

FEATURING OUR PATENT PENDING

FLEX MOUNT THE BRACKETS



MOTOR SHAFT GROUNDING MODULES

QUICK & EASY

INSTALLATION

UNDER 20 minutes

REDUCE
MAINTENANCE
costs up to 70%

THE ULTIMATE SOLUTION FOR MOTOR BEARING PROTECTION

## THANK YOU FOR YOUR INTEREST IN **AAKI GROUNDING SOLUTIONS**

Stand out from the competition by prioritizing your customers' needs with Aaki Grounding Solutions. Our top-quality grounding products provide increased longevity and protection for your electric motor bearings.

With over three decades of experience in engineering, design and development, we are proud to be the go-to company to protect your motor bearings against damaging motor shaft voltages.

Here are some key points about Aaki that we are really proud of:

- Simplicity in design ensures durability while remaining cost effective.
- Our electric motor shaft grounding solutions are recognized for their ease of installation.
- We can customize our grounding solutions to feature your branding by adding your logo and contact information.
- Our team of experts are available to assist you in identifying and diagnosing your motor bearing problems.

We are committed to ensuring that our customers have all the information they need to make informed decisions when it comes to protecting their electric motors and equipment.

If you have any questions about our products, solutions, or need help solving a problem, please do not hesitate to contact us at 1-888-899-AAKI (2254) or by email at info@aaki.ca.

Thank you for considering Aaki as your grounding solution provider. We look forward to hearing from you soon.

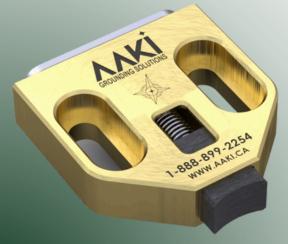
Best regards,

Andy Kveps, P.Eng. Owner & Head of R&D **Aaki Grounding Solutions** 

## QUICKLY FIND THE INFORMATION YOU NEED **TABLE OF CONTENTS**



Motor Shaft Grounding Module (MSGM)	4	MOTOR SHAFT GROUNDING MODULE
FleXmount™ Bracket	8	FLEXMOUNT™ BRACKET
FleXForm™ Tool	10	FLEXFORM™ TOOL
VerTmount Bracket	12	VERTMOUNT™ SYSTEM
MSGM Extension Plates	14	EXTENSION PLATES
MSGM Spacer Plates	17	SPACER PLATES
MSGM DrillBuddy™ Installation Tool	20	DRILLBUDDY™ INSTALL TOOL
Contact Information	22	CONTACT





# MOTOR SHAFT GROUNDING MODULES



"ELECTRICAL DAMAGE CAUSED BY SHAFT VOLTAGES CAN SIGNIFICANTLY REDUCE THE LIFESPAN OF YOUR ELECTRIC MOTORS. INSTALLING A MOTOR SHAFT GROUNDING MODULE IS AN EFFECTIVE WAY TO PROTECT YOUR EQUIPMENT AND EXTEND ITS LIFE."

- Brian K. Johnson, Senior Engineer at SKF USA Inc. "Electrical Damage to Bearings - published in the IEEE Transactions on Industry Applications in 2002."

















### CONTACT INFO

#### **TECHNICAL SPECIFICATIONS:**

Dimensions: 36mm x 42mm x 10mm (1.42" X 1.65" X 0.39")

• Brush surface area: 70mm2

· Weight: 60g

- Material: High-current capacity copper graphite brush with a large surface area, capable of carrying up to 10 Amps, housed in a solid machined aluminum bronze construction
- Fits fractional to small motor models 1 HP-100s of HPs
- · Slotted screw holes for easy adjustment
- Accepts #10 socket head cap screws

#### PRODUCT OVERVIEW:

The simplistic design of our Motor Shaft Grounding Module ensures durability and advanced grounding solutions, while protecting electric motor bearings from harmful electrical currents. Machined from corrosion resistant aluminum bronze and complete with a high copper, contoured graphite brush and Brush Life Window Technology, this module is engineered to provide long-lasting protection against electrical currents. The compact design is easy to install and compatible with a wide range of motor models, making it an ideal solution for various industrial environments.

#### **KEY FEATURES:**

- · Provides long-lasting protection against harmful electrical currents
- Contoured carbon brush with high copper content and Brush Life Window technology, providing years of service life
- · Easy to install and compatible with a wide range of motor models





THE BRUSH LIFE WINDOW MAKES IT QUICK AND EASY TO INSPECT THE CARBON BRUSH DURING ROUTINE MAINTENANCE CHECKS. REDUCING THE TIME AND EFFORT REQUIRED FOR INSPECTIONS















#### **TECHNICAL SPECIFICATIONS:**

- Dimensions: 19mm x 34mm x 5.5mm (.75" X 1.34" X .22" thin)
- Brush Diameter: 4.25mm
- · Weight: 16g
- · Material: Solid machined aluminum bonze construction with high copper content graphite brush
- Fits fractional to small motor models
- Mounts using #6 mounting screws. Slotted holes for flexible mounting

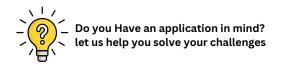
#### PRODUCT OVERVIEW:

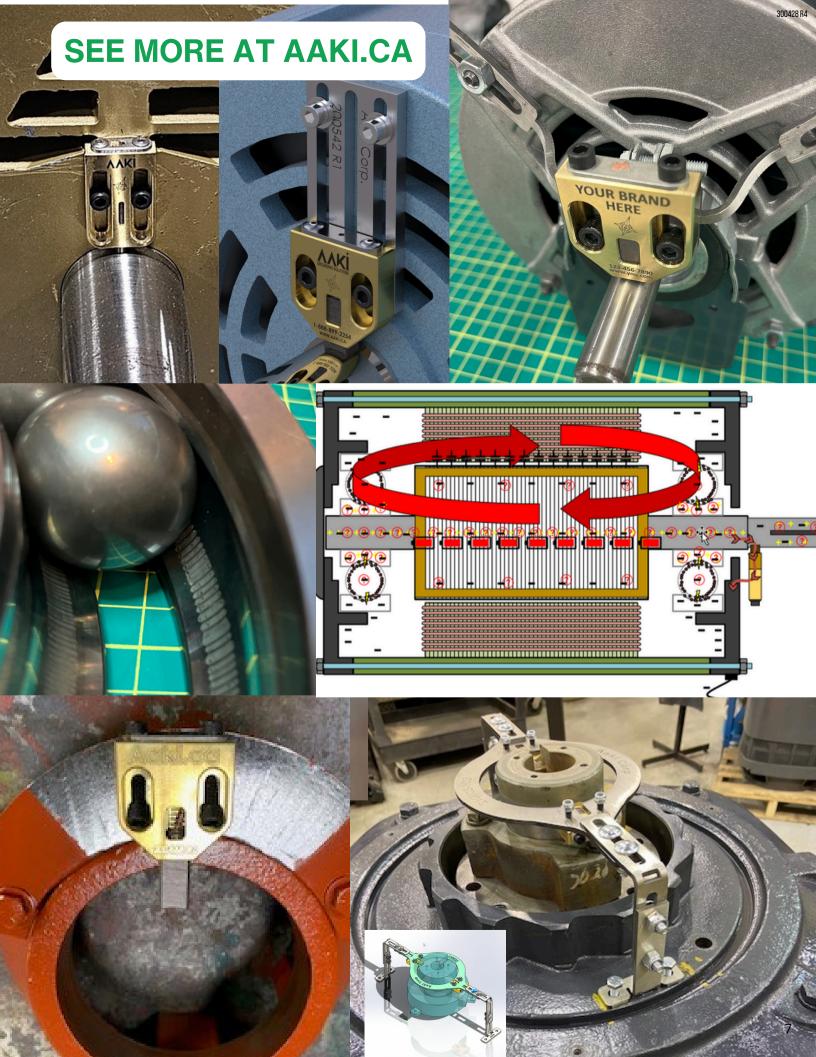
The Motor Shaft Grounding Module Mini is cost effective, compact solution designed for specifically for fractional and small HP motors. CNC Machined from a single billet of aluminum bronze and featuring a high copper content, high capacity brush, this module provides superior performance and long-lasting protection against harmful shaft currents in a compact package. The Motor Shaft Grounding Module Mini is easy to install and compatible with most motor models, making it an ideal solution in a wide range of industrial applications.

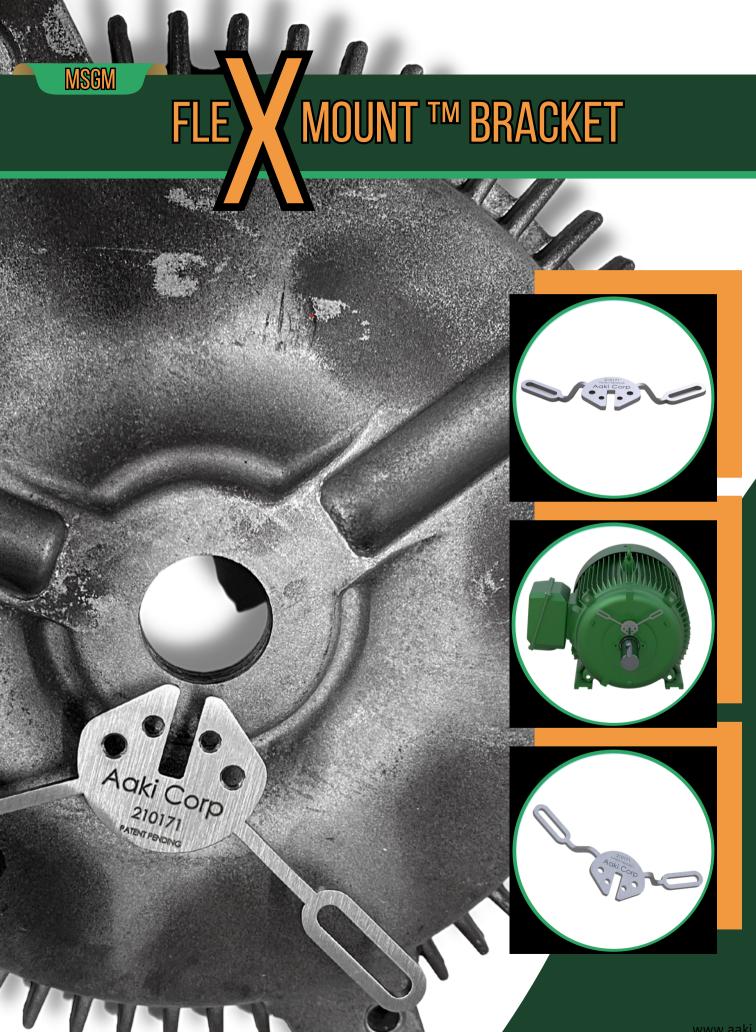
#### **KEY FEATURES:**

- Slotted mounting holes allows for quick easy installation
- 70% copper content brush can handle large currents
- Brush Life Window Technology makes inspections a breeze
- Low profile compact design fits in tight spaces (often inside the motor!)
- Compatible with most motor models









IN EXTREME CASES, VFD-INDUCED ELECTRICAL DISCHARGE CAN CAUSE PITTING IN BEARINGS IN JUST A FEW WEEKS, LEADING TO PREMATURE BEARING FAILURE AND POTENTIALLY CATASTROPHIC MOTOR DAMAGE.

- E. Kurtz and D. Erickson "insulation and Bearing Failures in VFD-Driven Motors - published in Industry Applications Magazine."







#### **TECHNICAL SPECIFICATIONS:**

- Dimensions: See website for specific FleXmount<sup>™</sup> sizes and shapes
- Material: 304 stainless steel
- · Mounts both Standard and Mini MSGMs



FLEXFORM™ TOOL

#### PRODUCT OVERVIEW:

The ultimate solution for mounting your Motor Shaft Grounding Module quickly, cost-effectively, and with a professional finish.

VERTMOUNT™ SYSTEM

The process is quick and simple:

- Choose a bracket that closest matches your motor endbell geometry
- Bend the Flex Arms with our FleXform<sup>™</sup> bending tool
- · Bolt the bracket in place

## EXTENSION PLATES

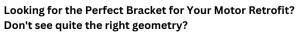
#### **KEY FEATURES:**

- 24 FleXmount<sup>™</sup> styles, covering a wide range of motor geometries
- Fit to almost any motor configuration
- Slots in the bracket and MSGM offer significant freedom in mounting
- · Bending the bracket for the application takes less than a minute
- Installation is rigid, secure, quick and reproducible
- Save hours in installation time
- Brackets can often be bolted on to existing bolt patterns No holes to drill!

SPACER PLATES

DRILLBUDDY™ INSTALL TOOL





AAKI CAN produce Custom Brackets in as little as one Week!



# FLE FORM TM TOOL



IN A STUDY CONDUCTED BY THE ELECTRIC POWER RESEARCH INSTITUTE (EPRI), IT WAS FOUND THAT THE USE OF MOTOR SHAFT GROUNDING SYSTEMS REDUCED BEARING FAILURE RATES BY UP TO 70% IN VFD APPLICATIONS.

- Electric Power Research Institute (EPRI)







#### TECHNICAL SPECIFICATIONS:

Dimensions: 24cm X 7cm X 3cm (9.5" X 2.75" X 1.2")

• Weight: 650g

· Material: tool-steel punch and die

For use with the FleXmount<sup>™</sup> product line



FLEXFORM™ TOOL

#### PRODUCT OVERVIEW:

The FleXform™ Tool is essential for creating professional consistent installations.



The tool-steel dies attach to a standard Vise-Grip® (supplied), providing the user with essentially a progressive brake in the palm of your hand.

EXTENSION PLATES

The unique design allows for easy manipulation of the FleXmount<sup>™</sup> bracket Excellent for both shop and field installations.

SPACER PLATES

Simply dial the tool to the desired bend angle, place the FleXmount<sup>™</sup> bracket into the tool, and with a simple squeeze, bend the mount to the desired angle.

DRILLBUDDY™ INSTALL TOOL

The FleXform<sup>™</sup> tool creates accurate and consistent bends, ensuring perfect alignment to the motor shaft. Save time and effort during installation with the FleXform<sup>™</sup> Tool, an essential addition to any toolkit.

CONTACT INFO

#### **KEY FEATURES:**

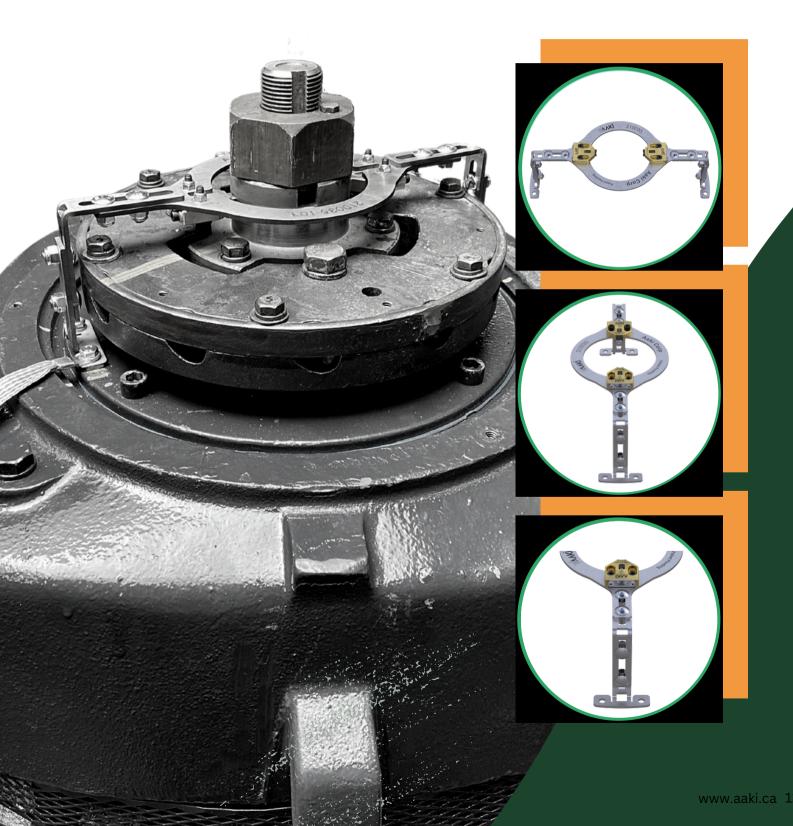
- Made from durable, high-quality tool steel for long-lasting use
- Allows for easy manipulation of the FleXmount™
- Create accurate and consistent bends





Looking to connect with your customers?

# VER MOUNT™ BRACKET



THE USE OF MOTOR SHAFT GROUNDING SYSTEMS IS RECOMMENDED BY THE AMERICAN PETROLEUM INSTITUTE (API) IN THEIR STANDARDS FOR CENTRIFUGAL PUMPS USED IN THE PETROLEUM, PETROCHEMICAL, AND NATURAL GAS INDUSTRIES. - API 610, centrifugal pumps used in the petroleum, petrochemical, and natural







- · Dimensions: Varies with motor configuration
- Weight: Approximately 450g
- Bracket Material: 304 Stainless Steel
- 100 to 300 HP Hollow Shaft Vertical Motors









#### PRODUCT OVERVIEW:

The VerTmount™ mounting system will allow the installer to mount one to four MSGMs on hollow shaft vertical motors.

The system mounts under the protective cap of the motor and typically can be installed without drilling holes in the motor housing

#### Kit Includes:

- Configurable Grounding Brackets, motor mounts and MSGM mounting ring
- Two Aaki standard MSGMs (4 Available on request)
- Grounding Strap
- · All required fasteners

#### **KEY FEATURES:**

- Complete mounting system kit for hassle-free installation
- Typically no modification of the motor is required (No holes to drill!)
- · Cost-effective protection for equipment





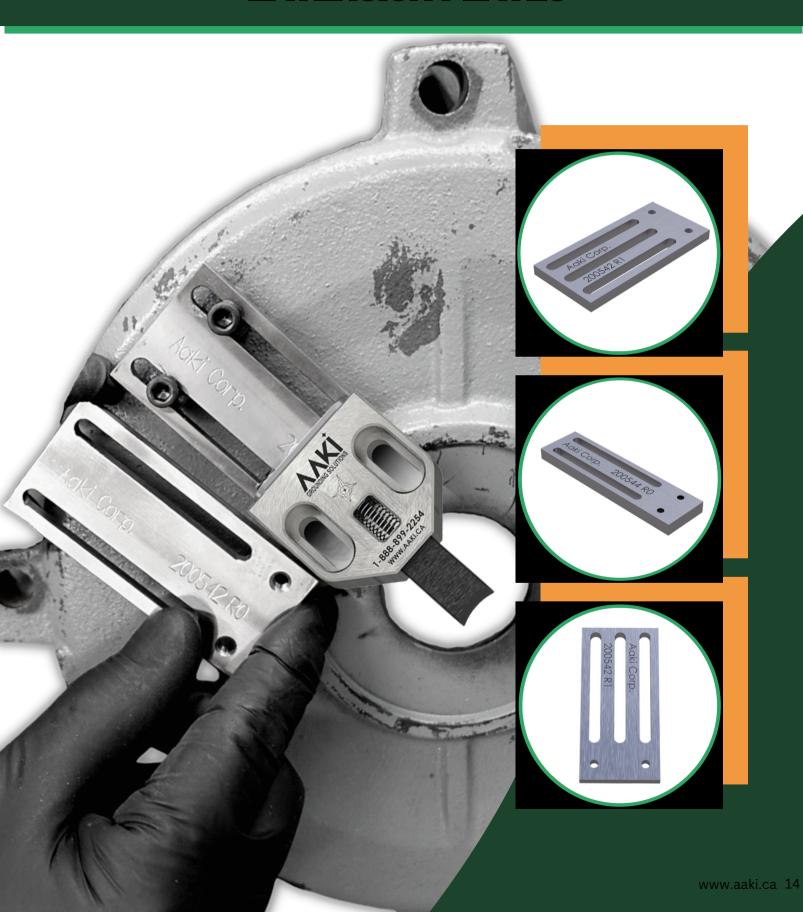








# **EXTENSION PLATES**



"MOTOR SHAFT VOLTAGE CAN CAUSE SIGNIFICANT BEARING DAMAGE IF NOT ADDRESSED. WITH THE INSTALLATION OF A MOTOR SHAFT GROUNDING SYSTEM. YOU CAN GREATLY EXTEND THE LIFE OF YOUR BEARINGS AND REDUCE THE RISK OF COSTLY DOWNTIME AND REPAIRS.'

- Eric Prevost, Business Development Manager at Electro Static Technology article: Preventing Electrical Damage to Motors: Protecting Bearings from VFD-Induced Electrical Discharge - published February 2016 issue of Pumps & Systems magazine.







· Fits Motor Shaft Grounding Module "Standard" · Pre-tapped and slotted to accept #10 screws

Dimensions: 36mm x 75mm x 5mm (1.5" X 2.95" X 0.2")



## FLEXFORM™ TOOL

#### PRODUCT OVERVIEW:

· Weight: 83g

**TECHNICAL SPECIFICATIONS:** 

· Material: Mild Steel / Stainless Steel

The Extension Plate is an innovative solution designed for Standard Size Motor Shaft Grounding Modules. Pre-tapped and slotted for easy installation, the extension plate can provide the installer with an alternate mounting location.

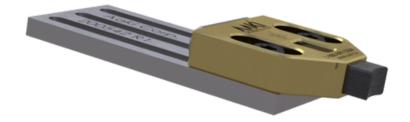
The Extension Plate is a simple, cost effective option for securely attaching a grounding module when mounting sites on the motor are limited.

#### **KEY FEATURES:**

- Pre-tapped to secure Standard Size MSGMs with #10 screws
- CNC machined construction
- Slots provide installer with a wide range of mounting sites on motor
- · Quickly achieve the perfect fit; cut down installation time
- Professional look and feel. Customers appreciate the value









the products and services developed at aaki came from discussions and learnings from people just Like You

"EDM PITTING IN MOTOR BEARINGS CAN CAUSE CATASTROPHIC FAILURE, RESULTING IN MOTOR REPLACEMENT AND UNSCHEDULED DOWNTIME."

- EASA (Electrical Apparatus Service Association)













## EXTENSION PLATES

SPACER PLATES







Dimensions: 19mm x 70mm x 5mm (0.75" X 2.76" X 0.2")

· Weight: 40g

· Material: Mild Steel / Stainless Steel

**EXTENSION** 

· Fits Motor Shaft Grounding Modules "Mini"

· Pre-tapped and slotted to accept #6 screws

#### PRODUCT OVERVIEW:

When working in tight spaces mounting a MSGM can sometimes be a challenge. The mini extension plate takes the challenge of finding suitable mounting sites on smaller electric motors with minimal mounting space.

CNC Machined and Pre-tapped and slotted for easy installation, this module is suitable for non-typical configurations and assists the installer in even the most challenging mounting scenarios.

The Extension Plate is a cost-effective and easy-to-use solution for putting the Mini MSGM in the perfect spot on you motor installation.

#### **KEY FEATURES:**

- Significantly reduce installation time over building custom bracketry
- Pre-tapped and slotted for easy installation
- Suitable for geometries where motor endbell mounting sites are limited
- · Can be used to adjust for the perfect fit, allowing for maximum protection





Sail Boats
Formula 1 Cars,
Ferris wheels
AAKI MSGMs are deployed
in the strangest places...

# SPACER PLATES, CYLINDERS



"WITH THE USE OF MOTOR SHAFT GROUNDING MODULES, THE LIFESPAN OF YOUR ELECTRIC MOTORS CAN BE EXTENDED AND EQUIPMENT DOWNTIME CAN BE REDUCED, RESULTING IN COST SAVINGS FOR YOUR BUSINESS."

- Electrical Construction & Maintenance Magazine















SPACER PLATES

DRILLBUDDY™ INSTALL TOOL

CONTACT

# MSGM SPACER PLATE STANDARD

#### **TECHNICAL SPECIFICATIONS:**

- Dimensions (Thick Version): 33mm x 33mm x 5mm (1.3" X 1.3" X 0.19")
- Dimensions (Thin Version): 33mm x 33mm x 2mm (1.3" X 1.3" X 0.07")
- Weight: approx. 83g
- · Material: Mild Steel / Stainless Steel
- · For use with "Standard" MSGMs

#### PRODUCT OVERVIEW:

Often, the MSGM will need to be offset down the shaft of the motor to put the MSGM brush on the shaft in an area clear of grease, keyways and rough surfaces.

The Standard Spacer Plate is a simple, effective solution to achieve this offset.

This product is pre-sized and slotted for easy installation, eliminating the need for 'whittling' out hand made spacers, saving the installer significant time.

The result is a professional-looking finish, making it an excellent addition to any field toolkit or shop inventory.

Also available: Cylinder Spacer (PN: 210060) See website for more details

#### **KEY FEATURES:**

- Pre-sized Spacer Plate saves time and eliminates the need for manufacturing hand made spacers
- Professional look.
- Save significant time (\$\$\$)





WE have a YOUTUBE CHANNEL!

@AakiSolutions

ACCORDING TO A REPORT BY THE ELECTRICAL APPARATUS SERVICE ASSOCIATION (EASA), BEARING DAMAGE IS ESTIMATED TO COST THE UNITED STATES ELECTRIC MOTOR INDUSTRY OVER \$3 BILLION ANNUALLY.









#### **TECHNICAL SPECIFICATIONS:**

Dimensions: 19mm x 34mm x 5.5mm (0.75" X 1.34" X 0.22")

· Weight: 14g

Material: Mild Steel / Stainless SteelFits Motor Shaft Grounding Module "Mini"



FLEXFORM™ TOOL

#### PRODUCT OVERVIEW:

The Mini Size Spacer Plate is a compact and cost-effective solution designed to ensure a secure and stable mounting of Mini Size Motor Shaft Grounding Modules. This pre-sized Spacer Plate eliminates the need for hand making spacers, or using a stack of washers, saving time and producing a professional-looking result. Its compact design makes it ideal for tight or unique mounting scenarios, enabling a hassle-free installation process.



EXTENSION PLATES

#### **KEY FEATURES:**

- Secure and stable mounting of modules, reducing installation time
- Pre-sized Spacer Plate saves time, produces professional-looking result
- · Compact size for tight or unique mounting scenarios, hassle-free installation

SPACER PLATES

DRILLBUDDY™ INSTALL TOOL

> CONTACT INFO





# DRILLBUDDY TM INSTALLATION TOOL



"THE USE OF SPECIALIZED INSTALLATION TOOLS CAN GREATLY INCREASE EFFICIENCY and accuracy, saving time and reducing the RISK of Errors or Damage during the installation process."

- Electrical Construction & Maintenance Magazine



# Aaki Corp. 200547 MADE IN CANADA











#### **TECHNICAL SPECIFICATIONS:**

• Dimensions: 60 x 36 x 15 mm (2.4" X 1.5" X 0.6")

· Weight: 200g

· Materials: High Carbon Steel

 Suitable for drilling holes in motors in order to mount motor shaft grounding modules

#### PRODUCT OVERVIEW:

Our Motor Shaft Grounding Module DrillBuddy™ Installation Tool is a specialized tool designed to simplify and speed up the installation process of our motor shaft grounding modules. This high-quality tool is specifically designed to align mounting holes in electric motor end bells for accurate and quick mounting of motor shaft grounding modules.

Simply set the DrillBuddy<sup>™</sup> on the motor shaft, choose the correct holes, and drill. A perfect and professional fit every time. No more messing with calipers and rulers where you wish you had a third hand!

### PLATES

SPACER PLATES

#### **KEY FEATURES:**

- Designed to simplify and speed up the installation process of motor shaft grounding modules
- Create professional looking, consistent results in less time for less \$\$\$
- · Made from high-quality materials for durability and longevity
- Essential tool for ensuring proper installation, saving time and money



CONTACT INFO





## WE ARE HERE TO HELP CONTACT INFORMATION:



Rest easy with Aaki by your side, ready to tackle any challenge or problem that keeps you up at night. Our dedicated team is here to provide the support and assistance you need.

If you have questions about our products or parts, our knowledgeable experts are just a call or email away. Should you need a custom solution, we can help with that also.



If you're interested in carrying Aaki products, we're excited to collaborate with you. Elevate your service shop or business with our custom branding services, creating a unique and professional image that sets you apart from the competition.



Reach out to us today and let Aaki be your trusted partner.







CONTACT INFO

WEBSITE WWW.AAKI.COM **PHONE** 1-888-899-AAKI (2254)



