



Subject to modifications.

# GEA DISUGAR-H Sugar Dissolving System

## Technical Data

GEA DISUGAR-H is a continuously working dissolving unit for the production and pasteurization of sugar solutions from granulated sugar and water, based on the hot dissolving procedure. The unique selling point is the water fine dosing feature, which ensures highest brix accuracy at all time and self-adjustment of the crystal sugar conveying devices.

After the start of the process, pre-heated water is dosed into the dissolving tank.

As soon as the preset water quantity is reached, granulated sugar starts being conveyed into the dissolving tank. The capacity of the conveyor (e.g. screw conveyor, rotary valve) is adapted by a variable frequency drive.

The sugar can be fed directly into the dissolving tank, or via circulation loop and injection nozzle.

While water is pumped through a regenerative heat exchanger into the dissolving tank in the desired ratio and getting prewarmed by the outgoing syrup which is cooled down. Combined with a special mixing nozzle, the circulation pump generates high turbulences in the dissolving tank, thus enabling a quick dissolution of the sugar crystals in the water.

A part of the circulating solution flows through the regenerative section to a degasser vessel for getting deaerated, means a significant reduction of oxygen content is achieved.

After degassing, the water fine dosing takes place to adjust the Brix. Finally, the standardized sugar solution flows to the heater where it is heated up to the pasteurizing temperature and then filtered. Brix and flow rate control is done via mass flow meter, alternatively, via refractometer.

The sugar solution is then cooled down in the regenerative section (heat recovery) and then in the cooler in counter flow to the incoming dissolving water. An additional cooler can be added, if the water is naturally too warm.

Unless the setpoints for Brix value and temperature are within the admissible deviations, the unit will be automatically switched to circulation until the setpoints are reached again.

This ensures that no non-pasteurized solution can contaminate the sterile part of the unit, and only well pasteurized sugar solution with correct Brix will leave to the storage area.

# Technical data | GEA DISUGAR-H

## Features

- Fully automatic, self-optimizing process with water fine dosing
- Positive pressure gradient at the plate heat exchanger, with monitoring on request
- Low operation costs due to high heat recovery and thermal dissolving process
- Flow rates from 5,000 up to 30,000 l/h (higher flow rate on request)

## The GEA DISUGAR-H system is available with the following options:

1. Buffer vessel for dissolving water
2. Cooler for liquid sugar
3. Water fine dosing
4. Monitoring of positive pressure drop
5. Sugar supply with slurry loop and jet pump
6. Consumption measurement for media and power supply
7. LoTo valves
8. Mass flow meter replacing magnetic flow meter for liquid sugar

Dimensions	Qmax. [l/h]	Design size [DN]	Length* [mm]	Width* [mm]	Height* [mm]	Max. weight approx. [kg]*	Installed power [kW]*
	6,500	40	4,500	2,400	2,800	4,000	22
	12,000	50	5,000	3,200	3,000	4,600	28
	20,000	65	5,600	3,200	3,400	5,800	37
	30,000	80	5,900	3,400	3,600	6,800	45
	*without options						

**Material** AISI 316L/EPDM other materials available on request only

**Granulated sugar** Refined sugar EG2, media

**Nominal flow rate** 5,000 l/h.....30,000 l/h Flow range 80 - 100% of the norm, flow rate, fixed speed

**Concentration** 60° Brix up to 65° Brix +/- 0.1° Brix at cont. operation Option 3

**Pasteurization** 85 - 90°C, 30-45 seconds

## GEA Liquid Technologies Germany GmbH

Voss-Str. 11/13  
31157 Sarstedt, Germany  
Tel +49 5066 990-0

Am Industriepark 2-10  
21514 Buechen, Germany  
Tel +49 4155 490

[gea.com/contact](http://gea.com/contact)