



*Elektromotoren und  
Gerätebau Barleben GmbH*



**OPERATING INSTRUCTIONS**  
**Test pump ZG 5.1. and ZG 5.2.**



---

# Table of contents

	Page
1 Use	4
2 Design features	4
2.1 Test pump ZG 5.1.	4
2.2 Test pump ZG 5.2.	4
3 Making the test	5
3.1 Test directly at the Buchholz relay	5
3.2 Test over the Gas Sampling Device ZG 1.2.	6

## 1 Use

The Test pumps ZG 5.1. ( manual-actuated) or ZG 5.2. ( foot-actuated) serve to check the function of the upper switching system (alarm) of the Buchholz relay in case of gas accumulation by means of pumping air in.

The Test pumps can be connected directly with the test valve of the Buchholz relay or with the gas outlet cock of the Gas Sampling Device ZG 1.2.

## 2 Design features

### 2.1 Test pump ZG 5.1.



Fig. 1 - Manual-actuated test pump ZG 5.1.

The manual-actuated Test pump ZG 5.1. is shown in figure 1. It is delivered with a test hose (Figure 1/Point 1) with adapter (Fig. 1/2).

The length of the test hose is 250 mm. The adapter is provided with a return valve and a G 1/8"-threaded hole.

### 2.2 Test pump ZG 5.2.



Fig. 2 - Foot-actuated test pump ZG 5.2.

The foot-actuated Test pump ZG 5.2. is shown in figure 2. It is delivered with a test hose (Fig. 2/1) with adapter (Fig. 2/2).

The length of the test hose is 5 m.  
(Other lengths are possible on request.).  
The adapter is provided with a return valve and a G 1/8"-threaded hole.

### 3 Making the test

#### 3.1 Test directly at the Buchholz relay

- Remove small cap nut (Fig. 3/3) from test valve (Fig. 3/5) of the Buchholz relay.
- Fit adapter (Fig. 3/2) of the test hose (Fig. 3/1) on the valve nozzle (Fig. 3/4).
- Open test valve.
- Pump air into the Buchholz relay until the upper switching system (alarm contact at gas accumulation) will respond due to falling of the upper float and switching of the magnet contact tube.
- Obtain verification of correct function from control room.
- Close test valve.
- Remove adapter from valve nozzle.
- Open test valve and let the air escape.
- Close test valve as soon as insulating liquid comes out.
- Fit small cap nut on test valve and tighten.

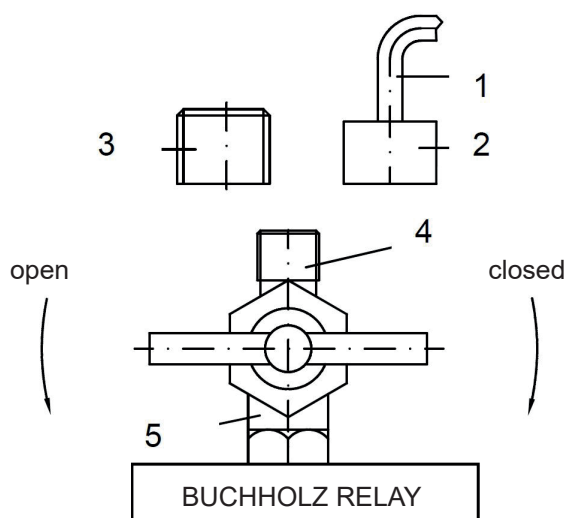


Fig. 3 - Testing at the Buchholz relay



#### NOTE

Please, see also operating instructions for Buchholz relays.

### 3.2 Test over the Gas Sampling Device ZG 1.2.

- Remove sealing cap (Fig. 4/3) from the gas outlet cock (Fig. 4/5).
- Fit adapter (Fig. 4/2) of the test hose (Fig. 4/1) on the valve nozzle (Fig. 4/4) of the gas outlet cock.
- Open the gas outlet cock.
- Pump air into the Gas Sampling Device until the upper switching system (alarm contact at gas accumulation) of the Buchholz relay will respond due to falling of the upper float and switching of the magnet contact tube.
- Close gas outlet cock.
- Remove adapter from valve nozzle.
- Remove sealing cap from the oil outlet cock.
- Open the oil outlet cock and collect the oil coming out in a suitable container.
- Close the oil outlet cock as soon as the oil level in the inspection glass becomes visible.
- Screw the sealing cap onto the oil outlet cock.
- Open the gas outlet cock and let the air pumped in escape.
- Close the gas outlet cock as soon as the gas sampler is filled completely with oil and oil comes out of this cock.
- Screw sealing cap onto the gas outlet cock.

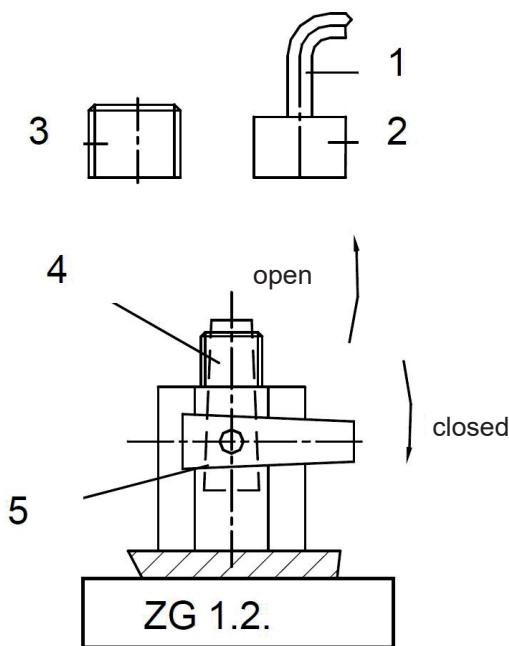


Fig. 4 - Testing over the ZG 1.2



#### ATTENTION

The oil outlet cock is at the bottom of the ZG 1.2.



#### NOTE

Please, see also operating instructions for ZG 1.2.



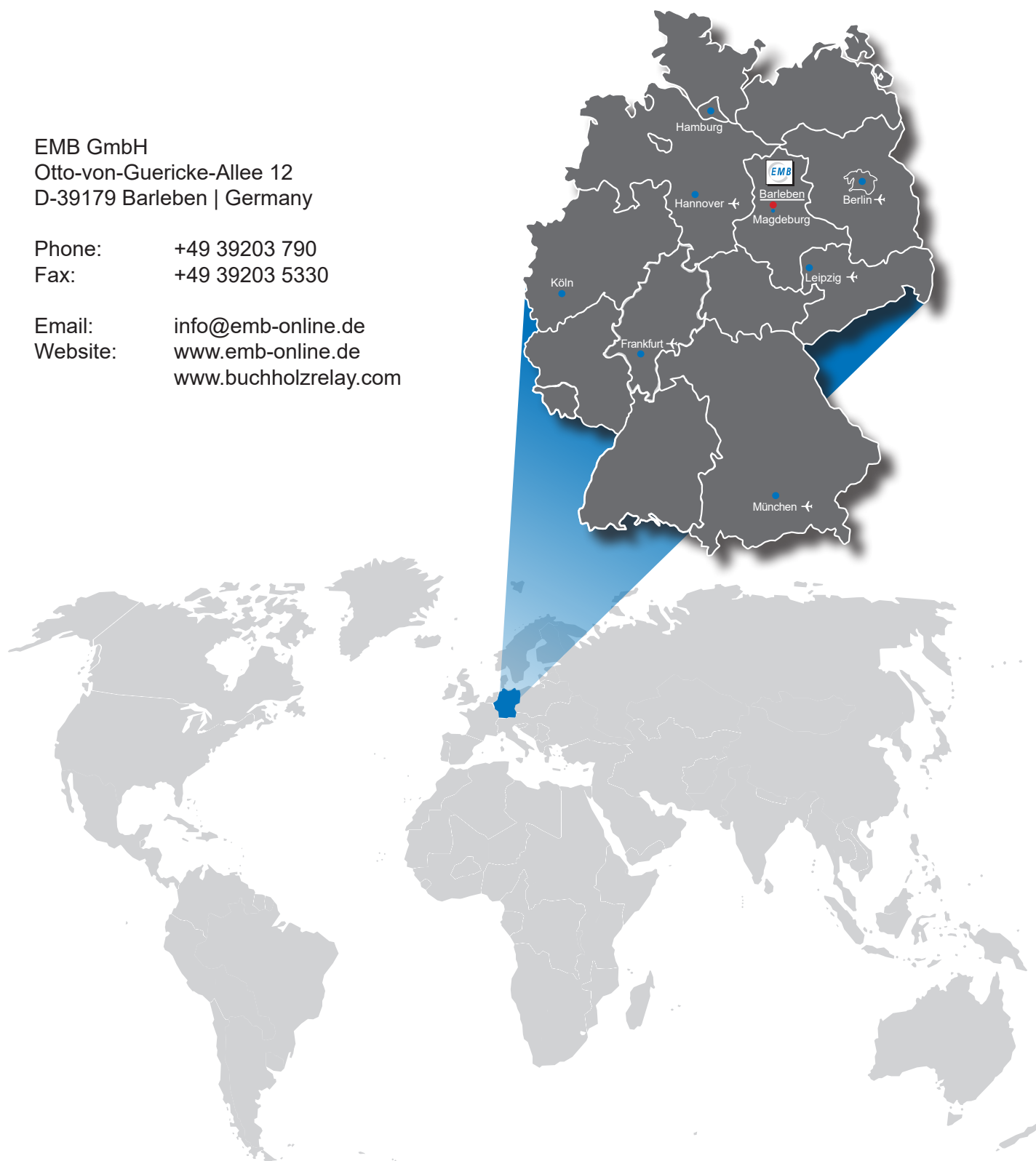


# *Elektromotoren und Gerätebau Barleben GmbH*

EMB GmbH  
Otto-von-Guericke-Allee 12  
D-39179 Barleben | Germany

Phone: +49 39203 790  
Fax: +49 39203 5330

Email: [info@emb-online.de](mailto:info@emb-online.de)  
Website: [www.emb-online.de](http://www.emb-online.de)  
[www.buchholzrelay.com](http://www.buchholzrelay.com)



Due to technical improvement of our products, the information contained in these operating instructions is subject to change without notice. We would like to apologize for any printing errors which have not been found despite of intensive proof-reading.

Edition: Operating instructions Test pump ZG 5.1. and ZG 5.2. BA 15/01/21/02 English