

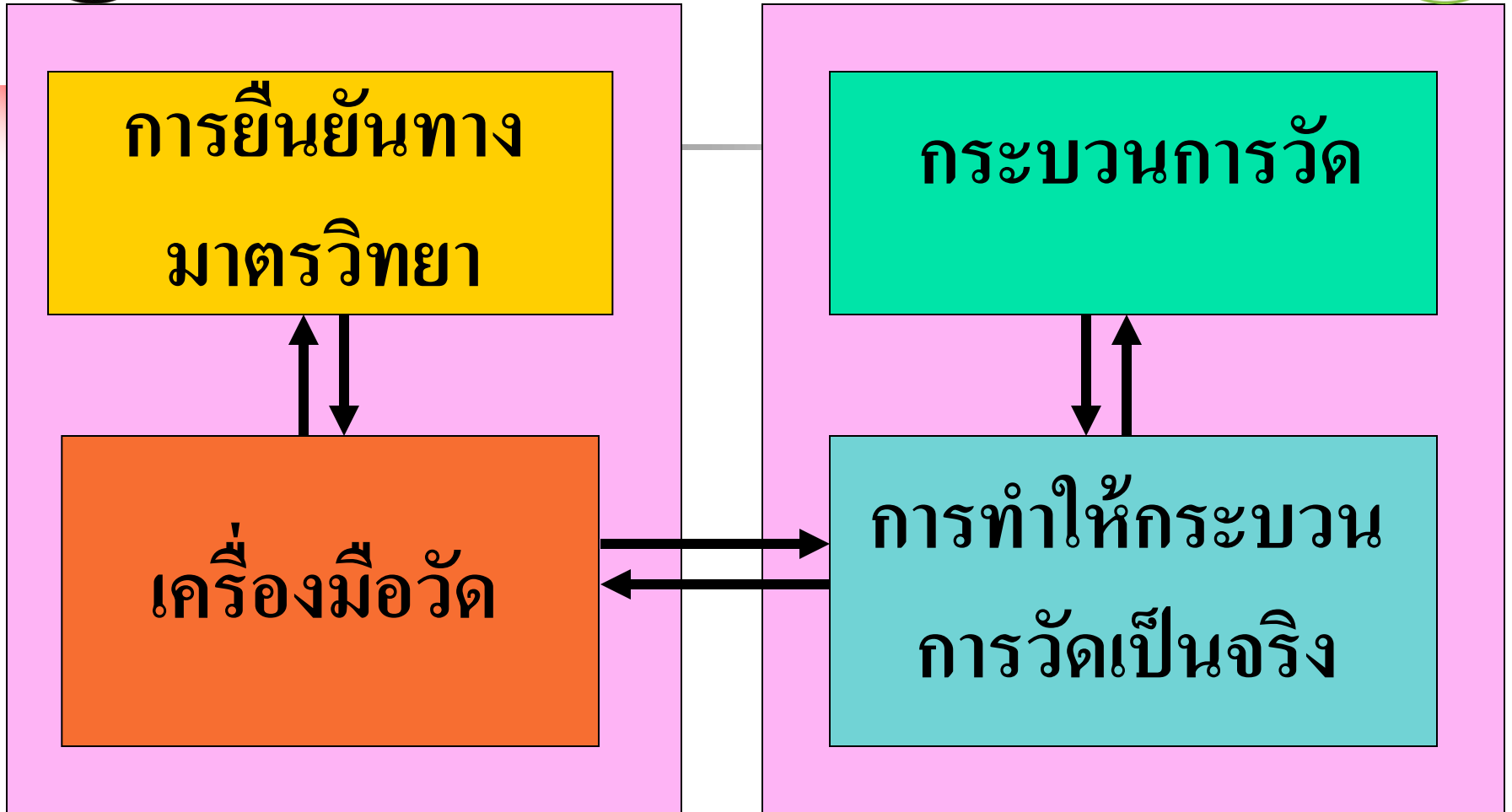


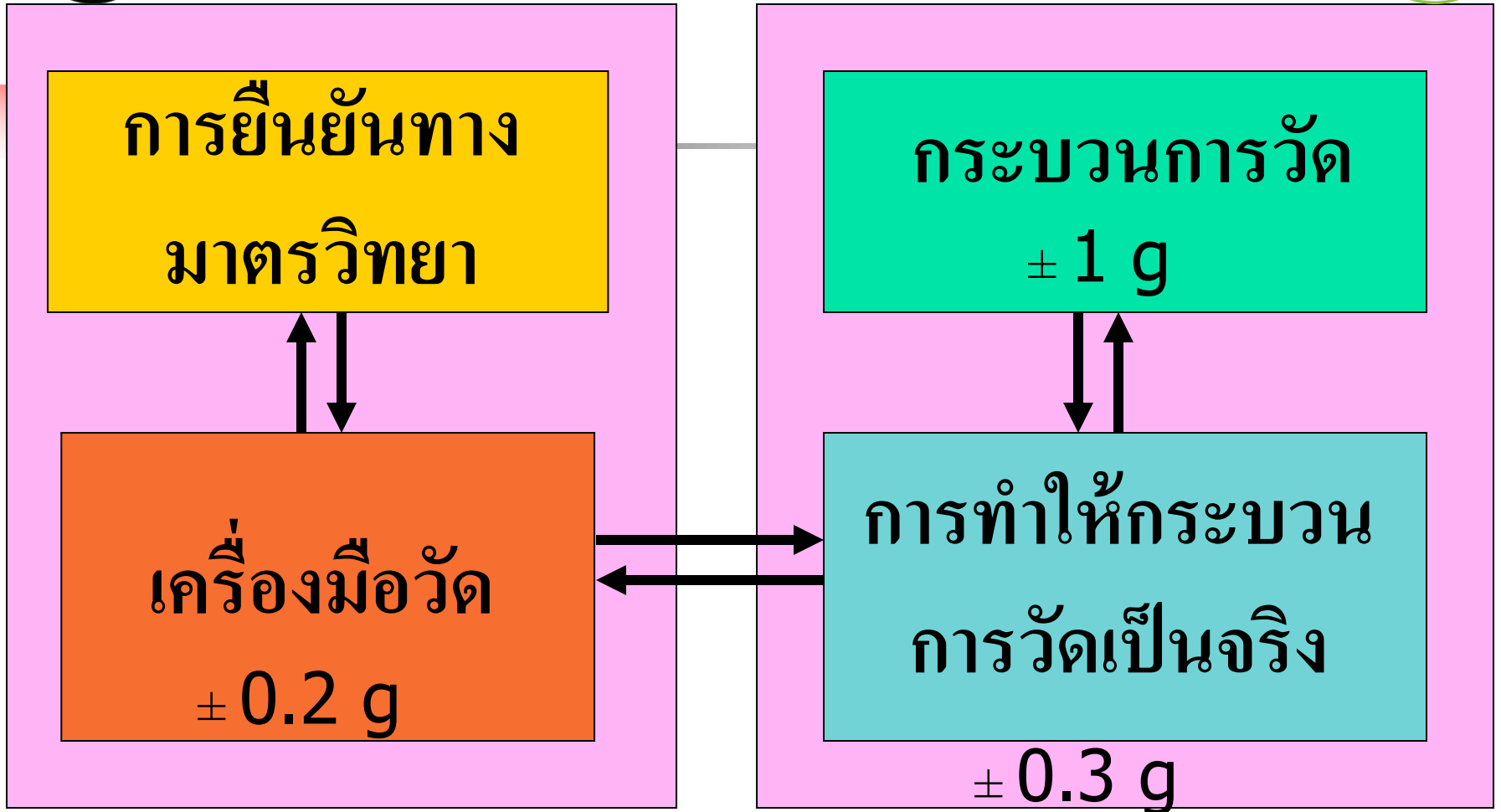
แนวทางการตรวจสอบความถูกต้อง ของเครื่องมือวัด

โดย ดร.พจมาน ทำจิ้น

ศูนย์บริหารจัดการทดสอบความชำนาญห้องปฏิบัติการ

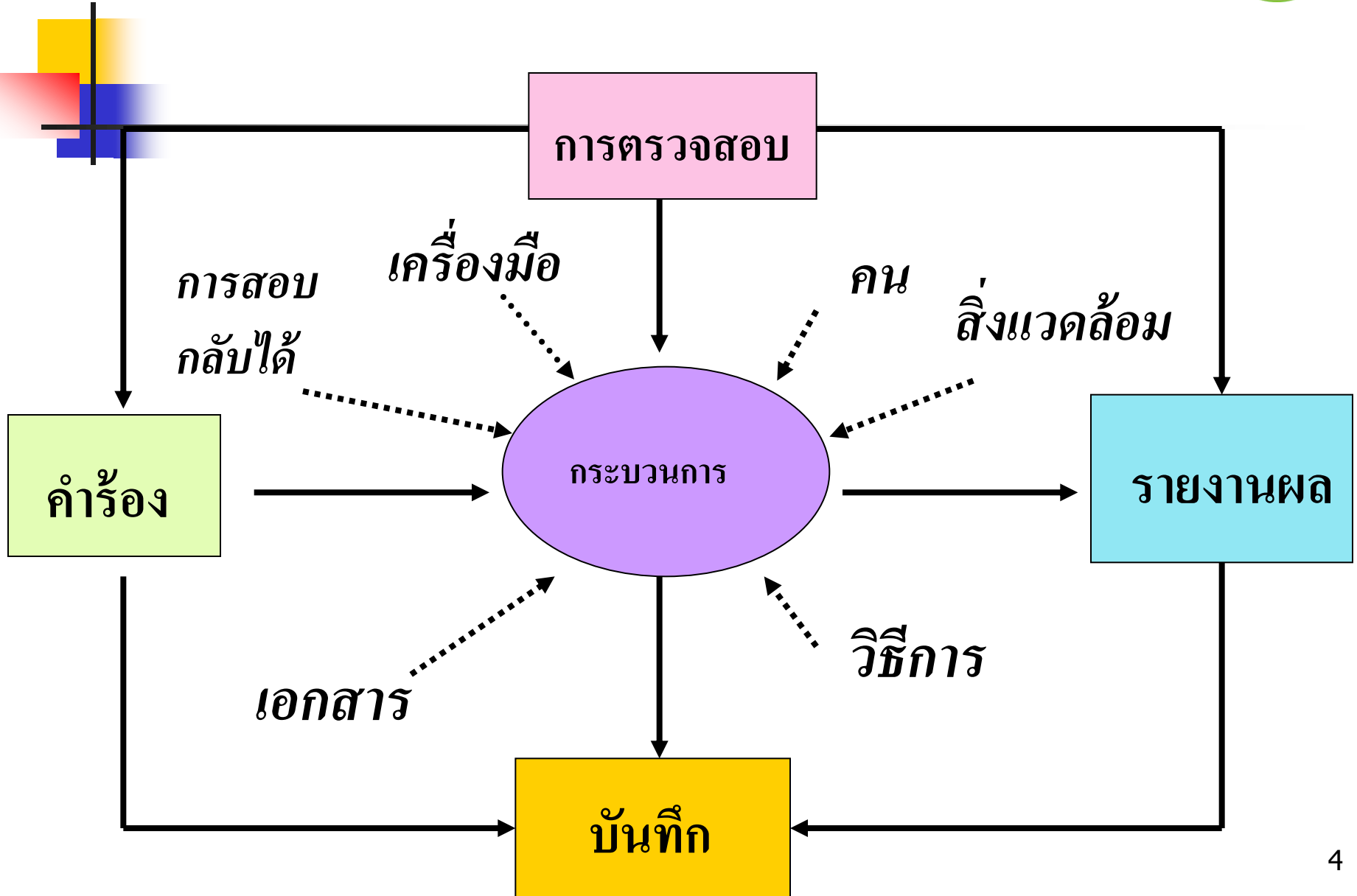
กรมวิทยาศาสตร์บริการ







ISO/IEC 17025

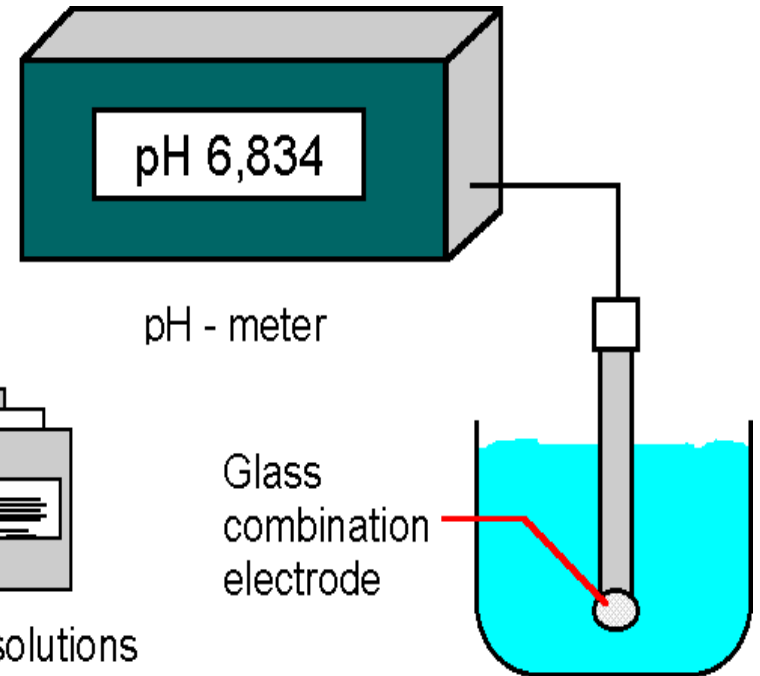




แนวทางการตรวจสอบความถูกต้อง ของเครื่องมือวัด

- **Calibration**
- **Check**
- **Maintenance**
- **Verification before use
(with metrological requirement)**
- **Intermediate check**

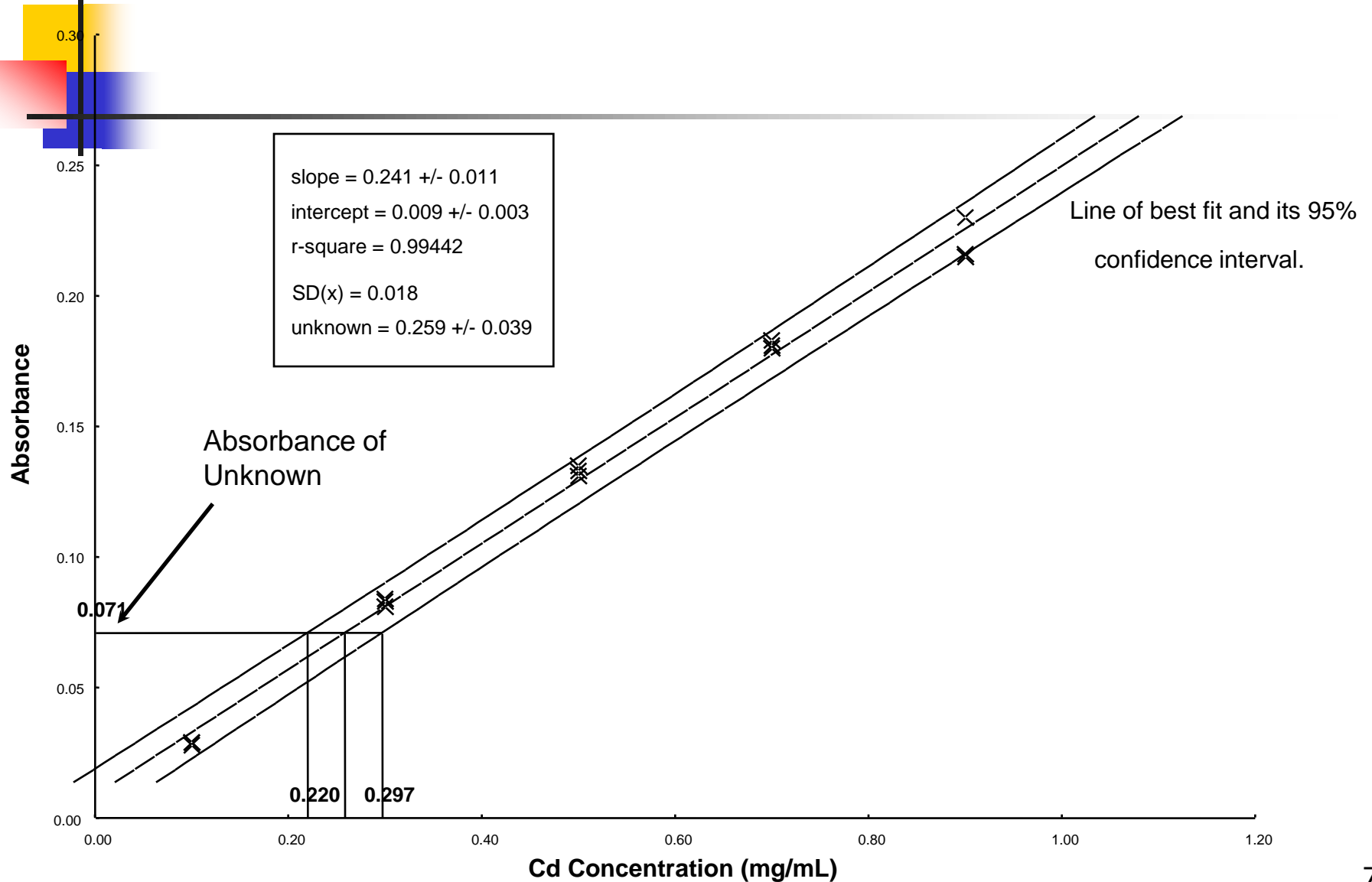
Measuring system



Analyst 100 Atomic Absorption Spectrometer

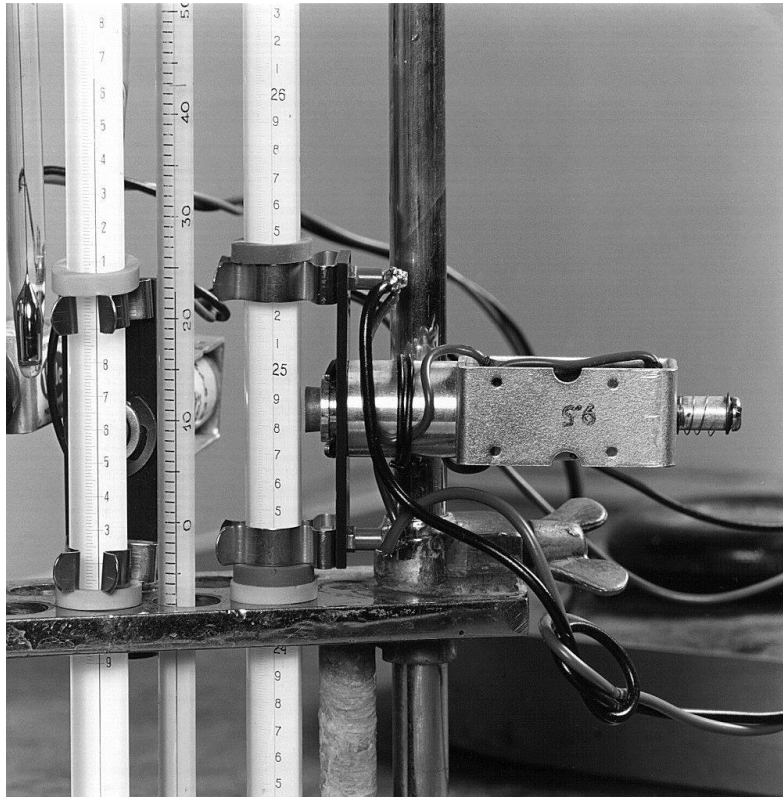


Calibration Curve:



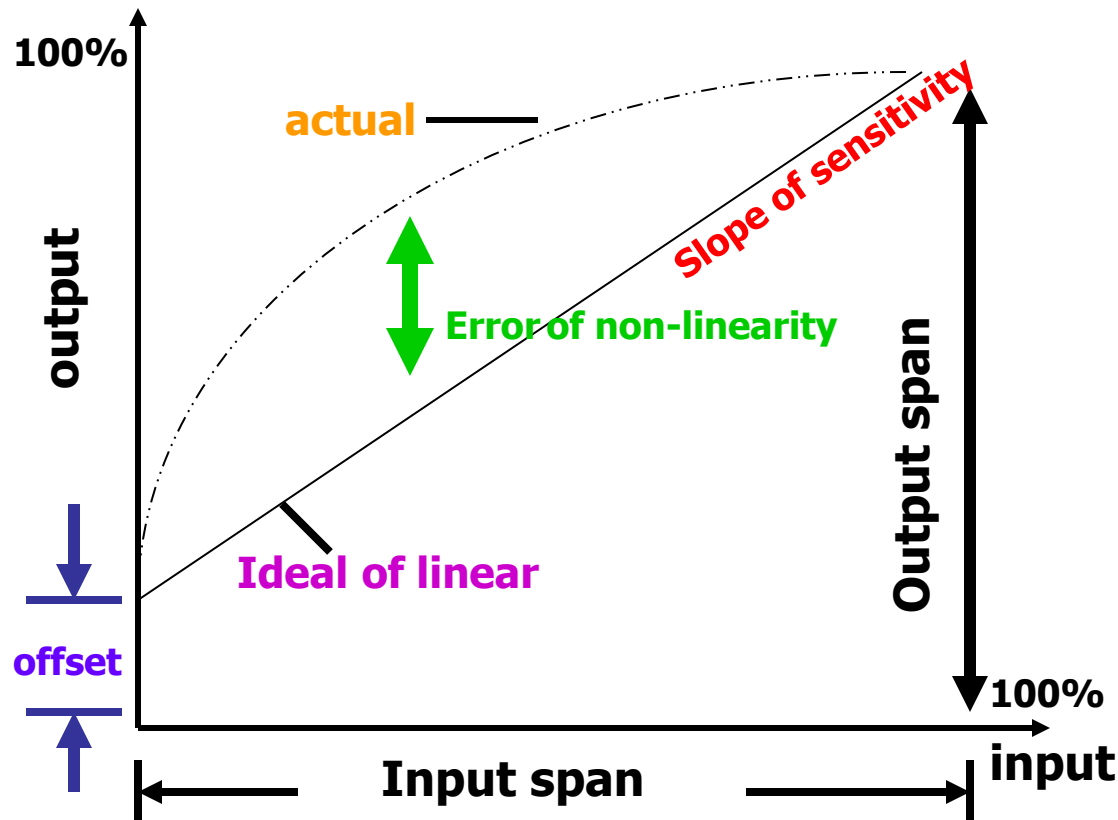
ISO 10012 Measurement management systems-

Requirements for measurement processes and measuring equipment



Examples of characteristics for measuring equipment include:

■ Static characteristic



- Range
- Bias
- Repeatability
- Stability
- Hysteresis
- Resolution
- Sensitivity
- Dead band



METROLOGICAL CONFIRMATION PROCESS

1. Calibration/Check

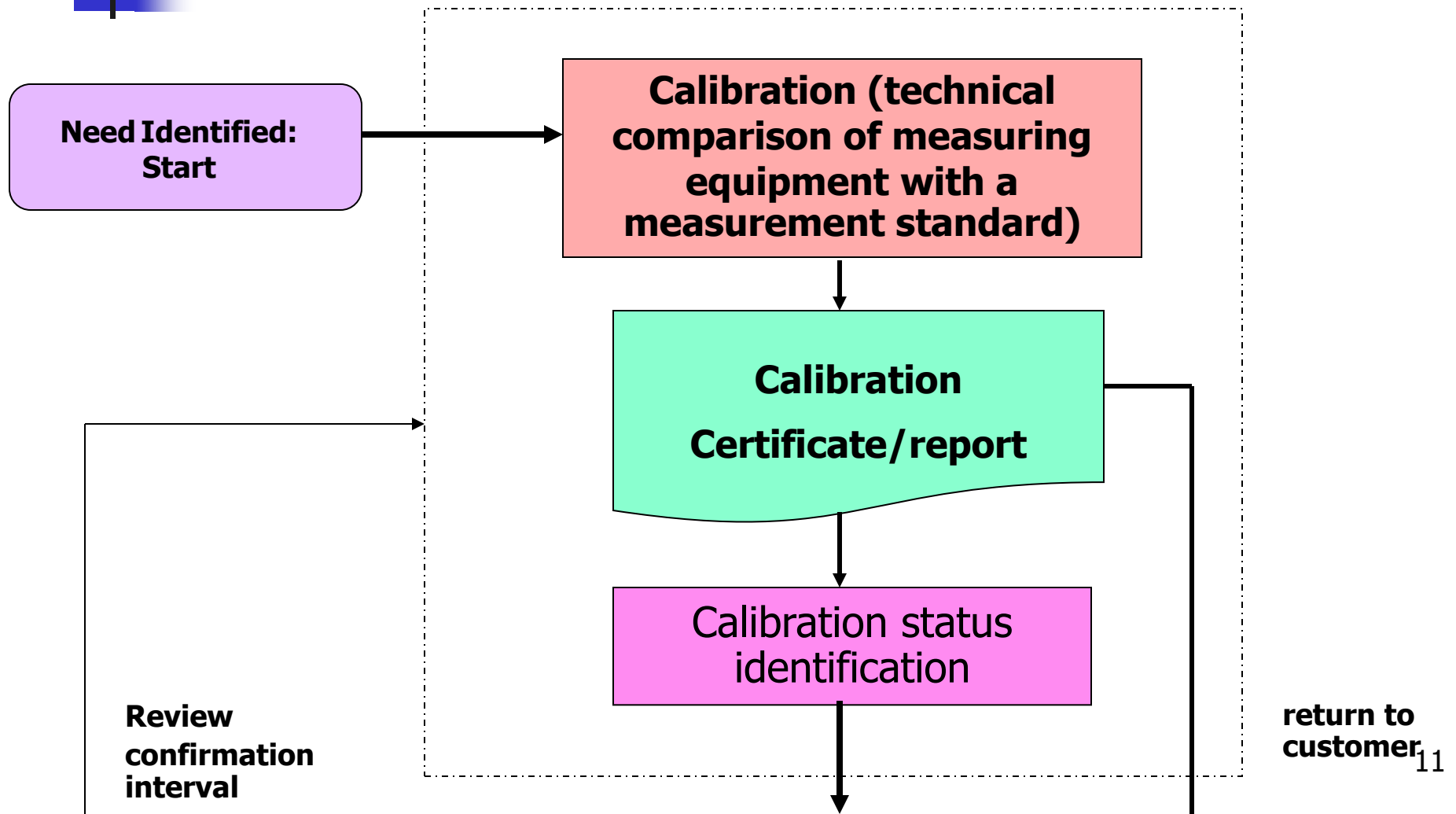
2. Metrological verification

3. Decisions and actions

4. Customer

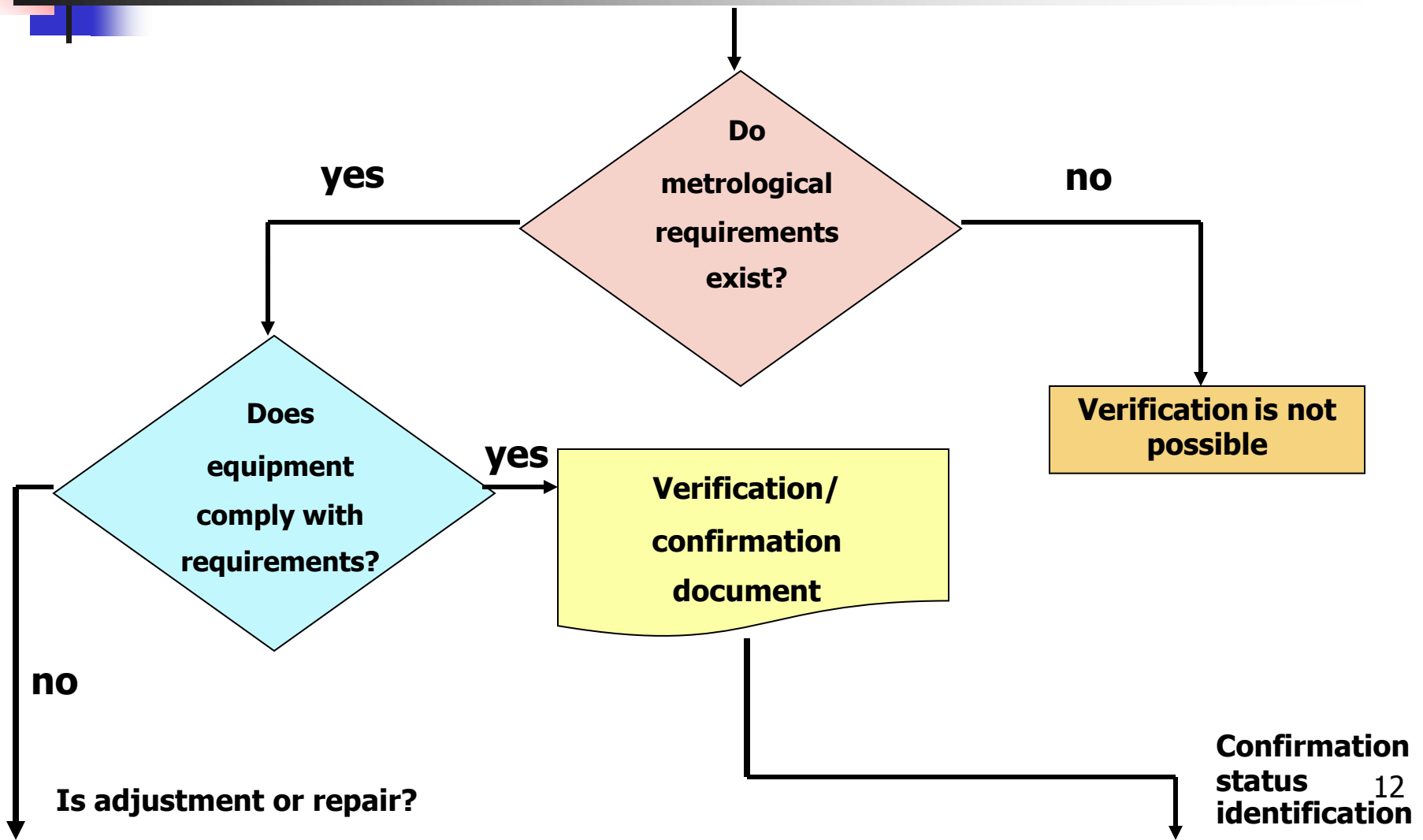


1. Calibration

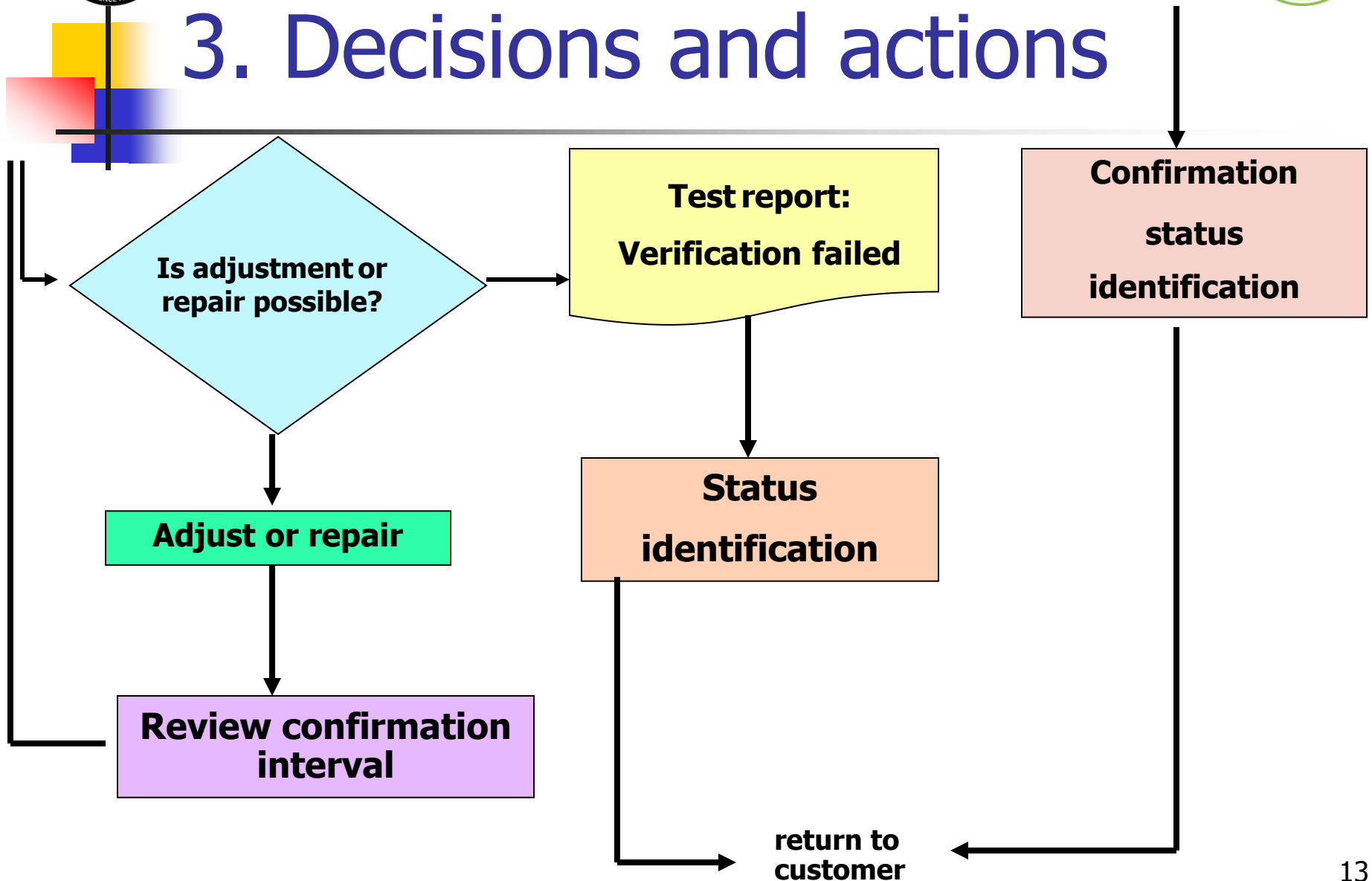




2. Metrology verification

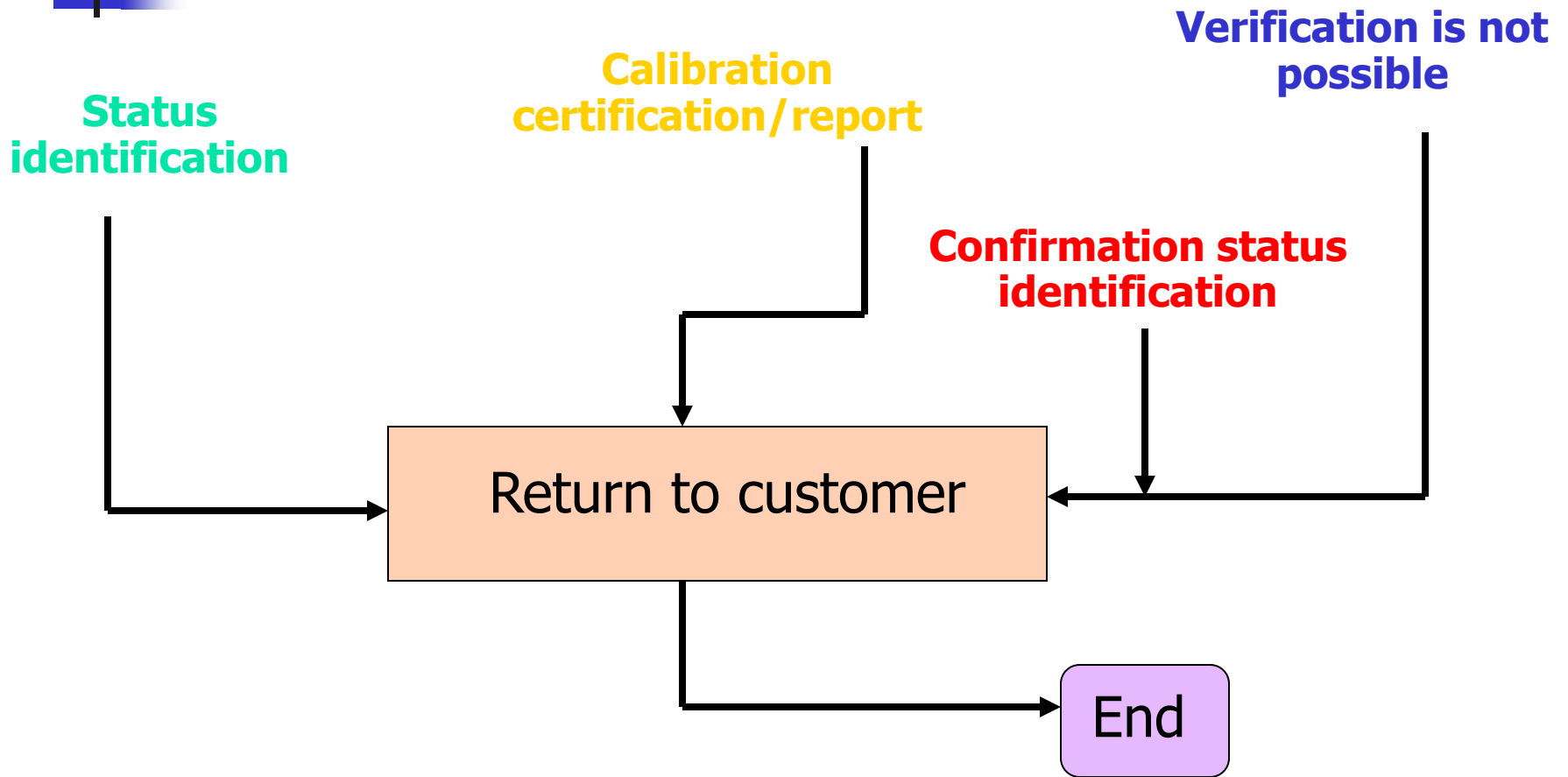


3. Decisions and actions





4. customer

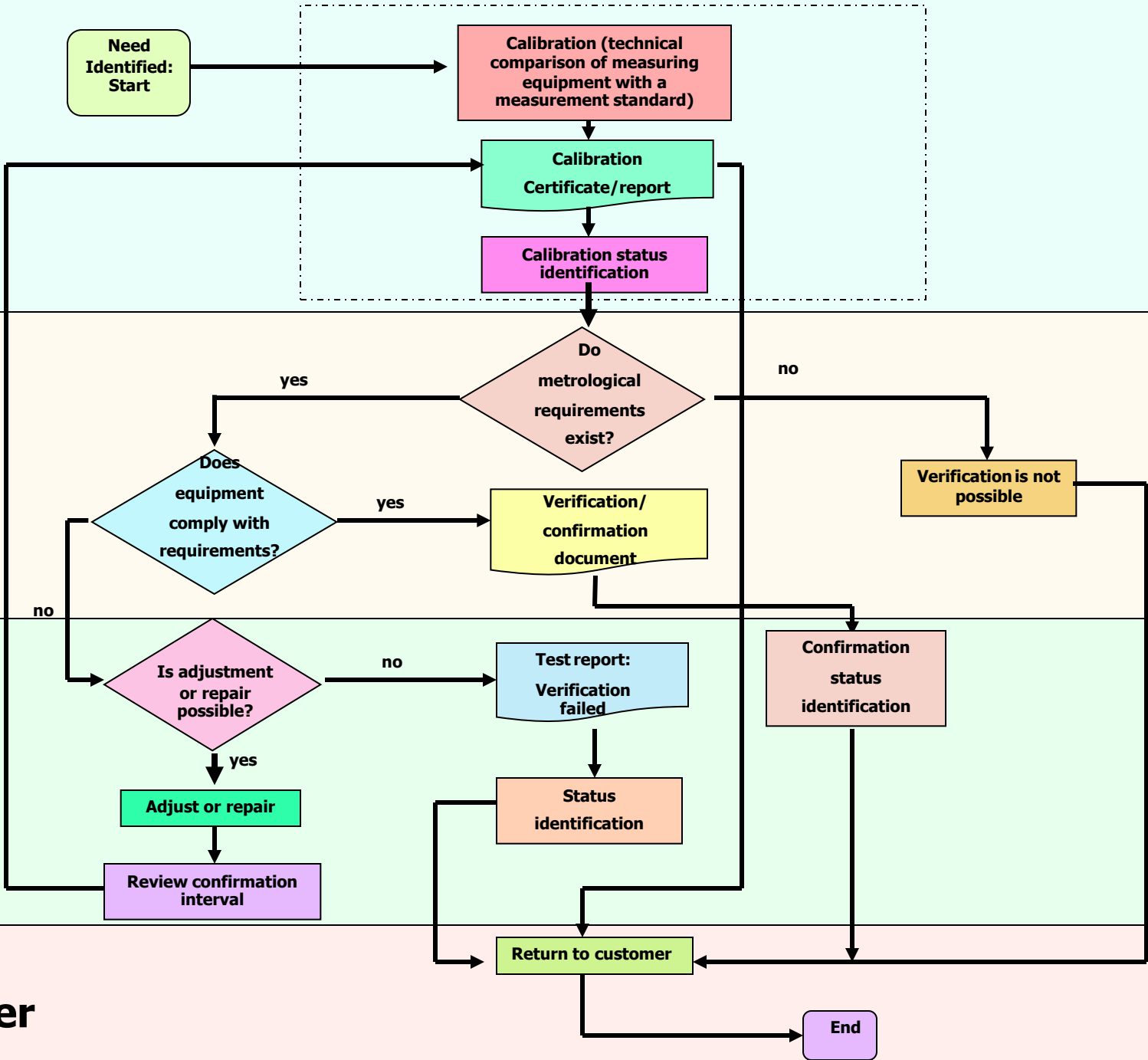


Calibration

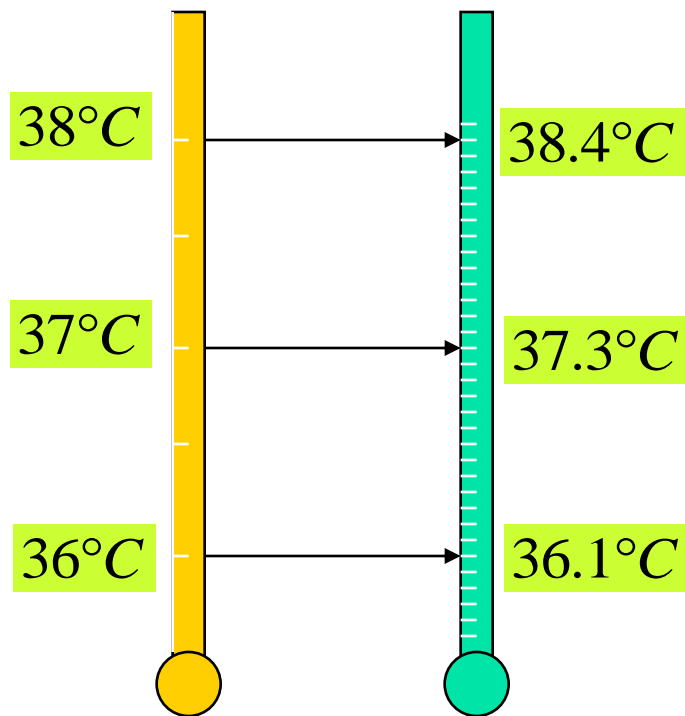
Metrological verification

Decisions and actions

Customer



การสอบเทียบ (Calibration)

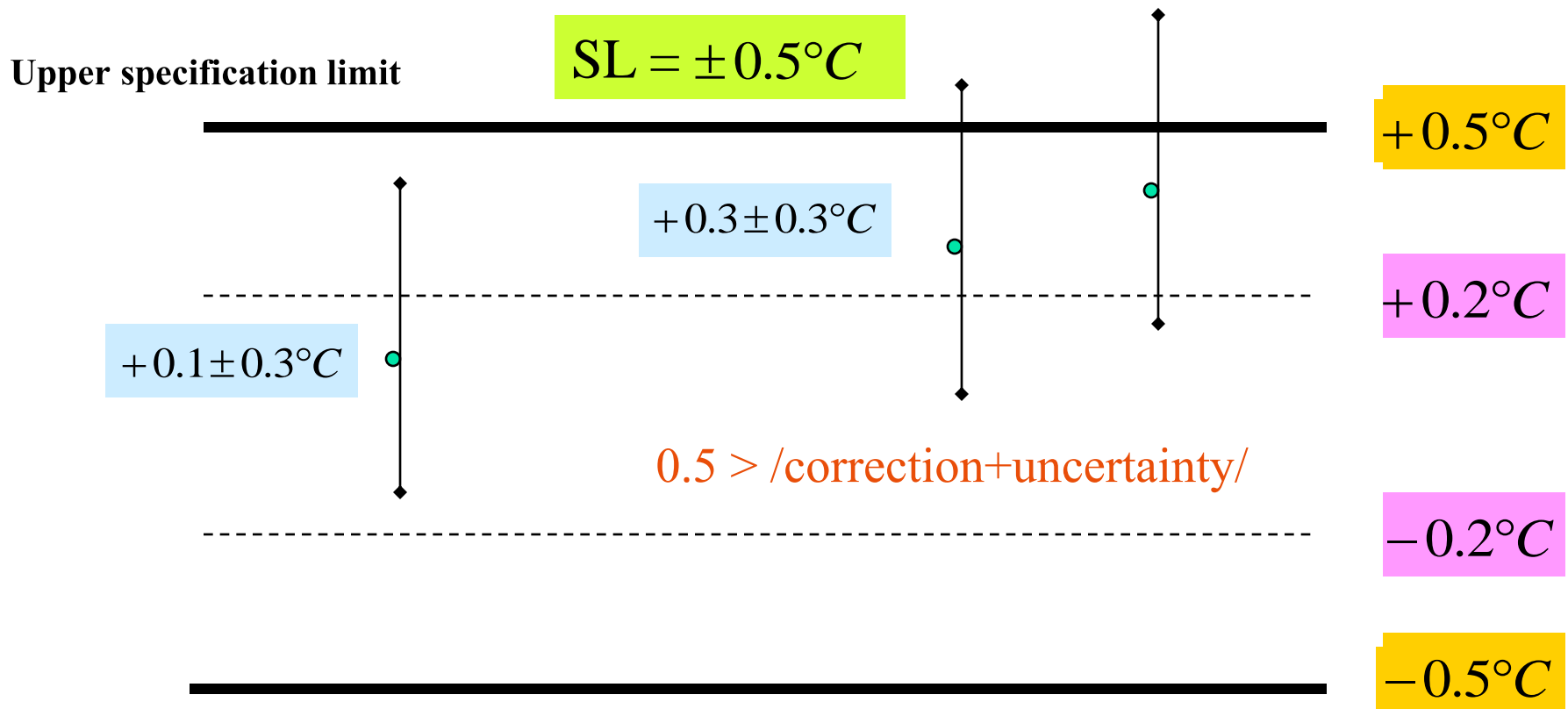


UUC

standard

ค่าระบุ °C	ค่าแก้ °C	ค่าความไม่แน่นอน °C
36	+0.1	±0.3
37	+0.3	±0.3
38	+0.4	±0.3

Verification and Confirmation



Lower specification limit

