TDC ENGINEERING EXCELLENCE

TEST EQUIPMENT RENTAL SERVICES

When you rent Test Equipment from TDC, we want you to know that you will have a dedicated personal service from start to finish. Our Customer Service team is here to support you throughout your rental period.

TDC are independent specialists promoting all high quality manufacturers and instrument types. Equipment can be delivered Next Day or Same Day to suit your requirements.

When you are finished, simply contact us to arrange your equipment collection or alternatively you can despatch it back to us – we make it easy.

RENTING FROM TDC JUST MAKES SENSE

By using TDC Test Equipment Rental Solutions, you benefit from our extensive rental inventory that is second to none. We constantly refresh our equipment range with branded equipment manufacturers such as Megger, FLUKE, Chauvin Arnoux, OMICRON, FLIR, b2 HVA, Agilent Technologies, Dranetz BMI, Fujikura, JDSU, Ametek Jofra, GE DRUCK, RAE Systems, TSI Airflow, Rohde & Schwarz, NORBAR, PANAMETRICS, Tektronix and many more.

You can utilise our rental equipment to suit your own requirements, from one week to as many months as you need. You only pay for what you use down to the day. Renting with TDC is straightforward and easy. Our expert Sales and Applications Engineers will find the best solution to suit your application.

Delivery & Collection is arranged by us - we make it hassle free and easy.

TDC 6 POINT RENTAL GUARANTEE - OUR REPUTATION MATTERS

1 SAME DAY DISPATCH

Many of our customers operate to very strict deadlines. Providing the order is placed and confirmed before 3pm, your equipment will be despatched the same day.

2 QUALITY

All Equipment is checked prior to dispatch to ensure it is servicable and in safe working order. Certification checks are standard.

3 SUPPORT

We will provide you with enough information to make an informed choice of the correct equipment required for your application.

4 PRICE

We offer a simple price match promise.
We'll match any genuine competitor quote.

5 CUSTOMER SERVICE

We can promise that throughout your rental period, we will do our utmost to provide you with the best customer service. All information we provide is in good faith and free of charge. We will provide a quote for any consultancy or professional advice that may be required.

6 REPUTATION

We know we are only as good as our last job. We don't just want regular customers - we want to build loyal customers.

For all enquiries, please contact: Gordon Thow (Test Equipment Rental Manager)

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Megger

TEST EQUIPMENT RENTAL SERVICES

VIDAR Vacuum Interrupter Tester

Datasheet

VIDAR
Vacuum Interrupter Tester

- **Tests the integrity of vacuum interrupters quickly, safely and easily**
- **User defined voltage selection**
- **Extensive voltage range**
- **Easy to operate. Follows ANSI/IEEE standardized DC test methods**
- **Lightweight and portable**

Description

When a vacuum circuit breaker is commissioned or undergoes routine tests, it is very important to be able to ascertain whether or not the Vacuum Interrupter (VI) is intact before putting it back into operation.

VIDAR enables you to check the integrity of the vacuum interrupter quickly and conveniently by means of the known relationship between the flashover voltage and the vacuum interrupter. A suitable test voltage (DC) is applied to the breaker, and the result is known immediately.

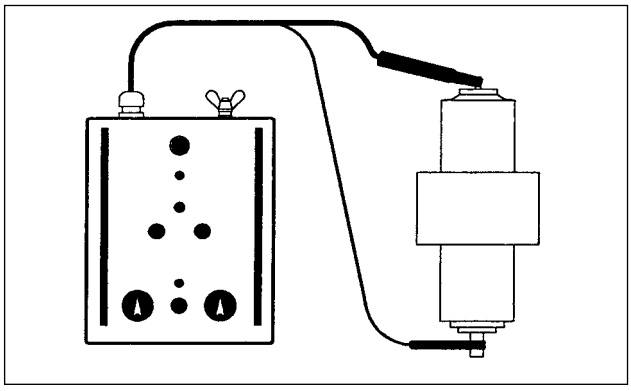
VIDAR permits you to select among test voltages from 10 to 60 kV DC. One of these voltages is customized and specified by the customer when ordering. A green lamp indicates approval of the VI. A red lamp indicates that it is defective. Two-hand control and a high-voltage warning lamp enhances safety.

VIDAR has been developed in close collaboration with leading manufacturers of vacuum circuit breakers. It weighs only about 6 kg (15 lbs), and it is easy to use since interrupters do not have to be dismounted for testing. VIDAR is therefore ideal for use in the field or shop floor applications.

Applications

The VIDAR vacuum tester is used to test the ability of the VI in a vacuum circuit to inhibit flashover. The rugged, lightweight, compact and portable VIDAR is ideal for field work and shop floor applications.

The VI in vacuum breakers do not last forever. Leakage starts after years or decades and the interrupters fill with air making the breaker unreliable. In most cases, the leakage process is rapid once it has started. In addition to leakage, dirt on the poles and on the exterior surface of the interrupter can make it unsafe during operation. The mechanics of the breaker can become misaligned so that the distance between the poles no longer is adequate. VIDAR, introduced in 1985, uses high voltage DC to test the integrity of vacuum breakers.

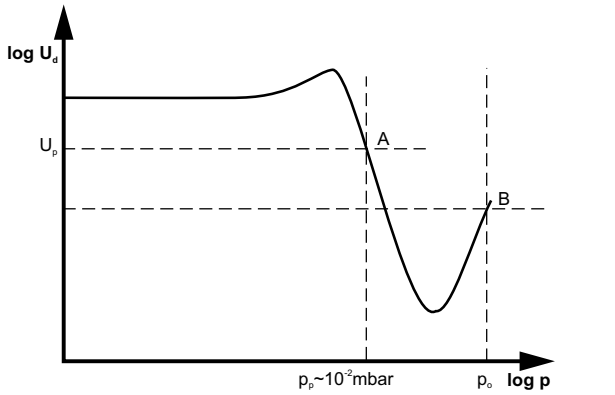


Connection diagram for the VIDAR

Flashover Threshold Voltage

The curve shown in Fig. 1 illustrates the relationship between the VI's internal pressure and its ability to inhibit flashover. This relationship permits the vacuum to be checked indirectly by measuring the voltage threshold. One special advantage of this method is that you do not need to disassemble the circuit breaker in order to test it.
The voltage shall be selected so that test point A is sufficiently far from point B (when the chamber is filled with air). However, the electric stress in the chamber must not be too high. In normal situations, the pressure is less than 10^{-2} mbar.

For guidance on test voltage refer to IEC 694 and ANSI C37-06 standards

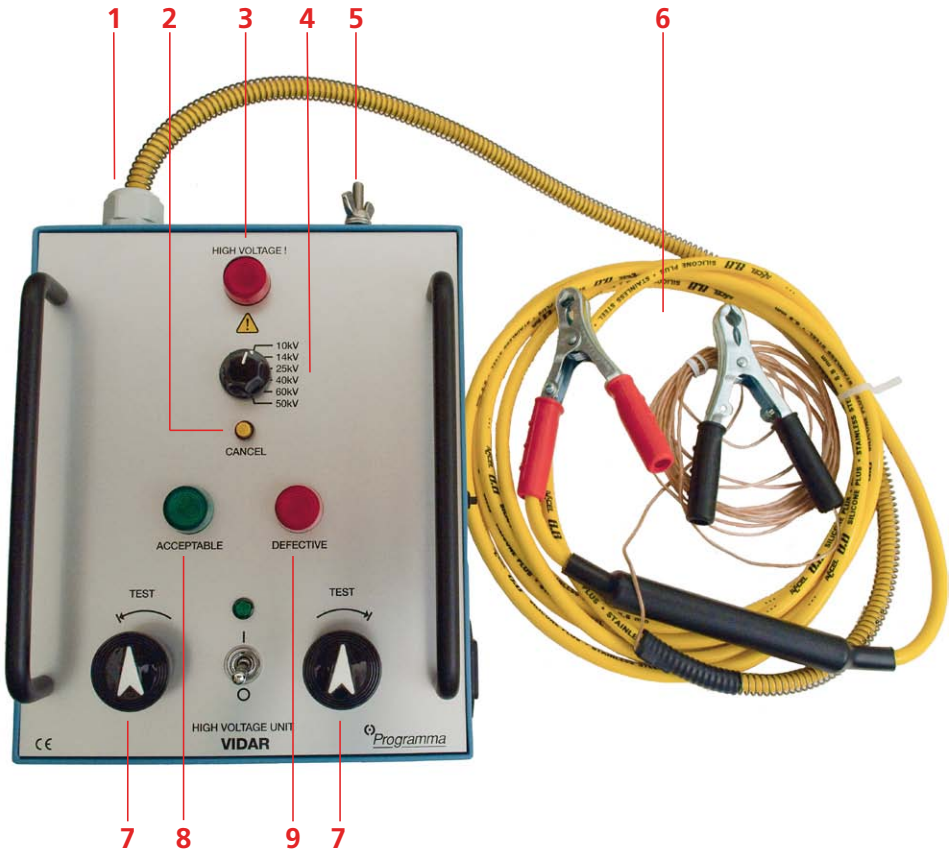


p	Interrupter pressure	U_d	Breakdown voltage
p_o	Atmos. pressure	U_p	Test voltage
P_p	Max. pressure on passing voltage test		

Fig. 1: Flashover threshold voltage plotted against pressure in vacuum interrupter.

Features and Benefits

1. **High voltage cable**. For connection of the test voltage and ground to the vacuum breaking chamber.
2. **CANCEL lamp**. Lights up when:
   - the test interval has exceeded one minute.
   - you try to conduct a one minute test less than two minutes after the latest test.
   - the HIGH-VOLTAGE indicator malfunctions.
3. **HIGH-VOLTAGE warning lamp**. Shows that the high voltage is applied.
4. **Test voltage selector.** 10 to 60 kV DC. One of these voltages is customized and specified by the customer when ordering.
5. **Protective earth** (ground) terminal.
6. **Large test clip connectors** – provides for quicker connection and more efficient testing process
7. **TEST Safety control knobs**. Both knobs must be turned simultaneously to apply high voltage to the test object.
8. **ACCEPTABLE green lamp.** Lights up when the breaking chamber test result is positive.
9. **DEFECTIVE red lamp.** Lights up when the breaking chamber test result is negative, when the flashover threshold voltage is too low.



Specifications VIDAR

Specifications are valid at nominal input voltage and an ambient temperature of +25°C, (77°F). Specifications are subject to change without notice.

Environment

Application field	The instrument is intended for use in medium and high-voltage substations and industrial environments.
Temperature	
Operating	0°C to +50°C (32°F to +122°F)
Storage & transport	-40°C to +70°C (-40°F to +158°F)
Humidity	5% – 95% RH, non-condensing

CE-marking

LVD	2006/95/EC
EMC	2004/108/EC

General

Mains voltage	115/230 V AC (switchable), 50/60 Hz
Power consumption	69 VA (max)
Protection	Overload cut-out
Dimensions	
Instrument	250 x 210 x 125 mm (9.8" x 8.3" x 4.9")
Transport case	460 x 430 x 210 mm (18.0" x 17" x 8.3")
Weight	6.9 kg (15.5 lbs) 10.7 kg (23.6 lbs) with accessories and transport case

Measurement section

Indicators

Green lamp	Indicates an approved breaking chamber
Red lamp	Indicates a defect breaking chamber, lights up if the current exceeds 0.3 mA
Yellow lamp	Indicate that the test was interrupted

Output

Standard voltages, switchable	10, 14, 25, 40 and 60 kV DC
Customized voltage	Between 10 and 60 kV DC. Determined at the factory. Default voltage is 50 kV.
Ripple	Max 3%

Ordering information

Item	Art. No.
VIDAR	
Included accessories:	
Permanently mounted cable set 5 m (16 ft), ground cable and transport case (GD-00030)	BR-29090

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www.megger.com

To differentiate our organisation in order to achieve continuous, sustainable growth, TDC endeavours to fully understand and exceed the expectations of our customers, and to work proactively to deliver Engineering Excellence.

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