

Fact-sheet - How to monitor the water consumption?



What is the objective?

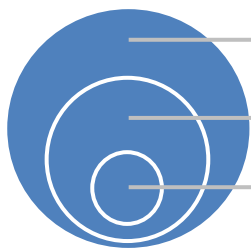
Why the water consumption of the factory has to be monitored?

- 1) To get a clear picture of **the water use breakdown** in the production site and to **identify hotspots to save water**.
- 2) To **calculate the indicator** “average water consumption per unit of product produced” and
 - **Measure** the water savings achieved month by month or year by year;
 - **Compare** it with the average in the industry. This indicator helps the production site to know if its performance in terms of water consumption is above the average (means savings are possible) or below the average (already a good performance).



How to achieve this objective?

Step 1: Install water flow meters to track the different flows of water (incoming fresh water, hot water, wastewater, etc.).
Where water flow meters should be installed? By order of priority:



1. **Factory level:** meters for total water supply. Example: meter at groundwater extraction.
2. **Section/process/utility level:** meters for different production sections, boilers, domestic use, etc.
3. **Single machine level:** meters for energy and water consuming machines.

Examples of water flow meters:

1. Factory level



Meter found outside the factory to measure the total groundwater consumption.

2. Section/process/utility level



Meter found inside a wet process section to measure the water consumption in a given section.

3. Single machine level



Meter found on a machine using water to measure the exact quantity of water used for this given machine.

Step 2: Write a procedure about how to take the readings from the meters and how often (daily for example);

Step 3: Appoint an employee to take the readings and report them in a dedicated note book / document;

Step 4: The manager in charge of the environmental compliance has to **compile** the monthly data in a file and **analyze** the water consumption (compare the consumption month by month and monitor the indicator “water consumption per unit of product produced”).

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- Regularly check the **calibration**¹ of the meters and make sure all meters are **in good conditions** (screen covered to prevent damages from long exposure to rainwater, dust, encrustation, etc.; see pictures of meters not in good conditions in the page 2 (first non-compliance));
- Clearly assign an employee to be responsible of the **maintenance** of the meters.



Common non-compliances

Improper maintenance of meter

On the picture: non readable digits on a dirty screen. The screen is not protected from rain and dust. There should be a cover to protect the screen.



Inaccessible location of meter

The meter is located on a pipeline not easily accessible to take the readings. For example, on the picture below: pipeline just below the roof of the shed.



No analysis of the water consumption

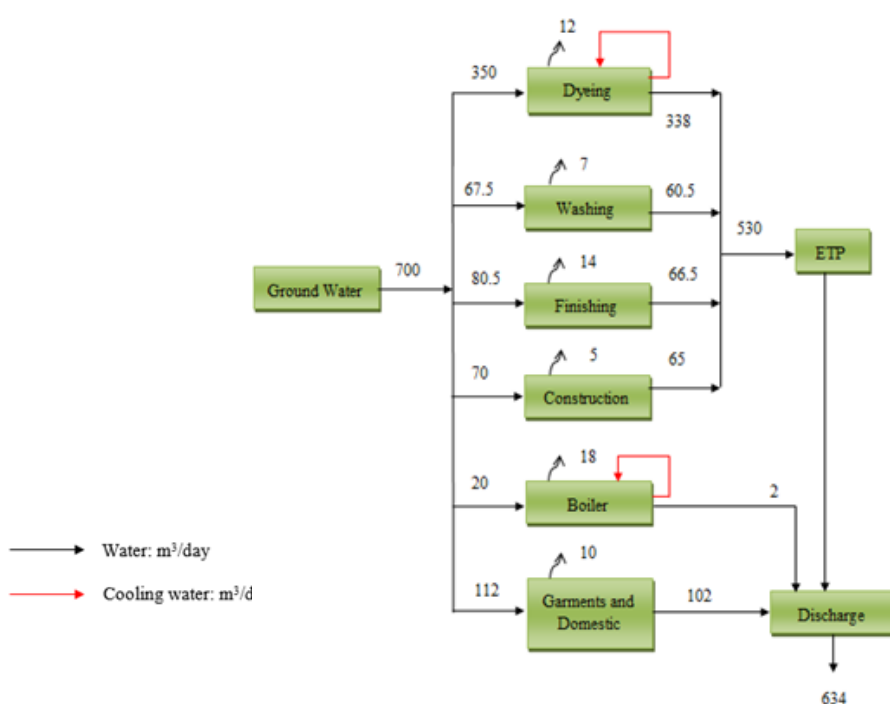
The factory keeps the water consumption records, day by day only, and there is no indicator “water consumption per unit of product produced” calculated and monitored on a monthly basis.

The factory explained they have implemented water savings practices but there is no calculation of the volume of water saved in the water consumption records so there is no evidence of the effectiveness of the actions implemented and the factory cannot communicate on the water savings targets met.



Good practices

The water consumption of a factory can be monitored for different sections and uses to get the diagram as below which clearly shows **the water use breakdown** in the factory and helps to **identify hot spots to save water**:



Water balance diagram

¹ **Calibrate**: to check a measuring instrument to see if it is accurate (Source: Cambridge Dictionary). The calibration of an instrument/tool assures that the measurement errors are minor (the error range is kept within the desired limits).