Technical Documentation

LTG Drum Filters

Series TFB / TFC

(fixed filter drum, air circulation from the inside to the outside)
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, TFB and TFC with continuous cleaning, meet these criteria at an extremely high air volume range between 12,000 and 160,000 cfm (20,000 and 270,000 m³/h). 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, 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 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 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.

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The same gear motor that turns the nozzles also turns the prefilter screen.
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 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 0.5 hp (0.37 kW)
- fine filter suction between 120 and 650 cfm (200 and 1100 m³/h) depending on filter size and filter media type

Drum filter TFC, comprising of:
- same specifications as for TFB type, but with additional pre-filter 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
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Dimensions

<table>
<thead>
<tr>
<th>Type</th>
<th>Number of sections</th>
<th>A [inch] [mm]</th>
<th>Filter length L TFB [inch] [mm]</th>
<th>Filter length L TFC [inch] [mm]</th>
<th>Suction prefilter [inch] [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFB 15/15</td>
<td>1</td>
<td>62 (1580)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TFB 15/30</td>
<td>2</td>
<td>119 (3030)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TFB 15/45</td>
<td>3</td>
<td>176 (4480)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TFB/C 20/30</td>
<td>2</td>
<td>119 (3030)</td>
<td>139 (3530)</td>
<td>bolt hole Ø 10 (254)</td>
<td>pattern Ø 11 (286) 6 x M6</td>
</tr>
<tr>
<td>TFB/C 20/45</td>
<td>3</td>
<td>176 (4480)</td>
<td>196 (4980)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TFB/C 20/60</td>
<td>4</td>
<td>233 (5930)</td>
<td>253 (6430)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TFB/C 25/30</td>
<td>2</td>
<td>119 (3030)</td>
<td>139 (3530)</td>
<td>bolt hole Ø 12.5 (318)</td>
<td>pattern Ø 10 (356) 8 x M6</td>
</tr>
<tr>
<td>TFB/C 25/45</td>
<td>3</td>
<td>176 (4480)</td>
<td>196 (4980)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TFB/C 25/60</td>
<td>4</td>
<td>233 (5930)</td>
<td>253 (6430)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TFB/C 25/75</td>
<td>5</td>
<td>291 (7380)</td>
<td>310 (7880)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TFB 30/30</td>
<td>2</td>
<td>119 (3030)</td>
<td>-</td>
<td>-</td>
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<td>5</td>
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<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
## Technical data

<table>
<thead>
<tr>
<th>Type</th>
<th>Diameter of drum and filter disc (TFC) [inch] [mm]</th>
<th>Fine-filter surface [sqft] [m²]</th>
<th>Max. primary air volume* [cfm] [m³/h]</th>
<th>Suction air volume* [cfm] [m³/h]</th>
<th>Suction pressure at the nozzle* [&quot;wg] [Pa]</th>
<th>Motor power [hp] [kW]</th>
</tr>
</thead>
<tbody>
<tr>
<td>TFB 15</td>
<td>59 (1500)</td>
<td>643 - 204 (6 - 19)</td>
<td>47000 (80 000)</td>
<td></td>
<td>120 - 650 (200 - 1100)</td>
<td>16 - 24 (4000 - 6000)</td>
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<tr>
<td>TFB 20</td>
<td>79 (2000)</td>
<td>172 - 344 (16 - 32)</td>
<td>80000 (140 000)</td>
<td></td>
<td>132000 (224 000)</td>
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<tr>
<td>TFB 25</td>
<td>98 (2500)</td>
<td>225 - 559 (21 - 52)</td>
<td>160000 (270 000)</td>
<td></td>
<td>160000 (270 000)</td>
<td></td>
</tr>
<tr>
<td>TFB 30</td>
<td>118 (3000)</td>
<td>269 - 677 (25 - 63)</td>
<td>160000 (270 000)</td>
<td></td>
<td>160000 (270 000)</td>
<td></td>
</tr>
<tr>
<td>TFC 20</td>
<td>79 (2000)</td>
<td>172 - 258 (16 - 24)</td>
<td>40000 (70 000)</td>
<td></td>
<td>150 - 650 (250 - 1100)</td>
<td></td>
</tr>
<tr>
<td>TFC 25</td>
<td>98 (2500)</td>
<td>225 - 559 (21 - 52)</td>
<td>80000 (135 000)</td>
<td></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 series 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 aggressive particles
- special custom-made designs
Comfort Air Technology
Air Conditioning Systems
Air Diffusers
Air Distribution

Process Air Technology
Fans
Filtration Technology
Humidification Technology

Engineering Services
Laboratory Test / Experiment
Field Measurement / Optimization
Simulation / Expertise
R&D / Start-up

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