

Cincinnati fan

OEM and Industrial Air Handling Specialist



PORTABLE DUST COLLECTORS

Cat. No. DC-1011
Supersedes DC-409



Dust-Master, High Efficiency, 2 Stage, Dust Collectors

STANDARD FEATURES FOR ALL MODELS

Dust Collector:

- Much higher filtration efficiency than any single stage designs. **See page 3.**
- Powerful, self-cleaning, cast aluminum, radial blade blower wheels.
- 14 gauge, powder-coated, steel blower housing.
- Fabric filter bag, 5 feet of flexible inlet hose and square inlet nozzle are included.
- All dust bags are 99% efficient.
- Quiet operation.
- See accessories on pages 5, 6 and 7.
- All are proudly made in the U.S.A.

Motors:

- All motors are 3450 RPM, Totally Enclosed Fan Cooled enclosure, with sealed ball bearings. No lubrication required. All models are available in 115/230 volt, single phase (except 300S) or 230/460 volt, three phase.
- Model 300S available with 230/460 volt, 3 phase, 60 cycle, TEFC motor only.
- All motors are continuous duty, industrial motors. Not duty rated.
- Switch, 8 foot cord and 115 volt, three prong, grounded plug are included on single phase, 60 Cycle, TEFC motors for models 33S, 50S, 75S and 100S.
- Most models are also available with Explosion Proof motors.
- 575 volt and 50 cycle motors also available for most models.

SPECIFIC FEATURES FOR EACH MODEL

Models 33S, 50S and 75S:

- Heavy duty, molded ABS drum lid. Fits any container with an 19½"-20½" diameter such as 30 gallon galvanized garbage can or 30-35 gallon steel or fire resistant fiber drum. Plastic drums are not recommended.

Models 100S, 150S and 200S:

- Heavy duty, molded, fiberglass reinforced epoxy drum lid. Fits any container with a 23"-24" diameter such as 55 gallon steel or foil lined fiber drum. Fiber drums should be able to support the unit weight. Plastic drums are not recommended.

Model 300S:

- Same lid as supplied on models 100S - 200S
- Shipped with inlet hose and filter bag connection kit. Oversized after filter bag must be ordered separately. See pages 5 and 6 for filter bag sizes and fabric selection.



Models 33S, 50S & 75S

Cans or drums not included

Models 100S, 150S & 200S

(For Model 300S, see pages 5 and 6.)

Specifications

MODEL NO.	MOTOR H.P.	MAX. C.F.M. ①	MAX. S.P. ②	dBA @ 5 FT.	STANDARD DUST BAG			BLOWER WHEEL DIA.	HOSE SIZE	INLET NOZZLE SIZE	MAX. DRUM DIA. ④	FULL LOAD AMPS ⑤		APPROX. SHIP. WT.
					FABRIC	AREA (in sq. ft.)	MICRON ③					115V-1Ø	230V-3Ø	
33S	1/3	335	3"	76	Cotton Sateen	12.5	10	8"	3" x 60"	4" x 4"	20½"	5.8	1.8	32
50S	1/2	450	7"	78		12.5	10	9¾"	4" x 60"	5" x 5"	20½"	6.8	1.9	50
75S	¾	580	7"	78		12.5	10	10⅝"	4" x 60"	5" x 5"	20½"	8.8	2.4	53
100S	1	700	4½"	83	Knit Polyester	18	5	10⅝"	5" x 60"	6" x 6"	24"	11.2	3.2	72
150S	1½	875	6½"	76		18	5	11"	6" x 60"	7" x 7"	24"	16.0	4.4	85
200S	2	1100	8½"	85		18	5	12¼"	6" x 60"	7" x 7"	24"	20.0	5.6	97
300S	3	1300	10"	84	Select oversized bag from pages 5 and 6.			13"	6" x 60"	7" x 7"	24"	Not Available	7.6	113

① Maximum CFM at 0" S.P. (clean drum, dust bag and with 5 feet of inlet hose).

② Maximum additional static pressure at which point there will be no air flow.

③ Minimum micron size that standard dust bag will capture.

④ **See "Specific Features for Each Model" above.**

⑤ Starting amps are approximately 6-7 times the full load amps. High voltage amps are 1/2 of low voltage amps. Amp loads shown above are approximate and vary with different motors.



Why Is Our Two-Stage “Dust-Master” Better Than Any Single Stage Unit?

Two-Stage, Cincinnati Fan, Dust-Master Dust Collectors are more EFFICIENT:

Two-stage Dust-Masters separate out all the large, heavy, abrasive particles in the cyclonic separator first stage of the collector. Only the fine dust particles pass through the blower to the second stage filter bag. Single stage collectors draw all the large, heavy, abrasive dust into the blower which causes rapid wearing of the blower wheel and housing and can very quickly cause a very dangerous wheel unbalance problem.

See the two-stage Dust-Master filtration diagram below.

Two-Stage, Cincinnati Fan, Dust-Master Dust Collectors are more DURABLE:

Dust-Masters are more durable since erosion of the wheel and housing by the heavy, abrasive particles in a single stage collector is eliminated in the first stage of a two-stage collector. There are many Cincinnati Fan Dust Master Dust Collectors still in operation in home work shops and factories for more than 20 years.

Two-Stage, Cincinnati Fan, Dust-Master Dust Collectors provide a SAFER WORKING ENVIRONMENT:

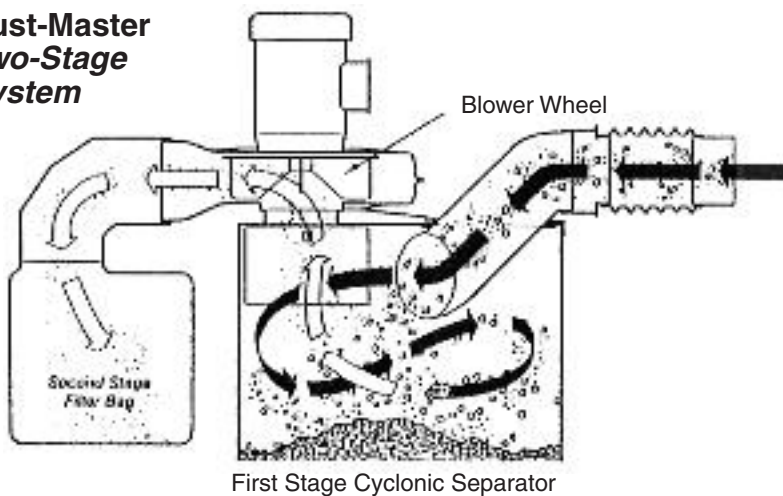
By collecting dust and grit at the source, you eliminate having to vacuum the floor. It is also much easier to see the part you are working on without all the dust and debris clouding your view. The Models 33S, 50S and 75S come complete with 10 micron dust bags as standard. The Models 100S, 150S and 200S come complete with 5 micron dust bags as standard. By utilizing micron size dust bags in these low ranges, the operator breaths

in much cleaner air. Some wood dust particles, when breathed in over time, can cause severe damage to your lungs and even lead to death. Keeping the dust out of the air is just as important as wearing safety glasses. Your good health at home or at work is more important than the satisfaction and joy achieved by creating something in wood or metal. Cincinnati Fan also offers a wide variety of special dust bags that can filter out dust particles down to 1 micron and fire resistant materials for metal grinding applications. We also carry a wide variety of sheet metal nozzles, reducers, Y connectors and other items to complete ductwork connections from your equipment to the dust collector. See available accessories on pages 5, 6 and 7.

Two-Stage, Cincinnati Fan, Dust-Master, Dust Collectors are MADE IN THE U.S.A.:

In an era when small machinery manufacturing is continually going overseas, we are proud that Cincinnati Fan Dust-Master Dust Collectors are still made and assembled in our factory in Mason, Ohio. You will find imported products, some of which are copies of our design. Your selection should not turn out to be a disappointment. Compare the features, benefits and component material. We feel confident you will be as proud to own a Cincinnati Fan Dust-Master dust collector as we are to build them. Two-stage Dust-Master dust collectors, made by Cincinnati Fan, are still being used today by the president of a leading wood working magazine in his shop at home and by certain popular woodworking shows seen on national TV. One show featured the benefits of our dust collectors in one of their episodes.

Dust-Master Two-Stage System



First stage cyclonic separator filters large dust and particles into container. Smaller particles pass through blower wheel into second stage bag.

⚠ DANGER

DUST-MASTERS ARE NOT DESIGNED TO COLLECT REACTIVE METALS SUCH AS ALUMINUM, MAGNESIUM, TANTALUM, TITANIUM AND ZIRCONIUM.

Collecting these materials can result in a severe explosion and/or fire resulting in death, severe personal injury and extensive property damage.

Consult the National Fire Protection Association (NFPA) for all applicable standards.

⚠ DANGER

All fans and blowers shown have rotating parts and pinch points. Severe personal injury can result if operated without guards, elbow and dust bag supplied with units. High electrical voltage can cause severe injury or death.

Disconnect or lock out from power source and let motor come to a complete stop before inspecting, servicing or moving.

Read operating instructions before operating unit.

⚠ DANGER

The National Fire Protection Association (NFPA), Standard 664, 2007 Edition, states that no dust collector can be used to collect BOTH wood dust or chips AND metal dust or chips. It also states that any flexible hose connections to a machine must be “as short as possible”, and no PVC hose or pipe may be used in **ANY** dust collection system. Consult NFPA Standard 664 for additional specifications before installing a dust collection system that will be used in wood processing or woodworking facilities.
Per the NFPA standard 664, the dust collectors listed in this catalog are classified as “Enclosureless” type.

Exhaust Volumes Required for Different Applications ①

WOODWORKING

EQUIPMENT	SIZE	MIN. CFM REQUIRED ②
Jointer	Knife Length = Up to 6"	350
	6+" to 12"	440
	12+" to 20"	550
	over 20"	800
Sander, Belt (Horizontal)	Belt Width = Up to 6"	790 ③
	6+" to 9"	900 ③
	9+" to 14"	1240 ③
Sander, Disc	Disc Diameter = Up to 12"	350
	12+" to 18"	450
	18+" to 26"	550
Sander, Drum	Drum Surface = Up to 200	350
	(in square inches) 201 to 400	550
	401 to 700	785
	701 to 1400	1100
Saw, Band	Blade Width = Up to 2"	700 ③
	2+" to 3"	900 ③
	3+" to 4"	1350 ③
Saw, Radial	Hood behind blade =	430
	From port on blade guard =	70
	Total =	500
Saw, Swing	Blade Diameter = Up to 20"	350
	Over 20"	440
Saw, Table	Blade Diameter = Up to 16"	350
	16+" to 24"	440
	Over 24"	550
	Variety with dado =	550
Planer, Single	Knife Length = Up to 20"	785
	20+" to 26"	1100

Abbreviation Definitions: **CFM** = Cubic feet of air per minute.
FPM = Feet per minute **sf/m** = Surface feet per minute.

① The exhaust volume (CFM) requirements shown are "From American Conference of Governmental Industrial Hygienists (ACGIH), Industrial Ventilation: *A Manual of Recommended Practice*, 19th Edition. Copyright 1986. Reprinted with permission." Consult manual for more detailed recommendations. Contact them at www.acgih.org.

METALWORKING (Except Reactive Metals)

EQUIPMENT	SIZE	MIN. CFM REQUIRED ④
Buffing, Belt	Belt Width = Up to 3"	220
	3+" to 5"	300
	5+" to 7"	390
	7+" to 9"	500
	9+" to 11"	610
Buffing, Wheel	Wheel Width= 2"	300
	⑤ 3"	500
	4"	610
	5"	740
Grinding Wheel Wheel speeds below 6500 sf/m	Wheel Width= 1"	220
	⑤ 1 1/2"	220
	2"	390
	3"	500
	4"	610
Grinding Wheel Wheel speeds) above 6500 sf/m	Wheel Width= 1"	220
	⑤ 1 1/2"	390
	2"	610
	3"	740
	4"	880
	5"	1200

② CFM's required are minimums per each equipment type. Duct velocity should not be less than 3500 FPM to prevent wood dust from settling in duct work.

③ Requires 2 nozzles or hoods. CFM's shown are total CFM for both nozzles or hoods.

④ For all metalworking applications, duct velocity should be at least 3500 FPM for light grinding or buffing and at least 4500 FPM for heavy grinding or buffing to prevent dust from settling in duct work.

⑤ The wheel hood should cover at least 75% of the wheel to be considered a good enclosure.

How To Select The Proper Size Dust-Master Dust Collector

Although **Cincinnati Fan Dust-Master** dust collectors will give you excellent results in collecting wood chips, fine dust and metal shavings, they are not designed to work in large central system applications. These are portable units that can be moved from machine to machine. To select the proper size **Dust-Master**, use the criteria below.

1. Add the "CFM REQUIRED" for each machine per the above chart. This is your **TOTAL CFM REQUIRED**.
2. Now, select the **Dust-Master** model from page 2 with a "Max. CFM" greater than your **TOTAL CFM REQUIRED** in step 1. If none of the models on page 2 have a Max. CFM **greater** than your **TOTAL CFM** required, you will need more than one unit. Also see note 7.
3. If the unit will be in a "fixed installation" all ductwork should be sheet metal duct instead of flexible hose. The pressure drop through flexible hose is about 2-3 times that of smooth wall pipe. **DO NOT use any PVC or plastic pipe. It can deliver a severe static electric shock caused by high velocity dust passing through it.**
4. The **Dust-Master** should be located as close to the machine as possible and preferably no more than 10 feet away.

5. Use as few elbows as possible in your ductwork. The loss through one 90° elbow is equal to approximately 10 feet of straight, smooth wall pipe.
6. If the dust collector will be used for more than one machine, you should install slide gate dampers in the duct at each machine to "close off" that section of duct when using another machine. This will allow the dust collector to pull from only one machine at a time and thus increase the dust collector performance.
7. **Typically**, a Model 150S will work with up to 20 total feet of duct, a Model 200S will work with up to 30 total feet of duct and a Model 300S will work with up to 75 total feet of duct. These values are based on having dampers at each machine connection (as in note 6 above) and all ducting is smooth wall, sheet metal.

The National Fire Protection Association (NFPA), Standard 664, 2007 Edition, states that no dust collector can be used to collect BOTH wood dust or chips AND metal dust or chips.



Cincinnati Fan Oversized After Filter Bags

5 Models Available (See page 6 for bag fabric selection)

Oversized filter bags are designed for use on Dust-Master dust collectors to improve the performance in three situations:

1. On any Model 300S, an oversized filter bag is required to provide sufficient bag filtration area.
2. Some operations generate mostly fine dust (e.g., sanding) or very light chips (e.g., thin planer cuts on soft wood). In many cases, the light weight dust or chips will be carried over to the second stage of the dust collector and collected in the filter bag. This results in having to frequently remove the dust bag for emptying. Using an oversized filter bag will provide a much larger storage volume and thus reduce the frequency needed to clean the bag.
3. When the dust being collected is a very fine (smaller than 5 microns), a 1 micron filter bag fabric should be used. **These fabrics, however, significantly increase the air flow resistance through the filter bag walls.** This resistance creates a back pressure on the blower of the Dust-Master and thus reduces its dust collection capability.

By using an oversized filter bag, the filtration surface area is greatly increased and thus reduces the back pressure back to the normal level. For more information on filter bag fabrics, see page 6.

There are five oversized filter bag models comprised of three sizes and four material types:

The two HB type bags are designed to hang from an angle iron ring and they have a closed bottom with a zipper for removal of the dust.

The three DB type models are designed to mount onto a second open top 55 gallon drum and the fine dust falls into the drum. This is the bag type we recommend since it is much easier to empty the drum than to empty the HB type bags.

The 24x80 and 48x80 size models are normally used with Models 100S through 200S and required on Model 300S. The 24x40-DB filter bag is designed to be used on Models 50S and 75S. No oversized bags are needed for Model 33S.

The initial installation of an oversized filter bag will also require the use of a Bag Connector Kit as described below.

Models 24X80-HB and 48X80-HB Hanging Bag Assemblies
 Complete with steel angle suspension ring and hooks to engage eyelets in bag. Large zipper in bottom of bag for removal of dust.
#24X80-HB: 24" diameter x 80" high. 48 Sq. Ft. filter area
#48X80-HB: 48" diameter x 80" high. 110 Sq. Ft. filter area.

Models 24X40-DB, 24X80-DB and 48X80-DB Drum Bags
 Metal eyelet in top, center of bag for suspension and web belt with quick release buckle holds bag onto drum.
#24X40-DB: 24" diameter x 40" high. 24 Sq. Ft. filter area.
#24X80-DB: 24" diameter x 80" high. 45 Sq. Ft. filter area.
#48X80-DB: 48" diameter x 80" high. 100 Sq. Ft. filter area.

Bag Connector Kits
 For connecting oversized dust bags to Dust-Masters. Includes 5 feet of PVC hose, hose-to-bag connector and 3 hose clamps.
#10-20: 4" hose for models 50S and 75S.
#10-30: 6" hose for models 100S, 150S and 200S.
(#10-30 is included, as standard, with model 300S)



Dust-Master Dolly Base

(4 Wheel Steel Dollies for Portability)

#2613101

19" x 19" for models 33S, 50S and 75S
 18 pounds, 2" rubber casters.

#2613201

24" x 24" for models 100S, 150S and 200S
 23 pounds, 2" rubber casters.

Filter Fabric Comparative Information

COTTON SATEEN is an economical fabric for use with coarse (10 micron & larger) dust for 33S-75S units. Cotton Sateen is not resistant to most chemicals.

Temperature limit is 200°F.

KNIT POLYESTER has a three dimensional knit pattern which enables it to filter finer particles (5 micron & larger) with less air flow resistance than cotton sateen. Polyester fibers are resistant to most chemicals.

Temperature limit is 275°F. (See Note 2.)

ACRYLIC COATED POLYESTER FELT will remove dry dust particles (1 micron & larger). However, the CFM will be reduced by up to 40% unless the bag size is increased via an oversized bag (see page 5). The acrylic coating is not resistant to most chemicals.

Temperature limit is 275°F. (See Note 2.)

TEFLON® COATED POLYESTER FELT will remove particles (1 micron & larger) and should be used whenever the dust is “sticky” or chemically active (**Important! See Note 1 below**). “Sticky” dust includes oily buffing dust and certain mineral dusts such as marble. The fabric is resistant to most chemicals.

Temperature limit is 275°F. (See Note 2.)

Note 1: The Dust-Master's materials of construction have limited chemical resistance. Consult factory before using on chemically active dusts.

Note 2: Some materials of construction used on all the Dust-Master's have limited resistance to heat and/or hot sparks. The inlet hose should be replaced with flexible metal hose. Even with this change, the air temperature drawn into the dust collector should not exceed 200°F, although the dust particles may be hotter.

Replacement and Optional Oversize Dust Bag Part Numbers for Dust-Master Dust Collectors

All dust bags are 99% efficient at micron size shown.

STANDARD SIZE FILTER BAGS FOR MODELS	BAG INLET DIA	BAG SURFACE AREA (SQ. FT.)	PART NUMBERS FOR FILTER BAGS			
			COTTON SATEEN	KNIT POLYESTER	ACRYLIC COATED POLYESTER FELT	TEFLON® COATED POLYESTER FELT
			(10 Micron) Lowest Cost	(5 Micron) Excellent General Purpose	(1 Micron) Fine Dust	(1 Micron) “Sticky” Fine Dust
33S	4 ³ / ₄ "	12.5	25035(S)	25072	—	—
50S	4 ³ / ₄ "	12.5	25035(S)	25072 ①	—	—
75S	4 ³ / ₄ "	12.5	25035(S)	25072 ①	—	—
100S, 150S & 200S	6 ³ / ₄ "	18.0	—	25071(S)	25149 ②	25191 ②
OPTIONAL OVERSIZED DUST BAGS BELOW FOR USE ON MODELS 50S AND 75S						
24x40-DB ③	4 ³ / ₄ "	24.0	25042	25073	—	—
OPTIONAL OVERSIZED DUST BAGS BELOW FOR USE ON MODELS 100S, 150S, 200S AND 300S						
24x80-DB ③	6 ³ / ₄ "	45.0	—	25074	25101	25193
48x80-DB ③	6 ³ / ₄ "	100.0	—	25076	25102	25194
24x80-HB (Bag only) ③	6 ³ / ₄ "	48.0	—	25075	25188	25195
24x80-HB Assembly ④	6 ³ / ₄ "	48.0	—	25078	25197	25199
48x80-HB (Bag only) ③	6 ³ / ₄ "	110.0	—	25077	25189	25196
48x80-HB Assembly ④	6 ³ / ₄ "	110.0	—	25079	25200	25202

Part numbers with (S) behind them are the *standard* dust bag supplied with that model dust collector. All others are optional.

Part numbers in ***bold italic*** are non-stock with 2-3 week shipment.

① A 24x40-DB bag is recommended to reduce resistance and increase efficiency.

② A 45, 48, 100 or 110 square foot surface area bag is recommended to reduce resistance and increase efficiency.

③ **Does not include the Bag Connector Kit listed on page 5.**

④ Includes dust bag, steel ring and J-hooks. **Does not include the Bag Connector Kit listed on page 5.**

Dust-Master Accessory Parts

Inlet Suction Nozzles

		Square	Side intake	Flat
PART NO.	TYPE	FOR HOSE SIZE	NOM. NOZZLE OPENING SIZE	
51014	Square	3"	4" x 4"	
51015		4"	5" x 5"	
51016		5"	6" x 6"	
51017		6"	7" x 7"	
51018	Side Intake	3"	3" x 5"	
51019		4"	4" x 8"	
51020		5"	5" x 8"	
51021		6"	6" x 9"	
51026	Flat	3"	7" x 1"	
51027		4"	8" x 1.5"	
51028		5"	10" x 2"	
51029		6"	12" x 2.5"	

Hose Clamps

Carbon steel band and screw

PART NO.	NOM. SIZE	Size Range	
		Min.	Max.
31013	3"	1 ⁵ / ₁₆ "	3 ³ / ₄ "
31379	4"	2 ⁵ / ₈ "	4 ¹ / ₂ "
31016	5"	3 ⁵ / ₈ "	5 ¹ / ₂ "
31244	6"	4"	7"



Flexible Hose

Temp. range: 0°F. to 180°F.
Polypropylene with wire helix.

PART NO.	NOM. SIZE I.D. x Length
31623 PP	3" x 60" long
31624 PP	4" x 60" long
31625 PP	5" x 60" long
31626 PP	6" x 60" long
31628 PP	4" x 120" long
31629 PP	6" x 120" long



Hose Kits

2: clamps, 1: sleeve and
1: 60" long hose

PART NO.	NOM. SIZE
31053PP	3"
31054PP	4"
31055PP	5"
31056PP	6"



Hardware Kits

2: clamps and 1: sleeve

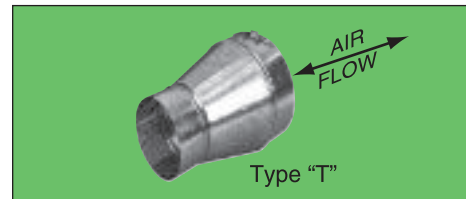
PART NO.	NOM. SIZE
31643	3"
31644	4"
31645	5"
31646	6"

"Y" Connectors for 2 Hoses

	PART NO.	NOM. SIZE
	51007 (1)	4" to 3" x 3"
	51004 (2)	6" to 3" x 3"
	51005 (3)	6" to 4" x 4"

- (1) For Models 50S & 75S.
(2) For Model 100S
(3) For Models 150S to 300S.

Tapered Reducers (1)



Type "T"

PART NO.	TYPE	NOM. SIZE
51045 (2)	Tapered	6" to 3"
51043 (2)		6" to 4"
51110 (2)		6" to 5"

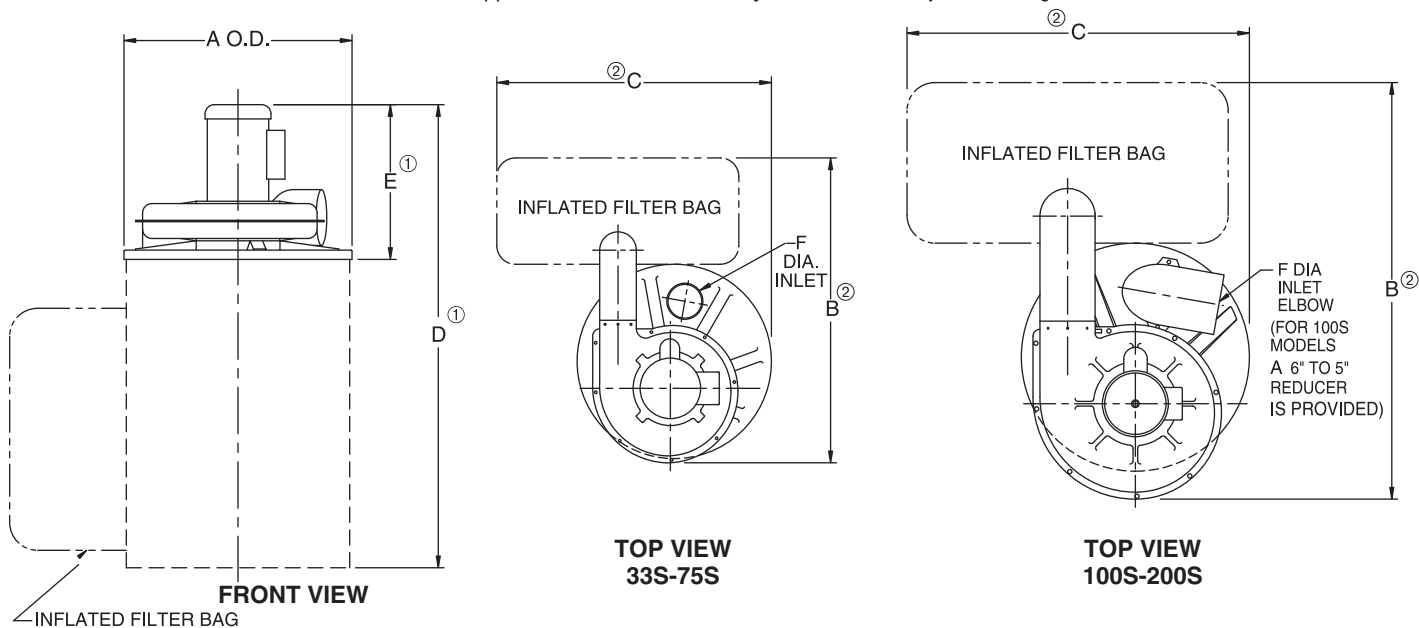
- (1) Hose fits over small end only. Opposite end has draw lug.
(2) This part fits the inlet elbows only on 100S to 300S.

NOTE

All nozzles, Y connectors and reducers are manufactured of 26 gauge, galvanized steel.

Dust-Master Dimensions

NOTE: All dimensions are approximate for reference only. Dimensions subject to change without notice.



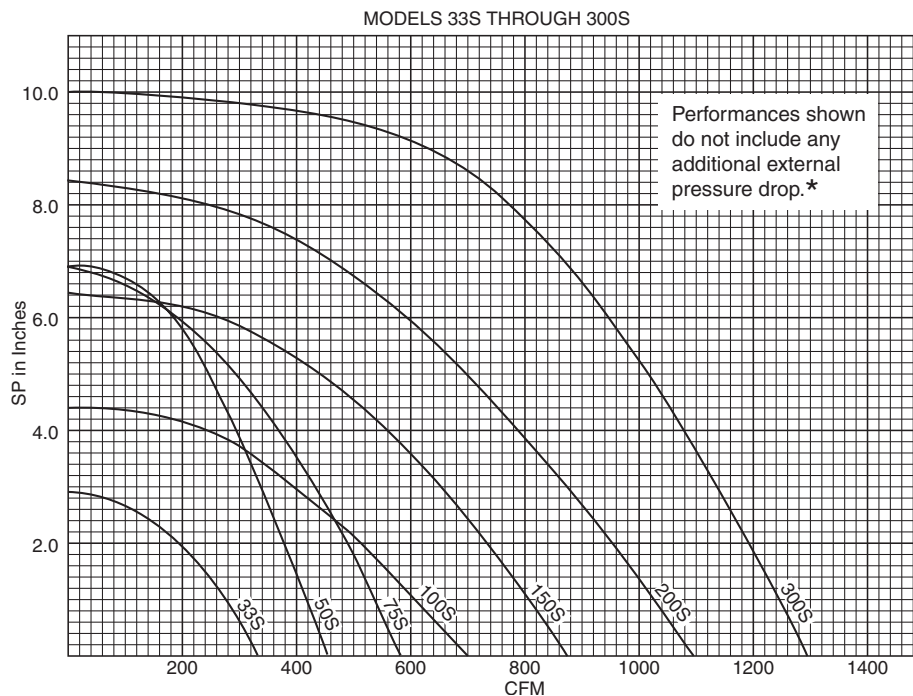
MODEL	A	B ^②	C ^②	D ^①	E ^①	F
33S - 75S	20 ⁷ / ₈	32 ³ / ₄	29 ¹ / ₂	40 ¹ / ₄	15	4
100S - 200S	24 ¹ / ₂	44 ³ / ₄	37	52 ³ / ₄	18 ³ / ₄	6

Model 300S dimensions are very similar to 200S dimensions except dust bag.

① Max. normal dimensions shown, varies with motor.

② Approximate dimensions with standard inflated dust bag.

Dust-Master Performance Curves



* Models 33S to 200S were tested with standard bags per page 6.

Model 300S was tested with 48 x 80DB bag.

All models with 5 feet of hose and nozzle.



7697 Snider Road
Mason, OH 45040-9135

www.cincinnati-fan.com for more information