

FC-INF-DF Compact Inertial Filter

Self-cleaning Sand Separator

Compact

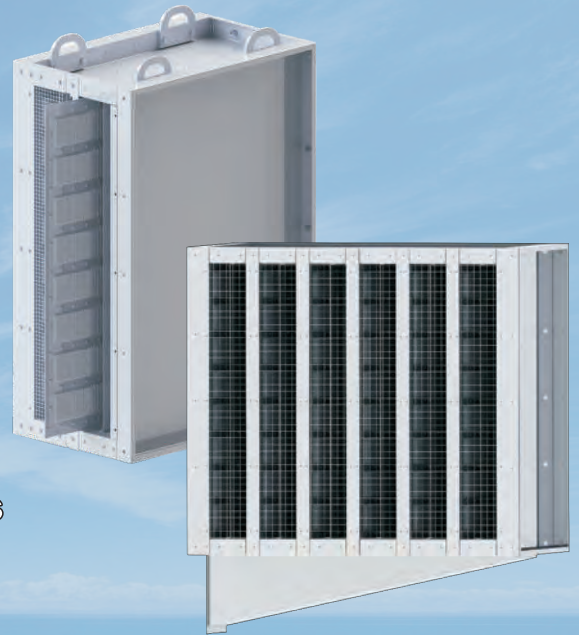
Half size of market average, yet providing the same clean flow rate

High-efficiency

Up to A2 88% and A4 94%

Easy cleaning

Removable filtering panels



FC-INF-DF Inertial filter is compact, self-cleaning, and modular designed, to serve the demands on high-efficiency dust filtering of large volumes of air at low flow resistance.

It is a completely steel structured product which separates dust by mechanism of multiple-phase flow dynamics, with no need of replaceable purifying materials.

The dust separated will be bleed out by a small bleeding fan. The air consumed by bleeding fan ranges from 10% to 15% depending on efficiency mode. The product is maintenance-free for long-term service.

The comprehensive 3rd party lab tests have proved that FC-INF-DF is one of the best inertial filters in market.

FC-INF-DF Inertial filter can fit most of the applications such as air conditioning and ventilating systems in heavy industrial conditions, areas with dust, sand storms or other solid particles in the air.

[Features & Benefits]

- > Compact design**
 Filtering chamber with its size much smaller than market average, yet providing the same clean flow rate without any compromise to filtering efficiency. A single-cell FC-INF-DF compact inertial filter, by size of W204xH925xD650(mm), can offer flow rate of clean air by 2050 m³/h (1200 cfm) at Δ250Pa (1.0 in.w.g). It also can help customers to save energy
- > High dust filtering efficiency**
 Featured with innovative T-shape filtering panels, FC-INF-DF inertial filter can offer filtering rate up to A2 88% and A4 94%, which proves it has been one of the best inertial filters in the world. It could significantly help customers to reduce expenses on disposable filters of HVAC system and also save the energy of offsetting the clog of filters in long term.
- > Modular design**
 Easy for product selection for specific applications.
- > Low working noise**
 Thanks to its low flow resistance and compact design by which the filtering chamber contains more steel panels, the working noise of a twin-cell set is only 80dBA at pressure drop of 250Pa.
- > Removable filtering panels**
 Easy to take filtering panels out, cleaned and put them back to service.

[Filtering Efficiency]

| Working mode | Efficiency |
|--------------|---|
| HE | High-Efficiency, Up to A2 88% and A4 94% at bleed air of 15% |
| RE | Regular-Efficiency, Up to A2 83% and A4 92% at bleed air of 10% |

The performance data is based on prototype test of a twin-cell unit (Type FC-INF-DF-L10-C2), conducted by VTT, Finland, according to standards of EN 779-2012, EN ISO 16890-3:2016 and ISO 12103-2016. Percentage of bleed air means the ratio between air volume from bleed fan and inlet air.

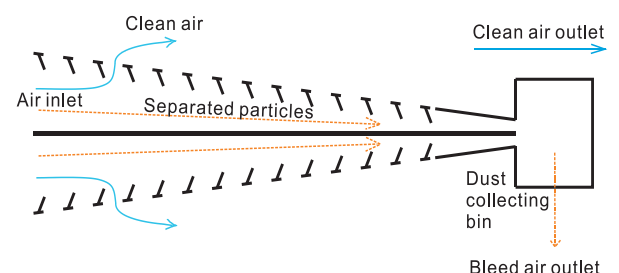
[Part Number]

ATO PN: FC-INF-DF-[A]-[B]-[C]-[D]-[E]-[F]

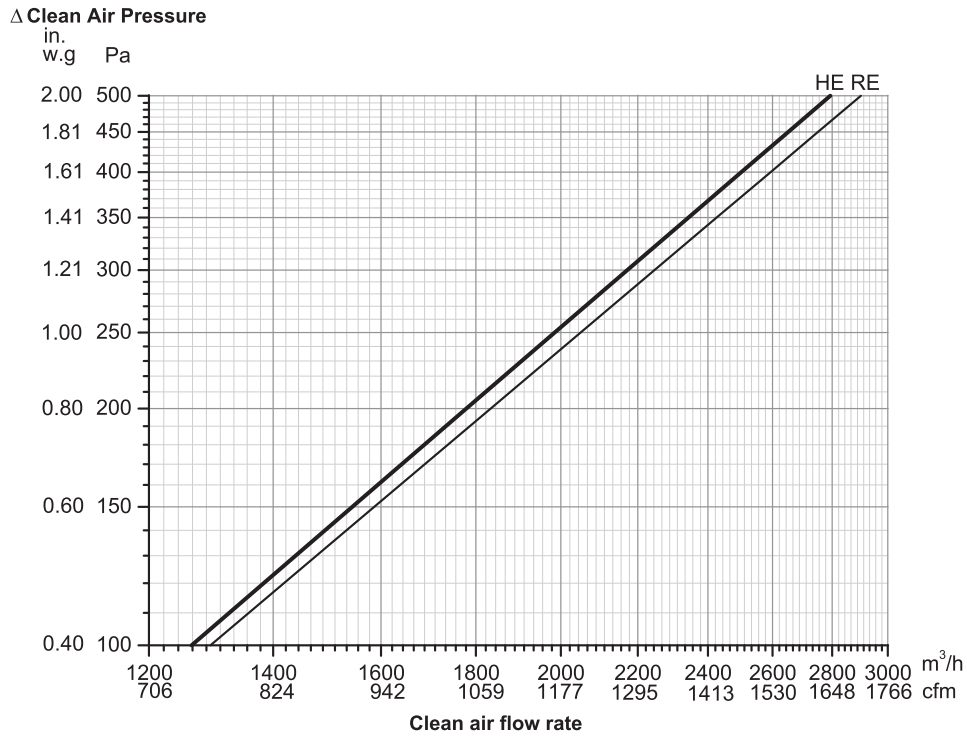
| ATO Code | Description | Options |
|----------|--------------------------|--|
| A | Layers | L10- 1 layer L15-1.5 Layers L20- 2 layers L25-2.5 Layers L30- 3 layers |
| B | Cells per layer | C1-1 cell C2- 2 cells C3- 3 cells ... |
| C | Frame material | 1-SS316 2-SS304 3-Galvanized steel 4-Epoxy/Polyurethane coated steel |
| D | Filtering panel material | 1-SS316 2-SS304 3-Galvanized steel 4-Epoxy/Polyurethane coated steel |
| E | Bleed air direction | 1-Left 2-Right 3-Down |
| F | Bleed fan | 1-With 2-Without |

[Operation principle]

The dust and air entering the inertial filter from air inlet will be separated through innovative T-shape filtering panels. The dust is to be bleed out by bleeding fan which consumes 15% inlet air at HE mode and 10% inlet air at RE mode and the clean air will go through the T-shape panels and reach the clean air outlet.



[Clean air flow vs Δ Clean Air Pressure]



This chart is based on performance of single-cell unit.

[Selection of bleeding fan]

Figure 1: Bleed air under HE mode

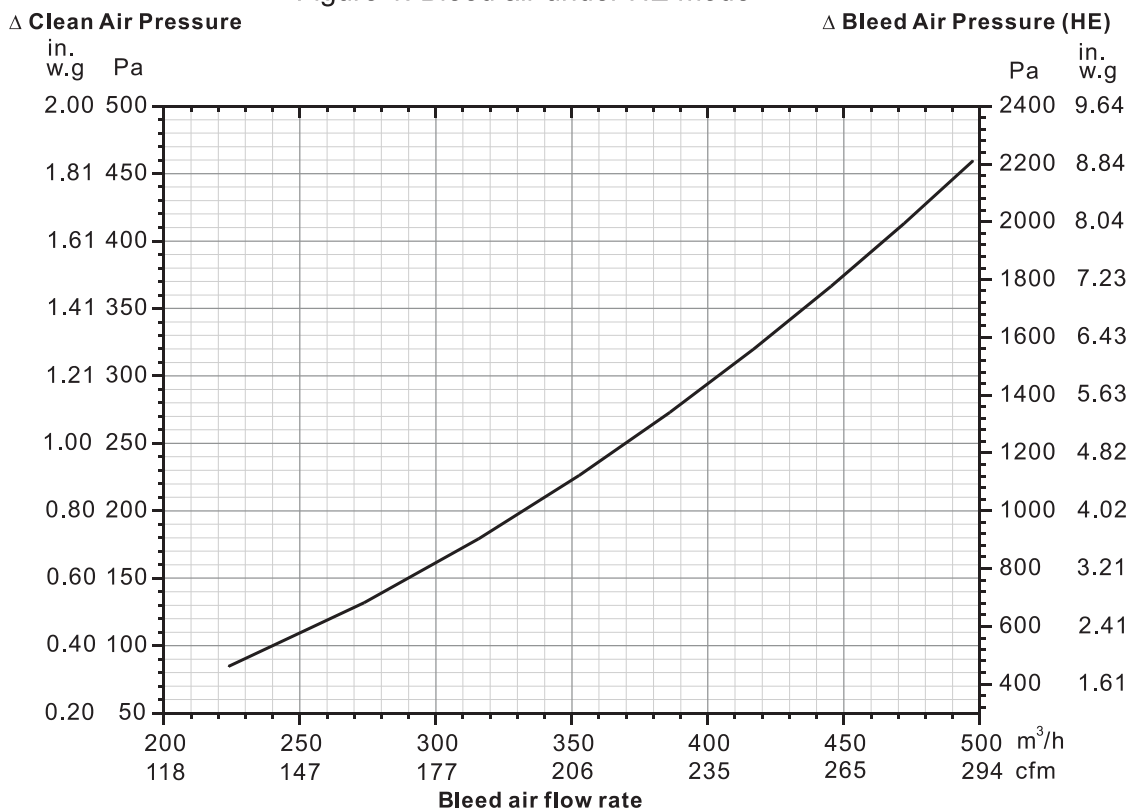
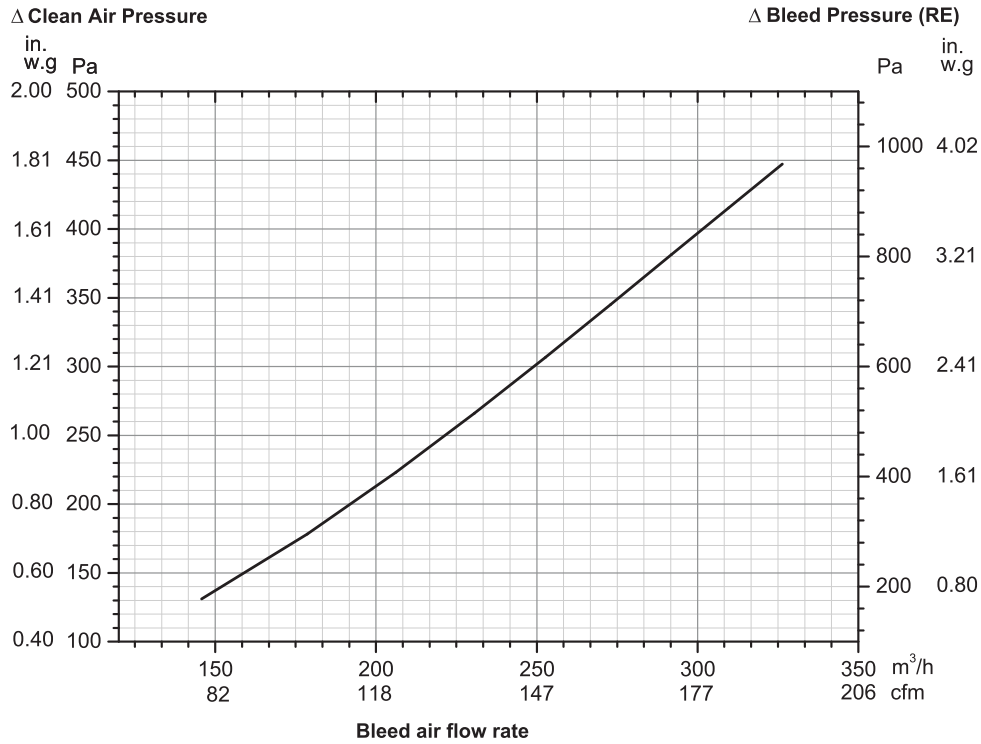
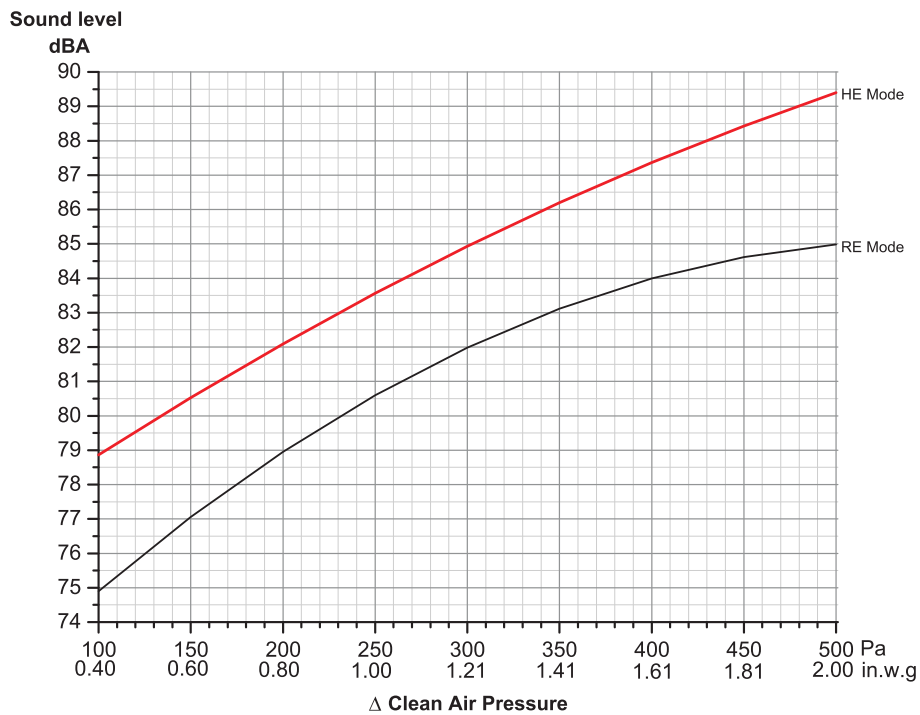


Figure 2: Bleed air under RE mode



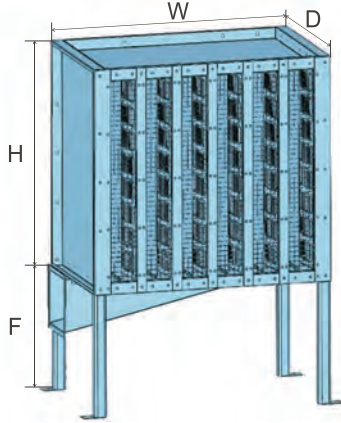
This chart is based on performance of single-cell unit.

[Sound level]



This chart is based on test result of a twin-cell unit.

[Product size and clean air at Δ250Pa]



Notes:

1. Size F is related to bleeding fan being connected to inertial filter.
2. Product could be placed at horizontal or vertical position without compromising its performance.
3. Customization service is upon request.

For more details, please contact FUCARE distributors or sales representatives.

| Product Data | Config | Cell numbers | | | | | | | | | |
|----------------------------------|--------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | Layers | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
| W (mm) | L10 | 254 | 408 | 562 | 716 | 870 | 1,024 | 1,178 | 1,332 | 1,486 | 1,640 |
| H (mm) | | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 |
| D (mm) | | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 |
| HE Clean air (m ³ /h) | | 1,980 | 3,960 | 5,940 | 7,920 | 9,900 | 11,880 | 13,860 | 15,840 | 17,820 | 19,800 |
| RE Clean air (m ³ /h) | | 2,050 | 4,100 | 6,150 | 8,200 | 10,250 | 12,300 | 14,350 | 16,400 | 18,450 | 20,500 |
| W (mm) | L15 | 254 | 408 | 562 | 716 | 870 | 1,024 | 1,178 | 1,332 | 1,486 | 1,640 |
| H (mm) | | 1,406 | 1,406 | 1,406 | 1,406 | 1,406 | 1,406 | 1,406 | 1,406 | 1,406 | 1,406 |
| D (mm) | | 685 | 685 | 685 | 685 | 685 | 685 | 685 | 685 | 685 | 685 |
| HE Clean air (m ³ /h) | | 2,970 | 5,940 | 8,910 | 11,880 | 14,850 | 17,820 | 20,790 | 23,760 | 26,730 | 29,700 |
| RE Clean air (m ³ /h) | | 3,075 | 6,150 | 9,225 | 12,300 | 15,375 | 18,450 | 21,525 | 24,600 | 27,675 | 30,750 |
| W (mm) | L20 | 254 | 408 | 562 | 716 | 870 | 1,024 | 1,178 | 1,332 | 1,486 | 1,640 |
| H (mm) | | 1,806 | 1,806 | 1,806 | 1,806 | 1,806 | 1,806 | 1,806 | 1,806 | 1,806 | 1,806 |
| D (mm) | | 720 | 720 | 720 | 720 | 720 | 720 | 720 | 720 | 720 | 720 |
| HE Clean air (m ³ /h) | | 3,960 | 7,920 | 11,880 | 15,840 | 19,800 | 23,760 | 27,720 | 31,680 | 35,640 | 39,600 |
| RE Clean air (m ³ /h) | | 4,100 | 8,200 | 12,300 | 16,400 | 20,500 | 24,600 | 28,700 | 32,800 | 36,900 | 41,000 |
| W (mm) | L25 | 254 | 408 | 562 | 716 | 870 | 1,024 | 1,178 | 1,332 | 1,486 | 1,640 |
| H (mm) | | 2,260 | 2,260 | 2,260 | 2,260 | 2,260 | 2,260 | 2,260 | 2,260 | 2,260 | 2,260 |
| D (mm) | | 755 | 755 | 755 | 755 | 755 | 755 | 755 | 755 | 755 | 755 |
| HE Clean air (m ³ /h) | | 4,950 | 9,900 | 14,850 | 19,800 | 24,750 | 29,700 | 34,650 | 39,600 | 44,550 | 49,500 |
| RE Clean air (m ³ /h) | | 5,125 | 10,250 | 15,375 | 20,500 | 25,625 | 30,750 | 35,875 | 41,000 | 46,125 | 51,250 |
| W (mm) | L30 | 254 | 408 | 562 | 716 | 870 | 1,024 | 1,178 | 1,332 | 1,486 | 1,640 |
| H (mm) | | 2,660 | 2,660 | 2,660 | 2,660 | 2,660 | 2,660 | 2,660 | 2,660 | 2,660 | 2,660 |
| D (mm) | | 790 | 790 | 790 | 790 | 790 | 790 | 790 | 790 | 790 | 790 |
| HE Clean air (m ³ /h) | | 5,940 | 11,880 | 17,820 | 23,760 | 29,700 | 35,640 | 41,580 | 47,520 | 53,460 | 59,400 |
| RE Clean air (m ³ /h) | | 6,150 | 12,300 | 18,450 | 24,600 | 30,750 | 36,900 | 43,050 | 49,200 | 55,350 | 61,500 |

| Product Data | Config | Cell numbers | | | | | | | | | |
|----------------------------------|--------|--------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| | Layers | C11 | C12 | C13 | C14 | C15 | C16 | C17 | C18 | C19 | C20 |
| W (mm) | L10 | 1,794 | 1,948 | 2,102 | 2,256 | 2,410 | 2,564 | 2,718 | 2,872 | 3,026 | 3,180 |
| H (mm) | | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 | 952 |
| D (mm) | | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 | 650 |
| HE Clean air (m ³ /h) | | 21,780 | 23,760 | 25,740 | 27,720 | 29,700 | 31,680 | 33,660 | 35,640 | 37,620 | 39,600 |
| RE Clean air (m ³ /h) | | 22,550 | 24,600 | 26,650 | 28,700 | 30,750 | 32,800 | 34,850 | 36,900 | 38,950 | 41,000 |
| W (mm) | L15 | 1,794 | 1,948 | 2,102 | 2,256 | 2,410 | 2,564 | 2,718 | 2,872 | 3,026 | 3,180 |
| H (mm) | | 1,406 | 1,406 | 1,406 | 1,406 | 1,406 | 1,406 | 1,406 | 1,406 | 1,406 | 1,406 |
| D (mm) | | 685 | 685 | 685 | 685 | 685 | 685 | 685 | 685 | 685 | 685 |
| HE Clean air (m ³ /h) | | 32,670 | 35,640 | 38,610 | 41,580 | 44,550 | 47,520 | 50,490 | 53,460 | 56,430 | 59,400 |
| RE Clean air (m ³ /h) | | 33,825 | 36,900 | 39,975 | 43,050 | 46,125 | 49,200 | 52,275 | 55,350 | 58,425 | 61,500 |
| W (mm) | L20 | 1,794 | 1,948 | 2,102 | 2,256 | 2,410 | 2,564 | 2,718 | 2,872 | 3,026 | 3,180 |
| H (mm) | | 1,806 | 1,806 | 1,806 | 1,806 | 1,806 | 1,806 | 1,806 | 1,806 | 1,806 | 1,806 |
| D (mm) | | 720 | 720 | 720 | 720 | 720 | 720 | 720 | 720 | 720 | 720 |
| HE Clean air (m ³ /h) | | 43,560 | 47,520 | 51,480 | 55,440 | 59,400 | 63,360 | 67,320 | 71,280 | 75,240 | 79,200 |
| RE Clean air (m ³ /h) | | 45,100 | 49,200 | 53,300 | 57,400 | 61,500 | 65,600 | 69,700 | 73,800 | 77,900 | 82,000 |
| W (mm) | L25 | 1,794 | 1,948 | 2,102 | 2,256 | 2,410 | 2,564 | 2,718 | 2,872 | 3,026 | 3,180 |
| H (mm) | | 2,260 | 2,260 | 2,260 | 2,260 | 2,260 | 2,260 | 2,260 | 2,260 | 2,260 | 2,260 |
| D (mm) | | 755 | 755 | 755 | 755 | 755 | 755 | 755 | 755 | 755 | 755 |
| HE Clean air (m ³ /h) | | 54,450 | 59,400 | 64,350 | 69,300 | 74,250 | 79,200 | 84,150 | 89,100 | 94,050 | 99,000 |
| RE Clean air (m ³ /h) | | 56,375 | 61,500 | 66,625 | 71,750 | 76,875 | 82,000 | 87,125 | 92,250 | 97,375 | 102,500 |
| W (mm) | L30 | 1,794 | 1,948 | 2,102 | 2,256 | 2,410 | 2,564 | 2,718 | 2,872 | 3,026 | 3,180 |
| H (mm) | | 2,660 | 2,660 | 2,660 | 2,660 | 2,660 | 2,660 | 2,660 | 2,660 | 2,660 | 2,660 |
| D (mm) | | 790 | 790 | 790 | 790 | 790 | 790 | 790 | 790 | 790 | 790 |
| HE Clean air (m ³ /h) | | 65,340 | 71,280 | 77,220 | 83,160 | 89,100 | 95,040 | 100,980 | 106,920 | 112,860 | 118,800 |
| RE Clean air (m ³ /h) | | 67,650 | 73,800 | 79,950 | 86,100 | 92,250 | 98,400 | 104,550 | 110,700 | 116,850 | 123,000 |

The data offered in this catalogue are subject to update without notice.

FUCARE provides design software which offers all detailed data regarding product size, air flow rate and related pressure drop, sound level, etc. Customers could obtain design software of FC-INF-DF Compact Inertial Filter from FUCARE's distributors or FUCARE sales representatives.



FUCARE PROTECTION PTE. LTD.

21 Woodlands Close #05-06 Primz Bizhub,
 Singapore 737854
 Tel: +65 6260 9888
 E-mail: info@fucare.com
 www.fucare.com

