HWE Water Treatment Plants

FILTERATION OF WATER

It has been established that suspended and colloidal matter in water are removed to a great extent by passing the water through a bed of sand. It also changes the chemical characteristics of water and materially reduces the number of bacteria present in it. The process is called as filteration of water.

FILTERABILITY OF WATER

There are limitations of the turbidity of raw water which a filter can handle. During monsoon the turbidity of some river waters go as high as 30,000 J. T. U., which can not be filtered straight away. In such cases the water should be clarified before filteration. Normally the limit of turbidity for filteration is about 40 J. T.U. maximum, but even here the nature of impurities should be studied before predicting the performance of a filter.

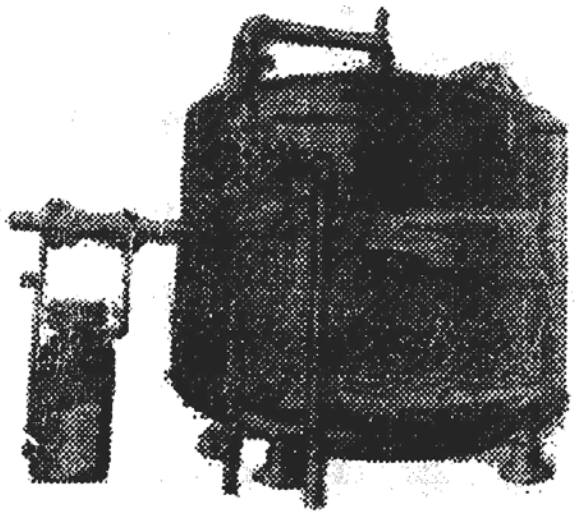

Fig. 1

The Company is at your disposal to recommend the correct procedure which is to be adopted. The quantity water to of be treated and its detailed analysis reports should follow the enquiry.

PRESSURE FILTERS

Pressure filters are used to remove suspended solids from raw water for industrial use and also for drinking purposes for small communities. They are also used for the purification of water in Swimming pools and for pre-treatment of water for all Ion Exchange Treatment plants, otherwise, the Ion exchange resin bed will itself act as a filter and the suspended impurities will be deposited on the resin bed. These impurities will adversely influence the performance of the ion exchange resins and are difficult to remove by normal backwashing of the resin bed.

Normally, for Industrial use the tolerable limit of suspended impurities is about 2 J.T.U. and our filters assure this.

We manufacture the following types of Pressure filters.

(1) Vertical Pressure Filter upto 3M diameter and 1.5M high. (Fig.1)

(2) Horizontal Pressure Filter upto 2.5M diameter and 7.5M long. (Fig.2)

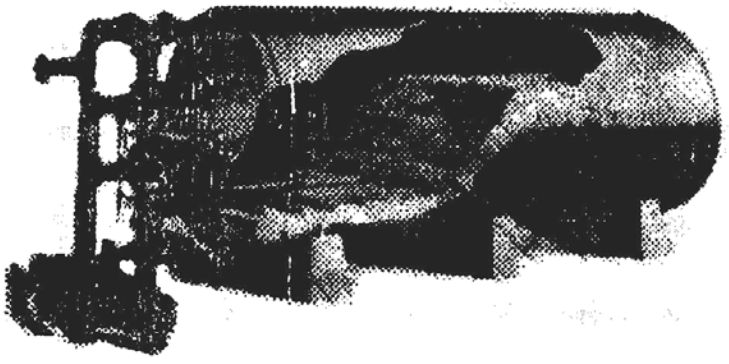

Fig.2

A Pressure filter is a mild steel tank with dished ends. The tank withstands the required pressure. The interior is painted with an approved quality of Anticorrosive

paint and the outer with enamel paint.
It consists of the following :-

(1) Necessary Manholes and Handhole with covers.
(2) Raw Water distributor
(3) Underdrainage system
(4) Frontal pipe lines and Controls.
(5) Gauges to determine the Loss of Head through the filter.
(6) Sampling Cocks.
(7) One complete charge of filter media.
(8) Flow Meter and
(9) Test Kit

The Vertical Pressure filter is supported on legs with Shoe Plates and could be firmly fixed on a concrete platform.

The Horizontal Pressure Filter is so designed that it can be conveniently supported on concrete saddles. If necessary, more than one pressure filter can also be installed.

The minimum working pressure required is 1.5 kg/cm^2 whereas the maximum working pressure is 3.5 kg/cm^2 .

RAPID GRAVITY FILTERS

Rapid Gravity Filters (Fig.3) are used where the quantity of water to be treated is large. These are commonly used for Municipal water supplies . This type of filter is generally associated with Coagulation and Sedimentation for pre-treatment of water. It removes the residual coagulant floc or softening precipitate. Gravity filters give better quality of water.

The Rapid Gravity Filter is a water tight basin. Similar to a pressure filter, it also has an underdrainage system and filter media.

At the outlet the Rate Controller is provided for controlling filtered water flow.

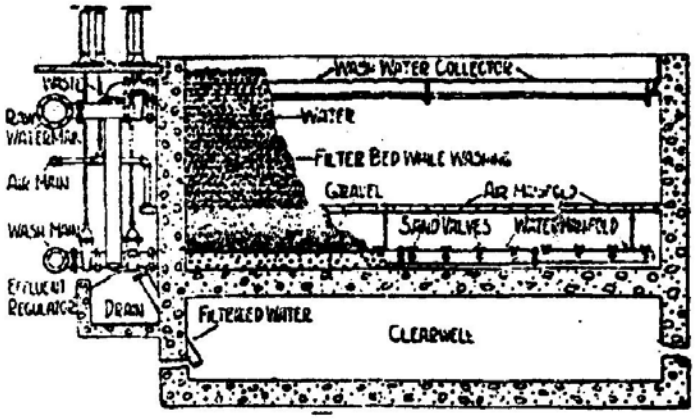

Fig.3

SALIENT FEATURES OF HWE FILTERS

HWE is working in this field since the year 1959 and has specialised in Water Engineering. HWE has designed, manufactured, installed and commissioned number of Water Treatment Plants for Public Health Engineering Department, Municipalities and Railways which are working satisfactorily.

HINDUSTAN WATER ENGINEERING COMPANY

WATER TREATMENT AND HYDRAULIC ENGINEERS

47, INDUSTRIAL AREA, MANDSAUR, M.P. 458 001 INDIA

PHONES : 56133, 41382, 44155 FAX : (07422) 56133