ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Physik Instrumente P-280* at our website: *Click HERE*

P-280

Modular Piezo Flexure Nanopositioning Stages



P-280 Flexure NanoPositioners

- **Frictionless Precision Flexure Guiding System**
- **Very Compact**
- **Low Cost**
- **Travel to 100 µm**
- **XY and XYZ Combinations**

P-280 Piezo flexure stages are compact and cost effective positioners and scanners. They are available in three different sizes, with displacements of 30, 50 and 100 µm. P-280 stages can be mounted in either a vertical or horizontal position, to easily adapt to specific mounting requirements.

Working Principle

P-280 positioners are equipped with high-voltage piezoelectric contraction strip actuators integrated into a flexure guiding system. The force exerted by the piezo moves a flexure parallelogram. The wire-EDM-cut flexures are FEA modeled for zero stiction/friction and ultra-high resolution.

P-280 flexure stages can be combined to form XY and XYZ combinations (see page 2-31). Cable mounting positions can be specified (either A, B or C, see drawing) to suit your application. If not specified, the stages are delivered with cable position A. A spacer plate for ease of mounting is provided with the stages.

Notes

See the "Piezo Drivers & Nanopositioning Controllers" section, p. 6-8 *ff.* for our comprehensive line of low-noise control electronics. See the "Selection Guide" on p. 2-14 *ff.* for comparison with other nanopositioning systems.

Ordering Information

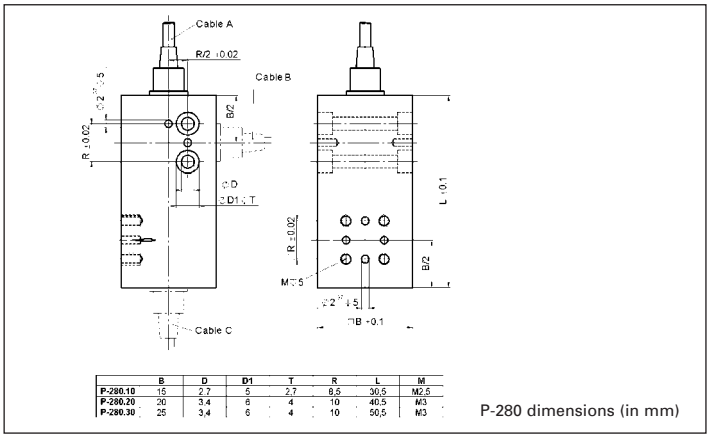
P-280.10*
Piezo Flexure Stage, 30 µm

P-280.20*
Piezo Flexure Stage, 50 µm

P-280.30*
Piezo Flexure Stage, 100 µm

* = A, B or C depending on cable-position

Ask about custom designs!



	B	D	D1	T	R	L	M
P-280.10	15	2.7	5	2.7	8.5	30.5	M2.5
P-280.20	20	3.4	6	4	10	40.5	M3
P-280.30	25	3.4	6	4	10	50.5	M3

P-280 dimensions (in mm)

Technical Data

Models	P-280.10	P-280.20	P-280.30	Units	Notes see p. 2-84
Active axes	X	X	X		
Open-loop travel @ 0 to -1000 V	30	50	100	µm ±20%	A4
* Open-loop resolution	0.3	0.5	1	nm	C0
Stiffness	1.4	1.3	0.5	N/µm ±20%	D1
Push/pull force capacity (in operating direction)	50/50	50/50	50/50	N	D3
Max. (±) normal load	50	50	50	N	D4
Tilt (θ_Y, θ_Z) (typ.)	3	7	9	µrad	E1
Lateral runout (Z) (typ.)	0.3	0.6	1.4	µm	E2
Electrical capacitance	20	27	70	nF ±20%	F1
** Dynamic operating current coefficient (DOCC)	0.83	0.68	0.88	µA / (Hz 3 µm)	F2
Unloaded resonant frequency	2200	1300	660	Hz ±20%	G2
Operating temperature range	- 40 to 80	- 40 to 80	- 40 to 80	°C	H2
Voltage connection	VH	VH	VH		J1
Weight (with cables)	37	56	92	g ±5%	
Body material	Al	Al	Al		L
Recommended Amplifier/ Controller (codes explained p. 2-17)	B, I	B, I	B, I		

* For further information see p. 2-8. Resolution of PI piezo nanopositioners is not limited by friction or stiction. The value given is noise equivalent motion with E-507 amplifier.
** Dynamic Operating Current Coefficient in µA per Hz and µm. Example (P-280.30): Sinusoidal scan of 30 µm at 10 Hz requires approximately 0.26 mA drive current.

Application Examples

- Photonics packaging
- Nanopositioning
- Biomedical applications
- Patch clamping
- Electro-physiology
- Fiber alignment electro-physiology

© PI 1998-2005. Subject to change w/o notice. Cat 118 05/09.17

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP