

Millimeter Wave Wide-Range BWO Sweepers



- 37-170 GHz in 7 bands
- Frequency accuracy 0.01%
- Full waveguide sweep in all bands
- Fully packaged and automated
- Program from front panel or GPIB bus
- Remote controlled, phase lockable
- Bias tuneable for AFC
- High output power

Applications

- Instrumentation automated subsystems
- Laboratory measurement and test equipment
- Source for Network Analysers, Plasma diagnostics and spectrometry
- Sweeping Heterodyne Receivers, frequency and spectrum analysis for gyrotrons

Description

ELVA-1 recently designed this new series of BWO sweepers. The new device design has a number of advantages compare to its predecessor. Particularly, the remote module with BWO tube allows using it at hard-to-reach places within tokamaks and other types of huge equipment plant in research centers. With the remote BWO module, the ELVA-1 sweeper can be installed quite away, somewhere near a scientist's workdesk. Another great advantage of new series of BWO sweepers is its new power supply unit that allows feed up to few BWO tubes even with different working frequencies. Thanks to this new power supply, the total cost for wide-band sweeper can be well reduced.

The SGMW-X series is fully packaged sweeper series. The sweeper consists of external module with BWO-X series and power supply. The device contains all the electronic circuitry and power supplies required to provide the operation of BWO. PC compatible microcomputer integrated into the device provides operating control of the system. The sweeper self-tests at turn-on. BWO tube is fully protected against improper voltage connections. High voltage monitor is built-in. There is input for control of frequency by means of an external voltage. Phase locking possibility is provided. One power supply can be used with different BWO.



2 Voroshilova, 193318, St. Petersburg, Russia
Tel: +7-812-326-5924, Fax: +7-812-326-1060
E-mail: sales@elva-1.com INTERNET <http://www.elva-1.com>

Specifications BWO-X series

MODEL NUMBER	BWO-Q	BWO-U	BWO-V	BWO-E	BWO-W	BWO-F	BWO-D
Frequency Range, GHz	37-54	40-60	50-75	60-90	75-110	90-140	110-170
Output waveguide size, mm	5.69x2.84 WR22	4.8x2.4 WR19	3.8x1.9 WR15	3.1x1.5 WR12	2.54x1.27 WR10	2.03x1.02 WR8	1.7x0.83 WR6
Waveguide Flange	UG-383/U	UG-383/U-M	UG-385/U	UG-387/U	UG-387/U-M	UG-387/U-M	UG-387/U-M
Minimum CW power, mW	50	100	25	25	25	35	25
Typical peak power, mW	150	200	80	80	90	110	80

Common Specifications

Frequency accuracy in the CW mode, %	±0.01
Fullband Sweep Time, s	1
Maximum CW frequency stability for 15 min	±2·10 ⁻⁴
Residual FM max	±2·10 ⁻⁵
Output power regulation range, dB	0-10...20**
Output VSWR	1.5
Internal square-wave modulation frequencies, kHz	1-100
External square-wave modulation frequencies, kHz	1-100
Voltage for External Frequency Control, VDC	0 ... +10
Voltage for External Power Control, VDC	0 ... +10
Operating temperature range, C°	+5...+40
AC Input Voltages:	220 V, 50 Hz (110V/60Hz*)
Consumed power, VA	400
Size Power Supply, mm	490 x 240 x 270
Weight Power Supply, kg	25
Size BWO module, mm	150 x 180 x 200
Weight BWO module, kg	4
Length of connection cable, m	1...3 (specify in order)

* These features are not included in basic models. Available optionally upon request.

** No specified

How to Order:

Specify Model Number **SGMW-X-A**, where

X - type of BWO tubes

W - power supply with BWO-W

WD - power supply with BWO-W and BWO-D

A - length of cable in meters.

Example: To order BWO sweeper meets the following specification: operation frequency 75-110 and 110-170 GHz 1.5m connection cable, should be ordered as **SGMW -WD-1.5**

Delivery time 8-12 weeks for all models.

All ELVA-1 sweepers are warranted for one year after receipt.



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