

FRAUNHOFER INSTITUTE FOR SILICATE RESEARCH ISC

### **100% CALIBRATION FOR LAB PRODUCTS**



# 100% RELIABILITY







#### **AQUAJUST®CAM:**

### COMPUTER-CONTROLLED CALIBRATION FOR BEST PRODUCTION RATES

Aquajust® CAM is a semi-automatic, computer-controlled unit for adjusting volumetric flasks and measuring cylinders. The adjusting medium is distilled or demineralised water.

The machine consists of one station and can be expanded with a second station, both controlled from the same computer. The operator loads a measuring flask or graduated cylinder onto the station and pushes a button to activate. A defined volume of water is filled into the volumetric vessel and a high precision camera system automatically finds the meniscus and sets a mark.

When a cycle is completed, the operator removes the adjusted flask or cylinder from the station. The next one is then loaded onto the station and the calibration process is repeated. The calibration unit marks a line or ring onto the glassware with a pen. Optional extras include ceramic paint marking or a grinding wheel. The system is conceived for production purposes.

We constantly strive to improve and adapt the machine to the latest state-of-the-art. On request the machines can be modified to suit individual requirements. For 100% product reliability!

#### Your benefits

- Easy handling minimizes user error
- High accuracy up to 0.010 ml
- Long lasting industrial quality, reliable and low maintainance costs

Technical Data of Aquajust®CAM		
Volume range:	Volumetric flasks Graduated cylinders	
Number of marks:	Volumetric flasks Graduated cylinders	1 2
On request the machine can produce up to 5 marks on graduated cylinders		
Volumetric flasks Graduated cylinders	According ISO 1042 According DIN EN IS	O 4788
Production rate	Flasks 100 ml	120 pcs/h 80 pcs/h





## 100% PRECISION

#### **AUTOJUST®CAM:**

### COMPUTER-CONTROLLED CALIBRATION UNIT FOR TOTAL REPEATING ACCURACY

The specially designed, computer-controlled unit, Autojust® CAM is a semi-automatic machine for adjusting volumetric glassware, such as volumetric pipettes, measuring pipettes and burettes.

The system measures the volume of pipettes, burettes or tubes using demineralised water. The machine consists of one station and can be expanded with a second station, both controlled from the same computer. A single operator controls both. The operator inserts a pipette/burette (tube) into the station and pushes a button to start the calibration process. A defined volume of water is decanted into the pipette/burette and a high precision camera system automatically searches for the meniscus and marks the glassware. When a cycle is completed, the operator removes the calibrated glassware from the station and can start with the next.

The calibration unit uses a pen to mark the glassware with a line or ring. Customers can opt for ceramic paint marking or an integrated grinding wheel. The system was conceived for production purposes. We make constant efforts to improve and adapt our machines to the latest state-of-the-art. The machines are customizable, upon customer request. For 100% product precision!

#### Your benefits

- Easy handling minimizes user errors
- High accuracy up to 0.004 ml
- Long lasting industrial quality, reliable and low maintainance costs

#### Technical Data of Autojust® CAM

Volume range:	1 - 50 ml	
Number of marks:	Volumetric Pipettes 1 Messuring Pipettes	
	and Burettes 2	
On request the machine can produce up to 5 marks		
'	According DIN EN ISO 648:2 According DIN EN ISO 835:2 According DIN EN ISO 385:2	2007
Production rate with one station	Volumetric Pipettes 10 ml Graduated Cylinders 10 ml Burettes/Tubes 5 ml	90 pcs/h 80 pcs/h 80 pcs/h



### 100% CONTROL







# SMARTQCC: QUALITY CONTROL CENTER FOR PERFECT CALIBRATION SAFETY

After production and calibration all volumetric glassware, such as pipettes and burettes, must undergo a quality check to assure calibration accuracy.

This difficult task is mostly performed manually, and is thus inherently risky. Only well-trained and experienced operators are able to do this job – and even the best would still face problems when testing small volumes.

The QCC is the first semi-automatic unit for quality checks. Smart QCC opens new horizons for Quality Control and guarantees easy and highly accurate testing of volumetric and graduated pipettes, burettes, etc. The unit is easy to handle and offers a smart operation user-interface.

The testing procedure has standardized steps, which are executed automatically. Glassware filling and camera adjustment are performed by fast and easy to use joy-stick technology. Meniscus locating shows an enhanced, live picture on the PC screen from a high resolution camera equipped with backlight. This enables the precise detection of each marking and meniscus throughout the working day. Our competence team at CeDeD comprises physicists, chemists and engineers with many years of experience in developing automatic volumetric calibration units. They constantly work to advance our systems. For 100% product control!

#### Your benefits:

- SmartQCC provides a high measuring and repeat accuracy up to 0.002 ml tolerance.
- System-integrated balance and direct print-our
  in single or batch certificates.
- SmartQCC is highly flexible und easy to handl
- Low maintenance requirements and low cost due to the highly reliable architecture of the SmartOCC.

Technical Data of QCC	
Volume range:	1 - 50 ml
Number of marks:	Freely selectable
Volumetric Pipettes Graduated Cylinders Burettes Performing testing speed	According DIN EN ISO 648:2008 According DIN EN ISO 835:2007 According DIN EN ISO 385:2005
Volumetric Pipettes Graduated Pipettes	10 ml; 1.50 min/piece
3 markings are inspected Burettes	10 ml; 3.00 min/piece 25 ml; 4.00 min/piece

### 100% CERTIFIED



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