Carbonated Soft Drinks
Process description, features and advantages

**Description**
Dry sugar is dissolved in water either in a batch mix system or in a continuous sugar dissolver. If required, the sugar syrup is pasteurized, transported and stored before further processing. In case no sugar or reduced sugar is used, sweeteners are dissolved in water using a powder mixer.

Added flavors are also dissolved in water before further processing. If concentrates are used they are introduced directly into the mixing process.

All ingredients are mixed either in a batch mixer or by continuous blending in-line using an APV BlendMaster.

The mixed product is pasteurized (if required) before CO₂ is injected into the liquid product through an APV CarboMaster.

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**Process Block Diagram**

- <20% concentrates (for some applications)
- 12 to 15% sugar (if no sweetener)
- <10% sweeteners (if no sugar)
- <3% flavours
- ~65 to 88% water *

**Water treatment**
- Preliminary filtration
- Softening
- Disinfection
- Active carbon filtration
- Water filtration

**Water deseration**

**6 to 10 g/l product CO₂**

**6 to 10 g/l product CO₂**

**Carbonated soft drink**

*Total amount of water used in the process.
Features

- APV can offer a wide range of Mixing and Blending equipment for sugar, powder and liquid dissolving.
- APV Flex-Mix Continuous Sugar Dissolver (CSD) is the optimum solution and is capable of producing sugar syrup up to 72 Bx.
- The optimum solution for in-line blending of multi components is the fully automatic APV BlendMaster capable of storing and handling up to 30 different recipes with a dosing accuracy of each of the individual components of 0.1%.
- Mass meters (option) ensure accuracy and compensate for variations in concentration during operation.
- The APV Pasteurizer has been designed for the gentlest heat treatment of the beverage and long running times can be achieved before cleaning.
- The heart of the CarboMaster is the APV patented CO$_2$ injector which injects liquid into gas with a very high accuracy. This method achieves faster dissolution and the CO$_2$ is tightly bound to the beverage.
- Overall a very high consistency and reproducibility

Advantages

- A continuous mixing and blending system from APV with highly accurate in-line measurement and very fast settling times result in a precise and consistent product, high performance and savings in raw ingredient consumption.
- APV BlendMaster is capable of making a product change within 5 minutes
- The APV patented CO$_2$ injector ensures that the product leaves the injector as a homogenous liquid without residual gas.
- All skid mounted systems are supplied in a compact design minimizing space requirements and allows for easy access of operators.
- Proven functionality and short commissioning time

APV Carbonated Soft Drinks

- APV units and systems are recommended for production of carbonated soft drinks
- Many global brands are being produced on APV equipment

APV is prepared to provide expert technology and application support.

Please contact us for further information or visit us at www.apv.com