

PIUMA & CHIARO Probe selection guide

Selecting the right probe

To select the appropriate probe for your experiment, consider the right cantilever stiffness and tip size. See the Probe selection chart at the back of this guide for the relation between Young's Modulus and probe stiffness. Choosing an appropriate tip size depends largely on the sample size (choose small tips for single-cells) and surface morphology (choose tips either much smaller or larger than the average pore diameter).

Select the desired stiffness and tip size below. Please note that different prices apply to probes with a lower stiffness than the standard range, and for tips smaller than the standard range, as indicated by the coloring scheme.

Please note that due to micromanufacturing limitations the stiffness and tip size values of received probes may deviate slightly from the ordered values. However our post-manufacturing calibration of each probe ensures accurate and reliable measurement results.

Stiffness* (N/m)		Tip radius* (μm)		Holder options	
Value	Order code	Value	Order code	Value	Order code
0.01	MN1*	3	CN1**	Standard	ST
0.05	MN2*	10	TN1	Double	DF
0.5	SN1	25	TN2		
5	SN2	50	TN3		
50	SN3	Custom	##		

Probes can be ordered by constructing your order code with the instructions below. Custom stiffness is possible from 0.5 N/m and higher. Contact us for the possibilities.

*Not advised in combination with T2/T3 or higher. **Not advised in combination with S2/S3 or higher.

Order Code

P - Piuma - MN1 - CN1 - ST (example)



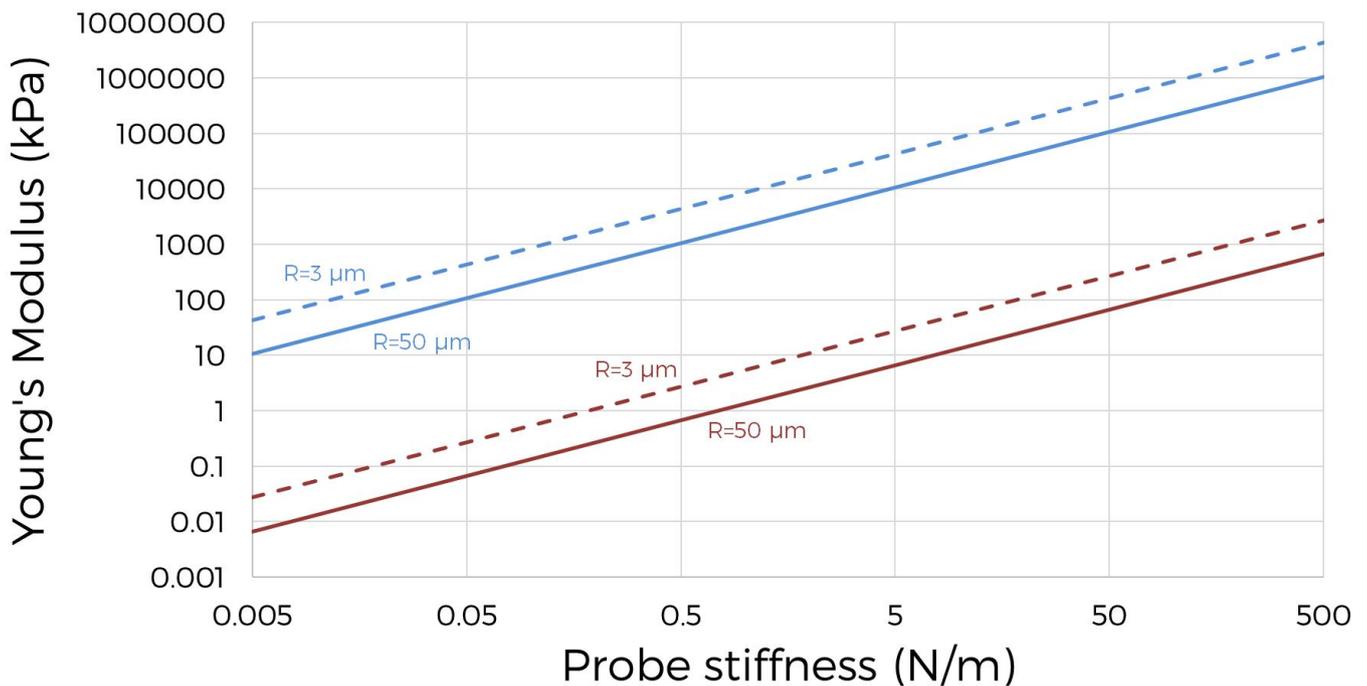
Pricing

Standard probe	Price level 1
Low stiffness	Price level 2
Small tip	Price level 3
Custom	Price level 2

As all probes are calibrated after manufacturing, calibrated stiffness and tip sizes may differ from specified order values. Calibration specifications are: $K = \pm 5\%$, tip radius = $\pm 1\%$.

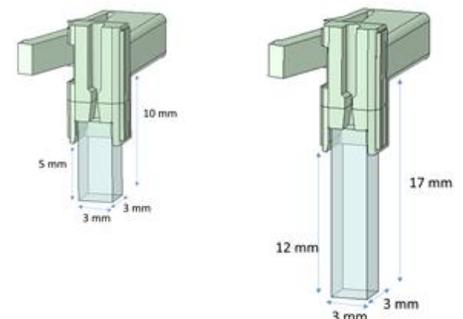
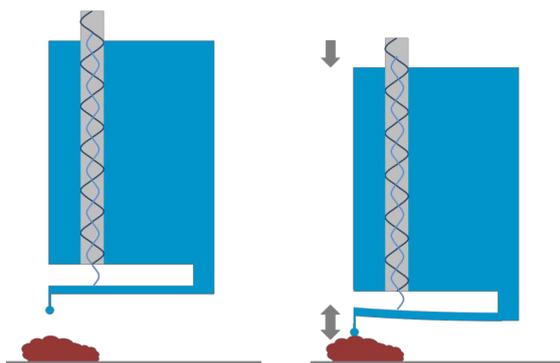
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Probe selection chart



The probe selection chart shows the range of Young's Modulus that can be addressed by a probe with a certain stiffness. The blue line shows the upper limit, while the red line shows the lower limit. Please note that the contact area of the probe tip is in fact smaller than the tip radius. The probes have a typical dynamic range of 4 orders of magnitude in Young's Modulus, minimizing the need to switch probes. The limits shown above are indicative; they can be exceeded if conditions such as calibration accuracy and noise are optimized.

All probes are made of glass components that are fused together using a resilient glue. Probes can be cleaned with demineralized water or isopropylalcohol.



Measures of standard and DF-type probes. Both are compatible with all stiffness and tip combinations.