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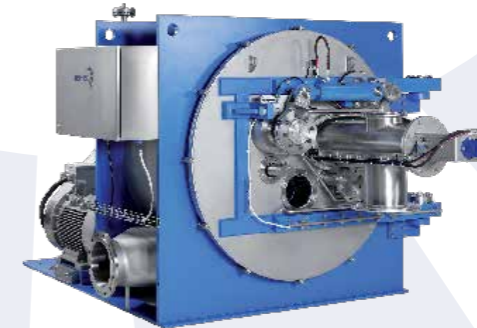
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Centrifuges CHEMICAL INDUSTRY





HEINKEL DRYING AND SEPARATION GROUP

The companies making up the HEINKEL DRYING AND SEPARATION GROUP between them have over 130 years of experience, offering innovative and dependable solutions in filtration and centrifugal technology, nutsche and vacuum drying and mixing.

Our brands BOLZ-SUMMIX, COMBER, ELLERWERK, GFT and HEINKEL have excellent reputation around the world.

This group of international companies boasts one of the widest product ranges for the pharmaceuticals, fine chemicals, chemical and food products industries:

- Lab Centrifuges
- Vertical Centrifuges
- Sedimentation and Classifying Centrifuges
- Horizontal Peeler Centrifuges
- Inverting Filter Centrifuges
- Tubular Filter and Ball Segment Valves
- Nutsche Filters and Filter Dryers
- Paddle Dryers
- Pan Dryers and Central Shaft Dryers
- Conical Screw Dryers

We are specialized in designing, manufacturing, selling and providing comprehensive aftersales service for high quality components and full systems for separating solids from liquids.

Our global sales and aftersales service network gives you the benefit of direct sales, dedicated sales organizations and well established sales partners in many different countries.

You can benefit from our professionalism, our staff expertise that has been built up over many years, and the financial strength of an international group coupled with the flexibility and rapid response of an small and medium sized enterprise.

From day one of testing your product on our laboratory equipment to the point at which you are ready to commission and launch the system, our team of experts will be there to support you all the way.

After these stages our aftersales service staff, with their many years of experience will take over to ensure that your production system is available in a consistent and sustainable way.

Complete system solutions comprising of a centrifuge, dryer and specific process equipment, with common control system can be integrated seamlessly for you by the Heinkel Group in our role as general supplier.

Your thorough understanding of both product and process combined with our long standing know-how in the areas of process engineering and the manufacture of process equipment and systems are the two essential ingredients for joint success.



Inverting filter centrifuges

HF 300.I – HF 1300.I

HEINKEL developed the inverting filter centrifuge in the early 1970s and can now look back on many years of experience. At that time the technology for automated product discharge with no residual layer and gentle on the grain was new; it is now time-proven, accepted and highly regarded in all application areas of the chemical industry.

Key benefits:

- Dependable discharge of solid material with no residual layer
- Clean filter cloth for the next filling process
- Discharge gentle on the grains, preserving the crystal structure
- Very simple 'through-the-wall' installation
- Very homogeneous cake build-up
- Homogeneous drainage results
- Filling process optimized by the control system, dependent on the product's drainage properties
- High rotational speeds during spinning with maximum drum load possible
- Centrifuging process can be regulated flexibly and adjusted automatically according to product properties
- Homogeneous washing results through the even cake structure
- Comparatively low consumption of wash medium and consequently low volume of wash filtrate to be processed
- No manual emptying of the drum or opening of the process housings necessary

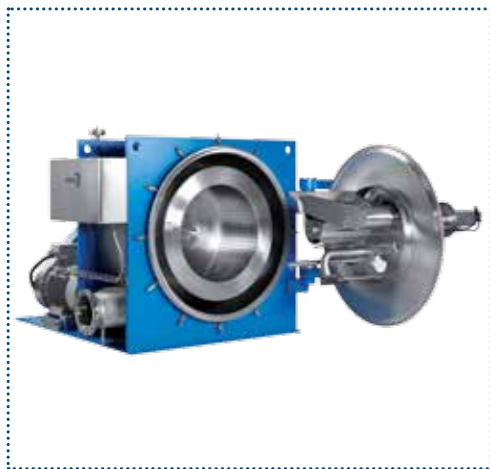
PAC system

For products with a large proportion of fine material < 20 µm and high filtration resistance the centrifuge drum can be pressurized with a gas pressure of up to 6 bar in order to combine the process engineering advantages of centrifugation with the possibilities offered by differential pressure filtration.

The residual moisture in hard-to-filter products can be reduced by a further 10–20% in comparison with pure centrifugation.

Pressure added centrifugation can also be used for drying solid matter to a residual moistness < 1%. This drying method is used most importantly in situations where valuable, toxic or extremely small quantities of product are being processed with no transfer of solids between the filtration and drying apparatus.

Technical data	HF 300.I	HF 450.I	HF 600.I	HF 800.I	HF 1000.I	HF 1300.I
Inverting filter centrifuges						
Drum diameter (mm)	300	450	600	800	1000	1300
Filter surface area (m ²)	0.1	0.31	0.41	0.85	1.26	2.0
Nominal capacity (l)	6.5	26	52	120	200	350
Max. rotational speed (rpm)	3000	2300	1940	1600	1270	1000
Centrifuge index (x g)	1500	1322	1255	1138	900	722
Weight (kg)	1400	3250	3500	6200	8900	10700
Length (mm)	2025	3095	3095	4080	5090	5950
Width closed (mm)	930	1605	1605	2065	2290	2600
Width open (mm)	1170	2450	2450	3190	3735	4600
Height (mm)	1065	1735	1735	1900	2550	3300



Horizontal peeler centrifuges

H 630 C – H 1600 C

Horizontal peeler centrifuges in sizes H 630 C – H 1600 C, chemistry version, are used for separating medium to large quantities of product that can be washed and then spin-dried. The centrifuges are designed for continuous operation with large product throughput.

Key benefits:

- Wide range of applications
- High batch frequency
- High washing and extraction performance
- Low residual moisture levels due to high spin factor
- Separation by filtration or sedimentation
- Discharge through chute or screw

There is a choice between various drum designs:

Sieve bowl for filtration

This drum is suitable for the filtration of suspensions of crystalline and fine-crystalline products.

Backwash drum

This drum is used for fine-crystalline products. Here the residual layer can be dissolved using a suitable solvent. Another option is to reduce the residual layer step-by-step and then regenerate it by backwashing.

There are two options for discharging solid material:

Solid matter discharged via a chute

This discharge method is suitable for solids that can be discharged easily following spin drying and will slide over the chute without caking.

Solid matter discharged via a screw

A discharge screw enables solids to be discharged when they have a tendency to cake and cannot be discharged via a chute.

Technical data	H 630 C	H 800 C	H 1000 C	H 1250 C	H 1600 C
Horizontal peeler centrifuges					
Drum diameter (mm)	630	800	1000	1250	1600
Drum depth (mm)	400	500	630	800	1000
Filter surface area (m ²)	0.79	1.26	1.98	3.14	5.03
Nominal capacity (l)	50	100	200	400	800
Max. filling weight (kg)	60.0	115.0	225.0	450.0	900.0
Max. rotational speed (rpm)	2400	1900	1200	120	950
Centrifuge index	2000	1600	1250	1000	800
Weight (kg)	4100	6500	11200	17400	34600



Vertical peeler centrifuges

V 630 BC – V 1600 BC

The vertical peeler centrifuges in sizes V 630 BC – V 1600 BC are suitable for continuous operation with large product throughput in the chemical and fine chemical industries. As with the horizontal centrifuges, vertical peeler centrifuges offer a wide range of different drums with varying diameters.

Key benefits:

- Superbly adaptable to varying high product throughputs
- High washing and extraction performance
- Separation by filtration or sedimentation

Sieve bowl for filtration

For separating crystalline products from suspensions through filtration.

Discharger and solid material discharge

The solid matter is discharged using either a hydraulically or pneumatically operated discharger in the form of either a full-surface discharger or a swiveling/lowering discharger depending on the size of centrifuge.

Technical data	V 630 BC	V 800 BC	V 1000 BC	V 1250 BC	V 1600 BC
Vertical peeler centrifuges					
Drum diameter (mm)	630	800 800	1000	1250	1600
Drum depth (mm)	315	400 630	630	800	1250
Filter surface area (m ²)	0.63	1.00 1.58	1.98	3.14	6.28
Nominal capacity (l)	50	100 160	250	500	1250
Max. filling weight (kg)	63.0	125 200	315	630	1560
Max. rotational speed (rpm)	1500	1335 1500	1200	950	850
Centrifuge index (x g)	800	800 1000	800	630	650
Weight (kg)	1900	2200 2400	3300	4500	12500



Top-discharge centrifuges

V 500 TC – V 1600 TC

Conventional HEINKEL top-discharge centrifuges represent a cost-effective alternative for chemical production. The centrifuge can be easily adapted according to the product properties and is therefore suitable for plants producing a large number of different products in batches that vary in size from small to large.

Key benefits:

- Flexible adaptation for difficult to filter products
- Complete discharge of filter cake
- Gentle discharge of solid material, no particle damage
- High washing and extraction performance
- Easy to assemble
- Effective system for removal of filter bag
- Robust and easy system for removable border ring

Technical data	V 500 TC	V 630 TC	V 800 TC	V 1000 TC	V 1250 TC	V 1600 TC
Top-discharge centrifuges						
Drum diameter (mm)	500	630	800	1000	1250	1600
Drum depth (mm)	315	400	630	630	630	630
Filter surface area (m ²)	0.50	0.80	1.58	1.98	2.48	3.17
Nominal capacity (l)	31.5	63	160	250	400	650
Max. filling weight (kg)	40	80	200	315	500	800
Max. rotational speed (rpm)	2670	1900	1500	1200	950	840
Centrifuge index	2000	1250	1000	800	630	630
Weight (kg)	900	1200	1700	2400	3500	7500



Classifying centrifuges

V 630 BK

HEINKEL classifying centrifuges are used for continuous wet classification of fine, ultra-fine and nano-scale particles in slurries, e.g. for classifying TiO₂ suspended in water or glycol, SiC, Zr, Al₂O₃, CaCO₃, kaolin etc. HEINKEL centrifuges for wet classification feature a precision separation cut for optimum production of specific slurries and, thanks to their totally reliable operation, they represent the best possible value for money.

Key benefits:

- Precision separation cut
- Easy adjustment of separation cut
- High throughputs
- Very easy to adjust for changes in product quality
- Recycling of coarse particles
- Simple to install
- Low maintenance, maintenance-friendly design
- Discharger is well protected against wear due to the use of special materials
- Electrically-operated turbulence scraper
- Classified suspension is withdrawn by a pneumatically-operated pilot tube

Technical data supplied on request

After Sales Service

Product Support

Wearing and spare parts

Worldwide delivery ex stock and web-shop for orders

Engineering support

Solutions for all mechanical, control and process engineering questions

Repairs

Worldwide on-site within 24/7

Solution Support

Conversions and retrofits

ATEX upgrades, cGMP upgrades, retrofitting of pressurised filling pipes, controllers, displays, drive system replacements, safety services

Maintenance contracts

After sales service with individually specified scope

Process engineering optimisation

Optimisation of comprehensive process engineering processes

Sales Support

Installation / commissioning

On-site installation
Mechanical and electrical testing, test runs

Training

Staff training on operation, control and troubleshooting

Maintenance

Remote maintenance and on-site maintenance

Business Support

Used machines

Partial or full refurbishing of used machines from all manufacturers

Rental and pilot systems

for rapid compensation of broken down systems and basic tests

Financing

Hire-purchase, leasing



Service to us means doing everything so that your centrifuge, dryer, mixer and fittings will work reliably and safely for producing an optimum product.

We feel responsible for our machines and systems - from initial consulting through delivery, installation and maintenance up to the end of the entire life cycle.

Through the partnership-like cooperation with our customers around the world we jointly provide top performance, contributing significantly to your success.

In a world in which markets and people move together even more closely, our group of companies can assist you by providing top quality products, services and staff.

As one of the international leading vendors we endeavour to be as close as possible to our customers thereby ensuring utmost satisfaction.

Firmly embedded on all levels of our company, we endeavour to provide high quality, accuracy and reliability every day.

Our staff is continually trained so as to meet all aspects of the high process engineering and statutory requirements of the pharmaceutical, chemistry and metal industries.

