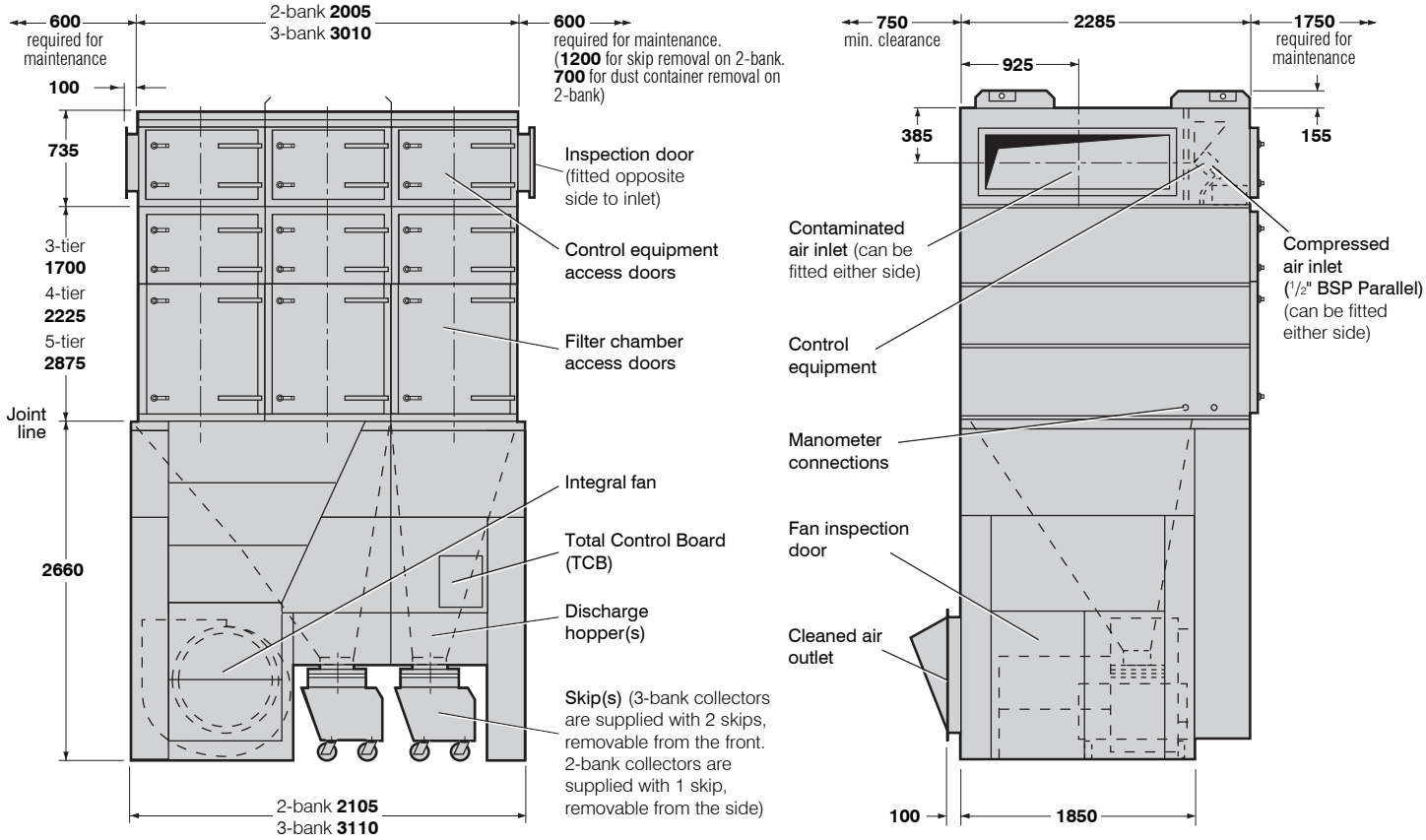
Dalamatic Concept Dust Collectors

Series D90-225



Dalamatic Concept 3-bank, 3-tier collector (D 135), with skip configuration

SPECIFICATION

Collector type	No. of banks (X)	No. of tiers (Y)	No. of cells (X × Y)	Filtration area	COLLECTOR CONFIGURATION				Fan type [c]	Motor rating
					Skip [a]	Dust container [b]	Screw conveyor	Rotary valve		
D 90	2	3	6	90 m²	✔	✔	✔	✔	K18	15.0 kW
D 120	2	4	8	120 m²	✔	✔	✔	✔	K18 K21	15.0 kW 18.5 kW
D 135	3	3	9	135 m²	✔ (2)	✔ (2)	✔	✘	K21 CDR22	18.5 kW 22.0 kW
D 150	2	5	10	150 m²	✔	✔	✔	✔	CDR22 CDR30	22.0 kW 30.0 kW
D 180	3	4	12	180 m²	✔ (2)	✔ (2)	✔	✘	CDR22 CDR30	22.0 kW 30.0 kW
D 225	3	5	15	225 m²	✔ (2)	✔ (2)	✔	✘	CDR30	30.0 kW

[a] Size: 233 litre (8 cu.ft.). [b] Size: 80 litre (3 cu.ft.) or 110 litre (4 cu.ft.). [c] Consult with Donaldson for fan interchangeability.

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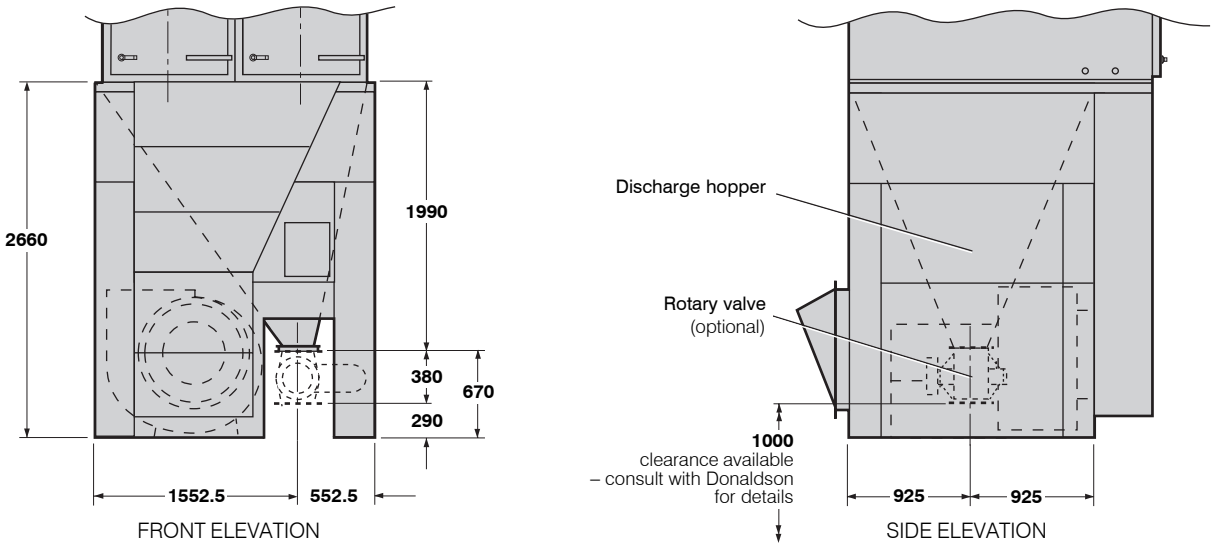
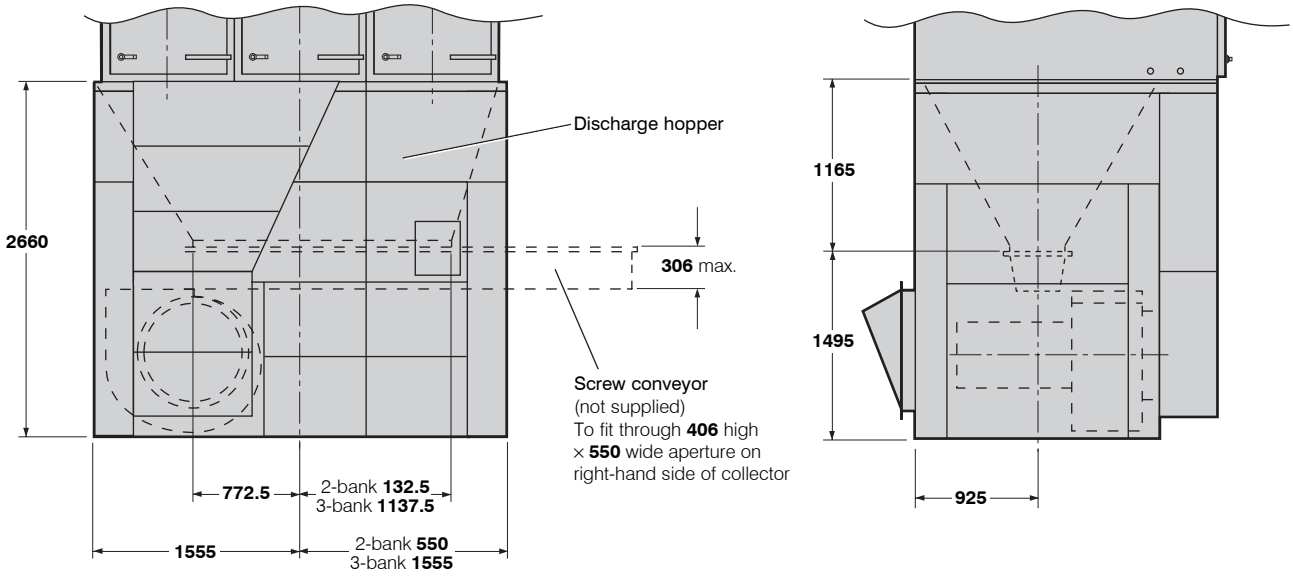
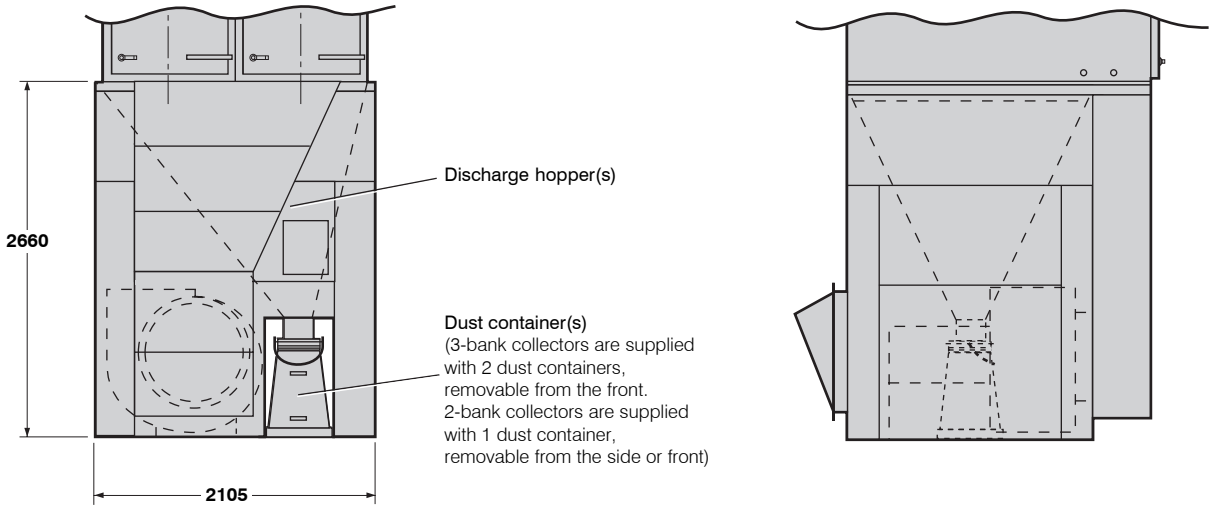
Donaldson®



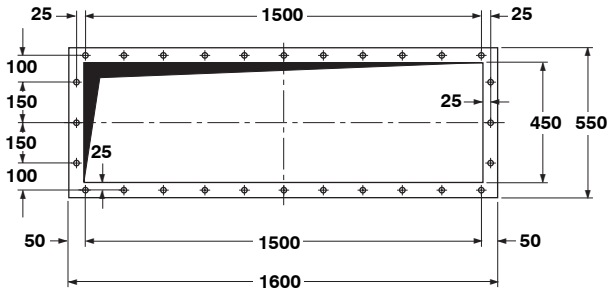
Dalamatic Concept 2-bank collector with rotary valve configuration



Dalamatic Concept 3-bank collector with screw conveyor configuration

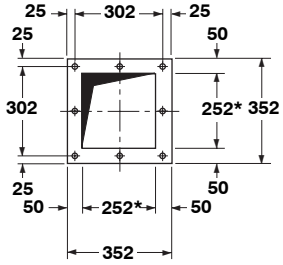


Dalamatic Concept 2-bank collector with dust container configuration



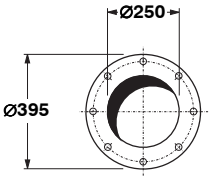
Contaminated air inlet details

All holes Ø12mm for M10 bolts. Pitch centres: 150mm



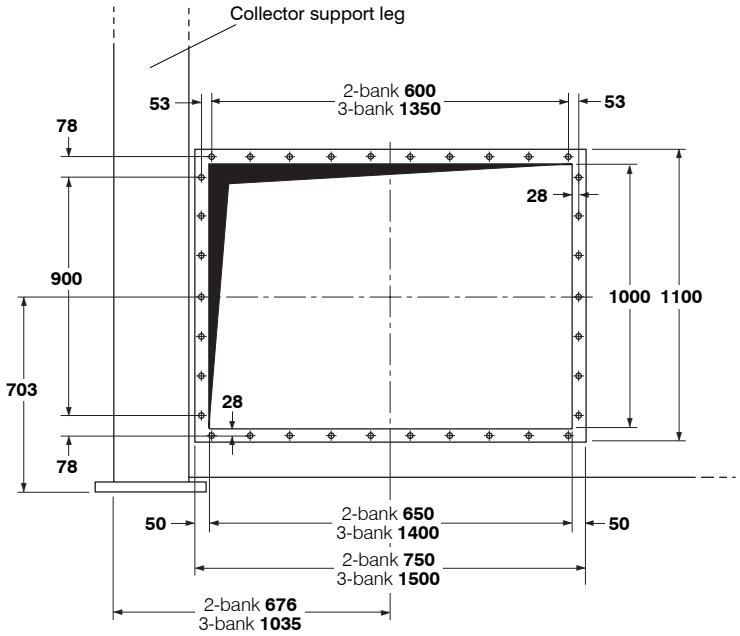
Rotary valve hopper outlet flange details

All holes Ø14mm for M12 bolts. Pitch centres: 151mm
*Inside dimensions of hopper outlet = 242 × 242mm



Rotary valve outlet flange details (for rotary valve supplied by Donaldson)

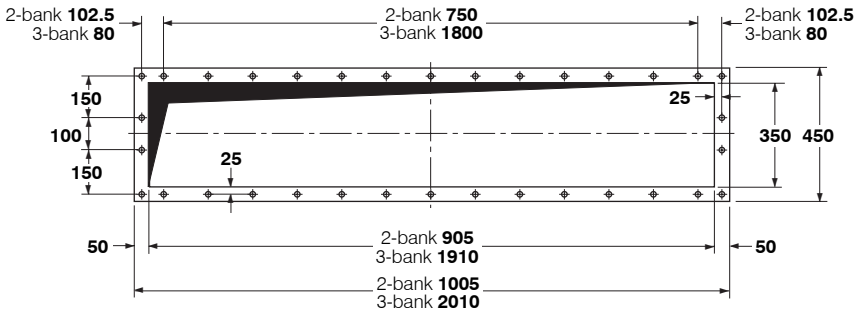
All holes Ø14mm for M12 bolts
equally spaced on 350mm p.c.d.



REAR ELEVATION

Cleaned air outlet details (with deflector removed)

Outlet details for 3-bank collector illustrated.
Outlet for 2-bank collector has 5 horizontal bolt holes.
All holes Ø12mm for M10 bolts. Pitch centres: 150mm

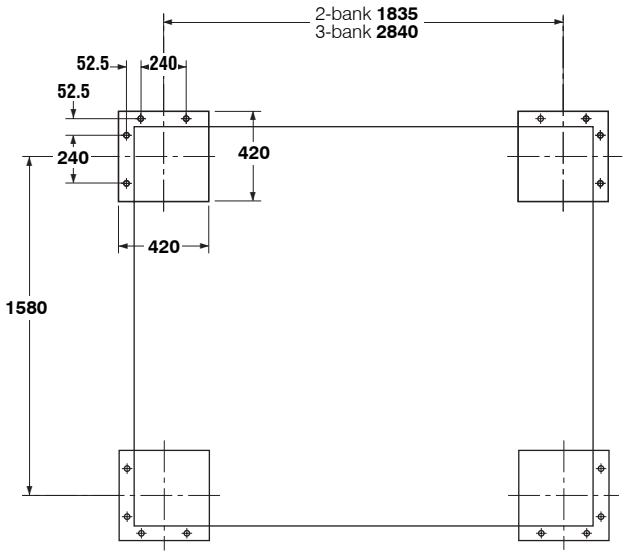


Screw conveyor hopper outlet flange details

Flange details for 3-bank collector illustrated.
Flange for 2-bank collector has 8 horizontal bolt holes.
All holes 12 × 20mm slots, parallel to long edge.
Pitch centres: 150mm except where shown

APPROXIMATE NET WEIGHTS in kg

	D 90	D 120	D 135	D 150	D 180	D 225
With skip	3550	3900	4710	4340	5225	5865
With dust container	3530	3890	4660	4325	5175	5820
With screw conveyor	3480	3835	4565	4270	5080	5720
With rotary valve	3530	3890	–	4325	–	–



FRONT OF COLLECTOR

Foundation details

All holes Ø28mm for M16 foundation bolts.

COMPRESSED AIR REQUIREMENTS

Collector type	Working compressed air pressure [a]		Atmospheric air volume – F.A.D. [b]		Pulse interval [c]	Pulse duration
D 90	3.7 bar	55 psig	19.0 m³/h	11.2 cfm	12 sec.	60 ms
D 120	5.2 bar	75 psig	27.5 m³/h	16.2 cfm	12 sec.	60 ms
D 135	3.7 bar	55 psig	28.6 m³/h	16.8 cfm	8 sec.	60 ms
D 150	5.2 bar	75 psig	27.5 m³/h	16.2 cfm	12 sec.	60 ms
D 180	5.2 bar	75 psig	41.1 m³/h	24.2 cfm	8 sec.	60 ms
D 225	5.2 bar	75 psig	41.1 m³/h	24.2 cfm	8 sec.	60 ms

[a] Normal operating pressure. [b] Recommended atmospheric air volume of clean, dry compressed air.
[c] Recommended initial settings; these may be varied with experience.
For connection details please refer to Donaldson.

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 Lep,d of 85 dB(A) or more are also specified.

All Dalamatic Concept collectors are below this action limit.

WEIGHTED SOUND PRESSURE LEVELS

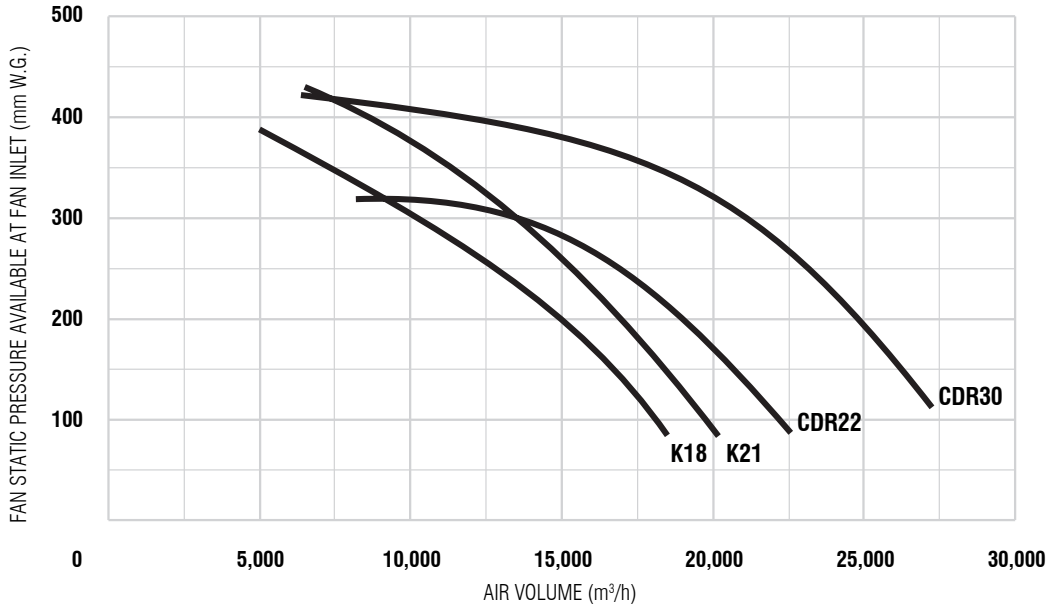
All readings were taken in normal industrial areas, i.e. semi-reverberant surroundings, with local equipment silent. Measurements were taken at maximum air flow conditions at 1.0 metre radius from the equipment housing and 1.6 metres above base level, using a precision sound level meter and octave filter.

Low pressure fans				High pressure fans				
K18	**K21**	**CDR22**	**CDR30**	**CSR15**	**CSR18**	**CSR22**	**CSR30**	**CSR37**
73 dB(A)*	74 dB(A)*	75 dB(A)*	76 dB(A)*	72 dB(A)*	72 dB(A)*	73 dB(A)*	75 dB(A)*	76 dB(A)

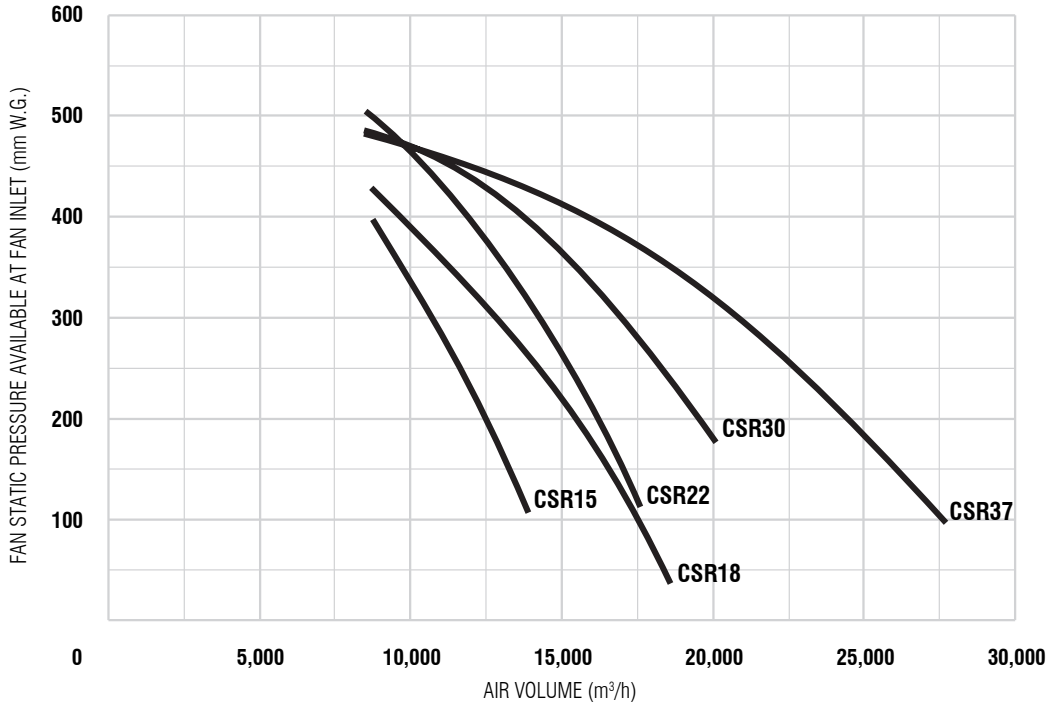
Noise levels of installed equipment may vary due to site conditions

Measurements are based on D 90 filters – noise levels for other sizes of collectors may differ slightly. *Estimated values.

Low pressure fans



High pressure fans



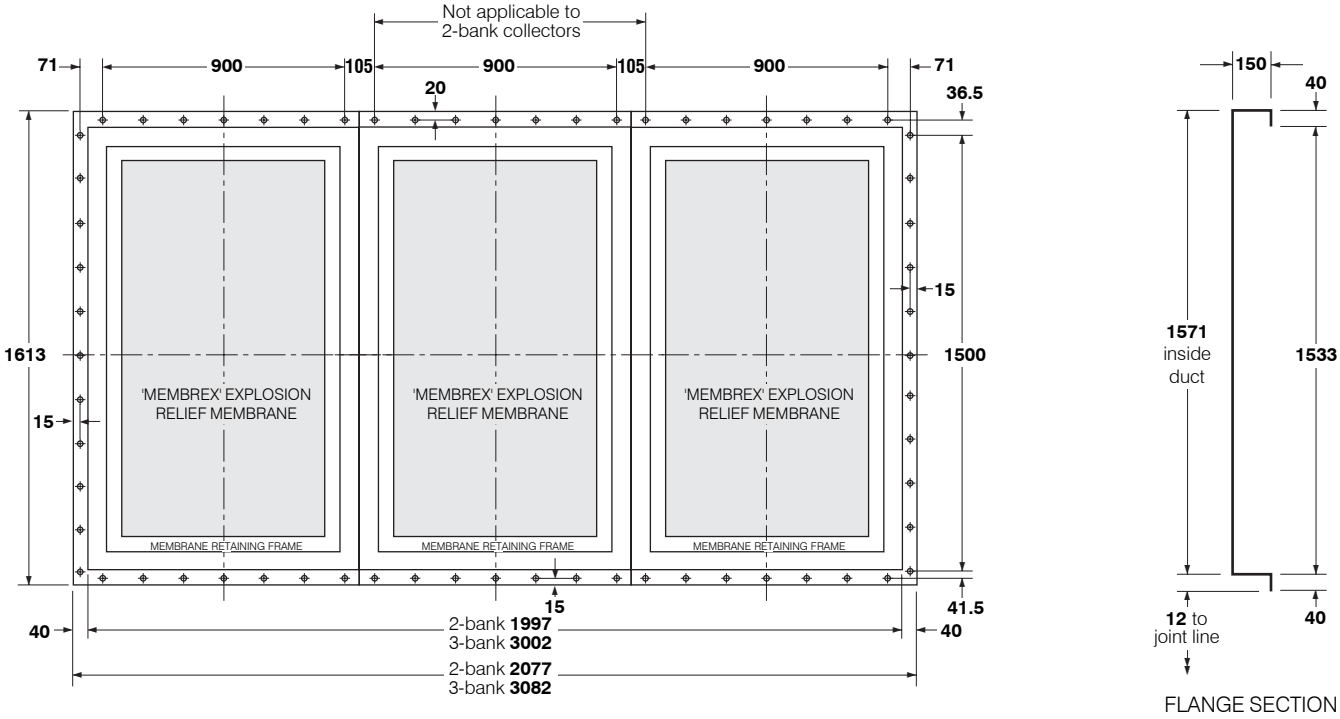
Fan performance curves

FAN SELECTION

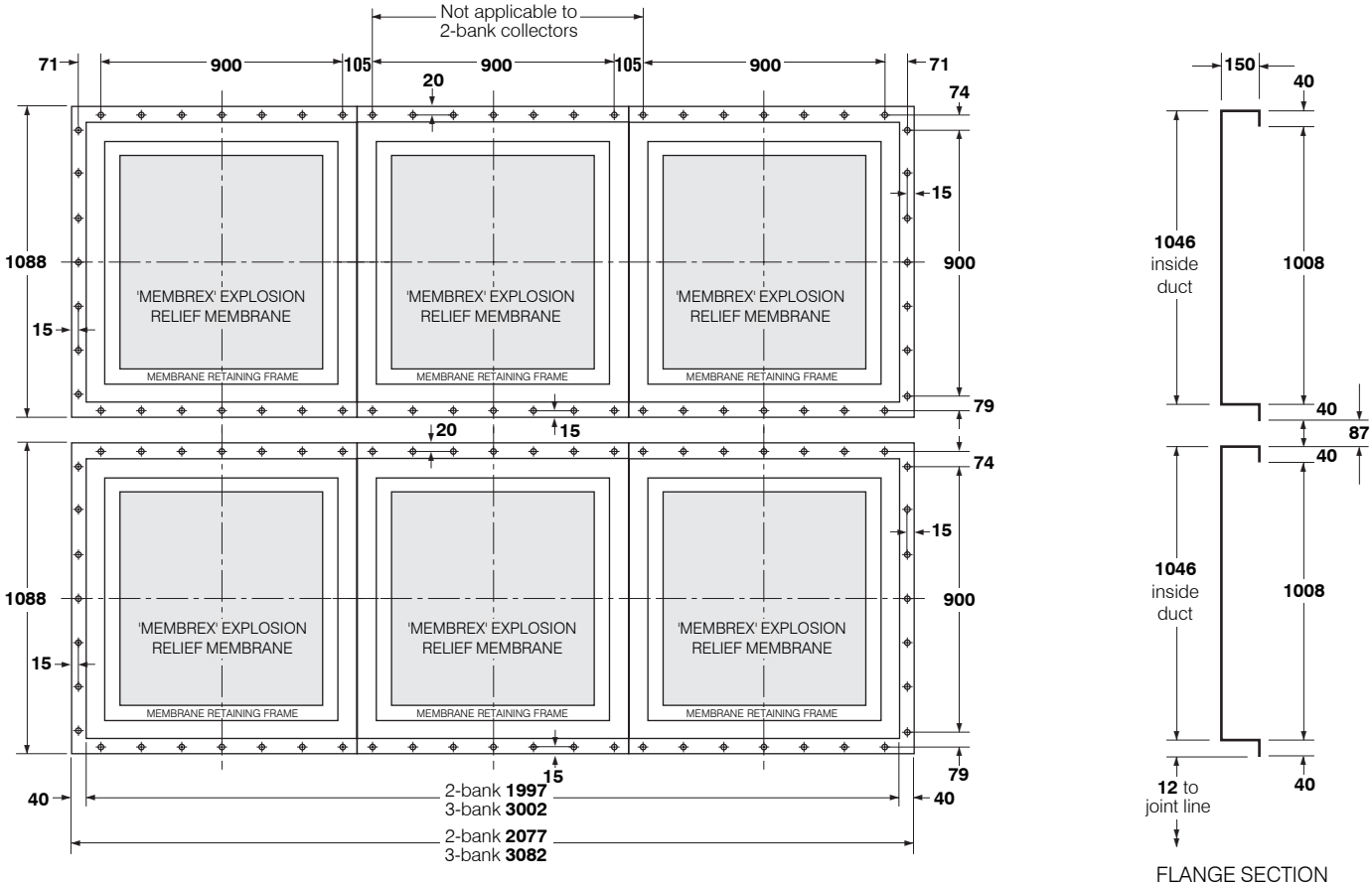
These curves indicate fan static pressure available at fan inlet for a given volume.

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. Allow for pressure drop over dust collector, typically 125 to 175mm W.G.
4. The sum of **2** and **3** = W.G. required.
5. Consult graph to select appropriate fan for the duty.
6. Consult Donaldson for fan interchangeability.



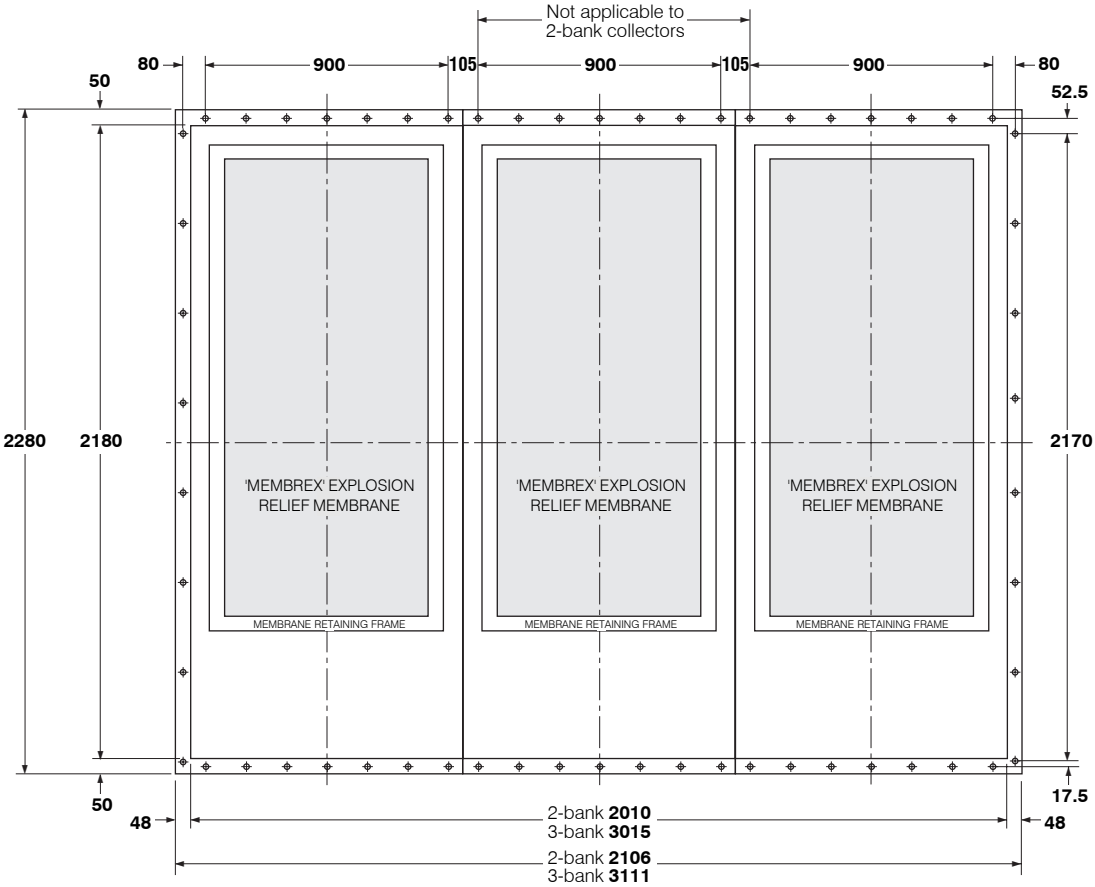
D 90, 120, 135 and 180 rear explosion relief flange



D 150 and 225 rear explosion relief flange

Rear explosion relief flange mounting details

Bottom and vertical holes Ø10mm; top holes 10 × 20mm slots. All for M8 bolts. Pitch centres 150mm.
NOTE: Mounting flange projects 100mm beyond rear of collector.



Top explosion relief flange mounting details

All holes 12 × 20mm slots for M10 bolts. Pitch centres: 150mm horizontally; 310mm vertically.
Mounting flange is flush with top of collector.
NOTE: The membrane retaining frame projects 80mm beyond top of collector.
Weather protection is available for those collectors fitted with top explosion relief.

DESIGN LIMITS (standard equipment)

Temperature range:

–10° to +60°C (Std.) or –10° to +100°C* (For temperatures above 100°C refer to Donaldson).

Pressure limits:

Collector with fan: as fan performance curves from shut-off to operating pressure.
Collector without fan: –500mm W.G. or –1140mm W.G. (For positive pressures refer to Donaldson).

Dimension tolerances:

±5mm on main dimensions. ±2mm on detail dimensions.

*For temperatures above 60°C the enclosed base cannot be used – an in-line attenuator may be required.

ELECTRICAL SPECIFICATIONS

Controls

Full automatic cleaning mechanism: Total Control Board
Pulse time: 60 ms
Interval time: 8 sec. or 12 sec.
Voltage input: 400V AC; 3 ph; 50 Hz
Protection class: IP65
Solenoid voltage: 24V DC

Donaldson®
Filtration Solutions

www.donaldson.com

Humberstone Lane
Thurmaston
Leicester LE4 8HP
England

Tel +44 (0)116 269 6161
Fax +44 (0)116 269 3028

Email: IFS-uk@emea.donaldson.com

Research Park Zone 1
Interleuvenlaan 1
B-3001 Leuven (Heverlee)
Belgium

Tel +32 (0)16 383 970
Fax +32 (0)16 383 938

Email: IFS-europe@emea.donaldson.com