

0070 _ The AMCA Vocabulary: Symbols

Symbol or Abbr.	Description	SI	I-P
A	area of cross section	m ²	ft ²
A	duct width	m	ft
A_e	area-orifice equivalent to system	m ²	ft ²
A_o	area-nozzle with no loss	m ²	ft ²
ah	absolute humidity, (mass)H ₂ O / (mass)dry air	kg/kg	lbm/lbm
B	minimum distance between the sill and bottom blade	mm	in.
B	duct height	m	ft
BPF	blade pass frequency	Hz	Hz
BW	band width	Hz	Hz
b	flow-induced absorption coefficient	dB	dB
C	dynamic loss coefficient	---	---
C	combined free field response correction	dB	dB
C	nozzle discharge coefficient	---	---
C	minimum distance between adjacent blades	mm	in.
C_m	constant for tip speed Mach number	---	---
C_n	nozzle discharge coefficient	---	---
C_p	specific heat at constant pressure	J/kg-K	Btu/lbm-°F
C_v	specific heat at constant volume	J/kg-K	Btu/lbm-°F
C_1	free field microphone correction response	dB	dB
C_2	frequency response correction of sampling tube (normal incidence)	dB	dB
C_3	flow velocity correction for frequency response required by sampling tube	dB	dB
C_4	modal correction for the frequency response required by sampling tube	dB	dB
c	speed of sound	m/s	ft/s

Symbol or Abbr.	Description	SI	I-P
D	diameter of duct or impeller	m	ft
D_e	equivalent diameter	m	ft
$D_{e/y}$	ratio of straightener cell size (dia. to thickness of cell)	---	---
D_h	hydraulic diameter	m	ft
D_I	diameter of intermediate duct	m	ft
D_T	diameter of terminating duct	m	ft
DVM	digital voltmeter	---	---
D_{1-6}	diameters along anechoic termination	---	---
d	orifice diameter	m	ft
dBA	estimated sound pressure level at a location using "A" weighting network	---	---
E	energy factor	---	---
E	system resistance curve	---	---
E_{I1-in}	duct inlet end correction	dB	dB
E_{O1-on}	duct outlet end correction	dB	dB
Ev	volts, direct current, output signal of thermal flow sensor	Vdc	Vdc
e	orifice plate end reflection	dB	dB
e_{per}	permissible specific unbalance	μm or kg (g•mm)	in. or (lb in.)/lb
e_x	per unit uncertainty in x	---	---
F	beam load	kg	lbf
FLA	full load amps	amps	amps
f	coefficient of friction	---	---
f	frequency	Hz	Hz
f_c	cut-off frequency	Hz	Hz
G	water volume flow rate	L/s	gpm
G	balance quality grade	---	---
g	acceleration due to gravity	m/s ²	ft/s ²
H	fan power input	kW	hp
H	actual louver height	mm	in.

Symbol or Abbr.	Description	SI	I-P
H_a	air power of air curtain	kW	hp
H_L	power transmission loss	kW	hp
H_m	power input to motor	kW	hp
H_{mo}	motor power output	kW	hp
H_o	fan power output	kW	hp
H_r	fan impeller power	kW	hp
H_{sr}	fan shaft power	kW	hp
H/T	axial fan hub-to-tip ratio	---	---
I	index in transverse direction for velocity matrix	---	---
j	index in axial direction for velocity matrix	---	---
K	system effect factor	---	---
K	loss coefficient relevant to a specific damper design sample	---	---
K_E	friction chart correction factor for elevation	---	---
K_M	friction chart correction factor for roughness	---	---
K_p	compressibility coefficient	---	---
K_T	friction chart correction factor for temperature	---	---
kW	kilowatts, electric power	kW	kW
L	length	m	ft
L	minimum distance between louver jams	mm	in.
L_e	equivalent length of straightener	m	ft
L_m	average sound level from multiplexing six duct stations or continuous circular traverses	dB	dB
ΔL_{max}	maximum difference of microphone readings (nose cone - sampling tube)	dB	dB
L_p	sound pressure level re: 20 μ Pa	dB	dB
$\overline{L_p}$	average sound pressure level at the measuring plane	dB	dB
L_{pmax}	maximum sound pressure level within the measuring duct	dB	dB
L_{pmin}	minimum sound pressure level within the measuring duct	dB	dB
$L_{p1,pn}$	corrected sound pressure level of the fan	dB	dB