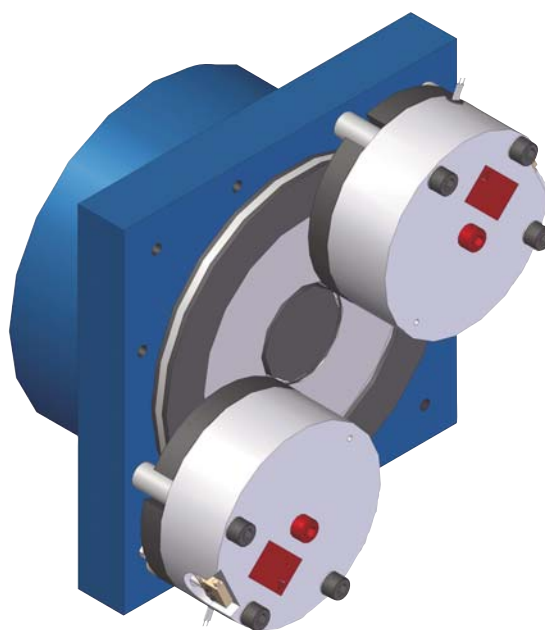


SM418gb - rev 11/09

Electrically Released Brakes ERS VAR15-11



EC type certificate ABV 828
According to drawing **1 12 107233**



Industrie Service

We: **WARNER ELECTRIC EUROPE**, 7, rue Champfleu, B.P. 11095, F-49182 St Barthélemy d'Anjou Cedex
 declare that the brakes made in our factory from St Barthélemy d'Anjou,

and hereafter designated : **ERS VAR15-11**

Fully comply with directive 95/16/EC on Lifts and are intended for incorporation into an installation or for assembly with other equipment, with the aim of constituting a machine subject to the application of directive 98/37/EC and the directive on Electromagnetic Compatibility 89/336 (modified).

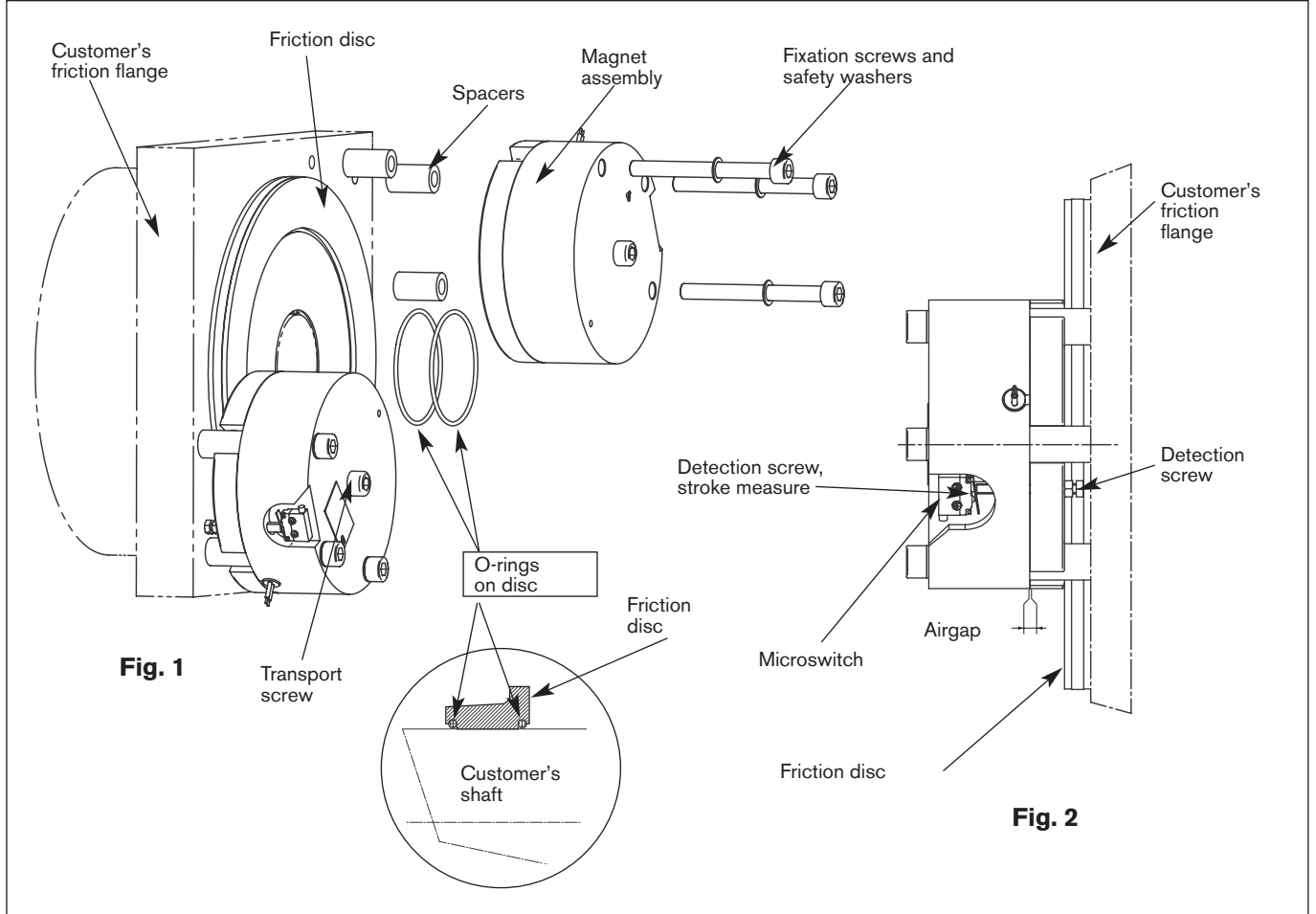
Compliance with the basic requirements of the Low Voltage Directive 73/23 (modified) is guaranteed by our full compliance with the following standards: NFC 79300 and VDE 0580/8.65.

Drawn up in St Barthélemy d'Anjou, April 2009
 David EBLING, General Managing Director

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Product composition VAR15-11	Quantity
Magnet	1 or more (Please refer to customer's drawing for exact brake composition)
Disc	1



1 Technical specifications

Table 1		ERS VAR15-11		
Warner Electric Part Number				
Tangential force of braking	N	According the marking		
Maximum linear speed (outside ø disc)	m/s	10		
Nominal airgap	mm	0.4		
Maximum airgap after wear	mm	0.7		
Overexcitation voltage	VDC	/	/	207 (1s)
Holding voltage	VDC	/	/	103
Resistance	Ohm	/	/	210
Power (overexcitation)	W	/	/	204
Power (holding)	W	/	/	51
Cyclic duration factor ED	%	50		
Weight	kg	10 per magnet assembly		



Symbol designating an action that might damage the brake



Symbol designating an action that might be dangerous to human safety



Symbol designating an electrical action that might be dangerous to human safety

2.1 Precautions and restrictions on use

2.1 Restrictions on use



For the brake to comply with directive 95 / 16 / EC, the installer must observe the general conditions for installations and use as defined in the EC type certificate ref ABV 828 of 30/10/2009 drawn up by the TÜV SÜD Industrie Service, including the mandatory use of a speed limiting device, in compliance with EN 81-1 paragraphs 9.9 and 9.10.10.



This brake is designed to work in dry conditions. Friction faces must be kept completely clean of any oil, grease or abrasive dust which might deteriorate their performances.



If maximum rotation speeds are exceeded, the guarantee is no longer valid.



This brake must not be dismantled.



This brake may only be used in a "horizontal axis". The customer must be careful not to alter the factory-set airgap and the working clearance of the brake.



This brake is designed for a maximum ambient temperature of 40°C (insulation class 155°C). The maximum temperature in continual use is 100°C.



This brake is designed for static applications. Any dynamic braking is restricted to emergency braking and test braking. This brake can in no way replace the safety braking system used during lift descent.

2.2 Precautions and safety measures



During maintenance, make sure that the mechanism to be braked by the brake, is stopped and that there is no risk of it accidentally starting up. All intervention have to be made by qualified personnel, owning this manual.



Any modification made to the brake without the express authorisation of a representative of Warner Electric, in the same way than any use out of the contractual specifications accepted by "Warner Electric", will result in the warranty being invalidated and Warner Electric will no longer be liable in any way with regard to conformity.



When switching on DC-side the coil must be protected against voltage transients.

3 Installation

3.1 Transport / storage



This brake is delivered in standard packaging that will keep it intact for a period of 6 months during ground, air or sea transport towards neighbouring continents (without crossing the tropics).

3.2 Handling



Avoid any impact to the brake so that its performance is not impaired.



Never lift the brake by its cables

3.3 Mounting



In case of long storage, check the brakes, before setting the drives, in order to avoid, in case of large temperature variation, any risk of sticking from the friction material, able to hindrance the start of the drive.



Data for customer friction disc :

Material: Steel (150 to 250 HV) or Cast iron

Roughness $\leq Ra 3,2$

Protection: Phosphatizing (dry) or nitriding

Geometric tolerances:

	0,1	Disque / axe de l'arbre Client
	0,05	

3.3.1 Installation

- Mount the O-rings on the disc
- Mount the disc on the customer's shaft

Warning : Disc direction assembly, boss **forward** or **backward**, depends on customer design.

- Bring disc friction face in contact with customer's friction flange
- Mount the first magnet assembly

Set up the three spacers and the three fixing screws on the magnet assembly

Place this magnet assembly on the customer's flange

Put near contact the three fixing screws

Block these fixing screws using a tightening torque of 44 Nm $\pm 10\%$ respecting the following order : the highest screw (1), the lowest one (2) and, finally, the middle last one (3), see Fig. 3

NOTE: Secure the fixing screws (safety washer or a thermoplastic liquid such as Loctite).

- remove the transport screw, see Fig. 3.
- Make all the permanent electrical connections
- Carry out a few successive draws and releases

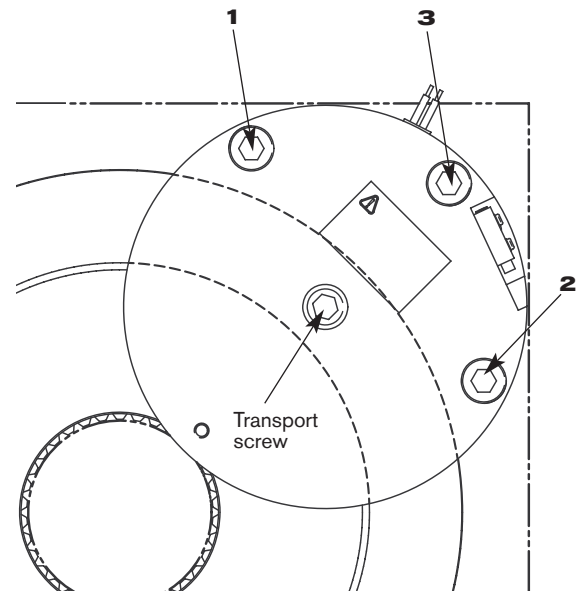


Fig. 3

- Check the airgap, see table 1.
- Mount the additional magnet assemblies following the same procedure and respecting brake composition set up in the packaging

NOTE: Before any dynamic braking, bring the drive in a low speed rotation (< 5 RPM) with the brake engaged over few turns to place properly the disc.

4 Maintenance

4.1 Adjusting the airgap



Reminder: This brake is intended for a static application as a safety brake. Any dynamic braking is restricted to emergency and test braking. Normal use will not lead to any noticeable wear on the lining

If the airgap value exceeds the maximum value given in table 1, It will be necessary to change the friction disc, see chapter 6.

4.2 Adjusting the microswitch

- Slide a feeler gauge 0,10 mm thick in the concerning airgap close to the detection setting screw. Switch on the current and tighten the adjusting screw H M5 (8 A/F) in contact with the microswitch until you reach the trip point (Fig. 4).
- Check that it functions correctly by switching the power on and off several times ensuring the microswitch is activated correctly.

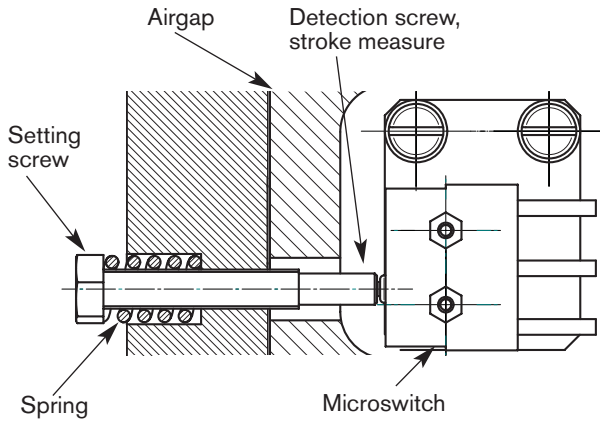


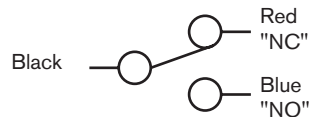
Fig. 4

Operation microswitch

Current range 10 mA min. to 100 mA max. at 24 VDC

Maximum electrical lifetime of the microswitch ensure only by switching under resistive load.

Microswitch connection



5 Electrical connection

Brake **ERS VAR15-11** operates on a direct current supply. Polarity does not affect the way the brake operates.

5.1 Important recommendations



All works on the electrical connections have to be made with power off.



Make sure that the nominal supply voltage is always maintained. A lack of power results in a reduction to the maximum airgap.



Emergency braking : for emergency braking the switching OFF must be connected on DC current side, in order to obtain short engaging time of the brake.

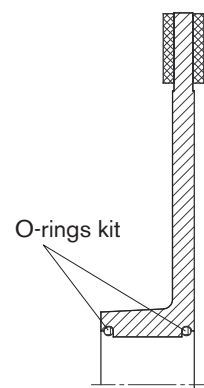
Service braking : for service braking, the switching OFF and the switching ON must be connected on AC current side, in order to obtain silent switching.

The connecting wires must be thick enough to help prevent sudden drops in voltage between the source and the brake.

Tolerances on the supply voltage at the brake terminals +5% / -10% (NF C 79-300).

6 Spare parts

Part	Part number
Friction disc	See customer's drawing
O-rings kit	See customer's drawing
Microswitch	BT 2 12 095855
Magnet assembly	
207/103 VDC	BT 2 12 095946



7 Tools

Tools	Function
Airgap adjustment shims	Airgap & microswitch adjustment
Torque wrench (measurement range > 60 Nm) with hexagonal socket insert 8 mm A/F	Unit mounting
Open jawed spanner 8 mm A/F	Microswitch adjustment
Multimeter	Voltage checking
Hexagon wrench key 8 mm A/F	Transport screw

8 Troubleshooting and fault elimination

Troubleshooting		
Fault	Cause	Remedy
Brake does not release	<ul style="list-style-type: none">• Starting voltage too low• Power supply is interrupted• Airgap too large• Coil is damaged• Overexcitation time too short	<ul style="list-style-type: none">• Adjust starting voltage• Reconnect power supply, check the adjustment of microswitch• Change the disc• Replace the brake• Increase overexcitation time
Brake does not brake	<ul style="list-style-type: none">• Voltage present at switch off position• Grease on friction faces• Transport screws in place	<ul style="list-style-type: none">• Check the microswitch's adjustment and the customer's power supply• Clean the friction faces, change the disc• Remove the transport screw
Nuisance braking	<ul style="list-style-type: none">• Holding voltage too low• Wrong information from microswitch	<ul style="list-style-type: none">• Adjust the holding voltage• Re-adjust the microswitch

Subject to alteration without prior notice