

epServices
for premium performance



Pipette Service Done Right

Eppendorf Pipette Calibration

»Are Your Results Reliable?«

Premium services performed by experts ensure global quality standards

Your pipettes are high-precision instruments that require regular maintenance and inspection to stay in peak performance. The precision and accuracy of your pipettes are especially important to ensuring the quality of your downstream results. When your pipettes are not working optimally, your experiment's results might be questionable.

Regular maintenance, calibration and adjustment services performed by Eppendorf experts can help you identify potential issues and ensure your pipettes and dispensers continue to generate reproducible results. Our global pipette services always adhere to the most recent, strict international quality standards for calibration. Calibration options include a thorough internal and external check of the pipette to ensure wearable parts like O-rings are replaced in a timely manner.

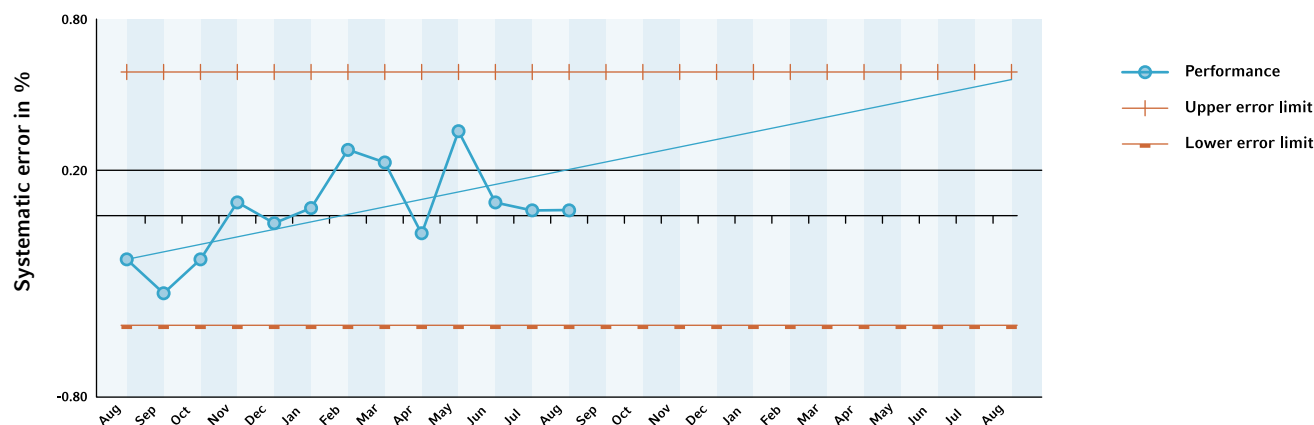


Volume Drift Due to Wear and Tear

From month to month over a yearlong testing period, a new pipette in standard lab use calibrates within the error limits shown in the graph below. But the pipette is also experiencing wear and tear, which can also be seen in the graph below as the continuous trend of the pipette's volume toward the

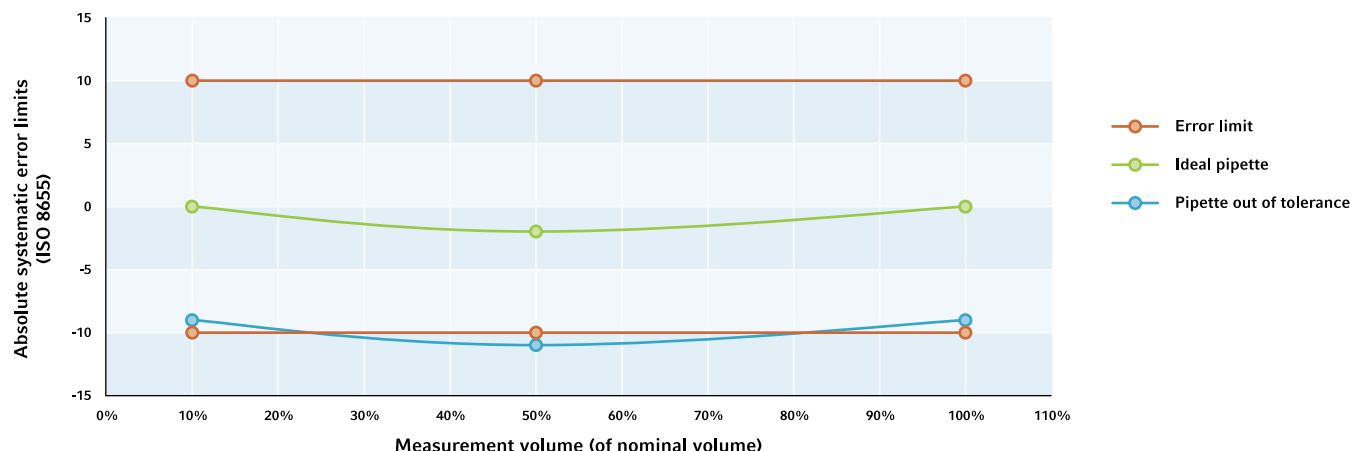
upper limit. Without carrying out any maintenance, calibration or adjustment measures, this pipette will eventually fall out of calibration, potentially causing unreliable or questionable results.

Example of a volume drift over time



What Else is Important?

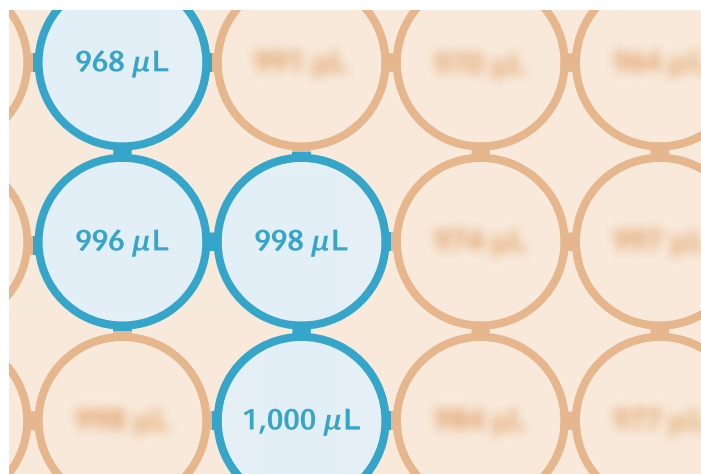
Calibrating with 3 volumes to compensate for the non-linear correlation of error and volume



ISO 8655 requires three volumes to be tested during calibration: Nominal volume, 50% of nominal volume, and the lower limit of usable volume or 10% of nominal volume (whichever is greater). Since the error limits of a pipette are not linear from the minimum to maximum volumes, it is possible that the 10% and 100% volumes perform within the systematic error limits while the 50% volume does not.

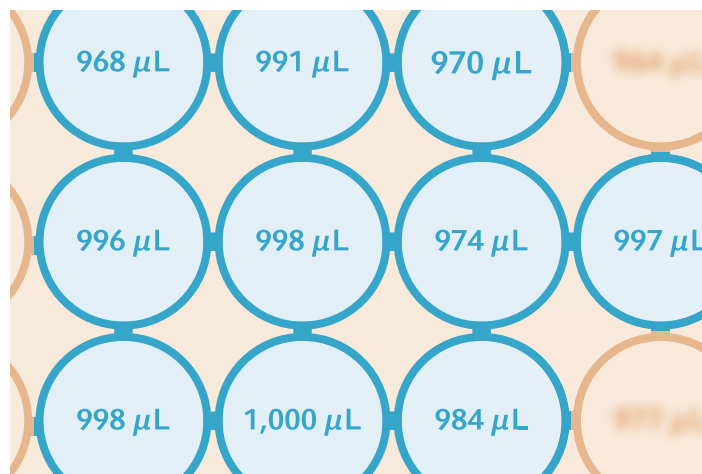
The graph above demonstrates this phenomenon: The blue line represents a pipette that is out of tolerance. The user would not know this pipette is not functioning properly without testing all three volumes.

Calibrating with 10 measurements versus 4 measurements to compensate for deviations



Four measurements: average 997 μL , 0.3% error

The images above represent a set of calibration measurements from a 1,000 μL pipette. The image on the left shows that taking only four measurements produces an error of 0.3% – well within the pipette's 0.6% error limit.



Ten measurements: average 984 μL , 1.6% error

On the right, taking all ten measurements produces an error of 1.6% – considerably outside the pipette's 0.6% limits. More confidence in the calibration is produced and the results become statistically more accurate when using ten measurements as recommended by ISO 8655.

Why Select Eppendorf for Pipette Services?



Above and beyond ISO conformity

We maintain over 5,000 pipette-manufacturer specifications and conform to manufacturers' standards when their specifications are stricter than ISO 8655 standards if requested by customer.



Highly trained service technicians

Our highly qualified technicians complete 200 hours of training and must pass rigorous exams to receive certification before they can begin servicing pipettes.



Thorough maintenance

Our calibration services include a thorough internal and external check of the pipette to ensure wearable parts like O-rings are replaced in a timely manner.



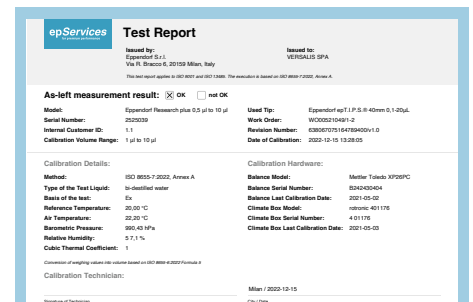
Fully accredited Service Centers

In our major markets, ISO 17025-accredited pipette calibration processes are available both in the field or in an Eppendorf Service Center. As an expert partner in liquid handling, we can help you meet any regulatory need.



Over 60 years of experience

Since we released the first piston stroke pipette in 1961, we continue to manufacture and service pipettes with a passion for improving user results.



Audit-proof documentation

Our calibration documentation gives you peace of mind by reducing the workload for your qualification and regulatory audit process. Most of our calibration facilities worldwide use software that complies with CFR21, part 11.

Eppendorf Calibration Process

Decontamination

After verifying the customer's declaration of decontamination, Eppendorf sends all pipettes through an additional decontamination process before forwarding them to our calibration facilities.



Preventive Maintenance and Repair

- > Pipette is examined and calibrated as found, if requested
- > Outer and inner parts are cleaned and maintained (replace wear-and-tear parts and lubricate, if necessary)
- > Device is tested for leaks
- > Performing necessary repairs



Calibration and Adjustment

- > High-precision, single- and multichannel balances fulfilling ISO 8655 requirements are used
- > Original manufacturer pipette tips are used
- > Measurements made according to ISO 8655
- > Evaluations carried out according to manufacturer's specifications (if requested, on the basis of ISO 8655 or customer SOP error limits)
- > Adjustments made if device is outside of its error limits
- > ISO 17025 calibration certificate available on request.



Labeling and packaging

- > Device is packed with calibration documentation and service report ready for shipment
- > Each device receives a calibration service sticker with the calibration date
- > Pipette shipped in secure packaging with our certified shipping partners to assure it arrives in peak condition.



Frequently Asked Questions

How often should you calibrate a pipette?

> You decide on the frequency of calibration within the scope of your quality standards. The frequency of calibration may vary depending on the number of users, the frequency of pipette use, the type of liquids dispensed and accepted tolerances. The recommendation is to carry out the renewal of conformity according to ISO 8655 at least once per year.

What is renewal of conformity?

> Calibration/renewal of conformity consists of pipette maintenance and as-left calibration. These services strictly adhere to ISO 8655 criteria, ensuring the pipette meets conformity to ISO 8655 requirements or even stricter specifications like manufacturers' specifications.

What happens if my instrument cannot be repaired?

> We will inform you and offer you an attractive trade-in option.
> On request, we will dispose of your old instrument or send it back to you.

What is an ISO 17025 calibration certificate?

> A calibration certificate compliant with ISO 17025 not only contains the data from the calibration protocol, but also includes the measurement uncertainty and the accreditation confirmation of the service center. The ISO 17025 calibration certificate along with the raw data ensure traceability for the calibration.

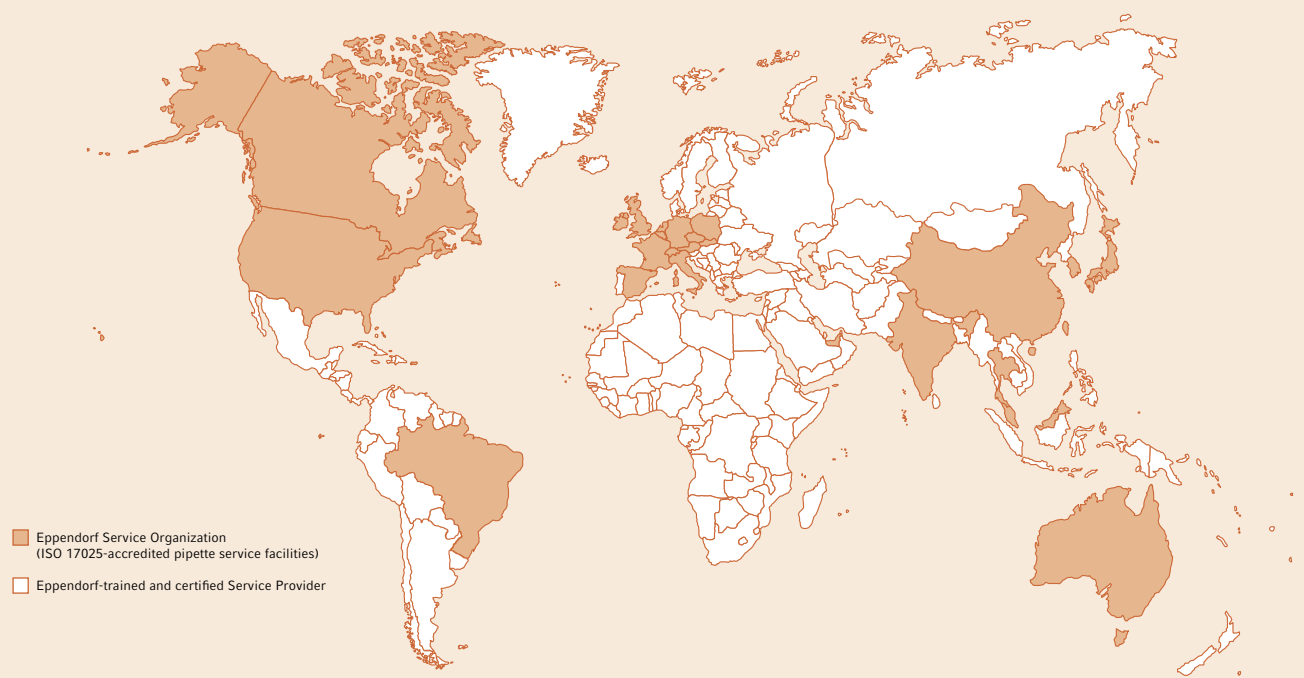
Why do I need calibration without also including preventive maintenance?

> The as-is protocol is performed before the as-left calibration or renewal of conformity including maintenance. This protocol shows the calibration status of the pipette as received from the user and indicates the pipette's performance prior to renewal of conformity.



> Watch video:
www.eppendorf.group/pipette-video

Worldwide Pipette Calibration Services



Eppendorf offers pipette services around the globe through its ISO 17025-accredited corporate service centers and Eppendorf-trained and authorized service providers.

Eppendorf pipette services are standardized to ensure your pipetting results are consistent and reproducible no matter where in the world you are located.

Service Center or On-Site Services



Please contact your local Eppendorf Service Center for more information about our pipette services, which range from cost-effective calibration to calibration services carried out in facilities accredited according to ISO 17025 and located in our major markets. For fast return times, Eppendorf offers on-site and pick-up services in many countries.

Pipette Calibration Service

Calibration Services – Ordering information

Service	Calibration measurements »As Is«	Calibration measurements »As Left«	Decontamination from outside*2	Checking, cleaning, lubricating** before calibration	Single channel pipette/ dispenser	4-channel pipette	6-channel pipette	8-channel pipette	12-channel pipette	16-channel pipette	24-channel pipette
ISO 8655 including Preventive Maintenance		10 per test volume*1	included	included	0082000142	0082000342	0082000343	0082000165	0082000166	0082000185	0082000186
3x4 without Preventive Maintenance	4 per test volume*1		included		0082000139	0082000336	0082000337	0082000159	0082000160	0082000179	0082000180

Calibration Service Packages – Ordering information

Service	Calibration measurements »As Is«	Calibration measurements »As Left«	Outside decontamination*2; checking, cleaning, lubrication**4	ISO 17025 Accreditation calibration certificate	Single channel pipette/ dispenser	4-channel pipette	6-channel pipette	8-channel pipette	12-channel pipette	16-channel pipette	24-channel pipette
ISO 17025 including Preventive Maintenance		10 per test volume*1	included	included	0082000143	0082000326	0082000327	0082000167	0082000168	0082000187	0082000188
ISO 17025 Advanced	4 per test volume*1	10 per test volume*1	included	included	0082000227	0082000322	0082000323	0082000228	0082000229	0082000230	0082000231

Secure Your Pipette Service With Calibration Contract

Contract Benefits :

- > No more wastage of expired vouchers. We can easily track and remind you of your progression with us within the contract period
- > With your contract secured with us, you do not have to worry about lost or misplaced vouchers
- > Locked-in price within the contract period means no unwanted surprises to your cost management
- > With our tiered pricing approach, you get more savings when the number of pipettes you committed crossed certain thresholds
- > We calibrate other brands of pipettes as well so we can offer you flexibility by accepting mixed brands within the contract
- > We do not count pipettes that fail a calibration so you can replace it with another pipette.



**MS ISO/IEC 17025
CALIBRATION
SAMM NO. 689**

Since 2015, our pipette calibration facility in Malaysia has been accredited in accordance with MS ISO/IEC 17025 and listed on Standards Malaysia (SAMM 689) for its technical competence under the volumetric field for the scope of 10 uL to 10 mL. From 2020 onward, we have expanded our scope from 0.1 uL to 100 mL to cover our entire product calibration range. This will cover all piston-operated volumetric apparatus such as the manual pipettes, electronic pipettes and bottle-top dispensers.

Eppendorf Asia Pacific Sdn Bhd · Eppendorf Liquid Handling Service Centre

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