

TRI-CUBE RF TRI-CUBE RFX REVERSE FLOW CUBE FILTERS

# INNOVATIVE SOLUTIONS FOR REAL WORLD PROBLEMS





Tri-Dim Filter Corporation has offered innovative solutions for filtration issues for over 40 years. The TRI-CUBE<sup>™</sup> RF Series of Reverse Flow Cube Filters follows in this tradition. These filters were engineered to solve a real world problem that is common in HVAC applications – limited space behind the filter bank for an extended surface filter.

## **The Problem**

Far too often there is limited space downstream of the filter bank to utilize any extended surface filters. This is commonly caused by the placement of coils or other HVAC equipment immediately behind the filter bank.

The consequences of the inability to use an extended surface filter can be costly. These expenses can include:

- Frequent Changing of Filters
  - Filter cost, labor, disposal, downtime, etc
- Premature Replacement of Expensive Final Filters
  - Filter cost, labor, disposal, downtime, etc
- Higher Operating Resistance
  - Energy cost, Green Building Credits, etc



Application photo showing filter track mounted directly in front of the coils.



### **The Solution**

The TRI-CUBE RF or the TRI-CUBE RFX (*pictured left*) is <u>the</u> solution. The TRI-CUBE RF series project upstream rather than downstream – this allows for an extended surface filter that reduces change-outs, extends the life of expensive final filters and lowers the operating resistance.

# **TRI-CUBE RF and TRI-CUBE RFX**

The Tri-Cube RF filters are available in two engineered designs – the 'standard' cube design and the innovative Tri-Cube RFX Reverse Cube with a center pocket which adds up to 50% more surface area than the original reverse cube – offering energy savings and longer service life. The Tri-Cube RFX offers a 20% to 65% reduction in operating resistance when compared to other filters with similar efficiencies. This translates into a significant cost savings in energy consumption which is the single largest cost component of life cycle cost of filters and potential LEED credits. The Tri-Cube Reverse Flow filters also offer 2½ to 4 times more dust holding capacity than traditional prefilters, the result is extended service life in HVAC systems - that translates into less filters to buy, change and discard.





## FRAME

The Tri-Cube RF series utilize a permanent metal retaining assembly that projects the cube filter upstream and offers the needed support for demanding applications. This hardware is so unique that it is patented by the US Patent and Trademark Office (#6,579,336 B1). The Reverse Cube filter simply loads over top of the frame assembly and is secured by Velcro® strips on the permanent frame.

# **MEDIA**

Both styles of the reverse cube are available in the 2, 3 and 4-Ply Tri-Dek® medias that have been trusted in the HVAC industry for over 40 years. Tri-Dek medias utilize different deniers of media that are arranged from the coarsest to the finest – this depth loading arrangement allows for particulate to be captured throughout the depth of the media unlike 'strainer' type medias that utilize only the surface to capture dirt.

Tri-Dek 3 and 4-Ply medias contain more than 20% of post consumer recycled content – combine this with the energy savings and extended service life and the Tri-Cube RF and RFX are an excellent choice for Green Building and Sustainability related initiatives.



# **TECHNICAL INFORMATION**

# **TRI-CUBE™ RF**

**Reverse Cube Filter** 

# **SPECIFICATIONS:**

#### FILTER

MEDIA Synthetic, 2, 3 or 4 Deniers

#### FRAME

Galvanized Wire

#### SEAL

Thermally Generated and Sewn

#### RESISTANCE

#### 3/67 2-Ply

- 10" Deep (254 mm)
- 0.23" W.G. @ 500 FPM (57 PA @ 2.54 m/sec) 15" Deep (381 mm)

0.19" W.G. @ 500 FPM (47 PA @ 2.54 m/sec) 20" Deep (508 mm)

0.16" W.G. @ 500 FPM (40 PA @ 2.54 m/sec)

#### 15/40 3-Ply

10" Deep (254 mm) 0.24" W.G. @ 500 FPM (60 PA @ 2.54 m/sec) 15" Deep (381 mm)

0.20" W.G. @ 500 FPM (50 PA @ 2.54 m/sec) 20" Deep (508 mm) 0.18" W.G. @ 500 FPM (45 PA @ 2.54 m/sec)

#### XL 4-Ply

10" Deep (254 mm)

0.28" W.G. @ 500 FPM (70 PA @ 2.54 m/sec) 15" Deep (381 mm)

0.23" W.G. @ 500 FPM (57 PA @ 2.54 m/sec) 20" Deep (508 mm)

0.20" W.G. @ 500 FPM (50 PA @ 2.54 m/sec)

#### **MEDIA AREA** (for a 24"X24" filter) 10" Deep (254 mm) = 9.0 Ft<sup>2</sup> (0.84 m<sup>2</sup>) 15" Deep (381 mm) = 11.2 Ft<sup>2</sup> (1.04 m<sup>2</sup>) 20" Deep (508 mm) = 14.0 Ft<sup>2</sup> (1.30 m<sup>2</sup>)

# **TRI-CUBE™ RFX**

**Reverse Cube with Center Pocket** 

# **SPECIFICATIONS:**

#### FILTER

MEDIA

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#### FRAME

Galvanized Wire

#### SEAL

Thermally Generated and Sewn

Synthetic, 2, 3 or 4 Deniers

#### RESISTANCE

#### 3/67 2-Ply

- 10" Deep (254 mm)
- 0.19" W.G. @ 500 FPM (47 PA @ 2.54 m/sec) 15" Deep (381 mm)

0.17" W.G. @ 500 FPM (42 PA @ 2.54 m/sec) 20" Deep (508 mm)

0.14" W.G. @ 500 FPM (35 PA @ 2.54 m/sec)

#### 15/40 3-Ply

- 10" Deep (254 mm) 0.22" W.G. @ 500 FPM (55 PA @ 2.54 m/sec)
- 15" Deep (381 mm)

0.19" W.G. @ 500 FPM (47 PA @ 2.54 m/sec) 20" Deep (508 mm)

0.15" W.G. @ 500 FPM (37 PA @ 2.54 m/sec)

#### XL 4-Ply

- 10" Deep (254 mm)
- 0.25" W.G. @ 500 FPM (62 PA @ 2.54 m/sec)
- 15" Deep (381 mm)
- 0.21" W.G. @ 500 FPM (52 PA @ 2.54 m/sec) 20" Deep (508 mm)
  - 0.18" W.G. @ 500 FPM (45 PA @ 2.54 m/sec)

#### MEDIA AREA (for a 24"X24" filter)

- 10" Deep (254 mm) = 12.1  $Ft^2$  (1.12 m<sup>2</sup>)
- 15" Deep (381 mm) = 16.7  $Ft^2$  (1.55 m<sup>2</sup>)
- 20" Deep (508 mm) = 21.1 Ft<sup>2</sup> (1.96 m<sup>2</sup>)

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