OFS Application Note -- *Conversion from SCFM to FPS*

To convert from SCFM to FPS for flow measurement:

The equation to convert velocity to standard volumetric flow rate is :

V stdflow = velocity * area * (P/14.7) * [528/(460 + T)]

where P = pressure PSIA and
T = temperature in Fahrenheit

(velocity * area) is called actual flow which gets corrected by temperature and pressure for standard flow. To get the velocity, we rearrange the equation to get

velocity = Vstdflow * 14.7 * (460 + T) / (area * P * 528)

Using the maximum parameter of 1.08 PSIG (about (14.7 + 1.08) PSIA near sea level) and 130 F,

velocity = 12000 SCFM * 14.7 * (460+130) / (3.14 sq. feet * 15.78 * 528)

= 3978 FPM divide by 60 to get
= 66.3 FPS

Make sure of the conversion from seconds to minutes and inches to feet.