

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

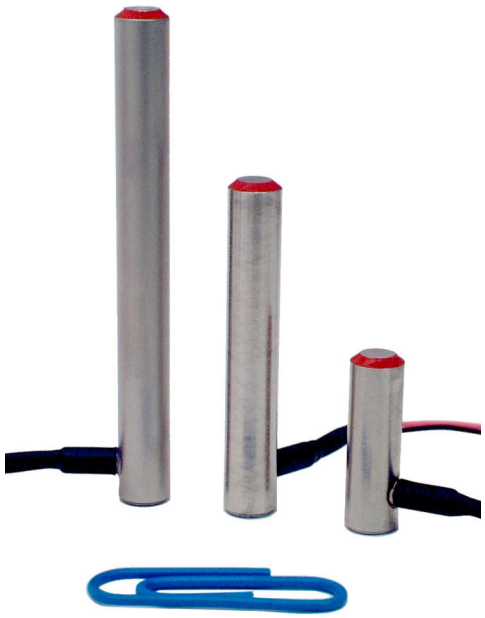
Expert team | Trust guarantee | 100% satisfaction

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

Visit our website - *Click HERE*

Piezo Actuators

For Medium Loads and Push Forces



P-810 • P-830

- Outstanding lifetime due to PICMA® piezo actuators
- Travel range to 60 µm
- Push force capacity to 1000 N
- Pull force capacity to 5 N
- µs response time
- Subnanometer resolution

Application fields

- Static and dynamic precision positioning
- Fiber positioning
- Laser tuning
- Patch clamp
- Nanotechnology

Outstanding lifetime thanks to PICMA® piezo actuators

The PICMA® piezo actuators are all-ceramic insulated. This protects them against humidity and failure resulting from an increase in leakage current. PICMA® actuators offer an up to ten times longer lifetime than conventional polymer-insulated actuators. 100 billion cycles without a single failure are proven.

Motion	Unit	Toleran-ce	P-810.10	P-810.20	P-810.30	P-830.10	P-830.20	P-830.30	P-830.40
Active axes			Z	Z	Z	Z	Z	Z	Z
Travel range in Z, open loop, at 0 to 100 V	µm	±20%	15	30	45	15	30	45	60

Positioning	Unit	Toleran-ce	P-810.10	P-810.20	P-810.30	P-830.10	P-830.20	P-830.30	P-830.40
Resolution in Z, open loop	nm	Typ.	0.15	0.3	0.45	0.15	0.3	0.45	0.6

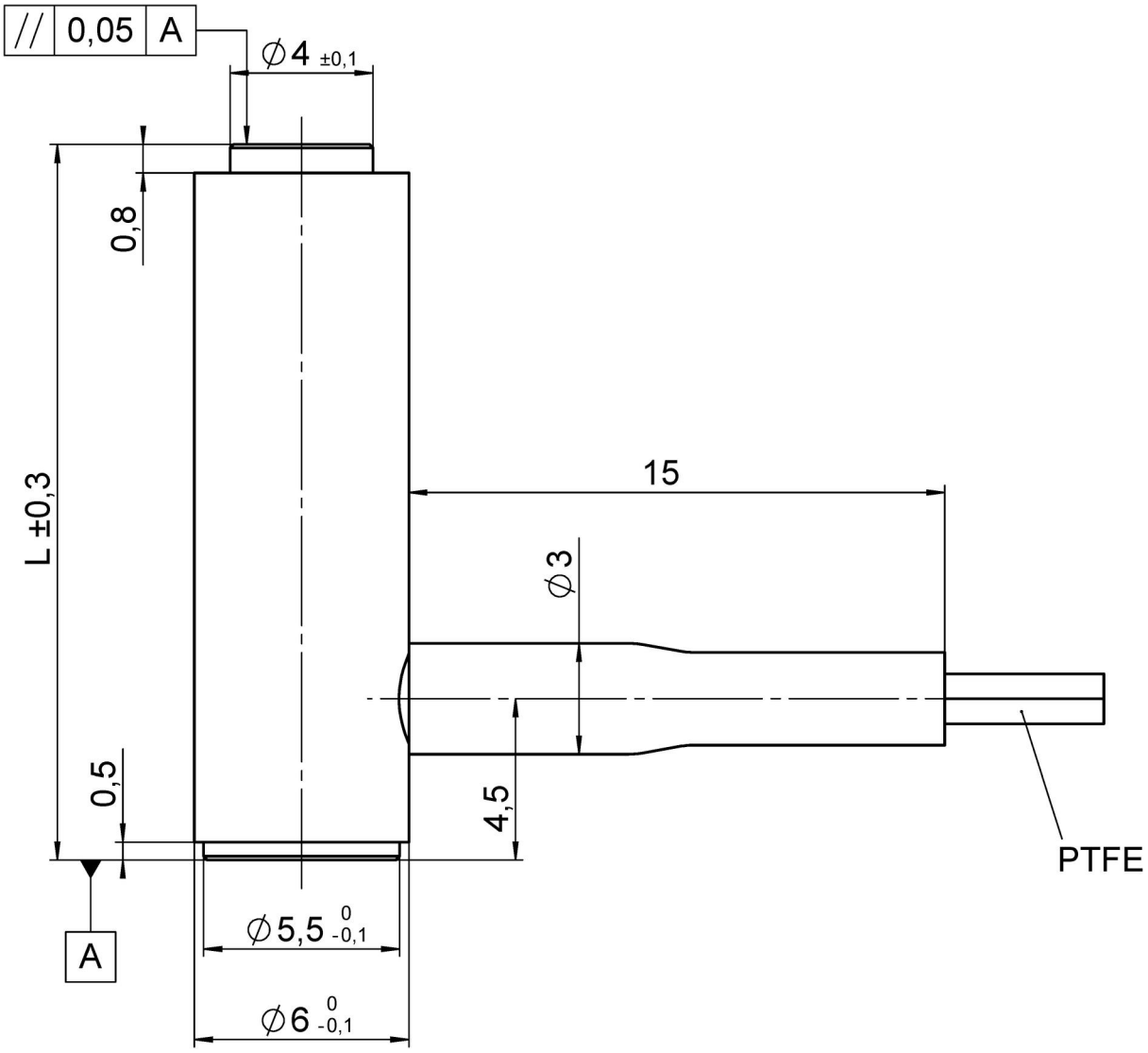
Drive Properties	Unit	Toleran-ce	P-810.10	P-810.20	P-810.30	P-830.10	P-830.20	P-830.30	P-830.40
Drive type			Piezo actua-tor/PICMA®	Piezo actua-tor/PICMA®	Piezo actua-tor/PICMA®	Piezo actua-tor/PICMA®	Piezo actua-tor/PICMA®	Piezo actua-tor/PICMA®	Piezo actua-tor/PICMA®
Electrical capacitance in Z	µF	±20%	0.3	0.7	1	1.5	3	4.5	6

Mechanical Properties	Unit	Toleran-ce	P-810.10	P-810.20	P-810.30	P-830.10	P-830.20	P-830.30	P-830.40
Stiffness in Z	N/µm	±20%	14	7	4	57	27	19	15
Resonant frequency in Z, unloaded	kHz	±20%	22	15	12	23	14	10	8.5
Permissible push force in Z	N	Max.	50	50	50	1000	1000	1000	1000
Permissible pull force in Z	N	Max.	1	1	1	5	5	5	5
Recommended preload for dynamic operation	MPa		10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20	10 to 20
Overall mass	g	±5%	4	6	8	10	16	21	27
Material			Housing: Nonmagnetic stainless steel. Tips: Stainless steel.	Housing: Nonmagnetic stainless steel. Tips: Stainless steel.	Housing: Nonmagnetic stainless steel. Tips: Stainless steel.	Housing: Nonmagnetic stainless steel. Tips: Stainless steel.	Housing: Nonmagnetic stainless steel. Tips: Stainless steel.	Housing: Nonmagnetic stainless steel. Tips: Stainless steel.	Housing: Nonmagnetic stainless steel. Tips: Stainless steel.
Length	mm	±0,3 mm	20	38	56	22	40	58	76

Miscellaneous	Unit	Toleran-ce	P-810.10	P-810.20	P-810.30	P-830.10	P-830.20	P-830.30	P-830.40
Operating temperature range	°C		-20 to 80	-20 to 80	-20 to 80	-20 to 80	-20 to 80	-20 to 80	-20 to 80
Connector			Stranded wires, PTFE isolated, AWG 28, Ø 0.69 mm	Stranded wires, PTFE isolated, AWG 28, Ø 0.69 mm	Stranded wires, PTFE isolated, AWG 28, Ø 0.69 mm	Stranded wires, PTFE isolated, AWG 28, Ø 0.69 mm	Stranded wires, PTFE isolated, AWG 28, Ø 0.69 mm	Stranded wires, PTFE isolated, AWG 28, Ø 0.69 mm	Stranded wires, PTFE isolated, AWG 28, Ø 0.69 mm
Cable length	m	+25 / -0 mm	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Recommended controllers / drivers			E-503, E-505, E-610, E-617, E-621, E-625, E-663, E-709, E-831	E-503, E-505, E-610, E-617, E-621, E-625, E-663, E-709, E-831	E-503, E-505, E-610, E-617, E-621, E-625, E-663, E-709, E-831	E-503, E-505, E-610, E-617, E-621, E-625, E-663, E-709, E-831	E-503, E-505, E-610, E-617, E-621, E-625, E-663, E-709, E-831	E-503, E-505, E-610, E-617, E-621, E-625, E-663, E-709, E-831	E-503, E-505, E-610, E-617, E-621, E-625, E-663, E-709, E-831

Stiffness in Z: Static large-signal stiffness; dynamic small-signal stiffness is approx. 30 % higher.
The resolution of the system is only limited by the noise of the amplifier and measuring technology because PI piezo actuators are free of friction.

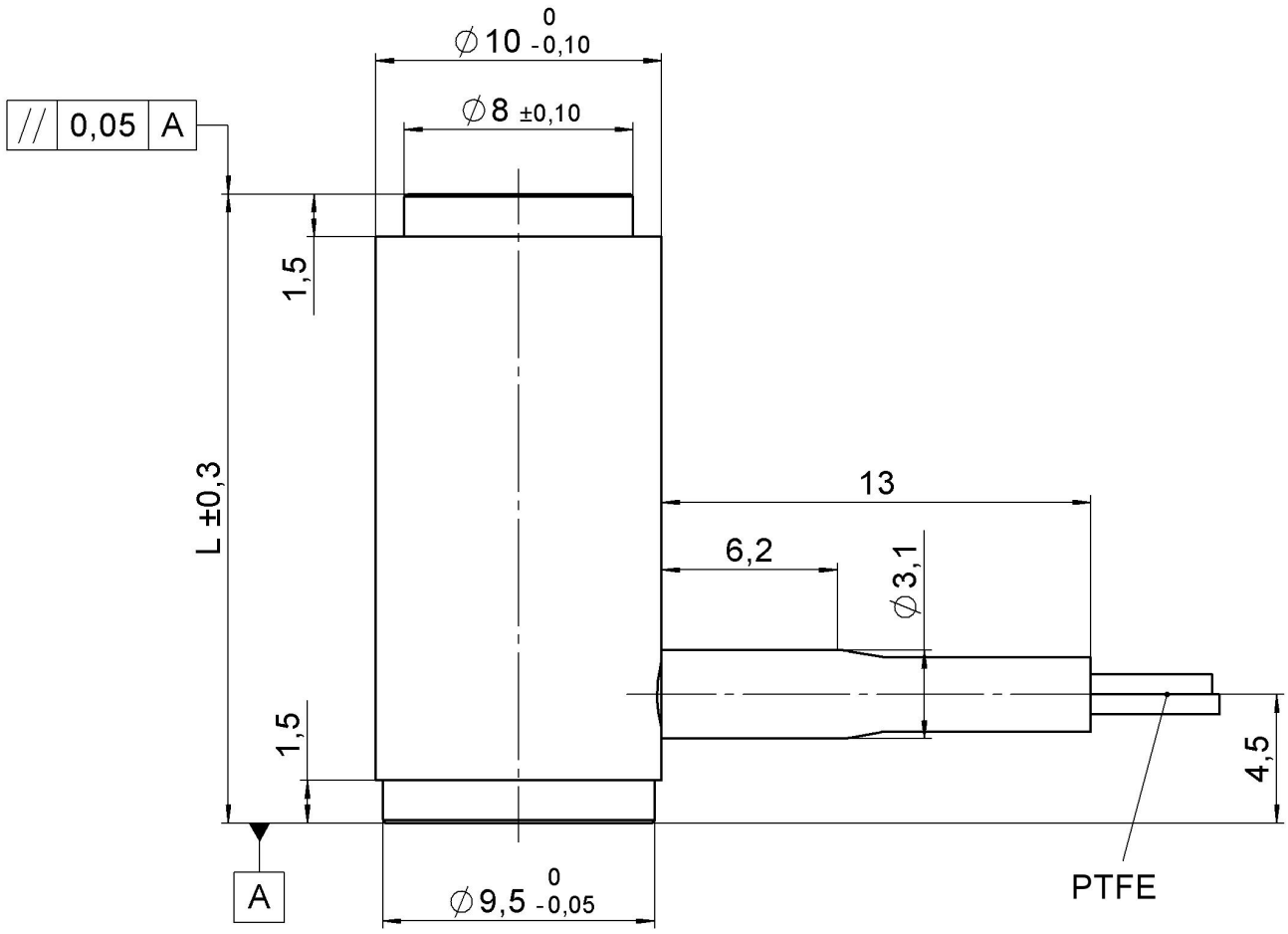
Drawings / Images



P-810.10	15µm	L=20
P-810.20	30µm	L=38
P-810.30	45µm	L=56

P-810, dimensions in mm. Voltage connection via the PTFE-insulated stranded wires (length: 0.3 m). Note that a comma is used in the drawings instead of a decimal point.

Drawings / Images



P-830.10 15 µm L= 22 mm
P-830.20 30 µm L= 40 mm
P-830.30 45 µm L= 58 mm
P-830.40 60 µm L= 76 mm

P-830, dimensions in mm. Voltage connection via the PTFE-insulated stranded wires (length: 0.3 m). Note that a comma is used in the drawings instead of a decimal point.

Order Information

P-810.10
Piezo actuator; PICMA® piezo actuator drive; 15 µm travel range (open loop); 20 mm length; push force capacity 50 N; pull force capacity 1 N; connecting wires; 0.3 m cable length

P-810.20
Piezo actuator; PICMA® piezo actuator drive; 30 µm travel range (open loop); 38 mm length; push force capacity 50 N; pull force capacity 1 N; connecting wires; 0.3 m cable length

P-810.30
Piezo actuator; PICMA® piezo actuator drive; 45 µm travel range (open loop); 56 mm length; push force capacity 50 N; pull force capacity 1 N; connecting wires; 0.3 m cable length

P-830.10
Piezo actuator; PICMA® piezo actuator drive; 15 µm travel range (open loop); 22 mm length; push force capacity 1000 N; pull force capacity 5 N; connecting wires; 0.3 m cable length

P-830.20
Piezo actuator; PICMA® piezo actuator drive; 30 µm travel range (open loop); 40 mm length; push force capacity 1000 N; pull force capacity 5 N; connecting wires; 0.3 m cable length

P-830.30
Piezo actuator; PICMA® piezo actuator drive; 45 µm travel range (open loop); 58 mm length; push force capacity 1000 N; pull force capacity 5 N; connecting wires; 0.3 m cable length

P-830.40
Piezo actuator; PICMA® piezo actuator drive; 60 µm travel range (open loop); 76 mm length; push force capacity 1000 N; pull force capacity 5 N; connecting wires; 0.3 m cable length

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