

CALCULATE STATIC PRESSURE (SP)

The pressure generated by fans in ductwork is typically very small. An accurate measurement of static presure is critical to proper fan selection however. Static pressure in fan systems is typically less than 2" SP, or 0.072 Psi.

The amount of static pressure that the fan must overcome depends on the air velocity in the ductwork, the number of duct turns (and other resistive elements), and the duct length. For properly designed systems with sufficient make-up air, the guidelines in the table below can be used for estimating static pressure.

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Total Pressure due to Ductwork

0.1089

[Get help calculating duct pressure](#)

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Pressure from Fittings and other Elements



1.016

Get help calculating fittings pressure

CALCULATE SP

RESULTS

1.125

Static pressure

*

Starred items represent required fields.

Static Pressure Guidelines

Non-Ducted 0.05" to 0.20"

Ducted 0.20" to 0.40" per 100 feet of duct (assuming duct air velocity falls within 1,000 to 1,800 feet per minute)

Fittings 0.08" per fitting (elbow, register, grill, damper, louver, duct turn, etc.)

Kitchen Hood Exhaust 0.625" to 1.50"

Important: Static pressure requirements are significantly affected by the amount of make-up air supplied to an area. Insufficient make-up air will increase static pressure and reduce the amount of air that will be exhausted. Remember, for each cubic foot of air exhausted, one cubic foot of air must be supplied.

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Calculate Duct Pressure

Ductwork:

Ducted

Length of Duct:

36.3

Static Pressure:

0.3

(Refer to guidelines)

CALCULATE

Suitable from 0.2" to 0.4"

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Calculate Fittings Pressure

Number of Fittings:

6

X 0.08"

Kitchen Hood Exhaust?:

Yes

Static Pressure from Kitchen Hood Exhaust:

0.536

(Refer to guidelines)

CALCULATE

5* 90 degree Elbow + 1* Tee

Include Silencer Pressure drop