

ПРЕДПРИЯТИЕ МАКСАЭРО

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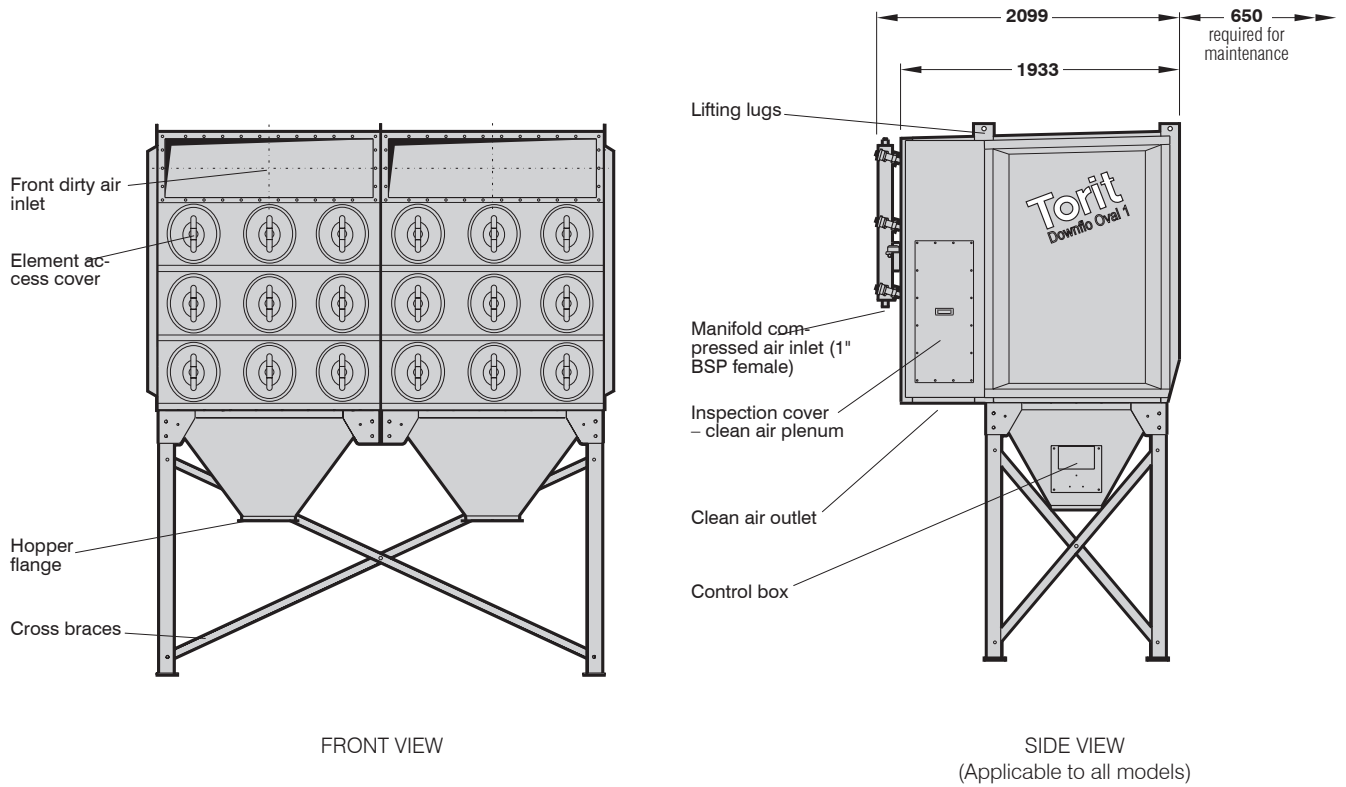


Картриджный пылесборник Donaldson Downflo Oval



DATA SHEET

Downflo® Oval 1 Dust Collectors



DFO standard dust collector
Model DFO 3-36 illustrated.

DESIGN SPECIFICATIONS (standard equipment)

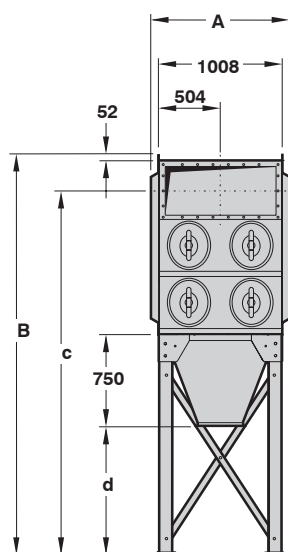
Operating temperature: -10° to $+65^{\circ}\text{C}$

Maximum operating pressure range: ± 5 kPa (500 mm WG)

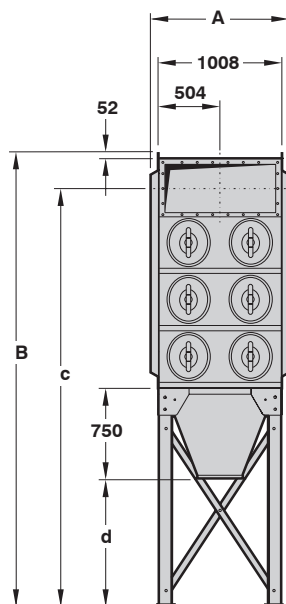
Wind load rating: 160 km/h

Finishing: Acrylated alkyd paint colour RAL 5019 (blue) – semi gloss

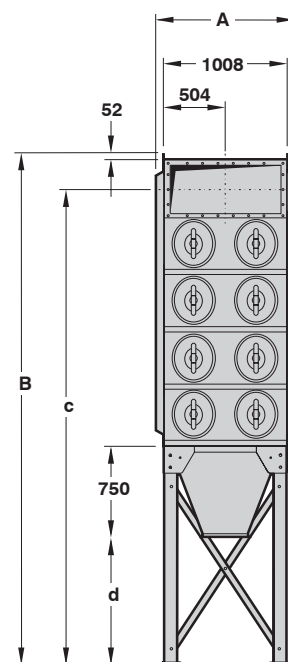
2-wide modules:



DFO 2-8

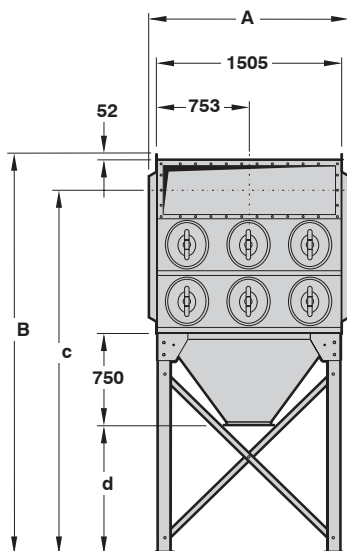


DFO 3-12

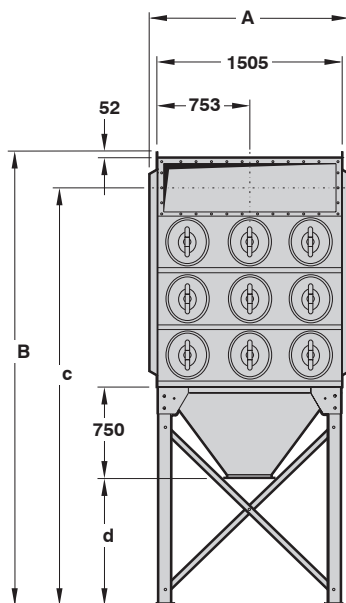


DFO 4-16

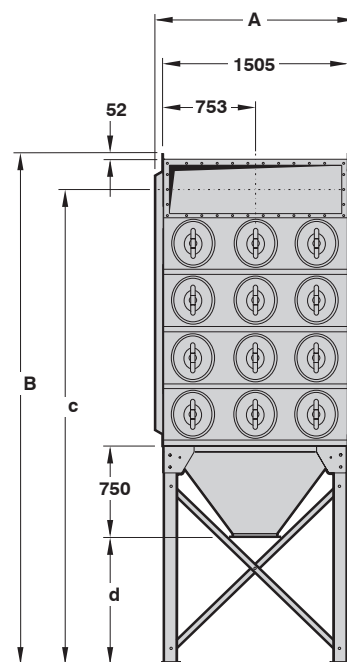
3-wide modules:



DFO 2-12



DFO 3-18



DFO 4-24

FRONT VIEWS

DFO standard dust collector

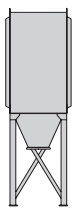
Refer also to 'Specifications' table on page 3.

Larger collectors are configured from suitable combinations of the above modules – refer also to page 4.

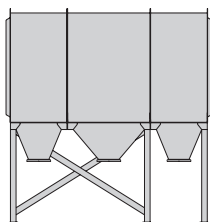
SPECIFICATIONS									
Model	No. of modules*	Filtration area	No. of filter elements	No. of valves	DIMENSIONS in mm				Approx. net weight
		Ultra Web®			A	B	c	d	
DFO 2-8	1	141.2 m²	8	4	1138	2645	2340	400	810 kg**▲
					1138	3310	3005	1065	
					1138	3745	3440	1500	
DFO 2-12	1	211.8 m²	12	6	1635	2645	2340	400	975 kg**▲
					1635	3310	3005	1065	
					1635	3745	3440	1500	
DFO 2-16	2	282.4 m²	16	8	2146	2645	2340	400	1270 kg**▲
					2146	3310	3005	1065	
					2146	3745	3440	1500	
DFO 3-12	1	211.8 m²	12	6	1138	3118	2813	400	960 kg**▲
					1138	3783	3478	1065	
					1138	4218	3913	1500	
DFO 3-18	1	317.7 m²	18	9	1635	3118	2813	400	1170 kg**▲
					1635	3783	3478	1065	
					1635	4218	3913	1500	
DFO 3-24	2	423.6 m²	24	12	2146	3118	2813	400	1700 kg**▲
					2146	3783	3478	1065	
					2146	4218	3913	1500	
DFO 3-36	2	635.4 m²	36	18	3140	3118	2813	400	2075 kg**▲
					3140	3783	3478	1065	
					3140	4218	3913	1500	
DFO 3-48	3	847.2 m²	48	24	4148	3118	2813	400	2690 kg**▲
					4148	3783	3478	1065	
					4148	4218	3913	1500	
DFO 4-16	1	282.4 m²	16	8	1138	3591	3286	400	1120 kg**▲
					1138	4256	3951	1065	
					1138	4691	4386	1500	
DFO 4-24	1	423.6 m²	24	12	1635	3591	3286	400	1365 kg**▲
					1635	4256	3951	1065	
					1635	4691	4386	1500	
DFO 4-32	2	564.8 m²	32	16	2146	3591	3286	400	1790 kg**▲
					2146	4256	3951	1065	
					2146	4691	4386	1500	
DFO 4-40	2	706.0 m²	40	20	2643	3591	3286	400	2135 kg**▲
					2643	4256	3951	1065	
					2643	4691	4386	1500	
DFO 4-48	2	847.2 m²	48	24	3140	3591	3286	400	2490 kg**▲
					3140	4256	3951	1065	
					3140	4691	4386	1500	
DFO 4-56	3	988.4 m²	56	28	3651	3591	3286	400	2765 kg**▲
					3651	4256	3951	1065	
					3651	4691	4386	1500	
DFO 4-64	3	1129.6 m²	64	32	4148	3591	3286	400	3190 kg**▲
					4148	4256	3951	1065	
					4148	4691	4386	1500	
DFO 4-72	3	1270.8 m²	72	36	4645	3591	3286	400	3615 kg**▲
					4645	4256	3951	1065	
					4645	4691	4386	1500	
DFO 4-80	4	1412.0 m²	80	40	5156	3591	3286	400	4000 kg**▲
					5156	4256	3951	1065	
					5156	4691	4386	1500	
DFO 4-88	4	1553.2 m²	88	44	5653	3591	3286	400	4275 kg**▲
					5653	4256	3951	1065	
					5653	4691	4386	1500	
DFO 4-96	4	1694.4 m²	96	48	6150	3591	3286	400	4570 kg**▲
					6150	4256	3951	1065	
					6150	4691	4386	1500	
DFO 4-104	5	1835.6 m²	104	52	6661	3591	3286	400	4935 kg**▲
					6661	4256	3951	1065	
					6661	4691	4386	1500	
DFO 4-112	5	1976.8 m²	112	56	7158	3591	3286	400	6240 kg**▲
					7158	4256	3951	1065	
					7158	4691	4386	1500	
DFO 4-120	5	2118.0 m²	120	60	7655	3591	3286	400	6425 kg**▲
					7655	4256	3951	1065	
					7655	4691	4386	1500	
DFO 4-128	6	2259.2 m²	128	64	8166	3591	3286	400	6850 kg**▲
					8166	4256	3951	1065	
					8166	4691	4386	1500	

*For module configurations refer to pages 2 and 4. **Indicates heaviest configuration (1500 mm hopper clearance).

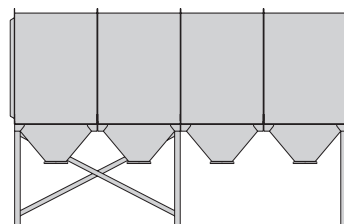
For reinforced units refer to detailed outlines. ▲Increase weight by 15% for reinforced units.



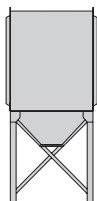
DFO 2-8
DFO 3-12
DFO 4-16



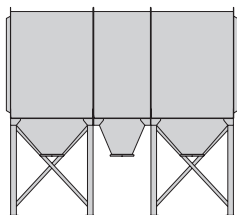
DFO 4-56



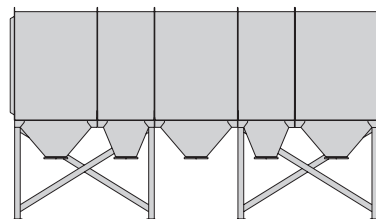
DFO 4-96



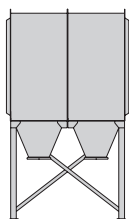
DFO 2-12
DFO 3-18
DFO 4-24



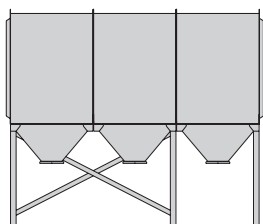
DFO 3-48
DFO 4-64



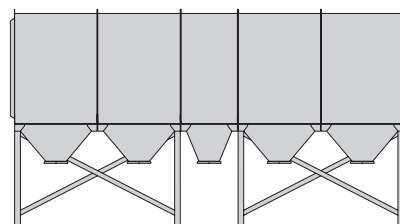
DFO 4-104



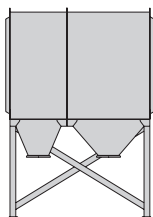
DFO 2-16*
DFO 3-24*
DFO 4-32*



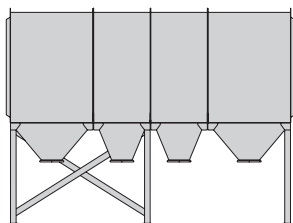
DFO 4-72



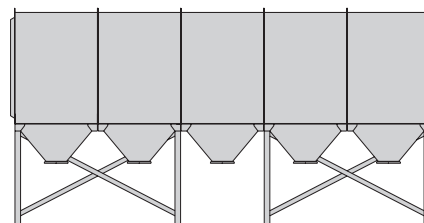
DFO 4-112



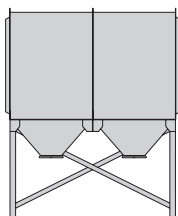
DFO 4-40



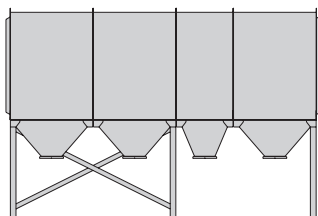
DFO 4-80



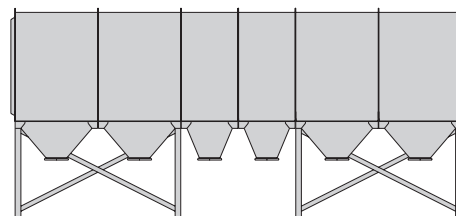
DFO 4-120



DFO 3-36
DFO 4-48



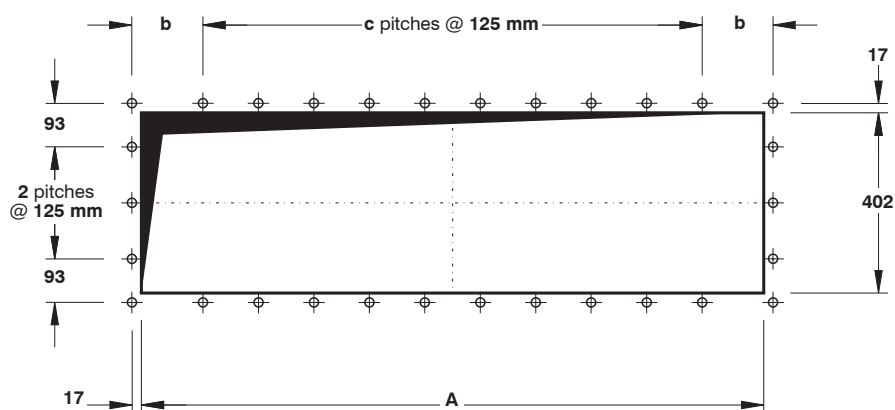
DFO 4-88



DFO 4-128

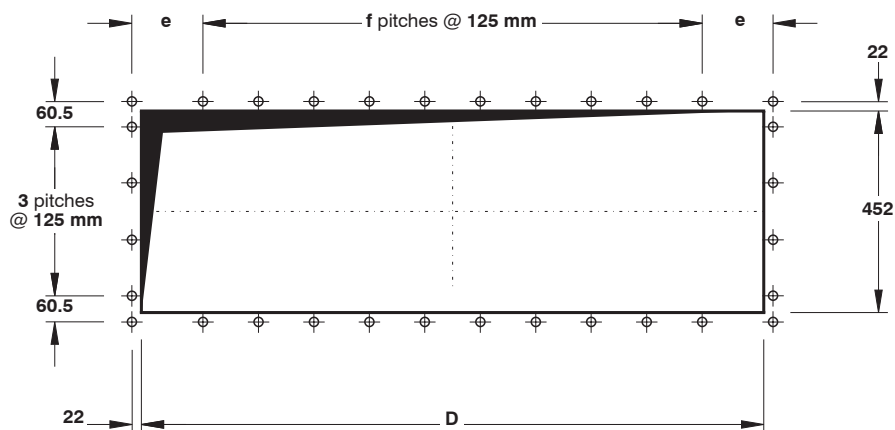
Module configurations

*Single hopper is also available for these models.



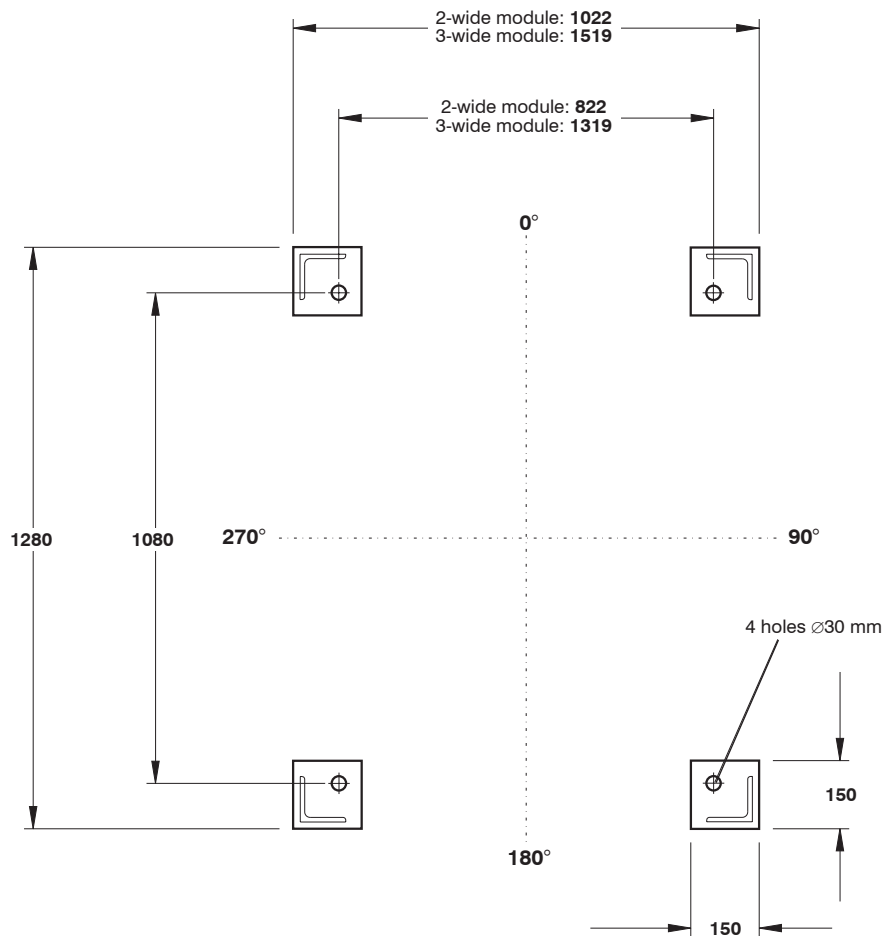
Dirty air inlet details
3-wide module illustrated.

	Nominal	DIMENSIONS in mm			No. of holes (M10 threaded)
		A	b	c	
2-wide module	400 x 930	932	170.5	5	22
3-wide module	400 x 1400	1402	155.5	9	30

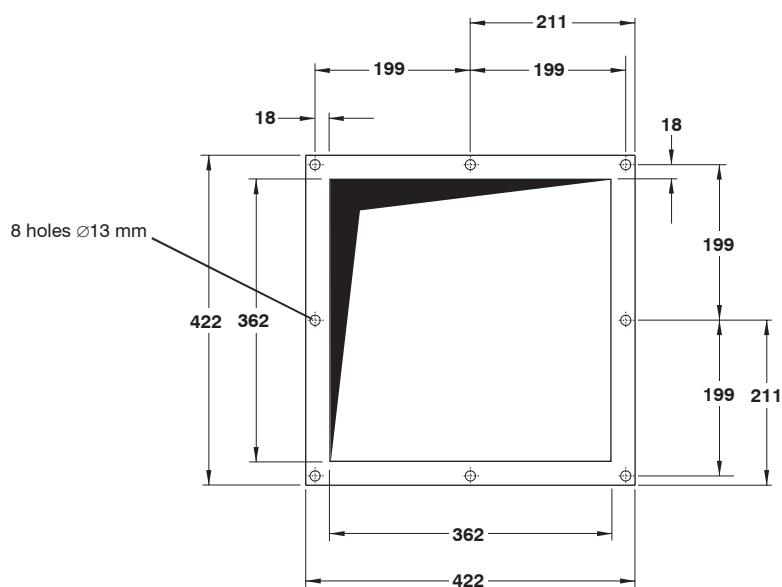


Clean air outlet details
3-wide module illustrated.

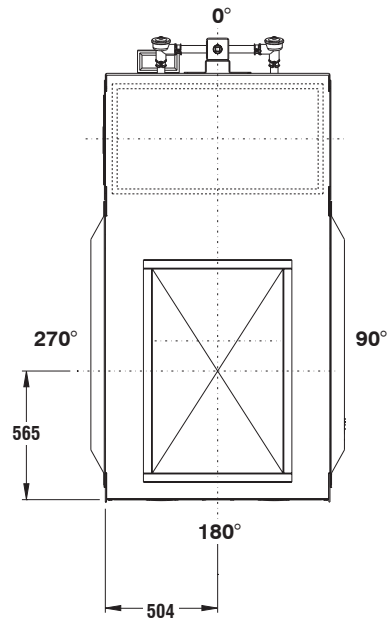
	DIMENSIONS in mm			No. of holes (M10 threaded)
	D	e	f	
2-wide module	902	160.5	5	24
3-wide module	1399	159	9	32



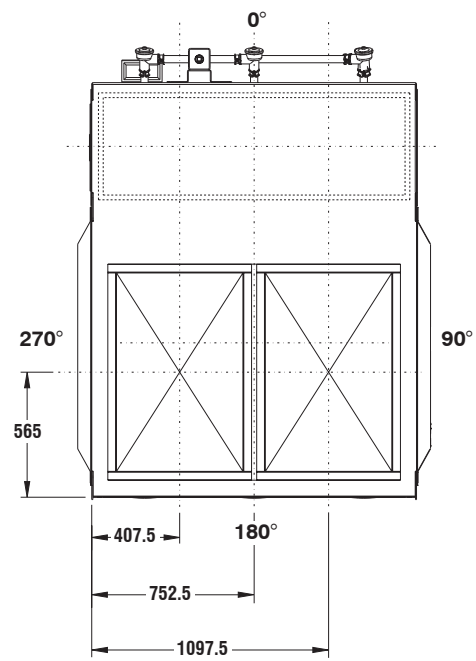
Foundation details for standard models
2-wide module illustrated.



Hopper flange details (362 x 362)



TOP VIEW (2-WIDE MODULE)



TOP VIEW (3-WIDE MODULE)

DFO reinforced version – standard venting position

(Refer to detailed outlines for reinforced units)

COMPRESSED AIR REQUIREMENTS

Max. 7 bar

Pressure range 6-7 bar

Clean air (max. particle size 50 µm)

Free of condensate at working temperature

Max. oil content: 3 mg/m³

Approx. compressed air usage*: ±45 Nlitres per pulse
(±16.2 Nm³/h for 10 s pulse interval at 7 bar)

* The indicated value is the consumption per valve

ELECTRICAL SPECIFICATIONS

Controls

Full automatic cleaning mechanism: IPC / IPC (ΔP) controller

Pulse time: 100 ms

Interval time: 12 s

Voltage input: 24V DC, 110V AC or 230V AC; 1 ph; 50 Hz; 0.15 kW

Protection class: IP65

Solenoid voltage: 24V DC

NOISE LEVEL*

Pulse noise*

LpAeq: ≤ 78 dB (A-weighted equivalent continuous sound pressure level)

ΔLi: ≤ 10 dB (impulsive noise content)

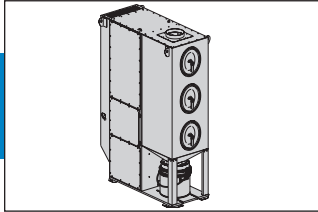
* Measurement according to DIN 45635/1 at 1m distance, with 6 bar compressed air pressure, pulse interval of 15s, semi-free field conditions and usual tolerance ±2 dB.

OPTIONS

- | | |
|---|--------------------------------------|
| • Execution for outside installation | • Earthing |
| • Full range of filter elements | • Vibrator |
| • Variable hopper clearance | • Sprinkler |
| • Pulse noise attenuation down to LpAeq ≤ 70 dB | • Oil/water separator |
| • Full range of dust disposal systems | • Platform |
| • Front inlet adaptor pieces | • Bag in / Bag out |
| • Abrasive inlet boxes | • Full range of fan sets and ducting |

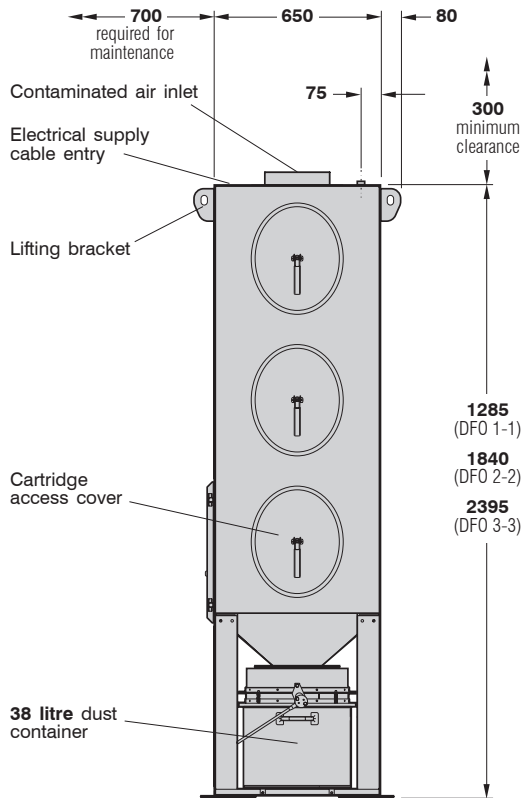
Downflo® Oval Dust Collectors

Series DFO 1-1, 2-2 and 3-3

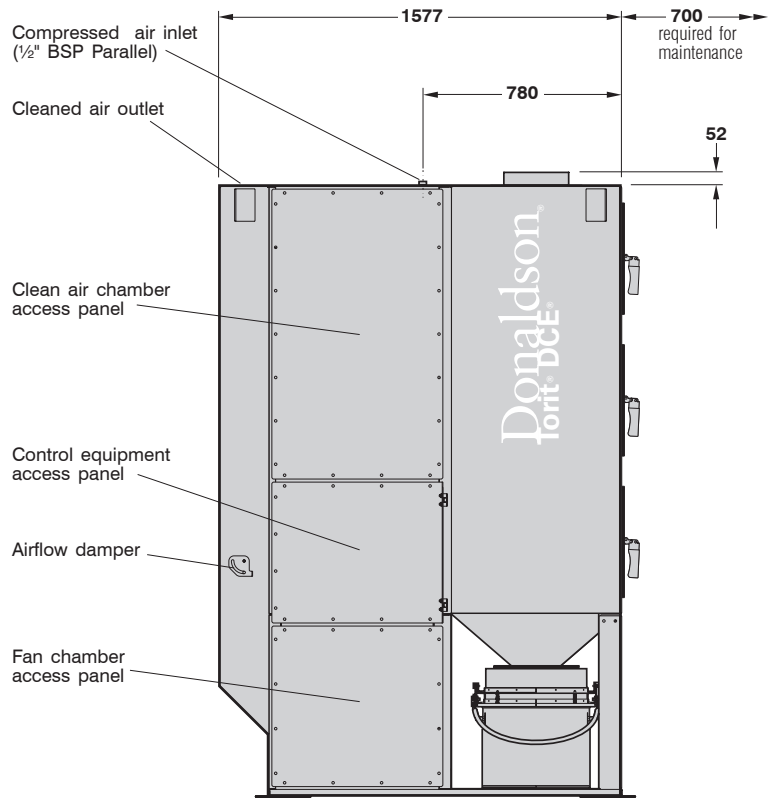


DFO STANDARD DUST COLLECTOR

Suitable for inside locations and outside when fitted with optional weather cowl.
(DFO 3-3 illustrated).



FRONT ELEVATION



SIDE ELEVATION

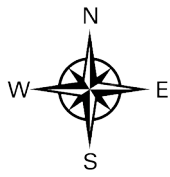
Type	Filtration area (Ultra-Web®)	Number of cartridges	Fan	Motor rating	Net weight (approx.)
DFO 1-1	17.7 m ²	1	K3	1.5 kW	355 kg
			K5	2.2 kW	364 kg
DFO 2-2	35.4 m ²	2	K3	1.5 kW	445 kg
			K5	2.2 kW	454 kg
			K7	3.0 kW	450 kg
DFO 3-3	53.1 m ²	3	K5	2.2 kW	580 kg
			K7	3.0 kW	576 kg
			G8	5.5 kW	601 kg



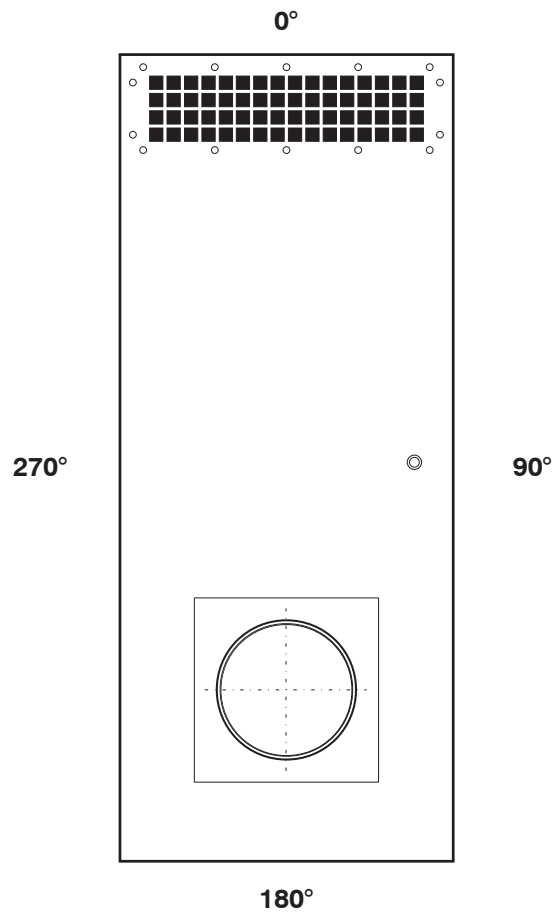
Fan motor: To suit local voltage

Data Sheet

Downflo® Oval Dust Collectors – Series DFO 1-1, 2-2 and 3-3



ORIENTATION



DESIGN LIMITS (standard equipment)

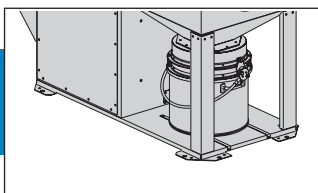
Temperature range: -10° to $+60^{\circ}\text{C}$

Pressure limits: as fan performance curves from shut-off to operating pressure

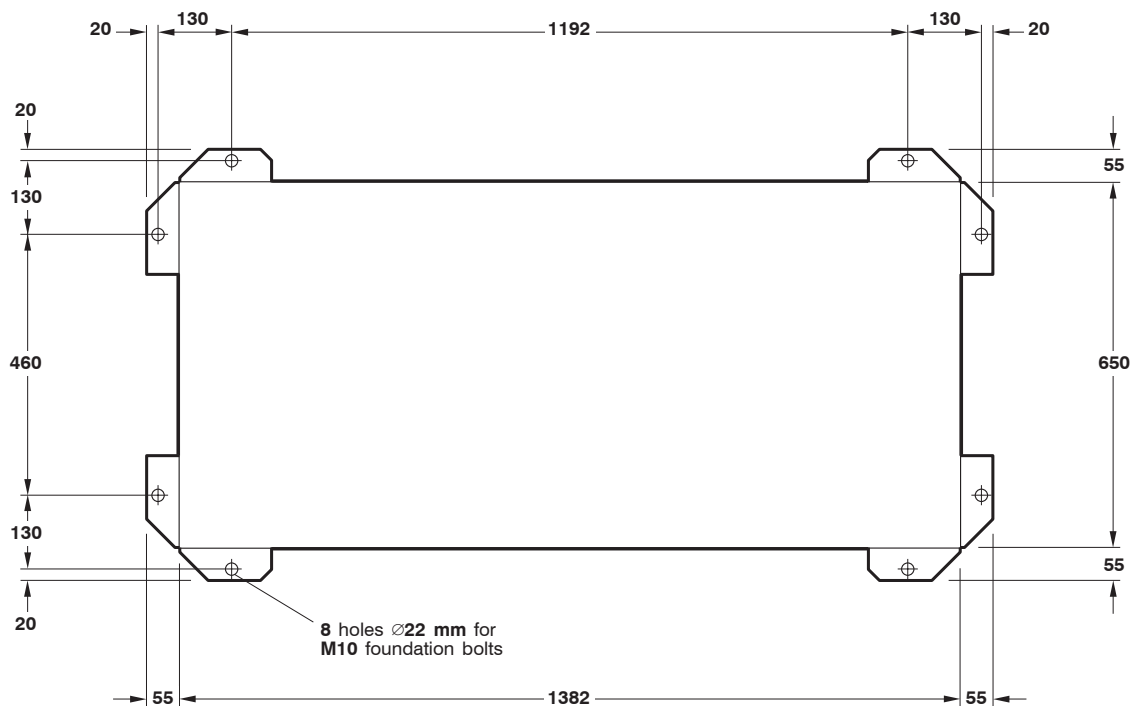
Dimension tolerances: ± 3 mm on main dimensions; ± 2 mm on detail dimensions

Paint finish: Quick air drying RAL 5019 (blue), spatter finish, semi-gloss

Downflo® Oval Dust Collectors – Series DFO 1-1, 2-2 and 3-3



FOUNDATION DETAILS



PLAN ELEVATION



COMPRESSED AIR REQUIREMENTS

Type	Working compressed air pressure ^a		Atmospheric air volume – F.A.D. ^b at 12 sec. intervals ^c		Pulse duration
DFO 1-1	4.2 bar	60 psig	3.6 m ³ /h	2.1 cfm	100 millisec.
DFO 2-2	4.2 bar	60 psig	5.5 m ³ /h	3.2 cfm	100 millisec.
DFO 3-3	4.2 bar	60 psig	6.8 m ³ /h	4.0 cfm	100 millisec.

^aNormal operating pressure

^bRecommended atmospheric air volume of clean, dry compressed air

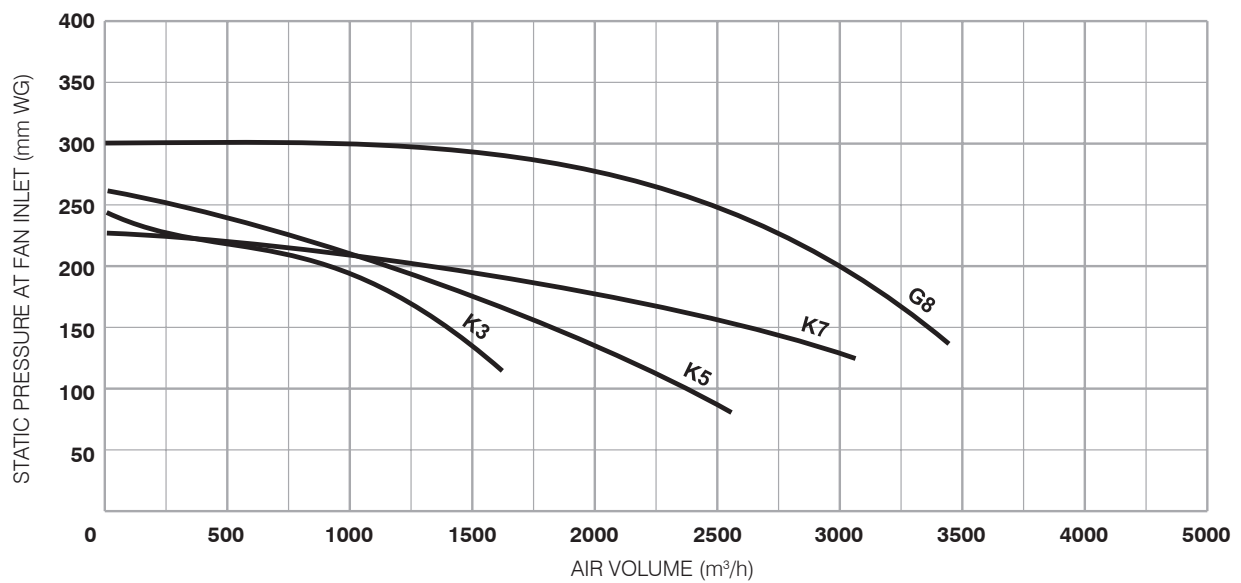
^cRecommended initial settings; these may be varied with experience

Data Sheet

Downflo® Oval Dust Collectors – Series DFO 1-1, 2-2 and 3-3



FAN SELECTION



Fan performance curves

To select the most suitable fan for a given application:

- 1 Determine the air volume, in m³/h, needed to entrain the dust.
- 2 Estimate pressure drop through connected system – i.e. between point of entrainment and collector inlet.
- 3 Assess pressure drop over dust collector, prior to replacing filter cartridges, usually 100 mm WG.
- 4 The sum of **2** and **3** = static pressure at inlet.
- 5 Consult graph for fan performance available.

Downflo® Oval Dust Collectors – Series DFO 1-1, 2-2 and 3-3



NOISE LEVELS

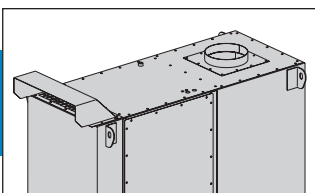
Machinery noise levels are an important consideration in the design and selection of new equipment. Several EC Directives and National Laws/Regulations adopting these directives make reference to airborne noise emissions. Actions that employers are required to comply with if employees are subjected to a daily personal noise exposure $L_{ep,d}$ of 80 dB(A) or more are also specified.

All DFO 1-1, 2-2 and 3-3 dust collectors, operating an 8 hour shift, are below this action limit.

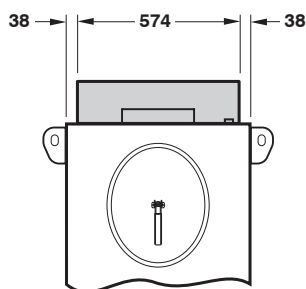
All readings were taken in normal industrial areas, i.e. semi-reverberant surroundings, with local equipment silent. Measurements were taken at maximum air flow conditions at 1.0 metre radius from the equipment housing and 1.6 metres above base level, using a precision sound level meter and octave filter.

	K3	K5	K7	G8
DFO 1-1	70 dB(A)	71 dB(A)	–	–
DFO 2-2	70 dB(A)	71 dB(A)	72 dB(A)	–
DFO 3-3	–	71 dB(A)	72 dB(A)	75 dB(A)

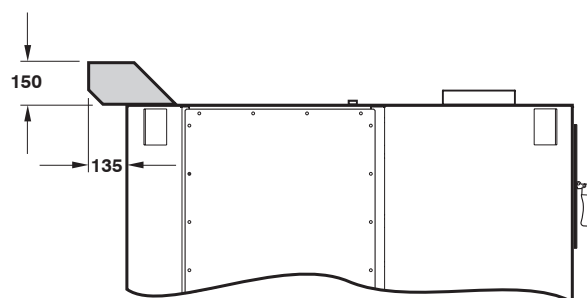
Noise levels of installed equipment may vary due to site conditions.



OPTIONAL WEATHER COWL

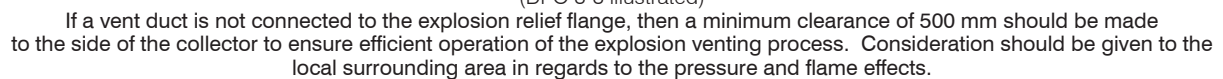
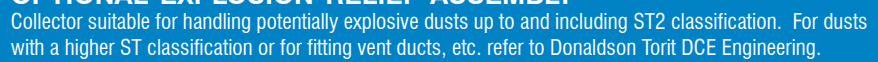


FRONT ELEVATION

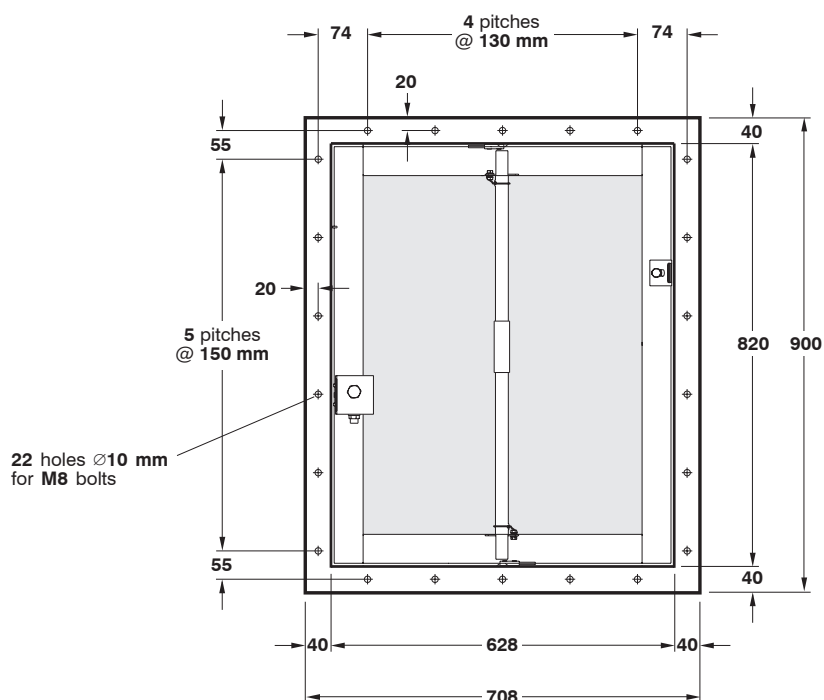


SIDE ELEVATION

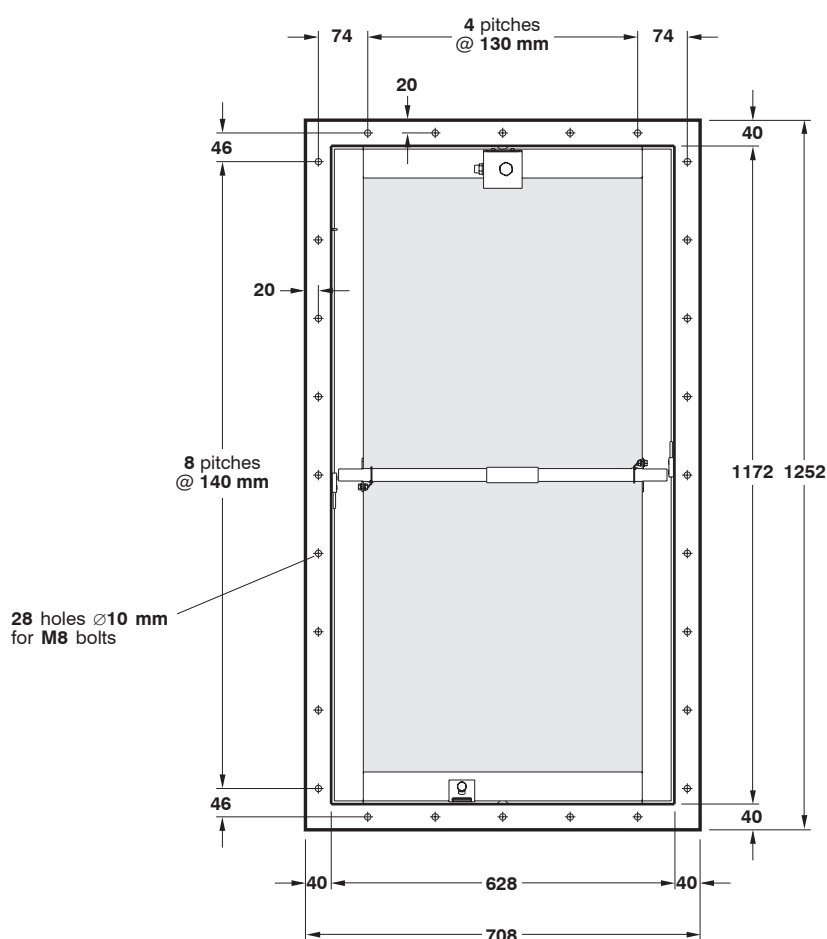
Downflo® Oval Dust Collectors – Series DFO 1-1, 2-2 and 3-3



Downflo® Oval Dust Collectors – Series DFO 1-1, 2-2 and 3-3



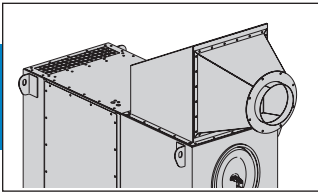
Optional explosion relief flange mounting details for DFO 2-2



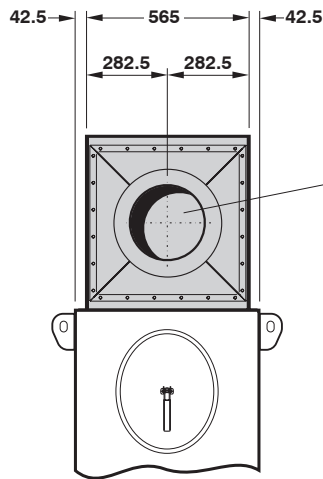
Optional explosion relief flange mounting details for DFO 3-3

Data Sheet

Downflo® Oval Dust Collectors – Series DFO 1-1, 2-2 and 3-3

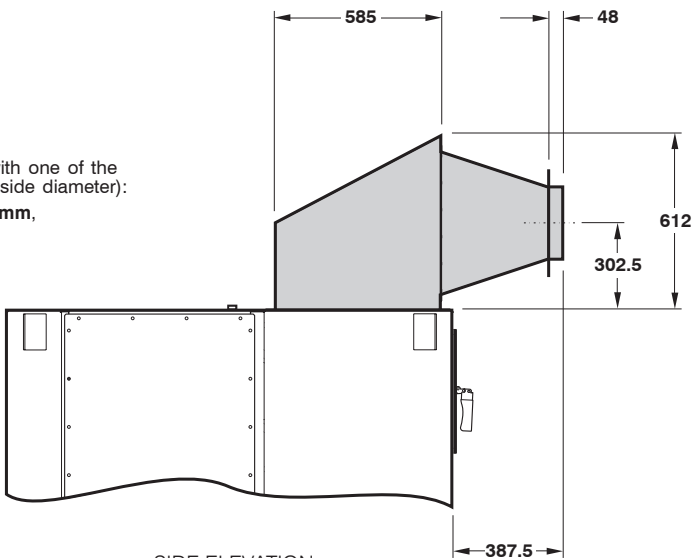


OPTIONAL ABRASION RESISTANT INLET

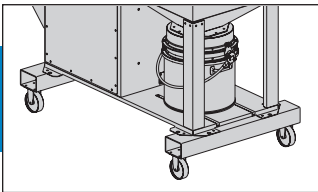


FRONT ELEVATION

Contaminated air inlet.
All collectors are fitted with one of the following spigot sizes (inside diameter):
150 mm, 175 mm, 200 mm, 225 mm or 250 mm

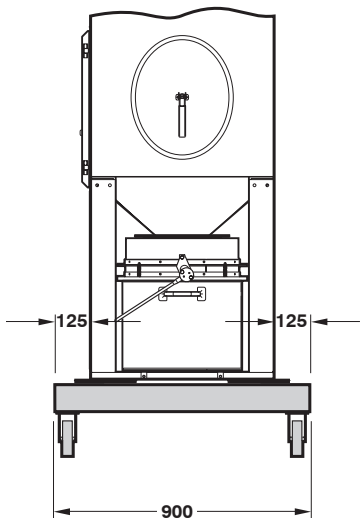


SIDE ELEVATION

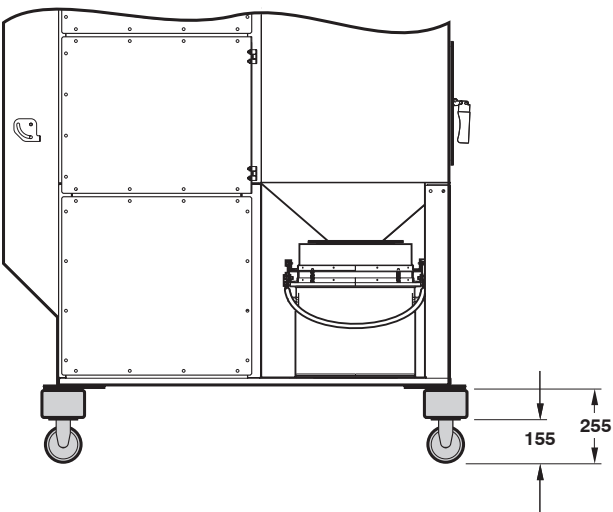


OPTIONAL CASTOR ASSEMBLY

Option only available on DFO 1-1 and DFO 2-2 collectors and not available on collectors with explosion relief.

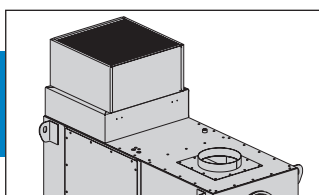


FRONT ELEVATION

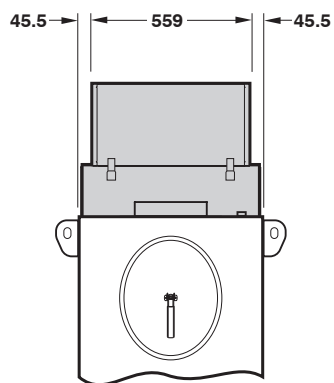


SIDE ELEVATION

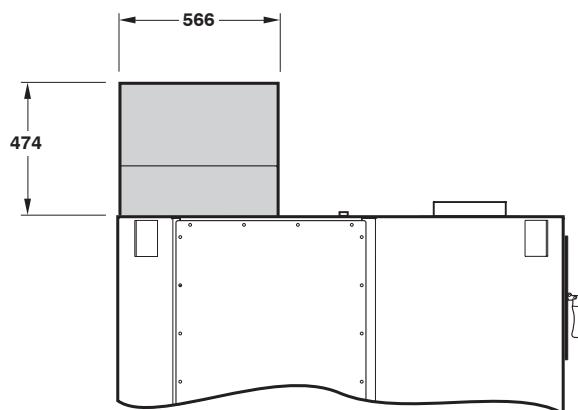
Downflo® Oval Dust Collectors – Series DFO 1-1, 2-2 and 3-3



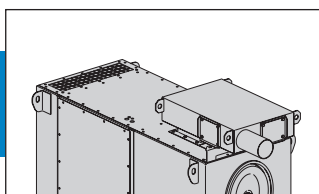
OPTIONAL HEPA FILTER ASSEMBLY



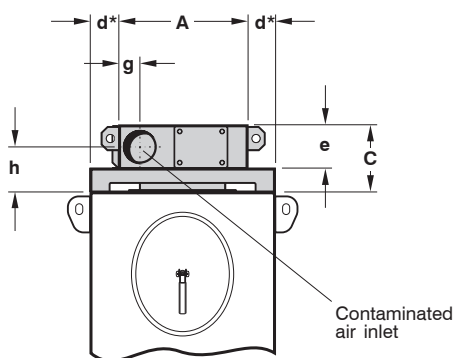
FRONT ELEVATION



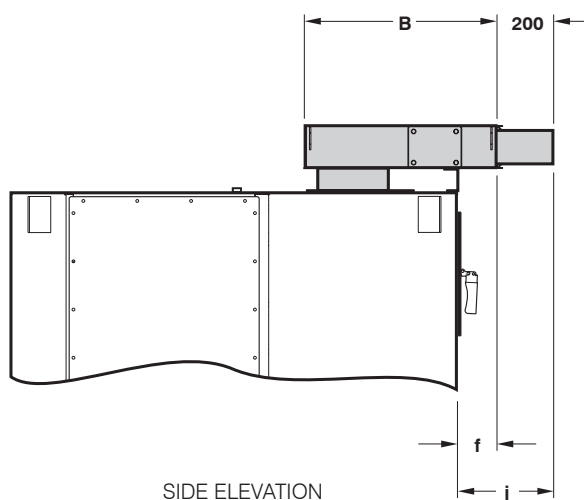
SIDE ELEVATION



OPTIONAL SPARK TRAP INLET (DFO 1-1 illustrated)



FRONT ELEVATION



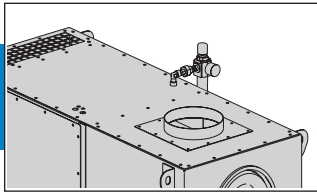
SIDE ELEVATION

Type	DIMENSIONS in mm									Inlet spigot (inside dia.) mm
	A	B	C	d*	e	f	g	h	j	
DFO 1-1	455	675	228	97.5	150	143	75	152.5	343	Ø113
DFO 2-2	585	775	288	32.5	210	243	95	167.5	443	Ø153
DFO 3-3	715	875	328	32.5*	250	343	115	202.5	543	Ø193

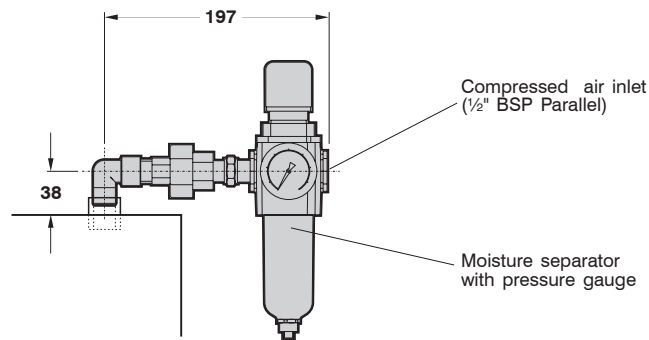
* On the DFO 3-3, the spark trap inlet is wider than the collector and overhangs each side by the figure shown

Data Sheet

Downflo® Oval Dust Collectors – Series DFO 1-1, 2-2 and 3-3



OPTIONAL COMPRESSED AIR ASSEMBLY



FRONT ELEVATION



ADDITIONAL OPTIONS

- **Flexible extraction arm** – refer to Publication 2716.
- **'Plug and go' arrangement** – collector provided with a pre-wired flexible supply cable and plug to suit local electrical requirements.
- **ATEX requirements** – collector suitable for use in a potentially explosive atmosphere (Directive 94/9/EC) satisfying the requirements for group II category 2D and 3D T135°C. (Not all collector configurations are available to ATEX requirements).
- **UCS Controller** – fan starter and differential pressure operation.
- **'Safe change' cartridge arrangement** – allows filter cartridges to be changed without exposing hazardous contaminants to atmosphere.
- **Filtration media:**
 - Ultra-Web conductive
 - Ultra-Web spun-bonded
 - Ultra-Web spun-bonded antistatic
 - Ultra-Web flame retardant
 - Ultra-Web flame retardant conductive
 - Fibra-Web
 - Fibra-Web conductive
- **Disposable bin liner with pressure balance arrangement** – to assist in the safe removal of toxic or noxious dusts from the dust container.