

Table 11.4: Piping Distribution requirements for LPG Central Tank installations

ITEMS	LPG PIPING DISTRIBUTION, FILLING AND OTHER REQUIREMENTS FOR LPG CENTRAL TANK INSTALLATIONS
7. LPG LEAK DETECTION AND ALARM SYSTEM	<p>i. In order to avoid central deactivation of the gas supply for every kitchen two stages of gas detection system – stage 1 (central Gas Detection System for the building) and stage 2 (local apartment Kitchen Gas Detection System) shall be provided.</p> <p><u>STAGE 1: CENTRAL BUILDING GAS DETECTION SYSTEM</u></p> <p>i. LPG leak detectors shall be approved and listed. (See section 6). ii. Installation of LPG detectors shall be as per manufacturer’s guideline. iii. Gas detection system shall be interfaced with a local alarm connected to a main fire alarm panel. iv. The LPG leak detection control panel shall have modular design for extension of input/output modules. v. LPG leak detection system control panels shall have “low alarm” at 15% LEL and “high alarm” at 30 % LEL. (Lower Explosive Limit). vi. Main LPG supply shall shut-off automatically with 30% LEL. vii. LPG leak detection control panel shall have zone wise indication of LEL concentrations, with zone selection features. viii. The remote emergency shut-off Switch shall be at least 3 m away from the LPG Tank and near the exit stair. It shall be clearly marked and placed at a suitable height for easy access during emergencies. ix. LPG leak detection control panels shall have minimum of following features.. a. Manual Deluge System activation and indication. b. LPG Gas pressure status c. Solenoid valve operation status indication d. Fire Alarm indication e. LPG leak, High indication f. LPG percentage in Tank indication g. Manual shut-off of LPG supply from LPG Tank. x. Sounder with flasher having different alarm tone distinguishable from Fire alarm shall be provided for the facility and it shall be clearly audible.</p> <p><u>STAGE 2: APARTMENT/RETAIL UNIT KITCHEN GAS DETECTION SYSTEM</u></p> <p>i. Kitchen type LPG detectors shall be approved by Civil Defence. See Section 6. ii. LPG leak detectors, Standalone, Kitchen type, shall be installed for Kitchens, LPG consuming appliances, as per manufacturer’s instructions. iii. LPG-leak detector shall be provided, not more than 30 cm from finished floor level and 1.5 m from the cooking and other LPG consuming appliance. iv. The remote emergency shut-off Switch shall be at least 1.5 m away from the appliances and at the kitchen exit door(s). It shall be clearly marked and placed at a suitable height for easy access during emergencies. v. Emergency Shut-off solenoid valve shall be located in the local PRDP and shall be directly controlled by gas detector. vi. Please refer to Figure 11.4.</p>