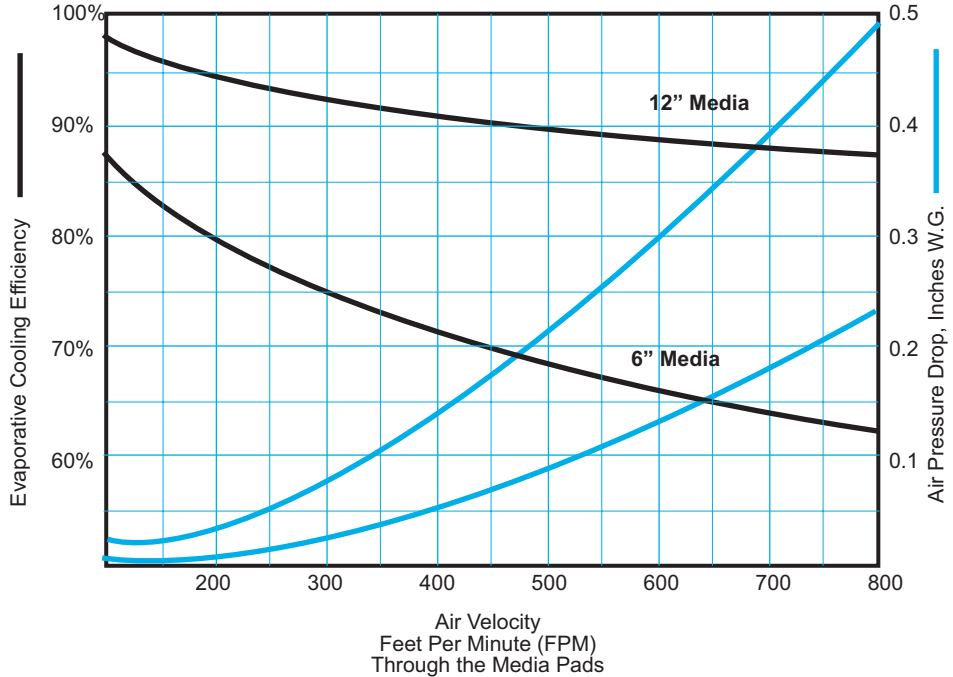


### Evaporative Cooling Media

The media consists of a cross-fluted pad of cellulose materials impregnated with insoluble salts, rigidifying saturants and wetting agents, and provides at least 123 square feet of evaporative surface per cubic foot of media. Twelve inch pads have less than 0.25 inches water column air pressure drop at 550 FPM face velocity when wet. Design will be typically targeted for 500 FPM and maximum design specification will be 550 FPM.

Fire rated media may be specified as an optional media material. The cross-fluted pad material consists of large glass fibers bound together by inorganic, noncrystalline fillers and is approved with a UL 900, Class 2 rating up to 12" depth.



### Calculations and Estimates

#### To Calculate Air Velocity Through the Media

FPM = Air Velocity in Feet per Minute  
 CFM = Air Volume in Cubic Feet per Minute  
 Media Face Size in square feet - from Technical Data Table (Page 2 or 4)

$$CFM \div \text{Media Face Size} = FPM$$

#### Example:

CFM = 12,900  
 Media Face Size = 18.67 sq. ft.

$$12,900 \text{ CFM} \div 18.67 \text{ sq. ft.} = 690 \text{ FPM}$$

#### To Estimate Cooler Discharge Temperature

EDBT = Entering ambient dry bulb temperature in °F  
 EWBT = Entering ambient wet bulb temperature in °F  
 LDBT = Leaving dry bulb temperature in °F

EDBT = 90°F  
 EWBT = 72°F

$$LDBT = EDBT - [\text{pad efficiency} * (EDBT - EWBT)]$$

$$90^\circ\text{F} - [89\% * (90^\circ\text{F} - 72^\circ\text{F})] = 74^\circ\text{F}$$

\*Pad efficiency can be determined by using the calculated velocity and the evaporative cooling media curves (above).

\*Pad efficiency is 89% for 12" Media at 690 FPM.

#### To Estimate Water Evaporation

Evaporated water in gallons per hour is equal to

$$CFM \times (EDBT - LDBT) \div 10,000$$

$$12,900 \times (90^\circ\text{F} - 74^\circ\text{F}) \div 10,000 = 21 \text{ GPH}$$