



**SULZER**

# Sulzer Pumps for Alumina and Aluminum Applications

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The **Heart**  
of Your  
Process





# Sulzer Pumps at Your Service

AHLSTAR™ APP/APT process pumps for all the normal pumping applications in the process industry.

Capabilities

- to 160 m head
- to 2000 l/s capacity
- to 180 °C temperature



AHLSTAR™ ASP/AST self priming gas removal pumps are designed for continuous operation in industrial processes to pump gas containing liquids up to 70% or when self priming pumps are needed.

Capabilities

- to 160 m head
- to 1300 l/s capacity
- to 180 °C temperature



AHLSTAR™ WPP/WPT wear resistant pumps are designed for corrosive and abrasive applications where durability is essential.

Capabilities

- to 110 m head
- to 2000 l/s capacity
- to 180 °C temperature



ADVANTAGE CPT chemical process pumps series is designed according to ANSI/ASME B73. 1 M standards for normal pumping applications for clean, abrasive or corrosive liquids and also for liquids containing fibres.

Capabilities

- to 170 m head
- to 280 l/s capacity
- to 180 °C temperature



AHLSTAR™ WSP/WST wear resistant self priming gas removal pumps enable trouble free pumping of corrosive and abrasive liquids containing gas up to 70 % or when self priming pumps are needed.

Capabilities

- to 110 m head
- to 2000 l/s capacity
- to 180 °C temperature



AHLSTAR™ NKP/NKT non-clogging and WKP/WKT wear resistant vertical cantilever pumps are used in applications with liquids containing solids or abrasive slurries and when no support bearing inside the liquid is allowed.

Capabilities

- to 55 m head
- to 120 l/s capacity
- to 95 °C temperature



SALOMIX™ L-series topmounted agitators with gear or belt drive

- impeller type and size is selected always according to the agitation need
- power range 0,5 kW - 450 kW
- shaft lengths up to 25 m
- impeller diameters 300 mm - 7200 mm
- special glide ring shaft seals for high pressures and temperatures
- wear resistant SiC bottom support for abrasive applications



SALOMIX™ SL/ST agitators are sidemounted gear or belt driven propeller agitators

- four blade propeller saves energy and improves agitation at all concentrations
- special cone design positions the propeller deeper into the tank for best possible agitation
- compact construction for maximum reliability, less space and vibration-free operation



## Other utilities

We also supply pumps for applications in water transport, mine dewatering and boiler feed.



### **Sulzer Pumps**

Sulzer Pumps has more than 135 years of experience in developing and manufacturing process pumps and agitators for many different industry sectors.

The combination of this experience with a deep understanding of the needs of our customers, plus our detailed process and application knowledge has given us a competitive edge in developing innovative pumping solutions for our focus segments. Our active research & development supports this customer oriented approach.

Sulzer Pumps has sales and service facilities in all the major markets of the world to provide professional support.

### **Process know-how**

Sulzer Pumps' expertise in the metallurgical industry has been acquired through long experience and a recognition of our customer's needs and requirements. We offer a range of process pumps, special pumps, mixers and agitators for producers of copper, nickel, zinc and aluminum. By working in close co-operation with our customers, and by getting fully involved in the intricacies of the processes we are able to select and provide the right solutions. By this we mean not only the right pump, but also the most suitable pump material, the correct seals, efficiency ratio and all other aspects in order to ensure long working-life and reliability.

### **Total production facilities**

Sulzer Pumps has its own foundries giving us the capacity to develop and manufacture a range of different materials for protection against corrosion and wear. We specialize in producing different grades of corrosion-resistant cast steels, martensitic, austenitic and duplex. Our hardest material, wear resistant hard chromium iron demonstrates the high technical competence of our foundries. We also have the ability to manufacture pumps from special materials such as Hastelloy.

We are total producers, designing and making everything ourselves.



# Alumina Refining

## Digestion of Bauxite

### Grinding and Desilication, Digestion and Leaching

AHLSTAR™ WPP/WPT wear and corrosion resistant process pumps

- wear resistant, open impeller
- wear resistant chromium iron material ASTM A532 IIIA (5B), hardness value up to 600 HB
- double mechanical shaft seal
- hydraulic design prevents build up of slurry in the pump casing and seal area

## Clarification

### Separation of Red Mud and Desiliconization

AHLSTAR™ WPP/WPT wear and corrosion resistant process pumps

- wear resistant, open impeller
- wear resistant chromium iron material ASTM A532 IIIA (5B), hardness value up to 600 HB
- double mechanical shaft seal
- hydraulic design prevents build up of slurry in the pump casing and seal area

## Precipitation of Alumina Hydrate

### Carbonization and Decomposition

AHLSTAR™ WPP/WPT wear and corrosion resistant process pumps

- wear resistant, open impeller
- wear resistant chromium iron material ASTM A532 IIIA (5B), hardness value up to 600 HB
- double mechanical shaft seal
- hydraulic design prevents build up of slurry in the pump casing and seal area

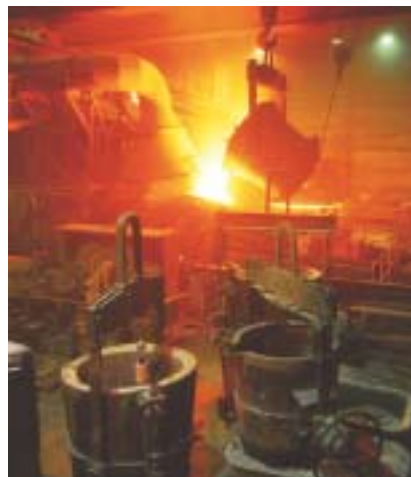




## Evaporation

AHLSTAR™ APP/APT process pumps  
or ADVANTAGE CPT chemical process pumps

- closed or open, high efficiency and low NPSHr impeller
- corrosion and wear resistant stainless steel material  
ASTM A890 3A (41)
- double mechanical seal





# Aluminum Smelters

## Granulated waters with solid particles

AHLSTAR™ WPP/WPT wear and corrosion resistant process pumps

- wear resistant, open impeller
- wear resistant chrome iron material ASTM A532 IIIA (5B), hardness value up to 600 HB
- double mechanical shaft seal or unique dynamic shaft seal
- hydraulic design prevents build up of slurry in the pump casing and seal area

## Cooling waters

AHLSTAR™ APP/APT process pumps or ADVANTAGE CPT chemical process pumps

- closed or open, high efficiency and low NPSHr impeller
- cast iron material A48 CL 40B (53)
- unique dynamic shaft seal eliminating the need for mechanical seals

## Collected floor liquids

AHLSTAR™ ASP/AST self priming process pumps or WSP/WST wear resistant self priming process pumps

- an open, high efficiency and low NPSHr impeller
- corrosion and wear resistant stainless steel material ASTM A890 3A (41)
- integrated vacuum structure
- self priming pump eliminating the need for expensive and maintenance required vertical pump





## 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 demanding 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

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

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

### Mine dewatering

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





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