

## Your Strategic Partner in the Fight Against COVID-19

**Component Supply and Contract Manufacturing for  
PCR-Based COVID-19 RNA Test Robots and Point-of-Care PCR Analyzers**



## Large PCR Robots

Large-scale PCR-based direct testing of RNA virus sequences requests automated pipetting in highly parallel mode. They handle sample fluids, load thermal cyclers and detect the results either in real time via fluorescence or at the end via gel electrophoresis. Precise and reliable xyz motion systems and motorized pipetting systems are the key elements for systems carrying out these handling tasks.



Automized Parallel Pipetting

The pipetting units used for nano or picoliter metering and dispensing must run at high operating frequencies while managing to produce the kinetic energy required to generate tiny droplets.

## Point-of-Care PCR Analyzer

For rapid and low-cost testing of large quantities of human sputum samples for COVID-19 infections, small PoC analyzers are the first choice.



PoC PCR Analyzer

Such PoC PCR analyzers typically work with cartridges hosting a microfluidic reaction process. This microfluidic system needs one or several engines to propel the liquid, either in form of sucking it inside, pumping it forward or mixing liquid components. For these tasks, PI offers a variety of piezo-based solid state elements such as piezo blocks, plates, benders or tubes with outstanding precision and reliability as well as almost no wear at all.

## Dosing and Motion Solutions from PI

From piezo actuators for microdosing to xyz motion solutions to contract manufacturing: PI offers various levels of cooperation.

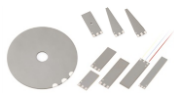
- Piezo actuators operate at frequencies of up to several kHz and are ideally suited for nanodispensing applications: They can switch valves directly and work against a closing spring or a flexible tube for volume displacement.



PICMA® Stack Multilayer Piezo Actuators



PICMA® Chip Actuators



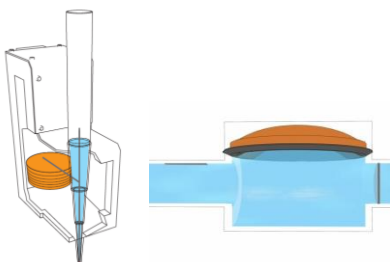
PICMA® Multilayer Bender Actuators



Piezoelectric Components

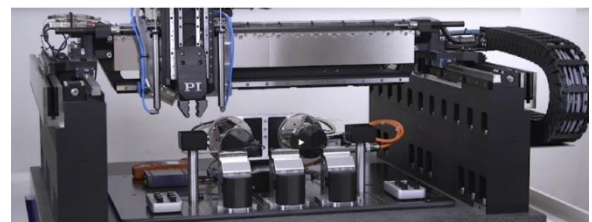


Miniaturized Piezo Components



Piezo Actuators and Components for Precise Dosing Applications

- Precise and reliable motion drives for your xyz robotic duties: Here we are offering a broad range of drive technologies and specifications: stepper and DC motor drives, magnetic drives (as 3-phase or voice coil), piezo ultrasound drives and several more.



Standard and Customized Drive Solutions

## Strategic Partner and Reliable Supplier

From the supply of our standard products to customized developments to contract manufacturing – talk to us about your challenges and we will lend you our helping hand.

- Use our reliable standard products, e.g. piezo elements in your motorized pipetting systems.
- Use our resources in development: Discuss your ideas for specific projects with us. We are experienced in partnering up with producers of world-renowned MedTech applications and supplying them with our (sub) systems and components.
- Use our in-house assembling competencies: We offer contract manufacturing in the form of ‘build-to-print’ for you. We are skilled in setting up efficient production chains very fast and can manufacture subsystems of testing robots if provided all materials and test instructions.



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