

Cabinet Collectors

Product Overview

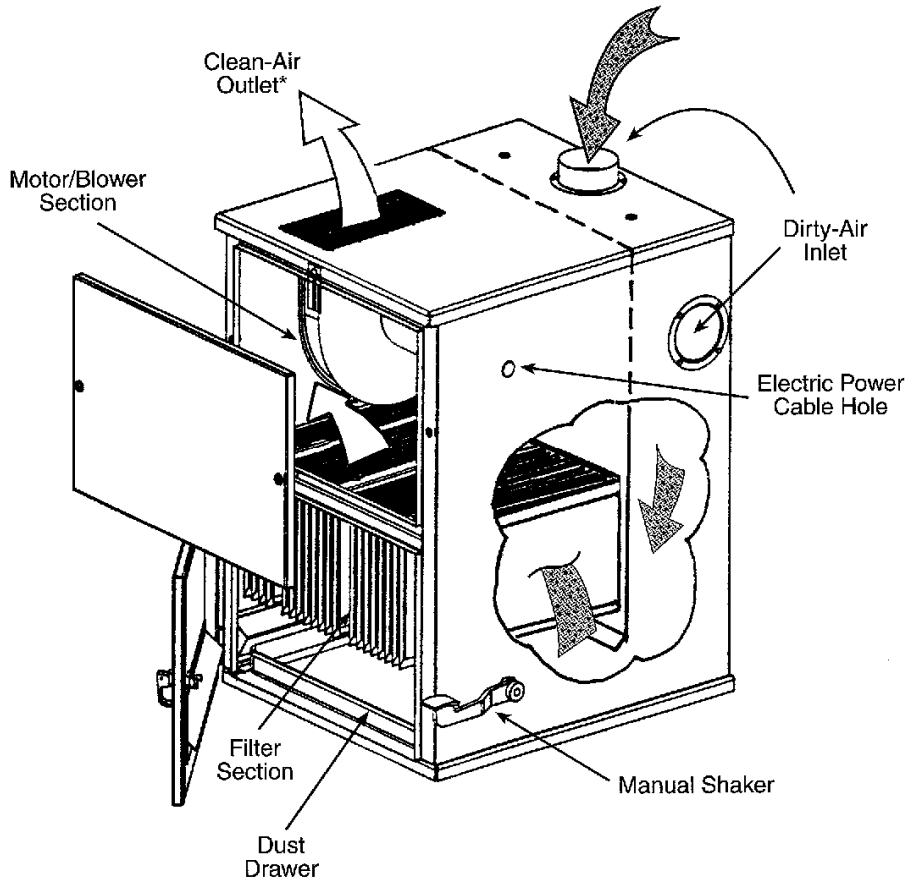
Torit® Products Cabinet Collectors provide high-efficiency intermittent-duty cleaning by means of envelope-style filters utilizing standard woven filter medias. Originally designed in 1938, this type of collector was Torit Products' initial entry into dust collection and was the forerunner to similar competitive units. Enhanced in 1998, the 50-80 series Cabinet Collectors feature smooth, clean lines, quick access to the dust drawer, reversed tubesheet frame construction for positive pressure seal, and the EZ Filter Pack™ for easy maintenance. The EZ Filter Pack takes the place of the individual envelope replacement bags of the past.

The EZ Filter Pack allows for bag replacement without tools and is retrofittable to all 50-80 Cabinet Collectors manufactured after 1970, in some instances with minor field modification to the collector. Individual bags are no longer offered for the 50-80 model Cabinets. The EZ Filter Pack was developed for the small Cabinet Collectors initially because larger filter pack individual weights were an issue.

Each Cabinet Collector is self-contained and includes the filters, blower, shaker system, a choice of inlet locations, and dust drawer or hopper base. Units are sized for nominal airflows of 170 - 2,000 cfm (288 – 3,398 m³/h) with new filters. The EZ Filter Pack or the envelope-style filters for the Model 90 are cleaned by a manual action or an optional automatic shaker mechanism, each time the unit is shut off.

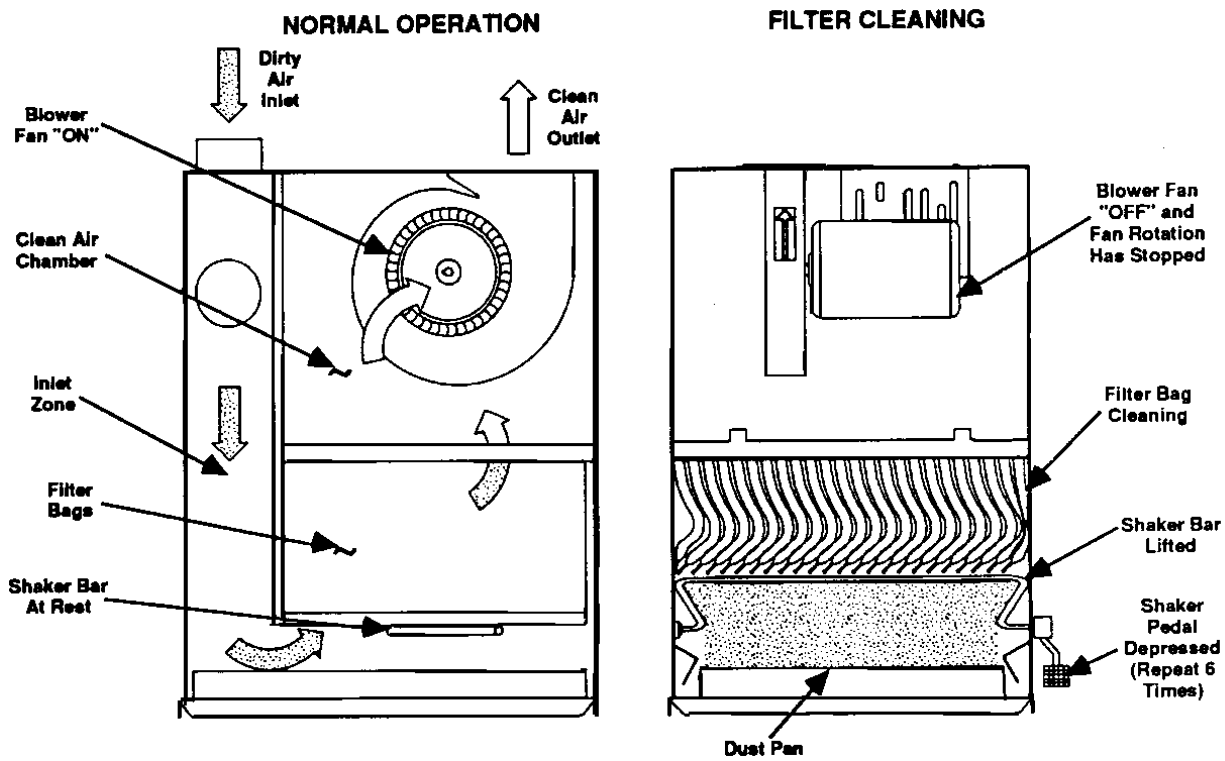
Operation Explanation

Normal Operation: Dust-laden air first enters through the dirty air inlet and then passes through the cabinet where the dust is collected on the outside surfaces of the filter media. The cleaned air then flows up through the center of the EZ Filter Pack (Model 50-80) or the filter envelopes (Model 90) and into the clean air plenum. It enters the blower fan and exits through the blower fan exhaust that is located on the roof of the Cabinet Collector.



The filtering process in all intermittent-duty dust collectors relies on the generation of a dust cake on the filter media. This dust cake performs the actual filtering of subsequent dust particles entering the collector. The greater the amount of dust cake accumulated, the higher the efficiency of the filter. Conversely, a new, clean filter will be relatively inefficient. As the dust cake accumulates, the static resistance of the filter increases resulting in a reduction of airflow; hence, it is accepted practice to apply all intermittent-duty collectors at approximately 80 percent of their normal airflow rating with new filters.

Filter Cleaning: Torit Products Cabinets are intermittent-duty collectors. Cleaning should be done only after the blower fan is OFF and the blower fan rotation has stopped (approximately 60 seconds). EZ Filter Pack (Model 50-80) and filter envelope (Model 90) cleaning is accomplished by pushing down vigorously on the shaker pedal and releasing rapidly. The shaker can be hand or foot pedal operated, or it can be powered by a motor automatically. It is the releasing action of the pedal that causes the dust cake that has accumulated on the filter envelope surfaces to fracture and then fall off into the dust storage area. The manual cleaning of the EZ Filter Pack or bags should be repeated six (6) consecutive times.



Application Summary

The Cabinet Collector is a low cost alternative for most intermittent-duty applications with airflows below 2,000 cfm (3,398 m³/h). This style of collector requires frequent cleaning; after collecting dust for a period of time, the fan must be turned off and the filters shaken clean. Shaking is accomplished by manually operating the shaker pedal or handle connected to the shaker assembly, or by use of an optional motorized shaker.

The shaker assembly located inside the cabinet is a lift bar arrangement that lifts-and-drops all the filters at one time. The lifting, flexing, and dropping actions dislodge the dust from the filter. The dust then falls into the collection base.

Cabinet Collectors provide excellent efficiency on nuisance dust generated in industrial operations, and are a good choice for low airflow, light-loading applications that do not require continuous airflow. Customers are primarily small shop operations with less than ten employees. Typical applications include grinding, buffing and polishing, abrasive blasting, batch mixing, and bag dumping. Quite often, individual Cabinet Collectors are dedicated to one or two machines. For this reason, the following EZ Filter Pack filter materials and construction choices are available.

Filter Materials: Four filter bag options are offered-cotton sateen, polyester sateen, woven polyester, and polypropylene.

- **Cotton Sateen** is the standard filter media, providing good efficiency on most applications up to 180°F (82°C).
- **Polyester Sateen** provides the same efficiency and approximately the same release characteristics as cotton sateen, but is recommended for higher temperature applications up to 240°F (115°C). This limitation is set by the ABS injection-molded frame of the EZ Filter Pack and not by the filter material. Polyester sateen is also the more abrasion-resistant material.
- **Woven Polyester** provides better dust release capabilities with lower efficiency.
- **Polypropylene** provides some chemical resistance up to 180°F (82°C).

Construction Choices: Three customized EZ Filter Pack constructions are offered: standard galvanized steel, optional stainless steel, and optional non-sparking.

- **Standard Galvanized Construction** provides support bars, slide latches, bag clips, and hardware in galvanized metal. This construction supports most applications.
- **Optional Stainless Steel Construction** is tailored to corrosive environments. This option only changes to stainless steel clips and stainless steel screws if the screws protrude into the dirty air section. Slide latches, support bars and other hardware located in the clean air plenum remain galvanized steel.
- **Optional Custom Non-Sparking Construction** is required in conjunction with other explosion proof modifications to the collector. This continues to be a custom design modification as less than 1 percent of sales call for it. The grounded, non-sparking construction includes the standard ABS frame and polyester fiber medium, an additional stainless steel wiremesh insert, stainless steel bag clips, and grounding wires which must be connected to the outside wall of the collector.

As with most fabric filter systems, applications that produce wet, oily or sticky contaminants should be avoided.

Sizing and Selecting Criteria

As with all intermittent-duty collectors, the nominal cfm ratings of the Cabinet Collector fans are based on airflow with clean filters. These ratings need to be corrected for typical operating conditions. This can be accomplished by allowing for an additional 2 "wg (0.5 kPa) pressure drop across the filters. An easier method that gives the same approximate results is to assume airflows of 80 percent of the values in the multiple rating table. Either method allows for the loss of airflow as the dust cake develops. The recommended unit can also be determined by using the "Torit Collector Selector" slide rule available through your regional sales office or Applications Engineering.

When selecting a Cabinet Collector, remember that all intermittent-duty collectors require shutdown of the unit for cleaning. The airflow through the filter must be stopped before shaking the filter to avoid dust migrating through the woven fabric during cleaning. The cleaning frequency will depend on the application.

When handling very fine particulate, the media may need to be "seasoned." Seasoning is accomplished using a dust to preload the filter to develop an initial dust cake. Two of the most common dusts for seasoning are diatomaceous earth and lime. In most cases, if seasoning the filters is a concern, an alternate collector should be considered.

Features and Benefits

Features (50-80 Series)	Benefits
Multiple inlet size and locations	<ul style="list-style-type: none"> • Ease of installation
Inlet baffle	<ul style="list-style-type: none"> • Less frequent shaking required • Longer filter life
Quick access latches	<ul style="list-style-type: none"> • Quick, easy, and safe maintenance
Positive pressure seal provides no-leak performance	<ul style="list-style-type: none"> • Improved worker productivity through cleaner, safer work environment
Clean, smooth lines gives an appliance appearance	<ul style="list-style-type: none"> • Simple, reliable, inexpensive technology in an easy-to-maintain package • Fits all existing accessories
The EZ Filter Pack: <ul style="list-style-type: none"> • Unique, adapted design is retrofittable to all 50-80 Cabinets in the field • One-piece construction • Easy installation without tools • Guaranteed 24 or 30 bags, respectively • New filter media inserts provide constant, effective filtration • ABS injection molded frame 	<ul style="list-style-type: none"> • Quick, easy, and safe bag replacement reduces maintenance time and improves productivity • No bag inserter tools to lose, and cost savings to customer • Increases productivity and reduces maintenance time from 45 minutes to 5 minutes • No more "extras," ensuring ultimate filtration performance • Better airflow and lower differential pressure result in lower energy consumption and lower operating costs • Relatively light weight, ensuring worker

	safety and meeting OSHA standards
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Features (90 Series)	Benefits
Filter construction: <ul style="list-style-type: none"> • Bowed filter frame • Self-adhesive felt gasket each side of filter frame • Aluminum mesh inside filter • Bag clip 	<ul style="list-style-type: none"> • Reliability • Better airflow

Features (All Models)	Benefits
Base options: <ul style="list-style-type: none"> • Dust drawer • Hopper • 5-gallon pail (19 liters) 	<ul style="list-style-type: none"> • Reduced headroom • Less frequent servicing of collector • Ease of emptying dust from collector