

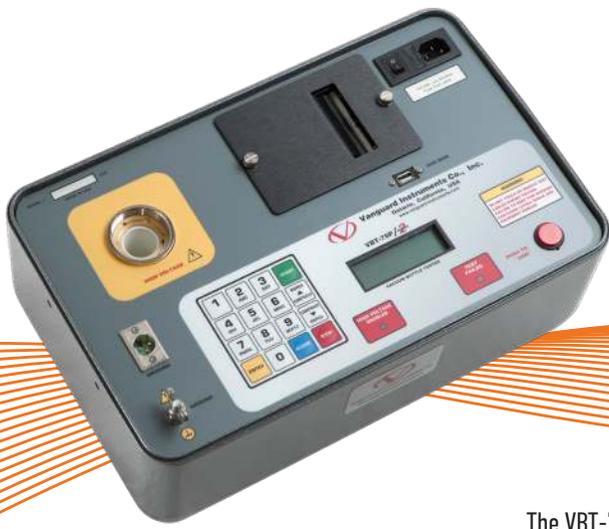
# VBT-75P S2

vacuum bottle tester



Vanguard Instruments  
A DOBLE COMPANY





# VBT-75P S2

## vacuum bottle tester

### outstanding features

- Automatic testing
- 10 kV – 75 kV DC output in 1 kV steps
- Selectable test time duration from 5 seconds to 2 minutes
- Built-in 2.5" thermal printer
- Stores 84 records (of 16 readings each)
- Failure indicator LED
- Very lightweight (12 lbs. / 5.44 Kg)

### ordering information

Part No.	Description
9135-UC	VBT-75P S2 and cables
9135-SC	VBT-75P S2 shipping case
TP3-CS	TP3 thermal printer paper (36 rolls)

The VBT-75P S2 is Vanguard's second generation microprocessor-based, portable 75 kV dc vacuum bottle tester. This lightweight, portable tester is designed for testing circuit-breaker vacuum bottles in the field and at the shop.

Test voltages can be selected from 10 kV dc to 75 kV dc in 1 kV steps. The high voltage test time can be set from 5 seconds to 2 minutes. The test voltage is raised to the selected voltage and held for the test time duration. After the test time duration has elapsed and the leakage current did not pass the preset value of 100  $\mu$ A, 200  $\mu$ A, or 300  $\mu$ A, the test voltage is returned to zero and a "Pass" message is displayed. If a flash-over condition occurs, such as bottle failure, the test voltage is immediately turned off, a "Failure" message is displayed on the LCD screen, and the "TEST FAIL" LED light on the unit is also illuminated.

The presence of high voltage is indicated by an audible tone and an illuminated "HIGH VOLTAGE" LED light. For additional operator safety, an "ARM" switch must be held down during testing.

The VBT-75P S2 features a back-lit LCD screen (20 characters by 4 lines) that is viewable in both bright sunlight and low-light levels. A rugged, 16-key, membrane keypad is used to control the unit. Test results can be printed on the built-in 2.5" wide thermal printer.

The VBT-75P S2 can store up to 84 records of 16 readings in Flash EEPROM. Test records can be retrieved and printed on the built-in thermal printer, or they can be transferred to a PC via the unit's USB Flash drive port. The VBT-75P S2's firmware can also be updated in the field via the same USB Flash drive port. Windows-based software is provided with each unit. Using this software, test records can be retrieved from the VBT-75P S2 and then stored on the PC for future analysis and report generation. Additionally, test records can be exported in PDF, Excel, and XML formats.

The VBT-75P S2 is furnished with a 10-foot test cable that is terminated with a quick-disconnect test clip. A transportation case is also included.

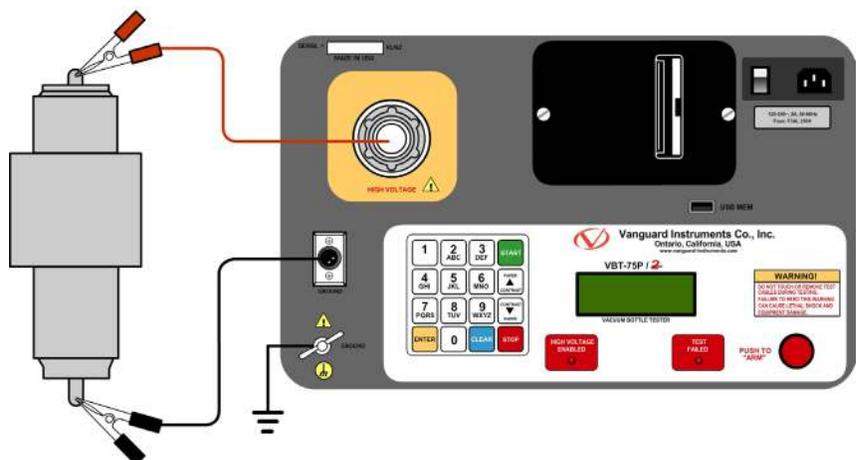
### Sample Test Results Screen



Test Voltage

Leakage Current

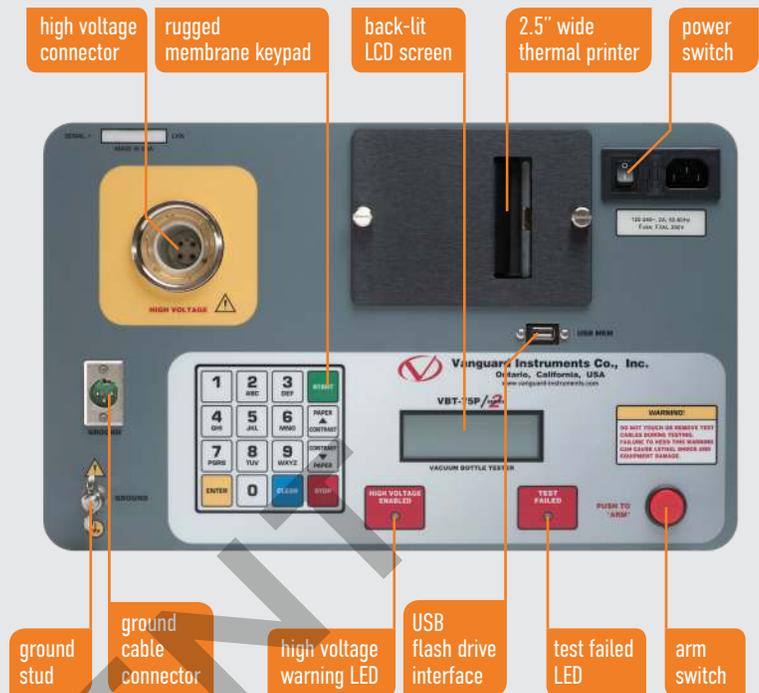
### VBT-75P S2 connections



## Thermal Printer Output

TEST RESULTS	
DATE: 02/09/17	TIME: 07:39:01
COMPANY:	VANGUARD
STATION:	SHOP
CIRCUIT:	15KV
MFR:	ABB
MODEL:	681A308H24
S/N:	9809182201
KVA RATING:	
OPERATOR:	
TEST VOLTAGE:	75 KV
TEST LIMIT:	300 $\mu$ A
TEST TIME:	0:10
LAST MEAS CUR:	98.08 $\mu$ A
LAST MEAS VTG:	80.2 KV
<b>TEST PASSED!!</b>	
NOTES:	
TEST VOLTAGE:	75 KV
TEST LIMIT:	300 $\mu$ A
TEST TIME:	0:10
<b>TEST FAILED!!</b>	
NOTES:	
DATE: 02/09/17	TIME: 07:39:01

## VBT-75P S2 Features



## VBT-75P S2 technical specifications

 <b>physical specifications</b>	<b>Dimensions:</b> 17" W x 10 1/2" H x 6 1/2" D (42.7 cm x 26.9 cm x 16.5 cm) <b>Weight:</b> 12 lbs. (5.44 Kg)	 <b>input power</b>	90 – 240 Vac, 2A, 50/60 Hz
 <b>output voltage</b>	10kV – 75 kV dc in 1 kV steps; accuracy: 1.5%	 <b>output ripple voltage</b>	3% max
 <b>discharge time</b>	maximum discharge time for internal high voltage is 3 seconds	 <b>display</b>	back-lit LCD (20 characters x 4 lines); viewable in bright sunlight and low-light levels
 <b>failure indicator</b>	failure indicator LED illuminates when test current exceeds 100 $\mu$ A, 200 $\mu$ A, 300 $\mu$ A (programmable)	 <b>keypad</b>	rugged membrane keypad (10 alphanumeric keys, 6 function keys)
 <b>internal data storage</b>	stores up to 84 records of 16 readings each	 <b>printer</b>	built-in 2 1/2" wide thermal printer
 <b>pc software</b>	Windows®-based software is included with purchase price	 <b>computer interface</b>	USB Flash drive port for test record storage and firmware updates
 <b>temperature</b>	<b>Operating:</b> -10°C to +50°C (+15°F to +122°F) <b>Storage:</b> -30°C to +70°C (-22°F to +158°F)	 <b>humidity</b>	90% RH @ 40°C (104°F) non-condensing
 <b>cables</b>	one 10-foot high-voltage cable, one 10-foot high voltage return cable, one ground cable, one power cord	 <b>altitude</b>	2,000 m (6,562 ft) to full safety specifications
 <b>furnished accessories</b>	shipping case	 <b>warranty</b>	one year on parts and labor

**NOTE :** the above specifications are valid at nominal voltage and ambient temperature of +25°C (+77°F). Specifications are subject to change without notice.



## Instruments designed and developed by the hearts and minds of utility electricians around the world.

Founded in 1991 and located in Ontario, California, USA, Vanguard Instruments™ offers a wide range of diagnostic test equipment that accurately and efficiently measures the health of critical substation equipment, such as transformers, circuit breakers, and protective relays.

Our first product was a computerized, extra high voltage (EHV) circuit breaker analyzer, which became the forerunner of an entire line of EHV circuit breaker test equipment.

Over the years, our portfolio has grown tremendously to include microcomputer-based precision micro-ohmmeters; single- and three-phase transformer winding turns-ratio testers; transformer winding-resistance meters; mega-ohm resistance meters; and a variety of other application-specific products.

Our instruments are rugged, reliable, accurate, and user friendly. They eliminate tedious and time-consuming operations, while providing fast, complex test-result calculations. Using our equipment helps reduce errors and eliminates the need to memorize long sequences of procedural steps.

In 2017, Vanguard Instruments became a part of Doble Engineering Company, an energy industry leader in hardware, software, and services that diagnose and monitor the health of critical assets.



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