

CSD [Carbonated Soft Drinks] - What

Starring:

CSD [Carbonated Soft Drinks] are basically non alcoholic, sweet, slightly or little more acidic sparkling beverages. As for example we can name about Coca-Cola, Sprite, Fanta, Pepsi, 7-Up, Mirinda, Mountain Dew etc.

In modern technology, the CSD is the process by which liquid product is Carbomixed in a cold condition, then the product is filled in PET Bottles or Aluminium Can by rotary filler and sealed afterwards. After that a gentle warming is done in a warming tunnel. [the most modern technology revealed the ambient filling for CSD processing]

Steps Include:

- A final batch is prepared with maintaining the recipe parameter.
- Passed through a Carbomixer, where proper proportionate of water is added with CO₂ gas.
- Filled in a container at cold condition [PET Bottles or Aluminium Can].
- Closure application immediate after filling.
- A gentle warming in a warming tunnel.



Figure: CSD filling

CSD filling technology is a cold filling process. In this process, the gas pressure and the product temperature is maintained in a synchronized way to intake the CO₂ gas at a maximum level or as desired. The final batch parameter is set according to the mixing ratio in Carbomixer, hence the process resembles an art of processing.

In final, Carbonated Soft Drink is the beverage on which carbon dioxide gas is infused in high pressure.

Why Industry performs CSD process:

In CSD production the carbonation is must. Carbonate generally the addition of CO₂ to the beverages, take impart in sparkle and a tangy taste as well as preventing the spoilage of the product. CSD product is a chilled items and its cascaded down in enclosure containing CO₂ [CO₂ form CO₂ tank to vaporizer then mixed with liquid] in a conditioned pressure. The gas absorption is done by increasing the gas pressure as well as lowering the product temperature. This CO₂ provides as sparking and tangy taste to CSD product, which makes the differentiation in product.



Figure: CSD product in glass

CSD Process:

Basically CSD is the process where beverages firstly get finalized in tank as syrup batch, then mixed with water in a calculative proportion in cold condition. Then CO₂ gas is mixed with the liquid prior to filling. The filling is also performed at cold condition.

Some steps are involved in CSD process. Generally, the process can be described as below.

- A ready syrup batch is finalized, where the sugar and others ingredients are dosed in such as condition that the ready finalized syrup can be mixed with water at a specific ratio or to make a dilution.
- The ready syrup is pumped to a proportionate mixture unit which can be named as Carbomixer. In the Carbomixer the ready syrup is pumped. Then the ready syrup is mixed with water to get the desired final mixed product, which will be filled as finished goods.
- Afterwards, the diluted or proportionate syrup is subjected to be cold. The purpose of cold liquid is to mix the CO₂ gas with the liquid syrup. CO₂ gas can get mixed with liquid in cold condition. At the same time, the gas pressure is also adjusted. The high pressure of gas and low temperature of liquid ensures the desired gas mixed in the final liquid syrup.
- Then the cooled beverage is filled in a rotary filler in the specific container. Closure application is performed immediately after the filling.
- After Closure application the container or bottle gets passed through a gentle washing tunnel. The purpose of the washing tunnel is to make the normal temperature of the bottle as well as the filled liquid.

Is Carbonated Soft Drinks Acidic?

CO₂ [Carbon dioxide] gas water reacts chemically and produce light strength Carbonic Acid. Carbonic acid is a weak acid but it has a capability to stimulate the Nerve Receptor in our mouth. The dissolved CO₂ gas gets out from liquid portion while opening the closure of bottle. This boost a burning, prickly sensation which makes anybody enjoyable.

The acidic taste as well as sweetness makes these products differentiation from any other drinks. Generally, the pH of carbonated soft drinks ranged from 3.0 – 4.0; which means that CSD is slightly acidic.



CSD – Merits:

- Enjoyable diet
- CSD meets the body fluid requirement
- Improve digestion by improving swallowing ability
- CSD may help relieve from constipation
- Improve satiety after consumption
- CSD may increase the feeling of fullness

