

2. The Basic Elements

2.1. Breathing and Pressure Regulation

2.1.1. Breathing for clarinet playing

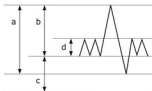
The basis of successful wind instrument playing comes from the breathing technique. For that reason it would actually be more appropriate to speak of 'breathing instruments' and not of 'wind instruments', where the emphasis is put on exhalation. The breathing action required to play the clarinet has little to do with that needed to inflate a balloon or an air-bed and is in fact a lot closer to the natural breathing process. For that reason it is logical to begin with a closer observation of this.

The stages of a breathing cycle consist of the inhalation, exhalation and a resting period in between, which lasts approximately 4 seconds. During this process c.500ml is in- and exhaled.



Diagram C

The exchange of this air mass, also called the *respiration volume*, does not result in a complete emptying of the lungs. After successful, natural exhalation, the lungs are not actually empty; instead they retain c. 2.4 litres of air, the so called *functional residual capacity*. A part of this left-over air can be pushed out of the lungs by physical force. Similarly it is also possible to inhale a little more air than the natural breathing process requires. The total capacity for inhalation is c. 2 Litres. The *vital capacity*, the volume achieved by maximum inhalation and maximum exhalation, is extremely varied. It is dependent on gender, age and body size.



- a Vital capacity (2.4 l)
- b Inhalation capacity (2 l)
- c Functional residual capacity (2.4 l)
- d Respiration volume (0.5 l)

Diagram D

What we are interested in here, however, is examining the criteria needed for breathing while playing the clarinet; to consider what modifications need to be made to the natural breathing rhythm and what situations then arise as a result of these modifications.

There are 3 facts to consider:

- Playing the clarinet necessitates a significant alteration to the breathing cycle. Inhalation has to be possible very quickly. As an in