Free Cooling

This datacenter cooler has been specially developed for EDGE Facilities. The free cooling air handling unit has been designed to regulate the interior temperature of the Facilities. Air volumes are regulated on the basis of the interior temperature so that the air feed is kept to a minimum. As a result, the system uses the least amount of energy possible. This design is based on the following:

- Lowest possible environmental impact
- Most simple operation possible
- Fewest components possible
- Lowest energy costs possible

Tizzon

Tizzon is a supplier of EDGE Facilities and manufacturer of air handling units based on phase-change material specially build for the world wide telecom industry

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Working

The system works roughly as follows:

During temperatures of between 10°C and 30°C, cooling is normally provided by air only. Ventilation at a nominal level can cool 3 to 36kW of perceptible IT heatload at a ΔT of 10°C.

The Phase-change material is activated on hot days with temperatures above 24°C. At such times, the Phase-change material absorbs energy and cools the air throughout the day. Retrieval from the cell takes place at a temperature of 27°C.

During cold outdoor temperatures of <10°C, recirculation flow through the site is minimised so that latent heat is stored in the Phase-change material throughout the day. Then, this daytime energy is fed into the system on colder nights.

In case of cold outdoor temperatures, the ventilation flow is reduced to a minimum.

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