

# CHAPTER 3: COMMISSIONING AND MANAGEMENT

500

## 503.04 AIR CONDITIONING - METERING



### INTENT

To individually measure chilled water consumption for demand management and energy savings.

### REQUIREMENT

For all new buildings other than villas, supplied by a central air conditioning source (such as a chiller plant or district cooling) and where cooling energy is delivered individually to several consumers, meters must be installed to measure and record chilled water supply to air conditioning units. It must also provide accurate records of consumption.

- A. Energy meters designed to measure the supply of chilled water must be installed for each dwelling unit, office or tenant. The measuring device must measure the water flow and supply and return temperatures to determine the temperature differential for calculating the amount of cooling energy consumed.
- B. Where a Building Management System (BMS) or Central Control and Monitoring System (CCMS) is installed, metering must be connected to allow real-time profiling and management of energy consumption.
- C. Meters used must be specifically designed for the measurement of chilled water and not for hot water.
- D. All meters must be capable of remote data access and must have data logging capability.
- E. Virtual meters using run-hours are not acceptable as sub-meters.
- F. The meter readings and actual consumption details should only be for demand management and cost allocation purposes.

### SIGNIFICANCE

Air conditioning consumes maximum of energy in a building. When cost of electricity is charged to consumers based on floor area, the individual user or tenant do not have any information on the actual usage and will be unable to reduce the consumption. However, if the chilled water that is supplied to tenants is metered individually, the users will have the knowledge on the consumption pattern and will be able to optimise the usage of air conditioning.

This regulation will help the buildings to develop infrastructure, wherein the users will be able to understand actual consumption of chilled water supply. This would provide an incentive for the user to reduce or optimise the usage of air conditioning, thereby reduction in overall usage of electricity and reduced utility bills.