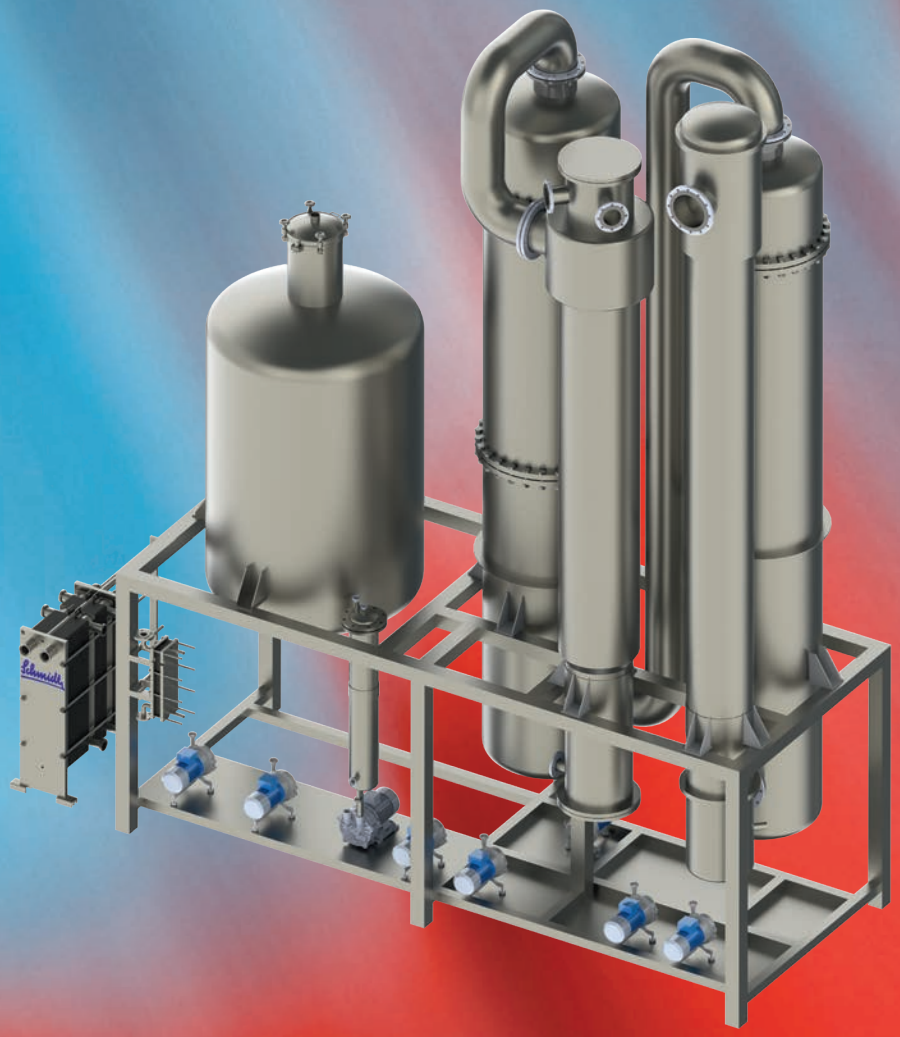
Schmidt

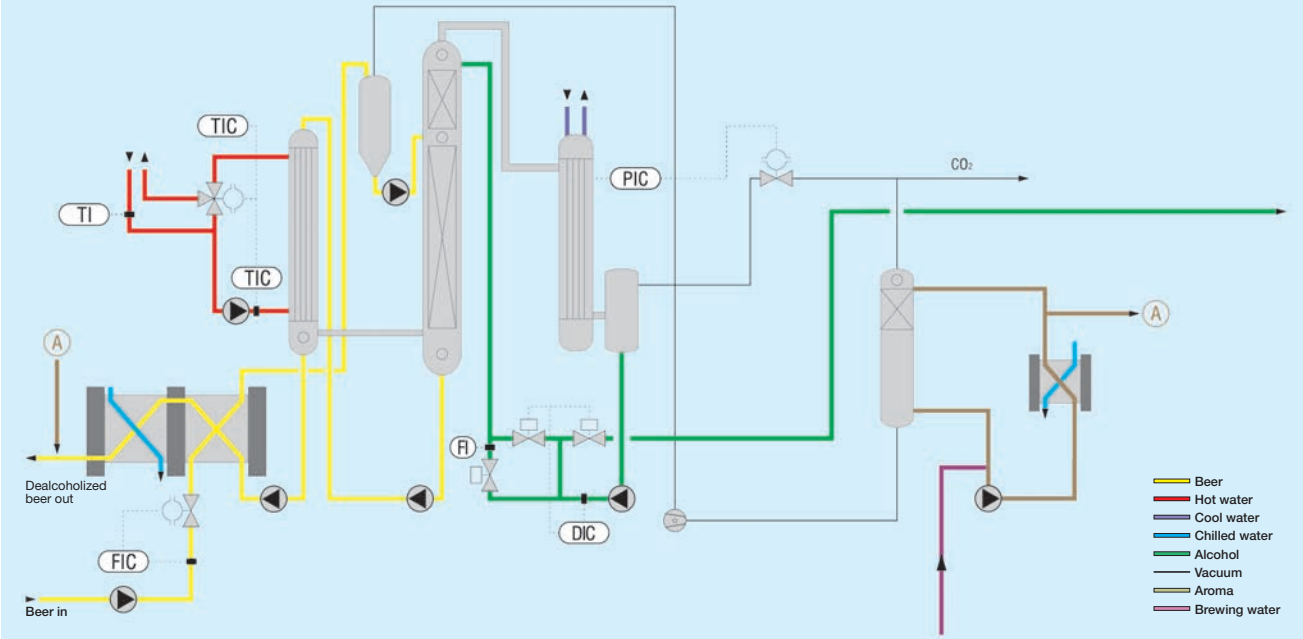
AN API HEAT TRANSFER COMPANY

FULL TASTE ZERO ALCOHOL



System Solutions For Dealcoholization

Technology



Process Diagram for SIGMA**TEC** Dealcoholization Plant

Description of Technical Procedure

With SIGMA**TEC** technology it is possible to dealcoholize a diverse range of alcoholic products. The process varies according to the nature of the given product and is based on the following criteria:

- **Preheating**
  Using a Schmidt plate heat exchanger the medium is preheated to the required degassing temperature.
- **Decarbonization**
  Depending on the final product, decarbonization takes place in a special vessel for the degassing procedure which enables mobile aromatic components to be recovered in the vacuum system.
- **Vacuum Rectification**
  A high-capacity distillation column carefully removes the alcohol from the product.
- **Flash Evaporation**
  From the already dealcoholized product a portion is evaporated in order to create the necessary stripping steam for the distillation tower.
- **Cooling**
  The medium is then cooled down by a Schmidt plate heat exchanger to approximately 2°C.
- **Carbonization**
  On request it is possible to inject the product with CO_2.
- **Aroma Dosing**
  The aroma covered by an optional aroma recovery unit can be returned into the product. (Alternatively the product can be blended with the base product.)

Areas of Application

With more than 30 years experience in dealcoholization, the Schmidt® SIGMA**TEC** has become the market leader worldwide. The experience gained in supplying a large number of dealcoholizing plants, our SIGMATEC design has become highly refined.

To date, SIGMA**TEC** systems have been manufactured for a scope of capacity ranging from 2 h/l to 150 hl/h.

Breweries
Wheat beer, Pils, Pale Ale, Lager, Dunkel, Stout

Wineries
White/Red Wine, Sparkling Wine, Mulled Wine

Fruit/Cider Production
Perry, Cider

Other Industries
Alcoholic Liquids, Extracts

Advantages of the Procedure

- **Dealcoholization under 0.05 vol-%**
- **Cost-Effectiveness**
  - minimum volume loss
  - alcohol concentration to 75 - 80 vol-%, hence a valuable, marketable byproduct
  - fully automatic operation
  - low energy consumption
  - low maintenance cost
- **Careful Handling of Product**
  - low processing temperature
  - short holding time
- **Environmentally Beneficial and Advantageous in the Conservation of Resources**
- **Optional Aroma Recovery**
- **Optional Dosing of Base Product**
- **Optional CIP System**
- **Optional Desulfurization of Grape Juice**

Technical Versions

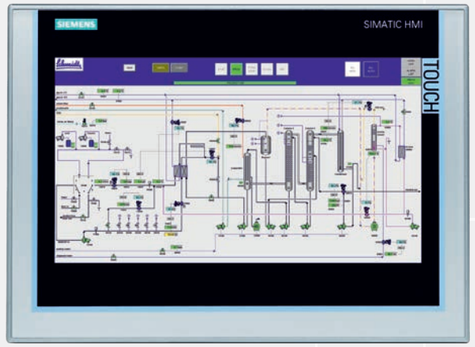
MATERIALS AND SPECIFICATIONS

Materials of Columns and Tanks:	All Current Stainless Steels
Column Internals:	Metal Packings, Filling Material, Trays
Column Diameters:	Dn 200 to Dn 2,000
Heating System:	Direct Steam or Hot Water

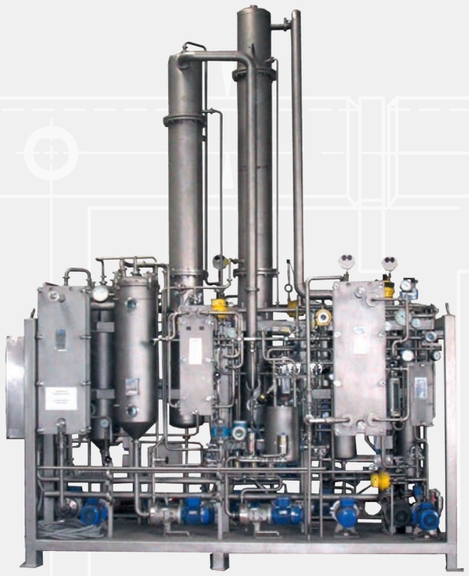
CAPACITY DATA

Feed Capacity:	2 Hl/H - 150 Hl/H (Beer)
Steam Consumption: Cooling Capacity:	15 - 18 Kg/Hl 10 - 12 Kw/H
Average Temperature:	40 - 80°C
Alcohol Concentration at Inlet: Final Concentration of Alcohol:	0.75 - 15 Vol-% 40 - 85 Vol-%

Application Examples



Visualization of the plant on the operator panel



Mobile Testing Unit 4 hl/h - diverse products

Dealcoholization plant for wine - 2,000 l/h

Dealcoholization plant for beer - 50 hl/h

Dealcoholization plant for beer - 100 hl/h beer - preassembled in the workshop

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High-performance heat transfer.

It's who we are and what we do. It's part of our 140-year heritage designing and delivering world-class heat transfer products for nearly every industry. It's bolstered by our worldwide network of manufacturing facilities that provide sales, service, and support. And it's ingrained in a process that has helped customers around the world for nearly a century and a half.

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