SCHRADER

WOOD + PULP

SCHRADER unites process-based solutions, system components and process control to create turn-key, highly automated production plants.

The SCHRADER Concept

From concept to turn-key plant – a new generation of plant engineering

The interactions between economy and ecology, energy saving and sustainability are of increasing importance and are among the highest priorities in today's plant engineering environment. Our experienced project managers and their highly capable task forces combine process-based solutions, system components and process control systems to create turn-key, highly automated production plants to meet the most demanding requirements.

Our project services include planning, implementing, assembling, commissioning and, if required, maintenance and process optimisation.

What we mean by turn-key

CONCEPT	Analysis of the wastewater Preengineering
ENGINEERING	Basic engineering Detail engineering
IMPLEMENTATION	Manufacturing Procurement Construction (assembly)
START-UP	Commissioning Documentation
CUSTOMER SERVICES	Spare parts Service and maintenance Process optimisation

ACHIEVING TARGETS – THROUGH STRATEGY

SCHRADER was founded in 1969 near the town of Münster, north-west Germany. Today, the company covers the fields of process engineering, fluid technology and apparatus construction.

Interdisciplinary cooperation among more than 200 employees facilitates an invaluable knowledge transfer between us and our customers worldwide, which boosts our capabilities from one project to the next.

SCHRADER – customized solutions in focus

We develop customized solutions with apparatuses heat exchangers and plants designed specifically for your application. Our engineers and dedicated teams in the field of process engineering will design and implement your individual plant, fine-tuned to the requirements of your process situations – a turn-key plant for which we are responsible up to the point where you use it for production.

PROCESS REQUIREMENTS

- Reliability
- Quality (robust and reproducible)

SUSTAINABILITY

- Optimised energy consumption
- Optimised use of supply fluids

COMPONENTS

- In-house apparatuses and heat exchanger construction
- In-house assembly and piping construction team
- In-house measurement and control engineering department
- Procurement of first rate, tried-and-tested standard or special-purpose components and machines

EASE OF USE

- Individual adaptation to local conditions
- Individual adaptation to working procedures and key functions

From the laboratory examination to the perfect solution – by SCHRADER

SCHRADER creates complex evaporation systems that are exactly tuned to the needs of your industry-specific requirements. We scale the plant on the basis of the input parameters such as quantities, pressures and temperatures, while keeping a watchful eye on energy efficiency and plant safety.

On request, we can incorporate the degree of automation and any necessary documentation in the plans. Optimum recovery levels and – where necessary – favourable disposal of the final products are the targets that we aim to achieve with the lowest possible energy input.

WOOD + PULP

SCHRADER – Your specialist for high-grade evaporation technology

Energy-efficient wastewater treatment is the alpha and omega in wood and pulp production in today's world.

SCHRADER specialises in the development of innovative evaporation systems and will support you in achieving the figures and targets you are aiming for. By applying optimised processes within the individual modules, we can create optimum, sustainable production conditions for your application.

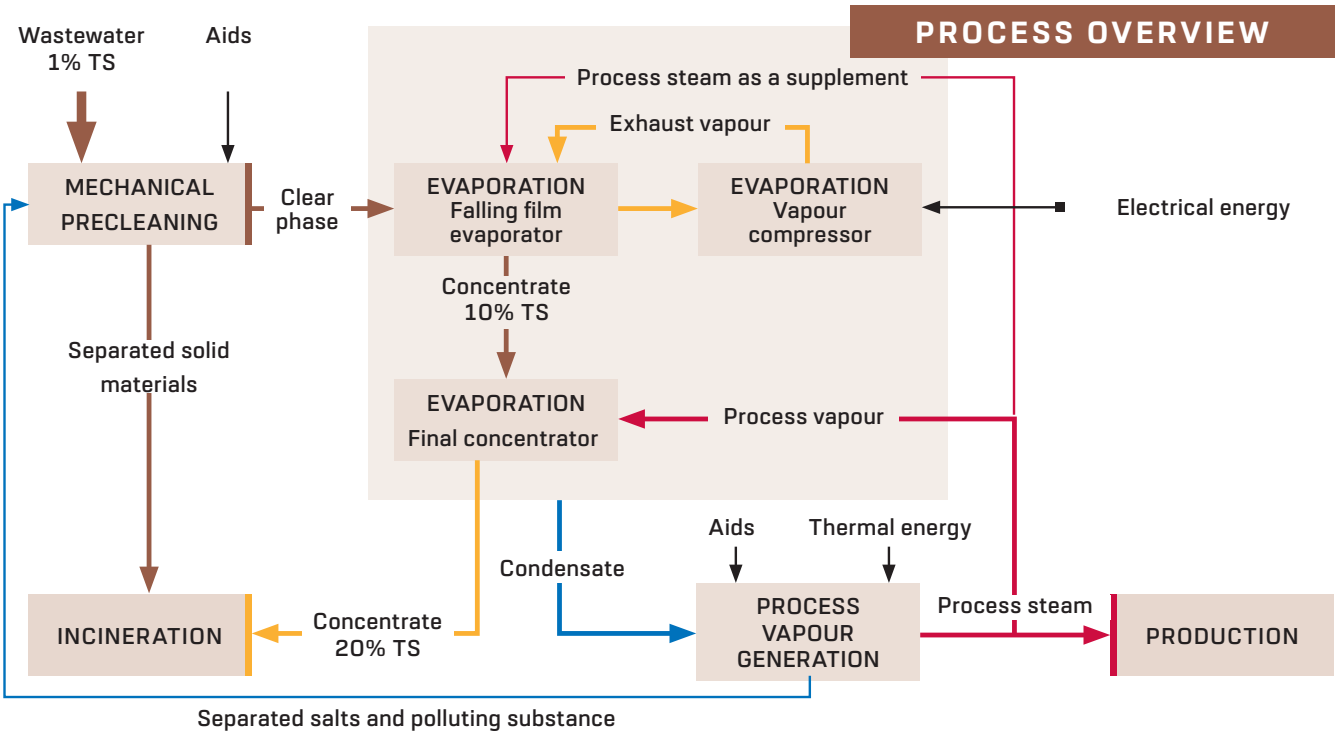
WASTEWATER TREATMENT – preconditions and objectives

The manufacture of MDF boards and paper generates wastewater containing residues from the processes that cannot be disposed of through public effluent treatment systems. Economic treatment of this water is achievable through a number of energy-efficient recovery systems:

- Return to the production process
- Use to generate process steam
- Incinerate the separated solid matter and concentrate

The precondition for this process is that continuous flow is guaranteed within the system. To ensure this is the case, we conduct an analysis of the status quo covering all the process data like quantities, quality, temperature and pressure at the very beginning of the project engineering phase.

On the basis of the results of the analysis, SCHRADER will develop a customized plant concept for your application.



PRECLEANING

- Removal of particles > 1 mm from the process wastewater
- Fine separation of turbidities using decanter centrifuges or filter press
- Supply of precleaned wastewater to single or multi-stage evaporation
- Supply of solid to incineration

EVAPORATION

- Concentrate wastewater to 10 % TS without a final concentrator or 20 % TS content with a final concentrator
- Use vapours as a heating medium by means of mechanical vapour recompression
- Transfer concentrate to incineration

PROCESS STEAM GENERATION

- Generate process steam from condensate from the evaporation drying system supplemented with feedwater
- Transfer the process steam to evaporation and to MDF production

THE ADVANTAGES AT A GLANCE

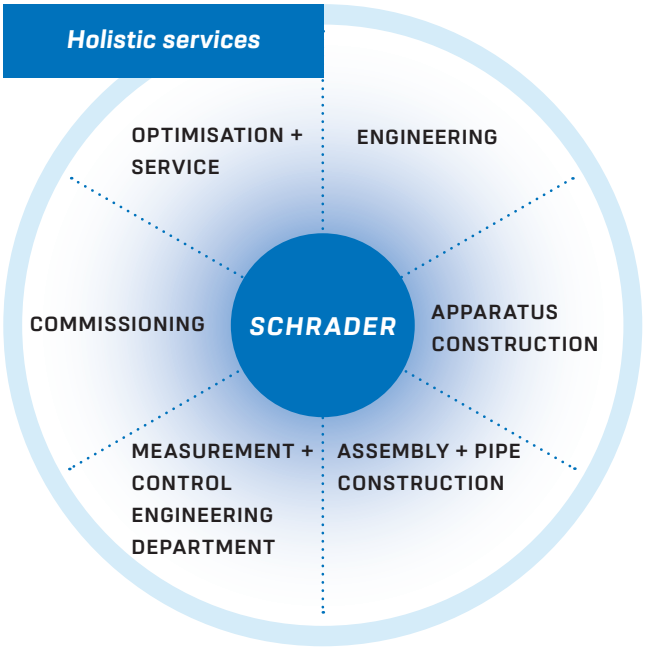
- Requirements and regulations from the authorities are fully met because this process is effluent-free in the manufacture of MDF boards
- Load reduction on municipal sewage farms
- Avoidance of effluent charges
- Reduction in the amount of fresh water required by 50 per cent
- Reduction in the amount of residual waste to be disposed of by means of adding solids to the combustion phase
- Reduction in the amount of steam required from boiler feedwater

Flexibility, quality and technical expertise

Exploiting synergies – by applying our holistic range of services

in the interests of the customer and quality, in a flexible, communicative, capable manner – the SCHRADER team is at your side to implement the best achievable solution for your specific application.

Consistently close cooperation between the SCHRADER divisions and their over 200 employees guarantees you will benefit from a reliable, outcome-orientated partnership and a broad range of services from the planning and coordination stage through to hand-over of the turn-key plant.



SCHRADER apparatus construction

Qualified welding business for high-grade vessels, equipment and apparatuses.

Focus on:

- Pressure vessels in compliance with applicable directives
- Falling film evaporators
- Tube bundle heat exchangers
- Plate heat exchangers
- Flat tube heat exchangers
- Special-purpose equipment and apparatuses

Crane capacity up to 23 m
up to 100 t

SCHRADER is a preferred specialist for innovative, individual, process-optimised solutions in plant engineering – from the prototype through to the finished production plant.

After completion and commissioning, we will continue to be your contact for continuous optimisation and all service matters.

SCHRADER has its own expert teams for installing complex apparatuses, for pipe construction and plants worldwide.

Our highly qualified staff guarantee first rate plant installation. At the centre of our work is our dedicated aim to meet your requirements. SCHRADER will provide you with a personal supervisor or a complete team on-site.

CONTROL ENGINEERING AND PROCESS AUTOMATION

From manual mode through to fully automatic

- Advisory services to determine the necessary plant configuration
- Process requirements
- Individual adaptations
- Options and opportunities – from necessary to convenient

The aim is to provide balanced interaction between the components, control and measuring instruments under production conditions on-site.

Control types:

- Pneumatic
- Hydraulic
- Elektric

Environments:

- ATEX
- Federal Water Resources Act (WHG)

CERTIFICATES AND PERMITS

The companies in the SCHRADER Group have the following certificates and permits:

- DIN EN ISO 9001:2015
- Pressure Equipment Directive 2014/68/EU Modul, G, A2
- AD 2000/HP0
- DIN EN ISO 3834-2
- Federal Water Resources Act (WHG) Sec.19.1
- ASME Section VIII Div.1 & Div.2
- SCC for contractors and manufacturing enterprises

The following standards and directives may be applied:

- ATEX 2014/34/EU
- Ghost R Certificat ho
- Chinese Manufacture License D1, D2

Further details on request.

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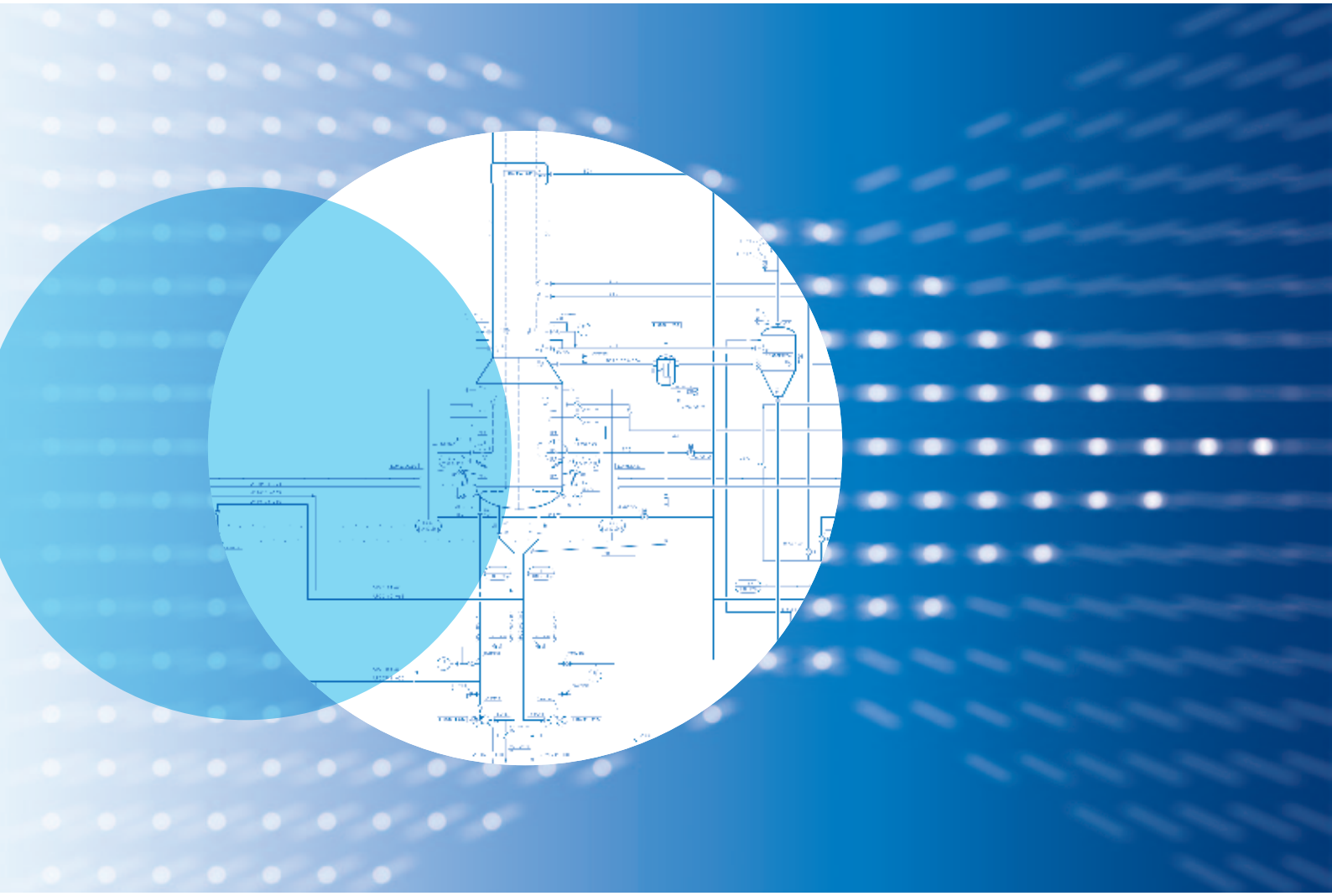

VERFAHRENSTECHNIK • APPARATEBAU • FLUID TECHNOLOGY

SCHRADER Verfahrenstechnik GmbH
Schleebergstraße 12 • 59320 Ennigerloh • Germany
Tel. +49 2524 266-0 • Fax +49 2524 266-50
info@schrader.de • www.schrader.de