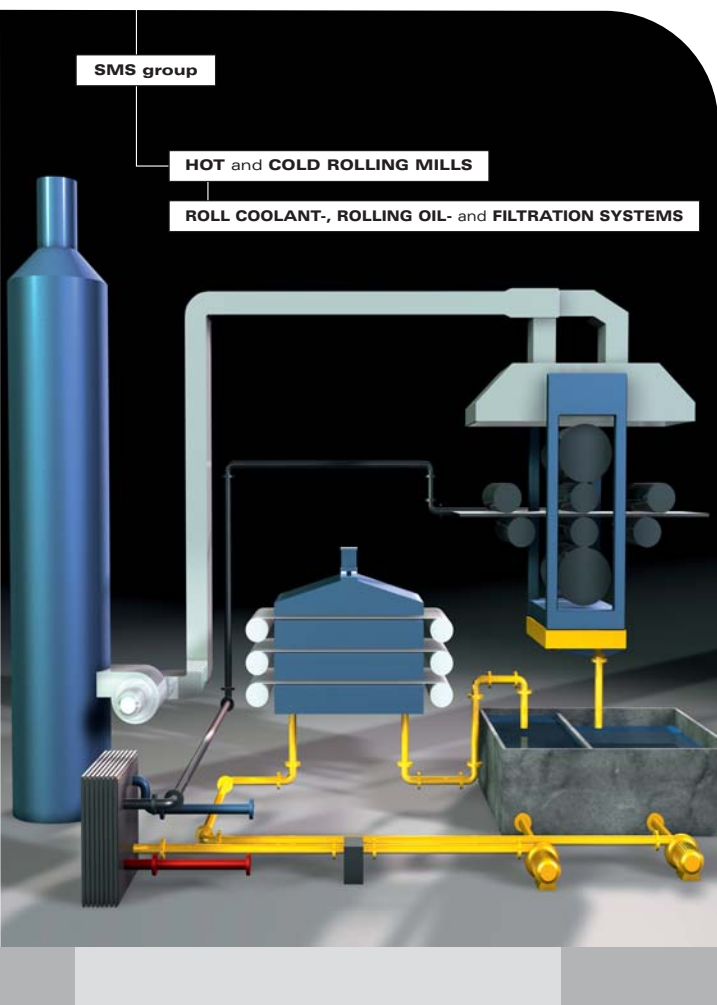


COOLANT SYSTEMS, EXHAUST AIR CLEANING SYSTEMS and COMPONENTS

SMS group

HOT and COLD ROLLING MILLS

ROLL COOLANT-, ROLLING OIL- and FILTRATION SYSTEMS

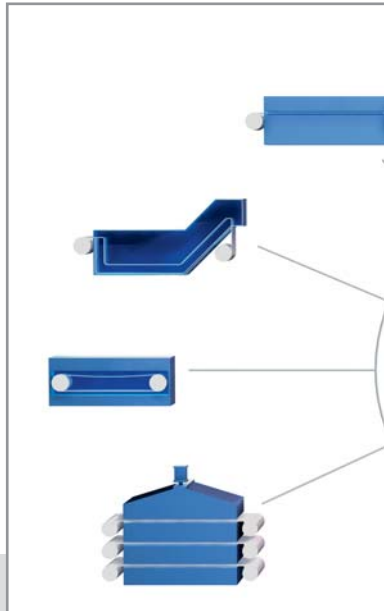


GENERAL

Rolling mill facilities are supplied with lubricants by circulation systems in order to ensure high product quality. If necessary, the exhaust air is also extracted and treated in exhaust air cleaning systems. As a result, special emphasis is given to the handling of these media from an economic and ecological standpoint. Demands on the production process relating to capacity and quality in particular have been increasing in recent years. Of decisive importance when it comes to meeting these requirements is, amongst other factors, the quality of the coolant technology used.

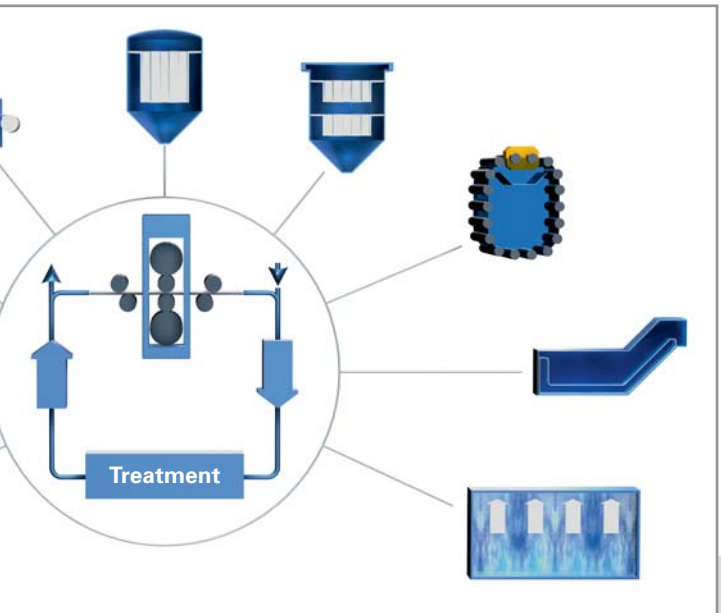
With our modern processes, products, and know-how we ensure that the high level of efficiency of our rolling mill facilities is not achieved at the expense of the environment.

This brochure provides information on the most important plants and components for correct media handling.



On the basis of our extensive scope of supply and more than 30 years of experience, we are able to offer solutions for almost all problems arising when dealing with these media.

Our services range from supplying components to revamping and supplying complete circulation systems as well as to providing consulting services. In addition to our broad array of services and experience, the number of our references is also worthy of note. We have designed and built over 600 filters and separators and over 700 coolant systems for our customers around the world.



Production process/ System type	Cold rolling				Hot rolling		
	Steel	Stainless steel	Non-ferrous	Wire drawing	Steel	Stainless steel	Non-ferrous
Rolling oil system with							
Supafine filter	○	●		●			
Durafine filter		●		●			
Oildist system	○	○	●	○			
Precoat filter	○	○	○				
Horizontal plate type filter	○	○	●	○			
Pressure belt-type filter		○	○	○			
Chain-type magnetic separator	●						
Emulsion system with							
Vacuum belt-type filter	●				●	●	●
Horizontal plate type filter			○		○	○	●
Pressure belt-type filter	○		○		○	○	
Gravity belt-type filter	○		○				
Chain-type magnetic separator	●				●		
Emulsions splitting	●		○				●
Exhaust air cleaning system							
Airwash system		○	●	○			
Filter type	● recommended				○ possible		

COOLANT SYSTEMS

PLANTS

Essentially the task of the coolant system is to feed the medium to the service points with the correct pressure, temperature and purity and to discharge and treat this medium after use. This process occurs in an almost closed circuit.

In the circulation systems the coolants are treated with various filters and separators from our broad array of filter products. The decisive criteria for choosing the right filter are:

- type of coolant used
- required purity
- type and degree of pollution

Rolling oils and rolling emulsions are coolants which, depending on their conditions, can have a significant effect on product quality.

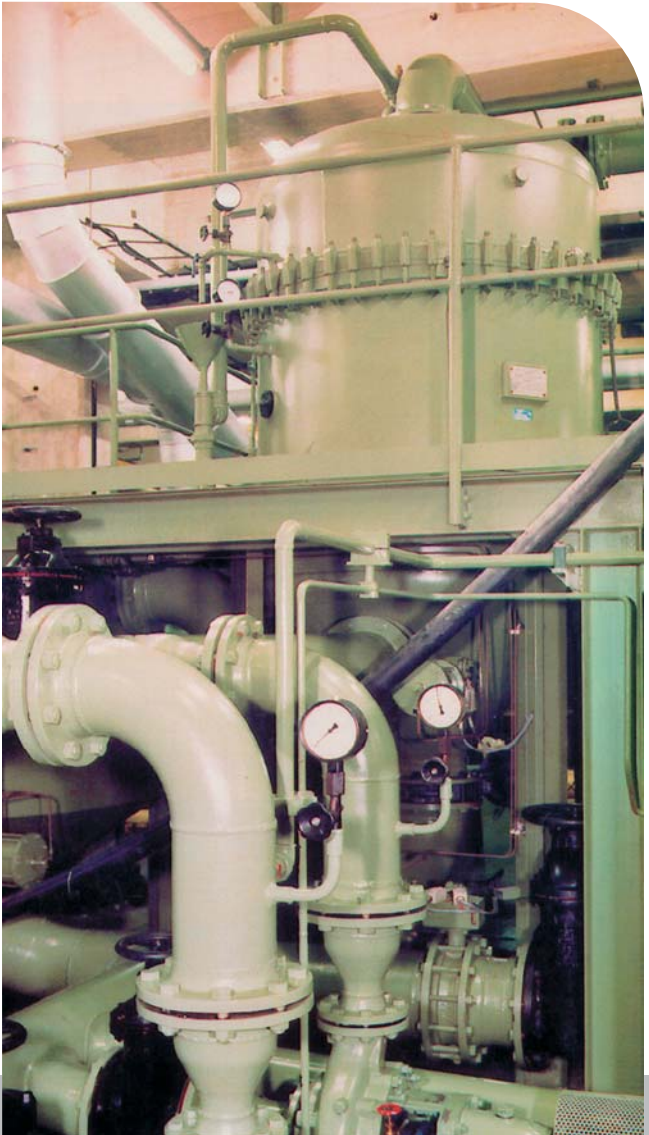
In addition to various types of precoat filters for the filtration of rolling oils, our filter line also includes, for example, the Supafine filter which operates without filter aids.

In addition to coolant systems, our scope of supply also includes coolant treatment lines. The thermal treatment of the rolling oil is effected by our compact distillation system, Oildist. By combining the thermal separation technique with ultrafine mechanical filtration, a constant and optimum rolling oil quality which is free of foreign oils is ensured. Moreover, the life of the rolling oil is extended thereby, which in turn results in considerably lower operating costs.

Furthermore, we also offer you a concentration measurement system for automatic measurement of the oil concentration in emulsions. In this system, other parameters such as temperature and density are also determined.

Together with our affiliated company SMS Lubrication we offer rolling oils and emulsions to meet the ever increasing demands of the rolling mill industry.





EXHAUST AIR CLEANING SYSTEMS

A great variety of systems are used to treat the different waste air flows occurring in the metallurgical industry.

All systems are designed to clean the waste air so that it can at least be discharged into the atmosphere safely in accordance with environmental regulations.



Owing to an effective extraction system and enclosure of the mill stands as well as to optimal design of the waste air cleaning system, minimum operating costs are incurred.

A particularly economical solution for exhaust air cleaning is the AIRWASH system, which is based on the absorption/rectification procedure and reclaims the rolling oil from the waste air flow. The reclaimed rolling oil can then be fed directly into the rolling oil system. The cleaning performance of the system itself meets the most stringent environmental legislation, even when a high percentage of oil is present in the form of gas. The performance of the airwash system is especially suited for rolling mills with high rolling speeds (e. g. 6-high rolling mills).



Absorption column of the airwash system.

COMPONENTS

CHAIN-TYPE MAGNETIC SEPARATOR

Magnetic rods:

68 to 330 pieces

Main usage:

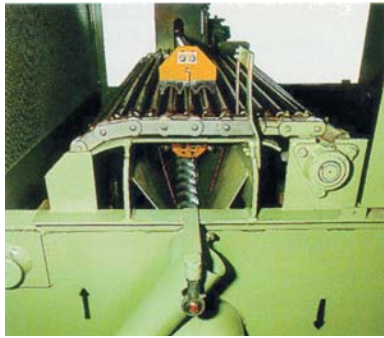
cleaning of coolants during rolling and cleaning of scale water

Advantages:

continuous operation, micro-filtration with oil discharge, low operating costs, no filter medium expenses, low maintenance

References:

540 separators



VACUUM BELT-TYPE FILTER SUF/VF

Filter area: 3 to 24 m²

Operational pressure:

600 mbar vacuum

Main usage: cleaning of coolants during rolling of steel and non-ferrous alloys

Advantages: minimum space requirements, simple construction, low maintenance, winding station for used non-woven filter medium

Alternatively:

continuous endless filter strip

References: 250 filters



SUPAFINE FILTER

Filter area per filter dome:
15 to 335 m², number of filter domes can be adapted to the relevant plant capacity

Main usage:

cleaning of coolants during cold rolling of high-grade steel and wire drawing

Advantages:

separation of solids up to 2 μm, no additional filtration agent necessary, low operating costs

References: 197 filters



DURAFINE-FILTER

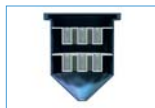
Filter area per filter dome:
9 m², number of filter domes can be adapted to the relevant plant capacity

Main usage:

cleaning of coolants during cold rolling of high-grade steel and wire drawing

Advantages:

separation of solids up to 2 μm, no additional filtration agent necessary, low operating costs, space saving, modular system



MULTI-PLATE-FILTER

Filter area: 38 to 87 m²

Operating pressure: 3.5 bar

Main usage:

cleaning of rolling oils for cold rolling of NF metals and steel, emulsions for hot rolling, and pickle liquor

Advantages:

high filter capacity, separation of solids up to 0.5 µm, dry cake discharge, building block principle, hydraulic plate closure, straight inlet and outlet hoses, entry manifold for laminar flow, large plate opening, vacuum sealing, oblique side walls in filter chamber, accessibility of all filter plates, self-centering paper-roll rack, winding station for used non-woven filter medium, low space requirements

References: 20 filters



FURTHER FILTERS

PRE-COAT FILTER

Filter area per filter dome:
9 to 83 m²

Operational pressure:
approx. 1.5 bar, number of filter domes can be adapted to the relevant plant capacity

Main usage:
cleaning of coolants during cold rolling of high-grade steel, Al and Cu alloys

Advantages: high filtration rate, separation of solids up to 0.5 µm, dry cake discharge

References:
more than 40 systems



PRESSURE BELT-TYPE FILTER

Filter area: 3 to 8 m²

Operational pressure:
approx. 1.2 bar, number of filters can be adapted to the relevant plant capacity

Main usage: cleaning of coolants during rolling of steel and non-ferrous alloys

Advantages: high filtration rate, low filter medium consumption, dry cake discharge, flexible due to modular design

References:
more than 250 separators



GRAVITY BELT-TYPE FILTER

Filter area: 5 to 20 m²

Main usage:

cleaning of coolants during cold rolling of steel and non-ferrous alloys

Advantages:

continuous operation,
low maintenance costs,
simple installation,
varied usages

References:

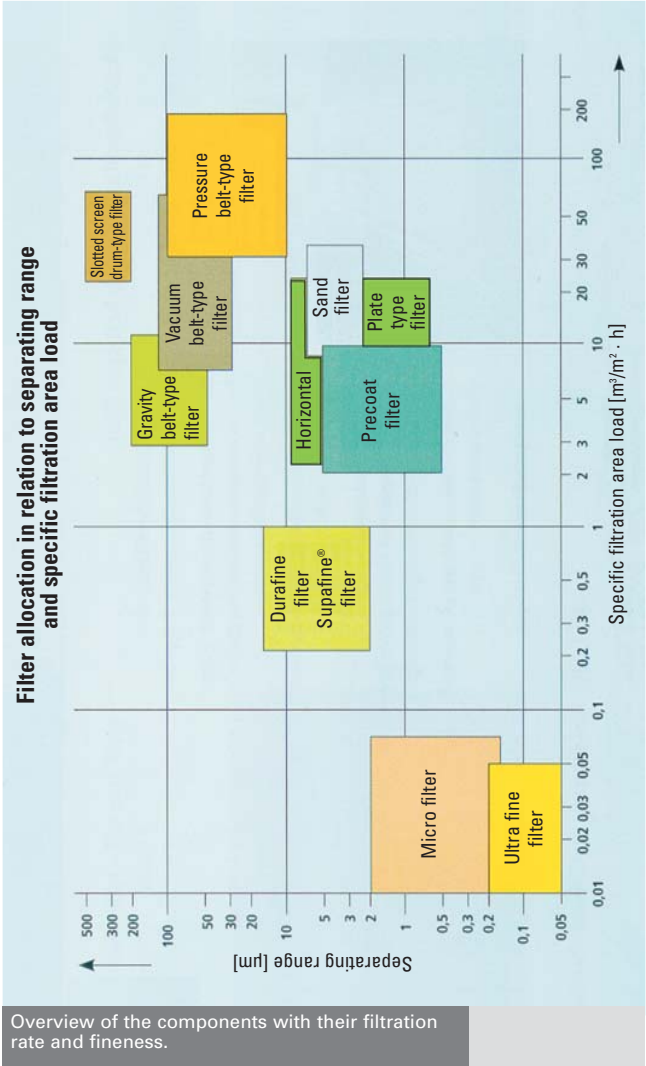
more than 250 separators



ADDITIONAL COMPONENTS

- Oil separator
Separation of free tramp oils from emulsions
- Pre-separators
Used in the case of heavy soiling
- Filter agent units
Provision and preparation filter agents for pre-coating procedures

OVERVIEW



Overview of the components with their filtration rate and fineness.

SMS Siemag AG

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MEETING your EXPECTATIONS