VMT GmbH
Gesellschaft für Vermessungstechnik

# SLuM

# Tailskin Clearance Measurement System

The SLuM system has been developed by VMT for measurement of the clearance between the newly built ring and the tailskin of the TBM. To be used in conjunction with the Ring Build Software and SLS-T Guidance system.

## Introduction

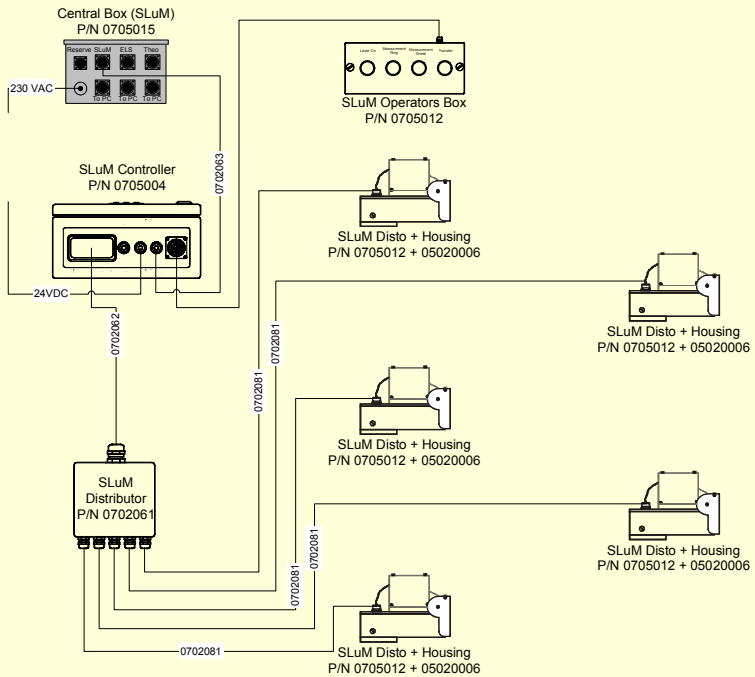
The Tailskin Clearance values are used directly to give:

- The position of the built ring relative to the DTA
- The possible next sequence of rings that can be built along a calculated correction curve

It is therefore clear to see that the tailskin clearance has to be measured consistently accurately throughout the TBM advance to attain accurate as built records and accurate ring prediction.

Traditionally, the Tailskin Clearance is measured manually by an operative, such as the Shift Engineer. This would involve using a tape measure or rule and climbing around the erector assembly to measure the clearance in at least four positions. This process can be hazardous to say the least. The accuracy of such measurements is sometimes questionable and is open to human error in both recording, and input into the guidance system.

To ensure consistent and accurate measurements are taken, VMT have produced an automated measurement system, which consists of five distance measurement lasers mounted onto the erector arm assembly. The erector assembly can then be moved to a required position and the distance to the built ring is measured. The erector assembly is then moved forward to measure the distance to the Tailskin shield of the TBM. The clearance between the two measurements is then calculated. This data can then be displayed or transferred to the SLS-T Guidance system.




## System Components

- Central Box (SLuM) Version
- Connection cable to SLS-T Guidance System
- SLuM Controller Unit – for data distribution and power supply
- Operators Box
- SLuM Distributor Box
- Measurement Units – contains Laser distance measurement devices with protective housing.

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