Hops technology
For Beer with Character
Hops technology

The full range of hop aroma

BrauKon hops technology delivers brewers all the instruments needed for the selective control and reproduction of the aroma profile in beer. The interaction of bitterness, various aroma compounds and the hop “bouquet” can be individually fine-tuned for each beer. BrauKon’s hops technology is the perfect solution for a unique aroma profile in beer.

Overview steps technology

- **BrauKon HopDosing**: The hops dosing guarantees a user-friendly, automated dosing of hop pellets and hop extract in the brewhouse.

- **BrauKon HopBack**: The user-friendly system for cone hops guarantees a constant, efficient release of precious oils and aromas.

- **BrauKon HopBack Pellet**: The flexible solution for an effective addition of hops flavor with pellets between the whirlpool and wort cooling sequences with retention of hops particles.

- **BrauKon HopGun®**: The effective cold hopping system guarantees a constant, efficient release of oils and aromas from hop pellets in the finished beer.

- **BrauKon HopGun Pro**: The cold hopping system allows for a fully automatic cold hopping process, even with large pellet quantities.
Application fields of hops technology

All products at a glance

HopDosing

WORT KETTLE

WHIRLPOOL

WORT COOLER

TANK

HOT AREA

COLD AREA

HopDosing

HopDosing

HopBack

HopBack Pro

HopBack Pellet

HopGun*

HopGun Pro

HOT AREA

COLD AREA
BrauKon HopDosing
The automated hops dosing in the brewhouse

BrauKon HopDosing allows for the easy addition of both hop pellets and hops extract in the brewhouse. Its special lock, which only has one latch element, facilitates quick opening and closing when filling. Low filling heights guarantee comfort and ease of use when filling hops. Maximum safety is also provided for the operator via an integrated safety circuit.

Consistent aroma profile
BrauKon HopDosing allows for a fully automated hops dosing. This precisely timed hops dosing guarantees a consistent aroma profile for your beer. In addition, pellets and extract are quickly and effectively dissolved within minutes thanks to a special flow control system.

Attractive, easy-to-clean design
The design allows for easy, quick inline cleaning via the wort channel. CIP cleaning is integrated into the brewhouse cleaning system. The glass-cylinder design option is appealing to the eye and provides the possibility of visually monitoring the dissolution process. External cleaning is also simple and quick thanks to an overall hygienic design. BrauKon HopDosing can be installed freely, even at drive level.

Flexible use
In addition to hop pellets and extract, other ingredients such as honey and spices can be dosed with the BrauKon HopDosing system. Even a sugar dissolving station can be integrated seamlessly. For this purpose, we also deliver peripheral equipment for the user-friendly handling of bagged and silo goods.

Benefits
› Quick dissolution of pellets and extract via special flow control
› Consistent aroma profile via pre-programmed, precisely timed addition of hops
› Special opening for quick and user-friendly filling
› Simple external cleaning via attractive, hygienic overall design
› Ideal CIP cleaning, integrated into brewhouse cleaning
› Upgradable for the automated dissolution of sugar and honey

braukon.de/en/hopdosing
BrauKon HopBack
**BrauKon HopBack**

The efficient hot-aromatization with cone hops

The easy-to-use HopBack guarantees consistent, efficient extraction of valuable oils and aromas from cone hops in the hot area. BrauKon HopBack can be used during the wort boiling process as well as between the whirlpool and wort cooling processes.

**Efficient aroma extraction**

Valuable hop aromas are extracted from cone hops efficiently and quickly thanks to special flow control. In addition, wort flows evenly through the cone layer without dead zones or bypass-flows. Leaf solids are retained by means of an integrated sieve thereby protecting the wort cooler from solid particles. In contrast to dosing in the whirlpool, all hop oil compounds can be transferred into the wort without evaporation losses.

**Easy to fill and empty**

A large access port allows for easy filling. Emptying the leached spent hops is also easy utilizing either a slide into a mobile container or a fully automated discharge pump into the spent hops silo.

**A user-friendly system for natural hops in the brewhouse or in the hot area**

**Flexible and efficient**

BrauKon HopBack significantly increases yield when compared with the hop dosing in the whirlpool. HopBack also acts as a depth filter when dosing additional pellets into the whirlpool. In contrast to dosing in the whirlpool, all of the hop oil compounds can be transferred into the wort without evaporation losses. BrauKon HopBack is highly flexible: in addition to hops, HopBack is also suitable for alternative course-grained aroma sources such as herbs and coffee beans.

**HopBack Pro – finest aroma**

The use of the additional special agitator allows the hop cones to be quickly opened to allow the aromas present in the leaf base to be extracted systematically and efficiently. Thus, subtle flavors can be obtained without isomerization and leave undesirable bitter compounds behind in the leaf structure. Delicate aromas from the lupulin glands are released into the wort within a few minutes. Due to the short extraction time, undesirable leaf content is hardly leached out, avoiding scratchy bitterness. With BrauKon HopBack Pro subtler late-hopping aromas and reduced wort loss up to 30% are possible. This is especially advantageous with large cone quantities and frequent use.
BrauKon HopBack
The efficient hot-aromatization with cone hops

Procedure

Filling
BrauKon HopBack is filled with hops or other flavoring sources through a large access-port. A fully automated filling process is possible for larger quantities.

Hops dosing
In the HopBack, a special distributor guides hot wort through the cone layer. An integrated sieve retains solids from the cones. Optionally, a specialized agitator can be used for the quick, efficient and consistent extraction of cones. Because undesirable bitter compounds are largely left behind in the spent hops, harsh bitterness is avoided.

Cleaning
Following hops dosing, the leached hops are completely removed by a slide on the floor. The BrauKon HopBack is suitable for inline CIP cleaning with the brewhouse.

Benefits
› Specially designed for cone hops
› Efficient extraction of aromas
› Flexible usage during the wort boiling process or between whirlpool and wort cooling process
› Optimal transfer of essential hop oils into the wort
› Defined perfusion of cone layer without dead flow zones or bypasses
› Efficient and accelerated aroma extraction through specialized agitator possible
› Fully automated capabilities including spent hops disposal
› Inline cleaning possible
Static and dynamic extraction

When viewing the schematic diagram of linalool extraction with the HopBack and HopBack Pro, the advantage of the agitator is clear. With the HopBack, the cones open slowly, allowing for the release of increasing amounts of linalool throughout the wort cooling time. With the HopBack Pro, the agitator quickly exposes the lupulin glands, releasing the majority of aromatic oils within a matter of minutes.

Standard sizes HopBack (maximum hop cones quantity)

- 5 kg
- 10 kg
- 20 kg
- 40 kg
- 60 kg

Standard sizes HopBack Pro (maximum hop cones quantity)

- 20 kg
- 40 kg
- 80 kg
- 120 kg
- 150 kg
- 200 kg

braukon.de/en/hopback
BrauKon HopBack Pellet
**BrauKon HopBack Pellet**

*Effective whirlpool hops dosing with pellets*

Whirlpool hopping can be used to create an even more intense “hot hops aroma” in addition to the hops dosing processes during wort boiling. Here, the bitterness is complemented by aromatic nuances and is perceived as more harmonious by the palate. To achieve this, BrauKon HopBack Pellet is integrated parallel to the whirlpool.

**Flexible and effective**

Due to the increased volume of hops pellets, classic whirlpool hopping is associated with considerable wort losses when removing spent hops. At the same time, the applicable quantity of hops is limited as otherwise the whirlpool’s separation of spent hops would only partly function. The BrauKon HopBack Pellet can reduce wort losses clearly when dosing large quantities in the whirlpool.

**Efficient aroma extraction with maximum yields**

**Variable, defined aroma profile**

BrauKon HopBack Pellet allows for a defined control of the aroma profile through the extraction outside the whirlpool. Thus, the acquisition of essential oils can mostly be separated from the isomerization and leaching of the hops leaf fibers. The rate of isomerization, the increase of bitterness, can easily be controlled through the heat holding time. To emphasize delicate flavors of hops, BrauKon HopBack Pellet can selectively extract essential hop oils with shorter flow times.

Through the extraction after the Whirlpool, the washed-out Alpha acids are immediately cooled in the wort cooler, so that less iso-alpha acids are formed. Especially with larger quantities, the ratio of aroma and bitterness can be influenced in favor of a more harmonious balance. With this process, the release of undesirable bitter compounds from the hops solids can also be significantly reduced with a shorter extraction time. This closed process prevents the evaporation of hop aroma compounds. This creates delicate aromas without scratchy bitterness.
**BrauKon HopBack Pellet**

*Effective whirlpool hops dosing with pellets*

**Procedure**

**Filling**
BrauKon HopBack Pellet is filled with hops pellets or other flavoring sources through a large access-port.

**Aroma extraction**
In the HopBack Pellet, a special system which controls the flow of the hot wort ensures the quick dissolution and efficient extraction of aromas. An integrated special sieve holds solids back from the wort.

**Removal and cleaning**
The leached spent hops are removed with water following aroma extraction. Optionally, removal can be performed with a floor slide. Then hop cones can be used, too. The BrauKon HopBack Pellet is suitable for inline CIP cleaning with the brewhouse.

**Standard sizes** *(maximum hop pellets quantity)*

<table>
<thead>
<tr>
<th>10 kg</th>
<th>20 kg</th>
<th>40 kg</th>
<th>60 kg</th>
<th>80 kg</th>
<th>100 kg</th>
</tr>
</thead>
</table>

braukon.de/en/hopback-pellet
Benefits

› Efficient aroma extraction with hops dosing between the whirlpool and wort cooler
› Extensive retention of hop solids in the HopBack Pellet
› Wort loss reduction in the whirlpool
› Flexible aroma profile by decoupling the contact time from the wort cooling time
› Optimal transfer of essential hop oils into the wort with minimal increase in bitterness
› Can also be used for spices such as coriander and orange peels
› Automatable including spent hops removal
› Inline cleaning
› Easy upgrade to optimize the “brewhouse hops aroma”
› Aromatization of partial quantities and trial production sequences possible
BrauKon HopGun®
The effective cold hopping system

“Dry hopping”, also referred to as “cold-hopping” in the business, is a procedure with which precious essential oils are released from the lupulin contained in the hops in beer. Dry hopping is performed after the brewing process in the cold area.

Efficient dissolving of aromas

BrauKon HopGun guarantees a consistent, efficient dissolving of the oils and aromas from hop pellets in the finished beer. The yield and taste stability are increased – and this is precisely what creative brewers wish to gain. Due to the fact that the entire beer comes into contact with the hops, a more homogenous infusion of the products with the hop constituents is achieved compared to conventional methods. When doing so, any large particles are separated from the products during the solving process by a special pre-filtration candle.

Defined increase in hop aromas in the finished beer

Flexible and user-friendly

BrauKon HopGun is flexible to use, with the hop quantity, the hop dosing time and duration being freely selectable. Cleaning can be performed manually or with an external CIP system. BrauKon HopGun can be retrofitted at any time.
**Procedure**

**Filling**
The HopGun is filled with hop pellets through a large access port. The HopGun circulates the contents of the tank until the required degree of extraction is reached.

**Dry hopping**
The precious oils and flavours are released and the suspension is returned through a specially developed candle in the interior of the HopGun. Course particles are retained allowing only fine, easily extractable hop particles to reach the beer.

**Cleaning**
The system can be cleaned manually or with an external CIP system. Evacuation is performed with CO₂ or N₂, or with deaerated water.

**Standard sizes** *(maximum hop pellets quantity)*

- 4 kg Glass
- 10 kg
- 25 kg
- 50 kg
- 100 kg
Benefits

- Optimum infusion of essential hop oils into the finished beer
- Increase in yield and taste stability
- Defined increase in the hop aromas in the finished beer
- Gentle dissolving of hop pellets in cold beer
- Reduction in contact time
- Freely selectable hop dosing time and duration
- No CO₂ losses in green beer
- No heat added through the omission of the High Shear mixer
- Good removal of the extracted hop solids – no filtration problems
- Cleaning possible with external CIP system
- Can be retrofitted at any time
- Reliable application

braukon.de/en/hopgun
BrauKon HopGun Pro
BrauKon HopGun Pro

Fully automatic cold hopping system

The BrauKon HopGun Pro is designed for fully automated cold hopping with larger pellet quantities. A special agitator guarantees efficient dissolving of hop pellets, even with larger quantities and at reduced temperatures. To do so, the BrauKon HopGun Pro takes in the complete volume of hop suspension. The suspension can be dosed flexibly to ensure a homogeneous distribution. As with the HopGun, the HopGun Pro ensures the homogenous distribution of hop aromas in the tank and efficient extraction.

Defined increase in hop aromas in the finished beer

Automated operation for large quantities

The BrauKon HopGun is flexible to use, with the hop quantity, the hop dosing time and duration being freely selectable. Control of all process steps and CIP cleaning can be fully automated. Thanks to shorted dissolution times of the pellets, the variant Pro is perfectly suited for cold hopping during tank transfer. The hop suspension can be dosed inline, for example, on the way from the fermentation cellar to the green beer cellar.

Benefits

› Quick and gentle release of the pellets even in cold beer
› Easy integration into existing cellars through flexible dosage:
  › Inline dosing for tanks with only one outlet
  › Dosing in circulation line for tanks with double outlets
› Increase of the aroma yield and flavour stability
› Large amounts of hops due to short process times and the possibility of reloading
› Fully automated process and CIP cleaning
› Special agitator protects the yeast
› No dilution effects as pellets are dissolved in the beer
› Simple and safe implementation
› Low height

Standard sizes (maximum hop pellets quantity)

<table>
<thead>
<tr>
<th>10 kg</th>
<th>50 kg</th>
<th>100 kg</th>
<th>200 kg</th>
<th>350 kg</th>
<th>500 kg</th>
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braukon.de/en/hopgun-pro
We are BrauKon

Beer with Character is our passion

BrauKon supplies turnkey systems for the brewing and beverage industry all over the world. Over 100 employees, of which more than 30 are master brewers and engineers, develop individual solutions with the highest demands on technology and design on a daily basis, specifically for mid-tier breweries. We are filled with pride when our customers’ passion and our brewing systems create something unique – Beer with Character.

Outstanding beer quality

BrauKon systems fulfill the highest technical and design standards. Our individual, ready-to-use brewery systems guarantee brewers worldwide outstanding beer quality and optimal operational procedures. We do everything for Beer with Character – this motto is the center of our activities.

From brewers for brewers

We are the only brewing equipment manufacturer to brew and distribute over 30 of the most diverse brands of beer with our own Camba Bavaria brewery. We know what it means to run a brewery and are aware of the daily challenges. We are only too happy to share this experience with our customers and channel it directly into our brewing systems. From brewers for brewers.

Individual and innovative

Each brewery is unique and individually tuned to meet our customers’ requirements. BrauKon guarantees brewers worldwide an excellent beer quality and optimum work sequences. We are always one step ahead and are continually revolutionizing the brewing industry with our reliable, economical products.

If you ever think about building a brewery – get in touch!
BRAUKON® is a trade mark registered in Germany (303 46 705) and in the European Union (D17 742 594).
ALLOYSIUS® Our high-performance pre-mashing system ALLOYSIUS® is patented in Germany (DE patent no. 10 2006 050 783). ALLOYSIUS® is a trade mark registered in Germany (30 2018 101 213).
HOPGUN® Our dry hopping apparatus HOPGUN® is patented in Germany (DE patent no. 10 2012 110 830) and in the USA (US patent no. 9,493,732). HOPGUN® is a trade mark registered in Germany (30 2017 109 115) and in the European Union (015 981 467). SMARTBOIL® Our intelligent wort boiler SMARTBOIL® is patented in Germany (DE patent no. 10 2005 021 782).
VITAPROP® Our compact yeast system VITAPROP® is a trade mark registered in Germany (30 2018 101 212).