

BEVERAGE SYSTEMS

BMF-18



SUSTAINABLE BEER MEMBRANE FILTRATION

The brewing industry has passed the sustainability point of no return. Having reached its maximum potential, the industry is quickly leaving conventional solutions behind in favor of clean technologies that satisfy ever-increasing expectations in terms of quality, sustainability and flexibility at, of course, low cost levels.

BENEFITS

Pentair's Beer Membrane Filtration (BMF) system establishes a sustainable brewing process and a matching working environment void of the health and safety risks that were present in the Diatomaceous Earth (DE) era of filtration. And since the goal is to produce the best and most constant beer quality, one cannot overlook BMF's measurable improvement to the beer's taste and colloidal stability.

- Sustainable process
- Safe working environment
- Low costs
- Constant beer quality
- Improved taste & colloidal stability
- Increased flexibility and modularity
- Ease of operation

REFERENCES

With more than 45 full-scale plants currently in operation in almost every region of the world and more than 10 years experience of filtering more than 75 beer brands with membranes, Pentair is the leading producer of DE-free beer filtration technology.



Ustersbacher, Germany, Capacity: 150 hl/h



MBC, Russia, Capacity: 500 hl/h



AMBEV, Brazil, Capacity: 750 hl/h



BEER QUALITY & OUTPUT

Pentair BMF technology is known for its positive effect on the quality of the filtered beer. Due to a definite pore size of the membranes, the quality is very constant.

Further, the beer filtered through the BMF system has a significantly lower level of aging components compared to DE filtered beer. After three months of storage, the differences between DE filtered and membrane filtered beer become even greater.

Unlike DE filtration, membrane filtration is a permanent barrier to beer spoiling materials, giving it a considerable extra advantage over conventional methods.

Moreover, BMF technology offers breweries an assured output, which neutralizes quality fluctuations of the raw materials. With BMF, brewers can be certain about both quantity and quality of their beer output.

SYSTEM DESIGN

The compact, modular design of the skids fit each brewery and since no DE handling/ kitchen/ storage is required, valuable space can be saved.

The Pentair BMF filters more beer in a smaller footprint than any other available technology. BMF is also designed to be a future-proof system. It enables breweries to invest in only what they need now and expand at the pace brewing demands.

Modularly designed skids can be added to the filter line as needed, which limits upfront investments for extra capacity. Next to optimum flexibility, the scalability of the BMF-18 skids also offers breweries an easy option to neutralize the quality fluctuations of raw materials. With BMF-18, brewers can be confident in both the quantity and quality of their beer output. In addition, the process flexibility is increased due to the system's unique start-stop-procedure.

LIFE CYCLE COSTS

BMF delivers more beer at lower costs:

- Low water consumption
- High level of automation, less labor
- Smart engineering, lower CAPEX
- Lowest beer loss down to 0.1 percent
- No disposal costs or DE handling
- Guaranteed membrane lifetime
- Maintenance limited to standard components (pumps, valves, etc.)

SYSTEM CONFIGURATION

PRODUCT CODE	OPERATION	MINIMUM SKIDS	MAXIMUM SKIDS	BASIC LINE DIAMETER [DN]	NOMINAL CAPACITY [HL/H]	UBT NETT. VOLUME [HL]	FBT NETT. VOLUME [HL]
BMF-18-x-65	Batch	1	3	65	125 - 250	100	100
BMF-18-x-80	Batch	2	4	80	200 - 400	200	150
BMF-18-x-100	Batch	2	6	100	250 - 600	300	150
BMF-18-x-125	Batch	3	9	125	400 - 900	450	200
BMF-18-1-65	Continuous	2*1	2*1	65	75 - 150	70	70
BMF-18-2*x-65	Continuous	2*1	2*3	65	125 - 250	100	100
BMF-18-2*x-80	Continuous	2*2	2*4	80	200 - 400	200	150
BMF-18-2*x-100	Continuous	2*2	2*6	100	250 - 600	300	150
BMF-18-2*x-125	Continuous	2*3	2*9	125	400 - 900	450	200

x = number of skids

PERFORMANCE INDICATORS

Nominal capacity

75 - 900 hl/h

Turbidity

< 0.6 EBC

Oxygen pick-up

20 ppb

Beer loss

0.1 % with high gravity beer

Yeast cells

< 5 cells

SUSTAINABILITY

Pentair's BMF system adheres to two key sustainability principles: do more with less and avoid using disposable single-use items and materials. The BMF system filters more beer using less water while producing no solid waste. With membrane filtration, breweries no longer rely on the one-time use of raw materials that are questionable in terms of employee health and safety, and that produce sizable solid waste handling issues and disposal charges.

TURNKEY PROJECTS

Pentair is a global specialist in diatomaceous earth free Beer Membrane Filtration, brewery and beverage projects, and has standardized units for a variety of industries. The product portfolio contains numerous innovative and sustainable solutions, such as Beer Membrane Filtration, yeast handling, yeast storage, yeast propagation, fermenting, bright beer section, CIP sets, and total automation. This enables Pentair to deliver turn-key projects up to complete cold block processing.





GLOBAL SERVICE MANAGEMENT



Today, service is much more than just repair and maintenance. Service contracts are an integral part of the breweries preventive maintenance program. During project management, the Pentair service team is introduced to the customer and assists with commissioning.

On-site the service team gathers valuable information about the local conditions of the operation. Through performance data monitoring, long-term information is acquired, which ensures that troubleshooting and service activities can be very efficient and to the point in the event of an emergency. By taking advantage of the full service contract, the brewery is assured that the potential for continuous improvement is explored on a regular basis and thus can place its focus on the core business.

Pentair's life cycle/service management is divided into two phases: design and operation. Proposal/planning, contract management, and engineering up to commissioning are typical design services. Start-up, monitoring, consulting (24/7 helpdesk), maintenance/ replacement of components, evaluation, and optimization are part of the operation services. The overall goal is to ensure that a brewery is constructed and operates in the best possible and most cost-efficient way.



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