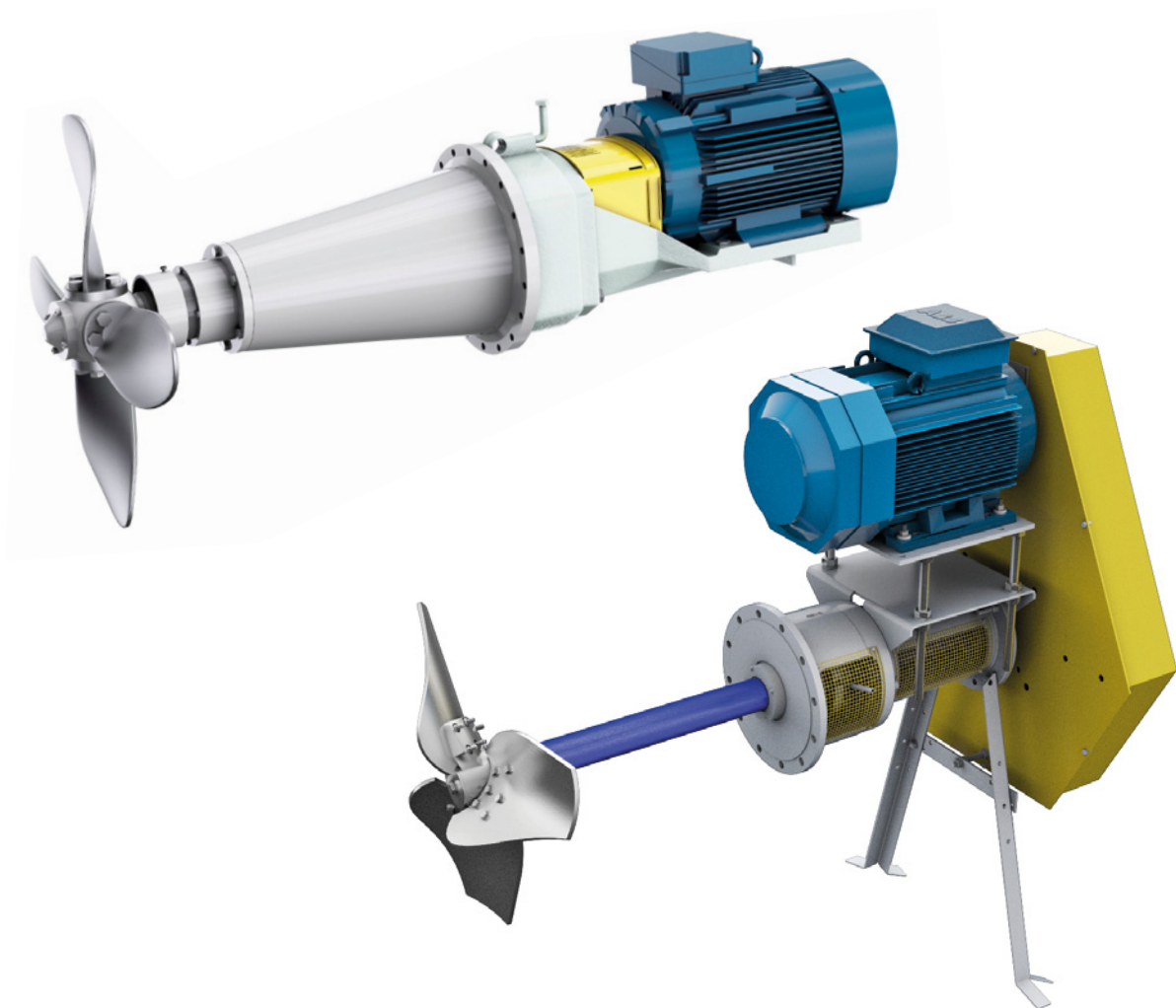


## **SALOMIX<sup>®</sup> and Scaba Side-Mounted Agitators**



# Mixing Technology for a More Efficient and Reliable Operation

*Sulzer provides highly efficient mixing and agitation solutions for a wide range of industries, in particular the pulp and paper industry. Our side-mounted horizontal agitators and top-mounted vertical agitators use SALOMIX® and Scaba technology, to ensure minimal power consumption, reliable operation and optimum process results. Our vast wealth of experience across the industries has enabled us to develop smart solutions and concepts, such as unique selection criteria and our tower management system.*

## Process knowledge

When selecting an agitator, the tank size and shape, mixing purpose and type of liquid are key factors. Knowing how to predict the degree of agitation – in any tank and for any liquid – is a crucial part of the selection process.

As market leaders in the pulp and paper industry, we understand the processes and have developed a number of smart solutions, including optimized tank shapes, HD towers and dilution concepts. We have thousands of installations in different types of stock chests, blow tanks and smelt dissolvers, proving Sulzer's expertise and security as a supplier.

## Efficient operation

Sulzer provides top efficient propellers, optimized by extensive laboratory testing and advanced computational fluid dynamics (CFD) calculations.

Selecting the right size of agitator is as important when it comes to reducing power consumption. Using an oversized agitator may complete the task, but it will be very costly – more agitation means more power input.

Sulzer gives you the combination of optimum agitator selection and maximum propeller efficiency, which will significantly reduce your overall power consumption.

## Reliability

There are a number of factors that affect the reliability of your agitator, such as product design, manufacturing processes and aftermarket service and support. Our extensive portfolio of testimonials from a wide range of industries around the world, in particular the pulp and paper industry, confirms the reliability of Sulzer products.

## Service

Our network of local service centers ensures fast response times and superior customer service. In addition to supplying original spare parts, we are also close by to help you optimize your agitators and reach your process performance, reliability and safety targets.

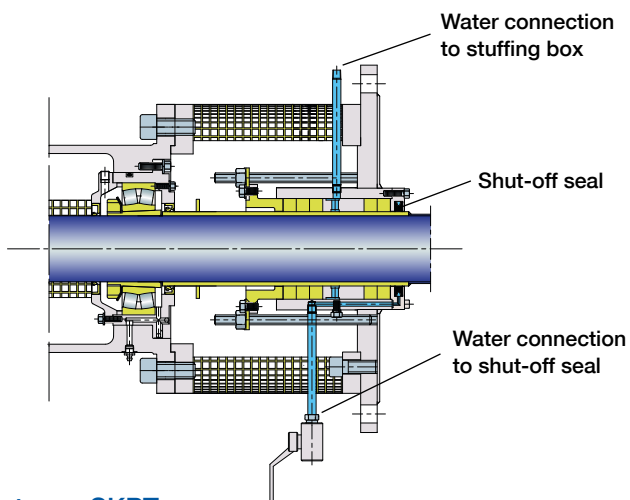
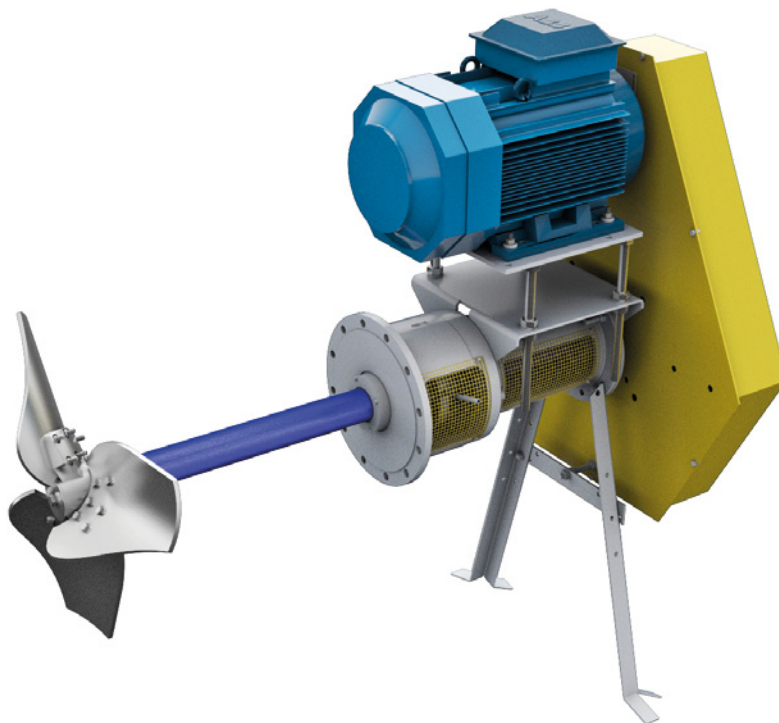


# Scaba Side-Mounted Agitators

*These robust, modular agitators can be combined with a range of different drive units, seals and impellers. A flexibility that enables the agitator to be optimized according to the process requirements.*

## SKPT – V-belt driven agitators

- Specially designed for the pulp and paper industry
- Highly efficient propeller design for lower power input
- Service and maintenance of seals without removing the agitator from the tank
- Two double spherical roller bearings and adapter sleeve with a theoretical lifetime of 100,000 hours
- Standard v-belts and foot-mounted motor
- Available for 50 and 60 Hz, both for IEC and NEMA motors
- Stuffing box or single or double mechanical seals can be used



### Shut-off device

With a convenient shut-off device, you can quickly and easily repair the stuffing box or replace a damaged single split mechanical seal without having to empty the tank. Water pressure is added to the safety seal, isolating the components around the shaft.

## Main parameters – SKPT

Scaba	40SKPT	60SKPT	80SKPT	100SKPT	125SKPT	150SKPT
Max installed motor (kW / HP)	7.5 / 10	22 / 30	37 / 60	75 / 100	110 / 150	200 / 250
Max propeller diameter (mm / in)	735 / 29	840 / 33	1,140 / 45	1,215 / 49	1,380 / 54	1,450 / 57
Max propeller speed (rpm)	234	236	266	280	213	267
Motor speed – 50 Hz (rpm)	1,000	1,000	1,000	1,000	1,000	1,000
Motor speed – 60 Hz (rpm)	1,200	1,200	1,200	1,200	1,200	1,200

# SALOMIX® Side-Mounted Agitators

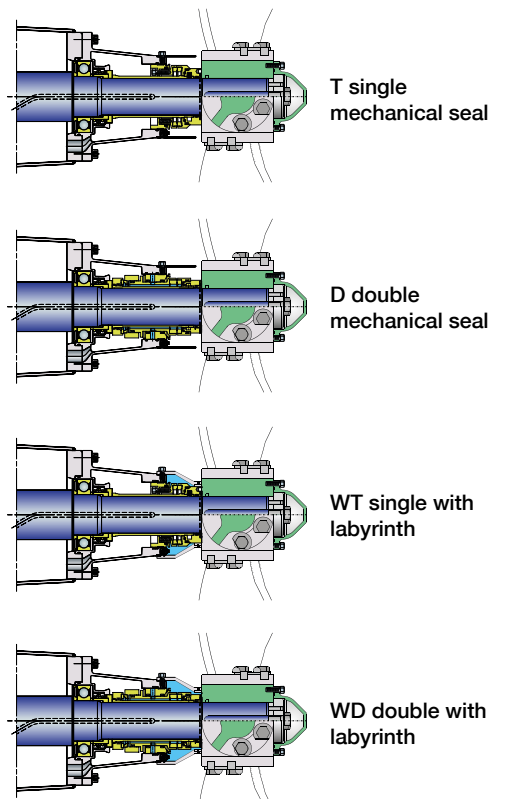
SALOMIX® side-mounted agitators can be used in various applications. Although these agitators have been designed for the pulp and paper industry, they can be used in a wide range of industries. Both gear and belt drives are available.



## SL/ST – gear or belt driven agitators

- Specially designed for the pulp and paper industry
- Highly efficient propeller design for lower power input
- Sulzer gear design with high mechanical strength
- Available for 50 and 60 Hz, both for IEC and NEMA motors
- Various mechanical seal alternatives
- Special materials, such as SMO, can be used for demanding applications
- Heavy duty SLH models available for green liquor dissolving tanks

## Seal alternatives for SALOMIX® agitators



### Tower management system (TMS)

An agitator is always a part of a system that includes a tank or a tower with accessories. Sulzer offers a range of additional devices, such as TES, GLI and DILCO, to ensure operational reliability, a uniform output consistency and low power consumption. More information on TMS can be found in a separate brochure.

- 1 TES top entry spreader
- 2 GLI
- 3 DILCO dilution



### Main parameters – SALOMIX®

SALOMIX® SLR/STR, SLF and SLG/STG gear drives						
SALOMIX®	SLR/STR	SLF-80 STG-30	SLF-100 STG-40	SLF-125 STG-50	SLG-160 STG-65	SLG-170 STG-65
Max installed motor (kW / HP)	11 / 15	18.5 / 20	30 / 40	55 / 75	55 / 75	90 / 125
Max propeller diameter (mm / in)	800 / 31.5	800 / 31.5	1,000 / 39.4	1,250 / 49.2	1,600 / 63	1,650 / 65
Max propeller speed (rpm)	470	290	250	203	152	152
Motor speed – 50 Hz (rpm)	1,500	1,500	1,500	1,500	1,500	1,500
Motor speed – 60 Hz (rpm)	1,800	1,200	1,200	1,800	1,800	1,800

SALOMIX® SLB/STB belt drives					
SALOMIX®	SLB-80 STB-30	SLB-100 STB-40	SLB-125 STB-50	SLB -160 STB-65	SLB -170 STB-65
Max installed motor (kW / HP)	15 / 20	30 / 40	55 / 75	55 / 75	110 / 150
Max propeller diameter (mm / in)	800 / 31.5	1,000 / 39.4	1,250 / 49.2	1,600 / 63	1,650 / 65
Max propeller speed (rpm)	305	255	204	154	163
Motor speed – 50 Hz (rpm)	1,000	1,000	1,000	1,000	1,000
Motor speed – 60 Hz (rpm)	1,200	1,200	1,200	1,200	1,200

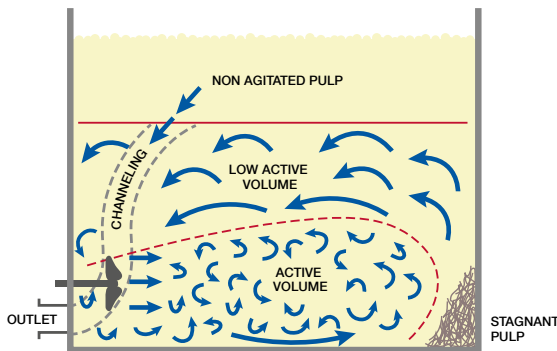
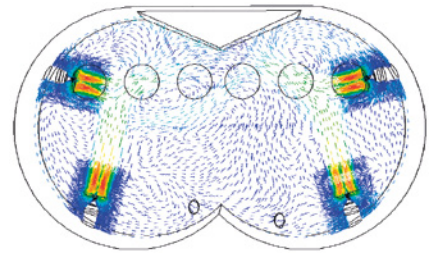
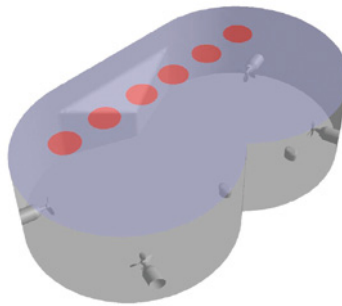
SALOMIX® SLH for green liquor dissolving tanks			
SALOMIX®	SLH-100	SLH-125	SLH-160
Max installed motor (kW / HP)	22 / 30	37 / 50	55 / 75
Max propeller diameter (mm / in)	800 / 31.5	1,000 / 39.4	1,250 / 49.2
Max propeller speed (rpm)	305	240	192
Motor speed – 50 Hz (rpm)	1,000	1,000	1,000
Motor speed – 60 Hz (rpm)	1,200	1,200	1,200



# Applications

## Green liquor smelt dissolver

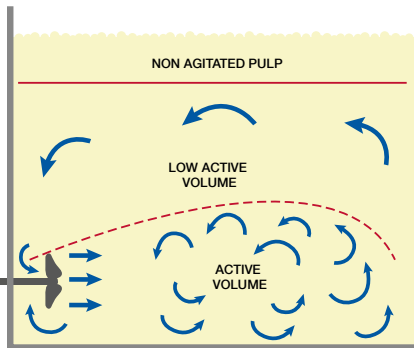
Hot melt from the recovery boiler is mixed with weak liquor to a green liquor. It is a violent process with high temperature and vibrations. SALOMIX® SLH is specially designed to handle these tough conditions.



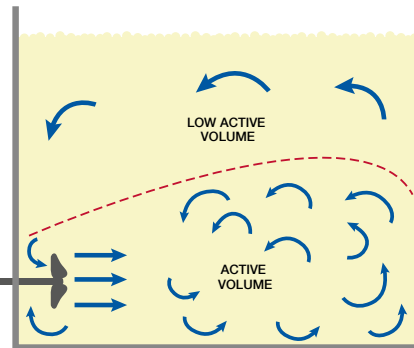
Insufficient agitation

## Agitation in stock chests

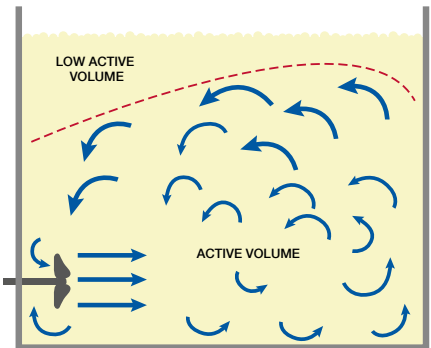
The level of agitation you need is highly dependent upon your process requirements. Insufficient agitation can lead to stagnant pulp, channeling and consistency variations. Too much agitation will result in costly and unnecessary excess power consumption. Sulzer's extensive laboratory testing and advanced calculations ensure minimum power consumption.



Level 1: Bottom clean



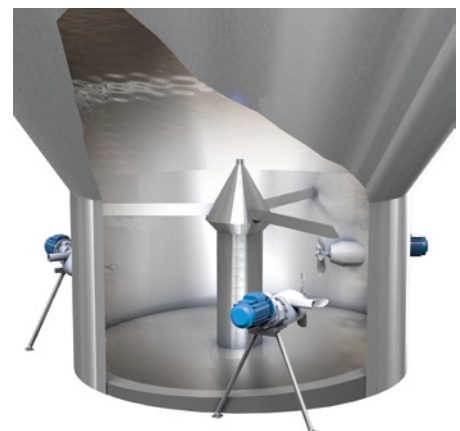
Level 2: Good agitation



Level 3: Very good agitation

## HD towers and blow tanks

Strict consistency control and the prevention of channeling and stagnant pulp are essential in HD towers and blow tanks. Our vast wealth of experience within the pulp and paper industry has enabled us to develop smart solutions, like dilution process concepts and our tower management system for HD towers. Sulzer agitators together with tower management systems deliver reliable results.



# Research and Development

The Sulzer research center in Karhula, Finland uses a 30 m<sup>3</sup> mixing tank and full-scale agitators to study the agitation of different liquids, including pulp. When designing new propellers, we carry out experimental studies, along with numerical simulations using computational fluid dynamics (CFD).



## Propellers

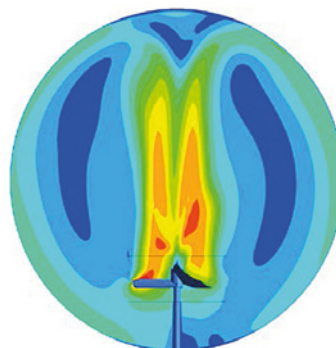
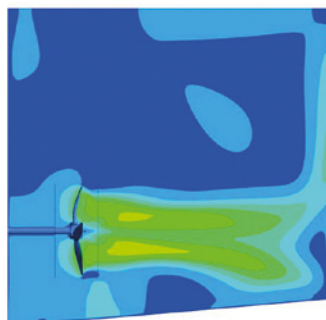
*High-efficiency propellers are used to maximize flow and have been designed for use with all types of stock, but can also be used for other types of fluid.*

SALOMIX<sup>®</sup> agitators have cast propellers with four blades with adjustable angle and Scaba agitators have three blade propellers with an optimized fixed angle.



### CFD

When designing new propellers, we use computational fluid dynamics to find the optimum propeller shape. CFD is also a powerful tool for simulating different mixing applications and movement in agitated tanks. Sulzer has a wealth of experience with CFD for both pump and agitator design.



Simulated flow from a Scaba agitator



[www.sulzer.com](http://www.sulzer.com)

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