Technical Documentation

LTG Drum Filter
Type TFB / TFC
(fixed filter drum, air circulation from the inside to the outside)
Drum Filter Type TFB, TFC

Automatic drum filters are suitable for dust collection from large air volumes. The essential requirements in day-to-day operations are:
- high filtration capacity
- high air permeability
- precise adaptation for individual application, e.g. by means of a modular design
- low-maintenance operation

The inside loaded LTG drum filters, type TFB and TFC with continuous cleaning, meet these criteria at an extremely high air volume range between 20,000 and 270,000 m³/h (12,000 and 160,000 cfm). They have been operating successfully for many years as low-maintenance fine-filter units in a lot of different industries. Long tradition and a rugged design guarantee a high degree of dependability, safety and availability.

Applications
The LTG drum filters, type TFB and TFC are well suited for the filtration of large air volumes and can be used as fine-filters in different branches of industry, for example:
- Textile industry
- Nonwovens industry
- Woodworking industry
- Paper industry
- Cellulose industry
- Tobacco industry
- Glass fiber industry
- Brick and clay industry
- Plastic and rubber industry

The LTG drum filter is suitable for use in wide temperature and solids concentration ranges. Therefore it can be used to clean dirty room air or for waste removal from production machines.

Function
The LTG drum filter, type TFB, is designed in a completely different way than most existing filters. The filter drum is stationary and can be bolted directly to a wall opening. The incoming air flows from the inside to the outside, leaving the drum over the whole surface. This means that the air inside the filter chamber is clean. Rotating and traversing suction nozzles on the inside of the drum continuously remove dust and waste from the filter media. Due to the small suction nozzles, very little air is required to clean the filter. The nozzles are spring loaded and touch the filter media like a vacuum cleaner.

With the drum filter combination Type TFC, a coarse particle filter in form of a prefilter disc is installed additionally at the air intake side of the unit. The coarse particles will remain on the rotating screen while the dust passes through into the drum. A stationary suction nozzle will pull the particles off the screen.
The same gear motor that turns the nozzles also turns the prefilter screen.

Advantages
- less moving mass than a rotating drum filter
- by guiding the air from the inside out, you have a clean filter chamber
- blow through installation without a filter chamber is possible
- drive easily accessible on the clean air side
- regenerative filter unit
- continuous cleaning, therefore no pressure fluctuations within the system
- cleaning in the low-pressure range
- precise adaptation to the total air volume due to the modular design
- space savings due to integrated prefilter screen
- no dust deposits between prefilter and filter drum on the combination filter TFC
- energy-efficient operation due to low pressure loss
- no leakage problems. No seal between dust-laden air side and clean air side respectively drum and wall necessary
- skeleton design for easy assembling and maintenance
- various tried and tested filter media with high dust collection efficiency, relatively low resistance and long service life
- low stripper fan energy consumption due to small suction volume requirements
- different prefilter screen mesh types available to control pre-filtration efficiency
- filter chamber accessible for inspection during operation, no shut-down required
Drum filter Type TFB, TFC

Criteria for determining filter size and filter media
- Air volume
- Type of dust and fibers
- Dust and fiber quantity
- Required filter efficiency
- Maximum possible pressure drop across the filter
- Available space

Specifications
Drum filter type TFB, comprising of:
- horizontally arranged, stationary filter drum
- support frame of galvanized steel elements
- front panel frame (air intake) for connection to wall, as well as end plate of galvanized steel
- filter media selected according to application
- axially arranged rotating hollow shaft
- suction for cleaning the inside of the filter media located on the rotating hollow shaft and is moved in either direction by a cross-grooved shaft
- movement of the suction device by gear motor and chain drive
- gear motor 0.37 kW (0.5 hp)
- fine filter suction between 200 and 1100 m³/h (120 and 650 cfm) depending on filter size and filter media type

Drum filter type TFC, comprising of:
- same specifications as for TFB type, but with additional prefilter connection box of galvanized steel
- prefilter disc, located on the face of the hollow shaft and driven by same gear motor as fine filter suction nozzles
- fixed suction nozzle for the prefilter disc
**Drum filter Type TFB, TFC**

**Dimensions**

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of sections</th>
<th>A [mm] [inch]</th>
<th>Filter length L TFB [mm] [inch]</th>
<th>Filter length L TFC [mm] [inch]</th>
<th>Suction prefILTER [mm] [inch]</th>
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</thead>
<tbody>
<tr>
<td>TFB 15/15</td>
<td>1</td>
<td></td>
<td>1580 (62)</td>
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<td>-</td>
</tr>
<tr>
<td>TFB 15/30</td>
<td>2</td>
<td>1700 (67)</td>
<td>3030 (119)</td>
<td>-</td>
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</tr>
<tr>
<td>TFB 15/45</td>
<td>3</td>
<td></td>
<td>4480 (176)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TFB/C 20/30</td>
<td>2</td>
<td></td>
<td>3030 (119)</td>
<td>3530 (139)</td>
<td>bolt hole Ø 254 (10)</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>pattern Ø 286 (11)</td>
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<td></td>
<td></td>
<td>6 x M6</td>
</tr>
<tr>
<td>TFB/C 20/45</td>
<td>3</td>
<td>2200 (87)</td>
<td>4480 (176)</td>
<td>4980 (196)</td>
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</tr>
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<td></td>
<td>5930 (233)</td>
<td>6430 (253)</td>
<td></td>
</tr>
<tr>
<td>TFB/C 20/60</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TFB/C 25/30</td>
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<td></td>
<td>3030 (119)</td>
<td>3530 (139)</td>
<td>bolt hole Ø 318 (12.5)</td>
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<td></td>
<td></td>
<td></td>
<td>pattern Ø 356 (10)</td>
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<td>8 x M6</td>
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<tr>
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<td>2740 (108)</td>
<td>4480 (176)</td>
<td>4980 (196)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>5930 (233)</td>
<td>6430 (253)</td>
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<tr>
<td>TFB/C 25/60</td>
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<td>TFB/C 25/75</td>
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<td>3030 (119)</td>
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<tr>
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<td>4480 (176)</td>
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<tr>
<td>TFB 30/60</td>
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<td>5930 (233)</td>
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</tr>
<tr>
<td>TFB 30/75</td>
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<td>7380 (291)</td>
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Drum filter Type TFB, TFC

Technical data

<table>
<thead>
<tr>
<th>Type</th>
<th>Diameter of drum and filter disc (TFC) [mm] [inch]</th>
<th>Fine-filter surface [m²]</th>
<th>Max. primary air volume* [m³/h] [cfm]</th>
<th>Suction air volume* [m³/h] [cfm]</th>
<th>Suction pressure at the nozzle* [Pa] [&quot;wg]</th>
<th>Motor power [kW] [hp]</th>
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</thead>
<tbody>
<tr>
<td>TFB 15</td>
<td>1500 (59)</td>
<td>6 - 19</td>
<td>80 000 (47 000)</td>
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<td>200 - 1100 (120 - 650)</td>
<td>0.37 (0.5)</td>
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<tr>
<td>TFB 20</td>
<td>2000 (79)</td>
<td>16 - 32</td>
<td>140 000 (80000)</td>
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<td>224 000 (132000)</td>
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<td>TFB 25</td>
<td>2500 (98)</td>
<td>21 - 52</td>
<td>270 000 (160000)</td>
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<td>4000 - 6000 (16 - 24)</td>
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<tr>
<td>TFB 30</td>
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<td>25 - 63</td>
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<td>16 - 24</td>
<td>70 000 (40000)</td>
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<td>250 - 1100 (150 - 650)</td>
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<tr>
<td>TFC 25</td>
<td>2500 (98)</td>
<td>21 - 52</td>
<td>135 000 (80000)</td>
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</tr>
</tbody>
</table>

*depending on the filter media

We gladly assist you in the selection of the filter and the filter media for your application.

We can supply you the correct equipment for the filter suction and waste disposal as well as axial and radial fans for the main air volume.

Delivery

The LTG-drum filters TFB and TFC are shipped in parts and will be assembled at the site.

Models / Accessories

- with/without prefilter (TFB/TFC)
- pressure monitor
- speed control
- wall frame
- wiper

Special designs

- anti-static design to prevent electro-static buildup
- prefilter screen made of stainless steel for agressive particles
- special custom-made designs
Comfort Air Technology

Air Conditioning Systems
- Decentralized Facade Ventilation Units
- Fan Coil Units
- Induction Units, Active Chilled Beams

Air Diffusers
- Linear Air Diffusers
- Wall and Floor Mounted Air Diffusers
- Swirl Diffusers
- Industrial and Special Air Diffusers

Air Distribution
- Flow Rate and Pressure Controllers
- Shut-off and Balancing Dampers
- Silencers

Process Air Technology

Fans
- Tangential Fans
- Axial Fans
- Centrifugal Fans
- Fahrtwind-Simulators

Filtration Technology
- Suction Nozzles
- Dampers
- Filters, Dust Collectors
- Separators, Compactors

Humidification Technology
- Air Humidifiers
- Product Humidifiers

Engineering Services

Fluid Engineering
- Flow analysis
- Flow visualization
- CFD-simulations
- Flow optimization
- Air conditioning concepts

Thermodynamics
- Calorimetric performance measurement
- Thermal, dynamic, unsteady, system simulations

Acoustics
- Sound level measuring
- Vibration analysis
- Echo chamber measurement
- Acoustic optimization

Comfort
- Evaluation
- Optimization

Customer-specific Solutions
- Product development
- Process optimization
- Installation analysis