Square diffuser shall be constructed of electro-galvanized steel with disc deflector and faceplate designed to provide horizontal radial air discharge that adheres tightly to the ceiling from design minimum to maximum airflow. To prevent dumping, minimum airflow shall not be below 50 per cent of the design maximum airflow. Supplier shall submit for approval complete list of diffusers indicating its location, size, design airflow, its compliance with specified pressure loss, room NC and throw to ensure its selection fully comply with project requirements. Supplier shall submit laboratory test report to show how its diffuser performance data are obtained according the specified test standard.

Each diffuser shall be equipped with a dual-purpose disc for airflow balancing and deflection. The disc shall be used for fine balancing and shall adjustable from the room side without special tool by opening the faceplate. Where severe balancing is required, a damper shall be located upstream at the duct takeoff to avoid generated noise from disc dampening.

The diffuser shall be designed for installation on inverted tee bar ceiling of nominal sizes 600 X 600 or 1200 X 600 mm or surface mounted on plaster ceiling. Externally the diffuser shall be insulated behind with 12 mm thick fire retardant closed cell foam. For installation on inverted tee bar, the diffuser shall be suspended from the soffit from above and the weight of diffuser shall not be rested on the ceiling frame. For installation on plaster ceiling the diffuser is suspended from the soffit from above until the diffuser butted against the ceiling.

Matching return air diffuser shall be installed for ceiling return. All air diffusers shall be powder coated to baked white enamel RAL 9010.

Air diffuser shall be of approved brand and sample shall be submitted for approval before ordering.