AUTOMATIC BAND MELT FILTER

ABMF

- High filter fineness possible
- Extruder operation during filter band feed
- Very high throughput rates
- Regular filter area renewal
- Fully automated filtration
- Very low operating costs

www.britas.de
www.ngr.at
BENEFITS

HIGH FILTER FINENESS POSSIBLE

> Up to two filter bands can be used at the same time depending on the filtration requirements. It is thus possible to tune the accurate filter fineness – 70 μm to 950 μm.

> The large filter area ensures the gentlest processing with only a slight increase in melt pressure. This results in higher quality pellets with better quality characteristics.

EXTRUDER OPERATION DURING FILTER BAND FEED

> The filter band feed can only be done in the decompressed state. In order not to interrupt the operation of the extruder during the filter band feed, the plastic melt is “stored” in a buffer. This prevents manual process interventions and increases process stability.

> The intermediate storage of material in the melt buffer is automatically activated by the control system according to preset parameters. This is a convenient solution to ensure a consistently high quality.

VERY HIGH THROUGHPUT RATES

> In the filter zone, the filter band is supported by a support plate facing the direction of the extrusion. This protects the filter from damage and ensures a safe operation.

> The support plate has sufficiently large through-flow areas to keep the increase in melt pressure low. With this system, very high throughputs are permanently and profitably possible.

REGULAR FILTER AREA RENEWAL

> The working principle of the band filter triggers a renewal of the filter area during the band feed. Thus, no contamination is left behind in the filter system. This ensures a consistently high melt quality and supports process stability.

> The filter area renewal by the automatic band feed is easy and convenient.

FULLY AUTOMATED FILTRATION

> The interaction of filter mechanics and the control system allows for fully automated operation and thus makes filtration easier and minimizes costs.

> The filter band completely removes the filtered contaminants from the filter area, which increases pellet quality for a profitable resale.

VERY LOW OPERATING COSTS

> When operating filter systems, the focus should be on removing contaminants from the melt and preventing melt loss. The band melt filter collects contaminants in the filter band catching only tiny melt amounts – this ensures a very high yield.

> The utilization of low-cost filter bands with Dutch weave mesh further reduces operating costs.
**HIGH-GRADE RAW MATERIAL**
High quality recycled pellets tested to standard EN 15343 et seq.
High-performance filtration of the melt stream
Gentle processing, low melt pressure increase

**CUSTOMER SERVICE**
Test runs with your material at one of our customer care centers
Expert advice in waste management from choosing the right equipment to financing
Commissioning by qualified technicians, rapid on-site service, and internet-based remote maintenance
High availability of spare parts through regional warehouses

**INCREASE PROFITS**
Low operating costs with high plastics throughput, minimal power consumption, and easy operation
Space-saving integration in your material logistics chain
Long service life based on solid engineering and high-quality construction

**INNOVATIVE TECHNOLOGY**
Modular design and platform technology
Customized solutions for your post-industrial or post-consumer plastic waste help you achieve maximum yield
Continual developments in technology keep your waste management solution on the cutting edge

**POWER INTELLIGENCE**
Power Intelligence is a key concept in the design of high-performance equipment with minimal power and resource requirements
Control unit provides power management

**EASY OPERATION**
Easy-to-operate equipment
Simple servicability, allows for fast change of material
The computer-controlled system optimizes the processing steps and stabilizes process parameters
Filter control via central control unit
THE UNIQUE PRINCIPLE OF SUCCESS

To ensure that high degrees of contamination are filtered from the plastic melt in an economic and efficient manner, automatic band melt filters work with a special technological concept:

- Every time the filter is changed, a fresh filter screen is automatically pulled into the filter zone.
- This ensures that the upstream extruder can operate continuously at full capacity.
- In extreme cases, the entire filter change process can take place every 2 minutes.
- All the materials listed below can be processed.

A. FILTER BAND
B. BUFFER
C. VALVE
D. SEAL
E. TRANSPORT ROLLERS
The melt coming from conveyed extruder is continuously conveyed through the filter.

The fully automated filter change is initiated when the individually adjustable pressure limit is reached in front of the filter.

The buffer piston moves upwards with an individually adjustable speed and thus adds the material amount that was collected during the filter change.

When the storage piston has reached the upper end position, the filter change has been completed.

The valve opens and unblocks the path for the melt to the filter zone.

Filter fineness: 70 μm to 950 μm

It is possible to use up to two filter bands with different mesh sizes at the same time. Regular Dutch weave mesh keeps filter costs very low.

Depending on customer requirements various types of filter band with different materials, dimensions, weave types and tensile strengths are offered.

Usually a filter band role that weighs 20-25 kg is used for ease of handling; this corresponds to role lengths of up to 50 m depending on the band melt filter type.

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> The buffer piston moves upwards with an individually adjustable speed and thus adds the material amount that was collected during the filter change.
> When the storage piston has reached the upper end position, the filter change has been completed.
> The valve opens and unblocks the path for the melt to the filter zone.

> The valve closes and the area in front of the filter is depressurized.
> The plastic melt moves the buffer piston down and thus increases the buffer volume.
> At the same time, the seals open and release the filter band fasteners.

> The driven transport rollers move the filter band forward until the clean filter screen is in the filter zone.
> The seals close and the filter band has been re-fastened and sealed.

1. CONTAMINATED BAND
Highly contaminated material is finely filtered so the end product is a high-quality pellet. The filter area is completely replaced when contaminated, which ensures that contaminants are completely removed continuously new filter areas.
Filter fineness: 70 μm to 950 μm
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2. NEW BAND
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solution on the cutting edge

keep your waste management
Continual developments in technology
help you achieve maximum yield

Customized solutions for your post-

Modular design and platform technology

INNOVATIVE TECHNOLOGY

Gentle processing, low melt pressure
High-performance filtration of the melt
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HIGH GRADE

RAW MATERIAL

Control unit provides power
the design of high-performance equip-

POWER INTELLIGENCE

remote maintenance
Commissioning by qualified technicians,
from choosing the right equipment to

CUSTOMER

Test runs with your material at one of

EASY OPERATION

on, and easy operation
throughput, minimal power consumpti-

PROFITS

ABMF-1050-19

Filter Area [cm²]

AREA VOLUME V OUTPUT

V [liter]

* Output values for LDPE according to NGR company standard, depending on material and contamination. Please see the NGR delivery program for complete plastics recycling systems.