7. It is best not to connect a meter body to more than one service.
8. Special instructions are furnished for metering a turbulent or pulsating flow.

Meter for Hot Water

The lack of a suitable meter for the measuring of the water supplied in a hot water heating system has been in a great measure responsible for the unpopularity of district heating with hot water.

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Chapter 25

EXHAUST SYSTEMS FOR DUST AND REFUSE

Types of Systems; Important Requirements for An Efficient System; Air Velocity Required; Typical Layout and Calculations; Selecting the Fan; Collectors; Design of Hoods; Conveyor Pipes; Maintenance of System.

THE removal of dust and refuse created in factory and mill operations must be properly provided for in accordance with definite statutory requirements in many states. The type of system to be used is determined by the industry served, kind of material handled, and the work to be accomplished.

TYPES OF SYSTEMS

There are two general arrangements, the central and the group systems. In the central system a single or double fan is located near the center of the shop with a piping system radiating to the various machines to be served. In the group system, which is sometimes employed where the machines to be served are widely scattered, small individual exhaust fans are located at the center of the machine groups. The group arrangement has the advantage of flexibility.

Exhaust systems are also classified by the means employed to collect dust or other material handled. The dust or refuse may be collected and controlled by enclosing hoods, open hoods, inward air leakage or by exhausting the general air of the room.

With some classes of machinery it is not feasible to closely hood the machines and in these cases open hoods over or adjacent to the machines are provided to collect as much as possible of the dust and fumes. In this class come such machines as rubber mills, package filling machinery, sand blast, crushers, forges, pickling tanks, melting furnaces, and the unloading points of various types of conveyors.

The open hoods should be placed as close to the source of dust or fumes as possible, with due regard to the movements of the operator.

When the hood has to be placed at some distance above the machine it should be large enough to encompass an area of considerable extent as diffusion is usually quite rapid.

Consideration must also be given to the natural movement of the fumes. For those that are lighter than air the hood should be over or above the machine and where a heavy vapor or dust-laden air at ordinary temperature is to be removed, horizontal or floor connections are required. If it is attempted to remove heavy dust such as lead oxides by an over-