Low noise wind tunnel

This all steel suction type wind tunnel is housed in the Department of Aerospace Engineering and has many unique features. For example, it has high aspect ratio honeycomb constructed out of thin acrylic sheet and 5 very fine stainless steel screens in the settling chamber followed by a 9 to 1 contraction for excellent quality flow with good uniformity and low turbulence level in the test section measuring 3' x 3' in cross section and 8' in length. With these not so big dimensions this wind tunnel happens to be the largest size wind tunnel in the state of Maharashtra. The working area is isolated from the fan and the 40 HP motor by locating them in the basement for minimising the noise. The motor speed is varied smoothly by means of a variable frequency drive which can produce the maximum flow velocity of about 20 m/s.

In the recent times, beside academic research, because of increasing awareness about significance of wind loads on different kinds of structures including high rise buildings, a variety of tests have been carried out in this wind tunnel. The following two images of the low noise wind tunnel depict the settling chamber, contraction and part of the test section on the left and the test section with diffuser on the right passing through the window on the working floor.

Prof. S. D. Sharma, Department of Aerospace Engineering, sds@aero.iitb.ac.inå