

# Flow Measurement in Paper Mill



## History-

In order to achieve the highest potential performance, the pulp and paper sector is constantly improving its technology. Improved plant performance translates to higher quality and cheaper costs, while also ensuring that the facility operates in an environmentally friendly manner.

There are many crucial applications in the pulp and paper mill to measure the severe process conditions, such as caustic chemicals, aggressive pulp slurry with extremely high temperature and pressure. In these harsh process conditions and critical settings, the key to optimising process control and plant performance is steady and accurate flow measurement and control.

## Steam Flow Measurement-

In paper industry, steam is used for a variety of processes. To generate electricity, high-pressure steam is used in a steam turbine generator. For various process heating applications, such as heating and softening pulp wood chips, medium and low-pressure steam is used. Steam is used to evaporate moisture from pulp and heat rotating dryer drums to dry the paper stock in the paper producing process. In addition, heated steam is transformed into hot condensate, which can be used for other purposes. Usually, the flow of steam condensate is measured to determine how much steam is converted to water.

Steam is a costly as well as important utility. Paper mill needs exact steam flow measurement for billing purposes, as also for systems in which steam usage is important for maintaining quality of the end product.

To make steam flow measurement easy and cost effective, Manas developed a [Steam Flow Meter](#) for saturated (100°C to 300°C) and superheated (300°C to 600°C) steam in closed tubes at pressures up to 30 bar. These are ideally suited for applications requiring exact measurement, as well as cost effectiveness, dependability, and precise process control.

Some of the advantages of Manas Steam Flow Meter are as follows-

- Online density compensation possible because of the online pressure and temperature measurement.
- Online display of compensated mass flow rate, density, temperature and output of DP transmitter is offered. LED indication for status of steam (saturated or superheated) is provided.
- Isolated 4-20 mA dc output proportional to compensated flow rate.
- No moving parts.
- No wiring connections are required during installation.

## Water Flow Measurement-

Despite significant technological advancements, the paper sector continues to be one of the world's largest water consumers. All three stages of paper manufacture, namely pulp production, pulp processing, and paper/paper board manufacturing, as well as the accompanying operations of cooking, bleaching, and washing, require water. Because water is a natural resource that must be carefully monitored, a [water flow meter](#) is utilised in the paper industry.

Manas makes [Electromagnetic Flow Meters](#) which are widely used for accurate measurement of water flow in paper industry.

Some of the advantages of Manas Electromagnetic Flow Meter are as follows-

- This meter is more suitable with those fluids which present difficulties in handling. Fluids such as effluents, slurries, pulps, brines & other highly corrosive liquids, acids & bases, fermenter wash, molasses, etc.
- Measurement is independent of the velocity profile across the diameter of the pipeline.
- No additional pressure drops across the meter which relieves the process designer while sizing his pumping requirements.

For more information how Manas flow meters will help you in your paper mill for accurate measurement, contact us at [digimark@manasmicro.com](mailto:digimark@manasmicro.com) or visit <https://manasmicro.com>