

# ERS Electrically Released Brakes

## Installation Instructions

P-219-WE  
819-0337



 **Warner**<sup>®</sup>  
Electric

An **Altra Industrial Motion** Company

The Warner Electric ERS brake you purchased has been designed to provide long and trouble free service. It's a rugged, simple unit which is easy to install and requires no adjustment or maintenance.

This service manual includes detailed installation instructions, complete product dimensions, performance data, and troubleshooting information.

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**⚠ WARNING** Your ERS Brake is designed to self-engage in case of an electrical power failure. Replace only with an identical unit. Do not disassemble. Brake parts are under high spring pressure. Failure to follow these instructions may result in product damage, equipment damage, and serious or fatal injury to personnel.

## Installation

1. Remove your ERS brake from its shipping carton and inspect it thoroughly to ensure that it has arrived in good condition. An accessory kit included with your brake contains screws and insulator boots for the electrical termination. In addition, you may have ordered the optional splined drive hub, mounting flange, and/or conduit box.
2. If used, install the Warner Electric conduit box in accordance with the instructions furnished with the conduit box accessory.
3. The ERS brake is shipped fully assembled and ready to mount. No adjustments or brake run-in are necessary. The mating mounting holes in your mounting surface must be within 0.014 inch diameter of true position to the shaft center line and the mounting surface must be within .005" of perpendicular to the shaft axis. If you are mounting your brake with through-bolts (see Mounting Options below) you will need four of the following fasteners:

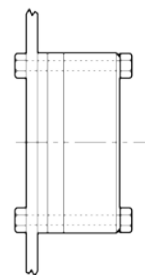
If the optional Warner Electric mounting flange is being used, assemble with the supplied screws into the tapped holes in the back of the brake. You will need to provide a mounting hole pattern in the flange that corresponds to your application.

## Brake Mounting Options

ERS Brakes can accommodate different mounting orientations. The following mountings are possible with the standard ERS brake:

### Through-Bolt

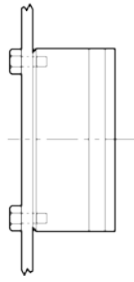
Mounting through the brake magnet provides rigid support for the unit with a space equal to the outside diameter of the brake. May be mounted on either end.



Brake	Fastener Size	Maximum Fastener Torque
ERS-26	#6-32	20 in.lbs.
ERS-42	#8-32	35 in.lbs.
ERS-49	#10-32	75 in.lbs.
ERS-57	1/4"-20	120 in.lbs.
ERS-68	3/8"-16	150 in.lbs.

## Tapped Holes

Mounting the brake by drawing it into a housing or cavity again provides the rigid support in an area no larger than the outside diameter of the brake. It is used where through-bolt mounting is impractical.



## Flange

Mounting flanges can be attached to the base design using the tapped holes provided.



Since the mating spline (either the Warner Electric splined hub or your splined shaft) is smaller than the brake bore, either end of the brake can be positioned against the mounting surface when using through bolts. If a Warner Electric conduit box is being used and the back of the brake must be against the mounting surface, a relief in the mounting surface will be required to accommodate the conduit box mounting plate. (See page 4 for details).

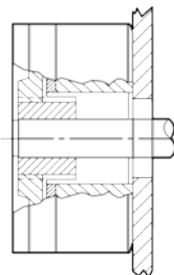
## Hub Mounting Options

If the Warner Electric splined drive hub is to be used, it can be mounted in either of the following sequences:

**Note:** Full spline engagement contact is required between the splined hub or splined shaft and the splined brake disc. The disc must be able to move freely on the hub.

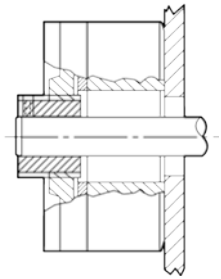
## Recessed Hub

Mounting the hub on the driving member prior to mounting the brake allows the splined hub to be recessed in the brake bore for maximum space efficiency.



## Extended Hub

Mounting the hub on the driving member after mounting the brake allows the splined hub to extend beyond the brake where space allows.



When the splined hub has been located on the shaft with its appropriate key, tighten the set screws to the following torque values:

Brake	Torque
ERS-26	10 lb. in.
ERS-42	20 lb. in.
ERS-49	35 lb. in.
ERS-57	35 lb. in.
ERS-68	85 lb. in.

Loc-tite® 242 may be applied on screw threads to minimize chances of screws backing off under severe vibration.

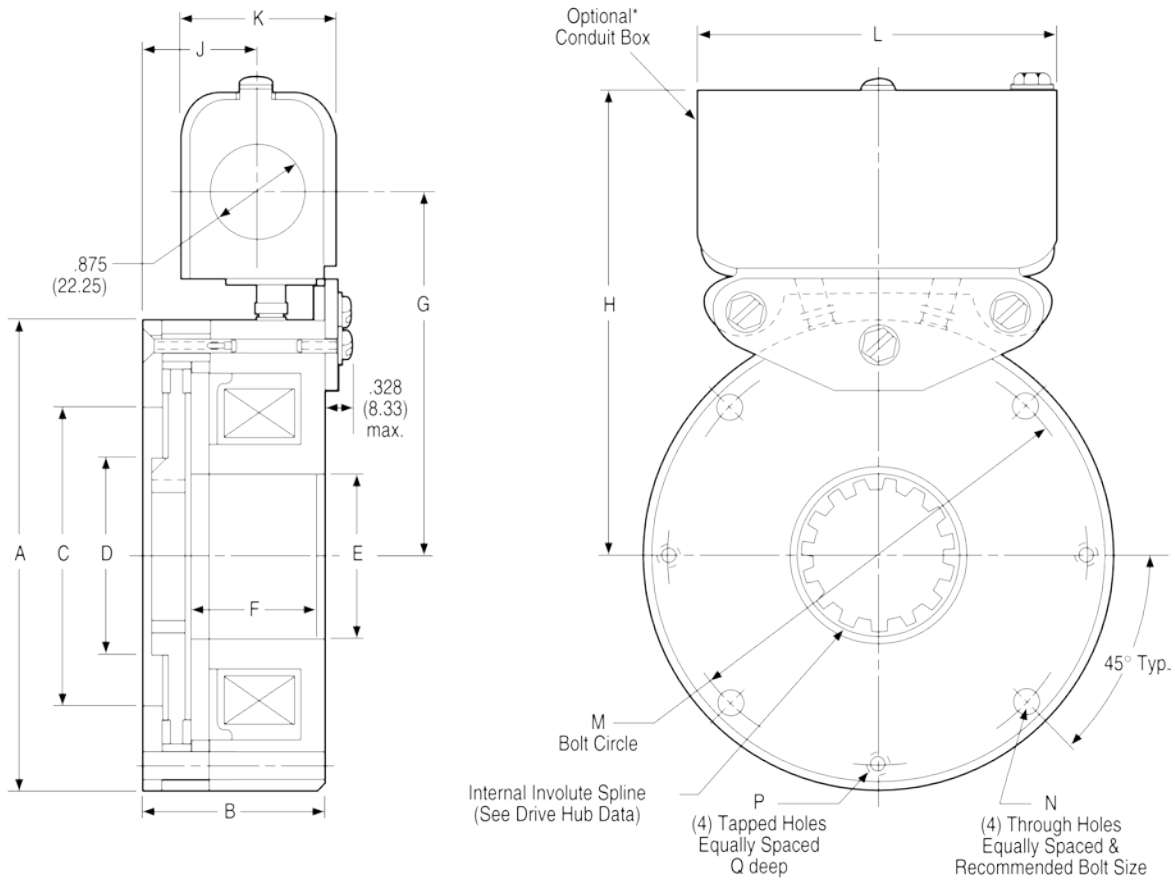
- After the brake and hub are secured in place, attach the DC power source to the brake terminals. Feed the wires through the brake insulator boots before attaching them. After the terminal screws are tightened (torque to 15 lb. in.), slide the boots over the screws and terminals to insulate the electrical connection.

Either terminal can be connected to the + or - side of the power source. If a Warner Electric CBC-100 or other Warner Electric control is used, follow the wiring instructions supplied with the control.

- Your ERS brake is now ready for its static test. Apply the rated DC voltage to the brake. It should disengage and the shaft should rotate freely.

Your ERS Brake is now ready to run.

# Dimensions



\*Available only on the ERS-49, 57, and 68 sizes.

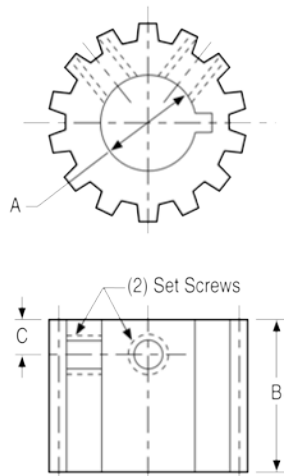
Model	A Max.	B Max.	C	D	E	F	G	H	J	K	L	M Dia.	N Dia.	P	Q
ERS-26	2.460 (63)	1.515 (39)	1.375 (35)	1.125 (28)	.860 (22)	1.250 (32)	-	-	-	-	-	2.125 (54)	.172/.164 (4)	4-40 -	.375
ERS-42	3.520 (90)	1.595 (41)	2.000 (51)	1.600 (41)	1.375 (35)	1.255 (32)	-	-	-	-	-	3.125 (79)	.200/.190 (5)	6-32 -	.400
ERS-49	4.270 (109)	1.767 (45)	2.600 (66)	1.750 (44)	1.500 (38)	1.332 (34)	3.625 (92)	4.625 (117)	1.000 (25)	1.625 (41)	3.750 (95)	3.750 (95)	.228/.218 (6)	8-32 -	.400
ERS-57	5.020 (128)	1.937 (49)	3.240 (82)	2.100 (53)	1.750 (44)	1.503 (38)	4.000 (102)	5.000 (127)	1.170 (30)	1.625 (41)	3.750 (95)	4.500 (114)	.288/.278 (7)	10-24 -	.400
ERS-68	6.520 (166)	2.030 (52)	4.504 (114)	2.800 (71)	2.425 (62)	1.565 (40)	4.750 (121)	5.750 (146)	1.265 (32)	1.625 (41)	3.750 (95)	5.875 (149)	.413/.404 (10)	1/4-20 -	.500

(-) denotes millimeters

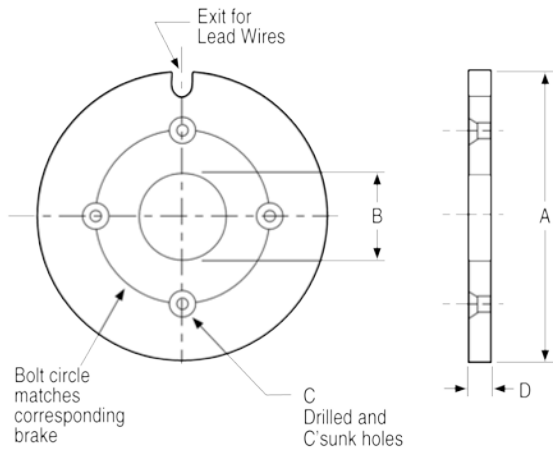
**Note:** Mating holes for mounting brake to be within .014 diameter true position, max. material condition, to the center of shaft.

# Drive Hub Data

Model	A Bore	Mating Key (Not furnished)	B Nom.	C Nom.	Set Screws Size	Torque
ERS-26	.2525/ .2505	1/16 x 1/16	.600	.135	6-32 x 1/8	10 lb. in.
	.3150/ .3130	1/16 x 1/16				
	.3775/ .3755	3/32 x 3/32				
ERS-42	.3775/ .3755	3/32 x 3/32	.700	.150	8-32 x 3/16	20 lb. in.
	.5025/ .5005	1/8 x 1/8				
	.6275/ .6255	3/16 x 3/16				
	.7525/ .7505	3/16 x 3/16				
ERS-49	.3775/ .3755	3/32 x 3/32	.800	.160	10-32 x 3/16	36 lb. in.
	.5025/ .5005	1/8 x 1/8				
	.6275/ .6255	3/16 x 3/16				
	.7525/ .7505	3/16 x 3/16				
	.8775/ .8755	3/16 x 3/16				
ERS-57	.5025/ .5005	1/8 x 1/8	.800	.160	10-32 x 3/16	36 lb. in.
	.6275/ .6255	3/16 x 3/16				
	.7525/ .7505	3/16 x 3/16				
	.8775/ .8755	3/16 x 3/16				
	1.0025/1.0005	1/4 x 1/4				
ERS-68	1.0025/1.0005	1/4 x 1/4	.900	.190	1/4-20 x 1/4	87 lb. in.
	1.1275/1.1255	1/4 x 1/4				
	1.2525/1.2505	1/4 x 1/4				
	1.3775/1.3755	5/16 x 5/16				
	1.5025/1.5005	3/8 x 3/8				



**Note:** Hub may be located in any position on shaft as long as the external and internal splines are 100% engaged.



Model	A Nom.	B Nom.	C Holes	D Nom.
ERS-26	4.000 (101.6)	.935 (23.7)	#4	.100 (2.6)
ERS-42	5.000 (127.0)	1.450 (36.8)	#6	.144 (3.7)
ERS-49	6.250 (158.8)	1.575 (40.0)	#8	.193 (4.9)
ERS-57	7.500 (190.5)	1.825 (46.4)	#10	.193 (4.9)
ERS-68	9.500 (241.3)	2.500 (63.5)	1/4	.224 (5.7)

(—) denotes millimeters  
**Note:** Holes for attaching flange to mounting surface to be provided by customer.

## Troubleshooting

Symptom	Check
Brake will not release	<ul style="list-style-type: none"> <li>a. Proper voltage at the brake terminal(s).</li> <li>b. Correct unit voltage matched to power supply.</li> <li>c. Coil continuity if proper voltage is at the brake leads.</li> <li>d. Spline for binding. Friction disk must be able to move freely on mating spline.</li> </ul>

If the above checks do not determine the cause of the failure, the brake is non-operational and must be replaced.

## 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.



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