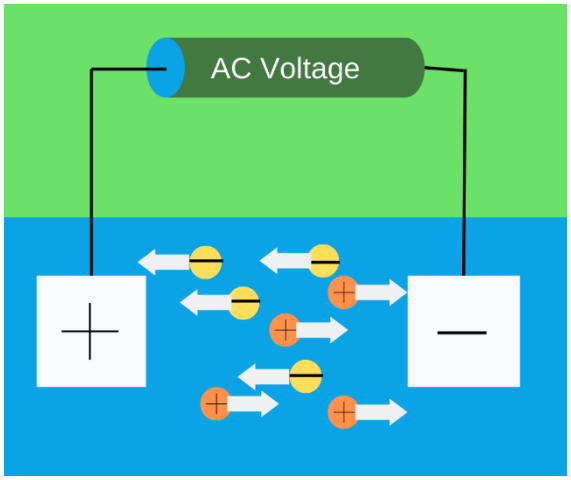
# Using electromagnetic Flow meter for demineralised water application (DM water)

## Which are the low conductivity fluids?

Very pure water types like demineralised water (DM Water), ultrapure water, semiconductor cleaning water or boiler feed water contain very few ions and hence behave almost like an electrical insulator. This makes flow measurement by Electromagnetic principle difficult, as by principle, these types of flowmeters depend upon the electrical conductivity of the measuring fluid.

## What is electrical conductivity of water?




One of the metrics used to assess the quality of water and wastewater is electrical conductivity. Water that contains dissolved impurities or salts, becomes electrically conductive. This electrical conductivity is due the presence of ions contributed by these impurities or salts. More the ions, more the conductivity, as the electrical current passes through the water by means of ions. In other words, if the ion percentage in the water is low, one can assume that the impurity or salt content in the water is low. Such water is supposed to be pure.

## Which type of flow meters are used to measure low conductivity fluid flow?

Typically, mechanical flow meters are used in these cases. However, nowadays it is possible to measure low conductivity fluid flow by using electromagnetic flow meter. Electromagnetic flow meters offer a number of benefits over mechanical meters. Since Electromagnetic Flowmeters are full bore type, there is no obstruction to the flow. Hence there is no pressure drop. Also, these meters do not have moving components and hence work trouble free over a long period. The mechanical flowmeters can choke, jam, deform, rust & become useless over a short period. With Electromagnetic Flowmeters, it is now possible to measure flow rates of fluids having conductivity as low as 2 µS/cm (Micro Siemens/cm).

## What is the solution offered by Manas?


SROAT-1000 Full Bore Electromagnetic Flow Meter offered by Manas, almost perfectly resembles the ideal flow meter, since it can measure a variety of liquid flows, including those with extremely low conductivities.

The measurement is independent of the flowing medium's viscosity, density, pressure, and temperature. The electrical conductivity of steam condensate is usually between 2 to 5 µS. The electromagnetic flowmeters from most of the suppliers, including multinational companies, do not work for this application.

Manas has taken specific efforts & come out with a proper solution for this problem. We have developed a special transmitter & flow sensor that works for liquids having electrical conductivity from 2µS onwards.

We are proud to mention that no other manufacturer in India makes electromagnetic flowmeters that work at such low conductivity levels.

We have successfully installed our flow meters in several industries for low conductivity applications such as steam condensate and DM water.

If you feel, electromagnetic flowmeters don't work at low conductivity, think again!

Try Manas Electromagnetic Flowmeters!