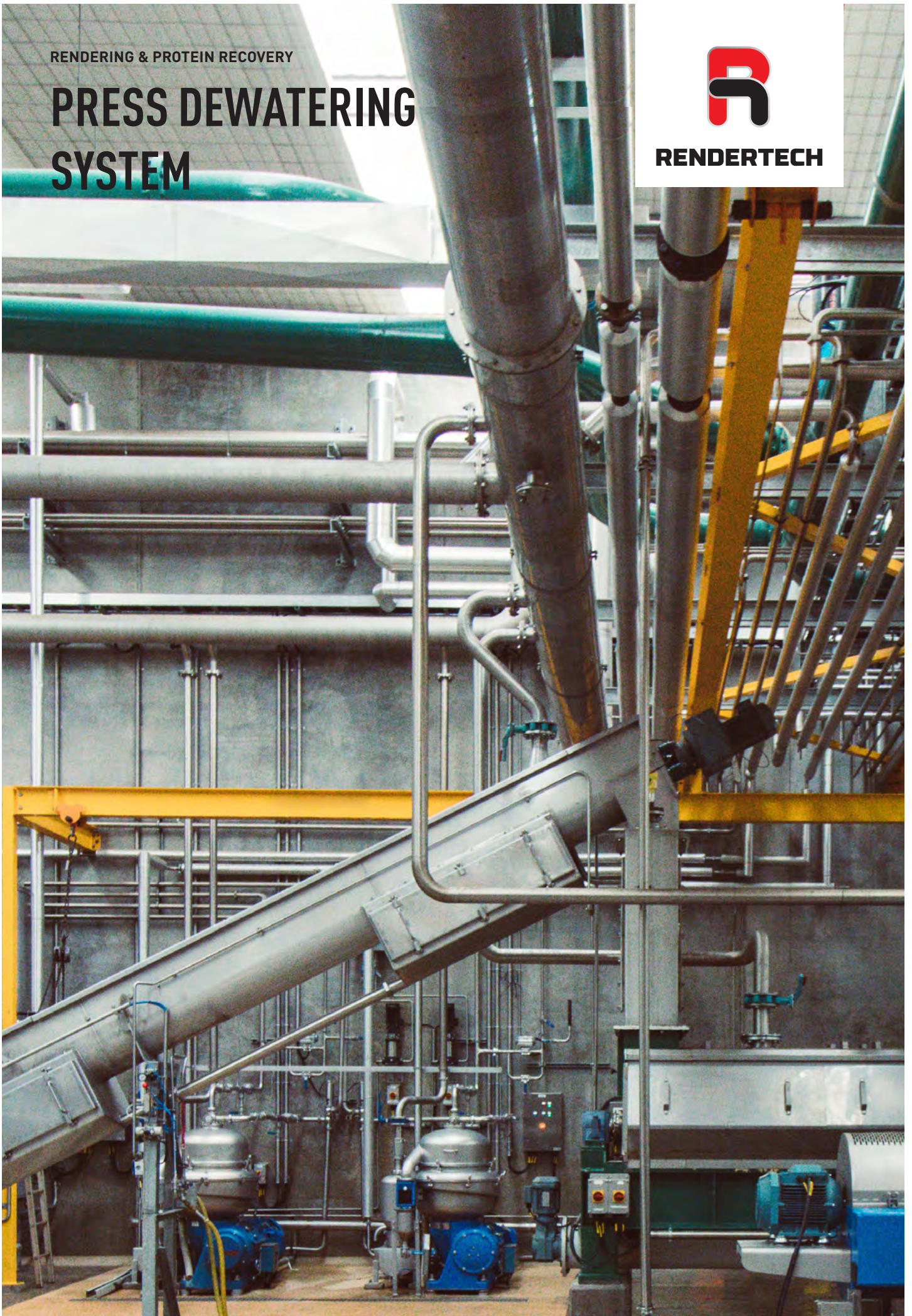


RENDERING & PROTEIN RECOVERY

PRESS DEWATERING SYSTEM



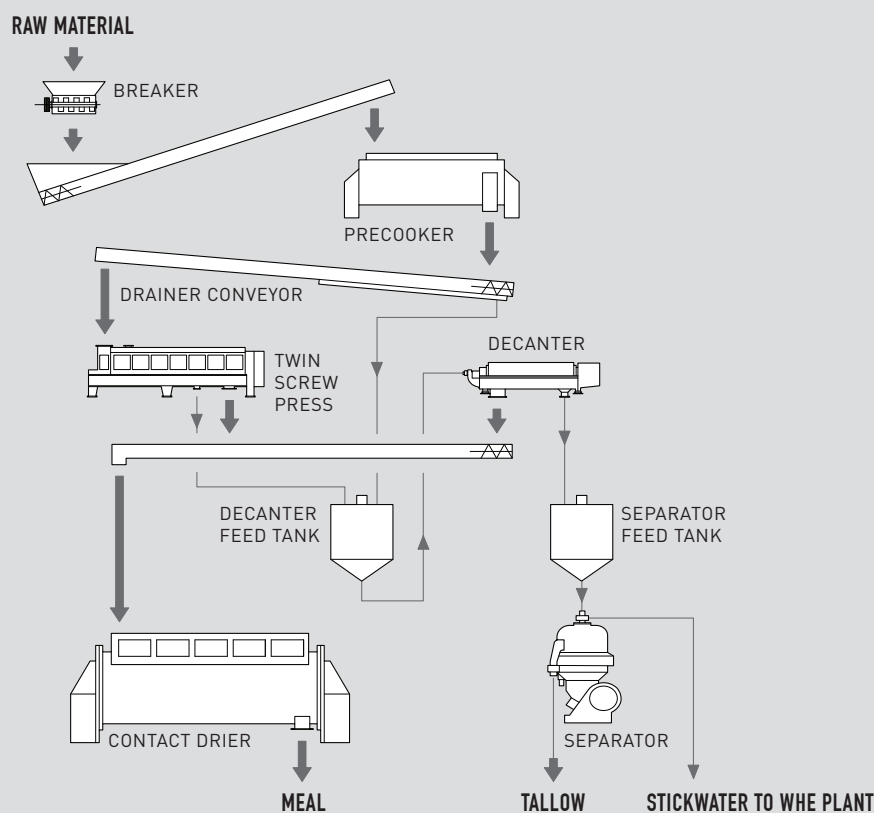
RENDETECH





The Rendertech Press Dewatering System (PDS) is a low-temperature wet rendering process suitable for plant raw material capacities of 5 tonne/hr and above. It produces high-quality end products, has low energy consumption and is simple to operate. When the system is fitted with a Rendertech Waste Heat Evaporator for stickwater recovery, the process is virtually 'zero waste', resulting in high product yield and low wastewater loads.

PRESS DEWATERING SYSTEM


RENDETECH


FEATURES AND BENEFITS

This system has the lowest energy requirements of any rendering process type.

Higher-quality end products – tallow is not exposed to high temperatures.

Continuous, automated process.

Low maintenance costs.

The lowest odour footprint – fully enclosed system for effective odour capture and treatment.

PROCESS DESCRIPTION

Raw material preparation

Raw material is broken in the Fine Breaker to give a particle size of 20–25mm. The crushed material is then conveyed to the Precooker.

Precooking

The Precooker is a continuous indirect heat exchanger. It consists of an outer shell and a heated disc rotor. The heat transfer is by rotation of the rotor in the raw material. The raw material is fed continuously to the Precooker where it is heated rapidly to 90–100°C to coagulate the proteins and break down the fat cells. The temperature is controlled by automatic regulation of the steam supply pressure.

Pressing

After precooking, the raw material is continuously discharged from the Precooker and conveyed by the Drainer Screw to the Twin Screw Press. Free liquids percolate out in the Drainer Screw; then, in the press, most of the remaining fat and water is removed, leaving a cake with a moisture content of 45–55%.

The press and drainer liquid, consisting of fat, water and a small percentage of the fine solids, is pumped to the Decanter Feed Tank and the press cake is continuously conveyed to the Drier.

Tallow refining

The press liquid is reheated in the Decanter Feed Tank before being



pumped to the Decanter for removal of fine solids. The fines are discharged into the Drier Feed Conveyor and the liquids flow to the Separator Feed Tank. Acid is automatically added according to the system settings and the liquid reheated before final 'polishing' in a disc Separator to remove the remaining moisture and fine solids. The stickwater (water phase) is pumped to the Waste Heat Evaporator. The separator sludge is recycled to the Precooker and the polished tallow is pumped to storage.

Stickwater concentration

The stickwater, which contains dissolved protein and fat, is concentrated in the Waste Heat Evaporator using vapour from the

Contact Drier (CD). The concentrate is pumped to the CD.

Drying

The defatted solids from the press, decanter fines and stickwater concentrate are dried in the Contact Drier. The meal leaving the drier is ready for milling and screening.

Ancillary equipment

Rendertech can provide ancillary equipment to suit the specific requirements of your site, including raw material preparation and storage, conveying, meal milling and storage, tallow storage, steam generation, heat recovery, odour control, and wastewater treatment.

OPTIONS

- Standard designs from 5 to 25 tonne/hr
- Flexible layouts to suit available space
- Complete turnkey installation

**YOUR
PROCESS
PARTNER**

We are specialists in process and storage solutions, providing the products and technical expertise to get the best from your plant. For more information call for a no obligation chat about your processing needs.

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