

# **ANDRITZ**

Pumping solutions for the sugar industry



# ANDRITZ in the sugar industry

## Custom-tailored pump solutions

Are you responsible for operation or maintenance of a sugar-producing facility? ANDRITZ develops and manufactures centrifugal pumps that are used throughout the sugar production process. Depending on the area of the facility concerned, centrifugal pumps with a closed, semi-open or open impeller are used.

Wear-resistant and non-clogging pumps are a prerequisite for trouble-free operation in the sugar industry. Pumps from the ACP, ISO and S series with closed or open impellers are used according to the flow rate required, from beet washing to juice purification and to crystallization. As the sugar content increases as a result of juice

thickening and the gas content rises due to centrifugation, the ANDRITZ AD centrifugal pump can be used for syrup applications without any difficulties.

A special feature is the combination of a single-stage centrifugal pump with an integrated vacuum pump prevents any accumulations of air at the impeller inlet and guarantees high priming performance by the pump, even with unfavorable suction pipe routing. The vacuum pump removes the gas content in the medium in order to ensure that the thick juice can be conveyed without any difficulties. The pump is not sensitive to high concentrations (at a sugar content of up to 70%) as a result of the semi-

open impeller, which also provides higher efficiency with viscous media compared to closed impellers. As a result of these design features, self-priming centrifugal pumps from the AD series with integrated vacuum pump are excellently suited to conveying thick juice with a high air and sugar content at low investment cost and maintenance needs.

With the company's own technical center ASTRÖ, we have an internationally recognized institute for hydraulic development and testing at our disposal. Optimization on a computer using CFD and numerous model tests result in the high economic efficiency of the ACP, S, ISO, and AD pump series.

### The advantages at a glance

- Efficiencies of up to 90%
- Assembly system
- Highly cost-effective thanks to high efficiency and long service life
- Cost reduction if self-priming centrifugal pumps are used instead of positive displacement pumps
- Decades of experience and comprehensive process know-how guarantee a high standard

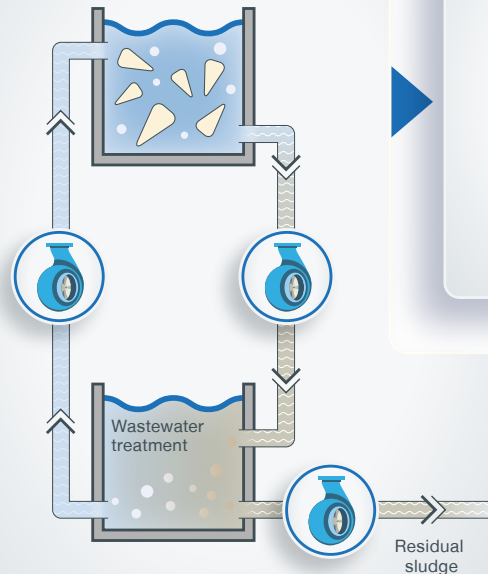




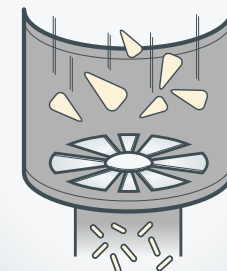
# 1. BEET HARVESTING & BEET RECEPTION



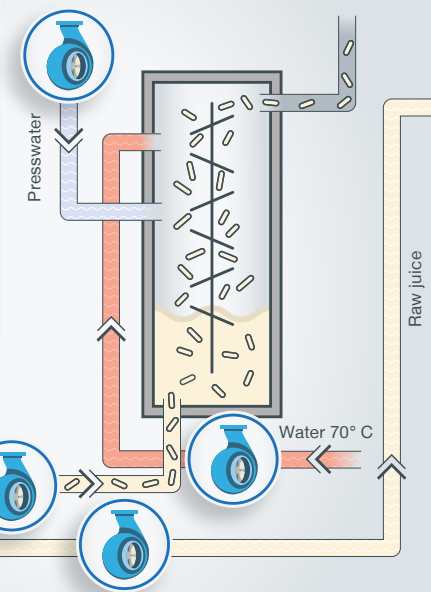
# 2. BEET WASHING



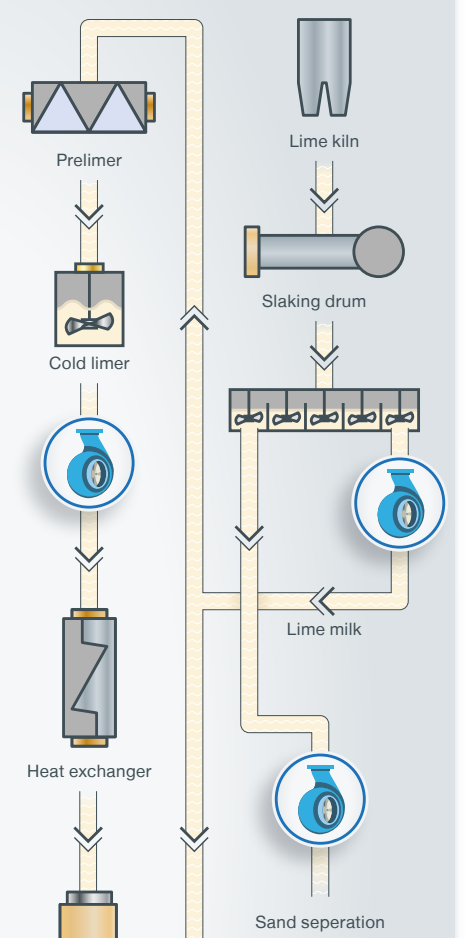
# 3. BEET SLICING



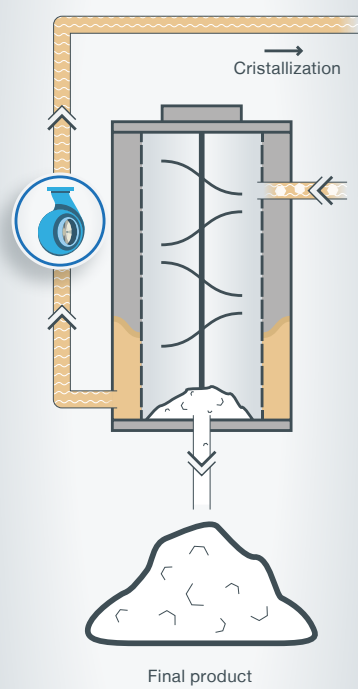
# 4. JUICE EXTRACTION



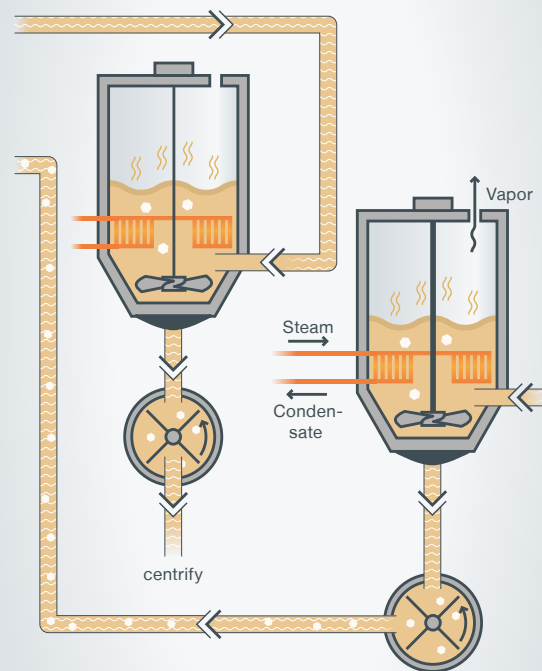
# 5. JUICE PURIFICATION



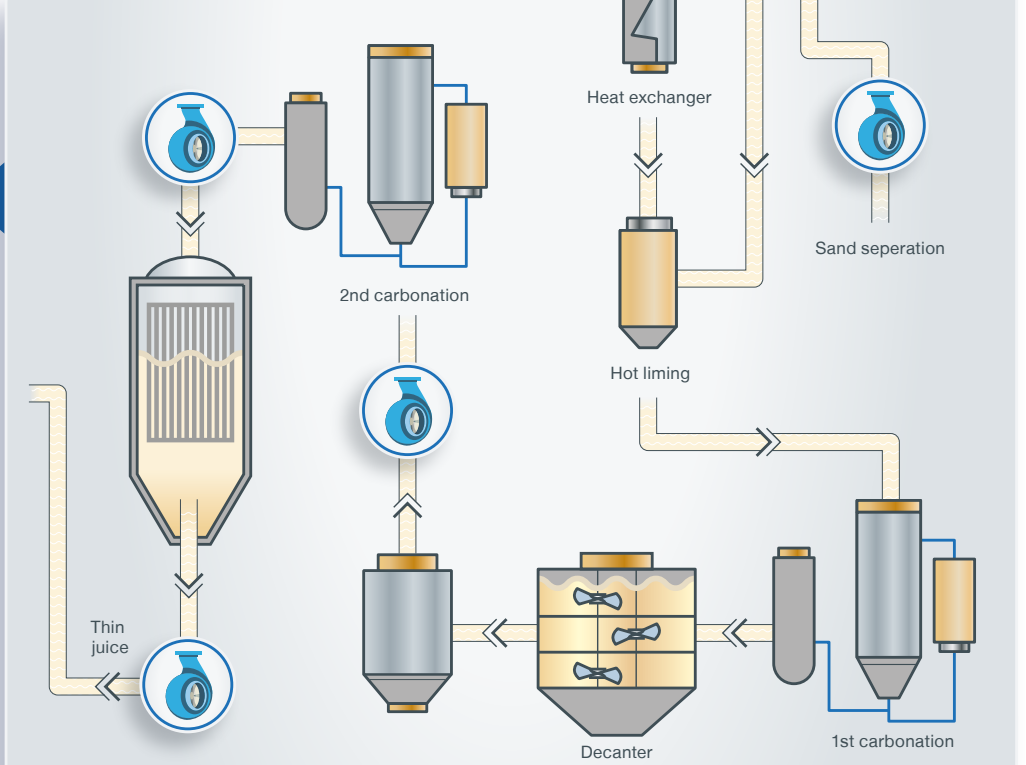
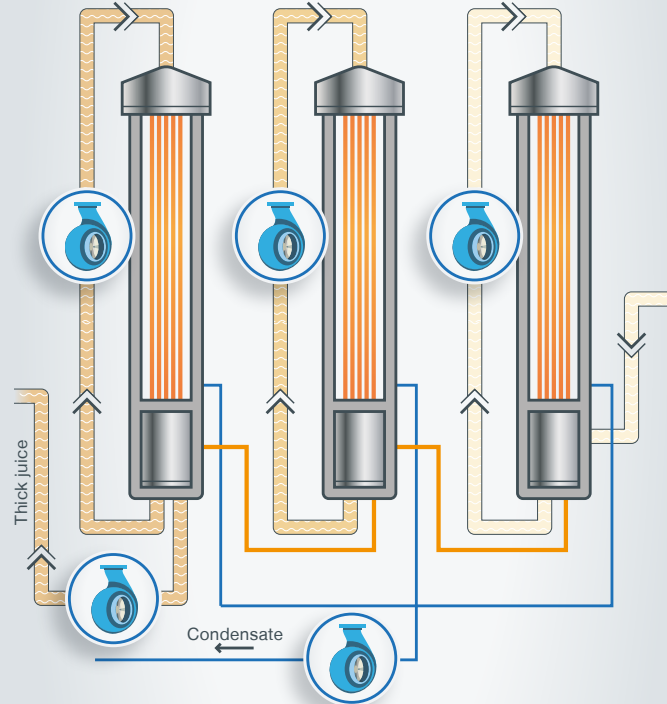
# 8. BEET SUGAR CENTRIFUGING



# 7. BEET SUGAR CRYSTALLIZATION



# 6. JUICE EVAPORATION



# Pump types

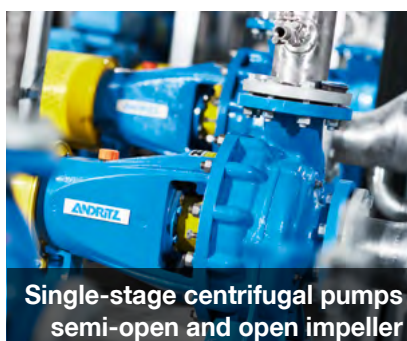
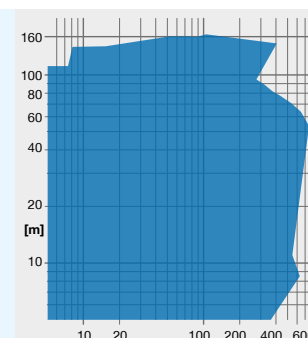
## for the sugar industry



**Single-stage centrifugal pumps  
closed impeller**

- According to EN 733, ISO 2858 and 5193
- Flow rate up to 600 m<sup>3</sup>/h
- Head up to 160 m
- Delivery pressure up to 16 bar
- Efficiency up to 90%
- Temperature up to 140° C

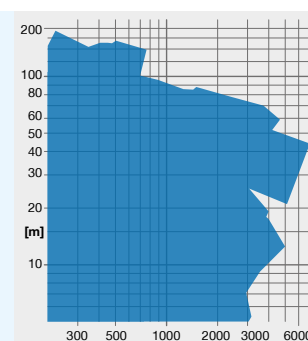
Single-stage spiral casing pump with closed impeller, also available according to EN 733, ISO 2858 and 5193 standards. For clean, slightly contaminated and aggressive liquids up to a viscosity of 150 mm<sup>2</sup>/s without abrasive and solids content.



**Single-stage centrifugal pumps  
semi-open and open impeller**

- Flow rate up to 6,000 m<sup>3</sup>/h
- Head up to 160 m
- Delivery pressure up to 25 bar
- Efficiency up to 90%
- Temperature up to 140° C
- Also available with degasser

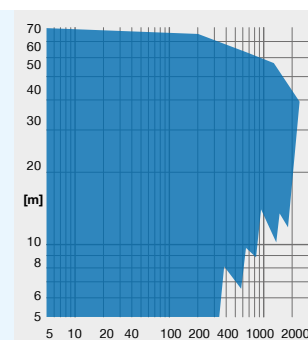
Single-stage spiral casing pumps with semi-open and open impeller for large open cross-sections or high pressures. The various material combinations available guarantee long life cycles and outstanding economic efficiency in many different applications.



**Self-priming  
centrifugal pumps**

- Self-priming
- Integrated water ring vacuum pump
- Flow rate up to 2,000 m<sup>3</sup>/h
- Head up to 75 m
- Delivery pressure up to 16 bar

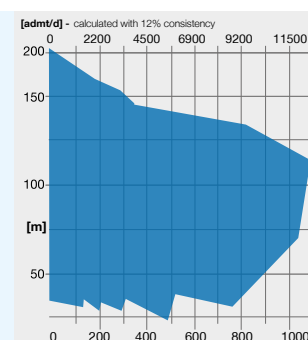
Single-stage centrifugal pumps including integrated water ring vacuum pump with semi-open impeller, making the pump suitable for pumping applications up to a sugar content of 70% without any difficulties.



**Medium-consistency  
pumps**

- Flow rate up to 13,000 admt/d
- Head up to 190 m
- Delivery pressure up to 25 bar
- Efficiency up to 74%
- Consistencies up to 16%

Single-stage medium-consistency pump with fluidizer for all types of viscous media occurring in sugar production.



# Close to our customers

## ANDRITZ locations worldwide

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