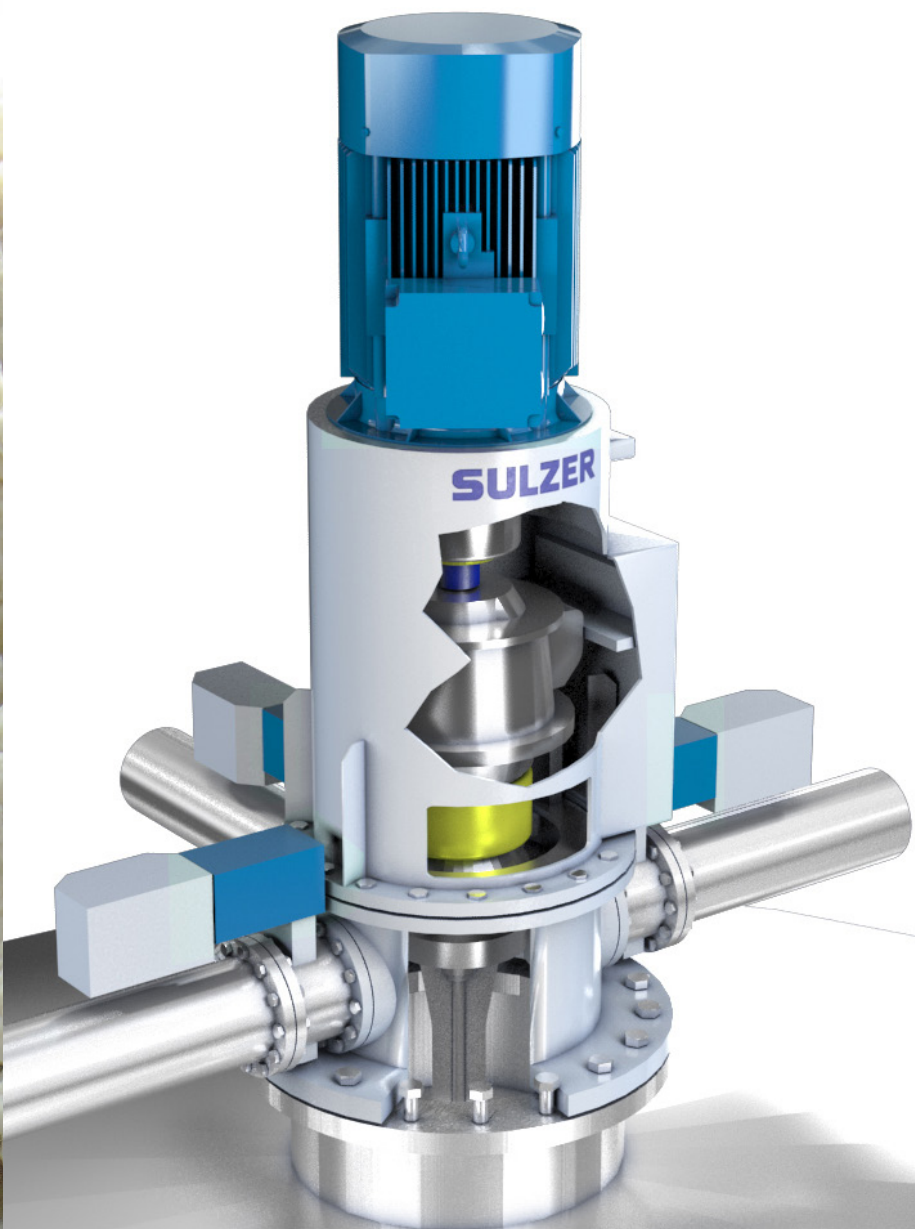


SULZER

Medium-consistency technology

MC discharger



MC discharger for flow splitting and discharge of medium consistency stock

When pumping medium consistency stock (8 to 16%), a plug flow is generated in the pipe. At normal flow velocities, the fiber network holds the plug flow together. Dividing this kind of flow into precisely controlled partial flows at the end of a pipeline using valves alone is almost impossible, since the high consistency creates a risk of clogging. A similar risk may also occur when stock must be discharged into a pipe through a contraction, for example at the top of a bleaching tower. The fluidizing MC discharger has been developed for these applications.

Operating principle

Stock enters the casing of the discharger. Shear forces generated by the rotating rotor disrupt the fiber network thus fluidizing the stock. Fluidized stock behaves in the same manner as water as far as its flow characteristics are concerned.

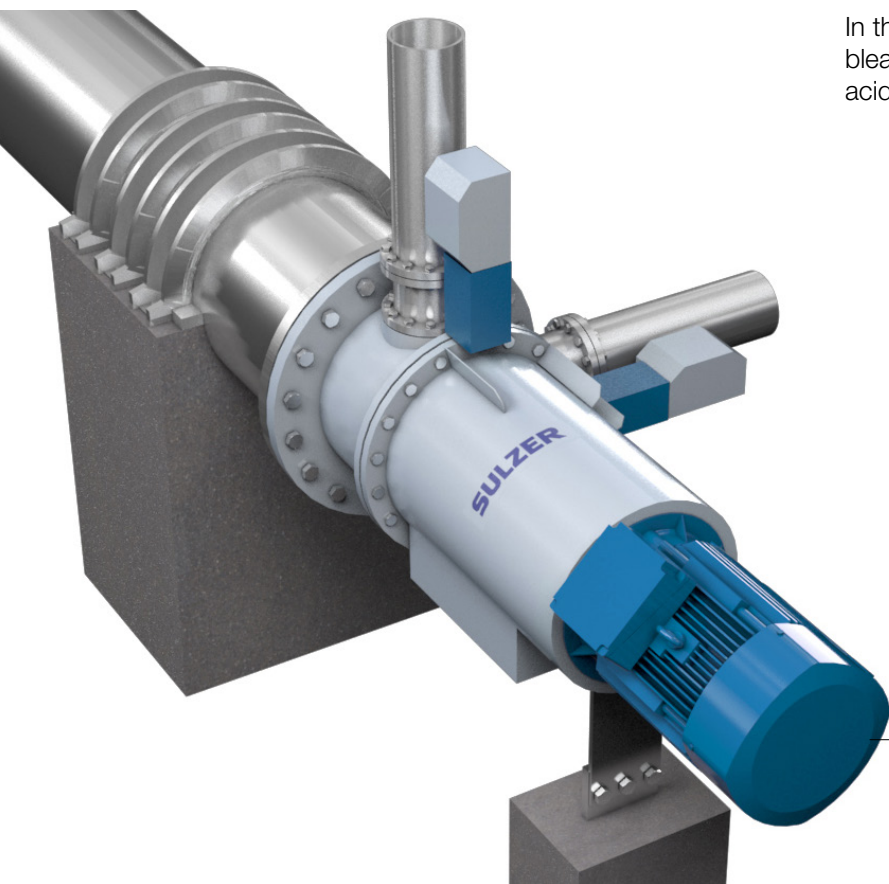
Depending on the application, up to four outlet connections are available in the discharger, all with control or on/off valves. Stock flow measurement can be carried out in a small diameter piping after the MC discharger. The discharger itself does not generate pressure, so an MC pump is required in the process to pump the stock through the discharger to the following process stage.

Operating conditions

The discharger can be installed at the end of a long pipeline to fluidize the stock and to divide it into partial flows, enabling the stock to be conveyed to between two and four different points. Without the discharger, this division would have to take place immediately after the MC pump, and separate long pipelines would be required to each point.

Another installation alternative for the discharger is at the top of a bleaching tower to discharge stock from the tower through a contraction. In this application, the stock flow can also be divided to various destinations, if necessary. Air that can disturb the process can be removed in the discharger by using the gas removal model of the equipment.

In the discharger, various chemicals used in bleaching can be mixed into the stock, such as acidifying water in peroxide bleaching.



Features and benefits

Design

- consists of the fluidizing section, sealing section, bearing unit and motor support frame
- double-acting mechanical seals
- grease or oil lubricated bearings
- flange type motor
- flexible coupling
- can be installed either vertically, horizontally or in other desired positions

Product advantages

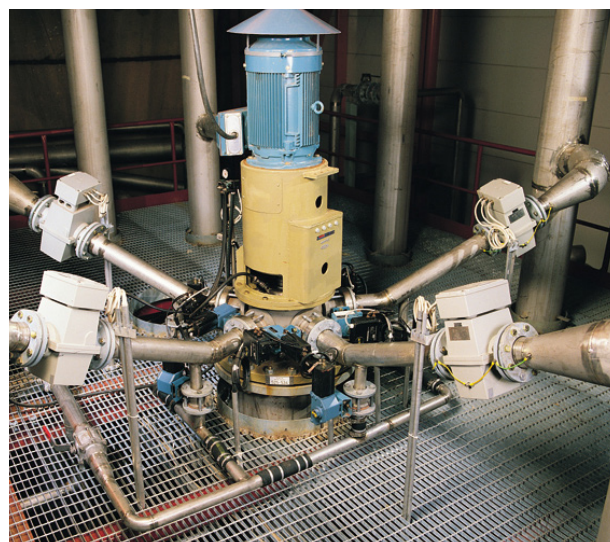
- small space requirements
- easily installed at the end of a pipeline
- easily installed at the top of a tower
- can be mounted in almost any position
- several directions for outlet connections
- reliable direct drive
- easy maintenance
- small valves

Materials

Parts in contact with stock are manufactured from stainless steel, SMO or titanium.

Process advantages

- suitable for a wide consistency range
- a single model can be used for the entire wide operating range of an MC pump
- easy operational connection to the other process equipment
- stock can be divided or discharged without the risk of clogging
- air hampering the process can be removed from stock
- various chemicals can be mixed into the stock
- a discharger at standstill does not prevent stock
- low power consumption



Operational values

	MCD40	MCD50
Size of discharger	MCD40	MCD50
Typical production rate max.	2'000 ADMT/d	2'500 ADMT/d
Standard design pressure	16 bar / 360 psi	16 bar / 360 psi
Standard design temperature	120°C / 248°F	120°C / 248°F
Drive motor size	37 - 75 kW	55 - 90 kW
Weight (without drive motor)	635 kg / 1'400 lb	1'050 kg / 2'315 lb

For preliminary purposes only; depends on the process data requirements and on the model of the discharger.

The Sulzer Flow division keeps your processes flowing. Wherever fluids are treated, pumped, or mixed, we deliver highly innovative and reliable solutions for the most demanding applications.

The Flow division specializes in pumping solutions specifically engineered for the processes of our customers. We provide pumps, agitators, compressors, grinders, screens and filters developed through intensive research and development in fluid dynamics and advanced materials. We are a market leader in pumping solutions for water, oil and gas, power, chemicals and most industrial segments.

E00511 en 4.2025, Copyright © Sulzer Ltd 2025

This brochure is a general presentation. It does not provide any warranty or guarantee of any kind. Please, contact us for a description of the warranties and guarantees offered with our products. Directions for use and safety will be given separately. All information herein is subject to change without notice.

