

General Catalog of Dust Collectors

Providing Hospitality to the Environment



Dustresa

Large-sized pulse
jet dust collector

Are You Aware of the Laws Concerning Dust?

Laws and Regulations Concerning Industrial Safety and Health

Labor Standards Act

A law which contains regulations concerning labor. This law, the Labor Union Act and the Labor Relations Adjustment Act constitute the Japanese Three Labor Laws.

Industrial Safety and Health Act

The purposes of this law are to protect the safety and health of workers at workplaces and to promote creation of comfortable work environments.

Ordinance on Industrial Safety and Health

Ordinance on Prevention of Hazards Due to Dust

Ordinance on Prevention of Organic Solvent Poisoning

Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Ordinance on Prevention of Lead Poisoning

Measures for prevention of health impairments

< Article 22 (abridged) >

The employer shall take necessary measures for preventing health impairment caused by the following factors:

1. Raw materials, gasses, vapors, dust, insufficient oxygen in air, pathogens
2. Radiation, high temperatures, low temperatures, ultrasonic waves, noises, vibration, abnormal atmospheric pressure
3. Operations such as gauge monitoring, precision machining work
4. Exhaust fumes, waste fluid, solid waste.

Submission of plan on use of structure or machine

< Article 88 (abridged) >

The employer, in the case that it possesses a structure or machine that can cause adverse effects on health and that the type of industry and the scale of the said workplace comes under the provisions of the Cabinet Order, and when it intends to conduct a type of work that meets the following condition, shall notify the plan to the Chief of the Labor Standards Office no later than 30 days prior to the date of commencement of the said work.

1. Installation of a structure, machine or the like
2. Relocation of a structure, machine or the like
3. Alteration of the main structural part of a structure, machine or the like

Ordinance on Prevention of Hazards Due to Dust

Article 1

The employer shall endeavor to take measures necessary for protecting workers from health impairments resulting from being exposed to dust, such as an improvement of facilities, processes or methods of work and working environment, etc.

Types of work requiring prevention measures (extract)

Material loading



Pulverizing



Sieving



Nonapplicable

Polishing work using a grinder



* Not applicable to work performed using a hand-held or portable electric tool

* Also applicable to other types of work if the work results in the generation of dust.

Product Lineup

Working
airflow rate
Low



Compact series

Pages 3 to 6

Low
Noise

Space
Saving

Compact
Size

Small-sized pulse jet series

Pages 7 and 8

Compact
Size

Energy
Saving

Low
Noise



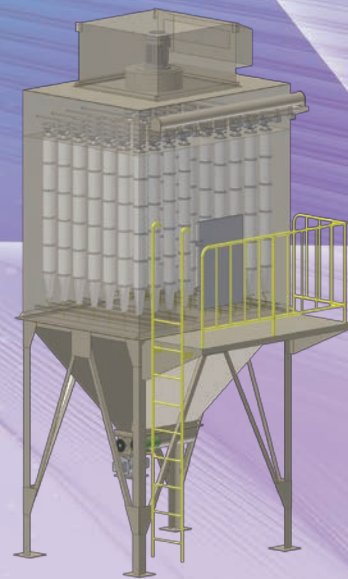
Large-sized pulse jet series

Pages 9 to 11

High
Airflow Rate

Customizable

Large
Area



Working
airflow rate
High



Workresca

Page 17



Grindresca

Page 18

Compact, low-noise dust collectors suitable for removing locally generated dust



CFA-110



CFA-H215C / T , CFA-H220



CFA-H240

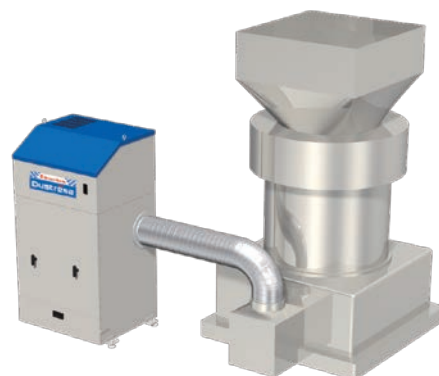


CFA-H410 , CFA-H515

Example of equipment setup
Semiconductor manufacturing line



Example of equipment setup
Pulverizer



Product features

1. Duct can be connected to the exhaust outlet

We can supply made-to-order products.

2. High suction power

The internal high-performance turbofan was developed originally by our company based on the knowhow accumulated through the manufacture of blowers.

3. High dust collection efficiency

The pleated filter cloth made of a melted nonwoven fabric provides a large filtration area and dramatically increases the dust collection efficiency. The filter cloth does not easily become clogged.

4. Simple dust shaking system (dust removing mechanism)

Equipped with the easy-to-use, rope-type manual dust shaking system. The proprietary shaking method and specially treated filter cloth prevent dust adhesion and remove dust effectively. (Excluding CFA-110)

5. Easy maintenance and inspection

The CFA-110, H215C/T and H220 can be maintained and inspected without using any tool.

6. Low noise

The fan is built in the main unit, so the operating sound is only slightly more than 60 dB(A) and not disturbing.

7. Compact design for flexible setup

The suction inlet can be mounted to either left or right side of the unit to allow for flexible setup. The compact series features a powerful motor and boasts high airflow rates and high efficiency. These compact series models are reasonably priced.

The use of the pleated filter cloth has reduced the unit size and weight. Casters are provided standardly for easy relocation.

* Casters are optional on the CFA-H410 and CFA-H515.



CFA-H215C / T , CFA-H220

Applications

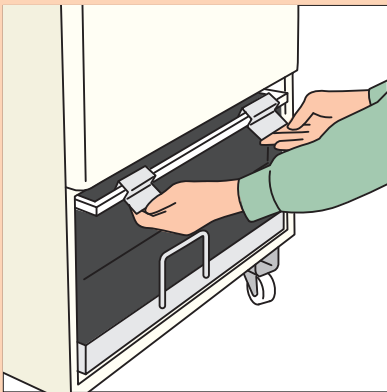
- 1 Cutting, grinding, polishing, drilling, sanding, buffing, sand-blasting, powder handling (loading, mixing, stirring, bagging, weighing, bag sealing, etc.), etc.
- 2 Machining tools, industrial machines, special-purpose machines, powder processing equipment, steel making equipment, ceramic producing machines, etc.

CFA-H215C / T , CFA-H220 , CFA-H240

One-touch mechanisms used throughout the unit

(Excluding CFA-110)

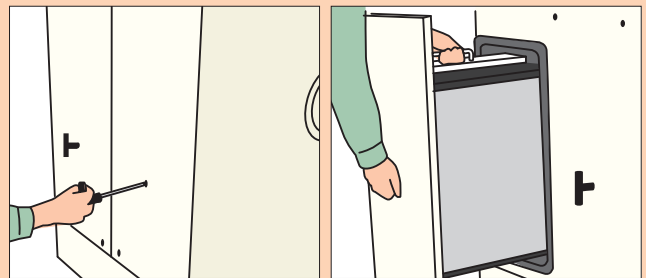
One-touch mechanisms are adopted at various locations to allow easy attachment/detachment or opening/closing of the filter cloth, drawer and door (magnet type), so maintenance and inspection can be performed by anyone.



CFA-H410 , CFA-H515

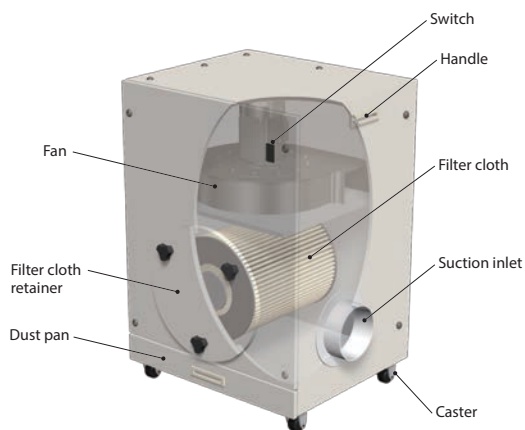
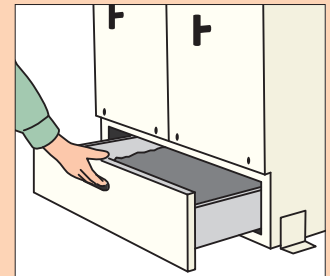
Easy maintenance

The proprietary spring-operated shaking system (dust removal mechanism) and the specially treated filter cloth let you shake off dust with a minimal force. The cabinet-type filter box makes it easy to replace the filter cloth.



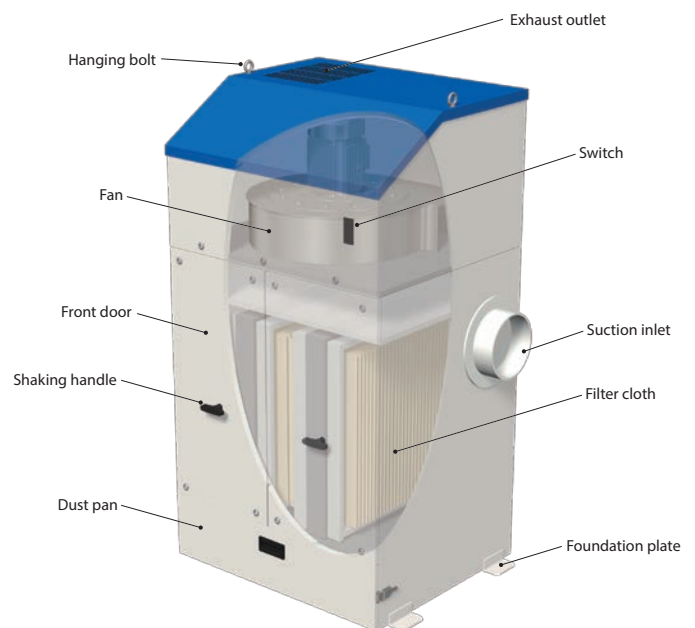
Easy disposal of collected dust

The drawer has a one-touch mechanism for easy disposal of collected dust.



* Exhaust outlet is located on the rear side.

CFA-110



CFA-H410 , CFA-H515

Standard specifications

Model	Motor (kW-P)	Voltage, phase (V)	Airflow rate* (m ³ /min)	Static pressure* 50/60 Hz (kPa)	Filtration area (m ²)	Dust collection box capacity (L)	Noise Front: 1 m dB(A)*1 Front: 1.5 m dB(A)*2	Approx. weight (kg)
CFA-110	0.2—2	100, single-phase	4	0.8/1.18	0.8	3.1	64*1	25
CFA-H215C	0.4—2	100, single-phase	5	1.76	1.5	6.9	64*1	47 (50Hz) 44 (60Hz)
CFA-H215T	0.4—2	200, 3-phase	5	1.86	1.5	6.9	64*1	49 (50Hz) 47 (60Hz)
CFA-H220	0.75—2	200, 3-phase	8	2.15	2	6.9	65*1	59
CFA-H240	1.5—2	200, 3-phase	16	2.45	4	16.9	68*1	135
CFA-H410	2.2—2	200, 3-phase	30	2.45	10.6	45	64*2	197
CFA-H515	3.7—2	200, 3-phase	40	2.45	14.1	68	67*2	238

Coating colors: 5Y8.5/1.5 (main unit), 2.5PB3.5/10 (top cover) (excluding CFA-110)

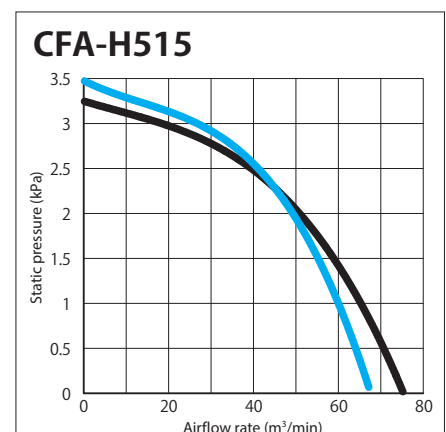
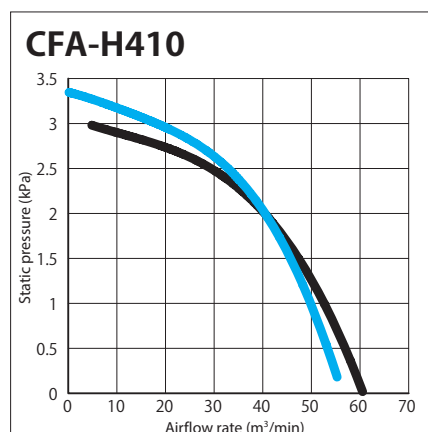
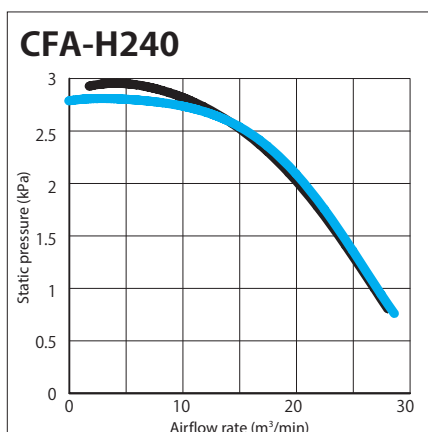
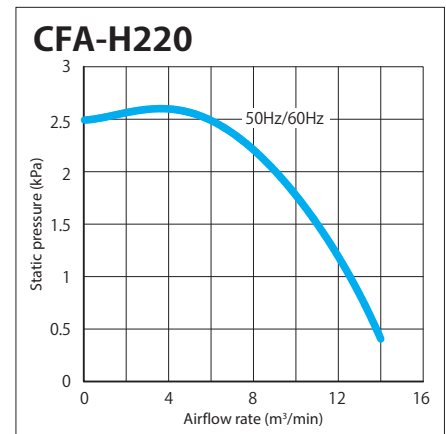
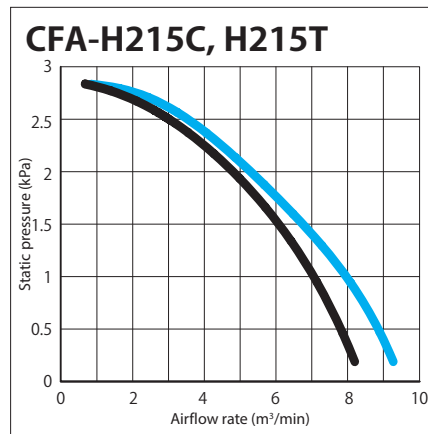
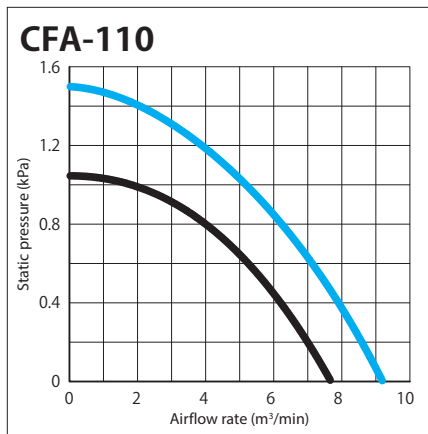
(Note) Please specify the power supply frequency when ordering. Actual noise level varies depending on the operating environment and other conditions.

* The values of airflow rate and static pressure indicated in the standard specifications chart are those at a specific point. For details, check the performance curves below.

* For different voltages, please contact our company.

Performance curves

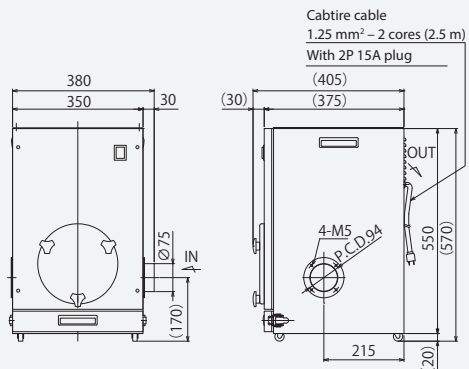
— 50Hz — 60Hz



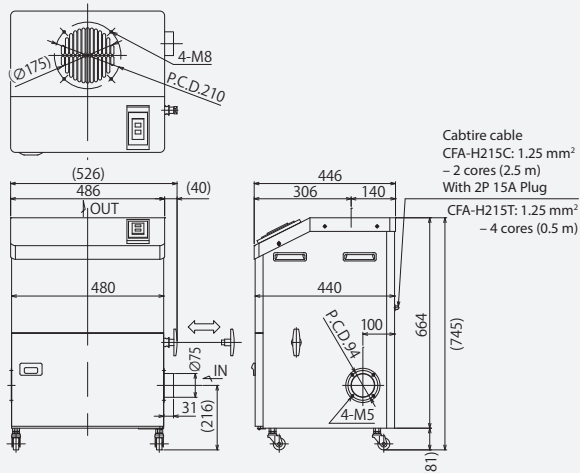
* The above performance curves show the performance of the fans in standalone operation.

External dimensions

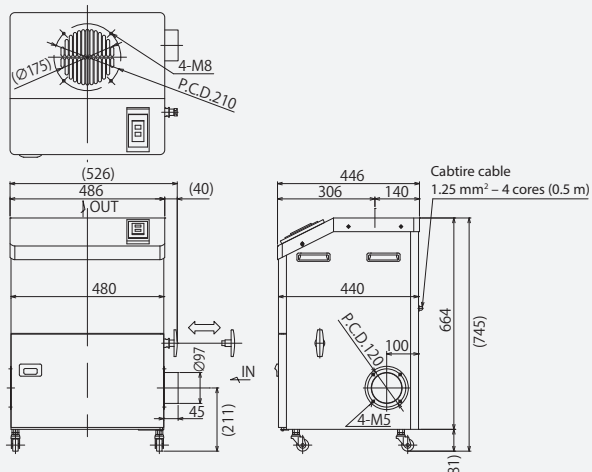
CFA-110



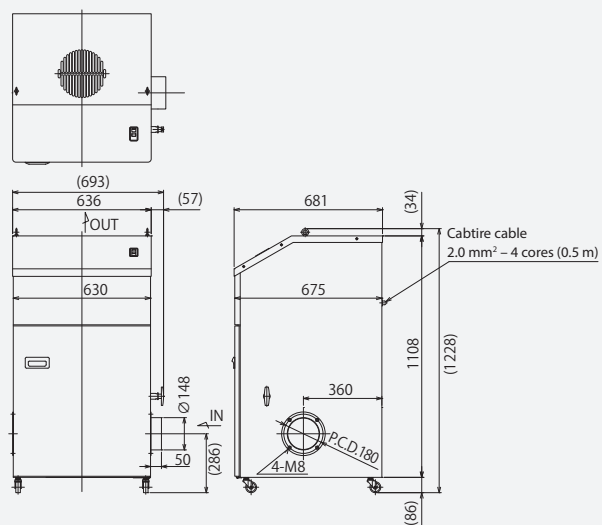
CFA-H215C/T



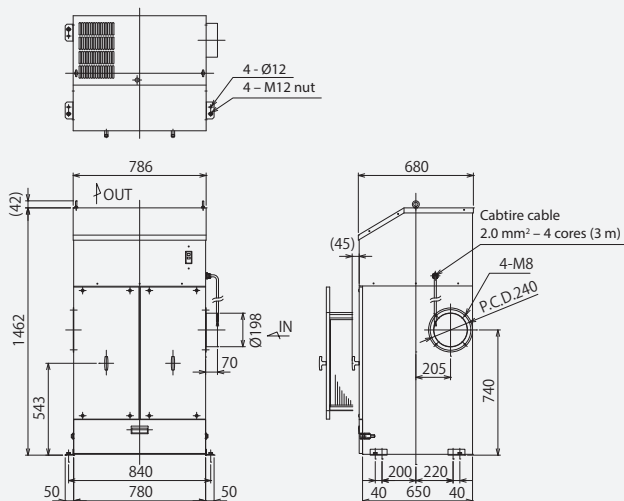
CFA-H220



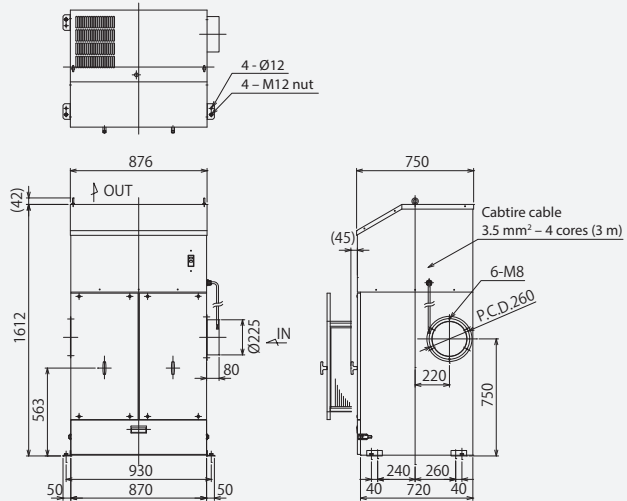
CFA-H240



CFA-H410



CFA-H515

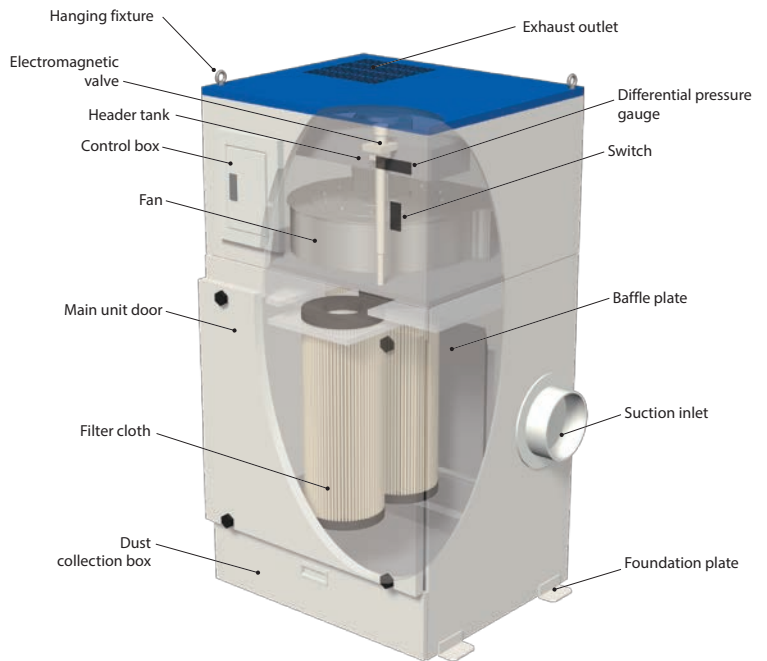


Pulse jet type dust collectors featuring compact design and low-noise operation



- ### Applications
- 1 Cutting, grinding, polishing, drilling, sanding, buffing, sand-blasting, powder handling (loading, mixing, stirring, bagging, weighing, bag sealing, etc.), local dust collection, etc.
 - 2 Machining tools, industrial machines, special-purpose machines, powder processing equipment, steel making equipment, ceramic producing machines, etc.

Example of equipment setup Material loading



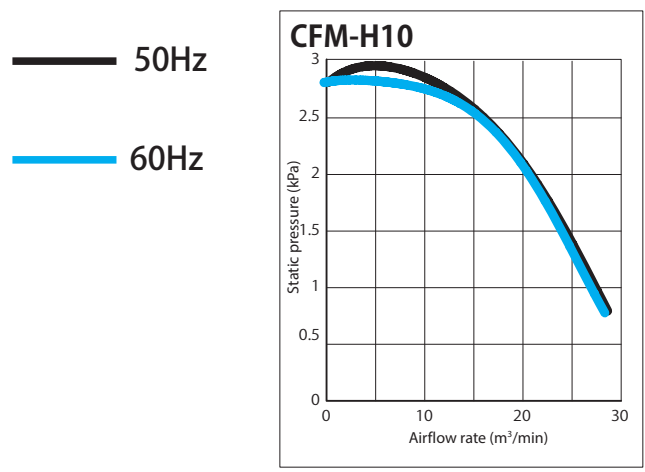
Product features

- 1. Compact size**
 The compact design was achieved by the innovative layout of dust shaking parts.

 Unit volume reduced by about 20% from our previous product
- 2. Low noise**
 The new sound-proofing structure has achieved significant reduction of operation noise.

 1.5 kW --- Noise: 62 dB(A)
 2.2 kW --- Noise: 68 dB(A)
 3.7 kW --- Noise: 68 dB(A)
 5.5 kW --- Noise: 71 dB(A)
- 3. Pulse jet shaking**
 A quick blast of compressed air toward the inside surface of the filter cloth produces a backflow effect to shake off dust effectively from the outside surface of the filter cloth.
 This maintains the filtering performance during long working periods or when there is a large amount of dust in the area.
- 4. Original fluted filter cloth**
 The fluted filter cloth offers improved dust collection efficiency. The cassette-type filter makes it easy to replace the filter cloth.
- 5. High-performance turbofan for increased efficiency**
 The small-sized pulse jet series is equipped with a high-performance turbofan originally developed based on the advanced aerodynamics and knowhow that the company has accumulated through the development of blowers. The turbofan offers 72% higher efficiency than a conventional fan with the same motor capacity.

Performance curves



Standard specifications

Model	Motor (kW-P)	Voltage, phase (V)	Airflow rate* (m ³ /min)	Static pressure* 50/60 Hz (kPa)	Filtration area (m ²)	Required air volume (L/min)	Dust collection box capacity (L)	Noise Front: 1.5 m dB(A)	Approx. weight (kg)
CFM-H10	1.5-2	200, 3-phase	20	2.06	10.4	40	29	62	180
CFM-H20	2.2-2	200, 3-phase	30	2.45	15.6	50	42	68	222
CFM-H30	3.7-2	200, 3-phase	40	2.45	23.4	60	32×2	68	286
CFM-H40	5.5-2	200, 3-phase	60	2.65	31.2	80	65×2	71	408

Coating colors: 5Y8.5/1.5 (main unit), 2.5PB3.5/10 (top cover)

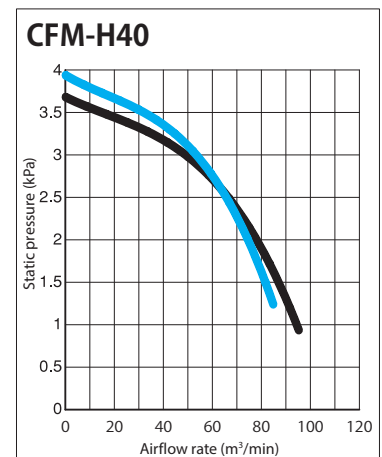
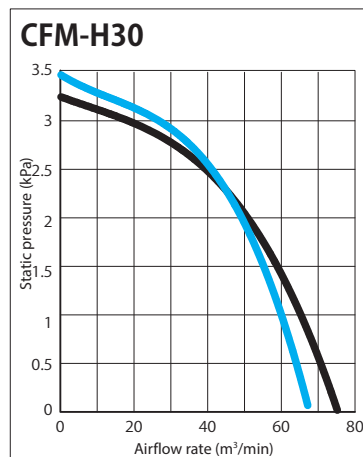
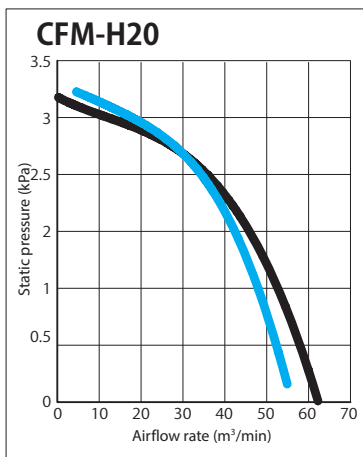
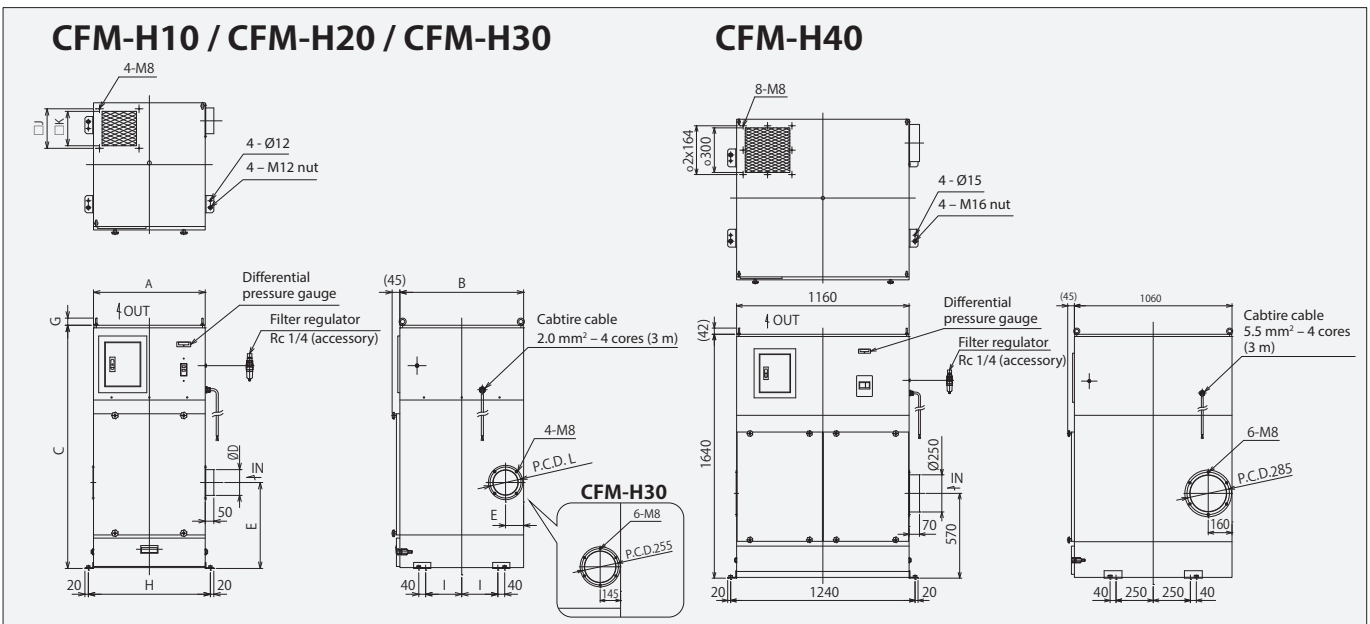
(Note) Please specify the power supply frequency when ordering. Actual noise level varies depending on the operating environment and other conditions.

* The values of airflow rate and static pressure indicated in the standard specifications chart are those at a specific point. For details, check the performance curves below.

* For different voltages, please contact our company.

External dimensions

Model	Dimension (mm)											
	A	B	C	D	E	F	G	H	I	J	K	L
CFM-H10	650	720	1415	150	105	500	42	710	210	230	200	180
CFM-H20	870	720	1410	200	130	500	42	930	210	255	225	230
CFM-H30	870	1000	1495	225	145	500	42	930	250	280	250	—



* The above performance curves show the performance of the fans in standalone operation.

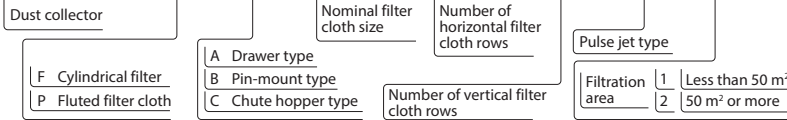


A full lineup of models to meet your specific needs

Contact our sales representative for more information.

Example of model indication

CF-FC12022P1



Fan static pressure (kPa)	Airflow rate (m³/min)											Approx. output (kW)	Pulse type				Mechanical vibration type			
	2	3	4	5	6	8	10	12	15	17.5	20		Search No.	Fluted filter cloth Model	Search No.	Cylindrical nonwoven fabric filter cloth Model	Search No.	Cylindrical woven fabric filter cloth		
2.5	1.5	2.2	3.7	3.7	3.7	5.5	7.5	7.5	11	15	18.5	18.5			101	CF-FC12022P1				
3	2.2	3.7	3.7	5.5	7.5	7.5	11	15	15	18.5	18.5				102	CF-FC12023P1				
3.5	2.2	3.7	5.5	5.5	7.5	11	11	15	18.5	18.5	22				103	CF-FC12033P1				
													1	CF-PC75022P1	104	CF-FC12034P1				
													2	CF-PC75023P1	105	CF-FC12044P1				
													16	CF-PC10022P1	106	CF-FC12045P1	201	CF-1500H		
															112	CF-FC15044P1				
															107	CF-FC12046P1				
															108	CF-FC12055P1				
															113	CF-FC15045P1				
													17	CF-PC10023P1	109	CF-FC12056P1	202	CF-2200H		
															114	CF-FC15046P1	203	CF-3700H		
													3	CF-PC75033P1	115	CF-FC15055P1				
													4	CF-PC75034P1	110	CF-FC12066P1				
															116	CF-FC15056P1				
													18	CF-PC10033P1	111	CF-FC12067P1				
													5	CF-PC75044P1	117	CF-FC15066P1	204	CF-5500H		
													6	CF-PC75045P1	118	CF-FC15067P1				
															124	CF-FC18066P1				
													19	CF-PC10034P1	119	CF-FC15077P1				
															125	CF-FC18067P1				
															120	CF-FC15078P1				
															126	CF-FC18077P1				
													20	CF-PC10044P1	121	CF-FC15088P1				
													7	CF-PC75055P1	127	CF-FC18078P1				
													8	CF-PC75056P1	122	CF-FC15098P1				
													21	CF-PC10045P1	128	CF-FC18088P1				
													9	CF-PC75066P2	123	CF-FC15108P1	205	CFB-49N		
													10	CF-PC75067P2	129	CF-FC18098P2				
													22	CF-PC10055P2	130	CF-FC18108P2	206	CFB-70N		
													23	CF-PC10056P2	131	CF-FC18128P2				
													11	CF-PC75077P2						
													12	CF-PC75087P2	132	CF-FC18148P2	207	CFB-91N		
													24	CF-PC10066P2	133	CF-FC18168P2				
													13	CF-PC75097P2	138	CF-FC24128P2				
													25	CF-PC10067P2	134	CF-FC18188P2				
													14	CF-PC75107P2	139	CF-FC24148P2				
													15	CF-PC75108P2	135	CF-FC18208P2	208	CFB-100N		
													26	CF-PC10077P2	140	CF-FC24168P2				
															136	CF-FC18228P2				
															144	CF-FC30148P2				
													27	CF-PC10087P2	137	CF-FC18248P2				
															141	CF-FC24188P2				
															142	CF-FC24208P2				
													28	CF-PC10097P2	145	CF-FC30168P2				
													29	CF-PC10107P2						

- Coarse Leather powder, sawdust, fibers, cotton, grinding debris, sand, casting dust
- Medium Flour, fertilizers, stone dust, paper dust, wood dust (coarse)
- Fine Fly ash, talc, asbestos, bread crumbs, starch, paint pigments, alumina, cokes, slate dust, charcoal, ceramic powder, alumina oxides, calcium carbonate, glass
- Extra fine Carbon black, silicates, wood dust (extra fine), iron oxides, calcium hydroxides, powder milk, silicon powder

Standard specifications (fluted filter)

Search No.	Model	Filtration area (m ²)	Air consumption (L/min)	Compressor capacity (kW)	Drawing No.	Dimension (mm)				Approx. weight (kg)
						A	B	C	D	
1	CF-PC75022P1	7.2	14.4	0.4	①	610	610	1300	2800	300
2	CF-PC75023P1	10.8	21.6	0.75	①	610	840	1300	2800	400
3	CF-PC75033P1	16.2	21.6		①	840	840	1300	2800	450
4	CF-PC75034P1	21.6	28.8	1.5	①	840	1070	1300	2800	550
5	CF-PC75044P1	28.8	28.8		①	1070	1070	1350	2850	650
6	CF-PC75045P1	36.0	36.0	2.2	①	1070	1300	1350	2850	700
7	CF-PC75055P1	45.0	36.0		②	1300	1300	1350	2850	800
8	CF-PC75056P1	54.0	43.2	3.7	②	1300	1530	1400	3400	950
9	CF-PC75066P2	64.8	43.2		②	1850	1530	1400	3700	1200
10	CF-PC75067P2	75.6	50.4	5.5	②	1850	1760	1400	3700	1350
11	CF-PC75077P2	88.2	50.4		②	2080	1760	1450	4050	1500
12	CF-PC75087P2	100.8	50.4	7.5	②	2310	1760	1450	4050	1650
13	CF-PC75097P2	113.4	50.4		④	2540	1760	1450	4050	1800
14	CF-PC75107P2	126.0	50.4	0.75	④	2770	1760	1500	4100	2000
15	CF-PC75108P2	144.0	57.6		④	2770	1990	1500	4100	2200
16	CF-PC10022P1	9.6	14.4	1.5	①	610	610	1550	3050	350
17	CF-PC10023P1	14.4	21.6		①	610	840	1550	3050	450
18	CF-PC10033P1	21.6	21.6	2.2	①	840	840	1550	3050	500
19	CF-PC10034P1	28.8	28.8		①	840	1070	1600	3100	600
20	CF-PC10044P1	38.4	28.8	3.7	①	1070	1070	1600	3100	700
21	CF-PC10045P1	48.0	36.0		①	1070	1300	1600	3100	800
22	CF-PC10055P2	60.0	36.0	5.5	②	1300	1300	1650	3150	950
23	CF-PC10056P2	72.0	43.2		②	1300	1530	1650	3650	1050
24	CF-PC10066P2	86.4	43.2	7.5	②	1850	1530	1700	4000	1350
25	CF-PC10067P2	100.8	50.4		②	1850	1760	1700	4000	1500
26	CF-PC10077P2	117.6	50.4	0.75	②	2080	1760	1700	4300	1650
27	CF-PC10087P2	134.4	50.4		②	2310	1760	1750	4350	1800
28	CF-PC10097P2	151.2	50.4	1.5	④	2540	1760	1800	4400	2000
29	CF-PC10107P2	168.0	50.4		④	2770	1760	1800	4400	2200

* The above air consumptions are approximate amounts of air consumed when shaking is performed at 30-second intervals.

Standard specifications (cylindrical nonwoven fabric filter cloth)

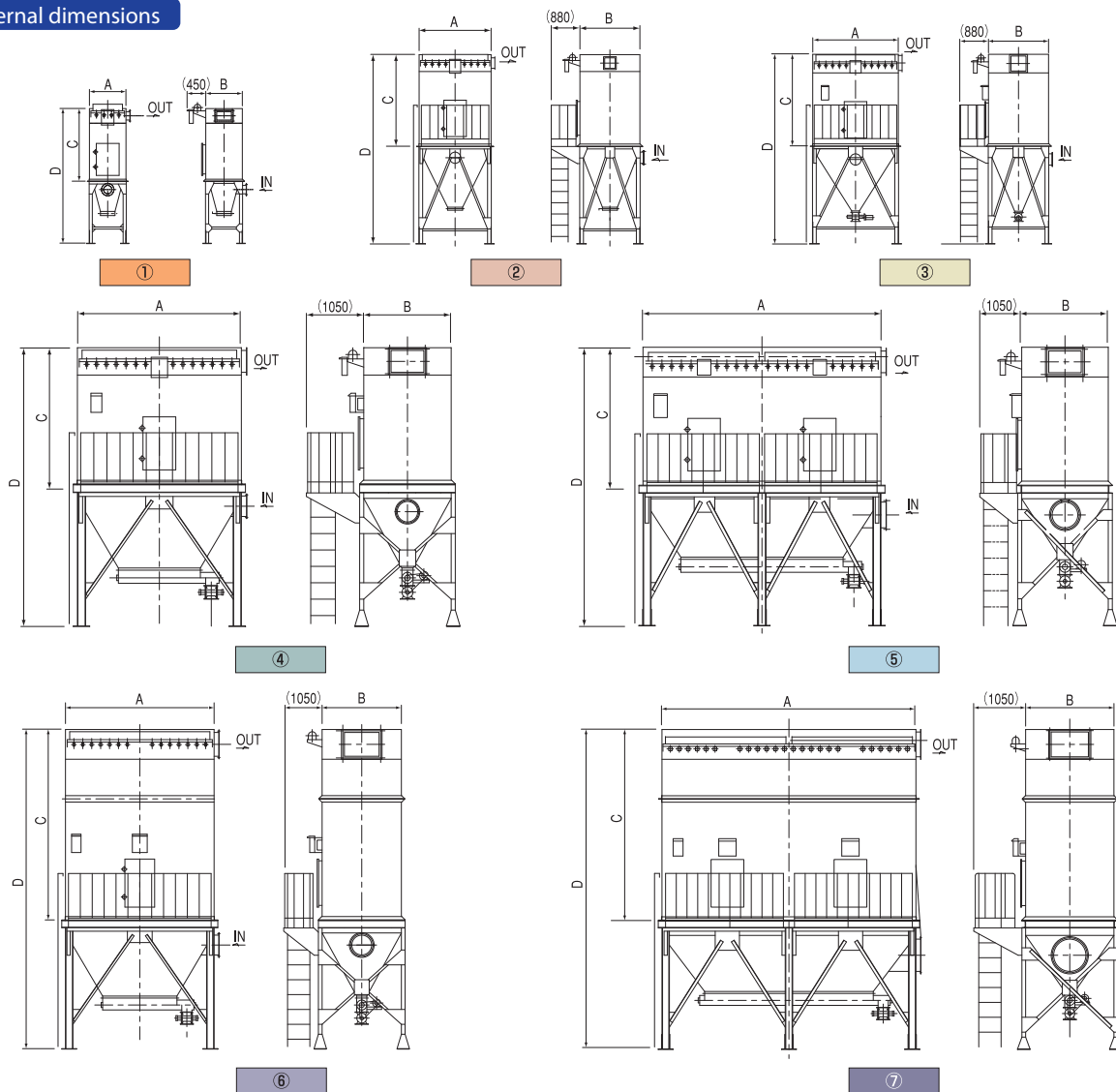
Search No.	Model	Filtration area (m ²)	Air consumption (L/min)	Compressor capacity (kW)	Drawing No.	Dimension (mm)				Approx. weight (kg)
						A	B	C	D	
101	CF-FC12022P1	2.0	14.4	0.2	①	520	520	1750	3250	300
102	CF-FC12023P1	2.9	21.6		①	520	700	1750	3250	360
103	CF-FC12033P1	4.4	21.6	0.4	①	700	700	1750	3250	440
104	CF-FC12034P1	5.9	28.8		①	700	880	1750	3250	510
105	CF-FC12044P1	7.8	28.8	0.75	①	880	880	1750	3250	570
106	CF-FC12045P1	9.8	36.0		①	880	1060	1750	3250	650
107	CF-FC12046P1	11.8	43.2	1.5	①	880	1240	1750	3250	710
108	CF-FC12055P1	12.2	36.0		①	1060	1060	1750	3250	720
109	CF-FC12056P1	14.7	43.2	2.2	①	1060	1240	1750	3250	800
110	CF-FC12066P1	17.6	43.2		②	1560	1240	1750	3750	1050
111	CF-FC12067P1	20.6	50.4	3.7	②	1560	1420	1800	3800	1150
112	CF-FC15044P1	9.8	28.8		①	880	880	2050	3550	650
113	CF-FC15045P1	12.2	36.0	5.5	①	880	1060	2050	3550	720
114	CF-FC15046P1	14.7	43.2		①	880	1240	2050	3550	800
115	CF-FC15055P1	15.3	36.0	7.5	①	1060	1060	2050	3550	810
116	CF-FC15056P1	18.4	43.2		①	1060	1240	2050	3550	900
117	CF-FC15066P1	22.0	43.2	0.2	②	1560	1240	2100	4100	1150
118	CF-FC15067P1	25.7	50.4		②	1560	1420	2100	4100	1250
119	CF-FC15077P1	30.0	50.4	0.4	②	1740	1420	2100	4400	1300
120	CF-FC15078P1	34.3	57.6		②	1740	1420	2100	4400	1500
121	CF-FC15088P1	39.2	57.6	0.75	②	1920	1600	2100	4700	1600
122	CF-FC15098P1	44.1	57.6		②	2100	1600	2150	4750	1700
123	CF-FC15108P1	49.0	57.6	1.5	②	2280	1600	2150	4750	1800
124	CF-FC18066P1	26.5	43.2		②	1560	1240	2400	4400	1300
125	CF-FC18067P1	30.9	50.4	2.2	②	1560	1420	2400	4400	1400
126	CF-FC18077P1	36.0	50.4		②	1740	1420	2400	4700	1500
127	CF-FC18078P1	41.1	57.6	3.7	②	1740	1600	2450	4750	1650
128	CF-FC18088P1	47.0	57.6		②	1920	1600	2450	5050	1800
129	CF-FC18098P2	52.9	57.6	5.5	③	2100	1600	2450	5050	1900
130	CF-FC18108P2	58.8	57.6		③	2280	1600	2450	5050	2100
131	CF-FC18128P2	70.5	115.2	7.5	④	2640	1600	2450	5050	2400
132	CF-FC18148P2	82.3	115.2		⑤	3000	1600	2500	5100	2700
133	CF-FC18168P2	94.0	57.6	0.2	⑤	3680	1600	2500	5100	3100
134	CF-FC18188P2	105.8	57.6		⑤	4040	1600	2550	5150	3300
135	CF-FC18208P2	117.6	57.6	0.4	⑤	4400	1600	2550	5150	3600
136	CF-FC18228P2	129.3	115.2		⑤	4760	1600	2600	5200	3900
137	CF-FC18248P2	141.1	115.2	0.75	⑤	5120	1600	2600	5200	4100
138	CF-FC24128P2	94.0	275.2		⑥	2640	1600	3150	5750	2800
139	CF-FC24148P2	109.7	275.2	1.5	⑥	3000	1600	3200	5800	3100
140	CF-FC24168P2	125.4	137.6		⑥	3680	1600	3200	5800	3500
141	CF-FC24188P2	141.1	275.2	2.2	⑥	4040	1600	3250	5850	3900
142	CF-FC24208P2	156.7	137.6		⑥	4400	1600	3250	5850	4300
143	CF-FC24228P2	172.4	275.2	3.7	⑥	4760	1600	3300	5900	4600
144	CF-FC30148P2	137.2	275.2		⑥	3000	1600	3850	6450	3600
145	CF-FC30168P2	156.7	137.6	⑦	3680	1600	3850	6450	4300	

* The above air consumptions are approximate amounts of air consumed when shaking is performed at 30-second intervals.

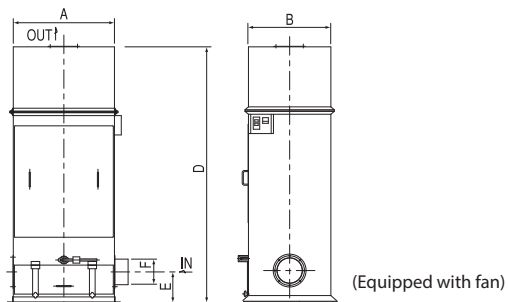
Standard specifications (mechanical vibration type)

Search No.	Model	Filtration area (m ²)	Drawing No.	Dimension (mm)					
				A	B	C	D	E	F
201	CF-1500H	8	⑧	890	725	—	2250	270	150
202	CF-2200H	10	⑧	890	725	—	2250	270	200
203	CF-3700H	10	⑧	890	725	—	2250	270	225
204	CF-5500H	21	⑧	1220	1055	—	2360	300	250
205	CFB-49N	52	⑨	1652	2340	2480	4880	300	350
206	CFB-70N	65	⑨	1982	2340	2480	4880	300	350
207	CFB-91N	81	⑨	1982	2670	2480	5080	335	380
208	CFB-100N	114	⑨	1982	3330	2480	5080	335	430

External dimensions

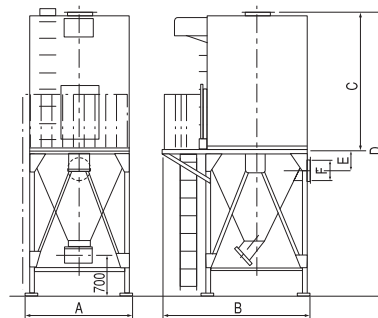


CFH series



⑧

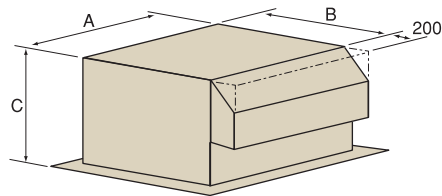
CFB series



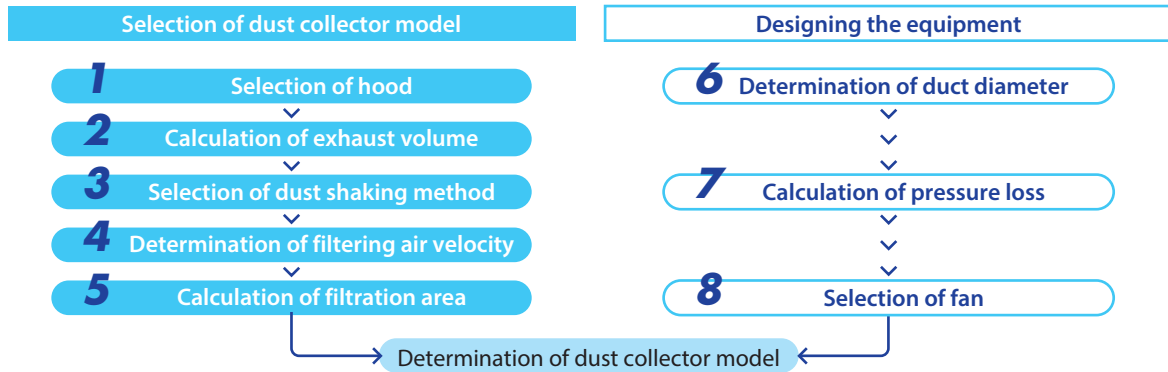
⑨

Fan unit dimensions (reference)

Motor capacity (kW)	A (B)	B (A)	C
1.5	700	800	600
2.2	700	800	600
3.7	800	800	650
5.5	800	900	700
7.5	900	900	750
11	1200	1200	900
15	1200	1500	950
18.5	1500	1800	1100
22	1500	1800	1200



Selection of dust collector model and designing the equipment



Selection of hood

A good hood is one that effectively collects dust with minimal discharge of exhaust air. Therefore, the hood should enclose the dust generating source as completely as possible. If there is a section/area that cannot be enclosed completely, that section/area should be covered partially (as much as possible). If complete enclosure is not possible, use a small hood and bring the open area of the hood as close to the dust generating source as possible.

Calculation of exhaust volume

Control air velocity at the capture point specified by the Ordinance on Prevention of Hazards Due to Dust

Determination of exhaust air volume based on hood shape

Hood type	Control air velocity (m/sec)	
Enclosure hood	0.7	
Add-on hood	Side suction type	1.0
	Lower suction type	1.0
	Upper suction type	1.2

Hood type	Control air velocity (m/sec)	
When dust is generated by rotating body	Enclosure of the entire machine equipped with the rotating body	0.5
	Installation of hood with its open area facing the direction of dust discharged from the rotating body	5.0
	Enclosure of only the rotating body	

Hood type	Example	Exhaust airflow rate Q (m ³ /min)
(1) Enclosure type	<p>Open area: A (m²) = L (m) × W (m)</p> <p>$A = \frac{\pi}{4} d^2$</p>	$Q = 60 \cdot A \cdot V_o$ $= 60 \cdot A \cdot V_c \cdot k$ V _o = Average air velocity on opening plane V _c = Control air velocity (m/s) k = Correction factor (1.0 to 1.5) for compensating for air velocity irregularities

Hood type	Example	Exhaust airflow rate Q (m ³ /min)
(3) Add-on type	<p>Flanged round or rectangular hood installed in free space</p> <p>$A = \frac{\pi}{4} d^2$</p> <p>$A = L \cdot W$ W/L > 0.2</p>	$Q = 60 \cdot 0.75 \cdot V_c \cdot (10X^2 + A)$

Hood type	Example	Exhaust airflow rate Q (m ³ /min)
(5) Add-on type	<p>Slot-shaped hood</p> <p>A (completely cylindrical) W/L ≤ 0.2</p>	$Q = 60 \cdot 5.0 \cdot L \cdot X \cdot V_c$

Hood type	Example	Exhaust airflow rate Q (m ³ /min)
(2) Add-on type	<p>Round or rectangular hood installed in free space</p> <p>$A = \frac{\pi}{4} d^2$</p> <p>Distance: X (m)</p> <p>$A = L \cdot W$ Aspect ratio: W/L > 0.2</p>	$Q = 60 \cdot V_c \cdot (10X^2 + A)$

Hood type	Example	Exhaust airflow rate Q (m ³ /min)
(4) Add-on type	<p>Rectangular hood installed in contact with floor, table, wall, etc.</p> <p>$A = L \cdot W$ W/L > 0.2</p>	$Q = 60 \cdot V_c \cdot (5X^2 + A)$

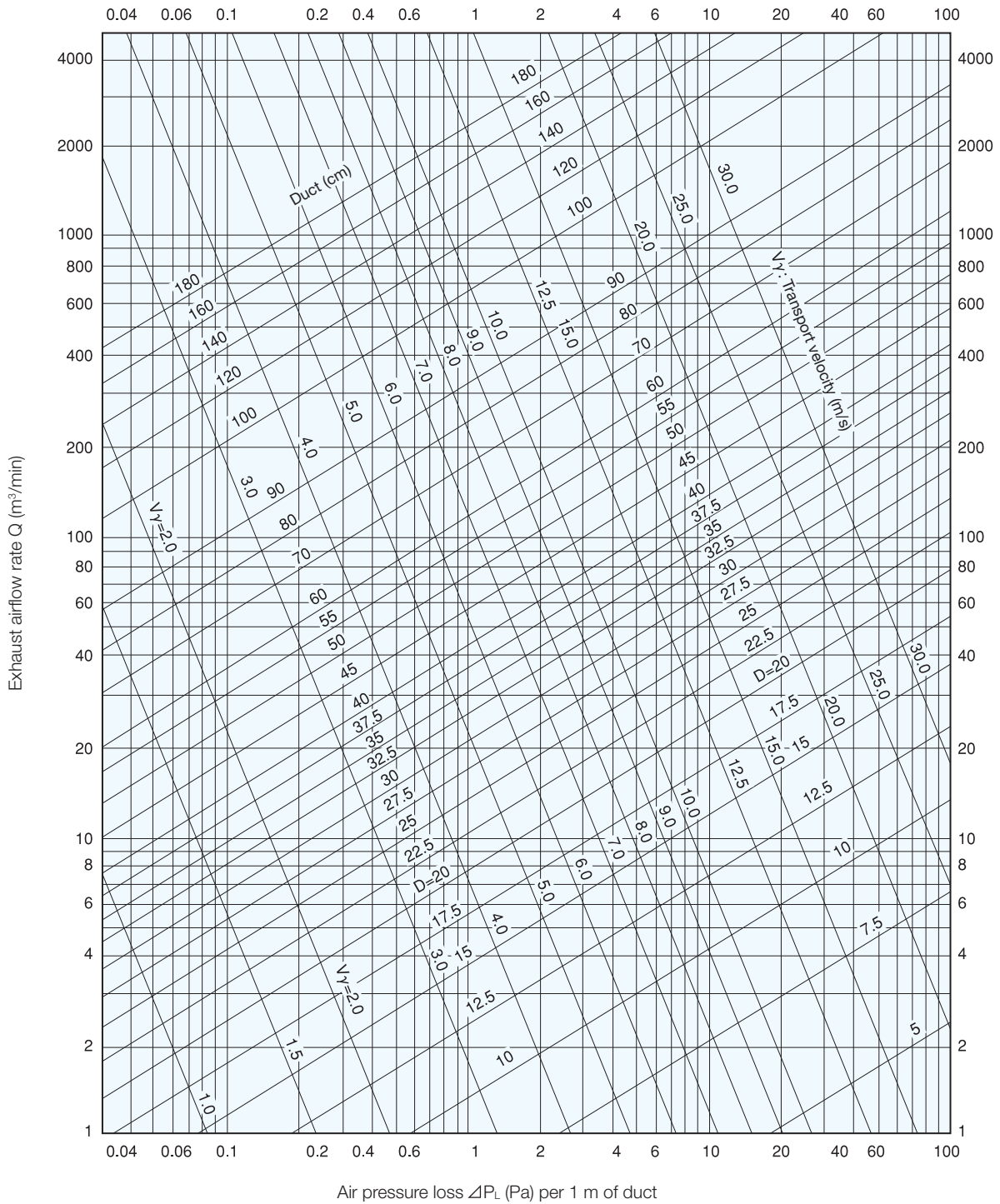
Particle size

Types of dust		Applicable model	Dustresa	
			CFA	CFM
Coarse	Leather powder, sawdust, fibers, cotton, grinding debris, sand, casting dust		●	●
Medium	Fertilizers, stone dust, paper dust, wood dust (coarse)		●	●
Fine	Fly ash, talc, bread crumbs, paint pigments Cokes, slate dust, charcoal, ceramic powder, alumina oxides, calcium carbonate, glass			●
Extra fine	Silicate, wood dust (extra fine), calcium hydroxides, powder milk			●

Features of dust shaking systems

Type	Operating principle	Features
Mechanical vibration type	Dust is shaken off the filter cloth by the application of vibration to the entire filter cloth or by direct tapping on the filter cloth.	<ul style="list-style-type: none"> The dust collector operation must be stopped when shaking off dust. Low in cost as compared to the pulse type
Pulse system	A quick blast of compressed air (pressure: 0.5 to 0.7 MPa) is sent from the blow tube extending from the inside of the housing to produce an ejector effect at the venturi located at the upper section of the filter cloth. This induces a secondary air flow that is 5 to 7 times more in volume than the injected compressed air and generates a pulse flow inside the filter cloth. The pulse flow creates impact force and reverse air flow, thus shaking off dust.	<ul style="list-style-type: none"> The dust collector operation does not have to be stopped when shaking off dust. The filtration area can be made smaller than when the mechanical vibration system is used because the dust load capacity is large. The life expectancy of the filter cloth is long. High in cost as compared to the mechanical vibration type Compressor is required.

Calculation of pressure loss in straight round duct





Examples of Made-to-Order Products



Explosion-proof specification (measure against dust explosion)

Safety measure for explosive/combustible dust

Safety explosion-proof type motor

Safety explosion-proof type motor manufactured in-house is incorporated.

Anti-static filter cloth

Metal fibers are woven into the filter material for the prevention of spark generation due to static electricity.



Explosion pressure relief outlet

Should a dust explosion occur inside the dust collector, the explosion pressure relief outlet releases the pressure generated by the explosion and prevents damage to the dust collector.

Check valve

The check valve prevents the blast from an explosion from travelling in the reverse direction through the duct toward the workers.



About dust explosion

1. What is a dust explosion?

When there is an ignition source in an environment in which combustible dust particles are floating in the air with a certain concentration level, the dust combusts rapidly and explosively. This phenomenon is called a dust explosion.

2. Dust explosion generating conditions

- (1) Combustible dust is floating in the air in a dispersed condition.
 - (2) Oxygen is present and the concentration of dust particles exceeds a certain level.
 - (3) Ignition source is present.
- If all of the above conditions are satisfied, a dust explosion may occur. Types of combustible dust that tend to generate a dust explosion include metal dust (such as aluminum, magnesium and titanium), grain powders (such as flour, starch and coffee), wood dust, sugar, resin powder and coal powder.

3. Use of dust collector for collecting combustible dust

When a dust collector is used to collect combustible dust, dust tends to float and mix inside the dust collector to result in a condition that promotes a dust explosion if there is an open flame near the dust collector, if a spark is generated due to static electricity, or if a spark is caused by metal-to-metal contact.

It is necessary to take a measure for minimizing the risk of dust explosion and the possibility of damage caused by dust explosion. Please consult our sales representative.

All stainless steel (SUS)



Recommended for use in areas where sieving work or weighing/loading work is conducted, such as food handling factories, pharmaceutical factories and cosmetic manufacturing/handling factories. Dust collectors made of all stainless steel resist rusting, stay clean and are easy to wash so it is easy to maintain them in sanitary condition.

Anti-static filter cloth



Conductive material is woven into or coated on the filter material to prevent spark generation due to static electricity. The anti-static filter cloth is used when the dust collector collects dust that may cause a dust explosion.

High-performance filter cloth (Teflon-laminated)

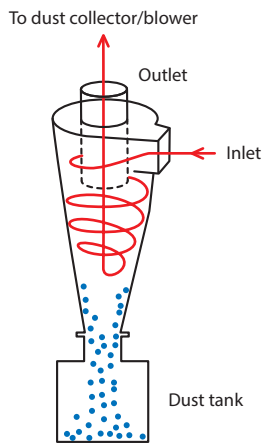


Porous Teflon film is laminated on the surface of the filter material, so dust detaches easily from the filter cloth surface. The high-performance filter cloth is used when the dust collector collects sticky dust or small-diameter dust particles.

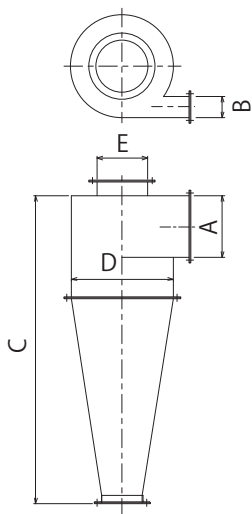
In addition to the products shown above, we offer various made-to-order products such as high-pressure type dust collectors. For details, please contact our company.

For pre-collection of dust in areas where large amounts of dust or red-hot dust particles are generated

Cyclone



- When a large amount of dust is generated, using Cyclone for pre-collection of dust extends the life of the filter cloth in the dust collector.
 - Cyclone collects dust particles measuring 10 µm or more in diameter.
 - The internal pressure loss ranges from 1 to 1.5 kPa.
- * Contact our company for the details of the dust discharge section such as the dust box.

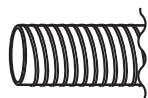


Model	Airflow rate (m ³ /min)	Dimension (mm)				
		A	B	C	D	E
CC-15	15	225	75	1160	370	185
CC-20	20	260	90	1340	430	215
CC-25	25	290	100	1490	480	240
CC-30	30	320	110	1640	530	265
CC-35	35	345	120	1760	570	285
CC-40	40	370	125	1880	610	305
CC-45	45	390	130	1985	645	325
CC-50	50	410	140	2120	680	340
CC-60	60	450	150	2315	745	375

Coating color: 2.5Y6/2 (external surface)

Duct hoses

(1) Anti-static flexible duct



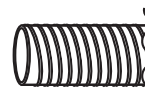
- The specially blended soft polyvinyl chloride provides an excellent anti-static effect for a long period of time.
- For collection of dust generated by woodworking machines and others

(3) Hose band

The hose band prevents the duct hose from detaching.



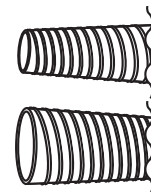
(2) Fixable hard duct N.S.



- The duct is bendable.
- The diameter of the duct opening can be altered by twisting the open end of the duct.
- The duct hose is easy to cut and install. It facilitates duct routing.
- For collection of dust generated by woodworking machines, metal polishing machines and others

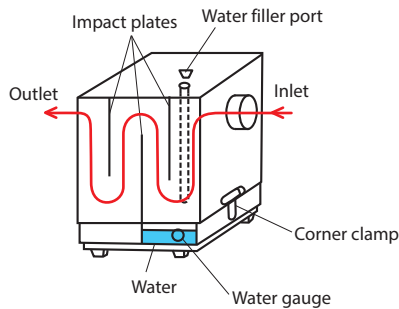
Diameter adjustment

The diameter of the duct opening can be increased or decreased.



- * When ordering a duct hose, please specify the nominal diameter and length (in units of meters).
- * When the duct hose is used to transport sparks or red-hot dust particles, please contact our company.

Dust sedimentation box

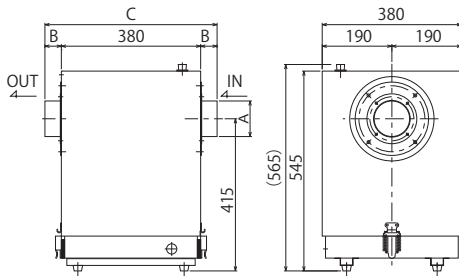


- Using the dust sedimentation box for preprocessing red-hot dust particles or sparks generated by grinders prevents the filter cloth in the dust collector from catching fire.

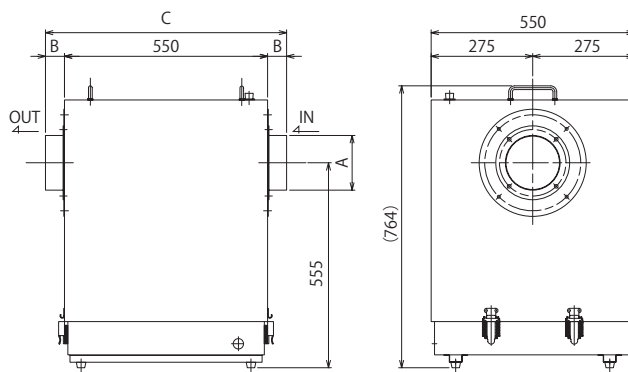
* The duct from the hood to the dust sedimentation box must be resistant to sparks and high temperatures.

- The water gauge is used to check the amount of water in the dust sedimentation box.

(CB-1075, CB-1100, CB-1150)



(CB-3150, CB-3200, CB-3225)

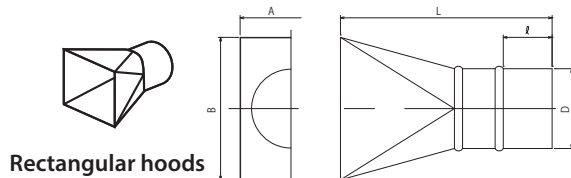


Model	CB-1075	CB-1100	CB-1150	CB-3150	CB-3200	CB-3225
Airflow rate (m ³ /min)	5	8	12	20	30	40
Internal pressure loss (kPa)	0.12	0.35	0.83	0.22	0.47	0.83
Dimension A (mm)	∅75	∅97	∅148	∅148	∅200	∅225
Dimension B (mm)	30	45	50	50	80	80
Dimension C (mm)	440	470	480	650	710	710
Approx. weight (kg)	19			40		

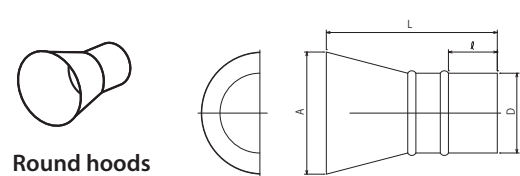
Coating color: 5Y8.5/1.5 (external surface)

Hoods

We design and manufacture various types of hoods.



Rectangular hoods



Round hoods

Model	Dimension (mm)				
	A	B	L	l	D
3S-100	125	175	260	60	∅98
3S-125	150	200	260	60	∅123
3S-150	200	250	330	80	∅148
3S-200	250	300	330	80	∅198

Model	Dimension (mm)			
	A	L	l	D
3R-100	∅150	210	60	∅98
3R-125	∅200	260	60	∅123
3R-150	∅250	330	80	∅148
3R-200	∅300	330	80	∅198

* We manufacture hoods in other dimensions. Please contact our company for details.



The workbench-type dust collectors are suitable for use in conducting work that requires air blowing for the removal of cutting debris from the workpieces processed by a machining tool.

Vertical type



Desk type

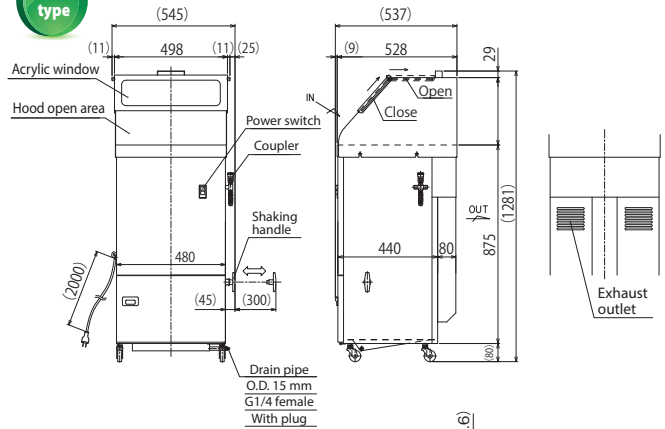


Applications

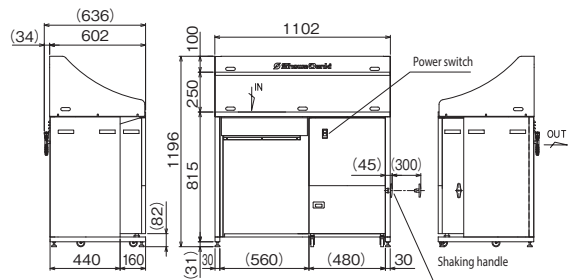
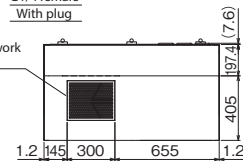
Air blowing work, work conducted with a hand grinder, polishing work

External dimensions

Vertical type



Desk type



Examples of equipment setup

Air blowing work

Vertical type



Desk type



Product features

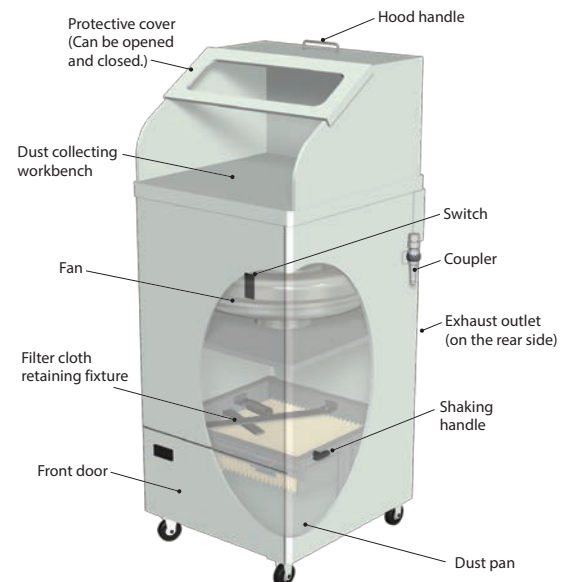
1. Easy-to-use dust shaking system (dust removal mechanism)
2. Air coupler is provided.
The air coupler allows easy connection of a pneumatic tool.
3. Power tools can be used on the workbench for machining parts and other items.
4. In the case of the desk type, the size of the open area can be adjusted (small, medium, large) by using the rubber board.

Specifications

Model	WRM-H04S (vertical type)		
Motor (kW-P)	0.4-2	Filtration area (m ²)	1.5
Voltage (V), phase	100, single-phase	Dust collection box capacity (L)	6.9
Frequency (Hz)	50/60	Noise, front: 1.0 m dB(A)	65
Airflow rate (m ³ /min)	5.0	Approx. weight (kg), 50/60 Hz	65/63
Air velocity (m/s), hood open area	1.2	Dimensions (mm)	W545xL537xH1281

Model	WRM-H04S-D (desk type)		
Motor (kW-P)	0.4-2	Filtration area (m ²)	1.5
Voltage (V), phase	100, single-phase	Dust collection box capacity (L)	6.9
Frequency (Hz)	50/60	Noise, front: 1.0 m dB(A)	68.5 ^(*)
Airflow rate (m ³ /min)	7.5	Approx. weight (kg), 50/60 Hz	Desk section: 66, dust collector section: 51
Air velocity (m/s), open work area	4.4 ^(*)	Dimensions (mm)	W1102xL636xH1196

* Please contact our company for the specifications that can be specified for made-to-order products, such as foot switch, 3-phase power supply, AC plug shape and explosion-proofing.
*1 When the size of the open area is "medium."





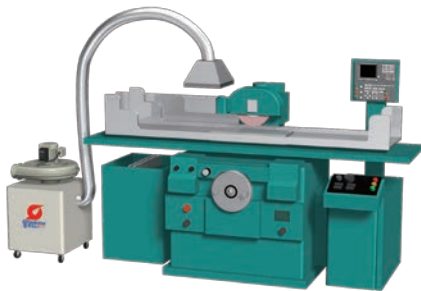
Dust collector capable of collecting both dust and mist simultaneously



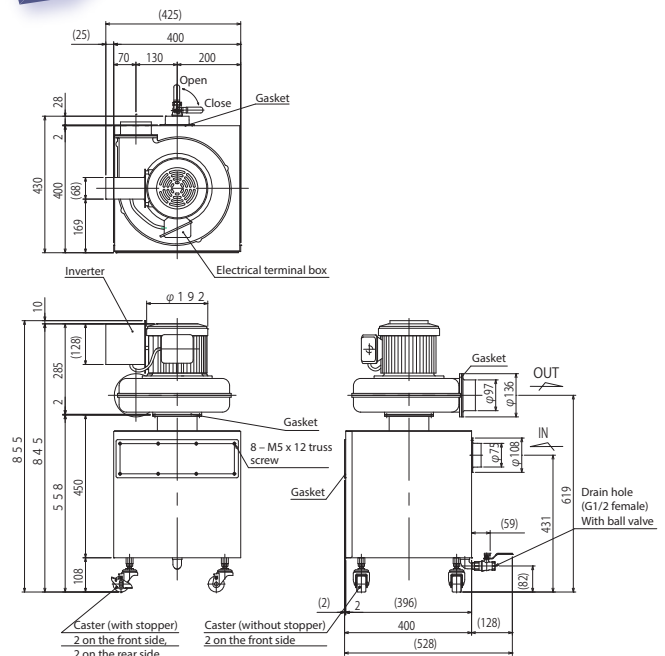
Applications

Surface grinders, cylindrical grinders, internal grinders, centerless grinders, etc.

Example of equipment setup
Surface grinder



External dimensions



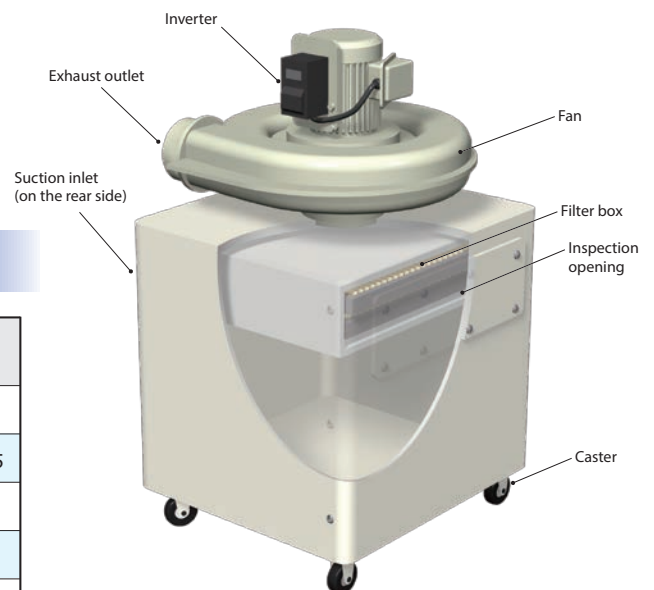
Product features

1. The product is ready for use immediately after the installation of duct.
2. Casters are provided for easy relocation.
3. The product features an explosion-proof motor (For details, contact our company.)
4. Adjustable airflow rate (equipped with inverter)

Specifications

Model	GRM-H04T		
Motor (kW-P)	0.4 - 2	Maximum airflow rate (m ³ /min), 50/60 Hz	8.3/9.8
Voltage (V), phase	200, 3-phase	Maximum static pressure (m ³ /min), 50/60 Hz	1.25/1.75
Current (A), 50/60/60 Hz	2.3/2.3/2.1	Dust collection box capacity (L)	11.8
Maximum suction air temperature (°C)	40	Noise, machine side: 1 m dB(A)	71
Suction inlet flange O.D. (mm)	75	Approx. weight (kg)	37

* For different voltages, please contact our company.



Electric Blowers



Fans/Blowers



Environmental Equipment



Dust Collectors



Products

■ Electric Blowers

- Low-noise series
- High-pressure series
- Multi-stage series
- Compact series
- General-purpose series
- Multi-purpose series
- Stainless-steel series
- Explosion-proof series
- Large series
- **Denchoku**
- High-pressure vortex series
- **Gust Blower**
- Agitating/circulating series
(Double Volute)

■ Fans/Blowers

- Turbofans
- **Delturbo**
- Turbo blowers
- Airfoil fans
- Sirocco fans
- Plate fans
- Axial flow fans with variable blade pitch
- **Kairyu**
- Mixed flow fans
- High-pressure blowers
- Fans for painting

■ Anomaly Detectors

- **Troubleresa II PLUS**

■ Environmental Equipment

- Mist collectors
- **Mistrésa**
- Portable fans
- **WINDBAG™**
- Windracer
- **Windracer**

■ Dust Collectors

- **Dustrésa**
- Compact series
- Small-sized pulse jet series
- Large-sized pulse jet series
- Workresa
- **Workresa**
- Grindrésa
- **Grindrésa**
- **Fumeresa**

⚠ Safety Precautions

Before using your product, carefully read the Operating Instruction Manual for a thorough understanding of the proper product usage. The contents of this catalog presuppose transactions and use in Japan only.

* The contents of this catalog are subject to change without prior notice.

SHOWA DENKI CO., LTD.

Overseas Sales Dept.
1-25 Shinden Kita-machi, Daito-city, Osaka, Japan 574-0052
Tel: +81-72-871-1511 Fax: +81-72-870-7243
E-mail: web-info@showadenki.co.jp

SHOWA DENKI (KOREA) CO., LTD.

A-710 Cheonan Mirae Ace High Tech City, 10, Baekseokgongdan
1-ro, Seobuk-gu, Cheonan-si, Chungcheongnam-do, Korea
TEL: +82-41-906-5710 FAX: +82-41-906-5720
E-mail: skr@showadenki.co.jp

SHOWA DENKI (THAILAND) CO., LTD.

No1/46 Soi2 Grand De Ville, Soi Supapong 1 (Soi Srinakarin 42),
Srinakarin Road Nongbon, Pravet Bangkok, Thailand 10250
Tel: +66-2-330-8798 Fax: +66-2-330-8799
E-mail: wannapha@showadenki.co.jp
(Japanese, Thai, English)

SHOWA DENKI (TAIWAN) CO., LTD.

No.82, Liaoyang 4th Street, Beitun Dist., Taichung City, Taiwan
TEL: +886-4-2241-3005 FAX: +886-4-2241-3006
E-mail: stw@showadenki.co.jp