

ABSTRACT

Nowaday, with the wide spread of computers, plumbing engineering designs of accurate results and time reduction algorithm are of most necessity.

In this work programable algorithms and design procedures of water distribution systems in building have been presented, analysed, programed, and tested.

For the design - flow rate of cold and hot water systems three alternative methods of computations have been tested, compared, and introduced in programable composition.

The critical path method have been followed in computing residual heads at the nodes of system. For pipe sizing and head loss calculations the Darcy's equation has been used taking into consideration that variable friction factor and variable percent value of minor losses due to equivalent lengths give more accurate results.

Hot water-recirculation system has been analysed and a computation procedure for discharge - head capacity of circulation pump has been proposed.

Simple computer programs have been written for excution of design algorithms. Simplicity is meant in order to put these programs meanable for concerned engineers.