

Electro Packs EP-170-C, EP-250-C Foot Mounted Clutch/Brakes

P-225
819-0357

Installation Instructions



Contents

Installation	2
Electrical Connection	2
Burnishing	3
Maintenance	3
Repair and Replacement	4
Dimensions	5
Specifications	
Mechanical Data	5
Electrical Coil Data	5
Warranty	Back Page

⚠ WARNING Failure to follow these instructions may result in product damage, equipment damage, and serious or fatal injury to personnel.

Introduction

The Electro-Pack is a preassembled foot mounted clutch-brake package complete with input and output shafts. In the ceramic version, the conventional friction material has been replaced with ceramic material. In many high cycle rate applications, the ceramic units will last 3-5 times longer than standard units. These units, like the standard Electro-Packs, are ready to be installed in all standard power transmission systems with V-belts and pulleys, chain and sprockets, in line couplings, timing belt drives, and gear trains.

Installation

1. Provide a mounting surface for the Electro-Pack that is rigid and flat with the following tolerances.

Electro-Pack Sizes	Mounting Surface to be Flat in One Plane Within:
170	.004"
250	.004"

2. Connect the Electro-Pack into the drive system. The input shaft is identified on the unit. **Use care when connecting the units!** Serious problems will occur if the power input is connected to the output shaft.

Dimensions for the input and output shafts are shown on the dimension drawings on page 5.

Electrical Connection

⚠ WARNING All electrical current must be off when making electrical connections to prevent injury or death which can result from contact with live wires.

The Electro Pack is provided with one conduit connection hole which is threaded for standard 1/2" conduit connectors. Both the clutch and brake lead wires exit through this opening. The EP-170-C is provided with lead wires already routed through the conduit connection hole. The EP-250-C is supplied with terminals that can be accessed by removing the cover. Simply make the connections with the terminal accessory kit supplied.

The Electro Packs operate on DC power. Warner Electric offers a full line of AC powered DC output controls to meet the needs of almost every clutch/brake application. The service and installation instructions included with each Warner Electric control show the proper connections.

Please refer to Figure 1 for typical Electro Pack electrical connections. The lead wires on the EP-170-C are identified with a "C" for clutch and a "B" for brake. Polarity is not important when wiring Electro Pack units.

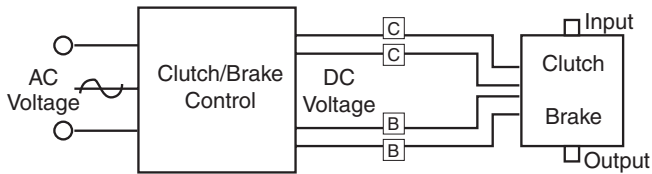


Figure 1

Burnishing

The ceramic faced friction surfaces of these Electro-Packs are preburnished and performance tested at the factory to ensure consistent "out of box" performance. Therefore, no "wearing-in," or burnishing, is required.

Maintenance

Wear Pattern: Wear grooves appear on the armature and magnet surfaces. This is a normal wear condition and does not impair proper functioning of the unit.

Heat: Excessive heat and high operating temperatures can cause Electro-Pack failure. Units, therefore, should be ventilated as efficiently as possible, especially if the application requires fast, repetitive cycle operation.

Foreign Materials: When units are used near gear boxes or transmissions requiring frequent lubrication, means should be provided to protect the friction surfaces from oil and grease to prevent serious torque loss.

Torque Loss: If a brake or clutch slips or loses torque completely, the initial check should be the input voltage to the magnet as follows:

90-Volt Series: Connect a DC voltmeter with a range of 0-100 or more directly across the magnet terminals. With the power on and the potentiometer turned up, a normal reading is 90 volts, although 85 to 95 is satisfactory. The reading should drop as the potentiometer control is adjusted counterclockwise.

24-Volt Series: Use a DC voltmeter with a range of 0-30 volts or more. A normal reading is approximately 22-26 volts.

6-Volt Series: Use a DC voltmeter of approximately 0-15 volt range. A normal reading is from 5.5 to 6.5 volts.

The above checks normally are sufficient. Further checks may be made as follows: connect a low range ammeter in series with one magnet lead. Correct amperage readings for each coil voltage and unit size are found above. These readings are with the power on and the potentiometer control in the maximum position.

Ohmmeter checks should be made with the power off and the circuit open (to be certain, disconnect one lead to the magnet). Average resistance readings are listed in the chart on page 5 for each voltage and unit size. A very high or infinite resistance reading would indicate an open coil.

If the above checks indicate that the proper voltage and current are being supplied to the magnet, mechanical parts should be checked to assure that they are in good operating condition and properly installed.

Repair and Replacement

Ceramic friction face Electro-Packs will provide reliable and consistent performance throughout the exceptionally long life of the friction facings. Their long life results from the exceptional wear resistance of the ceramic material. The low wear rate also results in a longer burnish time to

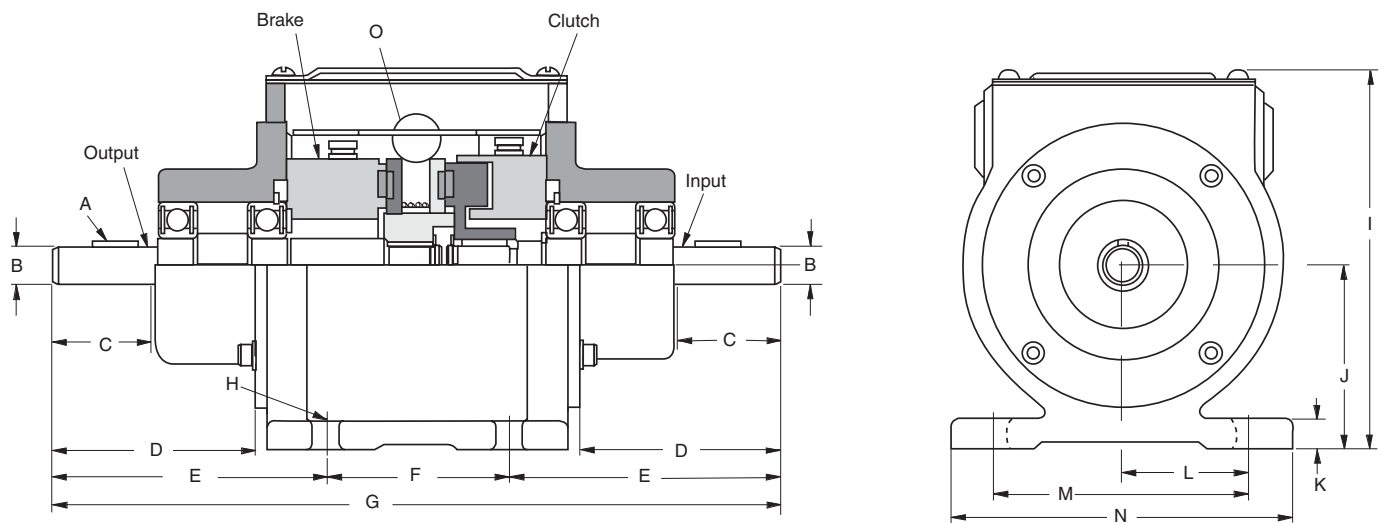
"mate" the friction surfaces. Alignment of the friction surfaces of both clutch and brake are also very critical. Therefore, these units are not field serviceable. All repair work must be done by the Factory where alignment and burnishing can be closely monitored.

Units that eventually wear out can be returned to the factory to be rebuilt. Please note that units with damage to "nonwearing" components, such as housings and shafts, are not repairable. The factory will evaluate returns and determine whether they can be rebuilt. All rebuilt units will be preburnished and tested to assure consistent "out of box" torque, so no "wearing in" will be required. Rebuilt ceramic friction faced Electro Packs carry a full Factory Warranty. For more information on rebuilt units, call Warner Electric at 815-389-3771 or contact your Warner Electric distributor.

Electro Pack Assemblies

Unit Size	Voltage	Part No.
EP-170-C	6	5633-273-016
EP-170-C	24	5633-273-018
EP-170-C	90	5633-273-019
EP-250-C	6	5130-273-051
EP-250-C	24	5130-273-053
EP-250-C	90	5130-273-054

Dimensions



All dimensions are nominal, unless otherwise noted.

Size	A Key	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
170	3/32 x 3/64	.3745	.750	1.406	2.203	1.500	6.000	.250	Wide	3.437	1.662	.312	1.125	2.250	3.250	14 NPT 1/2 conduit
		.3735	Min.				Max.	(4 slots)		1.652						
250	1/8 x 1/16	.4995	1.250	2.468	3.312	2.250	8.968	.312	Wide	5.281	2.318	.375	1.625	3.250	4.250	14 NPT 1/2 conduit
		.4985	Min.				Max.	(4 slots)		2.308						

Specifications

Mechanical Data

Electro Pack Size	Horsepower @ 1800 RPM	Static Torque	Max. RPM	Voltage D.C.	Total Weight	Inertia WR ² Input	Inertia WR ² Output
EP-170-C	1/8	15 lb. in.	10,000	6, 24 or 90	2.8 lbs.	.036 lb.in. ²	.031 lb.in. ²
EP-250-C	1/2	70 lb. in.	7,500	6, 24 or 90	7.5 lbs.	.293 lb.in. ²	.331 lb.in. ²

Electrical Coil Data

Unit Size	EP-170-C			EP-250-C		
	6	24	90	6	24	90
Voltage — DC	6	24	90	6	24	90
Resistance @ 20°C — Ohms	6.96	111.2	1506	5	76.4	1079
Current — Amperes	.861	.215	.060	1.2	.314	.084
Watts	5.85	5.16	5.37	7.2	7.5	7.51
Coil Build-Up — Milliseconds	17	17	16	48	48	44
Coil Decay — Milliseconds	8	7	6	15	15	13

Warranty

Warner Electric LLC warrants that it will repair or replace (whichever it deems advisable) any product manufactured and sold by it which proves to be defective in material or workmanship within a period of one (1) year from the date of original purchase for consumer, commercial or industrial use.

This warranty extends only to the original purchaser and is not transferable or assignable without Warner Electric LLC's prior consent.

Warranty service can be obtained in the U.S.A. by returning any defective product, transportation charges prepaid, to the appropriate Warner Electric LLC factory. Additional warranty information may be obtained by writing the Customer Satisfaction Department, Warner Electric LLC, 449 Gardner Street, South Beloit, Illinois 61080, or by calling 815-389-3771.

A purchase receipt or other proof of original purchase will be required before warranty service is rendered. If found defective under the terms of this warranty, repair or replacement will be made, without charge, together with a refund for transportation costs. If found not to be defective, you will be notified and, with your consent, the item will be repaired or replaced and returned to you at your expense.

This warranty covers normal use and does not cover damage or defect which results from alteration, accident, neglect, or improper installation, operation, or maintenance.

Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

Warner Electric LLC's obligation under this warranty is limited to the repair or replacement of the defective product and in no event shall Warner Electric LLC be liable for consequential, indirect, or incidental damages of any kind incurred by reason of the manufacture, sale or use of any defective product. Warner Electric LLC neither assumes nor authorizes any other person to give any other warranty or to assume any other obligation or liability on its behalf.

WITH RESPECT TO CONSUMER USE OF THE PRODUCT, ANY IMPLIED WARRANTIES WHICH THE CONSUMER MAY HAVE ARE LIMITED IN DURATION TO ONE YEAR FROM THE DATE OF ORIGINAL CONSUMER PURCHASE. WITH RESPECT TO COMMERCIAL AND INDUSTRIAL USES OF THE PRODUCT, THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Changes in Dimensions and Specifications

All dimensions and specifications shown in Warner Electric catalogs are subject to change without notice. Weights do not include weight of boxing for shipment. Certified prints will be furnished without charge on request to Warner Electric.



Warner Electric LLC
449 Gardner Street • South Beloit, IL 61080
815-389-3771 • Fax: 815-389-2582
www.warnerelectric.com