

## ABSTRAK

Kalibrasi merupakan suatu kegiatan untuk menentukan keberadaan konvensional nilai penunjukkan alat ukur dan bahan ukur berdasarkan standar. *Holtest (Three Point Micrometer)* adalah alat ukur diameter lubang alat yang sering di gunakan di industri, pabrik manufaktur atau bengkel. Berdasarkan data *subcont* untuk alat *holtest* pada laboratorium Sentral Sistem *Calibration* dalam periode Oktober 2016 sampai Agustus 2019 terdapat 252 pcs permintaan kalibrasi alat *holtest*. Penelitian ini bertujuan menerangkan syarat teknis dan proses pengembangan ruang lingkup kalibrasi berdasarkan ISO/IEC 17025: 2017 di laboratorium Sentral Sistem *Calibration*. Penelitian ini dirancang sebagai penelitian evaluasi dengan metode pengumpulan data menggunakan metode kepustakaan, metode analisa peralatan dan metode pemrosesan dan interpretasi data. Evaluasi penelitian dilihat dari hasil UBLK dengan laboratorium GMI dan MTG yang hasil kedua nya *inlier* ( $<1$ ) dan didapatkan nilai CMC yang paling besar adalah  $2,1 \mu\text{m}$ . Verifikasi instruksi kerja isinya sudah sesuai dengan dokumen DIN 863-4 (1999). Verifikasi CMC dan instruksi kerja hasilnya budget CMC sudah sesuai dengan yang dijelaskan dalam instruksi kerja. Validasi *software* sudah dilakukan dengan melakukan perbandingan nilai CMC pada perhitungan manual dan perhitungan *software* dengan kesimpulan valid karena selisih  $\pm 0,0 \mu\text{m}$  ( $\leq 1 \mu\text{m}$ ).

**Kata kunci:** Kalibrasi, *holtest*, ISO/IEC 17025, DIN 863-4, syarat teknis, CMC, UBLK, cek antara



## **ABSTRACT**

*Calibration is an activity to determine the existence of conventional values for the appointment of measuring devices and measuring materials based on standards. Holtest (Three Point Micrometer) is a measurement tool for hole diameter which is often used in industries, manufacturing plants or workshops. Based on subcont Data for holtest tools at the Sentral Sistem Calibration Laboratory in the period October 2016 to August 2019 there were 252 pcs of holtest tool calibration requests. This study aims to explain the technical requirements and the process of developing the scope of calibration based on ISO/IEC 17025: 2017 in the Sentral Sistem Calibration Laboratory. This study was designed as an evaluation research with data collection methods using the literature method, equipment analysis method and data processing and interpretation methods. Evaluation of the study was seen from the results of UBLK with GMI and MTG laboratories whose second results were inliers ( $<1$ ) and the highest CMC value was  $2.1 \mu\text{m}$ . Verification of work instructions for their contents are in accordance with DIN 863-4 (1999) documents. Verification of CMC and work instructions results CMC budget is in accordance with that described in the work instructions. Software validation has been done by comparing CMC values in manual calculations and software calculations with a valid conclusion because of the difference  $\pm 0.0 \mu\text{m}$  ( $\leq 1 \mu\text{m}$ ).*

**Keywords:** Calibration, holtest, ISO/IEC 17025, DIN 863-4, technical requirements, CMC, UBLK, check between



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