

The calculated effects upon the pitch of the notes from open C# down to D in the first octave on an alto saxophone when moving the mouthpiece 5mm toward the end of the neck

Written note	Frequency HZ	Wavelength cm	add 1 cm *	wavelength change	New Frequency	Difference HZ	Difference C
C#	329.63	104.66	105.66	0.96%	326.51	3.12	16.86
C	311.13	110.89	111.89	0.90%	308.35	2.78	15.92
B	293.66	117.48	118.48	0.85%	291.18	2.48	15.04
Bb	277.18	124.47	125.47	0.80%	274.97	2.21	14.21
A	261.63	131.87	132.87	0.76%	259.66	1.97	13.40
G#	246.94	139.71	140.71	0.72%	245.19	1.75	12.66
G	233.08	148.02	149.02	0.68%	231.52	1.56	11.96
F#	220.00	156.82	157.82	0.64%	218.61	1.39	11.29
F	207.65	166.14	167.14	0.60%	206.41	1.24	10.66
E	196.00	176.02	177.02	0.57%	194.89	1.11	10.07
D#	185.00	186.49	187.49	0.54%	184.01	0.99	9.50
D	174.61	197.58	198.58	0.51%	173.73	0.88	8.97
C#	164.81	209.33	210.33	0.48%	164.03	0.78	7.22

\* Since on the saxophone the wavelength is 2x the length of the instrument, moving the mouthpiece 5mm adds 10mm or 1 cm to the wavelength.