

APPLICABILITY

This regulation is applicable to all building types except villas. Refer to Table 101.07(1) in Section One - Administration for detailed applicability levels.

IMPLEMENTATION

For the buildings which are in use by multiple tenants and chilled water is supplied from a central chiller plant or a district cooling plant, separate chilled water meter should be provided to each individual user within the building. The meter will be used to measure the actual consumption of chilled water.

Chilled water energy meters are commonly referred as BTU meters. A BTU meter comprises of several components:

- Flow Meter installed in the line
- A temperature transmitter mounted in the supply line to measure the supply temperature
- A temperature transmitter to measure return temperature
- A Flow Computer that will compute the energy flow
- A data logger to log energy consumption data which can be accessed via USB port and/or modem for remote monitoring and recording capability

During design, BTU meter for the measurement of chilled water consumption must be considered for each individual tenant. Chilled water schematic should be developed during design stage to show the regulation compliance along with the meter schedule.

The meters should be specifically designed for measuring the chilled water only not hot water, as there are meters available in the market, which are capable of measuring both. If the building is connected to BMS or Central Control Monitoring System (CCMS) then BTU meters must be connected to it to provide the real time consumption data. Suitable provision should be provided during the design for the BMS / CCMS integration.

Post construction the project team has to provide the approved chilled water schematic showing the BTU meter requirements. The technical data sheet according to the regulation requirement must be submitted along with the delivery notes.

Example

The ultrasonic BTU meter can be used for residential and small tenant space where the total chilled water demand is less (fig. 503.04(1)).



Fig. 503.04(1): Ultrasonic BTU Meter

The magnetic type BTU meter can be used for larger establishments where the chilled water demand is higher (fig. 503.04(2)).