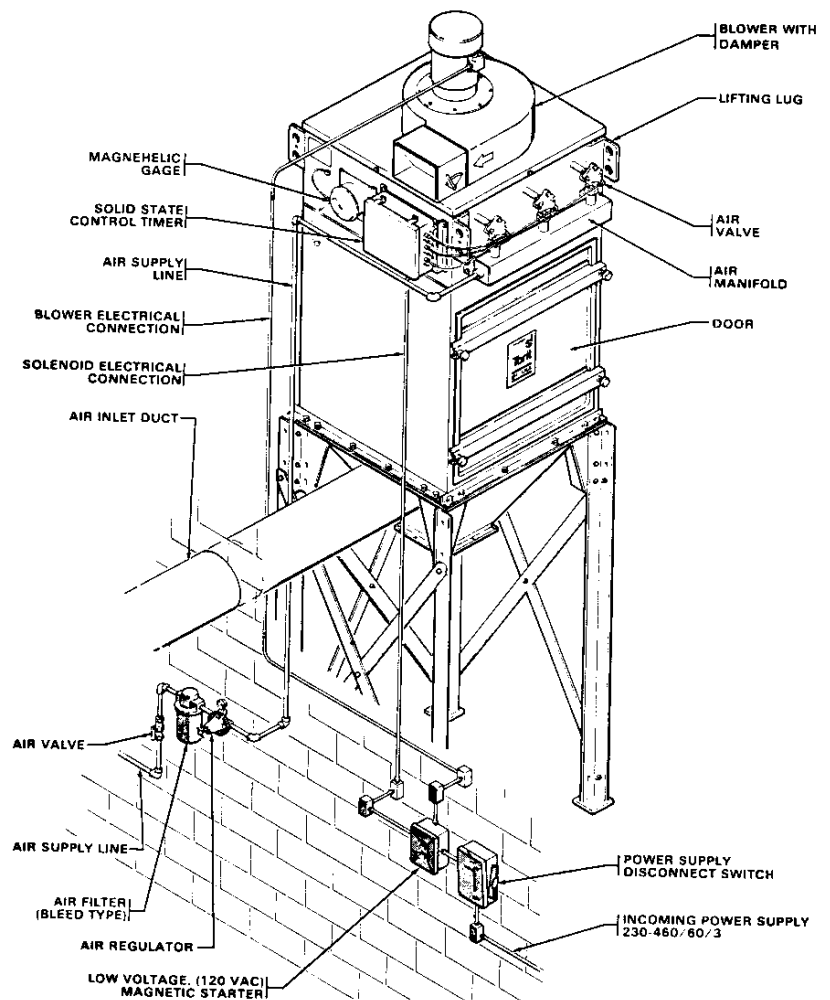


# TD Collectors

## Product Overview

The Torit<sup>®</sup> TD collector is a continuous-duty style dust collector using standard pulse-jet technology for on-line filter cleaning. The pulse cleaning cartridge concept was originally developed by the Donaldson Company in 1974, and the TD (Torit Donaldson) collector was the forerunner of all cartridge-style dust collectors on the market today.

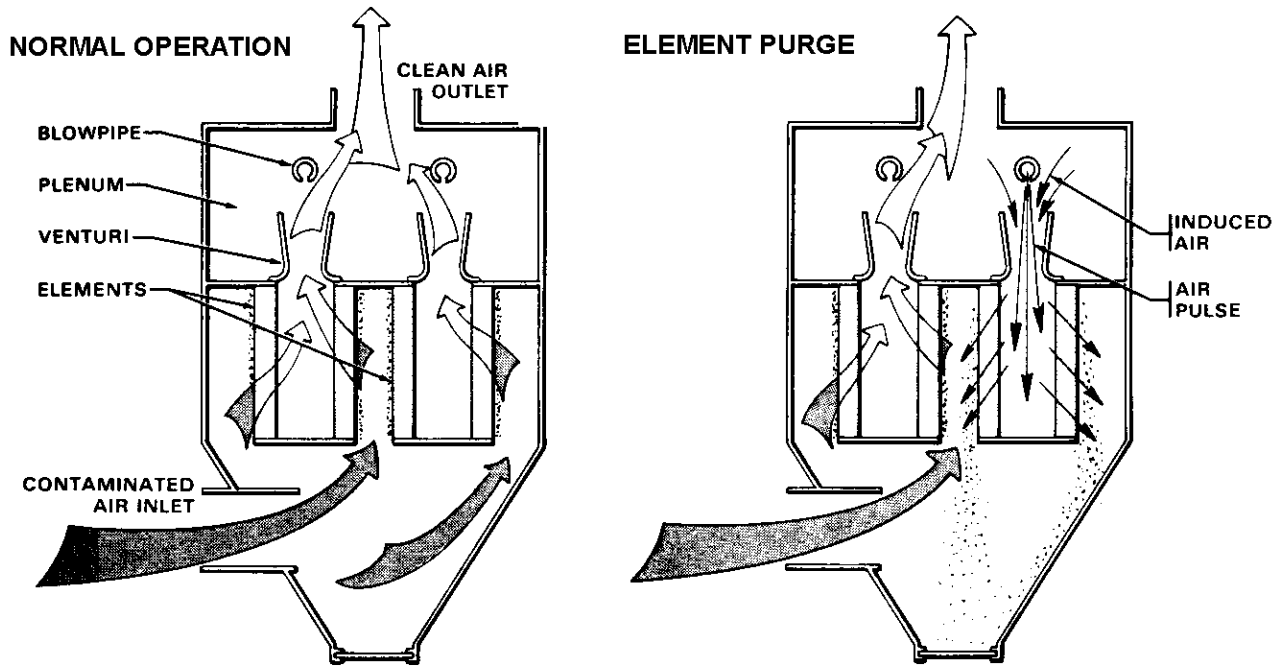
The original product line included units described as small TDs and large TDs. These are differentiated by the size of the filter; the small units use a 8" diameter by 16" long (230 mm x 406 mm) cartridge, while the large units use a 12-3/4" diameter by 26" long (324 mm x 660 mm) cartridge. The product line is rectangular in design with the exception of two units, the TD-162 and TD-573. These are both round, three-cartridge units for high-vacuum applications.



## Operation Explanation

**Normal Operation:** During normal operation, dust-laden air enters the hopper inlet and is collected on the outside of the elements. The filtered air passes up through the venturis and plenum, then out the blower outlet or outlet collar.

**Filter Cleaning:** During filter element purge, the solid-state control timer automatically selects the elements to be cleaned and activates the air valve solenoid. The air valve opens, resulting in a pulse of compressed air traveling into the blowpipe and down through the venturis. The compressed air pulse and induced air pass through the filter elements from the inside-outward, removing the dust from the outside of the elements; the dust falls into the hopper. At the end of the 100 millisecond pulse, the air valve closes and the elements are back in operation.



## Application Summary

In 1983 the larger TDs, models TD-1150 through TD-6120, were made obsolete by the Downflo<sup>®</sup> and deleted from the standard product offering. In 2001, the TD-650 and TD-970 were also made obsolete. The TD-486, remains part of the standard product line and are competitively priced for airflows of 500 - 1,000 cfm (850 - 1,699 m<sup>3</sup>/h).

This smaller unit is typically used on dry, nuisance dust applications where loading to the collector is less than 2 gr/ft<sup>3</sup> (4.6 gm/m<sup>3</sup>). Typical applications include abrasive blasting, grinding, pharmaceuticals, plasma arc cutting, and welding. This unit is sometimes used as bin vents where a low unit profile is preferred to a bag-style unit.

As with other cartridge units, there are some types of applications which require that certain modifications and precautions be taken. These applications may include:

- Fibrous dusts should use a suitable open-pleat type cartridge such as Fibra-Web<sup>®</sup> or Ultra-Tek<sup>®</sup>. Can velocity should be low enough to prevent dusts from redepositing back on the filter cartridges.
- Pneumatic conveying, other than as a bin vent, should use an insert section and tangential inlet on TD-162 and TD-573 units.
- Process operations involving high temperature and humidity require high temperature modifications to the collector including paint, gaskets, and cartridges.
- Hygroscopic dusts such as fertilizer, salt, and sugar should use a washable cartridge such as Fibra-Web, Ultra-Tek, or Torit-Tex<sup>™</sup>.
- Smoke and fume with high hydrocarbon content, such as oil and plastic, should be avoided due to premature plugging of cartridge media from the hydrocarbon chains.

The models TD-162 and TD-573 are designed for high vacuum systems up to -220 "wg (-54.7 kPa), and their use should be discussed with Applications Engineering.

## Sizing and Selecting Criteria

Like most continuous-duty dust collectors, the TD units are sized based on an air-to-media ratio, which is the quotient resulting from dividing the airflow in cubic feet per minute by the media square footage. This method can also be viewed as a guideline for “airflow per filter.”

Air-to-media ratios are determined by the dust and the operating conditions of the application. For recommended air-to-media ratios, use the Maximum Recommended Air-To-Media Ratio Guideline (1993) or contact Applications Engineering.

To determine the size of collector, calculate the square footage of filter area required with this formula: Required filter area = CFM ÷ air-to-media ratio. Once the required filter area is known, a unit can be selected by choosing the appropriate cartridge to use and its square footage.

## Features/Advantages/Benefits

### TD-486 (Rectangular Unit)

Features	Advantages	Benefits
<b>Low profile cabinet design</b>	<ul style="list-style-type: none"> <li>• Low headroom requirement</li> </ul>	<ul style="list-style-type: none"> <li>• Fits into more locations</li> </ul>
<b>Cartridge style collector</b>	<ul style="list-style-type: none"> <li>• Allows air to be recirculated</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced requirements for make-up air</li> </ul>
<b>Pulse cleaning system:</b> <ul style="list-style-type: none"> <li>• 3/4" (19 mm) diaphragm cleans three 8" (203 mm) diameter filters at a time</li> <li>• Goyen solenoids and diaphragms; NCC timer</li> </ul>	<ul style="list-style-type: none"> <li>• Better cleaning energy than on most large diameter filters</li> <li>• Standard dust collector components</li> </ul>	<ul style="list-style-type: none"> <li>• More reliable, efficient system</li> <li>• Reliability, availability</li> </ul>
<b>12-Gauge construction</b>	<ul style="list-style-type: none"> <li>• Housing rated to <math>\pm 20</math> "wg (<math>\pm 4.9</math> kPa)</li> </ul>	<ul style="list-style-type: none"> <li>• Surpasses most unit specifications</li> </ul>
<b>Factory assembled with filter installed and timer-solenoids prewired and mounted</b>	<ul style="list-style-type: none"> <li>• Ease of installation</li> </ul>	<ul style="list-style-type: none"> <li>• Lower installation costs</li> </ul>

### TD-162, TD-573 (Cylindrical Units)

Features	Advantages	Benefits
<b>Pulse cleaning system:</b> <ul style="list-style-type: none"> <li>• TD-162 cleans one 8" (203 mm) diameter filter at a time with 1/4" (6 mm) diaphragm valve</li> <li>• TD-573 cleans one 12-3/4" (324 mm) diameter filter at a time with 3/4" (19 mm) diaphragm valve</li> </ul>	<ul style="list-style-type: none"> <li>• Better cleaning energy</li> </ul>	<ul style="list-style-type: none"> <li>• More reliable, efficient system</li> </ul>
<b>Standard flanged outlets side and top</b>	<ul style="list-style-type: none"> <li>• One design standard</li> </ul>	<ul style="list-style-type: none"> <li>• Ease of installation</li> </ul>
<b>Heavy-duty, round construction</b>	<ul style="list-style-type: none"> <li>• Housing rated to -220 "wg</li> </ul>	<ul style="list-style-type: none"> <li>• Rated for high vacuum</li> </ul>

	(-54.7 kPa)	service
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