



**Filter Centrifuges for
Pharmaceutical Industry**

HEINKEL – proud partner of the centrifugal force since 1971



A company with a long tradition

HEINKEL is a supplier of filtration and drying machinery and equipment. Their functionality, design and construction follow an integrated approach: customized, durable, cost optimized, and efficient.

A powerful group of companies

HEINKEL realizes part or full concepts for chemical synthesis plants. Individual modules are aligned, interfaces to other modules defined, and standard automation philosophies developed. The equipment is tested and fully documented to achieve a quick and trouble-free commissioning on site.

An innovative developer

HEINKEL manufactures machines and equipment for the filtration of solids in the chemical-pharmaceutical industry, the fine and special chemical industry, the food industry, as well as the recycling and environmental industries: even for extremely difficult filtering products.

A competent partner

HEINKEL offers customized service concepts and guarantees for their spare parts deliveries as well as repairs: around the clock, worldwide.

Core competence:

- Solids/liquid separation
- Manufacturing of centrifuges
- Concepts for solids separation
- Combined concepts including centrifugation and drying
- Automation concepts for centrifuges and separation systems

Vertical centrifuges

V 200-TP – V 500-TP



The vertical centrifuges Type V 200-TP, V 300-TP V 400-TP and V 500 TP have been designed for basic tests of centrifugal separation technology.

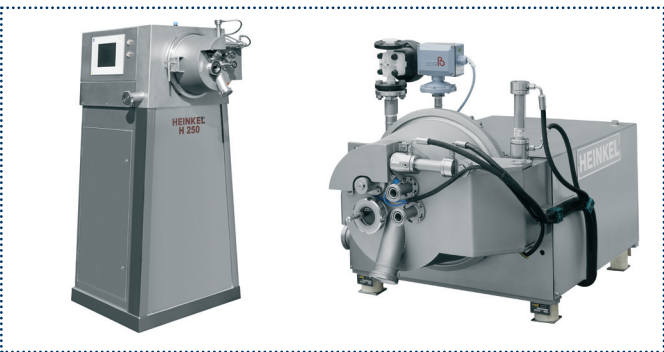
The advantages of these centrifuges are:

- Mobile design with small food print
- Easy installation; "Plug and use"
- Ideal for upscaling
- Simplest handling
- CIP Cleaning
- Installation in separator housing / glove box possible

Technical Data Vertical centrifuges	V 200-TP	V 300-TP		V 400-TP	V 500-TP
Bowl diameter (mm)	200	200	300	400	500
Bowl depth (mm)	100	100	150	250	300
Filter surface (m²)	0,062	0,062	0,141	0,314	0,47
Nominal volume (l)	1,5	1,5	4,9	16	30
Maximum load (kg)	2,0	2,0	8,0	20,0	36
Max. speed (l/min)	4200	4200	3500	2000	3000
Max. Centrifugal force	1960	1960	2055	900	2550
Weight (kg)	380	450	450	550	1300
Dimensions					

Pilot plant centrifuges

H 250-P – H 500-P



The HEINKEL horizontal peeler centrifuges of the H 250 P, H 400 P and H 500 P range have been designed specifically for demanding lab and experimental operations, pilot plants and small batch productions.

The advantages of these centrifuges are:

- Small foot print
- Easy installation; "Plug and use"
- cGMP conformity
- Fully automated operation
- Ideal for upscaling

Technische Daten Horizontal peeler centrifuges	H 250-P			H 400-P	H 500-P
Bowl diameter (mm)	250	300	320	400	500
Bowl depth (mm)	125	125	65	200	250
Filter surface (m²)	0,098	0,117	0,065	0,251	0,39
Nominal volume (l)	2,5	4,9	3,38	10	20
Maximum load (kg)	3,1	6,2	5,0	12,5	25
Max. speed (l/min)	3800	3450	3350	3000	2670
Max. Centrifugal force	2020	2000	2000	2015	2000
Weight (kg)	750	750	750	1250	3900
Dimensions					

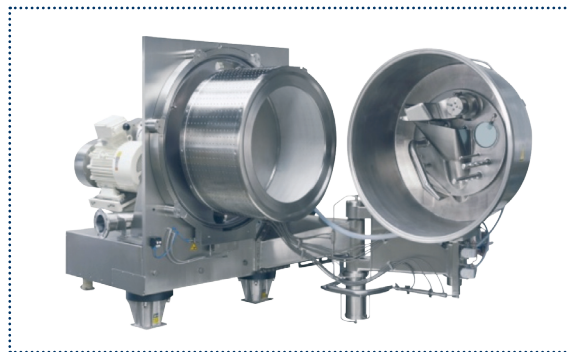
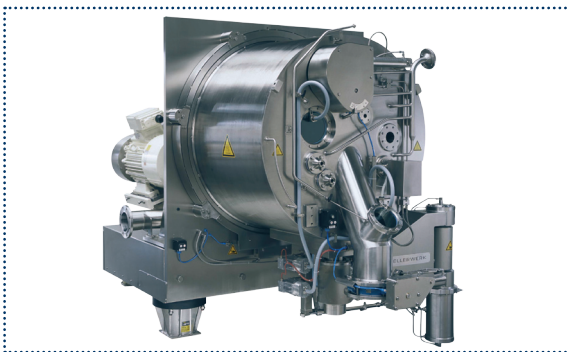
Horizontal peeler centrifuges

Typ H 630-P – H 1300-P

Lack of hygiene in machines and equipment in pharmaceutical applications can lead to health risks due to product contamination. Therefore HEINKEL centrifuges have been designed to accommodate easy cleaning and inspection.

The advantages of these centrifuges are:

- Wide range of applications
- Highest CCMP standard
- Fully automated and validated CIP-Cleaning
- Inspect ability of all parts in product area
- Clean Room Design
- Manufactured with FDA conform materials for bodywork and seals
- Enclosed design to avoid contamination



The automatically opening housing of the centrifuge allows for total access and therefore complete inspection of all component parts within the process area.

Product deposits are minimized through the virtually dead spot free design and highly polished surfaces. The pneumatic residual heel removal guarantees a complete product discharge. A fully automated CIP system, where required complemented with flooding of the process housing, accomplishes a thorough cleaning of all surfaces in the process area. The GMP-compatible design of these series is continually improved.

For the highest standards of reproducible quality

Our customers prefer HEINKEL pharmaceutical centrifuges whenever the highest demands are made regarding reproducible quality of high value substances. Since these are often physiologically active fine chemicals, our centrifuges are designed to prevent any contact between operators and the product.

Efficient CIP systems

Our horizontal peeler centrifuges comply with all requirements of the pharmaceutical industry. Efficient CIP systems allow cleaning of the closed product area, hinged housings enable an inspection all surfaces in contact with product. For this reason our centrifuges are often applied in synthesis plants with frequent product changes.

Maximum safety

With their closed design and the fully automated, uninterrupted operation, HEINKEL centrifuges fulfil the highest safety standards and guarantee maximum safety for the operating personnel, the environment and the product.



Technical Data Horizontal peeler centrifuges Pharma	H630-P	H800-P	H 1000-P	H 1300-P	
Bowl diameter (mm)	630	800	1000	1300	1300
Bowl depth (mm)	315	400	500	700	800
Filter surface (m²)	0,62	1,00	1,60	2,86	3,27
Nominal volume (l)	42	85	170	303	346
Maximum load (kg)	53	106	213	473	541
Max. speed (l/min)	2400	1800	1500	1180	1180
Max. Centrifugal force	2000	1450	1250	1005	1005
Weight (kg)	4300	4900	10000	16700	17100



Top discharge centrifuges

Typ V 400-TP – V 1250-TP

The classical HEINKEL- vertical top discharge centrifuges are a cost efficient alternative in small batch production. The centrifuge can easily be adapted to product performance. This makes it ideally suited to operations producing a multitude of varying products in small to medium batch sizes.

The advantages of these centrifuges are:

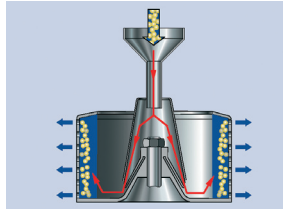
- Flexible design for poor filtering products
- Complete discharge of filter cake
- Gentle discharge preserving particle size
- Automated CIP
- Easy access to product contacted machine parts
- High washing and extraction performance
- Simple design

Technical Data Top discharge centrifuges Pharma	D 400-TP	D 500-TP	D 630-TP	D 800-TP	D 1000-TP	D 1250-TP
Bowl diameter (mm)	400	500	630	800	1000	1250
Bowl depth (mm)	250	315	400	630	630	630
Filter surface (m²)	0,31	0,50	0,80	1,58	1,98	2,48
Nominal volume (l)	16	31,5	63	160	250	400
Maximum load (kg)	20	40	80	200	315	500
Max. speed (l/min)	3000	2670	1900	1500	1200	950
Max. Centrifugal force	2000	2000	1250	1000	800	630
Weight (kg)	800	900	1200	1700	2400	3500

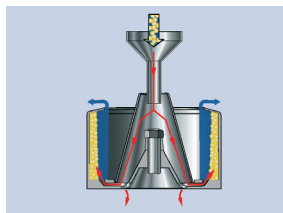
Horizontal peeler centrifuges

Bowl varieties Operating modes

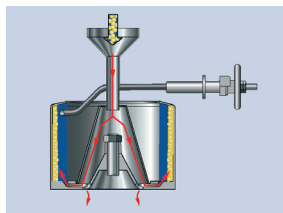
Perforated bowl



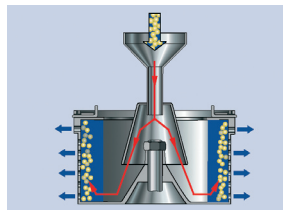
Overflow bowl



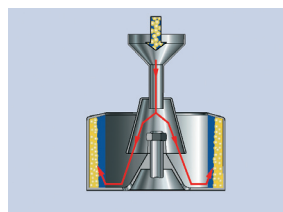
Skimming bowl



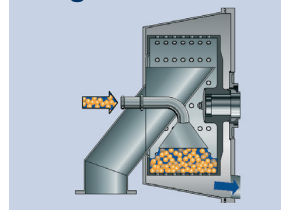
Perforated bowl
with removable top



Sedimentation bowl

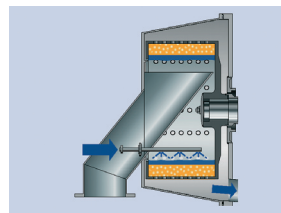


Filling



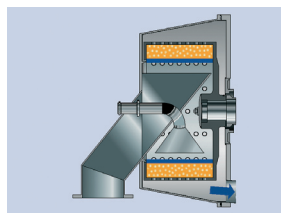
The slurry is introduced via a filling pipe into the centrifuge bowl. Build up of a homogenous cake can be guaranteed by optimising the filling speed, filling flow rate, and location of the feed pipe.

Washing



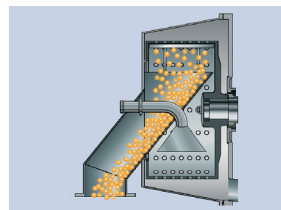
The wash liquid is introduced onto the cake by a separate wash line. The geometrically optimized wash tube achieves an even distribution of the wash liquor.

Spinning



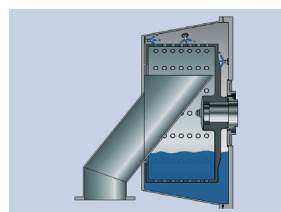
Inside the centrifuge bowl the filtrate is spun off at a free selectable speed. The reduction of the cake's moisture is time controlled. A fully automated level control enables a refill if required.

Discharge



The dried cake will be discharged using an intelligently controlled peeler knife. The product leaves the centrifuge by an optimal shaped chute. During discharge the centrifuge remains gas tight.

CIP



Fully automated CIP systems and partial flooding of the process housing effectively and quickly accomplish validated cleaning of Heinkel horizontal peeler centrifuges in the closed state.

Inspection



The process housing can be opened quickly and easily. All product contact surfaces of the process area are therefore easily accessible. No removal of machine components is necessary.

After Sales Service by HEINKEL –
ensuring that everything continues to turn over smoothly.

Product Support

Wear parts

Worldwide distribution
from stock
Ordering via web shop

Spare parts

Available worldwide
Ordering via web shop

Repairs

Worldwide inspection
on site within 24 hours,
365 days per year

Sales Support

Installation

Assembly and erection on
site

Start-up

Mechanical and electrical
commissioning, test runs

Training

Training of operators on
function, controls and trou-
bleshooting

Maintenance

Telemaintenance and
maintenance on site.

Guarantee

Comprehensive guarantees
on new machines.

Solution Support

Installation

Assembly and erection on
site

Start-up

Mechanical and electrical
commissioning, test runs

Training

Training of operators on
function, controls and
troubleshooting

Maintenance

Telemaintenance and
maintenance on site.

Guarantee

Comprehensive guarantees
on new machines.

Business Support

Refurbishment

Partial or complete
refurbishment of used
machines (of other
producers as well)

Guarantee

Guarantees for refur-
bished machines and
parts

Rental machines

Quick compensation
for failed units





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