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(54) Title of the invention : IMPEDANCE TUBE WITH SOUND ABSORBING CONICAL LINER BACKED BY CONICAL CAVITY TO MEASURE ACOUSTIC IMPEDANCE

(51) International classification :F02C0007045000, H04R0001080000, G10K0011172000, F02K0001820000, F02C0007240000 (86) International Application No :NA Filing Date :NA (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA	(71)Name of Applicant : 1)INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD Address of Applicant :Dhanbad - 826004, Jharkhand, India Dhanbad ----- Name of Applicant : NA Address of Applicant : NA (72)Name of Inventor : 1)Nandan Kumar Jha Address of Applicant :Department of Mechanical Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, Dhanbad – 826004, Jharkhand, India Dhanbad ----- 2)Vikram Address of Applicant :Department of Mechanical Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, Dhanbad – 826004, Jharkhand, India Dhanbad ----- 3)Rabindra Nath Hota Address of Applicant :Department of Mechanical Engineering, Indian Institute of Technology (Indian School of Mines), Dhanbad, Dhanbad – 826004, Jharkhand, India Dhanbad -----
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(57) Abstract :

The invention relates to an impedance tube (1) with sound absorbing conical liner backed by conical cavity to measure acoustic impedance. The tube consists of (i) upstream impedance tube (ii) Downstream impedance tube (iii) diverging adapter (iv) diverging cavity (v) microphone holder (vi) bias flow supply tube (vii) converging acoustic liner (viii) diverging acoustic liner (ix) converging adaptor. Lengths of upstream and downstream impedance tube are used as 1500 mm and 200 mm respectively. Acoustic pressure measurement are done through microphone flux of microphone holder (6). A conical perforated liner (7,8) backed by a conical cavity (4) are configured for higher sound absorption. Liner and cavity sections are configured with respective cone angles.

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