



SULZER



Sulzer Pumps for Wheat Starch Applications

motralec

4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX

Tel. : 01.39.97.65.10 / Fax. : 01.39.97.68.48

Demande de prix / e-mail : service-commercial@motralec.com

www.motralec.com

The **Heart**
of Your
Process





Sulzer Pumps at Your Service

AHLSTAR™ APP/APT* standard process pumps are designed according to ISO 5199/ISO 2858 standards for pumping clean, abrasive or corrosive liquids and liquids containing fibers. The pumps are equipped with the Sulzer dynamic seal in most applications.



ADVANTAGE CPT chemical process pumps are designed according to ANSI/ASME B73.1 M standards for pumping clean, abrasive or corrosive liquids and liquids containing fibers. The pumps are equipped with the Sulzer dynamic seal in most applications. The CPT pump is the alternative to the APP/APT pump when the ANSI/ASME standardization is required.



AHLSTAR™ ASP/AST* self-priming gas removal pumps are designed according to ISO 5199/ISO 2858 standards for pumping clean, abrasive or corrosive liquids and liquids containing fibers. With an internal vacuum system they are specially designed for pumping liquids with high gas contents or for removing gas from liquids.



SALOMIX™ SL/ST agitators are side-mounted gear or belt driven propeller agitators, specially designed for agitating fibrous stocks in all process conditions. By combining four-bladed cast, adjustable propellers with the conical body shape inside the tank, the stock flow of liquids to the propeller is streamlined.



SALOMIX™ L series agitators are vertically or horizontally mounted gear or belt driven agitators. Equipped with versatile impeller options with single or multilevel paddles, propellers, turbines, dissolver discs, anchor, etc. They are designed for use in many different kinds of operations requiring agitation and meet process needs in compliance with the rheology of the mixed fluid.



AHLSTAR™ WPP/WPT* wear-resistant pumps are designed according to ISO 5199/ISO 2858 standards for pumping abrasive and corrosive liquids and slurries containing wearing particles.



PUMPS FOR OTHER UTILITIES
We also have wide range of pumps for applications in water transport, boiler feed and dewatering.

* P and T versions refer to metric and inch measures.



Advanced Pumping Solutions for the Starch Industry

Sulzer Pumps has made hundreds of pumps that are running in demanding applications in starch and starch-based sweetener industries. Our high quality products and deep understanding of starch processes generate reliable pumping solutions to meet the needs of our customers.

A problem frequently faced by the starch industry is pumping liquids that have a tendency to foam. This special feature of starch processes arises partly because of the protein content of the pumped liquids and partly because the different raw material components are separated mechanically. The AHLSTAR® ASP Self Priming Gas Removal Pump is the perfect solution to pump these foamy liquids, and at the same time remove significant amounts of the troublesome air to help with downstream processing.

Other pumping solutions are the AHLSTAR® APP Process Pump and the ADVANTAGE CPT Chemical Process Pump, both of which can be equipped with the unique Sulzer Dynamic Seal for leak-free shaft sealing. In the Dynamic Seal there are no narrow areas corresponding to the seal faces in mechanical seals, and no wearing parts. No sealing water and thus no sealing water systems are needed for the Dynamic Seal. Until now, conventional mechanical seals and stuffing boxes have been the most maintenance intensive components of centrifugal pumps used in the starch industry. Thanks to the DynamicSeal, mechanical wear, leakage and the need for sealing liquid have been practically eliminated.

The Sulzer Pumps AHLSTAR® series is designed according to ISO 5199/ISO 2858 standards, while our ADVANTAGE CPT Chemical Process Pump series meets ANSI/ASME B73.1 M standards. Both series of pumps are designed for continuous operation in process industries.

Let's make the best of your process pumping !



Pumping Applications and Benefits

Fractionation

- Pumping water-flour mixture with high viscosity and solid content
- Pumping starch-fiber mixture with gas after separation from gluten

The Benefits of using the AHLSTAR™ ASP/AST self-priming gas removal pumps with an internal vacuum system:

- Centrifugal pumps valid, instead of positive displacement pumps with high maintenance costs
- Pumping liquids with high gas contents in applications where normal centrifugal pumps would soon stop running because the gas would form a bubble blocking the flow at the suction side of the pump
- With the help of the self-priming facility, pumping continues automatically, even after irregular periods when the inlet pipe is empty of liquid
- Reliable, high efficiency, low NPSH required
- Corrosion and wear-resistant, ASTM A890 3A stainless steel material recommended

Fiber Separation

- Pumping starch with fiber and high gas contents to and from conical sieves
- Pumping fiber and fiber-water mixture to and from conical sieves
- Pumping process water back to conical sieves

The Benefits of using the AHLSTAR™ ASP/AST self-priming gas removal pumps with an internal vacuum system:

- Pumping liquids with high gas contents in applications where normal centrifugal pumps would soon stop running because the gas would form a bubble blocking the flow at the suction side of the pump
- With the help of the self-priming facility, pumping continues automatically, even after irregular periods when the inlet pipe is empty of liquid
- Reliable, high efficiency, low NPSH required
- Corrosion and wear-resistant, ASTM A890 3A stainless steel material recommended





A-Starch Washing and Concentration

- ï Pumping starch to washing hydrocyclones
- ï Pumping A-starch to filtration and dewatering
- ï Pumping A-starch slurries from tanks with retention time
- ï Pumping process waters

The Benefits of using the AHLSTAR™ APP/APT standard process pumps or the ADVANTAGE CPT chemical process pumps with the Sulzer dynamic seal:

- ï No sealing water needed with the dynamic seal
- ï No wearing or leaking of the seal, so common for mechanical seals, and gland packings, occurs using the dynamic seal. This is especially important for the pumps in the last stages of the starch washing with higher pressure
- ï Reliable, high efficiency, low NPSH required
- ï Corrosion and wear-resistant, ASTM A890 3A stainless steel material recommended

- ï Feeding starch with high solid and gas contents to hydrocyclone washing
- ï Pumping A-starch slurry with gas after dewatering and a short retention period

The Benefits of using the AHLSTAR™ ASP/AST self-priming gas removal pumps with an internal vacuum system:

- ï Pumping liquids with high gas content in applications where normal centrifugal pumps would soon stop running because the gas form a bubble blocking the flow at the suction side of the pump
- ï Removing gas from liquids, improving process stability
- ï Reliable, high efficiency, low NPSH required
- ï Corrosion and wear-resistant, ASTM A890 3A stainless steel material recommended





B-Starch Dewatering, Cooking and Liquefaction

- ï Pumping B-starch to dewatering
- ï Pumping B-starch and protein slurry to protein separation
- ï Pumping process water

The Benefits of using the AHLSTAR™ APP/APT standard process pumps or the ADVANTAGE CPT chemical process pumps with the Sulzer dynamic seal:

- ï No sealing water needed with the dynamic seal
- ï No wearing or leaking of the seal, so common for mechanical seals, occurs using the dynamic seals
- ï Reliable, high efficiency, low NPSH required
- ï Corrosion and wear-resistant, ASTM A890 3A stainless steel material recommended.

- ï Pumping B-starch sediment with high gas and solid contents from dewatering to cooking feed
- ï Pumping B-starch and protein slurry with high gas and solid contents to cooking
- ï Pumping B-starch slurry and protein with gas from cooking to liquefaction

The Benefits of using the AHLSTAR™ ASP/AST self- priming gas removal pumps with an internal vacuum system:

- ï Pumping liquids with high gas content in applications where normal centrifugal pumps would soon stop running because the gas form a bubble blocking the flow at the suction side of the pump
- ï Removing gas from liquids, improving process stability.
- ï With the help of the self-priming facility, pumping continues automatically even after irregular periods when the inlet pipe is empty of liquid
- ï Reliable, high efficiency, low NPSH required
- ï Corrosion and wear-resistant, ASTM A890 3A stainless steel material recommended

Evaporation

- ï Pumping B-starch syrups
- ï Pumping condensates

The Benefits of using the AHLSTAR™ APP/APT standard process pumps or the ADVANTAGE CPT chemical process pumps with the Sulzer dynamic seal:

- ï No sealing water needed with the dynamic seal
- ï No wearing or leaking of the seal, so common for mechanical seals, occurs with the dynamic seal
- ï Special dynamic seal variations available for applications with high temperature, high inlet pressure or vacuum in the seal chamber
- ï Reliable, high efficiency, low NPSH required
- ï Corrosion and wear-resistant, ASTM A890 3A stainless steel material recommended



Gluten Dewatering and Starch Recovery

- ï Pumping B-starch and B-starch syrup with high gas contents

The Benefits of using the AHLSTAR™ ASP/AST self-priming gas removal pumps with an internal vacuum system:

- ï Pumping liquids with high gas content in applications where normal centrifugal pumps would soon stop running because the gas form a bubble blocking the flow at the suction side of the pump
- ï Removing gas from liquids, improving process stability.
- ï Reliable, high efficiency, low NPSH required
- ï Corrosion and wear-resistant, ASTM A890 3A stainless steel material recommended

- ï Pumping starch-water mixture with gas from gluten dewatering
- ï Pumping A- or B-starch with water or fiber from starch recovery decanters

The Benefits of using the AHLSTAR™ ASP/AST self-priming gas removal pumps with an internal vacuum system:

- ï Centrifugal pumps can be used for pumping highly viscous protein-containing solutions, instead of positive displacement pumps with high maintenance costs
- ï Pumping liquids with high gas contents in applications where normal centrifugal pumps would soon stop running because the gas form a bubble blocking the suction side of the pump
- ï Removing gas from liquids, when essential or desirable, improving process stability.
- ï With the help of the self-priming facility, pumping continues automatically even after irregular periods when the inlet pipe has been empty of liquid
- ï Reliable, high efficiency, low NPSH required
- ï Corrosion and wear-resistant, ASTM A890 3A stainless steel material recommended





Other Utilities

Water transport

The B series of vertical line shaft pumps consist of BK, BS and BP ranges. They are primarily used in water lift, transfer and cooling water applications.

AHLSTAR™ NVP/NVT non-clogging vertical pumps are intended for all kinds of hard applications with waste water, slurries or waste stock.

SM/SMN single stage double entry pumps are used across a broad range of industries in liquid transport and transfer applications.

ZPP double suction pumps are designed for applications including cooling and circulating water pumping.

Boiler feed

The HPP/HPT high pressure multi-stage pumps are used for pumping clean or slightly contaminated liquids in high pressure applications in various industries.

The M series of ring section multi-stage pumps consist of MB, MD and ME ranges. A wide range of common hydraulic components and bearing assemblies are used within the 4 standard pressure ranges.

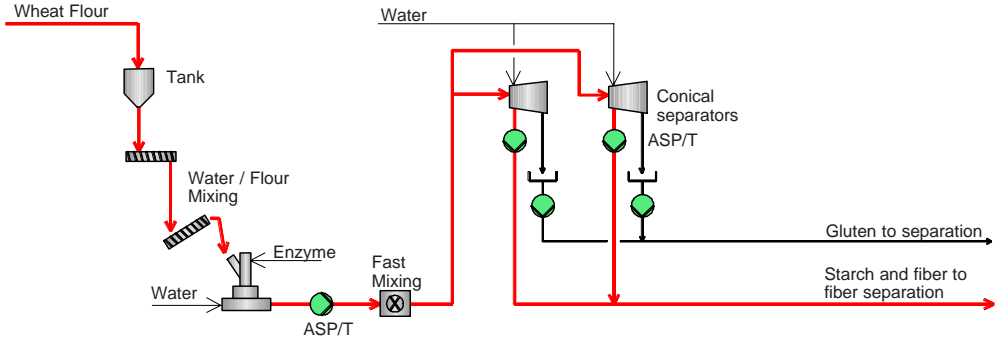
Dewatering

The HPH/HPL multistage pumps are specifically designed for dewatering applications. Their robust construction is designed to combat the highly abrasive environment in which they operate.

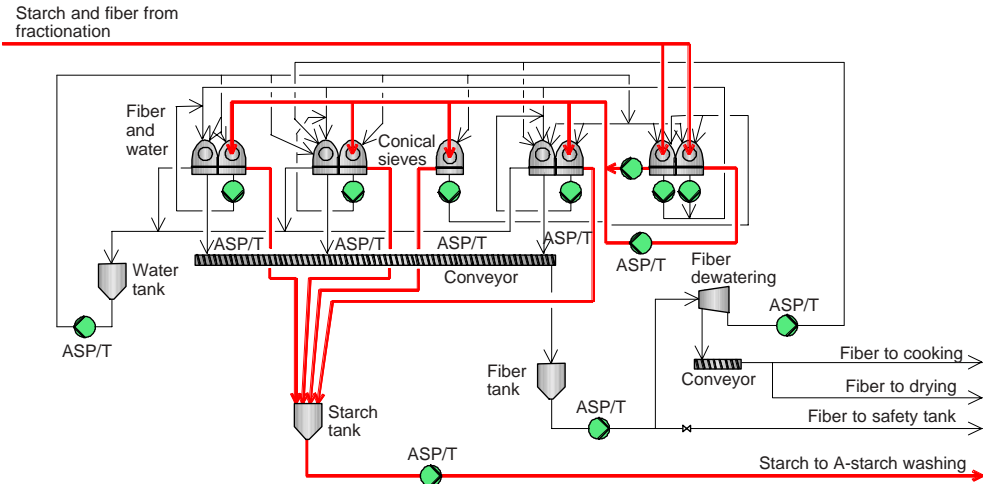


Wheat Starch Process

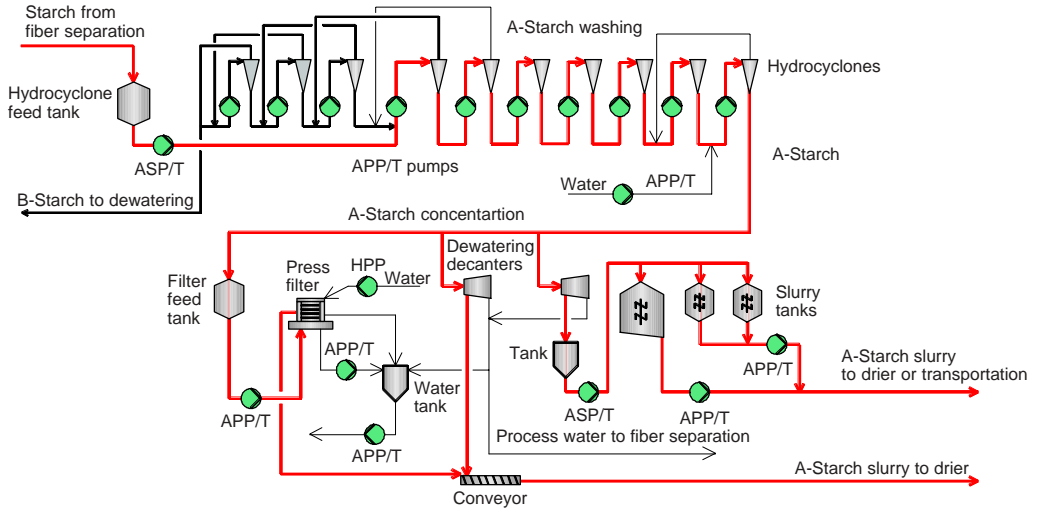
Fractionation



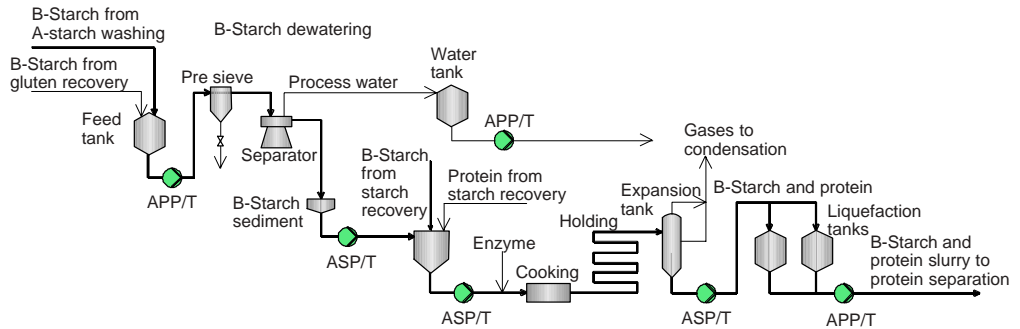
Fiber Separation



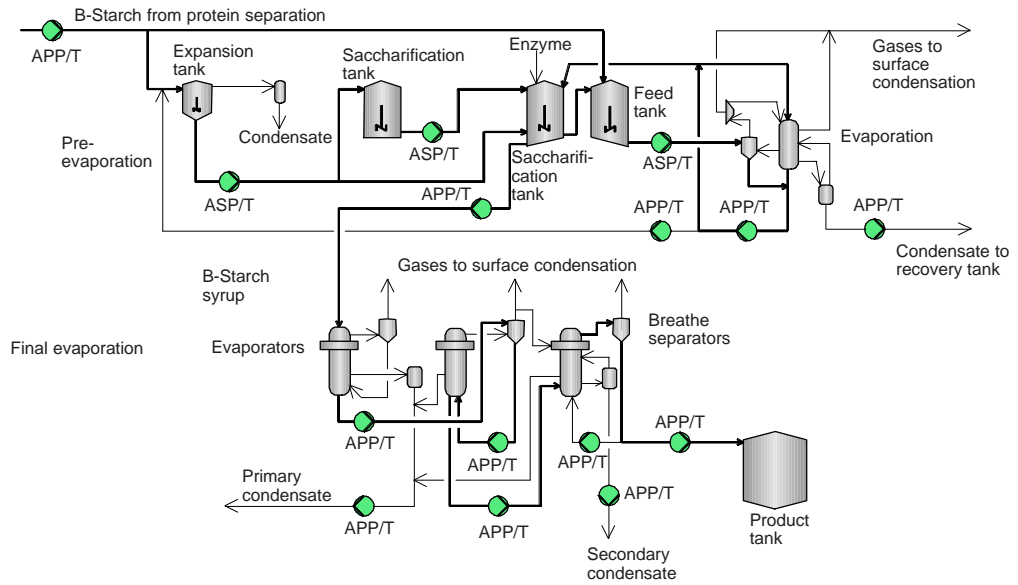
A-Starch Washing and Concentration



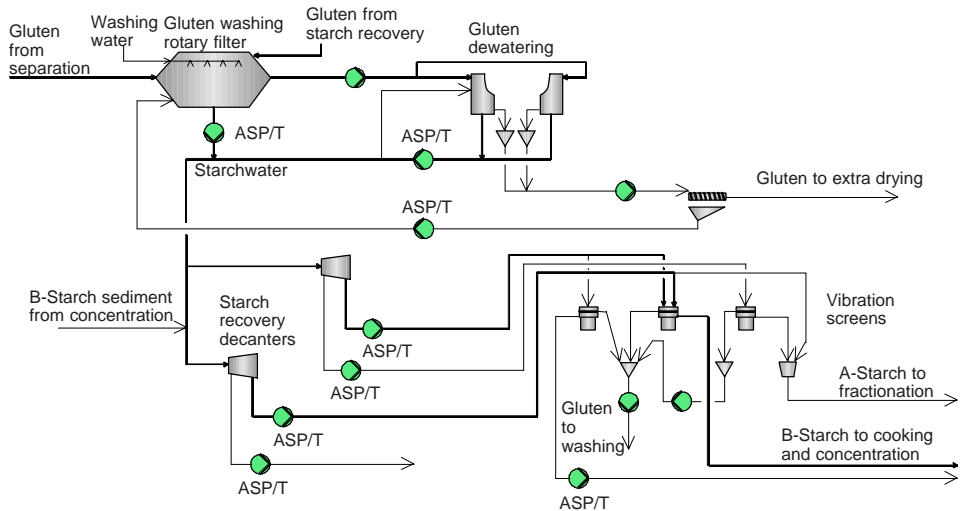
B-Starch Dewatering, Cooking and Liquefaction



Evaporation



Gluten Dewatering and Starch Recovery





SULZER

motralec

4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX

Tel. : 01.39.97.65.10 / Fax. : 01.39.97.68.48

Demande de prix / e-mail : service-commercial@motralec.com

www.motralec.com