

Separators for the beverage industry



Clarifiers for the beverage industry

Every day, ANDRITZ SEPARATION clarifiers are satisfactorily operated in food and beverages processing plants all over the world. Since their introduction, in the middle of the 80s, the ANDRITZ SEPARATION Freedom range, belt drive separators are the flagship of the company and have been proving their reliability, efficiency and ease of use at small and large operations, under any possible working conditions. Either for small operations, processing just a few thousands liters of product per day, or for large plants working on 24/7 basis, the Freedom range separators represent the right choice for any separation need in the beverage industry. A wide range of capacities and designs, allow our customers to find the right machine to suit their needs and enjoy the outstanding quality of a product that is the result of the

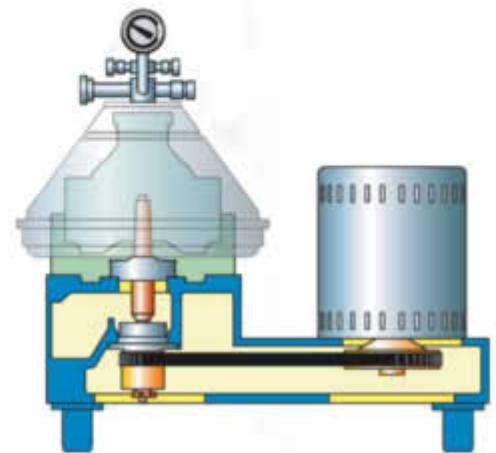
strict application of ANDRITZ SEPARATION quality-oriented philosophy.

Features

- Integral stainless steel execution.
- High-grade finishing to ensure great separation efficiency and proper sanitization.
- Designed for automated C.I.P.
- Innovative lubrication system ensuring optimum lubrication even at low speed.
- VFD-driven, belt transmission on all models.
- Built-in, manual back pressure control for ease of installation and operation (models up to size 201), automated back pressure control for larger models.
- Electronically-controlled solids discharges.
- Different controls available from basic to highly automated installations.

Advantages

- High efficiency self-cleaning clarifiers specifically designed for applications in the beverages industry.
- High g-force for outstanding separation efficiency.
- Large solids space for longer time intervals between discharges.
- Liquid ring sealing for reduced oxygen pickup.
- Sturdy construction, made to ensure long-lasting operation.
- Ease of maintenance.
- Extremely simple design ensuring:
 - Outstanding reliability;
 - Reduced operation costs;
 - Reduced sound pressure;
- Soft start and soft speed recovery after discharges, reducing mechanical stress, hence, wear.



Applications



Fruit juice

As diverse as pome fruit, stone fruit, berries and tropical fruit may be they have in common a demand for high efficiency clarification steps, which are state of the art in juice processing.

Separators are preferably used for fine clarification after extraction and fining, to separate unwanted solids, haze particles or fining agents before further processing such as juice concentration, filtration and pasteurisation.

Separators allow for a quick and reliable clarification while at the same time reduce product losses to a minimum. Minimized trub load fed towards downstream machinery leads to an extended service life of filtration units.

The turbidity of naturally cloudy juices is standardised by clarifiers as well and the removal of coarse particles allows to maintain the desired cloudiness longer during storage or in the shelf.



Wine

Centrifuges play an important and diversified role in the wine making processes. Beginning with must clarification, over 1st and 2nd racking up to wine polishing, centrifuges are used in many different applications, replacing or acting together with conventional technologies.

Centrifuges offer wine makers an additional option to positively influence the wine character and produce clear and elegant wines by effectively removing haze and unwanted solids as well as fining agents or yeast. Fermentation with clarified must becomes more uniform and reproducible. Difficult and turbid young wines can quickly be clarified. Wines can be racked and removed from the yeast in order to precisely influence flavour according to the winemaker's choice. Effective clarification steps contribute to an economic wine production as less SO₂, fining agents or filter aids are needed in downstream processes. Separators reduce the particle load entering downstream filter media and increase the service life of cross-flow-units and DE- or depth filters. At the same time must and/or wine clarification by separators requires less time and space compared to sedimentation or flotation. Thus they contribute to an economic wine production.



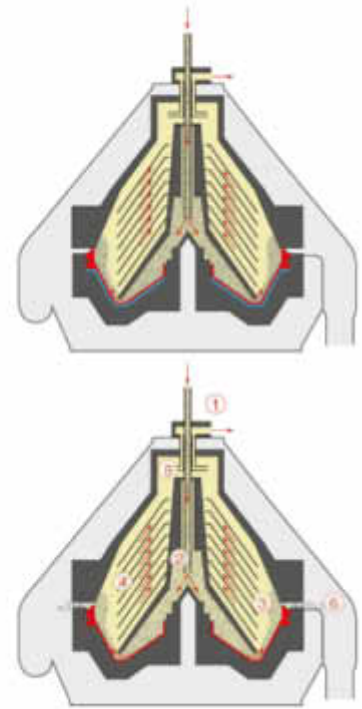
Beer

Separators are employed in the brewing industry at many different steps throughout the beer production. They basically allow a defined, fast clarification and require less space compared to conventional technologies.

Separators may be used for hot or cold wort as well as for trub wort clarification. Turbidity reduction and yeast cell count adjustment, however, are the main targets for separators during green beer separation and production of naturally cloudy beers such as wheat beer.

Maturation is preferably carried out with a defined, low yeast cell count so that unwanted impacts on beer quality due to cell autolysis are reduced. Turbidity of wheat beers can be automatically adjusted by means of flow regulation and by-pass solutions. As pre-clarification step prior to conventional filtration separators help to reduce the consumption of filter aids and to extend the filter service life. They are also employed as pre-clarifiers prior DE free filter systems.

Beverage clarifiers



Standard scope of supply CH series

- Clarifier with stainless steel clad base frame.
- Tangential cyclone with solids discharge tank.
- Pressure gauge/probe at clarified product discharge.
- Solenoid valves for the operation of bowl's hydraulic system and for the flushing of the bowl and the cyclone.
- Stainless steel cabinet including VFD, protections and start/stop commands for the feeding pump and the operating-water pump and PLC-based LOGIX-EVO control panel with touch screen.
- Cartridge filter and pressure reducer for the operating water.
- Set of special tools.

- Set of basic spare parts.
- Lube oil (first charge + first change).

V series

In addition to what supplied with the CH models.

- Liquid ring sealing for reduced oxygen pickup (V models).
- Stainless steel skid to accommodate the clarifier, the control panel and the piping including the following equipment/parts (up to size 201):
 - Operating-water feeding unit;
 - In-line filter;
 - Flow rate indicator;
 - Backlighted sight-glasses;
 - Sampling valves;
 - Manual valves for flow and back pressure control.

Self-cleaning clarifiers

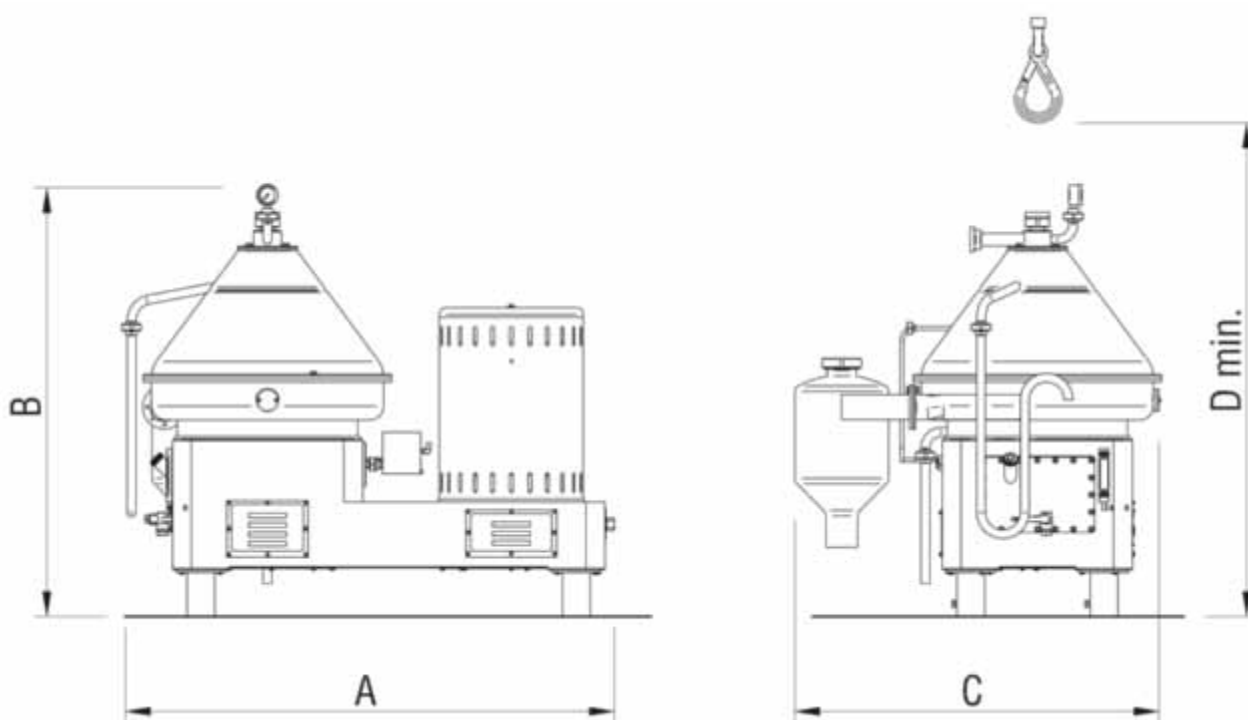
- The product is fed under pressure, through a close piping (1).
- It is then gently introduced into the bowl through the feeding pipe (2) and the distributor.
- The solids, subjected to the action of the centrifugal force, are forced towards the periphery of the bowl and accumulate in the solids space (3).
- The clarified product rises through the disc stack (4), up to the centripetal pump (5) that discharges it out through a closed piping.
- The accumulated solids are automatically discharged at pre-set intervals.

Model	Hydraulic capacity (l/h)	Motor (kW)	Dimensions (mm)			D min (mm)	Weight (kg)
			A	B	C		
CA 31-CH / V	7,500	5.5	950	1,100	850	1,300	380
CA 41-CH / V	10,000	7.5	1,360	1,420	1,100	1,600	1,100
CA 51-CH / V	15,000	15	1,510	1,450	1,200	1,850	1,300
CA 71-CH / V	20,000	15	1,510	1,450	1,200	1,850	1,300
CA 131-CH / V	35,000	22	1,950	1,850	1,500	2,200	2,000
CA 151-CH / V	40,000	30	1,950	1,850	1,500	2,200	2,000
CA 201-CH / V	50,000	37	1,950	2,000	1,500	2,500	2,200
CA 301-CH / V	70,000	45	2,220	2,010	1,850	3,200	4,300
CA 351-CH / V	90,000	55	2,220	2,010	1,850	3,200	4,300

**301 and 351 size clarifiers are not skid-mounted; flow controls are pre-assembled on a stainless steel frame to allow easy and quick installation.

Technical information

- Feeding pressure: 1 bar.
- Discharge pressure: up to 4 bar.
- Operating water consumption: 150 - 200 l/h under normal working conditions.
- Product connexions: DIN 11851 - SMS - ISO 2852 (tri-clamp).



Service



Our goal is to provide our customers with fast and reliable service, from the first process consultation throughout the entire service life of the ANDRITZ SEPARATION process equipment.

To assist our global customer base, we operate service facilities around the world staffed with experienced, dedicated service teams.

Spare parts

We keep hundreds of different spare parts and components in stock for you. Our service centers maintain their own spare parts stock to enable faster delivery to your plant site.

Repairs and maintenance

Our service centers are ready to provide you with regularly scheduled maintenance or emergency service at your site. Our experts provide assistance including installation support, commissioning, upgrades, repair works and optimization of your process conditions.

Advisory service

Our customer service team is ready to answer any questions concerning machine safety, equipment upgrades and process optimization.

Installation and commissioning

Our experienced service personnel assists you with the installation and start-up of your equipment.

Remote diagnostics

Using modern communications and diagnostic systems, our customer service is able to offer even faster and more efficient support. Via remote access our specialists receive information on the operating condition of your machine and carry our fault diagnoses. Maximum data security is of course guaranteed at all times. We only access the data from your machine when you give your specific approval for us to do so.

Maintenance contracts

We offer you tailor-made, long-term contracts for preventive maintenance of your equipment.

Customer training

We train your operating personnel during commissioning of the plant. In addition, we also offer you seminars for maintenance and operation of our entire line of process equipment. This training can be conducted at our site or yours.

ANDRITZ SEPARATION



Based on technical expertise, engineering know-how, innovative thinking, as well as decades of experience, ANDRITZ SEPARATION offers reliable and efficient system solutions for mechanical and thermal solid/liquid separation.

With its comprehensive product range covering screens and screw presses, centrifuges, belt and filter presses, drying and thermal utilization systems, and all kinds of conveying equipment as well as systems for torrefaction of biomass, ANDRITZ SEPARATION is a trusted partner worldwide.

For decades we have successfully served our international customers in various food industries with efficient separation equipment – here the beverages business is no exception as it is one of our key applications. Enabled by our extensive know how and experience in beverages production processes we think outside the box, adapt processes where needed and support our customers along the value chain.

At ANDRITZ SEPARATION, we are providing our customers with decisive business advantages: from fundamental service consultancy, wear and spare parts, to complete service contracts, all the way to repurchases of used machinery. With equipment known worldwide for being reliable, efficient, and maintenance-friendly, we strive for innovative and even more efficient solutions on a daily basis to best serve our customers' needs.

ANDRITZ SEPARATION is a world leading supplier of plants and equipment for mechanical and thermal solid/liquid separation for various applications and industries. Decades of experience, a comprehensive product and service portfolio and an international sales network enable us to offer our customers efficient and reliable process solutions all over the world.



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