Thesis Title	A Study on the Design and Construction of Automatic Ventilator
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ABSTRACT

The principles of electronics and mechanics were used to design and construct, the automatic ventilator, which also has to agree with the principle of physiology of respiration and circulation. In the instrument, it composed of two main parts: electronic part and mechanic part. the ventilator was designed for the adult. It was a time-cycled ventilator that was electrically powered and functioned as only a controller. Gas volume could be set for each patient with flowrate of 18-42 L/min. and O_2 concentration could be selected and administered to 20, 40, 60 and 100%. The respiratory rate was adjustable from 10-30 C/min. The duration of inspiration and expiration could be varied (I.E ratio 1:1 to 1:3). During inspiration the expiratory valve was closed by a bypass from the inspiratory circuit and the inspired pressure could be varied from 5-40 cmH_2O. The inspired gas was humidified by passing over a hot-water humidifier.

The compressor produced heat which usually caused to stop compression and caused trembling to the case while it was working and irror from incorrect reading of the indicator of constructed flowmeter.