ANALISIS SUDUT PUTAR *VALVE INSERTER* TERHADAP EFISIENSI DAN *DOWNTIME* PADA MESIN *PACKAGING MULTILINE* (STUDI KASUS: PT.XYZ) MENGGUNAKAN METODE *OVERALL EQUIPMENT EFFECTIVENESS* (OEE)

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ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh perubahan sudut putar *valve inserter* terhadap efisiensi mesin pada produksi kaleng aerosol di PT XYZ. *Valve inserter* awalnya memiliki sudut putar 130°, yang dinilai kurang efektif karena menyebabkan *cycle time* yang tinggi dan peningkatan downtime mesin. Oleh karena itu, dilakukan perubahan sudut menjadi 30° guna mempercepat proses produksi dan mengurangi waktu henti mesin. Penelitian ini menggunakan metode eksperimental dengan dua variabel utama yaitu sudut putar *valve inserter* 130° dan 30° serta variasi ukuran kaleng aerosol 400ml dan 225ml. Data dikumpulkan secara otomatis melalui sistem otomasi mesin dan dianalisis dalam dua periode, yaitu sebelum dan sesudah perubahan sudut. Hasil penelitian menunjukkan bahwa perubahan sudut *valve inserter* berpengaruh terhadap nilai OEE dan downtime. Pada nilai OEE mengalami kenaikan sebesar 5,49% pada kaleng 400ml dan 6,49% pada kaleng 225ml sedangkan, downtime pada kaleng 400ml mengalami kenaikan sebesar 330 menit dan pada kaleng 225ml mengalami penurunan sebesar 997 menit. Secara keseluruhan, hasil menunjukkan bahwa pengurangan sudut putar *valve inserter* dapat meningkatkan efisiensi mesin produksi.

Kata Kunci : sudut putar, aerosol, *valve inserter*, efisiensi, *cycle time*, *downtime*, OEE

ANALYSIS OF VALVE INSERTER ROTATION ANGLE ON EFFICIENCY AND DOWNTIME IN MULTILINE PACKAGING MACHINES (CASE STUDY: PT.XYZ) USING THE OVERALL EQUIPMENT EFFECTIVENESS METHOD (OEE)

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ABSTRACT

This study aims to analyze the effect of changes in the valve inserter rotation angle on machine efficiency in aerosol can production at PT XYZ. The valve inserter initially had a rotation angle of 130°, which was considered less effective because it caused high cycle time and increased machine downtime. Therefore, the angle was changed to 30° to speed up the production process and reduce machine downtime. This study used an experimental method with two main variables, namely the valve inserter rotation angle of 130° and 30° and variations in the size of aerosol cans of 400 ml and 225 ml. Data were collected automatically through the machine automation system and analyzed in two periods, namely before and after the angle change. The results showed that changes in the valve inserter angle affected the OEE value and downtime. The OEE value increased by 5.49% in 400ml cans and 6.49% in 225ml cans, while downtime in 400ml cans increased by 330 minutes and in 225ml cans decreased by 997 minutes. Overall, the results showed that reducing the valve inserter rotation angle can increase the efficiency of production machines.

Keywords *: rotation angle, aerosol, valve inserter, efisiensi, cycle time, downtime, OEE*