



Decanter centrifuges

for laboratory and pilot plant

1 L/h to 200 L/h

 Made in Germany

Lab decanter centrifuges

Lemitec decanter centrifuges were developed specifically as two-phase decanter centrifuges for use in laboratories and pilot plants to enable small quantities of products to be processed at rates of between 1 L/h to 200 L/h in a continuous separation operation. The maximum throughput or feed rate depends on the separation characteristics of the specific products.

The minimum throughputs of industrial decanter centrifuges are generally far greater than the throughputs required for the quantities of products available in research laboratories. In the past, the processing stage of continuous separation therefore frequently had to be simulated with alternative batch-wise separation methods.

The laboratory decanters are used for solid-liquid separation, their principal application being the separation of liquid-based suspensions of organic and inorganic solids.

Applications

Lemitec decanter centrifuges are typically used in the

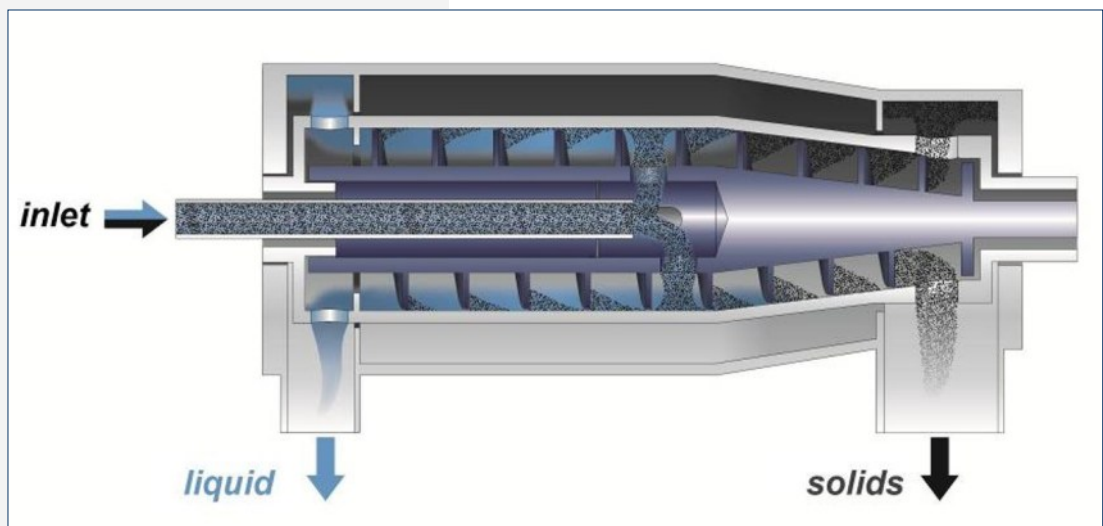
- food and fermentation industries
- chemical and pharmaceutical industries
- biotechnology
- bioenergy

Lemitec decanter centrifuges are especially well suited for R&D Departments but also for the production of high-quality products requiring material flows of less than 200 L/h.

The lab decanter centrifuges can be used for separation tasks of small batches from 5 Liter upwards.

Lemitec decanter centrifuges...

- are ideal in any fields where industrial decanter centrifuges are used.
- are often used as an analytic instrument to obtain data on the product or process quality or flow properties of individual product phases. The flow behavior of the product stream and the change in the torque between the bowl and the scroll are displayed on the control panel of the decanter centrifuge as a function of the power consumption of the drive motors and recorded, thus enabling the flow behavior to be evaluated for the purpose of modelling decanter applications.
- can be used to control the quality of products during operations and production.



Operating principle of the decanter centrifuge

Measuring

Lemitec decanter centrifuges can also be used as measuring instruments to obtain data on the flow properties of individual product phases. The flow behaviour of the product stream and the change in the torque between the bowl and the scroll are displayed on the control panel of the decanter centrifuge as a function of the power consumption of the drive motors and recorded, thus enabling the flow behaviour to be evaluated for the purpose of modelling decanter applications.



Construction

All Lemitec decanter centrifuges have been designed to be compact and simple to operate as well as ensuring functionality and taking full account of users' needs. The number of components has been kept to a minimum, as has the equipment required for assembly. The set-up times have thus been considerably reduced and the changeover from one product to another, including the time required for thorough cleaning of the centrifuges, can be completed in just thirty minutes.



Options

- Design and construction of a separation process system on a mobile stand including Pump, stirrer, etc.
- Different product connections available:
Tri-Clamp (DIN 32676)
Screwed pipe connection (DIN 11851)
Quick coupling (e.g. Rectus)
- Temperature controlled rotor
- Use under sterile conditions
- Autoclavable process unit



Control

The decanter centrifuge is controlled and monitored by means of a modern touch screen that also displays all important process parameters at a glance. The acceleration (g force) and the differential speed are also fully adjustable during operation and can be altered to suit the product.



ADVANTAGES at a glance

- universal decanter centrifuge
- compact space saving design
- fully sterilizable
- simple to operate / easy to use & short setup times
- quick cleaning and product change - under 30 minutes



Technical Data

Model	MD 60-Sn	MD 80-Sn	MD 100-Sn
Product			
Recommended min. batch size	5 L	10 L	15 L
Product temperature range	+5°C - 80°C	+5°C - 80°C	+5°C - 80°C
max. density of the solids	5 g / mL	5 g / mL	5 g / mL
Throughput			
Throughput of the decanter	1 - 30 L/h	5 - 100 L/h	10 - 200 L/h
Inner diameter of the feeding pipe	8 mm	12 mm	15 mm
Bowl			
Inner diameter	60 mm	80 mm	100 mm
Cone angle	7 degrees	7 degrees	7 degrees
Filling volume	95 - 200 mL	220 - 475 mL	1,000 - 1,500 mL
Scroll			
Pitch	20 mm, constant	25 mm, constant	30 mm, constant
Drive			
Acceleration range	7 - 3,300 x g	11 - 4,400 x g	14 - 4,527 x g
Differential speed	0 - 200 rpm	0 - 200 rpm	0 - 200 rpm
Power			
Voltage	1-phase, 200V-230 V AC	3-phase, 400V-480V AC	3-phase, 400V-480V AC
	50 - 60 Hz	50 - 60 Hz	50 - 60 Hz
Amperage	16 A	16 A	16 A
Material of product contacted parts			
Metal parts	DIN 1.4404 / 316 L	DIN 1.4404 / 316 L	DIN 1.4404 / 316 L
Plastic parts	POM, PEEK, PTFE	POM, PEEK, PTFE	POM, PEEK, PTFE
Sealings	FKM, EPDM, FFKM	FKM, EPDM, FFKM	FKM, EPDM, FFKM
	<i>Other materials on request</i>		
Dimensions and weights			
Decanter	700 x 300x 500 mm	1,000 x 350 x 550 mm	1800 x 800 x 1100
Weight (without packaging)	80 kg	125 kg	400 kg
Control unit (cabinet)	300 x 400 x 700	400 x 500 x 970 mm	<i>Integrated</i>
Weight (without packaging)	24 kg	47 kg	

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