

DEPTH FILTRATION RANGE

Description

AEB Depth Filtration Range filters are designed for the filtration of liquids such as wine, oil, beer and juices.

The range effectively satisfies all retention levels between 35 and 0,2 μm , in order to be able to respond adequately to any filtration requirement.

Filter sheets

DEPTH FILTRATION RANGE

	PRODUCT	FILTRATION
1	AEB DFR 100 / 110 130 / 140	Sterilizing action and reduction of microorganisms
2	AEB DFR 40 / 40 HF / 50 70 / 85 HF	Reduction of microorganisms and microfiltration
3	AEB DFR 06 / 09 / 12 HF 15 / 20 HF / 30	Coarsening and brightening

Size

AEB filter sheets are available in the standard size 40x40.
Special sizes can be produced on request.

Advantages of AEB filter sheets

- Effective retention of contaminants to be separated, due to the porosity of the filter media
- High clarification ability thanks to high quality raw materials
- Excellent ratio cost-benefit for high yields and high turbidity absorption capacity
- Excellent control quality standard on all raw materials
- Constant quality of the finished product

1 AEB DFR 100 / 110 / 130 / 140

Sterilizing filtration with reduction of microorganisms

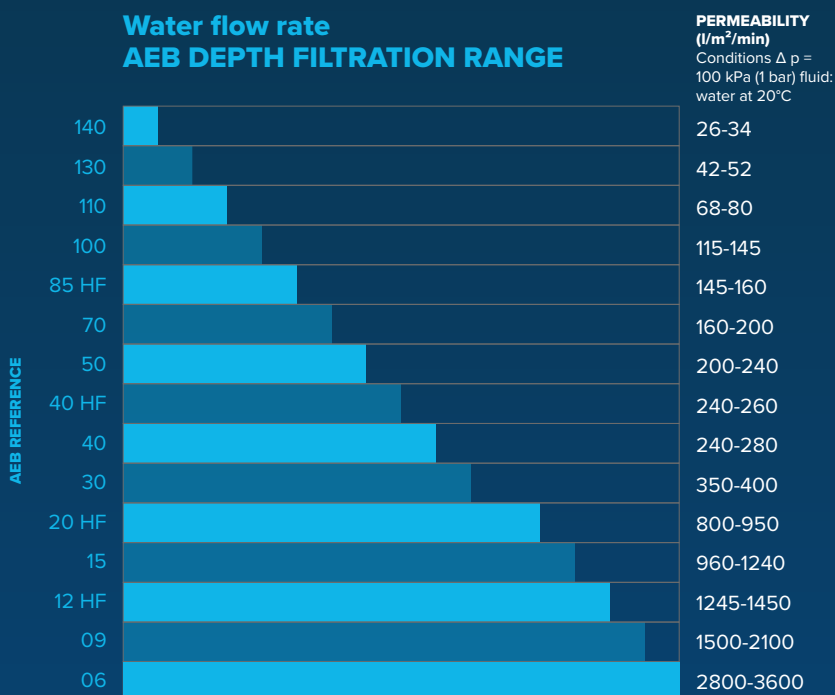
Description

AEB DFR 100, 110, 130 and 140 depth filters are characterized by a high degree of microbiological retention, which is possible thanks to the narrow pore structure of the filter medium, combined with an electrokinetic potential with adsorption action.

Applications

Their ideal application is in sterile cold bottling, aimed at improving the preservation of wines, beer and juices. Due to the high retention capacity of the colloidal components, these sheets can also be used as prefilters upstream of the membrane filtration.

Water flow rate AEB DEPTH FILTRATION RANGE



2 AEB DFR 40 / 40 HF 50 / 70 / 85 HF

Reduction of microorganisms and microfiltration

Description

AEB DFR 40, 40 HF, 50, 70, 85 HF depth filters provide a high level of clarification due to their effective retention capacity of the finest particles, combined with microbiological retention.

Ideal application

They are particularly suitable for the storage and bottling of microbiologically stable wines.

3 AEB DFR 06 / 09 / 12 HF 15 / 20 HF / 30

Coarsening and brightening filtration

Description

AEB DFR 06, 09, 12 HF, 15, 20 HF, 30 filter sheets have a high-volume hollow structure and a high turbidity absorption capacity.

Ideal application

They are specially designed to ensure the brightening of the product, be it wine, beer, oil or juices.

The following indications are fundamental in the choice of the sheets AEB DEPTH FILTRATION RANGE.

INDICATION OF THE TYPE	ARTICLE NUMBER	NOMINAL FILTRATION RATE μm	THICKNESS mm	ASH RESIDUE %	TEAR RESISTANCE IN WET STATE kPa*	Water flow rate $\Delta p = 100 \text{ kPa}^*$ l/m ² /min
AEB DFR 140	033741	0.2-0.4	3.9	58	>50	26-34
AEB DFR 130	033731	0.4-0.6	3.9	58	>50	42-42
AEB DFR 110	033710	0.5-0.8	3.8	55	>80	68-80
AEB DFR 100	033700	0.6-1.5	3.8	50	>50	115-145
AEB DFR 85 HF	030144	2.0-3.0	3.8	50	>50	145-160
AEB DFR 70	033770	1.5-3.0	3.8	49	>50	160-200
AEB DFR 50	033750	3.0-6.0	3.8	48	>50	200-240
AEB DFR 40 HF	030143	6.0-8.0	3.8	50	>50	240-260
AEB DFR 40	033740	4.0-9.0	3.8	50	>50	240-280
AEB DFR 30	033730	5.0-12	3.8	50	>50	350-400
AEB DFR 20 HF	030141	15-20	3.8	50	>50	800-950
AEB DFR 15	033715	8.0-20	3.8	50	>50	960-1240
AEB DFR 12 HF	030140	8.0-10	3.8	50	>40	1245-1450
AEB DFR 09	033749	10-30	3.8	46	>50	1500-2100
AEB DFR 06	033745	15-35	3.8	42	>60	2800-3600

The water flow rate is a laboratory value that characterizes the different types of AEB depth filters. It is not the recommended flow rate.

* 100 kPa = 1 bar

Components

AEB depth filter sheets are made of natural, first choice and particularly pure materials, carrying a cationic charge. They are made of cellulose finely shined broadleaf and conifer fibres, kieselguhr and perlite at different concentrations.

Directions for use

The manipulation of filter sheets must be done:

- with extreme care when they are placed in the press filter;
- avoiding impacts, bending and abrasions.

Do not use damaged or altered filter sheets.

How to use

Each AEB sheet consists of:

- a rough side, representing the entrance of the filtered product;
- a smooth side, representing the exit of the filtered product.

Sterilization (optional)

AEB depth filters:

- 1) must be sterilised with hot water or saturated steam at a maximum temperature of 134°C
- 2) it is necessary to loosen the compressed filter pack slightly and make sure that the complete sterilization of the entire filter system is carried out.
- 3) Final compression should only be performed after the cooling of the filter pack.

Sterilization with very hot water

- The flow rate must correspond at least to the speed in use during filtration.
- The water must be demineralised and free of impurities

Temperature	85°
Duration	30 minutes, after the temperature has reached 85°C in all valves
Pressure	At least 50 kPa (0,5 bar) at the outlet of the filter.

Steam sterilization

The steam must be free of impurities

Temperature	134 °C max. (saturated steam)
Duration	Approx. 20 minutes after the steam has been discharged from all the valves of the filter
Washing	50 L/m ² at 1,5 times the flow rate after sterilization.

Filter preparation and filtration

Recommendations

- During the first filtration, it is necessary to wash the filter sheets with water at a speed of 1,5 times that of filtration. This step is only necessary if this has not already happened after sterilization.
- Check the tightness of the entire filter at the maximum working pressure.
- Solutions with a high alcohol content, as well as products not allowing washing with water, must be circulated in the circuit. The solution must then be disposed of.

Pressure difference

According to the standard operating mode, filtration must be terminated when the maximum permissible pressure difference of 300 kPa (3 bar) is reached.

To work under maximum safety conditions, a pressure difference of 150 kPa (1,5 bar) must not be exceeded during filtration for retention of microorganisms.

Regeneration/counterflow washing

The performance of AEBB filters can be increased by counter-current washing with demineralized water. This makes a significant contribution to reducing filtration costs.

Parameters and regeneration mode	
Temperature	15 – 20 °C
Duration	About 5 minutes
Hot washing	counterflow
Temperature	60 – 80 °C
Duration	About 10 minutes

Safety

No adverse effects are known when used in accordance with the requirements and processing according to the parameters and protocol specified in this document.

For further information on safety, please refer to the EC declaration (always download the latest version from www.aeb-group.com).

Disposal

Thanks to their composition, AEB depth filter sheets are biodegradable. However, the requirements of the respective competent authority must be observed depending on the filtered product.

Handling and storage

AEB depth filter sheets are made of highly adsorbent materials, therefore:

- they must be handled with care during transport and storage;
- they must be stored in a dry, odour-free and adequately ventilated place;
- they must not be exposed to direct sunlight.

AEB filter sheets are intended for immediate use and must be used within 36 months from the date of production.