

# Impedance Tube

**SW420 | SW470 | SW422 | SW477 | SW420R**

BSWA SW series Impedance Tubes can accurately measure sound absorption coefficients and impedance according to relative ISO and ASTM standards. They also support the sound transmission loss measurements based on the Transfer Function Method. The Transfer Function Method separates the incident and reflected energy from the measured transfer function, and then estimates the acoustic properties of the tested sample installed in the tube.

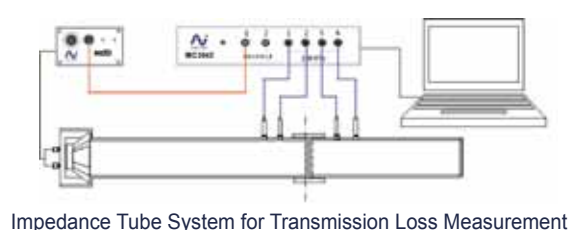
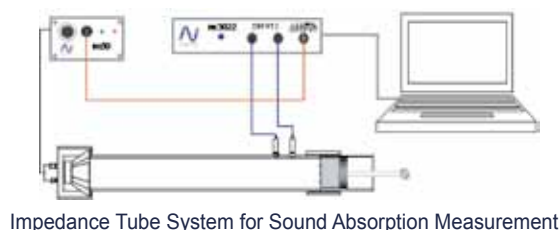


The SW ISO 10534-2 and ASTM standards series Impedance Tubes are specially designed to work with the cut samples. The small size and durable aluminum construction make it easy to be transported for field use.

ISO 13472-2: 2010 specifies a test method for measuring in situ the sound absorption coefficient of road surfaces with impedance tube. This method enables evaluation of sound absorption characteristics without damaging the surface. SW420R is designed according to ISO 134722, and the performance satisfies the requirement of ISO 13472. The test results can be used to qualify the absorption characteristics of road surface for vehicle, tyre testing and other traffic noise studies. However, the field of application is limited to low absorption surfaces, such as those in accordance with ISO 18044. The method is not reliable if the measured sound absorption coefficient exceeds 0.15.

The use of SW420R is the same as description in ISO 10534, VA-Lab IMP module can be used with SW420R.

BSWA offers the complete set of Impedance Tube system, which includes: the tubes, microphones; DAQ hardware and measurement software.



## SPECIFICATIONS

Impedance Tube				
Model	SW420	SW470	SW422	SW477
Value to be Measured	Sound Absorption Coefficient ( $\alpha$ )		Sound Absorption Coefficient ( $\alpha$ ) and Transmission Loss (TL)	
Standard	GB/T-18696, 2-2002, ISO10534-2, 1998 ASTM E1050-08, ISO 13472-2 (SW420R)		Sound Absorption Standard: GB/T-18696, 2-2002, ISO10534-2, 1998; ASTM E1050-08; ASTM E2611-09	
Frequency Range (Hz)	63 ~ 1800	800 ~ 6300	63 ~ 1800	800 ~ 6300
Inner Diameter of Testing Tube	100 mm	30 mm	100 mm	30 mm
Loud speaker	4 " in diameter, 20 Watts, 8 Ohm			
Optional Items Provided by BSWA				
1/4" Microphone	MPA416			
Data Acquisition Card	MC3022+PA50 or MC3622		MC3242	
Power Amplifier	PA50			
Software	VA-Lab2 Basic + VA-Lab2 IMP-A		VA-Lab4 Basic + VA-Lab4 IMP-AT	