

ABSTRAK

Autoclave adalah alat steril yang fungsinya sangat fatal di dunia kesehatan. Untuk menjaga usia teknis alat lebih lama, air yang dipakai untuk melakukan steril harus memenuhi standar tds yang disarankan untuk mencegah resiko kerak yang mampu merusak komponen autoclave itu sendiri. Pemakaian autoclave dengan tds sesuai standar pun tetap pada kenyataannya tetap masih menimbulkan kerak. Oleh karena itu penelitian ini bertujuan untuk menganalisis perubahan TDS pada setiap cycle steril autoclave. Metode pengambilan datanya dengan meletakkan sensor TDS dan suhu pada reservoir autoclave berjenis gravitasi. Perubahan TDSnya dianalisis dengan beberapa kondisi yaitu berdasarkan perbedaan suhu setting, jarak waktu antar cycle, dan volume air pada reservoir. Hasilnya pada saat menggunakan suhu 134°C, kenaikan TDS lebih cepat dan mencapai TDS 69 mg/l, sedangkan pada suhu 121°C perubahan TDS lebih lambat dan hanya mencapai TDS 19 mg/l. Pada percobaan perbedaan jarak waktu antar cycle, saat melakukan steril dengan jarak waktu 1 jam, TDS awal 63 mg/l naik hingga 177 mg/l. Cycle kedua dilakukan dengan jarak waktu 2 jam, TDSnya sempat turun 172mg/l kemudian setelah dilakukan cycle TDS mencapai 181 mg/l. Cycle ketiga dilakukan dengan jarak 4 jam terjadi penurunan hingga 62 mg/l kemudian setelah dilakukan cycle TDSnya mencapai 181 mg/l. Pada percobaan dengan perbedaan volume reservoir, saat penuh kenaikan TDS terlihat perlahan hingga mencapai 19 mg/l. saat air setengah reservoir, kenaikan TDS lebih cepat dan mencapai 74 mg/l. Saat air seperempat reservoir, kenaikan TDS terlihat signifikan mencapai 147 mg/l. Sehingga dapat disimpulkan bahwa kenaikan TDS akan lebih cepat jika suhu setting lebih tinggi, volume air dalam reservoir lebih sedikit, dan jarak waktu antar cycle lebih pendek.

Kata Kunci: Autoclave, TDS

ABSTRACT

Autoclave is a sterile tool whose function is very fatal in the world of health. To maintain the technical life of the equipment for longer, the water used for sterilization must meet the recommended TDS standards to prevent the risk of scale which can damage the autoclave components themselves. Even using an autoclave with standard TDS still results in scale. Therefore, this study aims to analyze changes in TDS in each autoclave sterile cycle. The data collection method is by placing the TDS and temperature sensors in the gravity type autoclave reservoir. Changes in TDS are analyzed using several conditions, namely based on differences in setting temperature, time interval between cycles, and water volume in the reservoir. The results were that when using a temperature of 134oC, the increase in TDS was faster and reached TDS 69 mg/l, whereas at a temperature of 121oC the change in TDS was slower and only reached TDS 19 mg/l. In the experiment of different time intervals between cycles, when sterilizing with an interval of 1 hour, the initial TDS of 63 mg/l rose to 177 mg/l. The second cycle was carried out 2 hours apart, the TDS dropped to 172 mg/l then after the cycle the TDS reached 181 mg/l. The third cycle was carried out 4 hours apart, there was a decrease to 62 mg/l then after the cycle the TDS reached 181 mg/l. In experiments with different reservoir volumes, when full the increase in TDS was seen slowly until it reached 19 mg/l. when the water is half reservoir, the increase in TDS is faster and reaches 74 mg/l. When the water is a quarter of the reservoir, the increase in TDS is seen to be significant, reaching 147 mg/l. So it can be concluded that the increase in TDS will be faster if the setting temperature is higher, the volume of water in the reservoir is smaller, and the time interval between cycles is shorter.

Keywords: *Autoclave, TDS*