

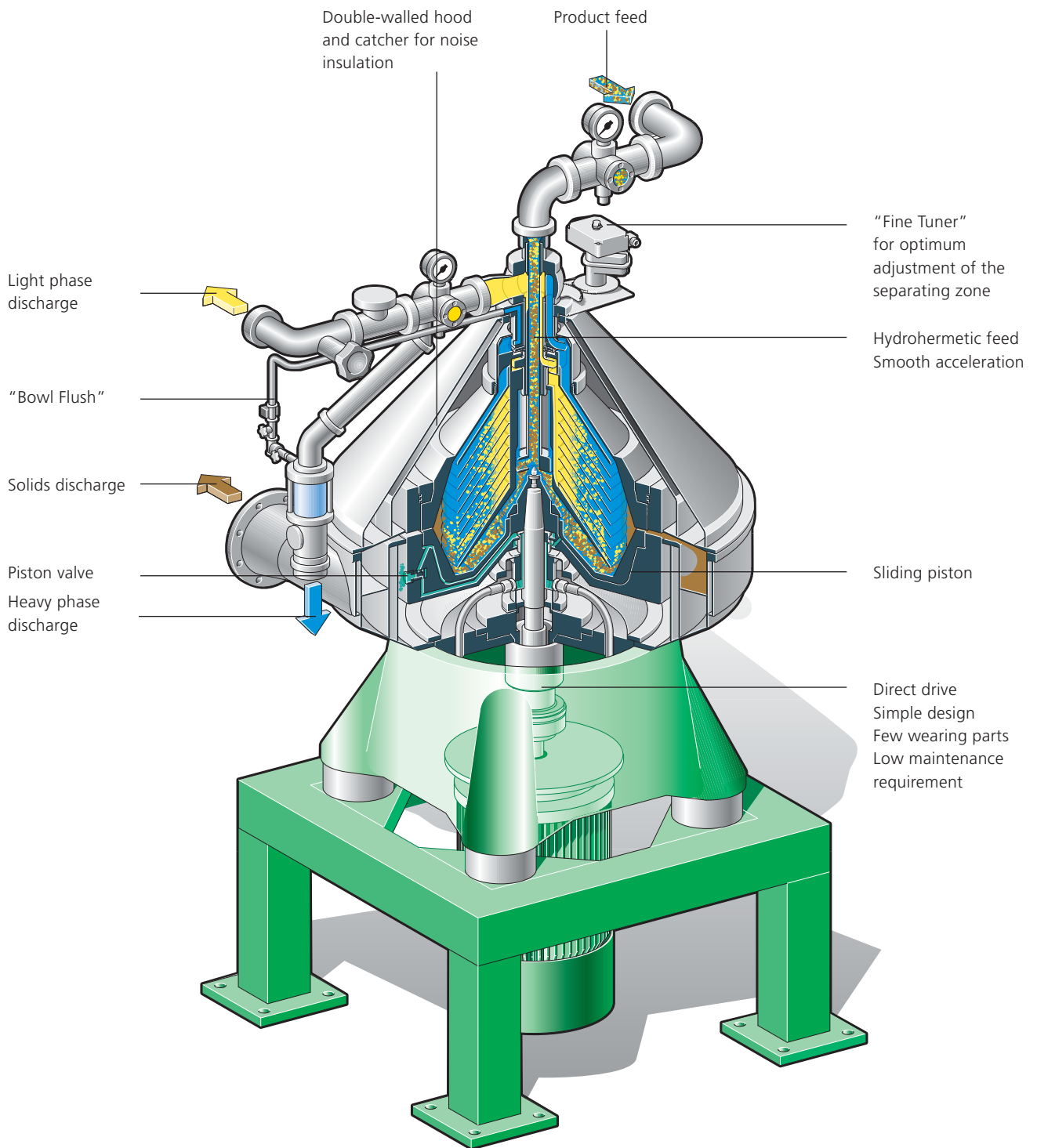
*Liquids to Value*



## Centrifuges for the Edible Oil Industry from GEA Westfalia Separator



# Separator RSE 300 with Direct Drive



# Special Features of the Separator

## Fine Tuner

The Fine Tuner, which has been developed by GEA Westfalia Separator, is a combination between a centripetal pump and a paring tube. It is characterised by a substantially improved efficiency factor compared to conventional centripetal pumps. This is the ratio of the conversion of rotational energy into pressure.

The efficiency factor with the fine tuner can be rated at almost 0.9. The effect is viscous media such as gums from super degumming installations can be discharged without difficulty. The adjustment of the Fine Tuner diameter can be done by a manual hand wheel or by a pneumatic actuator from the control unit.

## Hydrohermetic feed

The hydrohermetic feed system developed by GEA Westfalia Separator protects the product from exposure to the high shearing forces, which would break up the gums or soap particles and con-

sequently making separation a lot more difficult. Emulsification is avoided at this point especially during washing and winterisation.

## Hydrohermetic vapour seal

The hydrohermetic vapour seal (sealing by liquid) prevents vapours from rising out of the feeding chamber into the lower centripetal pump chamber. This has a positive effect in case of higher separating temperatures ( $> 90^{\circ}$ ).

## Bowl flush

Liquid can be fed into the sediment holding space through a separate bowl flush water channel.

# Advantages of the Special Features

## Fine Tuner

- For optimum adjustment of the separating zone
- Flexibility of the separators. A single machine can carry out all refining processes without the need for converting the machine
- Improved operating reliability and eliminates the risk of oil losses

## Hydrohermetic feed

- Protects the product from exposure to high shearing forces through gentle product feed
- No mechanical seal and therefore no additional cooling water consumption
- No oxygen pick-up

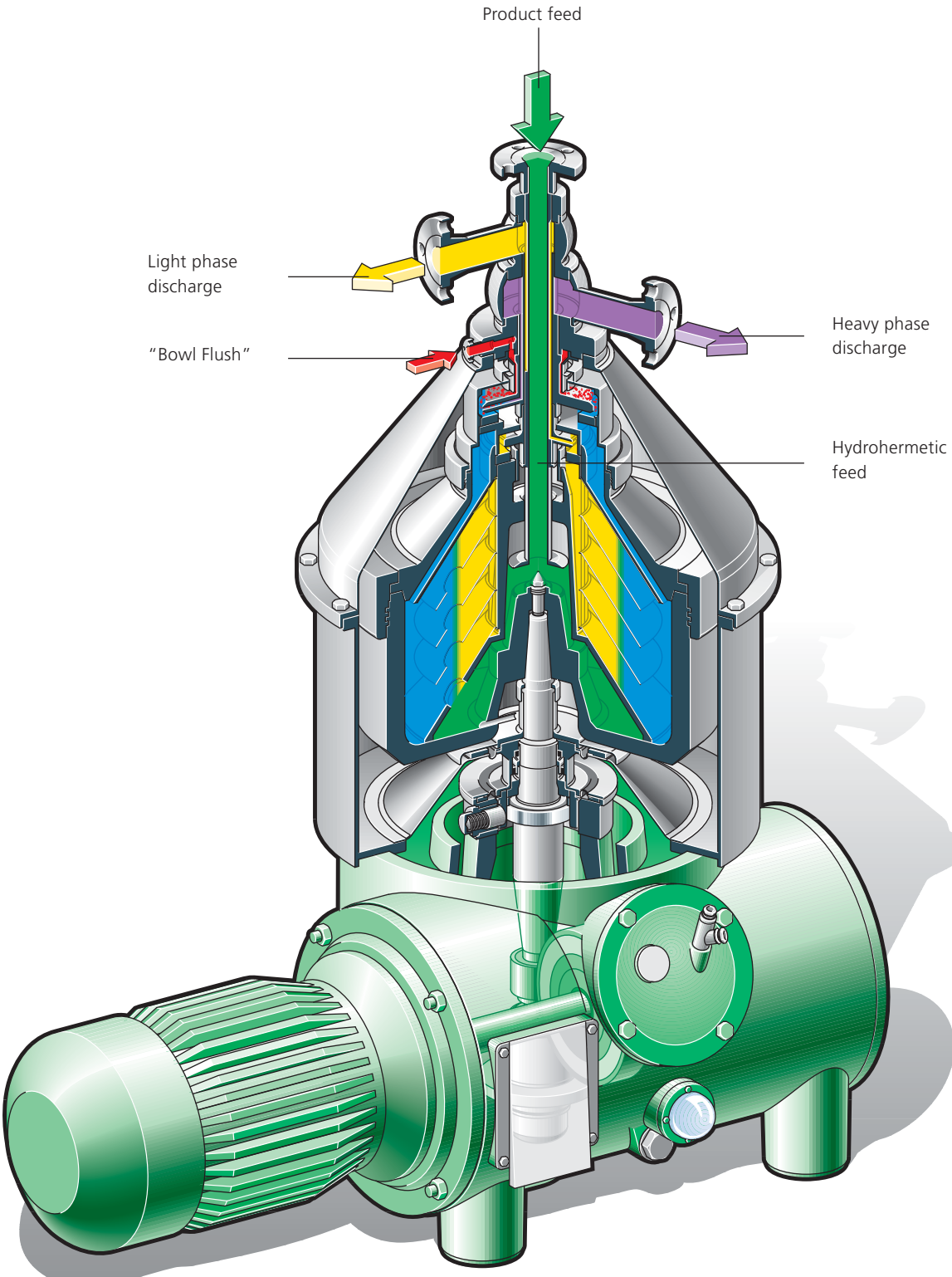
## Hydrohermetic vapour seal

- The hydrohermetic seal prevents vapours in the inlet space from causing turbidity in the oil

## Bowl flush

- Excess lye or acid can be flushed out, preventing a heavy phase seal
- A highly viscous heavy phase can be diluted to improve its flow characteristics

# Separator RTC 150 with Gear Drive



# Available Drives for Edible Oil Separators

## Gear drive

The conventional drive concept of the separators is the worm wheel gear, fluid clutch and standard motor with direct switching. The toothing of the worm wheel gear was optimised in order to reduce the noise level.

## Advantages of the gear drive

- No requirement for the frequency converter
- Reliable design
- Suitable design for small machines



RSE 60 with gear drive

## Flat belt drive

Flat belt drive can be used for the heavy bowls of larger machines. The power transmission from the torque-controlled motor to the bowl spindle is via a single flat belt without an intermediary clutch. The design is very simple and maintenance-friendly. The spindle can be removed together with the complete bearing assembly and can be serviced outside the machine. This reduces considerably the downtime for maintenance.

## Advantages of the flat belt drive

- Longer oil change interval
- Longer maintenance intervals
- Lower maintenance cost
- Reduced noise level



RSE 220 with flat belt drive

## Direct drive

Direct drive is the intelligent simplification in separation technology. Direct drive is used in applications where the upper limit for gear loads has been reached or when belt drive is undesirable. Direct drive separators drive with virtually loss-free power transmission. Less energy consumption, lower maintenance and space mean increased performance for production.

## Advantages of the direct drive

- Lower space requirement
- Lower maintenance requirement
- Lower energy costs
- Fewer wearing parts
- Further reduction of noise level compared to the flat belt drive
- The direct drive meets all explosion proof requirements



RSE 300 with direct drive

# Capacity of Edible Oil Refining – Centrifuges in Different Processes

	RSE 40	RSE 50	RSE 60	RSE 90	RSE 120	RSE 170	RSE 220	RSE 300	RSE 450
Water degumming	60 t/d	120 t/d	150 t/d	200 t/d	360 t/d	450 t/d	800 t/d	1200 t/d	1600 t/d
Acid degumming	60 t/d	120 t/d	150 t/d	200 t/d	360 t/d	450 t/d	800 t/d	1000 t/d	1500 t/d
Neutralisation <sup>2</sup>	60 t/d	120 t/d	150 t/d	200 t/d	360 t/d	450 t/d	800 t/d	1200 t/d	1600 t/d
Washing	60 t/d	120 t/d	150 t/d	250 t/d	360 t/d	450 t/d	800 t/d	1200 t/d	1600 t/d
Winterisation	30 t/d	60 t/d	75 t/d	100 t/d	180 t/d	200 t/d	400 t/d	500 t/d	800 t/d
Cold refining	30 t/d	60 t/d	75 t/d	100 t/d	180 t/d	200 t/d	400 t/d	500 t/d	800 t/d
Miscella refining	40 t/d	-	100 t/d	120 t/d	200 t/d	240 t/d	500 t/d	720 t/d	1000 t/d

	RTB 45 <sup>1</sup>	RTA 50 <sup>1</sup>	RTC 150 <sup>1</sup>
Water degumming	60 t/d	100 t/d	300 t/d
Acid degumming	50 t/d	100 t/d	300 t/d
Neutralisation <sup>2</sup>	60 t/d	75 t/d	300 t/d
Washing	120 t/d	150 t/d	420 t/d
Winterisation	50 t/d	60 t/d	150 t/d
Cold refining	30 t/d	50 t/d	120 t/d
Miscella refining	-	75 t/d	200 t/d

<sup>1</sup> Not available with all features

<sup>2</sup> Pre-degummed crude oils; FFA content max. 3 %; P-content max. 200 ppm

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Printed on chlorine-free bleached paper

9997-1711-010/0810 EN

Printed in Germany

Subject to modification



GEA Mechanical Equipment

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