A-190 | 4LB10N-5 ................................. D-26 |
|  | 4LB 1 ON-6 .................................. D-26 |
| 4GN75KA ................................ A-28 | 4LB10N-7 .................................. D-26 |
| 4GN90KA ................................ A-28 | 4LB20N-1 .................................. D-26 |
| 4GN90RAA .............................. A-190 | 4LB2ON-2 .................................. D-26 |
| 4GN90RH ................................. A-190 | 4LB20N-3 ................................. D-26 |
| 4GN9KA .................................. A-28 | 4LB20N-4 ................................. D-26 |
| 4GN9RAA ................................ A-190 | 4LB20N-5 ................................. D-26 |
| 4GN9RH.................................. A-190 | 4LB20N-6 .................................. D-26 |
|  | 4LB20N-7 ................................ D-26 |
|  | 4LB45N-1 ................................... D-26 |
| 4TK (Induction Motors) | 4LB45N-2 .................................. D-26 |
|  | 4LB45N-3 ................................. D-26 |
| 4IK25AA-ECH .......................... A-28 | 4LB45N-4 .................................... D-26 |
| 4IK25AA-FCH ........................... A-28 | 4LB45N-5 ................................... D-26 |
| 4IK25AA-SH .............................. A-28 | 4LB45N-6 ................................... D-26 |
| 4IK25A-AWTU......................... A-28 | 4LB45N-7 .................................... D-26 |
| 4IK25A-AWU............................ A-28 | 4LF10N-1 .................................... D-26 |
| 4IK25A-CWE ............................. A-28 | 4LF 10N-2 ................................... D-26 |
| 4IK25A-CWTE ............................ A-28 | 4LF 1 ON-3 ................................... D-26 |
| 4IK25A-SW ............................... A-28 | 4LF 10N-4 ................................... D-26 |
| 4IK25A-SWM ............................ A-142 | 4LF 10N-5 ................................... D-26 |
| 4IK25A-SWT ............................ A-28 | 4LF 10N-6 ................................. D-26 |
| 4IK25GN-AWTU ........................ A-28 | 4LF 10N-7 .................................... D-26 |
| 4IK25GN-AWU ......................... A-28 | 4LF20N-1 .................................... D-26 |


| Model Page | Model Page | Model Page |
| :---: | :---: | :---: |
| 4LF20N-2 .................................. D-26 | 5GC9KA .................................... A-174 | 5GU 100KHA ............................. A-47 |
| 4LF20N-3 .................................. D-26 | 5GCH 1 20KA ............................... A-174 | 5GU100RAA ............................... A-190 |
| 4LF20N-4 ................................ D-26 | 5GCH1 5KA .............................. A-174 | 5GU10XK ................................. A-47 |
| 4LF20N-5 .................................. D-26 | 5GCH 1 80KA .............................. A-174 | 5GU10XKB ................................ A-40 |
| 4LF20N-6 .................................. D-26 | 5GCH1 8KA ................................ A-174 |  |
| 4LF20N-7 .................................... D-26 | 5GCH3.6KA................................ A-174 | 5GU12.5RAA .............................. A-190 |
| 4LF45N-1 .................................. D-26 | 5GCH30KA ............................... A-174 | 5GU1 20KA ............................... A-40 |
| 4LF45N-2 ................................... D-26 | 5GCH36KA ................................. A-174 | 5GU1 20KHA ............................... A-47 |
| 4LF45N-3 ................................ D-26 | 5GCH60KA .............................. A-174 | 5GU1 20RAA .............................. A-190 |
| 4LF45N-4.................................. D-26 | 5GCH6KA .................................. A-174 | 5GU1 20RH ................................ A-190 |
| 4LF45N-5 .................................. D-26 | 5GCH90KA ............................... A-174 | 5GU150KA ............................... A-40 |
| 4LF45N-6.................................. D-26 | 5GCH9KA .................................. A-174 | 5GU1 50KHA ............................. A-47 |
| 4LF45N-7 ................................... D-26 | 5GN100KA................................ A-34 | 5GU1 50RAA ............................... A-190 |
|  | 5GN100RAA .............................. A-190 | 5GU1 5KA .................................. A-40 |
|  | 5GN10XK............................... A-34 | 5GU15RAA .............................. A-190 |
| 4RK (Reversible Motors) | 5GN1 2.5KA ............................. A-34 | 5GU15RH.................................. A-190 |
| 4RK (Reversible | 5GN12.5RAA ............................. A-190 | 5GU180KA ................................ A-40 |
| 4RK25A-AWMU ......................... A-142 | 5GN1 20KA............................. A-34 | 5GU180KHA ............................ A-47 |
| 4RK25A-AWTU........................... A-82 | 5GN1 20RAA ............................ A-190 | 5GU180RAA ............................. A-190 |
| 4RK25A-AWU............................ A-82 |  | 5GU1 80RH ................................. A-190 |
| 4RK25A-CWE ............................. A-82 | 5GN1 50KA.............................. A-34 | 5GU18KA ................................. A-40 |
| 4RK25A-CWME .......................... A-142 | 5GN1 50RAA ............................ A-190 | 5GU18RAA ............................... A-190 |
| 4RK25A-CWTE ........................... A-82 | 5GN1 5KA ................................ A-34 | 5GU18RH.................................. A-190 |
| 4RK25GN-AWMU...................... A-142 | 5GN15RAA .............................. A-190 | 5GU25KA ................................. A-40 |
| 4RK25GN-AWTU ....................... A-82 | 5GN1 5RH ................................. A-190 | 5GU25RAA ............................... A-190 |
| 4RK25GN-AWU ......................... A-82 | 5GN1 80KA............................... A-34 | 5GU3.6KA ................................. A-40 |
| 4RK25GN-CWE.......................... A-82 | 5GN1 80RAA ............................ A-190 |  |
| 4RK25GN-CWME ....................... A-142 |  | 5GU3.6RH ................................... A-190 |
| 4RK25GN-CWTE........................ A-82 | 5GN1 8KA ................................ A-34 | 5GU30KA .................................. A-40 |
| 4RK25RA-AWU ......................... B-88 | 5GN1 8RAA ................................. A-190 | 5GU30RAA ................................. A-190 |
| 4RK25RA-CWE........................... B-88 | 5GN1 8RH ................................... A-190 | 5GU30RH................................... A-190 |
| 4RK25RGN-AWU....................... B-88 | 5GN25KA ............................... A-34 | 5GU36KA .................................. A-40 |
| 4RK25RGN-CWE ........................ B-88 | 5GN25RAA .............................. A-190 | 5GU36RAA ............................... A-190 |
|  | 5GN3.6KA .................................. A-34 | 5GU36RH.................................... A-190 |
|  | 5GN3.6RAA ............................... A-190 | 5GU3KA .................................... A-40 |
| 4.SK (Synchronous Motors) | 5GN3.6RH ................................ A-190 | 5GU3RAA ................................ A-190 |
| 4SM (Synchronous Motors) | 5GN30KA ............................... A-34 | 5GU50KA ................................ A-40 |
| 4SK 1 5A-AULA ........................... A-105 | 5GN30RAA ............................... A-190 | 5GU50KHA .............................. A-47 |
| 4SK15GN-AUL........................... A-105 | 5GN30RH ................................. A-190 | 5GU50RAA............................... A-190 |
|  | 5GN36KA ................................ A-34 | 5GU5KA ................................... A-40 |
|  | 5GN36RAA .............................. A-190 | 5GU5RAA ................................ A-190 |
|  | 5GN36RH ................................ A-190 | 5GU60KA ................................. A-40 |
| 41. (Torque Motors) | 5GN3KA .................................. A-34 | 5GU60KHA ............................... A-47 |
|  | 5GN3RAA ................................. A-190 | 5GU60RAA ................................ A-190 |
|  | 5GN50KA ................................ A-34 | 5GU60RH................................... A-190 |
|  | 5GN50RAA ................................ A-190 | 5GU6KA .................................... A-40 |
|  | 5GN5KA ................................... A-34 | 5GU6RAA ................................... A-190 |
|  | 5GN5RAA ................................. A-190 | 5GU6RH .................................... A-190 |
|  | 5GN60KA ................................... A-34 | 5GU7.5KA .................................. A-40 |
|  | 5GN60RAA ................................ A-190 |  |
|  | 5GN60RH ................................... A-190 | 5GU75KA ................................... A-40 |
|  | 5GN6KA ................................... A-34 | 5GU75KHA ............................... A-47 |
|  | 5GN6RAA .................................. A-190 | 5GU75RAA ................................. A-190 |
| $5 \mathrm{C} \square$ (Gearheads) | 5GN6RH.................................. A-190 | 5GU90KA ................................. A-40 |
|  | 5GN7.5KA ............................... A-34 | 5GU90KHA ................................ A-47 |
| 5GC1 20KA ............................... A-174 | 5GN7.5RAA ................................ A-190 | 5GU90RAA .................................. A-190 |
| 5GC15KA................................. A-174 | 5GN75KA ................................ A-34 | 5GU90RH................................... A-190 |
| 5GC180KA ................................ A-174 | 5GN75RAA ................................. A-190 | 5GU9KA ..................................... A-40 |
| 5GC18KA ................................... A-174 | 5GN90KA ................................... A-34 | 5GU9RAA .................................. A-190 |
|  | 5GN90RAA ................................ A-190 | 5GU9RH ...................................... A-190 |
| 5GC30KA .................................. A-174 | 5GN90RH .................................. A-190 |  |
| 5GC36KA .................................. A-174 | 5GN9KA ..................................... A-34 |  |
| 5GC60KA ................................. A-174 | 5GN9RAA ................................ A-190 | 5TK (Induction Motors) |
| 5GC6KA ..................................... A-174 |  | S⿴囗 (Induction Motors) |
|  | 5GU100KA .............................. A-40 | 5IK40AA-ECH ............................ A-34 |

- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).

| Model Page | Model Page | Model Page |
| :---: | :---: | :---: |
| 5IK40AA-FCH ............................ A-34 | 5IK90GU-SH .............................. A-47 | 5LF45U-4 .................................. D-30 |
| 5IK40AA-SH ............................... A-34 | 5IK90GU-SW .............................. A-47 | 5LF45U-5 ................................... D-30 |
| 5IK40A-AWTU ............................ A-34 | 5IK90GU-SWM .......................... A-157 | 5LF45U-6 ................................... D-30 |
| 5IK40A-AWU............................. A-34 | 5IK90GU-SWT ............................ A-47 | 5LF45U-7 .................................... D-30 |
| 5IK40A-CWE .............................. A-34 |  |  |
| 5IK40A-CWTE ............................ A-34 |  |  |
| 5IK40A-SW .............................. A-34 | 5. (Accessories) | 5 RK (Reversible Motors) |
| 5IK40A-SWM .............................. A-147 | 5J (Accessories) | SRM (Reversible Motors) |
| 5IK40A-SWT ............................. A-34 | 5J-1A ............................................. D-40 | 5RK40A-AWMU ............................ A-147 |
| 5IK40GN-AWTU ....................... A-34 | 5J-2A ........................................ D-40 | 5RK40A-AWTU.......................... A-87 |
| 5IK40GN-AWU ........................ A-34 | 5J-3A ......................................... D-40 | 5RK40A-AWU............................ A-87 |
| 5IK40GN-CWE .......................... A-34 | 5J-4A ........................................ D-40 | 5RK40A-CWE ............................ A-87 |
| 5IK40GN-CWTE ........................ A-34 | 5J-5A ........................................ D-40 | 5RK40A-CWME .......................... A-147 |
| 5IK40GN-ECH........................... A-34 | 5JB-1 A ....................................... D-39 | 5RK40A-CWTE ............................ A-87 |
| 5IK40GN-FCH $. . . . . . . . . . . . . . . . . . . . . . . . . . ~ A-34 ~$ |  | 5RK40GN-AWMU ...................... A-147 |
|  | 5JB-3A ...................................... D-39 | 5RK40GN-AWTU ....................... A-87 |
| 5IK40GN-SW........................... A-34 | 5JB-4A ....................................... D-39 | 5RK40GN-AWU .......................... A-87 |
| 5IK40GN-SWM ......................... A-147 | 5JB-5A ...................................... D-39 | 5RK40GN-CWE.......................... A-87 |
| 5IK40GN-SWT.......................... A-34 | 5JF-1A ...................................... D-38 | 5RK40GN-CWME ....................... A-147 |
| 5IK40RA-AWU .......................... B-88 | 5JF-2A ........................................ D-38 | 5RK40GN-CWTE......................... A-87 |
| 5IK40RA-CWE .......................... B-88 | 5JF-3A ....................................... D-38 | 5RK40RA-AWU ........................... B-88 |
| 5IK40RGN-AWU....................... B-88 | 5JF-4A ....................................... D-38 | 5RK40RA-CWE........................... B-88 |
| 5IK40RGN-CWE ........................ B-88 | 5JF-5A ........................................ D-38 | 5RK40RGN-AWU ......................... B-88 |
| 5IK60A-AWTU.......................... A-40 |  | 5RK40RGN-CWE ......................... B-88 |
| 5IK60A-AWU........................... A-40 |  | 5RK60A-AWMU ......................... A-152 |
| 5IK60A-BA ................................ A-65 |  | 5RK60A-AWTU......................... A-92 |
| 5IK60A-CWE............................ A-40 |  | 5RK60A-AWU............................ A-92 |
| 5IK60A-CWTE ............................ A-40 | 5LB 10U-1 .................................. D-30 | 5RK60A-CWE ........................... A-92 |
| 5IK60A-ECH ............................. A-40 | 5LB 10U-2 .................................. D-30 | 5RK60A-CWME ............................ A-152 |
| 5IK60A-FCH .............................. A-40 | 5LB 10U-3 .................................. D-30 | 5RK60A-CWTE ........................... A-92 |
| 5IK60A-SH ............................... A-40 | 5LB 10U-4.................................. D-30 | 5RK60GU-AWMU ....................... A-152 |
| 5IK60A-SW .............................. A-40 | 5LB 10U-5 .................................. D-30 | 5RK60GU-AWTU......................... A-92 |
| 5IK60A-SWM .......................... A-152 | 5LB10U-6.................................. D-30 | 5RK60GU-AWU......................... A-92 |
| 5IK60A-SWT ............................. A-40 | 5LB 10U-7 .................................. D-30 | 5RK60GU-CWE ........................... A-92 |
| 5IK60GU-AWTU........................ A-40 | 5LB20U-1 .................................. D-30 | 5RK60GU-CWME ....................... A-152 |
| 5IK60GU-AWU......................... A-40 | 5LB20U-2 ................................. D-30 | 5RK60GU-CWTE .......................... A-92 |
| 5IK60GU-CWE.......................... A-40 | 5LB20U-3 <br> D-30 | 5RK60RA-AWU ........................... B-88 |
| 5IK60GU-CWTE ......................... A-40 | 5LB20U-4.................................. D-30 | 5RK60RA-CWE........................... B-88 |
| 5IK60GU-ECH........................... A-40 | 5LB20U-5 .................................. D-30 | 5RK60RGU-AWU ......................... B-88 |
| 5IK60GU-FCH ........................... A-40 | 5LB20U-6.................................. D-30 | 5RK60RGU-CWE.......................... B-88 |
| 5IK60GU-SH ............................. A-40 | 5LB20U-7 .................................. D-30 | 5RK90A-AWMU .......................... A-157 |
| 5IK60GU-SW ............................ A-40 | 5LB45U-1 .................................. D-30 | 5RK90A-AWTU........................... A-97 |
| 5IK60GU-SWM ......................... A-152 | 5LB45U-2 ................................. D-30 | 5RK90A-AWU............................. A-97 |
| 5IK60GU-SWT .......................... A-40 | 5LB45U-3.................................................... D-30 | 5RK90A-CWE .............................. A-97 |
| 5IK60RA-AWU .......................... B-88 | 5LB45U-4.................................. D-30 | 5RK90A-CWME .......................... A-157 |
| 5IK60RA-CWE .......................... B-88 | 5LB45U-5.................................. D-30 | 5RK90A-CWTE ........................... A-97 |
| 5IK60RGU-AWU ....................... B-88 | 5LB45U-6................................. D-30 | 5RK90GU-AWMU ...................... A-157 |
| 5IK60RGU-CWE ........................ B-88 | 5LB45U-7 ................................... D-30 | 5RK90GU-AWTU........................ A-97 |
| 5IK90A-AWTU.......................... A-47 | 5LF10U-1 .................................. D-30 | 5RK90GU-AWU.......................... A-97 |
| 5IK90A-AWU............................ A-47 | 5LF 10U-2 .................................. D-30 | 5RK90GU-CWE ............................ A-97 |
| 5IK90A-BFUL ............................ A-65 | 5LF 10U-3 .................................. D-30 | 5RK90GU-CWME ....................... A-157 |
| 5IK90A-CWE............................ A-47 | 5LF 10U-4 .................................. D-30 | 5RK90GU-CWTE .......................... A-97 |

## 5SK (Synchronous Motors)

5SK25A-AULA ................................ A-105
5SK25GN-AUL ........................ A-105

## 5TK (Torque Motors)

5TK20A-AULA ................................ A-114 5TK20GN-AUL ............................... A-114
Model

| 6 6H (Gearheads) |
| :---: |
| 6GHI00K ........................................ B-33 |
| 6GH10K........................................ B-33 |
| 6GH15K....................................... B-33 |
| 6GH200K ...................................... B-33 |
| 6GH20K........................................ B-33 |
| 6GH30K...................................... B-33 |
| 6GH50K...................................... B-33 |
| 6GH5K........................................ B-33 |


AM1 (Thermostats)
AM1-WA1 $-\ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~ E-98 ~$

| AS ( $\left.\alpha_{\text {STEP }}\right)$ |  |
| :---: | :---: |
| $\begin{aligned} & \text { AS46AA } . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~ C-18 ~ \\ & \text { AS46AA2-H100 .................. C-19 } \end{aligned}$ |  |
|  |  |
| AS46AA2-H50 ............................ C-19 |  |
| AS46AA-N10 ............................ C-19 |  |
| AS46AA-N7.2 ........................... C-19 |  |
| AS46AAP .................................... C-19 |  |
| AS46AAP2-H 100 ........................ C-20 |  |
| AS46AAP2-H50 .......................... C-20 |  |
| AS46AAP-N10............................ C-20 |  |
| AS46AAP-N7.2 .......................... C-20 |  |
| AS46AAP-T10 ............................ C-20 |  |
| AS46AAP-T20 ............................ C-20 |  |
| AS46AAP-T3.6.......................... C-20 |  |
| AS46AAP-T30 ............................. C-20 |  |
| AS46AAP-T7.2 ........................... C-20 |  |
| AS46AA-T 10 ............................... C-18 |  |
| AS46AA-T20 .............................. C-18 |  |
| AS46AA-T3.6 .............................. C-18 |  |
| AS46AA-T30 .............................. C-18 |  |
| AS46AA-T7.2 ............................. C-18 |  |
| AS46MA -.................................... C-18 |  |
| AS46MA2-H100......................... C-19 |  |
| AS46MA2-H50 ........................... C-19 |  |
| AS46MA-N10 ............................. C-19 |  |
| AS46MA-N7.2 |  |
| AS46MAP ................................... C-19 |  |
| AS46MAP2-H100 |  |
| AS46MAP2-H50 ......................... C-20 |  |
| AS46MAP-N10 .......................... C-20 |  |
| AS46MAP-N7.2 ......................... C-20 |  |
| AS46MAP-T 10 ............................ C-20 |  |
| AS46MAP-T20 ............................ C-20 |  |
| AS46MAP-T3.6 ......................... C-20 |  |
| AS46MAP-T30 ............................ C-20 |  |
| AS46MAP-T7.2 ....... |  |



- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).


| Model |  |
| :---: | :---: |
| AS98MCP-T7.2 ............................ C-20 |  |
| AS98MC-T10 .............................. C-18 |  |
| AS98MC-T20 |  |
| AS98MC-T3.6 |  |
| AS98MC-T30 |  |
| AS98MC-T7.2............................ C-18 |  |
| AS98MS |  |
| AS98MS-H100 |  |
| AS98MS-H50 ............................. C-19 |  |
| AS98MS-N10 ............................. C-19 |  |
| AS98MS-N25 ............................... C-19 |  |
| AS98MS-N36 ............................. C-19 |  |
| AS98MS-N5 .............................. C-19 |  |
| AS98MS-N50 ............................. C-19 |  |
| AS98MS-N7.2 ............................ C-19 |  |
| AS98MSP ................................... C-19 |  |
| AS98MSP-H100 .......................... C-20 |  |
| AS98MSP-H50 -........................... C-20 |  |
| AS98MSP-N10............................ C-20 |  |
| AS98MSP-N25 |  |
| AS98MSP-N36........................... C-20 |  |
| AS98MSP-N5 ............................. C-20 |  |
| AS98MSP-N50........................... C-20 |  |
| AS98MSP-N7.2 ......................... C-20 |  |
| AS98MSP-T10............................ C-20 |  |
| AS98MSP-T20............................ C-20 |  |
| AS98MSP-T3.6.......................... C-20 |  |
| AS98MSP-T30 ............................ C-20 |  |
| AS98MSP-T7.2.......................... C-20 |  |
| AS98MS-T10 .............................. C-18 |  |
| AS98MS-T20 .............................. C-18 |  |
| AS98MS-T3.6 ............................. C-18 |  |
| AS98MS-T30 .............................. C-18 |  |
| AS98MS-T7.2 | C-18 |


| ASC $\left.\alpha_{\text {STEP }}\right)$ |
| :---: |
| ASC34AK ................................... C-59 |
| ASC34AK-H100 ......................... C-64 |
| ASC34AK-H50 ............................ C-64 |
| ASC36AK ................................... C-59 |
| ASC46AK .................................... C-59 |
| ASC46AK-H100 ......................... C-64 |
| ASC46AK-H50 ........................... C-64 |
| ASC46AK-N10........................... C-62 |
| ASC46AK-N7.2 ${ }^{\text {anc...................... C-62 }}$ |
| ASC46AK-T10 ............................ C-60 |
| ASC46AK-T20 ............................. C-60 |
| ASC46AK-T3.6........................... C-60 |
| ASC46AK-T30 ............................ C-60 |
| ASC46AK-T7.2............................ C-60 |
| ASC46MK................................... C-59 |
| ASC46MK-H100 ........................ C-64 |
| ASC46MK-H50 ........................... C-64 |
| ASC46MK-N10 .......................... C-62 |
| ASC46MK-N7.2 ......................... C-62 |
| ASC46MK-T10 ........................... C-60 |
| ASC46MK-T20 ........................... C-60 |
| ASC46MK-T3.6 .......................... C-60 |
| ASC46MK-T30 ............................ C-60 |
| ASC46MK-T7.2 .......................... C-60 |
| ASC66AK .................................. C-59 |
| ASC66AK-H100 ......................... C-65 |
| ASC66AK-H50 ............................ C-65 |


| Model |  |
| :---: | :---: |
| ASC66AK-N10 |  |
| ASC66AK-N25 | C-63 |
| ASC66AK-N36 | C-63 |
| ASC66AK-N5 | C-63 |
| ASC66AK-N50 |  |
| ASC66AK-N7. 2 | C-63 |
| ASC66AK-T 10 | C-61 |
| ASC66AK-T20 |  |
| ASC66AK-T3.6 | C-61 |
| ASC66AK-T30 | C-61 |
| ASC66AK-T7.2 | C-61 |
| ASC66MK | C-59 |
| ASC66MK-H100 | C-65 |
| ASC66MK-H50 | C-65 |
| ASC66MK-N10 | C-63 |
| ASC66MK-N25 | C-63 |
| ASC66MK-N36 | C-63 |
| ASC66MK-N5 | C-63 |
| ASC66MK-N50 | C-63 |
| ASC66MK-N7.2 | C-63 |
| ASC66MK-T10 | C-61 |
| ASC66MK-T20 | C-61 |
| ASC66MK-T3.6 | C-61 |
| ASC66MK-T30 | C-61 |
| ASC66MK-T7.2 | C-61 |



## ASD $\left(\alpha_{\text {step Divers }}\right)$

ASDIOA-K ......................................... C-76
ASDIOB-K.......................................... C-76
ASD10C-K ........................................ C-76
ASD12A-C ........................................ C-53
ASD12A-S ........................................ C-54
ASD12A-SP............................................ C-54
ASD12A-CP ....................................... C-53
ASD12B-C....................................... C-54
ASD12B-CP........................................ C-54
ASD12B-S .......................................... C-54
ASD12B-SP ........................................ C-54
ASD12C-C ......................................... C-54
ASD12C-CP ....................................... C-54
ASD12C-S........................................ C-54
ASD12C-SP........................................ C-54
ASD13A-A......................................... C-53
ASD13A-AP ...................................... C-53
ASD13B-A......................................... C-53
ASDI3B-AP....................................... C-53
ASD13C-A ......................................... C-53
ASD13C-AP ....................................... C-53
ASD16A-C ....................................... C-53
ASD16A-CP ....................................... C-53
ASD16A-S ....................................... C-54
ASD16A-SP........................................ C-54
ASD16B-C............................................. C-54
ASD16B-CP....................................... C-54
ASD16B-S ......................................... C-54
ASD16B-SP ...................................... C-54
ASD16C-C ......................................... C-54
ASD16C-CP ...................................... C-54
ASD16C-S....................................... C-54
ASD16C-SP........................................ C-54
ASD16D-C ....................................... C-53
ASD16D-CP ...................................... C-53
ASD16D-S........................................... C-54

| ASM ( $\alpha_{\text {STEP }}$ Motors) |
| :---: |
| ASM34AK....................................... C-7 |
| ASM34AK-H100 ............................. C-76 |
| ASM34AK-H50 ............................... C-76 |
| ASM36AK..................................... C-76 |
| ASM46AA ..................................... C-53 |
| ASM46AA2-H100 .......................... C-53 |
| ASM46AA2-H50............................. C-53 |
| ASM46AA-N10 ............................. C-53 |
| ASM46AA-N7.2 ............................. C-53 |
| ASM46AA-T10 .............................. C-53 |
| ASM46AA-T20 .............................. C-53 |
| ASM46AA-T3.6 ............................. C-53 |
| ASM46AA-T30 .............................. C-53 |
| ASM46AA-T7.2 .............................. C-53 |
| ASM46AK..................................... C-76 |
| ASM46AK-H100 ............................. C-76 |
| ASM46AK-H50 .............................. C-76 |
| ASM46AK-N10............................... C-76 |
| ASM46AK-N7.2............................. C-76 |
| ASM46AK-T10.............................. C-76 |
| ASM46AK-T20............................... C-76 |
| ASM46AK-T3.6.............................. C-76 |
| ASM46AK-T30............................... C-76 |
| ASM46AK-T7.2.............................. C-76 |
| ASM46MA .................................... C-53 |
| ASM46MA2-H100 .......................... C-53 |
| ASM46MA2-H50 ............................ C-53 |
| ASM46MA-N10............................. C-53 |
| ASM46MA-N7.2............................ C-53 |
| ASM46MA-T10.............................. C-53 |
| ASM46MA-T20 ............................... C-53 |
| ASM46MA-T3.6 ............................. C-53 |
| ASM46MA-T30 .............................. C-53 |
| ASM46MA-T7.2............................. C-53 |
| ASM46MK .................................... C-76 |
| SM46MK |

- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).

| Model Page | Model Page | Model Page |
| :---: | :---: | :---: |
| ASM46MK-H50 ............................. C-76 | ASM66MC2-H100 .......................... C-54 | ASM98MA-N5............................... C-53 |
| ASM46MK-N10 .............................. C-76 | ASM66MC2-H50 ............................. C-54 | ASM98MA-N50.............................. C-53 |
| ASM46MK-N7.2 ............................ C-76 | ASM66MC-N10............................ C-54 | ASM98MA-N7.2............................ C-53 |
| ASM46MK-T10 ............................... C-76 | ASM66MC-N25.............................. C-54 | ASM98MA-T10............................... C-53 |
| ASM46MK-T20 ................................ C-76 | ASM66MC-N36.............................. C-54 | ASM98MA-T20.............................. C-53 |
| ASM46MK-T3.6 ............................. C-76 | ASM66MC-N5.............................. C-54 | ASM98MA-T3.6 ............................ C-53 |
| ASM46MK-T30 ............................... C-76 | ASM66MC-N50.............................. C-54 | ASM98MA-T30 ............................... C-53 |
| ASM46MK-T7.2 .............................. C-76 | ASM66MC-N7.2............................. C-54 | ASM98MA-T7.2............................. C-53 |
| ASM66AA .................................... C-53 | ASM66MC-T10.............................. C-54 | ASM98MC .................................... C-53 |
| ASM66AA2-H100 ........................... C-53 | ASM66MC-T20 .............................. C-54 | ASM98MC-H100 ............................ C-54 |
| ASM66AA2-H50.............................. C-53 | ASM66MC-T3.6 .............................. C-54 | ASM98MC-H50 ............................... C-54 |
| ASM66AA-N10 .............................. C-53 | ASM66MC-T30 .............................. C-54 | ASM98MC-N10.............................. C-54 |
| ASM66AA-N25 .............................. C-53 | ASM66MC-T7.2 ............................. C-54 | ASM98MC-N25.............................. C-54 |
| ASM66AA-N36 ............................... C-53 | ASM66MK ...................................... C-76 | ASM98MC-N36 .............................. C-54 |
| ASM66AA-N5 ............................... C-53 | ASM66MK-H100 ............................ C-76 | ASM98MC-N5............................... C-54 |
| ASM66AA-N50 .............................. C-53 | ASM66MK-H50 .............................. C-76 | ASM98MC-N50.............................. C-54 |
| ASM66AA-N7.2 ............................. C-53 | ASM66MK-N10 .............................. C-76 | ASM98MC-N7.2............................. C-54 |
| ASM66AA-T10 ............................... C-53 | ASM66MK-N25 .............................. C-76 | ASM98MC-T10 ............................... C-54 |
| ASM66AA-T20 .............................. C-53 | ASM66MK-N36 ............................. C-76 | ASM98MC-T20 ............................... C-54 |
| ASM66AA-T3.6 ............................. C-53 | ASM66MK-N5 ................................ C-76 | ASM98MC-T3.6 .............................. C-54 |
| ASM66AA-T30 ............................... C-53 | ASM66MK-N50 .............................. C-76 | ASM98MC-T30 ............................... C-54 |
| ASM66AA-T7.2 ............................. C-53 | ASM66MK-N7.2 ............................ C-76 | ASM98MC-T7.2 ............................. C-54 |
| ASM66AC...................................... C-53 | ASM66MK-T10 ............................... C-76 | ASM911AA .................................... C-53 |
| ASM66AC2-H100.......................... C-54 | ASM66MK-T20 ............................. C-76 | ASM911AC ................................. C-53 |
| ASM66AC2-H50............................ C-54 | ASM66MK-T3.6 ............................. C-76 |  |
| ASM66AC-N10 ............................. C-54 | ASM66MK-T30 .............................. C-76 |  |
| ASM66AC-N25 ............................ C-54 | ASM66MK-T7.2 ............................ C-76 | AXH (AXH Series) |
| ASM66AC-N36 ............................. C-54 | ASM69AA ................................... C-53 | AXH(AXH Series) |
| ASM66AC-N5 ............................... C-54 | ASM69AC.................................... C-53 | AXH015K-10............................ B-59 |
| ASM66AC-N50 ............................ C-54 | ASM69MA.................................. C-53 | AXH015K-100........................... B-59 |
| ASM66AC-N7.2 ........................... C-54 | ASM69MC .................................. C-53 | AXH015K-15 ............................ B-59 |
| ASM66AC-T10............................. C-54 | ASM98AA .................................. C-53 | AXH015K-20 ............................. B-59 |
| ASM66AC-T20............................. C-54 | ASM98AA-H100........................... C-53 | AXH015K-30 ............................. B-59 |
| ASM66AC-T3.6............................. C-54 | ASM98AA-H50.............................. C-53 | AXH015K-5.............................. B-59 |
| ASM66AC-T30............................... C-54 | ASM98AA-N10 ............................. C-53 | AXH015K-50 ............................ B-59 |
| ASM66AC-T7.2............................. C-54 | ASM98AA-N25 ............................ C-53 | AXH015K-A ............................... B-59 |
| ASM66AK................................... C-76 | ASM98AA-N36 ............................ C-53 | AXH230KC-10.......................... B-59 |
| ASM66AK-H100 ............................. C-76 | ASM98AA-N5 .............................. C-53 | AXH230KC-100 ......................... B-59 |
| ASM66AK-H50 ............................ C-76 | ASM98AA-N50 ............................ C-53 | AXH230KC-15.......................... B-59 |
| ASM66AK-N10............................ C-76 | ASM98AA-N7.2 ........................... C-53 | AXH230KC-20.......................... B-59 |
| ASM66AK-N25............................. C-76 | ASM98AA-T10 .............................. C-53 | AXH230KC-200 ........................ B-59 |
| ASM66AK-N36............................ C-76 | ASM98AA-T20 ............................ C-53 | AXH230KC-30........................... B-59 |
| ASM66AK-N5.............................. C-76 | ASM98AA-T3.6 ............................ C-53 | AXH230KC-5 ............................ B-59 |
| ASM66AK-N50.............................. C-76 | ASM98AA-T30 ............................ C-53 | AXH230KC-50........................... B-59 |
| ASM66AK-N7.2............................ C-76 | ASM98AA-T7.2 ............................ C-53 | AXH230KC-A............................. B-59 |
| ASM66AK-T10............................. C-76 | ASM98AC................................... C-53 | AXH450KC-10........................... B-59 |
| ASM66AK-T20............................. C-76 | ASM98AC-H100........................... C-54 | AXH450KC-100 ........................ B-59 |
| ASM66AK-T3.6............................. C-76 | ASM98AC-H50............................. C-54 | AXH450KC-15........................... B-59 |
| ASM66AK-T30............................. C-76 | ASM98AC-N10 ............................ C-54 | AXH450KC-20........................... B-59 |
| ASM66AK-T7.2............................. C-76 | ASM98AC-N25 ........................... C-54 | AXH450KC-200 ......................... B-59 |
| ASM66MA .................................. C-53 | ASM98AC-N36 ............................ C-54 | AXH450KC-30 ............................ B-59 |
| ASM66MA2-H100 ......................... C-53 | ASM98AC-N5 ............................. C-54 | AXH450KC-5 ............................. B-59 |
| ASM66MA2-H50 .......................... C-53 | ASM98AC-N50 ............................ C-54 | AXH450KC-50........................... B-59 |
| ASM66MA-N10............................ C-53 | ASM98AC-N7. 2 ........................... C-54 | AXH450KC-A............................. B-59 |
| ASM66MA-N25............................ C-53 | ASM98AC-T10............................. C-54 | AXH5 100KC-10 ......................... B-59 |
| ASM66MA-N36............................ C-53 | ASM98AC-T20............................. C-54 | AXH5 100KC-100....................... B-59 |
| ASM66MA-N5............................. C-53 | ASM98AC-T3.6............................ C-54 | AXH5 100KC-15 ......................... B-59 |
| ASM66MA-N50............................ C-53 | ASM98AC-T30............................. C-54 | AXH5 100KC-20 ......................... B-59 |
| ASM66MA-N7.2.......................... C-53 | ASM98AC-T7.2............................ C-54 | AXH5 100KC-200....................... B-59 |
| ASM66MA-T10............................ C-53 | ASM98MA.................................. C-53 | AXH5 100KC-30 .......................... B-59 |
| ASM66MA-T20............................. C-53 | ASM98MA-H100 .......................... C-53 | AXH5 100KC-5........................... B-59 |
| ASM66MA-T3.6............................ C-53 | ASM98MA-H50 ............................ C-53 | AXH5 100KC-50 ......................... B-59 |
| ASM66MA-T30............................. C-53 | ASM98MA-N10............................ C-53 | AXH5 100KC-A ........................... B-59 |
| ASM66MA-T7.2........................... C-53 | ASM98MA-N25............................ C-53 | AXHD100K .................................... B-65 |
| ASM66MC .................................. C-53 | ASM98MA-N36............................ C-53 | AXHD15K ..................................... B-65 |





- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).

| Model |  |
| :---: | :---: |
| BHF62ST-3 |  |
| BHF62ST-30 | B-72 |
| BHF62ST-30RA | B-72 |
| BHF62ST-30RH | B-72 |
| BHF62ST-5 | B-72 |
| BHF62ST-50 | B-72 |
| BHF62ST-50RA | B-72 |
| BHF62ST-50RH | B-72 |
| BHF62ST-5RA | B-72 |
| BHF62ST-5RH | B-72 |
| BHF62ST-9 | B-72 |
| BHF62ST-9RA | B-72 |
| BHF62ST-9RH | B-72 |
| BHF62ST-A | B-72 |

## BH (BH Series)



| Model | Page | Model | Page |
| :---: | :---: | :---: | :---: |
| BHI62E-180 | A-54 | BHI62ET-18. | A-54 |
| BHI62E-180RA | A-54 | BHI62ET-180 | A-54 |
| BHI62E-180RH | A-54 | BHI62ET-180RA | A-54 |
| BHI62E-18RA | A-54 | BHI62ET-180RH | A-54 |
| BHI62E-18RH | A-54 | BHI62ET-18RA | A-54 |
| BHI62E-3.6 | A-54 | BHI62ET-18RH | A-54 |
| BHI62E-30 | A-54 | BHI62ET-3.6 | A-54 |
| BHI62E-30RA | A-54 | BHI62ET-30 | A-54 |
| BHI62E-30RH | A-54 | BHI62ET-30RA | A-54 |
| BHI62E-36 | A-54 | BHI62ET-30RH | A-54 |
| BHI62E-36RA | A-54 | BHI62ET-36 | A-54 |
| BHI62E-36RH | A-54 | BHI62ET-36RA | A-54 |
| BHI62E-6 | A-54 | BHI62ET-36RH | A-54 |
| BHI62E-60 | A-54 | BHI62ET-6 | A-54 |
| BHI62E-60RA | A-54 | BHI62ET-60 | A-54 |
| BHI62E-60RH | A-54 | BHI62ET-60RA | A-54 |
| BHI62E-6RA | A-54 | BHI62ET-60RH | A-54 |
| BHI62E-6RH | A-54 | BHI62ET-6RA | A-54 |
| BHI62E-9 | A-54 | BHI62ET-6RH | A-54 |
| BHI62E-90 | A-54 | BHI62ET-9.. | A-54 |
| BHI62E-90RA | A-54 | BHI62ET-90 .... | A-54 |
| BHI62E-90RH | A-54 | BHI62ET-90RA | A-54 |
| BHI62E-9RA | A-54 | BHI62ET-90RH | A-54 |
| BHI62E-9RH | A-54 | BHI62ET-9RA | A-54 |
| BHI62E-A | A-55 | BHI62ET-9RH | A-54 |
| BHI62E-G2 | A-64 | BHI62ET-A | A-55 |
| BHI62EMT-120 | A-164 | BHI62ET-G2....... | A-64 |
| BHI62EMT-120RA. | A-164 | BHI62F-120 | A-54 |
| BHI62EMT-120RH | A-164 | BHI62F-120RA | A-54 |
| BHI62EMT-15 | A-164 | BHI62F-120RH | A-54 |
| BHI62EMT-15RA | A-164 | BHI62F-15 | A-54 |
| BHI62EMT-15RH | A-164 | BHI62F-15RA | A-54 |
| BHI62EMT-18 | A-164 | BHI62F-15RH | A-54 |
| BHI62EMT-180 | A-164 | BHI62F-18 | A-54 |
| BHI62EMT-180RA | A-164 | BHI62F-180 | A-54 |
| BHI62EMT-180RH | A-164 | BHI62F-180RA | A-54 |
| BHI62EMT-18RA | A-164 | BHI62F-180RH | A-54 |
| BHI62EMT-18RH | A-164 | BHI62F-18RA | A-54 |
| BHI62EMT-3.6 | A-164 | BHI62F-18RH | A-54 |
| BHI62EMT-30 | A-164 | BHI62F-3.6 | A-54 |
| BHI62EMT-30RA | A-164 | BHI62F-30 | A-54 |
| BHI62EMT-30RH | A-164 | BHI62F-30RA | A-54 |
| BHI62EMT-36 | A-164 | BHI62F-30RH | A-54 |
| BHI62EMT-36RA | A-164 | BHI62F-36 | A-54 |
| BHI62EMT-36RH | A-164 | BHI62F-36RA | A-54 |
| BHI62EMT-6 | A-164 | BHI62F-36RH | A-54 |
| BHI62EMT-60. | A-164 | BHI62F-6 | A-54 |
| BHI62EMT-60RA | A-164 | BHI62F-60 | A-54 |
| BHI62EMT-60RH | A-164 | BHI62F-60RA | A-54 |
| BHI62EMT-6RA | A-164 | BHI62F-60RH | A-54 |
| BHI62EMT-6RH | A-164 | BHI62F-6RA | A-54 |
| BHI62EMT-9 | A-164 | BHI62F-6RH .... | A-54 |
| BHI62EMT-90... | A-164 | BHI62F-9 | A-54 |
| BHI62EMT-90RA | A-164 | BHI62F-90 | A-54 |
| BHI62EMT-90RH | A-164 | BHI62F-90RA | A-54 |
| BHI62EMT-9RA | A-164 | BHI62F-90RH | A-54 |
| BHI62EMT-9RH | A-164 | BHI62F-9RA | A-54 |
| BHI62EMT-A | A-164 | BHI62F-9RH ... | A-54 |
| BHI62EMT-G2. | A-170 | BHI62F-A | A-55 |
| BHI62ET-120 | A-54 | BHI62F-G2.. | A-64 |
| BHI62ET-120RA | A-54 | BHI62FMT-120 | A-164 |
| BHI62ET-120RH | A-54 | BHI62FMT-120RA | A-164 |
| BHI62ET-15 | A-54 | BHI62FMT-120RH | A-164 |
| BHI62ET-15RA | A-54 | BHI62FMT-15. | A-164 |
| BHI62ET-15RH | A-54 | BHI62FMT-15RA | A-164 |




- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).


- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).

| Model Page | Model | Page |
| :---: | :---: | :---: |
| D6CL-8.0F ...................................................................................................................................... |  |  |
|  | FBL (FBLII Series) |  |


| DFC5 | C-118 |
| :---: | :---: |
| DFC5107T.. | C-118 |
| DFC5107T.. | D-16 |
| DFC5114T.. | C-118 |
| DFC5114T.. | D-16 |
| DFC5128T.. | C-118 |

## DRL (DRL Series)

|  |  |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |



|  |  |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |



CF $\square$ (Gearheads)


| CV (Gearheads) |
| :---: |
| GV2G120....................................... A-23 |
| GV2G15 ...................................... A-23 |
| GV2G18...................................... A-23 |
| GV2G180 .................................... A-23 |
| GV2G30 ...................................... A-23 |
| GV2G300..................................... A-23 |
| GV2G36 ..................................... A-23 |
| GV2G360 .................................... A-23 |
| GV2G5 ........................................ A-23 |
| GV2G6 ....................................... A-23 |

- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).

| Model Page | Model Page | Model Page |
| :---: | :---: | :---: |
| GV2G60 .......................................... A-23 |  | MC3208F04C ................................ C-285 |
| GV2G9 ........................................ A-23 | LC5N10A.................................... C-283 | MC3208F05C .............................. C-285 |
| GV2G90 ....................................... A-23 | LCSO 1 PMC................................... C-283 | MC3208F06C .............................. C-285 |
| GV3G120 .................................... A-27 |  | MC32F04F04C ............................ C-285 |
| GV3G15...................................... A-27 |  | MC32F04F05C ............................. C-285 |
| GV3G18..................................... A-27 | LXD (Accessories) | MC32F04F06C ............................ C-285 |
| GV3G180..................................... A-27 | L入D (Accessories) | MC4014F06C ............................. C-285 |
| GV3G30 .................................... A-27 | LXDOC ........................................ D-41 | MC4014F08C ............................ C-285 |
| GV3G300 ..................................... A-27 | LXD2C ....................................... D-41 | MC4014F10C ............................. C-285 |
| GV3G36 .................................... A-27 | LXD4C ........................................ D-41 | MC40F08F06C .......................... C-285 |
| GV3G360 ..................................... A-27 | LXD5C ....................................... D-41 | MC40F08F08C ............................ C-285 |
| GV3G5 ......................................... A-27 |  | MC40F08F 10C ............................. C-285 |
| GV3G6 ....................................... A-27 |  | MC5014F08C .............................. C-285 |
| GV3G60 .................................... A-27 |  | MC5014F10C ............................ C-285 |
| GV3G9 ....................................... A-27 |  | MC50F08F08C ........................... C-285 |
| GV3G90 ....................................... A-27 | M | MC50F08F 10C ............................ C-285 |
| GV4G120 .................................... A-33 |  | MCL2005F03................................ C-287 |
| GV4G15........................................ A-33 |  | MCL2005F04-............................... C-287 |
| GV4G18...................................... A-33 |  | MCL2005F05.............................. C-287 |
| GV4G180 ..................................... A-33 | MB (Centrifugal Blowers) | MCL20F03F03............................ A-210 |
| GV4G30..................................... A-33 |  | MCL20F03F04........................... A-210 |
| GV4G300 .................................... A-33 |  | MCL20F03F05............................ A-210 |
| GV4G36 ...................................... A-33 | MB 1040-D ................................... E-70 | MCL20F04F04............................ A-210 |
| GV4G360..................................... A-33 | MB 1255-B ................................. E-68 | MCL20F04F05............................ A-210 |
| GV4G5 ....................................... A-33 | MB 1255-D ................................ E-68 | MCL20F05F05............................ A-210 |
| GV4G6 ....................................... A-33 | MB 1255-T................................. E-68 | MCL3008F06.............................. A-210 |
| GV4G60 ....................................... A-33 | 66 | MCL3010F05.............................. A-210 |
| GV4G9 ........................................ A-33 | MB 1665-D ................................ E-66 | MCL3010F06.............................. A-210 |
| GV4G90...................................... A-33 | MB 1665-T ................................. E-66 | MCL3010F08.............................. A-210 |
| GVH5G1 20................................... A-39 | MB520-B ................................... E-76 | MCL301 2F05.............................. A-210 |
| GVH5G15..................................... A-39 | MB520-D.................................. E-76 | MCL3012F06............................... A-210 |
| GVH5G18.................................... A-39 | MB630-B ................................... E-74 | MCL301 2F08.............................. A-210 |
| GVH5G180.................................... A-39 | MB630-D | MCL30F04F05 ............................. A-210 |
| GVH5G30...................................... A-39 | MB840-B .................................. E-72 | MCL30F04F05............................. C-287 |
| GVH5G300................................... A-39 | 2 | MCL30F05F05............................ A-210 |
| GVH5G36.................................... A-39 | M | MCL30F05F05............................ C-287 |
| GVH5G5...................................... A-39 | MBD10-24 ................................. E-80 | MCL30F05F06............................. A-210 |
| GVH5G6....................................... A-39 | MBD10-24A ............................. E-80 | MCL30F05F06............................. C-287 |
| GVH5G60.................................... A-39 | M | MCL30F06F06 ............................ A-210 |
| GVH5G9...................................... A-39 | MBD10-48 ................................. E-80 | MCL30F06F08............................. A-210 |
| GVH5G90.................................... A-39 | MBD 10-48S ............................... E-80 | MCL30F08F08............................ A-210 |
| GVR5G120.................................. A-53 | MBD 12-24 ................................. E-78 | MCL4010F05............................. A-210 |
| GVR5G15.................................... A-53 | MBD8-24 .................................. E-82 | MCL4010F06 ............................. A-210 |
| GVR5G18.................................... A-53 |  | MCL4010F08............................. A-210 |
| GVR5G180.................................. A-53 | MB | MCL401 2F06.............................. A-210 |
| GVR5G30 .................................... A-53 | MBD8-48................................... E-82 | MCL4012F08............................. A-210 |
| GVR5G36 ..................................... A-53 |  | MCL4012F10.............................. A-210 |
| GVR5G5 ...................................... A-53 |  | MCL4014F06 .............................. A-210 |
| GVR5G6 ...................................... A-53 |  | MCL4014F08............................... A-210 |
| GVR5G60 .................................... A-53 | (Accessories) | MCL4014F10............................. A-210 |
| GVR5G9 ...................................... A-53 |  | MCL4015F06.............................. A-210 |
| GVR5G90 ...................................... A-53 | MC1 205F03C ............................. C-285 | MCL4015F08............................... A-210 |
|  | MC1605F03C ............................. C-285 | MCL4015F10............................. A-210 |
|  | MC1605F04C ............................ C-285 | MCL40F05F06............................ A-210 |
|  | MC2005F03C ............................ C-285 | MCL40F06F06............................ A-210 |
|  | MC2005F04C ............................ C-285 | MCL40F06F08............................ A-210 |
|  | MC2005F05C ............................ C-285 | MCL40F06F08............................ C-287 |
|  | MC2008F04C ............................ C-285 | MCL40F08F08............................ A-210 |
|  | MC2008F05C ............................ C-285 | MCL40F08F08............................ C-287 |
|  | MC2508F04C ............................ C-285 | MCL40F08F 10 ............................ A-210 |
| (Accessories) | MC2508F05C ............................ C-285 | MCL40F08F10........................... C-287 |
| LC2U06A ................................... C-283 | MC2508F06C ............................. C-285 | MCL40F10F10............................ A-210 |
| LC2U06B .................................................. C-283 | MC25F04F04C ........................... C-285 | MCL5515F08............................. A-210 |
| LC2U10A ................................... C-283 |  | MCL5515F10............................ A-210 |
| LC2U10B ................................... C-283 | MC25F04F06C ........................... C-285 | MCL5515F12............................ A-210 |


| Model | ge |
| :---: | :---: |
| MCL5518F10. | A-210 |
| MCL5518F12. | A-210 |
| MCL55F10F10 | A-210 |
| MCL55F10F12 | A-210 |
| MCL6518F10. | A-210 |
| MCL6518F12. | A-210 |
| MCL652022 | A-210 |
| MCL652222 | A-210 |
| MCL652225 | A-210 |


| MD (MD Series) |  |
| :---: | :---: |
| MD1225-12............................... E-50MD1225-24........................ $\mathrm{E}-50$ |  |
|  |  |
| MD625B-12 | 12............................... E-56 |
| MD625B-12L........................... E-56 |  |
| MD625B-12S |  |
| MD625B-24............................ E-56 |  |
| MD625B-24L | 24L .............................. E-56 |
| MD625B-24S |  |
| MD625BM-12 |  |
| MD625BM-24 |  |
| MD825B-12 |  |
| MD825B-12L $\qquad$ E-54 |  |
|  |  |
| MD825B-24............................ E-54 |  |
| MD825B-24L |  |
| MD825B-24S |  |
| MD825BL-12 |  |
| MD825BM-12 |  |
| MD825BM-24 |  |
| MD925A-12 |  |
| MD925A-12L |  |
| MD925A-12S |  |
| MD925A-24 |  |
| MD925A-24L |  |
| MD925A-24S |  |
| MD925AL-12 |  |
| MD925AL-24 |  |
| MD925AM-12 |  |
|  |  |

## MDE (MDE Series)

MDE 1225-12L..................................................44
MDE1225-24L.................

| MDS (MDS Series) |  |
| :---: | :---: |
| MDS1225-12 .............. |  |
| MDS 1225-12M | E-48 |
| MDS1225-24 ........................... E-48 | E-48 |
| MDS 1225-24M ........................... E-48 |  |
| MDS 1751-24 ............................ E-4 |  |
| MDS1751-24B |  |
| MDS1751-24S ........................... E-46 |  |
|  |  |
| MDS410-12L............................ E-60 |  |
| MDS410-24................................ E-60 |  |
| MDS410-24L ............................... E-60 |  |
| DS410M-5 ............................. E-60 |  |
|  |  |


| Model | Page |
| :---: | :---: |
| MDS510-12L. | E-58 |
| MDS5 10-24 | E-58 |
| MDS510-24L. | E-58 |
| MDS510M-12 | E-58 |
| MDS510M-24 | E-58 |
| MDS510M-5 | E-58 |

MF (Cross Flow Fans)

| MF915B-BC............................... E-90 |  |
| :---: | :---: |
| MF915-BC | E-90 |
| MF915B-DC ............................... E-90 |  |
| MF915-DC................................... E-90 |  |
|  |  |
| MF930-BC .................................. E-88 |  |
| MF930B-DC ................................. E-88 |  |
| MF930-DC................................... E-88 |  |
| MFD915-24 ................................ E-94 |  |
| MFD915-24A .............................. E-94 |  |
| MFD915-48 ................................ E-94 |  |
| MFD915-48S .............................. E-94 |  |
| MFD915B-24............................. E-94 |  |
| MFD915B-24A ............................ E-94 |  |
| MFD915B-48............................. E-94 |  |
| MFD915B-48S............................ E-94 |  |
| MFD930-24 ................................ E-92 |  |
| MFD930-24A ............................. E-92 |  |
| MFD930-48 ............................... E-92 |  |
| MFD930-48S .............................. E-92 |  |
| MFD930B-24............................. E-92 |  |
| MFD930B-24A ............................ E-92 |  |
| MFD930B-48 .............................. E-92 |  |
| MFD930B-48S. | E-92 |


| MRS (MRS Series) |
| :---: |
| MRS 14-TTM .................................. E-32 |
| MRS 14-TUL ................................. E-32 |
| MRS 16-BTA ............................... E-30 |
|  |
|  |
| MRS 16-DTA ............................... E-30 |
| MRS 16-DTM ............................... E-30 |
| MRS 16-DUL ................................ E-30 |
| MRS 16-TTA ................................ E-30 |
| MRS 16-TTM ............................... E-30 |
| MRS 16-TUL ................................ E-30 |
|  |
|  |
| MRS 18-DTM ............................... E-28 |
| MRS 18-DUL ................................ E-28 |
| MRS 18-TTM ................................ E-28 |
| MRS 18-TUL ................................. E-28 |
| MRS 18V2-B ............................... E-34 |
| MRS18V2-D................................ E-34 |
| MRS20-BM................................ E-26 |
| MRS20-BUL................................. E-26 |
| MRS20-DM ................................ E-26 |
| MRS20-DUL ............................... E-26 |
| MRS20-TM ................................. E-26 |
| MRS20-TUL ................................ E-26 |
| MRS25-B .................................. E-24 |
| MRS25-BB.................................. E-24 |


| Model | Page |
| :---: | :---: |
| MRS25-BM |  |
| MRS25-D | E-24 |
| MRS25-DB | E-24 |
| MRS25-DM | E-24 |
| MRS25-T | E-24 |
| MRS25-TB | E-24 |
| MRS25-TM | E-24 |

MU (MU Series)


OP300
OPX-1 A .......................................... B-10


| PA (Accessories) |
| :---: |
| PADP0 1 ......................................... A-217 |
| PADP0 1 ....................................... C-294 |
| PAFOP ........................................ C-291 |
|  |
| PAL2P-2 ..................................... C-291 |
| PAL2P-5A ................................... C-291 |
| PAL4P-2 ..................................... C-291 |
| PAL4P-5A ................................... C-291 |
| PAS2B....................................... E-109 |
| PAS4B ........................................ E-109 |
| PAS5A ........................................ E-109 |
| PAS6A ....................................... E-109 |
|  |

- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).


PK (Stepping Motors)
PK223PA ...................................... C-196
PK223PA-SG10....................... C-198
PK223PA-SG18....................... C-198
PK223PA-SG36..................... C-198
PK223PA-SG7.2...................... C-198
PK223PA-SG9 $\ldots . . . . . . . . . . . . . . . . . . . . . . ~ C-198 ~$
PK223PB-SG10 ............................ C-198
PK223PB-SG 18 ............................ C-198
PK223PB-SG36 ............................. C-198
PK223PB-SG7.2 ........................... C-198
PK223PB-SG9.............................. C-198
PK224PA ..................................... C-196
PK224PB ...................................... C-196
PK225PA ....................................... C-196
PK225PB ........................................ C-196
PK233PA ...................................... C-200
PK235PA ...................................................... C-200
PK235PB ....................................... C-200
PK243-01 AA ................................ C-204
PK243-01AA.................................... C-160
PK243-01AA................................... C-182
PK243-01 BA ................................ C-204
PK243-01BA .................................... C-160
PK243-01BA ..................................... C-182
PK243-02AA ................................ C-204
PK243-02BA ................................ C-204
PK243-03AA ................................ C-204
PK243-03BA ................................ C-204
PK243A1 A-SG 10 ......................... C-212
PK243A1A-SG10............................. C-182
PK243A I A-SG 18 .......................... C-212
PK243A1A-SG18............................. C-182
PK243A I A-SG3.6......................... C-212
PK243A1A-SG3.6.............................. C-182
PK243A I A-SG36 ......................... C-212
PK243A1A-SG36............................. C-182
PK243A1 A-SG7.2........................ C-212
PK243A1A-SG7.2............................ C-182
PK243A I A-SG9 ............................. C-212
PK243A1A-SG9............................... C-182
PK243A2A-SG 10 .......................... C-212
PK243A2A-SG18......................... C-212
PK243A2A-SG3.6......................... C-212
PK243A2A-SG36 ......................... C-212
PK243A2A-SG7.2....................... C-212
PK243A2A-SG9 ........................... C-212
PK243B 1 A-SG 10 ......................... C-212
PK243B1A-SG10 ............................... C-182
PK243B 1 A-SG 18 .......................... C-212
PK243B1A-SG18 .............................. C-182
PK243B 1A-SG3.6 ......................... C-212
PK243B1A-SG3.6 ............................ C-182
PK243B 1A-SG36 ......................... C-212
PK243B1A-SG36 ................................ C-182
PK243B 1 A-SG7.2 ......................... C-212

| Model | Page | Model | Page |
| :---: | :---: | :---: | :---: |
| PK243B1A-SG7.2. | C-182 | PK264-01A | C-214 |
| PK243B1A-SG9 | C-212 | PK264-01AR11 | C-233 |
| PK243B1A-SG9 | C-182 | PK264-01AR12 | C-233 |
| PK243B2A-SG 10 | C-212 | PK264-01B | C-214 |
| PK243B2A-SG 18 | C-212 | PK264-02A | C-214 |
| PK243B2A-SG3.6 | C-212 | PK264-02A | C-160 |
| PK243B2A-SG36 | C-212 | PK264-02A | C-182 |
| PK243B2A-SG7.2 | C-212 | PK264-02AR1 1 | C-233 |
| PK243B2A-SG9 | C-212 | PK264-02AR 12 | C-233 |
| PK243M-01AA | C-208 | PK264-02B | C-214 |
| PK243M-01BA. | C-208 | PK264-02B | C-160 |
| PK243M-02AA | C-208 | PK264-02B. | C-182 |
| PK243M-02BA | C-208 | PK264-03A | C-214 |
| PK243M-03AA | C-208 | PK264-03AR1 1 | C-233 |
| PK243M-03BA. | C-208 | PK264-03AR 12. | C-233 |
| PK243MAA | C-160 | PK264-03B | C-214 |
| PK243MAA | C-182 | PK264A1A-SG10 | C-222 |
| PK243MBA | C-160 | PK264A1A-SG 18 | C-222 |
| PK243MBA | C-182 | PK264A1 A-SG3.6 | C-222 |
| PK244-01AA | C-204 | PK264A1A-SG36 | C-222 |
| PK244-01AA | C-160 | PK264A1A-SG7.2 | C-222 |
| PK244-01AA | C-182 | PK264A1A-SG9 | C-222 |
| PK244-01BA | C-204 | PK264A2A-SG10 | C-222 |
| PK244-01BA | C-160 | PK264A2A-SG10. | C-182 |
| PK244-01BA | C-182 | PK264A2A-SG18 | C-222 |
| PK244-02AA | C-204 | PK264A2A-SG18. | C-182 |
| PK244-02BA | C-204 | PK264A2A-SG3.6 | C-222 |
| PK244-03AA | C-204 | PK264A2A-SG3.6. | C-182 |
| PK244-03BA | C-204 | PK264A2A-SG36 | C-222 |
| PK244-04AA | C-204 | PK264A2A-SG36..... | C-182 |
| PK244-04BA | C-204 | PK264A2A-SG7.2 | C-222 |
| PK244M-01AA | C-208 | PK264A2A-SG7.2 | C-182 |
| PK244M-01BA | C-208 | PK264A2A-SG9 | C-222 |
| PK244M-02AA | C-208 | PK264A2A-SG9. | C-182 |
| PK244M-02BA | C-208 | PK264B1 A-SG 10 | C-222 |
| PK244M-03AA | C-208 | PK264B1A-SG18 | C-222 |
| PK244M-03BA | C-208 | PK264B1A-SG3.6 | C-222 |
| PK244MAA | C-160 | PK264B 1 A-SG36 | C-222 |
| PK244MAA | C-182 | PK264B1A-SG7.2 | C-222 |
| PK244MBA | C-160 | PK264B1A-SG9. | C-222 |
| PK244MBA | C-182 | PK264B2A-SG10 | C-222 |
| PK244PA | C-202 | PK264B2A-SG10 | C-182 |
| PK244PB | C-202 | PK264B2A-SG 18 | C-222 |
| PK245-01AA | C-204 | PK264B2A-SG18.. | C-182 |
| PK245-01AA | C-160 | PK264B2A-SG3.6 | C-222 |
| PK245-01AA. | C-182 | PK264B2A-SG3.6. | C-182 |
| PK245-01BA | C-204 | PK264B2A-SG36 | C-222 |
| PK245-01BA | C-160 | PK264B2A-SG36 | C-182 |
| PK245-01BA | C-182 | PK264B2A-SG7.2 | C-222 |
| PK245-02AA | C-204 | PK264B2A-SG7.2. | C-182 |
| PK245-02BA | C-204 | PK264B2A-SG9 | C-222 |
| PK245-03AA | C-204 | PK264B2A-SG9 ...... | C-182 |
| PK245-03BA | C-204 | PK264-E2.0A | C-214 |
| PK245M-01AA | C-208 | PK264-E2.0AR 11 | C-233 |
| PK245M-01BA. | C-208 | PK264-E2.0AR 12 | C-233 |
| PK245M-02AA | C-208 | PK264-E2.0B | C-214 |
| PK245M-02BA | C-208 | PK264M-01A | C-218 |
| PK245M-03AA | C-208 | PK264M-01AR11. | C-236 |
| PK245M-03BA | C-208 | PK264M-01AR12 | C-236 |
| PK245MAA. | C-160 | PK264M-01B | C-218 |
| PK245MAA.. | C-182 | PK264M-02A | C-218 |
| PK245MBA | C-160 | PK264M-02AR11. | C-236 |
| PK245MBA | C-182 | PK264M-02AR 12. | C-236 |
| PK246PA | C-202 | PK264M-02B ... | C-218 |
| PK246PB | C-202 | PK264M-03A | C-218 |


|  |  |
| :---: | :---: |
| PK |  |
| 03A |  |
|  |  |
| PK264MA ...................................... C-160 |  |
|  |  |
| PK264MB ................................... C-160 |  |
| 264MB | 82 |
| PK264M-E2.0A .......................... C-218 |  |
| K264M-E2.0A |  |
| PK264M-E2.0AR 12 |  |
| K264M-E2 |  |
|  |  |
| PK266-01AR11 ........................ C-233 |  |
| K266-01AR 12 | C-233 |
| PK266-01B ................................. C-214 |  |
| K266-02A | C-214 |
| PK266-02A .................................. C-1 |  |
| PK266-02A .................................. C-182 |  |
| PK266-02AR 11 ......................... C-233 |  |
| K266-02AR 12 |  |
| PK266-02B ................................ C-214 |  |
| PK266-02B.................................. C-160 |  |
| PK266-02B.................................. C-182 |  |
| PK266-03A ................................. C-214 |  |
| PK266-03AR 11 ........................... C-233 |  |
| PK266-03AR 12 ......................... C-233 |  |
| PK266-03B |  |
| PK266-E2.0A |  |
| PK266-E2.0AR 11 ....................... C-233 |  |
| PK266-E2.0AR 12 ........................ C-233 |  |
| PK266-E2.0B |  |
| PK266M-0 |  |
| PK266M-01AR11....................... C-236 |  |
| PK266M-01AR 12 ....................... C-236 |  |
| PK266M-01B ............................. C-218 |  |
| PK266M-02A |  |
| PK266M-02AR 11 ....................... C-236 |  |
| PK266M-02AR 12 ....................... C-236 |  |
| PK266M-02B |  |
| PK266M-03A |  |
| PK266M-03AR 11 ....................... C-236 |  |
| PK266M-03AR 12 ....................... C-236 |  |
| PK266M-03B ............................. C-218 |  |
| PK266MA ...................................... C-160 |  |
| PK266MA ...................................... C-182 |  |
| PK266MB ...................................... C-160 |  |
| PK266MB ........................................ C-182 |  |
| PK266M-E2.0A ${ }^{\text {a........................ C-218 }}$ |  |
| PK266M-E2.0AR 11 .................... C-236 |  |
| PK266M-E2.0AR 12 ..................... C-236 |  |
| PK266M-E2.0B .......................... C-218 |  |
| PK268-01A ................................ C-214 |  |
| PK268-01B |  |
| PK268-02A |  |
| PK268-02A .................................... C-160 |  |
| PK268-02A .................................... C-182 |  |
| PK268-02B ............................... C-214 |  |
| PK268-02B.................................... C-160 |  |
| PK268-02B..................................... C-182 |  |
| PK268-03A ................................ C-214 |  |
| PK268-03B ................................. C-214 |  |
| PK268-E2.0A ............................. C-214 |  |
| PK268-E2.0B ............................. C-214 |  |
| PK268M-01A $\ldots$........................... C-218 |  |
| PK268M-01B .............................. C-218 |  |


| Model Page | Model Page |
| :---: | :---: |
| PK268M-02A ............................. C-218 | PK543AW-H100S........................... C-104 |
| PK268M-02B ............................. C-218 | PK543AW-H50S ............................. C-104 |
| PK268M-03A ............................ C-218 | PK543AW-T10............................... C-104 |
| PK268M-03B .............................. C-218 | PK543AW-T20................................ C-104 |
| PK268MA ...................................... C-160 | PK543AW-T3.6............................... C-104 |
| PK268MA ..................................... C-182 | PK543AW-T30............................. C-104 |
| PK268MB ...................................... C-160 | PK543AW-T7.2.............................. C-104 |
| PK268MB ....................................... C-182 | PK543BW ...................................... C-104 |
| PK268M-E2.0A .......................... C-218 | PK543BW-H100S............................ C-104 |
| PK268M-E2.0B ........................... C-218 | PK543BW-H50S.............................. C-104 |
| PK2913-01 AA ............................ C-227 | PK543BW-T10 ............................... C-104 |
|  | PK543BW-T20 ............................. C-104 |
| PK2913-02AA ............................ C-227 | PK543BW-T3.6 ................................ C-104 |
| PK2913-02AA ............................... C-182 | PK543BW-T30 ............................... C-104 |
| PK2913-02BA............................. C-227 | PK543BW-T7.2 ............................... C-104 |
| PK2913-02BA ................................ C-182 | PK543NAWA ................................. C-118 |
| PK2913-F4.0A ........................... C-227 | PK543NAWA ................................ C-134 |
| PK2913-F4.0B ............................ C-227 | PK543NAWA-T10 ........................... C-134 |
| PK296-01 AA .............................. C-227 | PK543NAWA-T20 ........................... C-134 |
| PK296-01 BA .............................. C-227 | PK543NAWA-T3.6 ......................... C-134 |
| PK296-02AA .............................. C-227 | PK543NAWA-T30 ........................... C-134 |
| PK296-02BA .............................. C-227 | PK543NAWA-T7.2 .......................... C-134 |
| PK296-03AA ............................. C-227 | PK543NBWA ................................. C-118 |
| PK296-03AA.................................. C-182 | PK543NBWA ................................. C-134 |
| PK296-03BA .............................. C-227 | PK543NBWA-T10 ........................... C-134 |
| PK296-03BA ................................ C-182 | PK543NBWA-T20 ........................... C-134 |
| PK296A 1A-SG 10 ........................ C-231 | PK543NBWA-T3.6 .......................... C-134 |
| PK296A 1A-SG 18 ........................ C-231 | PK543NBWA-T30 ........................... C-134 |
| PK296A 1 A-SG3.6..................... C-231 | PK543NBWA-T7.2 .......................... C-134 |
| PK296A 1 A-SG36 ....................... C-231 | PK544AW..................................... C-104 |
| PK296A A-SG7.2 ...................... C-231 | PK544AW-N10............................... C-104 |
| PK296A 1 A-SG9 ......................... C-231 | PK544AW-N5................................. C-104 |
| PK296A2A-SG10....................... C-231 | PK544AW-N7.2............................. C-104 |
| PK296A2A-SG 18 ........................ C-231 | PK544BW ...................................... C-104 |
| PK296A2A-SG3.6..................... C-231 | PK544BW-N10 ............................. C-104 |
| PK296A2A-SG36 ....................... C-231 | PK544BW-N5 ................................ C-104 |
| PK296A2A-SG7.2...................... C-231 | PK544BW-N7.2 .............................. C-104 |
| PK296A2A-SG9 ......................... C-231 | PK544NAWA ................................. C-118 |
| PK296B 1 A-SG10 ....................... C-231 | PK544NAWA ................................ C-134 |
| PK296B 1 A-SG 18 ........................ C-231 | PK544NBWA ................................. C-118 |
| PK296B 1 A-SG3.6 ...................... C-231 | PK544NBWA ................................ C-134 |
| PK296B 1 A-SG36 ....................... C-231 | PK545AW..................................... C-104 |
| PK296B 1 A-SG7.2 ...................... C-231 | PK545BW ...................................... C-104 |
| PK296B 1 A-SG9 ......................... C-231 | PK545NAWA ................................ C-118 |
| PK296B2A-SG 10 ....................... C-231 | PK545NAWA ................................ C-134 |
| PK296B2A-SG 18 ....................... C-231 | PK545NBWA ................................. C-118 |
| PK296B2A-SG3.6 ...................... C-231 | PK545NBWA ................................. C-134 |
| PK296B2A-SG36 ....................... C-231 | PK564AW...................................... C-104 |
| PK296B2A-SG7.2 ...................... C-231 | PK564AW-H100S.......................... C-104 |
| PK296B2A-SG9.......................... C-231 | PK564AW-H50S ............................. C-104 |
| PK296-F4.5A ............................. C-227 | PK564AW-N25............................... C-104 |
|  | PK564AW-N36............................... C-104 |
|  | PK564AW-N50.............................. C-104 |
| PK299-01 BA .............................. C-227 | PK564AW-T10............................... C-104 |
| PK299-02AA .............................. C-227 | PK564AW-T20................................ C-104 |
| PK299-02BA .............................. C-227 | PK564AW-T3.6............................... C-104 |
| PK299-03AA ............................. C-227 | PK564AW-T30............................... C-104 |
| PK299-03AA.................................. C-182 | PK564AW-T7.2............................... C-104 |
| PK299-03BA .............................. C-227 | PK564BW ..................................... C-104 |
| PK299-03BA .................................. C-182 | PK564BW-H100S............................ C-104 |
| PK299-F4.5A .............................. C-227 | PK564BW-H50S.............................. C-104 |
| PK299-F4.5B .............................. C-227 | PK564BW-N25 ............................... C-104 |
| PK513PA....................................... C-118 | PK564BW-N36 ............................... C-104 |
| PK513PB ........................................ C-118 | PK564BW-N50 ............................... C-104 |
| PK543AW..................................... C-104 | PK564BW-T10 ............................... C-104 |

## Product Index

- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).

| Model Page | Model Page | Model Page |
| :---: | :---: | :---: |
| PK564BW-T20 .................................. C-104 | PK596BW-T3.6 ................................. C-104 | PV (PV Series) |
| PK564BW-T3.6 ............................... C-104 | PK596BW1-T30 .............................. C-104 |  |
| PK564BW-T30 .............................. C-104 | PK596BW-T7.2 ............................. C-104 | PV264-02AA <br> C-224 <br> PV264-02BA <br> C-224 <br> PV264-D2.8AA <br> C-224 <br> PV264-D2.8BA <br> C-224 <br> PV266-02AA <br> C-224 <br> PV266-02BA <br> C-224 <br> PV266-D2.8AA <br> C-224 <br> PV266-D2.8BA <br> C-224 <br> PV267-02AA <br> C-224 <br> PV267-02BA. <br> C-224 <br> PV267-D2.8AA <br> C-224 <br> PV267-D2.8BA <br> C-224 <br> PV269-02AA <br> C-224 <br> PV269-02BA <br> C-224 <br> PV269-D2.8AA <br> C-224 <br> PV269-D2.8BA <br> C-224 |
| PK564BW-T7.2 .............................. C-104 | PK596-NAA ................................. C-118 |  |
| PK564NAWA ................................ C-118 | PK596-NAA .................................. C-134 |  |
| PK564NAWA ............................... C-134 | PK596-NBA.................................. C-118 |  |
| PK564NAWA-T10 ......................... C-134 | PK596-NBA................................. C-134 |  |
| PK564NAWA-T20 .......................... C-134 | PK599AW.................................... C-104 |  |
| PK564NAWA-T3.6 ......................... C-134 | PK599AW-N10............................. C-104 |  |
| PK564NAWA-T30 ......................... C-134 | PK599AW-N5.............................. C-104 |  |
| PK564NAWA-T7.2 ........................ C-134 | PK599AW-N7.2............................ C-104 |  |
| PK564NBWA ............................... C-118 | PK599BW ................................... C-104 |  |
| PK564NBWA ............................... C-134 | PK599BW-N10 ............................. C-104 |  |
| PK564NBWA-T10 .......................... C-134 | PK599BW-N5 ............................... C-104 |  |
| PK564NBWA-T20 ......................... C-134 | PK599BW-N7.2 ............................ C-104 |  |
| PK564NBWA-T3.6 ......................... C-134 | PK599-NAA ................................. C-118 |  |
| PK564NBWA-T30.......................... C-134 | PK599-NAA ................................. C-134 |  |
| PK564NBWA-T7.2......................... C-134 | PK599-NBA................................. C-118 |  |
| PK566AW..................................... C-104 | PK599-NBA................................... C-134 |  |
| PK566AW-N10.............................. C-104 |  |  |
| PK566AW-N5................................. C-104 |  |  |
| PK566AW-N7.2............................ C-104 |  |  |
| PK566BW .................................... C-104 |  |  |
| PK566BW-N10 ............................. C-104 | PMC33A3....................................... C-138 |  |
| PK566BW-N5 .............................. C-104 | PMC33A1-HG50 ........................ C-141 |  |
| PK566BW-N7.2 ............................ C-104 | PMC33A1-HG100 ....................... C-141 |  |
| PK566H-NAA ............................... C-118 | PMC33A1-MG3.6........................ C-139 | RGB (Accessories) |
| PK566H-NBA ............................... C-118 | PMC33A1-MG7.2......................... C-139 | RGB 100 ................................... B-33 |
| PK566NAWA ............................... C-118 | PMC33A1-MG10........................ C-139 |  |
| PK566NAWA ............................... C-134 | PMC33A1-MG20.......................... C-139 |  |
| PK566NBWA ............................... C-118 | PMC33A1-MG30......................... C-139 |  |
| PK566NBWA ................................ C-134 | PMC33B3 .................................. C-138 | RK (RK Series) |
| PK569AW.................................... C-104 | PMC33B 1 -HG50 .......................... C-141 |  |
| PK569BW .................................... C-104 | PMC33B1-HG 100 ...................... C-141 | RK543AA $. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~ C-81 ~$ |
| PK569H-NAA ............................... C-118 | PMC33B 1 -MG3.6 ....................... C-139 |  |
| PK569H-NBA .................................. C-118 | PMC33B 1-MG7.2 ....................... C-139 | RK543AA-T7.2 ......................... C-83 |
| PK569NAWA ............................... C-118 | PMC33B 1 -MG10 ........................ C-139 | RK543AA-T10........................... C-83 |
| PK569NAWA ............................... C-134 | PMC33B 1 -MG20 ........................ C-139 | RK543AA-T20........................... C-83 |
| PK569NBWA ................................ C-118 | PMC33B 1 -MG30 ........................ C-139 | RK543AA-T30.......................... C-83 |
| PK569NBWA .................................. C-134 | PMC35A3.................................. C-138 | $\begin{aligned} & \text { RK543AA-H5O .......................................... } 89 \\ & \text { RK543AA-H100 .................. C-89 } \end{aligned}$ |
| PK5913AW................................... C-104 | PMC35B3 ................................... C-138 |  |
| PK5913BW .................................... C-104 | PMD03CA.................................... C-148 | RK543BA .................................... C-81 |
| PK5913-NAA .................................. C-118 | PMM33A2 ................................... C-148 | RK543BA-T3.6 .......................... C-83 |
| PK5913-NAA ............................... C-134 | PMM33AH2 .................................. C-118 | RK543BA-T7.2 .......................... C-83 |
| PK5913-NBA .................................. C-118 | PMM33A-HG50 ............................. C-148 | $\begin{aligned} & \text { RK543BA-T } 10 \text {............................................................. } \\ & \text { RK543BA-T20 } \end{aligned}$ |
| PK5913-NBA ................................ C-134 | PMM33A-HG100........................... C-148 |  |
| PK596AW................................... C-104 | PMM33A-MG3.6 ........................... C-148 | RK543BA-T30 ............................ C-83 |
| PK596AW1-H100............................ C-104 | PMM33A-MG7.2 ........................... C-148 | RK543BA-H5O ...................................... C-89 |
| PK596AW1-H50 ............................. C-104 | PMM33A-MG10 ............................ C-148 |  |
| PK596AW-N25.............................. C-104 | PMM33A-MG20 ............................ C-148 | $\begin{aligned} & \text { RK543BA-H 100.............................................................................. } \end{aligned}$ |
| PK596AW-N36.............................. C-104 | PMM33A-MG30 ............................ C-148 | RK544AA-N5 ............................ C-86 |
| PK596AW-N50............................... C-104 | PMM33B2 .................................... C-148 | RKD507-A................................... C-104 |
| PK596AW1-T10............................ C-104 | PMM33BH2.................................. C-118 | RKD514H-A ................................. C-104 |
| PK596AW1-T20............................. C-104 | PMM33B-HG50............................. C-148 | RKD514H-C ................................. C-104 |
| PK596AW-T3.6.............................. C-104 | PMM33B-HG100............................ C-148 | RKD514L-A .................................. C-104 |
| PK596AW1-T30............................ C-104 | PMM33B-MG3.6............................ C-148 | RKD514L-C $-. . .1 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~ C-104 ~$ |
| PK596AW-T7.2.............................. C-104 | PMM33B-MG7.2............................ C-148 |  |
| PK596BW ..................................... C-104 | PMM33B-MG10............................. C-148 | RK544AA-N 10 ............................ C-86 |
| PK596BW1-H100 .......................... C-104 | PMM33B-MG20 ............................. C-148 | RK544BA ................................. C-81 |
| PK596BW1-H50............................ C-104 | PMM33B-MG30 ............................. C-148 | RK544BA-N5 ............................................ C-86RK544BA-N7.2............... C-86 |
| PK596BW-N25 ............................. C-104 | PMM35A2 ................................... C-148 |  |
| PK596BW-N36 .............................. C-104 | PMM35AH2 .................................. C-118 | RK544BA-N10.......................... C-86 |
| PK596BW-N50 ............................. C-104 | PMM35B2 ..................................... C-148 | RK545AA ................................. C-81 |
| PK596BW1-T10 ............................. C-104 | PMM35BH2.................................. C-118 | RK545BA ................................. C-81 |
| PK596BW1-T20 .............................. C-104 |  | RK564AA .................................. C-82 |



- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).

| Model | Page |
| :---: | :---: |
| SOL3U10 | A-205 |
| SOL4M6 | A-205 |
| SOL4U10 | A-205 |
| SOL5B-A | C-291 |
| SOL5M8 | A-206 |
| SOL5UA | A-206 |
| SOL6M8. | A-206 |
| SOT6 | A-207 |

TB (Accessories)
TB4-0608 $\ldots \ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~ A-216 ~$

UD (UMK Series Drivers)

| UDK2109A .................................. C-160 |  |
| :---: | :---: |
| UDK2112A .................................. C-160 |  |
|  |  |



## UMK (UMK Series)

|  | 52 |
| :---: | :---: |
|  | UMK243BA ................................ C-152 |
|  | UMK243MAA $\cdots$........................... C-153 |
|  | UMK243MBA ............................. C-153 |
|  | UMK244AA ................................ C-152 |
|  | UMK244BA ................................ C-152 |
|  | UMK244MAA ............................ C-153 |
|  | UMK244MBA ............................. C-153 |
|  | UMK245AA ............................... C-152 |
|  | UMK245BA ................................ C-152 |
|  | UMK245MAA ............................ C-153 |
|  | UMK245MBA .............................. C-153 |
|  | UMK264AA ................................ C-152 |
|  | UMK264BA ................................ C-152 |
|  | UMK264MAA $\cdots$........................... C-153 |
|  | UMK264MBA ............................. C-153 |
|  | UMK266AA ............................... C-152 |
|  | UMK266BA ............................... C-152 |
|  | UMK266MAA $\cdots$........................... C-153 |
|  | UMK266MBA ............................. C-153 |
|  | UMK268AA ................................ C-152 |
|  | UMK268BA ................................ C-152 |
|  |  |
|  |  |



| JSM (US Series Motor) |
| :---: |
| USM206-001W ............................... B-130 |
| USM206-002W ............................. B-130 |
| USM206-401W ............................. B-130 |
| USM206-402W .............................. B-130 |
| USM315-001W ............................. B-130 |
| USM315-002W ............................. B-130 |
| USM315-401W .............................. B-130 |
| USM315-402W ............................. B-130 |
| USM425-001W ............................. B-130 |
| USM425-002W ............................. B-130 |
| USM425-401W .............................. B-130 |
| USM425-402W ............................. B-130 |
| USM540-001W ............................. B-130 |
| USM540-002W ............................. B-130 |
| USM540-401W ............................. B-130 |
| USM540-402W ............................. B-130 |
| USM560-001W .............................. B-130 |
| USM560-002W ............................. B-130 |
| USM560-501W ............................. B-130 |
| USM560-502W ............................. B-130 |
| USM590-001W ............................. B-130 |
| USM590-002W ............................. B-130 |
| USM590-501W ............................. B-130 |
| USM590-502W .............................. B-130 |

USP (US Series Control Units)





- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).

| Model Page | Model Page | Model Page |
| :---: | :---: | :---: |
| VHI560A-120U ......................... A-40 | VHI560SM-120 ......................... A-152 | VHI590CT-18E........................... A-47 |
| VHI560A-15U............................ A-40 | VHI560SM-15 ............................ A-152 | VHI590CT-30E............................ A-47 |
| VHI560A-180U ......................... A-40 | VHI560SM-18 ........................... A-152 | VHI590CT-36E........................... A-47 |
| VHI560A-18U............................ A-40 | VHI560SM-180 ......................... A-152 | VHI590CT-5E ............................. A-47 |
| VHI560A-300U .......................... A-40 | VHI560SM-30 ............................ A-152 | VHI590CT-60E ............................ A-47 |
| VHI560A-30U............................ A-40 | VHI560SM-300 .......................... A-152 | VHI590CT-6E .............................. A-47 |
| VHI560A-36U............................ A-40 | VHI560SM-36 ........................... A-152 | VHI590CT-90E ........................... A-47 |
| VHI560A-5U .............................. A-40 | VHI560SM-5.............................. A-152 | VHI590CT-9E .............................. A-47 |
| VHI560A-60U............................ A-40 | VHI560SM-6.............................. A-152 | VHI590CT-GVR............................... A-53 |
| VHI560A-6U .............................. A-40 | VHI560SM-60 ............................ A-152 | VHI590S-120 ............................ A-47 |
| VHI560A-90U............................. A-40 | VHI560SM-9............................... A-152 | VHI590S-15 ............................... A-47 |
| VHI560A-9U .............................. A-40 | VHI560SM-90 ............................ A-152 | VHI590S-18............................... A-47 |
| VHI560A-GVH.............................. A-46 | VHI560SM-GVH ............................. A-156 | VHI590S-180 ............................ A-47 |
| VHI560AT-120U ........................ A-40 | VHI560ST-120.......................... A-40 | VHI590S-30 ............................... A-47 |
| VHI560AT-15U.......................... A-40 | VHI560ST-15 ............................ A-40 | VHI590S-36 ............................... A-47 |
| VHI560AT-180U ........................ A-40 | VHI560ST-18 ............................. A-40 | VHI590S-5 .................................. A-47 |
| VHI560AT-18U........................... A-40 | VHI560ST-180........................... A-40 | VHI590S-6 ................................. A-47 |
| VHI560AT-300U ........................ A-40 | VHI560ST-30 ............................ A-40 | VHI590S-60 .............................. A-47 |
| VHI560AT-30U.......................... A-40 | VHI560ST-300........................... A-40 | VHI590S-9 ................................ A-47 |
| VHI560AT-36U........................... A-40 | VHI560ST-36 ............................. A-40 | VHI590S-90 ................................ A-47 |
| VHI560AT-5U ............................. A-40 | VHI560ST-5 ............................... A-40 | VHI590S-GVR................................. A-53 |
| VHI560AT-60U.......................... A-40 | VHI560ST-6 ............................... A-40 | VHI590SM-120 ......................... A-157 |
| VHI560AT-6U ............................. A-40 | VHI560ST-60 ............................. A-40 | VHI590SM-15 ........................... A-157 |
| VHI560AT-90U........................... A-40 | VHI560ST-9 .............................. A-40 | VHI590SM-18 ........................... A-157 |
| VHI560AT-9U ............................ A-40 | VHI560ST-90 ............................. A-40 | VHI590SM-180 ......................... A-157 |
| VHI560AT-GVH .............................. A-46 | VHI560ST-GVH .............................. A-46 | VHI590SM-30 ........................... A-157 |
| VHI560C-120E ........................... A-40 | VHI590A-120U .......................... A-47 | VHI590SM-36 ............................ A-157 |
| VHI560C-15E............................. A-40 | VHI590A-15U............................ A-47 | VHI590SM-5.............................. A-157 |
| VHI560C-180E ........................... A-40 | VHI590A-180U .......................... A-47 | VHI590SM-6............................. A-157 |
| VHI560C-18E............................. A-40 | VHI590A-18U............................ A-47 | VHI590SM-60 ........................... A-157 |
| VHI560C-300E ........................... A-40 | VHI590A-30U............................. A-47 | VHI590SM-9.............................. A-157 |
| VHI560C-30E............................. A-40 | VHI590A-36U............................ A-47 | VHI590SM-90 ........................... A-157 |
| VHI560C-36E............................. A-40 | VHI590A-5U .............................. A-47 | VHI590SM-GVR............................. A-162 |
| VHI560C-5E ............................... A-40 | VHI590A-60U............................. A-47 | VHI590ST-120............................ A-47 |
| VHI560C-60E............................. A-40 | VHI590A-6U ............................... A-47 | VHI590ST-15 ............................. A-47 |
| VHI560C-6E ............................... A-40 | VHI590A-90U............................ A-47 | VHI590ST-18 ............................. A-47 |
| VHI560C-90E............................. A-40 | VHI590A-9U .............................. A-47 | VHI590ST-180........................... A-47 |
| VHI560C-9E ............................... A-40 | VHI590A-GVR ................................ A-53 | VHI590ST-30 ............................. A-47 |
| VHI560C-GVH.............................. A-46 | VHI590AT-120U ........................ A-47 | VHI590ST-36 ............................. A-47 |
| VHI560CT-120E .......................... A-40 | VHI590AT-15U........................... A-47 | VHI590ST-5 ............................... A-47 |
| VHI560CT-15E........................... A-40 | VHI590AT-180U ......................... A-47 | VHI590ST-6 ............................... A-47 |
| VHI560CT-180E ......................... A-40 | VHI590AT-18U.......................... A-47 | VHI590ST-60 ............................. A-47 |
| VHI560CT-18E............................ A-40 | VHI590AT-30U........................... A-47 | VHI590ST-9 ............................... A-47 |
| VHI560CT-300E ......................... A-40 | VHI590AT-36U............................ A-47 | VHI590ST-90 .............................. A-47 |
| VHI560CT-30E........................... A-40 | VHI590AT-5U ............................ A-47 | VHI590ST-GVR .............................. A-53 |
| VHI560CT-36E........................... A-40 | VHI590AT-60U........................... A-47 | VHR206A-120U ......................... A-74 |
| VHI560CT-5E ............................. A-40 | VHI590AT-6U ............................. A-47 | VHR206A-15U............................ A-74 |
| VHI560CT-60E ............................ A-40 | VHI590AT-90U........................... A-47 | VHR206A-180U ......................... A-74 |
| VHI560CT-6E ............................. A-40 | VHI590AT-9U ............................. A-47 | VHR206A-18U............................ A-74 |
| VHI560CT-90E ........................... A-40 | VHI590AT-GVR.............................. A-53 | VHR206A-300U ......................... A-74 |
| VHI560CT-9E ............................. A-40 | VHI590C-120E ........................... A-47 | VHR206A-30U........................... A-74 |
| VHI560CT-GVH ............................ A-46 | VHI590C-15E............................ A-47 | VHR206A-360U .......................... A-74 |
| VHI560S-120 ............................. A-40 | VHI590C-180E ........................... A-47 | VHR206A-36U............................ A-74 |
| VHI560S-15 .............................. A-40 | VHI590C-18E............................. A-47 | VHR206A-5U ............................. A-74 |
| VHI560S-18.............................. A-40 | VHI590C-30E............................ A-47 | VHR206A-60U........................... A-74 |
| VHI560S-180 ............................ A-40 | VHI590C-36E............................. A-47 | VHR206A-6U .............................. A-74 |
| VHI560S-30 .............................. A-40 | VHI590C-5E ............................... A-47 | VHR206A-90U........................... A-74 |
| VHI560S-300 ............................ A-40 | VHI590C-60E............................ A-47 | VHR206A-9U ............................. A-74 |
| VHI560S-36 ............................. A-40 | VHI590C-6E ................................ A-47 | VHR206A-GV ................................. A-77 |
| VHI560S-5 ................................ A-40 | VHI590C-90E............................. A-47 | VHR206AM-120U...................... A-132 |
| VHI560S-6 ................................ A-40 | VHI590C-9E .............................. A-47 | VHR206AM-15U ....................... A-132 |
| VHI560S-60 ............................... A-40 | VHI590C-GVR ................................ A-53 | VHR206AM-180U...................... A-132 |
| VHI560S-9 ................................. A-40 | VHI590CT-1 20E .......................... A-47 | VHR206AM-18U ......................... A-132 |
| VHI560S-90 ............................. A-40 | VHI590CT-15E.......................... A-47 | VHR206AM-300U..................... A-132 |
| VHI560S-GVH ................................ A-46 | VHI590CT-180E .......................... A-47 | VHR206AM-30U ........................ A-132 |




| Model Page | Model Page | Model Page |
| :---: | :---: | :---: |
| VHR540AM-36U ........................ A-147 | VHR560A-36U........................... A-92 | VHR560CT-36E .......................... A-92 |
| VHR540AM-5U.......................... A-147 | VHR560A-5U ............................. A-92 | VHR560CT-5E............................ A-92 |
| VHR540AM-60U ........................ A-147 | VHR560A-60U............................ A-92 | VHR560CT-60E ........................... A-92 |
| VHR540AM-6U........................... A-147 | VHR560A-6U .............................. A-92 | VHR560CT-6E............................. A-92 |
| VHR540AM-90U ........................ A-147 | VHR560A-90U........................... A-92 | VHR560CT-90E ........................... A-92 |
| VHR540AM-9U........................... A-147 | VHR560A-9U .............................. A-92 | VHR560CT-9E.............................. A-92 |
| VHR540AM-GVH ............................ A-151 | VHR560A-GVH ............................... A-96 | VHR560CT-GVH ............................. A-96 |
| VHR540AT-120U ....................... A-87 | VHR560AM-120U...................... A-152 | VHR590A-1 20U ......................... A-97 |
| VHR540AT-15U......................... A-87 | VHR560AM-15U ........................ A-152 | VHR590A-15U........................... A-97 |
| VHR540AT-180U ........................ A-87 | VHR560AM-180U....................... A-152 | VHR590A-180U ......................... A-97 |
| VHR540AT-18U.......................... A-87 | VHR560AM-18U ......................... A-152 | VHR590A-18U............................ A-97 |
| VHR540AT-300U ....................... A-87 | VHR560AM-300U...................... A-152 | VHR590A-30U........................... A-97 |
| VHR540AT-30U.......................... A-87 | VHR560AM-30U ......................... A-152 | VHR590A-36U........................... A-97 |
| VHR540AT-36U .......................... A-87 | VHR560AM-36U ......................... A-152 | VHR590A-5U .............................. A-97 |
| VHR540AT-5U ........................... A-87 | VHR560AM-5U.......................... A-152 | VHR590A-60U............................ A-97 |
| VHR540AT-60U.......................... A-87 | VHR560AM-60U ......................... A-152 | VHR590A-6U .............................. A-97 |
| VHR540AT-6U ............................ A-87 | VHR560AM-6U........................... A-152 | VHR590A-90U............................ A-97 |
| VHR540AT-90U .......................... A-87 | VHR560AM-90U ........................ A-152 | VHR590A-9U .............................. A-97 |
| VHR540AT-9U ............................ A-87 | VHR560AM-9U........................... A-152 | VHR590A-GVR ................................ A-102 |
| VHR540AT-GVH ............................. A-91 | VHR560AM-GVH ............................ A-156 | VHR590AM-120U....................... A-157 |
| VHR540C-120E.......................... A-87 | VHR560AT-120U ....................... A-92 | VHR590AM-15U ........................ A-157 |
| VHR540C-15E............................. A-87 | VHR560AT-15U.......................... A-92 | VHR590AM-180U....................... A-157 |
| VHR540C-180E........................... A-87 | VHR560AT-180U ........................ A-92 | VHR590AM-18U ......................... A-157 |
| VHR540C-18E ............................. A-87 | VHR560AT-18U.......................... A-92 | VHR590AM-30U ......................... A-157 |
| VHR540C-300E........................... A-87 | VHR560AT-300U ........................ A-92 | VHR590AM-36U ......................... A-157 |
| VHR540C-30E ............................. A-87 | VHR560AT-30U .......................... A-92 | VHR590AM-5U........................... A-157 |
| VHR540C-36E ............................. A-87 | VHR560AT-36U.......................... A-92 | VHR590AM-60U ........................ A-157 |
| VHR540C-5E .............................. A-87 | VHR560AT-5U ............................ A-92 | VHR590AM-6U........................... A-157 |
| VHR540C-60E ............................. A-87 | VHR560AT-60U.......................... A-92 | VHR590AM-90U ......................... A-157 |
| VHR540C-6E .............................. A-87 | VHR560AT-6U ........................... A-92 | VHR590AM-9U........................... A-157 |
| VHR540C-90E ............................ A-87 | VHR560AT-90U.......................... A-92 | VHR590AM-GVR ............................ A-162 |
| VHR540C-9E .............................. A-87 | VHR560AT-9U ............................ A-92 | VHR590AT-120U ........................ A-97 |
| VHR540C-GVH .............................. A-91 | VHR560AT-GVH ............................ A-96 | VHR590AT-15U.......................... A-97 |
| VHR540CM-120E ........................ A-147 | VHR560C-120E........................... A-92 | VHR590AT-180U ....................... A-97 |
| VHR540CM-15E ......................... A-147 | VHR560C-15E............................ A-92 | VHR590AT-18U.......................... A-97 |
| VHR540CM-180E ....................... A-147 | VHR560C-180E........................... A-92 | VHR590AT-30U .......................... A-97 |
| VHR540CM-18E ........................ A-147 | VHR560C-18E............................ A-92 | VHR590AT-36U......................... A-97 |
| VHR540CM-300E ....................... A-147 | VHR560C-300E.......................... A-92 | VHR590AT-5U ........................... A-97 |
| VHR540CM-30E ......................... A-147 | VHR560C-30E ............................ A-92 | VHR590AT-60U.......................... A-97 |
| VHR540CM-36E ......................... A-147 | VHR560C-36E ............................ A-92 | VHR590AT-6U ........................... A-97 |
| VHR540CM-5E............................ A-147 | VHR560C-5E .............................. A-92 | VHR590AT-90U.......................... A-97 |
| VHR540CM-60E ......................... A-147 | VHR560C-60E ............................. A-92 | VHR590AT-9U ............................ A-97 |
| VHR540CM-6E ........................... A-147 | VHR560C-6E .............................. A-92 | VHR590AT-GVR............................. A-102 |
| VHR540CM-90E .......................... A-147 | VHR560C-90E ............................. A-92 | VHR590C-120E.......................... A-97 |
| VHR540CM-9E........................... A-147 | VHR560C-9E .............................. A-92 | VHR590C-15E............................ A-97 |
| VHR540CM-GVH ........................... A-151 | VHR560C-GVH .............................. A-96 | VHR590C-180E.......................... A-97 |
| VHR540CT-120E......................... A-87 | VHR560CM-120E ........................ A-152 | VHR590C-18E............................ A-97 |
| VHR540CT-15E.......................... A-87 | VHR560CM-15E ......................... A-152 | VHR590C-30E ............................ A-97 |
| VHR540CT-180E......................... A-87 | VHR560CM-180E ....................... A-152 | VHR590C-36E ............................ A-97 |
| VHR540CT-18E........................... A-87 | VHR560CM-18E ......................... A-152 | VHR590C-5E .............................. A-97 |
| VHR540CT-300E......................... A-87 | VHR560CM-300E ........................ A-152 | VHR590C-60E ............................. A-97 |
| VHR540CT-30E .......................... A-87 | VHR560CM-30E ......................... A-152 | VHR590C-6E .............................. A-97 |
| VHR540CT-36E ........................... A-87 | VHR560CM-36E ......................... A-152 | VHR590C-90E ............................. A-97 |
| VHR540CT-5E............................. A-87 | VHR560CM-5E............................ A-152 | VHR590C-9E .............................. A-97 |
| VHR540CT-60E ........................... A-87 | VHR560CM-60E ......................... A-152 | VHR590C-GVR............................... A-102 |
| VHR540CT-6E............................. A-87 | VHR560CM-6E............................ A-152 | VHR590CM-120E ........................ A-157 |
| VHR540CT-90E ........................... A-87 | VHR560CM-90E .......................... A-152 | VHR590CM-15E .......................... A-157 |
| VHR540CT-9E.............................. A-87 | VHR560CM-9E............................ A-152 | VHR590CM-180E ........................ A-157 |
| VHR540CT-GVH ............................. A-91 | VHR560CM-GVH ............................. A-156 | VHR590CM-18E .......................... A-157 |
| VHR560A-120U ......................... A-92 | VHR560CT-120E......................... A-92 | VHR590CM-30E .......................... A-157 |
| VHR560A-15U........................... A-92 | VHR560CT-15E ........................... A-92 | VHR590CM-36E .......................... A-157 |
| VHR560A-180U ......................... A-92 | VHR560CT-180E......................... A-92 | VHR590CM-5E........................... A-157 |
| VHR560A-18U............................ A-92 | VHR560CT-18E ........................... A-92 | VHR590CM-60E .......................... A-157 |
| VHR560A-300U ......................... A-92 | VHR560CT-300E......................... A-92 | VHR590CM-6E........................... A-157 |
| VHR560A-30U........................... A-92 | VHR560CT-30E ........................... A-92 | VHR590CM-90E ......................... A-157 |


| Model | Page |
| :---: | :---: |
| VHR590CM-9E | A-157 |
| VHR590CM-GVR. | A-162 |
| VHR590CT-120 | A-97 |
| VHR590CT-15E | A-97 |
| VHR590CT-180 | A-97 |
| VHR590CT-18E | A-97 |
| VHR590CT-30E | A-97 |
| VHR590CT-36E | A-97 |
| VHR590CT-5E. | A-97 |
| VHR590CT-60E | A-97 |
| VHR590CT-6E. | A-97 |
| VHR590CT-90E | A-97 |
| VHR590CT-9E. | A-97 |
| VHR590CT-GVR.. | A-102 |

## VSI (v Series)

VSI206A-120U............................. B-89
VSI206A-15U ................................ B-89
VSI206A-180U.............................. B-89
VSI206A-18U ............................... B-89
VSI206A-300U.............................. B-89
VSI206A-30U ................................ B-89
VSI206A-360U .............................. B-89
VSI206A-36U ................................ B-89
VSI206A-5U................................... B-89
VSI206A-60U ............................... B-89
VSI206A-6U.................................. B-89
VSI206A-90U ................................ B-89
VSI206A-9U................................... B-89
VSI206A-GV...................................... B-115
VSI206C-1 20E ............................. B-89
VSI206C-15E ................................ B-89
VSI206C-180E ............................... B-89
VSI206C-18E ................................ B-89
VSI206C-300E ............................... B-89
VSI206C-30E ............................... B-89
VSI206C-360E .............................. B-89
VSI206C-36E ................................. B-89
VSI206C-5E ................................... B-89
VSI206C-60E ................................. B-89
VSI206C-6E .................................. B-89
VSI206C-90E ................................ B-89
VSI206C-9E ................................... B-89
VSI206C-GV..................................... B-115
VSI315A-120U.............................. B-89
VSI315A-15U ................................ B-89
VSI315A-180U............................. B-89
VSI315A-18U ............................... B-89
VSI315A-300U............................. B-89
VSI315A-30U ............................... B-89
VSI315A-360U............................ B-89
VSI315A-36U ............................... B-89
VSI315A-5U................................... B-89
VSI315A-60U ................................ B-89
VSI315A-6U................................... B-89
VSI315A-90U ............................... B-89
VSI315A-9U.................................... B-89
VSI315A-GV...................................... B-115
VSI315C-120E ............................... B-89
VSI315C-15E .................................. B-89
VSI315C-180E .............................. B-89
VSI315C-18E ................................. B-89
VSI315C-300E ................................ B-89


| Mode | Pag |
| :---: | :---: |
| VSI560A-180U........................... B-89 |  |
| VSI560A-18U ............................. B-89 |  |
| VSI560A-300U ........................... B-89 |  |
| VSI560A-30U ............................. B-89 |  |
| VSI560A-36U ............................. B-89 |  |
| VSI560A-5U............................... B-89 |  |
| VSI560A-60U ............................ B-89 |  |
| VSI560A-6U............................... B-89 |  |
| VSI560A-90U ............................. B-89 |  |
| VSI560A-9U............................... B-89 |  |
| VSI560A-GV | B-115 |
| VSI560C-1 20E ............................ B-89 |  |
| VSI560C-15E ............................. B-89 |  |
| VSI560C-180E ............................ B-89 |  |
| VSI560C-18E ............................. B-89 |  |
| VSI560C-300E |  |
| VSI560C-30E |  |
| VSI560C-36E |  |
| VSI560C-5E |  |
| VSI560C-60E |  |
| VSI560C-6E |  |
| VSI560C-90E |  |
| VSI560C-9E |  |
| VSI560C-GVH .............................. B-115 |  |
| VSI590A-1 20U |  |
| VSI590A-15U |  |
| VSI590A-180U |  |
| VSI590A-18U ............................ B-89 |  |
| VSI590A-30U ............................ B-89 |  |
| VSI590A-36U ............................ B-89 |  |
| VSI590A-5U |  |
| VSI590A-60U ............................ B-89 |  |
| VSI590A-6U |  |
| VSI590A-90U |  |
| VSI590A-9U |  |
| VSI590A-GVR............................... B-115 |  |
| VSI590C-1 20E ........................... B-89 |  |
| VSI590C-15E |  |
| VSI590C-180E ........................... B-89 |  |
| VSI590C-18E |  |
| VSI590C-30E |  |
| VSI590C-36E |  |
| VSI590C-5E |  |
| VSI590C-60E .............................. B-89 |  |
| VSI590C-6E ............................... B-89 |  |
| VSI590C-90E ............................. B-89 |  |
| VSI590C-9E ................................ B-89 |  |
| VSI590C-G | -115 |

## VSR (V Series)

| VSR206A-15U ..VSR206A-180UVSR206A-18U ..VSR206A-300UVSR206A-30U ..VSR206A-360UVSR206A-36U ..VSR206A-5U....VSR206A-60U ..VSR206A-6U.... |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Page

VSI560C-15E .................................. B-89

VSI560C-60E .................................. B-89
VSI560C-90E ................................ B-89

VSI590A-1 20U............................. B-89
VSI590A-1 80U............................. B-89
VSI590A-18U ................................ B-89
VSI590A-36U ................................ B-89
VSI590A-60U ................................ B-89
VSI590A-6U.................................... B-89
VSI590A-90U ................................ B-1. B9

VSI590C-1 20E .............................. B-89
VSI590C-15E ................................ B-89

VSI590C-18E ................................. B-89
VSI590C-36E ................................. B-89
VSI590C-5E ................................... B-89
VSI590C-60E ................................. B-89
VSI590C-6E .................................. B-89
VSI590C-9E ..................................... B- B9
VSI590C-GVR................................... B-115

SR206A-9U
B-89

## Product Index

- Products in regular font represent component parts of package or combination type models (motors, drivers, gearheads, etc.).



## Oriental Motor Corporate Overview

Oriental Motor Co., Ltd.
Founded: 1885
Incorporated: 1950
President: Yoshio Kuraishi
Capital: 4,000 Million Yen
Sales for 2003 (March, 2004): 39,480 Million Yen
Number of Employees (March, 2004): 1,920
Company Activities: Manufacture and sale of small electric motors, motion control systems and fans
Major Banks: The Sumitomo Mitsui Banking Corporation
The Chiba Bank, Ltd.
The Mizuho Bank, Ltd.
The Hyakujushi Bank, Ltd.
The Shonai Bank, Ltd.
The Toho Bank, Ltd.
The Akita Bank, Ltd.
Head Office: 6-16-17, Ueno, Taito-ku, Tokyo, Japan



## Oriental Motor Global Sales Network

Oriental Motor has a direct sales network with subsidiaries in North America, Europe, and Asia, offering a wide variety of products. The establishment of plants globally enables Oriental Motor to meet local demand, service its products, and upgrade customer equipment. Oriental Motor customers can always find local support.


Sales Offices in North America
ORIENTAL MOTOR U.S.A. CORP.

## HEADQUARTERS

2580 West 237th St.
Torrance, California 90505-5217
TEL : (310) $325-0040$ FAX: (310)515-2879

## WESTERN SALES AND

CUSTOMER SERVICE CENTER
TEL : (310)784-8200 FAX : (310)325-1076
DALLAS OFFICE
TEL : (214)432-3386
DENVER OFFICE
TEL : (303)202-5111
LOS ANGELES OFFICE
TEL : (310)784-8200
SAN JOSE OFFICE
TEL : (408)392-9735
MIDWEST SALES AND
CUSTOMER SERVICE CENTER
TEL : (847)285-5100 FAX : (847)843-4121
CHICAGO OFFICE
TEL : (847)285-5100
TORONTO OFFICE
TEL : (905)502-5333
EASTERN SALES AND
CUSTOMER SERVICE CENTER
TEL : (781)848-2426 FAX : (781)848-2617
ATLANTA OFFICE
TEL: (770)716-2800

## BOSTON OFFICE

TEL : (781)848-2426
NEW YORK OFFICE
TEL : (973)359-1100

## - Technical Support

TEL : (800)468-3982
E-mail : techsupport@orientalmotor.com

- Japanese Customer Support Center

TEL : (800)746-6872
E-mail: j-support@orientalmotor.com

Sales Offices in Europe
ORIENTAL MOTOR (EUROPA) GmbH
EUROPEAN HEADQUARTERS \& DÜSSELDORF OFFICE
Schiessstraße 74
40549 Düsseldorf, Germany
TEL : +49-211-5206700 FAX : +49-211-52067099

## MUNICH OFFICE

TEL : +49-8131-59880 FAX : +49-8131-598888

## hamburg Office

TEL: +49-40-76910443 FAX: +49-40-76910445

## STUTTGART OFFICE

TEL: +49-7335-924853 FAX: +49-7335-924854
ORIENTAL MOTOR (UK) LTD.
Unit 5 Faraday Office Park,
Rankine Road, Basingstoke
Hampshire RG24 8AH, U.K.
TEL : +44-1256-347090 FAX : +44-1256-347099
ORIENTAL MOTOR (FRANCE) SARL
FRANCE HEADQUARTERS
32,Avenue de l'ile Saint Martin
92733 Naterre Cedex, France
TEL : +33-1 47869750 FAX : +33-1 47824516
LYON OFFICE
TEL : +33-4 78411502 FAX : +33-4 78411590
ORIENTAL MOTOR ITALIA s.r.I.
ITALY HEADQUARTERS
Viale A. De Gasperi, 85
20017 Mazzo di Rho (MI), Italy
TEL : +39 0293906346 FAX : +39 0293906348
BOLOGNA OFFICE
TEL : +39-051-6931249 FAX : +39-051-6929266

- In addition, there are Oriental Motor distributors in the Netherlands, Switzerland, Belgium, Portugal, Finland, Sweden, Denmark, Austria, Spain, Greek, Israel and South Africa.

Sales Offices in Asia
TAIWAN ORIENTAL MOTOR CO., LTD.
headauarters and taipel office
ORIENTAL MOTOR (UK) LTD
ORIENTAL MOTȮR (EUROPA) GmbH

- Hamburg Office $\quad$ Headquarters \& Düsseldorf Office Stuttgart Office Headquarters \& - ORIENTÁL MOTOR ITALIA s.r.I.

ORIENTAL MOTOR (FRANCE) SARL

5 F No. 716, Jung jeng Rd. , Jung he City, Taipei Hsien, Taiwan 235, R.O.C.
TEL : +886-2-8228-0707 FAX : +886-2-8228-0708

## HSINCHU OFFICE

TEL : +886-3-658-5670 FAX : +886-3-658-5671
TAICHUN OFFICE
TEL : +886-4-2471-4600 FAX : +886-4-2471-4601
KAOHSIUNG OFFICE
TEL : +886-7-550-6015 FAX : +886-7-550-6016

## SINGAPORE ORIENTAL MOTOR PTE LTD

31 Kaki Bukit Road 3, \#04-02/04 TECHLINK, Singapore 417818
TEL : +65-6745-7344 FAX : +65-6745-9405
ORIENTAL MOTOR (MALAYSIA) SDN. BHD.
HEADQUARTERS and KUALA LUMPUR OFFICE
A-13-1, North Point Offices, Mid Valley City,
No. 1 Medan Syed Putra Utara 59200
Kuala Lumpur, Malaysia
TEL : +60-3-22875778 FAX : +60-3-22875528
PENANG OFFICE
TEL: +60-4-6423788 FAX : +60-4-6425788
ORIENTAL MOTOR (THAILAND) CO., LTD.
161, Nantawan Bldg., 10th FI., Room 1003,
Ratchadamri Road, Lumpinee, Pathumwan
Bangkok 10330 Thailand
TEL : +66-2-254-6113 FAX : +66-2-254-6114
INA ORIENTAL MOTOR CO., LTD.
144B-9L, Namdong Industrial Complex 716-8,
Gojan-Dong, Namdong-Gu, Incheon, Korea
TEL : +82-32-819-8721 FAX : +82-32-819-8671
ORIENTAL MOTOR SHANGHAI CO., LTD.
Room 02, 11/F, Kirin Plaza Building, No.666,
Gubei Rd., Shanghai, P.R. China P.C. 200336
TEL : +86-21-6237-5440 FAX : +86-21-6237-5433
ORIENTAL MOTOR CO., LTD

## HONG KONG BRANCH

Unit 3604, 36/F, Metroplaza, Tower2, 223 Hing Fong Road,
Kwai Fong, N.T., Hong Kong
TEL : +852-2427-9800 FAX : +852-2427-9311
ORIENTAL MOTOR CO., LTD.
6-16-17 Ueno Taito-ku Tokyo 110-8536 Japan
TEL : +81-3-3835-0684 FAX : +81-3-3835-1890

- In addition, there are Oriental Motor distributors in the Philippines, Thailand, Indonesia, India and Australia.


## Product Recommendation Information Sheet

## Lead Screw Application Information



Move $\ell$ Distance Within t Time

| (1) Move Distance | $\ell:$ | in. |
| :---: | :---: | :---: |
| (2) Time to Make Move | $t$ : | sec. |
| (3) Maximum Linear Speed | $v:$ | in./sec. |
| (4) <br> Push/Pull Force Push Opposes, Pull Helps | F: | lb . |
| (5) Stopping Accuracy | $\pm$ : | in. |
| (6) Work+Table Weight | W: | lb . |
| (7) Screw Angle | $\alpha$. | deg |


| Distance per Pulse (Step Motor) | $\Delta \ell:$ |  | in. |
| :---: | :---: | :---: | :---: |
| (9) Stop Time | t': |  | sec. |
| (10) Screw Diameter | DB: |  | in. |
| (11) Screw Length | Lb: |  | in. |
| (12) Screw Pitch | Pв: |  | in./rev |
| (13) Screw Efficiency | $\eta$ : |  | \% |
| (14) Gear Ratio (If Applicable) | N: | :1 |  |

## Alternate Motion Profile

Be at $X$ Speed Within $t$ Time

|  | Desired Speed | $X$ : | in./sec. |
| :---: | :---: | :---: | :---: |
|  | Accel Time | ta: | sec. |
| x |  | - |  |
|  |  |  |  |

## Customer Information

Name/Title:
Company:
Address:
City/State/Zip:

TEL: $\qquad$ EXT:

FAX:

Application: $\qquad$
$\square$

Please fill out as completely as possible and fax toll free: 1-800-309-7999

## Product Recommendation Information Sheet

## Belt and Pulley Application



Move $\ell$ Distance Within t Time
(1) Move Distance
(2) Time to Make Move
(3) Maximum Linear Speed
(4) Push/Pull Force
(4) Push Opposes, Pull Helps
(5) Stopping Accuracy
(6) Work+Table Weight


## Alternate Motion Profile

Be at X Speed Within t Time


## Customer Information

Name/Title: $\qquad$ TEL: $\qquad$ EXT: $\qquad$

Company: $\qquad$ FAX: $\qquad$
Address: $\qquad$ Application: $\qquad$
City/State/Zip: $\qquad$
Please fill out as completely as possible and fax toll free: 1-800-309-7999

## Product Recommendation Information Sheet

## ■ Belt/Lead Screw Application Information



Move $\ell$ Distance Within t Time


## $\square$ Alternate Motion Profile

Be at $X$ Speed Within $t$ Time


## Customer Information

Name/Title: $\qquad$

Company: $\qquad$

Address: $\qquad$

City/State/Zip:

TEL: $\qquad$ EXT:

FAX:

Application: $\qquad$
$\longrightarrow$

Please fill out as completely as possible and fax toll free: 1-800-309-7999

## Product Recommendation Information Sheet

$\square$ Direct Drive/Gear Driven Rotary Load


Diameter in.

| Weight | oz. |
| :--- | ---: |
| Gear Ratio | $: 1$ |


Length in.
Weight oz.
Gear Ratio $\quad: 1$

## Motion Profile

Move X Distance Within t Time

| Distance | degrees | Speed revec. <br> Time sec. | Time sec. |
| :--- | ---: | ---: | ---: |



$$
\begin{array}{|r|}
\hline \text { Height } \\
\hline
\end{array}
$$

Width in.
Depth in.
Weight 02.
Gear Ratio : 1

Additional Information or Alternate Profile:
$\qquad$

## Customer Information

Name/Title: $\qquad$ TEL: $\qquad$ EXT: $\qquad$
Company: $\qquad$ FAX: $\qquad$
Address: $\qquad$ Application: $\qquad$
City/State/Zip: $\qquad$
$\qquad$
Please fill out as completely as possible and fax toll free: 1-800-309-7999

## Product Recommendation Information Sheet

Ventilation Cooling, Exhaust

Total heating value and power consumption in equipment

Max. Temperature in Equipment (Expected Temperature)

Ambient Temperature (Cool Air)


Equipment Dimensions

| Width: W | in. |
| :--- | ---: |
| Height: h | in. |
| Depth: d | in. |
| Material, Coating: |  |
| $\rightarrow$ Emissivity | $\%$ |

* Please include as much information as possible (such as mounting position, inlet and outlet position, etc).


Customer Information

Name/Title: $\qquad$ TEL: $\qquad$ EXT: $\qquad$

Company: $\qquad$ FAX: $\qquad$

Address: $\qquad$ Application: $\qquad$
City/State/Zip: $\qquad$
$\qquad$
Please fill out as completely as possible and fax toll free: 1-800-309-7999

## Product Recommendation Information Sheet

## $\square$ Ducted Exhaust

Required Exhaust Volume

| Q: |
| :--- |
| Required air flow speed <br>  <br> Where |

Duct Dimensions

Filter Characteristics

| Air Flow Speed | in./sec |
| :--- | :---: |
| Pressure Loss | in. $\mathrm{H}_{2} \mathrm{O}$ |

Suction Opening Shape
W: inch $\times D$ : in.

> Exhausted Air Temperature


Exhaust Opening Shape $W$ : inch $\times D$ : in.


* Please include as much information as possible (such as shape differences and mounting position).

Customer Information

Name/Title: $\qquad$ TEL: $\qquad$ EXT: $\qquad$

Company: $\qquad$ FAX: $\qquad$

Address: $\qquad$ Application: $\qquad$
City/State/Zip: $\qquad$
$\qquad$
Please fill out as completely as possible and fax toll free: 1-800-309-7999

## Conversion Charts

$B=A \times$ multiply unit

## - Length

| $\mathrm{A} \quad \mathrm{B}$ | mm | cm | m | in. |
| :---: | :---: | :---: | :---: | :---: |
| mm | 1 | 0.1 | 0.001 | 0.0393701 |
| cm | 10 | 1 | 0.01 | 0.393701 |
| m | 1000 | 100 | 1 | 39.3701 |
| in. | 25.4 | 2.54 | 0.0254 | 1 |

## - Weight

| $\mathrm{A} \quad \mathrm{B}$ | g | kg | oz. | lb. |
| :---: | :---: | :---: | :---: | :---: |
| g | 1 | 0.001 | 0.035274 | 0.00220462 |
| kg | 1000 | 1 | 35.274 | 2.20462 |
| oz. | 28.3495 | 0.0283495 | 1 | 0.0625 |
| lb. | 453.592 | 0.453592 | 16 | 1 |

## - Inertia

| A | B | $\mathrm{kg}-\mathrm{cm}^{2}$ | $\mathrm{~g}-\mathrm{cm}^{2}$ | $0 \mathrm{oz} \mathrm{in}^{2}$ | $\mathrm{oz}^{-\mathrm{in}-\mathrm{sec}^{2}}$ | $\mathrm{lb}-\mathrm{in}^{2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{~kg}-\mathrm{cm}^{2}$ | 1 | $10^{3}$ | 5.46745 | 0.0141612 | 0.341718 | $8.85076 \times 10^{-4}$ |
| $\mathrm{~g}-\mathrm{cm}^{2}$ | $10^{-3}$ | 1 | $5.46745 \times 10^{-3}$ | $1.41612 \times 10^{-5}$ | $3.41718 \times 10^{-4}$ | $8.85076 \times 10^{-7}$ |
| $0 z-\mathrm{in}^{2}$ | 0.182899 | 182.899 | 1 | $2.59009 \times 10^{-3}$ | 0.0625 | $1.61880 \times 10^{-4}$ |
| $0 z-{\mathrm{in}-\mathrm{sec}^{2}}_{\mathrm{Ib}-\mathrm{in}^{2}}$ | 70.6154 | $7.06154 \times 10^{4}$ | 386.088 | 1 | 24.1305 | 0.0625 |
| $\mathrm{lb}-{\mathrm{in}-\mathrm{sec}^{2}}$ | 2.92630 | $2.92630 \times 10^{3}$ | 16 | 0.0414414 | 1 | $2.59007 \times 10^{-3}$ |

- Torque

| A | B | $\mathrm{N} \cdot \mathrm{m}$ | $\mathrm{N}-\mathrm{cm}$ | $\mathrm{dyn}-\mathrm{cm}$ | $\mathrm{kg}-\mathrm{cm}$ | $\mathrm{g}-\mathrm{cm}$ | $\mathrm{Oz}-\mathrm{in}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{N} \cdot \mathrm{m}$ | 1 | 100 | $10^{7}$ | 10.19716 | $1.019716 \times 10^{4}$ | 141.6121 | 8.850759 |
| $\mathrm{~N}-\mathrm{cm}$ | $10^{-2}$ | 1 | $10^{5}$ | 0.1019716 | 101.9716 | 1.416121 | 0.08850759 |
| $\mathrm{dyn}-\mathrm{cm}$ | $10^{-7}$ | $10^{-5}$ | 1 | $1.019717 \times 10^{-6}$ | $1.019717 \times 10^{-3}$ | $1.416121 \times 10^{-5}$ | $8.850759 \times 10^{-7}$ |
| $\mathrm{~kg}-\mathrm{cm}$ | $9.80665 \times 10^{-2}$ | 9.80665 | $9.80665 \times 10^{5}$ | 1 | $10^{3}$ | 13.887407 | 0.8679630 |
| $\mathrm{~g}-\mathrm{cm}$ | $9.80665 \times 10^{-5}$ | $9.80665 \times 10^{-3}$ | 980.665 | $10^{-3}$ | 1 | 0.013887407 | $8.679630 \times 10^{-4}$ |
| $0 \mathrm{~m}-\mathrm{in}$ | $7.061541 \times 10^{-3}$ | 0.7061541 | $7.061541 \times 10^{4}$ | 0.07200768 | 72.00768 | 1 | 0.0625 |
| $\mathrm{Ib}-\mathrm{in}$ | 0.1129846 | 11.29846 | $1.129846 \times 10^{6}$ | 1.1521228 | $1.1521228 \times 10^{3}$ | 16 | 1 |

## - Air Flow

| A | B | $\ell / \mathrm{s}$ | $\ell / \mathrm{m}$ | $\mathrm{m}^{3} / \mathrm{m}$ | $\mathrm{m}^{3} / \mathrm{h}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\ell / \mathrm{s}$ | 1 | 60 | 0.06 | 3.6 | CFM |
| $\ell / \mathrm{m}$ | $1.67 \times 10^{-2}$ | 1 | $10^{-4}$ | 0.06 | 2.11888 |
| $\mathrm{~m}^{3} / \mathrm{m}$ | 16.7 | $10^{3}$ | 1 | 60 | $3.531467 \times 10^{-2}$ |
| $\mathrm{~m}^{3} \mathrm{~h}$ | 0.278 | 16.7 | $1.67 \times 10^{-2}$ | 1 | 35.31467 |
| CFM | 0.47195 | 28.31685 | $2.831685 \times 10^{-2}$ | 1.69901 | 0.58858 |

## - Static Pressure

| A B | Pa | $\mathrm{mmH}_{2} \mathrm{O}$ | in. $\mathrm{H}_{2} \mathrm{O}$ |
| :---: | :---: | :---: | :---: |
| Pa | 1 | 0.10197 | $4.01463 \times 10^{-3}$ |
| $\mathrm{mmH} \mathrm{H}_{2} \mathrm{O}$ | 9.80665 | 1 | $3.93701 \times 10^{-2}$ |
| in. $\mathrm{H}_{2} \mathrm{O}$ | 249.08891 | 25.4 | 1 |

## - Temperature

$\left({ }^{\circ} \mathrm{F}-32\right) \times \frac{5}{9}={ }^{\circ} \mathrm{C}$
[Temperature difference: ${ }^{\circ} \mathrm{F} \times \frac{5}{9}={ }^{\circ} \mathrm{C}$ ]


[^0]:    - Enter the gear ratio in the box ( $\square$ ) within the model name.

[^1]:    - Enter the gear ratio in the box ( $\square$ ) within the model name.

[^2]:    - Enter $\mathbf{A}$ (Standard) or $\mathbf{M}$ (electromagnetic brake) in the box ( $\square$ ) within the model names.

[^3]:    - Enter $\mathbf{A}$ (Standard) or $\mathbf{M}$ (electromagnetic brake) in the box ( $\square$ ) within the model names.

[^4]:    - Enter $\mathbf{A}$ (single shaft) or $\mathbf{B}$ (double shaft) in the box ( $\square$ ) within the model names.

[^5]:    - Enter $\mathbf{A}$ (single shaft) or $\mathbf{B}$ (double shaft) in the box ( $\square$ ) within the model names.

