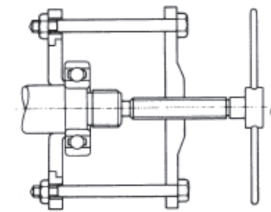
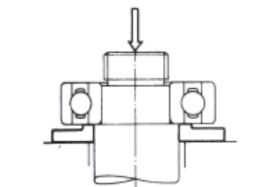


Removal of the inner ring using a puller (2)



Removal of the inner ring using a puller (1)

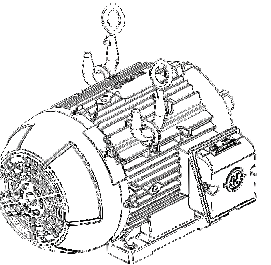


Removal of the inner ring using a press

Hercules
ELECTRIC MOTORS

LIFTING LUGS

Lifting lugs are available starting from frame size 100. The positioning of the lifting lugs can be seen in the image below.



PARTS AND COMPONENTS

Whenever it is necessary to replace any part of your motor, it is important to correctly identify the motor, as well as its code. Use only original parts supplied by Hercules Motores.

Hercules Motores shall not be liable for the use of reworked, damaged, or improperly assembled parts. In the event that the motor needs to be rewound, the nearest Authorized Technical Assistance Network should be consulted.

CONTRACTUAL WARRANTY (Consumers)

Hercules Motores Elétricos Ltda. has designed and manufactured this product with the goal of serving the consumer in the best possible way.

For your guidance and to ensure the warranty coverage of this product, it is important that you read its Instruction Manual. Accordingly, the following warranty conditions are hereby expressly established:

1. In accordance with the conditions set forth in this Contractual Warranty Certificate, Hercules Motores Elétricos Ltda. certifies that it is delivering to the consumer a product intended for final use, warranting it for approximately 24 months against apparent defects and/or easily detectable flaws, as well as manufacturing or material defects, starting from the date of issuance of the Invoice, which must be presented by the consumer.

The first 90 days of this warranty period are required by Law No. 8.078 of September 11, 1990. The remaining 15 months constitute additional coverage (contractual warranty) granted by Hercules Motores Elétricos Ltda. as evidence of the confidence it places in the quality of the products it manufactures.

2. This warranty shall cover the free replacement of parts and labor required to repair problems duly verified as apparent defects and/or easily detectable flaws, as well as manufacturing or material defects.

3. Any repairs that may become necessary on our products must be carried out exclusively by Hercules Authorized Service Centers, duly appointed by Hercules, which can be located through our website at www.herculesmotores.com.br/posto-autorizado/pt/ by contacting the email at@herculesmotores.com.br, or by calling +55 (47) 3281-1900.

a) The labor required for repairing our products within the warranty period of approximately one year is provided free of charge, except in cases where the

warranty has been voided or in situations not covered by this warranty.

b) The warranty shall not be exercised outside the premises of the Hercules Authorized Service Center network. It is the consumer's responsibility to arrange for the shipment or transportation of the product to the Hercules Authorized Service Center at their own cost and risk.

c) After the expiration of this warranty period, all costs related to installation, repairs, transportation, parts, and labor shall be borne by the consumer.

4. This warranty shall be automatically void if:
a) The product is not used exclusively for final use, with its application for resale in other devices, products, and/or machinery of any kind being expressly prohibited.

b) During installation or use, the specifications recommended in the Instruction Manual and the provisions of this Contractual Warranty Certificate are not followed.

c) The product has been subjected to misuse, signs of improper handling, negligence, or has undergone alterations or repairs performed by a person or entity not authorized by Hercules Motores Elétricos Ltda., it being sufficient for any part, component, or assembly to be identified as non-original to void this warranty.

d) The identification label of the device has been removed and/or altered.

5. This warranty does not cover:
a) Expenses related to installation, parts, and components necessary for the installation and operation of the product (including those that do not belong to the product itself), such as labor, materials, parts, and adaptations required to prepare the site for the product's installation, including electrical networks, grounding, etc.; such expenses shall be the sole and exclusive responsibility of the purchaser.

b) Products or their parts that have been damaged as a result of transportation accidents (damage), handling, scratches, dents, or acts and effects of natural disasters.
c) Removal and transportation of the product for warranty repair/service, also subject to the provisions of **item 3 - a), b), c), and d).**
d) Product malfunctions resulting from improper electrical network installation, instability or fluctuations in the power supply that exceed or fall below the standards set forth in ABNT NBR Standard No. 17904 at the location where the product is operating, incorrect motor sizing for the applied load, installation not in accordance with any instructions described in this manual, lack of cleaning and excessive residue, or the presence of foreign objects inside the product.
e) Parts subject to normal wear and tear.
f) Products installed without the necessary protections, such as: fuse, motor circuit breaker (thermal relay), or circuit breaker.

6. This contractual warranty shall be valid and provided free of charge within the limits of this agreement, provided that the consumer presents the purchase Invoice for the product.

7. General considerations:

a) Hercules Motores Elétricos Ltda. does not authorize any person or entity to assume, on its behalf, any warranty-related responsibility beyond what is expressly stated herein.

b) Hercules Motores Elétricos Ltda. reserves the right to change the general, technical, and aesthetic characteristics of its products without prior notice to the consumer.

c) This Contractual Warranty Certificate is valid only for products sold and installed within Brazilian territory.

8. Important notes:

a) Hercules products are manufactured in accordance with safety standards; however, this does not authorize them to be handled by minors. It is the responsibility of parents or guardians to ensure safety by not exposing minors to the product while it is in use.
b) Individuals with reduced physical, sensory, or mental capabilities, or those lacking experience and knowledge, should not operate the product unless they have been instructed on its use and are supervised by a person responsible for their safety. This ensures accessibility and social inclusion.
c) After the contractual warranty period, the product should be subjected to an annual preventive inspection by contracting inspection services from Hercules Authorized Service Centers. This inspection is not covered under warranty. Performing such maintenance helps ensure better operation and longevity of your product, provided that the recommendations contained in the Instruction Manual are also followed.

AFTER-SALES POLICY OF HERCULES MOTORES ELÉTRICOS LTDA (Manufacturers, Producers, Builders, Exporters, Assemblers, Distributors, Dealers)

MOTORS COVERED UNDER WARRANTY

The Civil Code, Law No. 10,406 of January 10, 2002, under Title V, Chapter I, Section V, governs hidden defects, establishing that products may present latent defects or flaws which render them unfit for their intended purpose or reduce their value. In accordance with the prevailing legislation, the purchaser shall have the right to claim against **HERCULES** for any hidden defect or flaw affecting the **motors** within a total warranty period of 36 months, commencing from the date of issuance of the purchase invoice. In the case of

hidden defects — those whose origin cannot be readily identified by an unqualified person — the purchaser may submit a claim to **HERCULES** within a maximum period of one hundred and eighty (180) days, as this concerns a movable good, with the period commencing upon the purchaser's awareness of the defect. Such claims must be made clearly and in writing; any other form shall be immediately disregarded, in accordance with the timeframes established by the prevailing Civil Code. Goods subject to a claim may not be returned to **HERCULES** without its express consent.

LIMITATIONS OF WARRANTY

HERCULES declares that all of its **motors** are supplied in accordance with their technical specifications and are free from any manufacturing defects or flaws, for which a total warranty of thirty-six (36) months is provided, counted from the date of issuance of the purchase invoice. During the aforementioned warranty period, the purchaser shall forward to **HERCULES** any **motors** that may present a defect or flaw, whereupon **HERCULES** will carry out the necessary repair or, if it deems appropriate, the replacement of the **motors**. However, the purchaser must first notify **HERCULES** in writing of such defects or flaws. Upon receiving the purchaser's communication, **HERCULES** will issue an authorization by email, thereby allowing the return of the potentially defective **motors**. **Motors** returned to **HERCULES** under the total warranty must be presented in the same internal and external condition as when originally purchased, with no modifications and/or tampering permitted, and must be properly packaged. **HERCULES** reserves the right to refuse the repair or replacement of any **motors** received that do not maintain the original conditions as previously stipulated. **Motors** that are no longer covered under the

total warranty period may be repaired or replaced by **HERCULES** upon the express request of the purchaser. In such cases, **HERCULES** shall provide a cost estimate for the repair or replacement of the **motors**, subject to the purchaser's final approval. The purchaser shall be required to respond within fifteen (15) days of receiving the estimate, indicating approval or rejection of the quoted amounts and, consequently, the repairs. If the purchaser fails to respond within the stipulated period, **HERCULES** reserves the right to return the batch of **motors** that are outside the total warranty period without performing any repairs. For repairs on **motors** still covered by the total warranty, no estimate shall be required. Transportation expenses for sending the **motors** to **HERCULES**, as well as for returning the repaired **motors** to the purchaser, shall generally be borne by **HERCULES**. However, if **HERCULES** receives fifty percent (50%) or more of the batch of **motors** for repair outside the total warranty period, the transportation costs for returning such **motors** shall be borne by the purchaser. Conversely, if one hundred percent (100%) of the batch of **motors** is received outside the total warranty period, all transportation expenses for sending and returning the goods shall be the sole responsibility of the purchaser. Finally, if the purchaser fails to respond to the estimate within the previously stipulated period and subsequently refuses to accept the return of the goods under the conditions already specified, as well as fails to assume the related transportation costs, **HERCULES** reserves the right to scrap the **motors**.tttt

EXCLUSION OF WARRANTY

The **motors** manufactured by **HERCULES** shall have their warranties automatically voided in cases of damage caused by electrical surges, overload, voltage fluctuations, external agents, improper use, poor maintenance, negligence, lack of skill, or imprudence in the use of the product, as determined by **HERCULES** through internal evaluation. Furthermore, all **motors** manufactured by **HERCULES** are shipped accompanied by the corresponding invoice and respective fiscal documentation, in compliance with Brazilian law. Upon receipt of the **motors**, the purchaser must verify the accompanying documentation. If the **motors** are delivered without such documentation, the purchaser must refuse acceptance and immediately file a claim with after-sales support so that the company may be informed and take appropriate action to resolve the matter. In the event of loss of the fiscal document, the customer must file a claim with after-sales support to report the incident. When purchasing **HERCULES motors**, the purchaser will be informed of the estimated delivery timeframe, which is purely informative and approximate, established based on the logistics and dispatch schedules of the contracted carriers, and subject to errors. In the event of non-compliance with the conditions set forth in this After-Sales Policy, the maximum amount to be covered by **HERCULES** shall be limited to the invoiced amount for the supplied **motors**, except in cases of force majeure and/or unforeseeable circumstances, in which case **HERCULES** shall not cover any amount. We emphasize that the warranty conditions set forth in this After-Sales Policy shall be the sole set of rules to be followed and must be strictly observed.

Hercules
ELECTRIC MOTORS

INSTRUCTION MANUAL FOR THE INSTALLATION OF ELECTRIC MOTORS

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89092-156 · +55 47 3281.1900
CNPJ: 07.442.711/0001-65
I.E: 254.991.246/SC · Brazilian Industry



 **READ THIS MANUAL CAREFULLY BEFORE STARTING THE INSTALLATION OF THE MOTOR**

RECEIPT INSPECTION

Upon receiving your Hercules motor, it is important to observe a few items. When it arrives, perform a visual inspection, checking the following:

- Verify the nameplate data;
- Damaged paint;
- Oxidation resulting from improper storage or open transport;
- Shaft locking;
- Tampered packaging;
- Broken or warped parts;
- Damage to the shaft end or coupling flange;
- Excessive moisture or water infiltration.

IMPORTANT! IF ANY OF THESE PROBLEMS ARE IDENTIFIED, IMMEDIATELY NOTIFY THE CARRIER AND HERCULES MOTORS

TRANSPORTATION AND HANDLING

1. Always transport Hercules motors safely, stacking a maximum of 4 boxes and placing them to prevent falls, thereby avoiding any damage to the product.

It is recommended that large quantities be transported on pallets and moved using forklifts or pallet jacks.

2. To remove the motor from the special packaging, use the side handles on the internal reinforcement (bup) of the box.

Avoid handling the motor by the power cables to prevent internal and irreversible damage.

STORAGE

In the case of long-term storage, the product must be kept in a dry location, sheltered from weather conditions, free of dust, vibrations, gases, or corrosive agents, and maintained at a uniform temperature, placed in its normal position and not in contact with other objects.

In this case, the following steps must be followed:

- Bearings must be replaced.
- Single-phase motor capacitors must be replaced.
- Check that contacts and connections have not suffered oxidation.
- Check that the rubber seals have not dried out over time.
- To prevent bearing oxidation and ensure uniform distribution of lubricant, manually rotate the motor shaft at least once a month (rotating at least 5 turns) and leave it each time in a different position.

INSTALLATION

1. Safety

WARNING
INSTALLATION SERVICES MUST BE CARRIED OUT BY QUALIFIED PROFESSIONALS.

Ensure that the motor and equipment are switched off at the time of installation.

For proper installation, appropriate tools must be used. Make sure all connections are well insulated to avoid the risk of short circuits.

BEFORE STARTING THE MOTOR, ENSURE THAT THE GROUNDING IS DONE IN ACCORDANCE WITH THE APPLICABLE STANDARDS, THEREBY GUARANTEEING GREATER SAFETY FOR THE USER.

2. Mounting

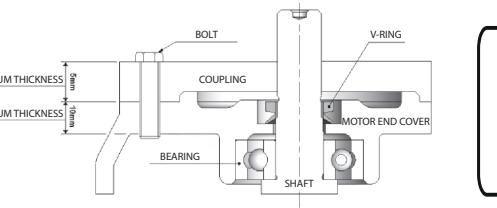
When performing the installation, ensure that the site is in suitable condition to accommodate the motor.

Take care not to damage parts such as the shaft end or flanges.

Ensure that ventilation is not obstructed after installation (generally, maintain at least 3 cm of clearance from the fan).

For motors with flange, use the bolts supplied with the motor. For foot-mounted motors, ensure proper fastening on rigid bases to prevent excessive vibrations.

CAUTION!
IN SITUATIONS WHERE THE BOLTS DO NOT MEET THE FASTENING REQUIREMENTS, FOLLOW THE EXAMPLE AS SHOWN IN THE FIGURE BELOW.



3. Operating Conditions

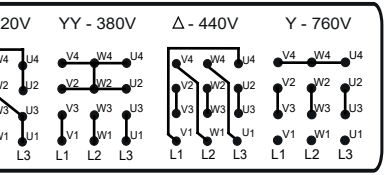
Hercules motors are intended for electrical equipment operating at an altitude of up to

1000m above sea level, with temperature variations as specified on the motor nameplate data.

IMPORTANT!
BEFORE STARTING THE MOTOR, CHECK THAT THE NAMEPLATE DATA MATCH THE ENVIRONMENTAL CONDITIONS AND THE POWER SUPPLY NETWORK.

4. Wiring

To avoid damage to the motor, check the nameplate data when connecting the cables according to the network supply voltage, and only then place the motor into operation.



5. Drain Holes and Cable Outlet

Pay attention to the motor's construction so that the drain hole is not facing upward, which would leave it exposed to water ingress.

The correct position for the drain hole is at the bottom for B3 motors.

For other applications, it should always be positioned at the lowest point of the motor.

For motors without a terminal box, orient the cable outlet downward, as shown in Form B14.

CAUTION, RISK OF ELECTRIC SHOCK!
IN SINGLE-PHASE MOTORS, AVOID CONTACT WITH THE CAPACITOR TERMINALS (WHEN PRESENT), AS THEY MAY STILL BE ELECTRICALLY CHARGED.

WARNING!
AN INCORRECT CONNECTION MAY BURN OUT THE MOTOR.

6. Balancing

All transmission elements such as couplings, pulleys, among others, must be balanced with the key installed before being mounted. Always use appropriate tools for installation and removal.

7. Pulleys

For proper transmission operation and to ensure the motor does not run under atypical conditions, always check that the belt is properly tensioned and the wrap angle is appropriate, then follow the belt manufacturer's specifications for installation.

8. Alignment

Always use a flexible coupling whenever possible.

The maximum recommended misalignment between the motor and the driven equipment is 0.05 mm. Make sure that the motor and the equipment to be coupled do not allow variations when in operation.

9. Startup

Ensure that the key is firmly secured or completely removed before starting the motor. The motor should start and run smoothly. If there is excessive vibration or improper operation, turn off the motor and check the installation and connections before starting it again.

If excessive vibration persists, verify that all mounting bolts are properly tightened or that the vibration is not originating from other parts of the equipment where the motor is installed.

After properly starting the motor, monitor its operation under rated load for a short period of time by measuring current, speed, and comparing them with the nameplate values.

MAINTENANCE

Motor maintenance must be carried out periodically to ensure proper operation and to extend its service life. Keep it clean and make sure the airflow produced by the fan can circulate freely, thus providing better thermal dissipation efficiency.

The condition of the seals or retaining rings must be checked and replaced if necessary.

Contacts must be free of oxidation and firmly connected to avoid malfunction.

Bearings must be inspected for problems such as excessive noise, vibration, grease conditions, etc. If bearing replacement is required, follow the steps in the next section (mounting and dismounting).

For single-phase motors that contain a capacitor, measure the capacitance every 3 years and replace it if any fault is detected.

MOUNTING AND DISMOUNTING

If necessary to open the motor for the replacement of any part, it must be disassembled only by qualified professionals.

WARNING!
MOUNTING AND DISMOUNTING OF THE MOTOR BY UNQUALIFIED PERSONNEL WILL VOID THE PRODUCT WARRANTY.

For bearing removal, use the appropriate puller and position its jaws on the side of the inner ring as shown in the figure below. When installing the bearings, ensure there are no burrs or deformations on the shaft.