

**Building Type**

Retail - Large Box

**Project Highlights**

- 31,000 m<sup>2</sup> retail space
- 50,000+ l/s of conditioned ventilation fresh air
- 80,000+ l/s of parking area ventilation in fire and 53,000 l/s in normal mode
- BMS monitoring & control of all MEP equipment
- 158 l/s (2,500 US gpm) fire pumps with sprinklers(ESFR), hydrants, landing valves.
- Natural gas distribution to kitchens.
- 22/0.4 kV transformers 2 MVA x 4 nos.
- 22 kV switchgear for distributing sub-stations.
- 40 kVA CEBS
- < 20m<sup>2</sup>/Ton including fresh air load

**Architect / Client :**

- BSBG / Al Futtaim Group Real Estate

Mario Associates provided the complete engineering, design & post contract installation supervision for one of the largest Ikea-Large Box stores in the Middle East.

From the ETS room design to interface chilled water from district cooling service provider; 22 kVA incomer power with switchgear & transformation by 4 x 2MVA 22/0.4 kV transformers & subsequent distribution; natural gas from metering point to kitchens; ventilation of covered car parking spaces involving handling of over 80,000 l/s in fire mode, design augmented, validated and simulated by CFD modelling; over 50,000 l/s of ventilation fresh air of space pre-cooled by energy recovery system of total enthalphy air to air heat exchangers with run around heat pipes; all engineering & specifications & supervision of installation provided by Mario Associates.

The cooling load of < 20m<sup>2</sup>/TR and a total power demand less than Ikea's own stringent green standards is feature of this project.

A integrated design approach with rigid deadlines and fast track construction brought the project to completion on time & on budget.

