CHIP VALVE ACTUATOR CA0408

with shape memory alloy actuator

The chip valve actuator is designed for operating seat valves in disposable fluidic chips, but can also be used as pin puller, locking mechanism or similar. An M2 internal thread allows mounting of a customer-specific valve plunger or threaded rod.

Specifications

Parameter	Value
Functionality	normally closed (NC) controllable suitable for seat valves
Media	Liquids and gases
Media-separated	Yes (customer chip)
Dimensions	23.0 x 9.0 x 20.0 mm^3
Closing force	8.0 N
Stroke	0.4 mm
Switching time on / off	1 s / 5 s
Maximum frequency	0.125 Hz
Temperature range	10 - 50 °C
Lifetime	10,000 cycles
Housing material	Aluminum (blue eloxed)
Actuation interface	M2 internal thread for custom plunger (not included)
Mounting interface	Flange / M2 screws
Electrical interface	JST B2B-PH-K-S(LF)(SN)
Power consumption	1.0 W
Nominal current	1.2 A
Electrical resistance	0.5 Ω

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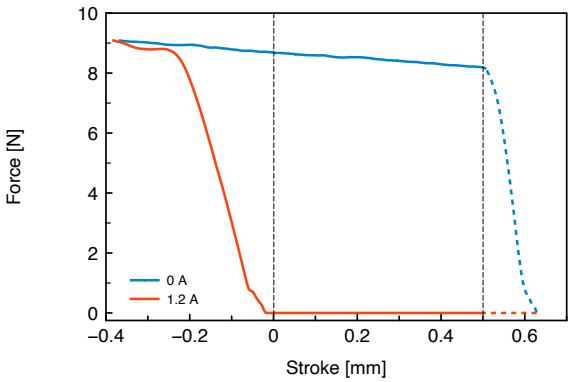
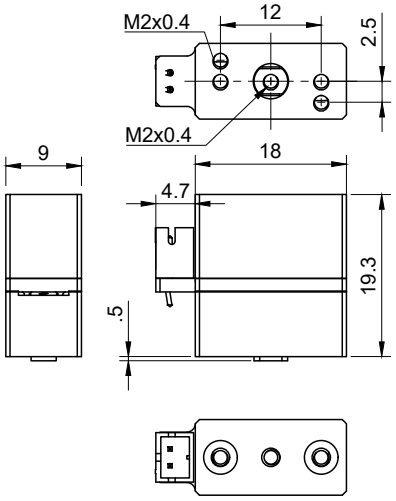
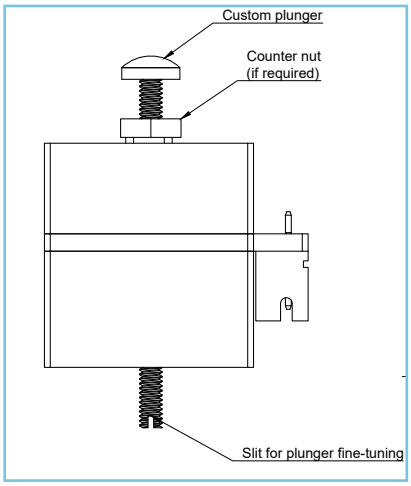
Performance



Graph 1: Force vs. stroke of the actuator.

Drawings



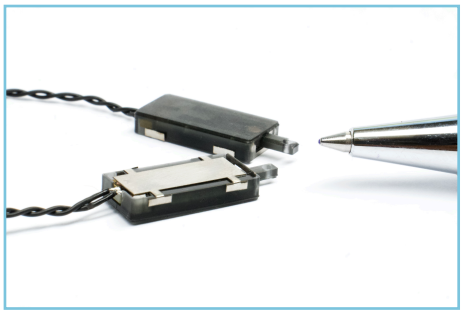


The memetis chip valve actuator CA0408 provides a full through-hole for a custom plunger with M2 external threading.

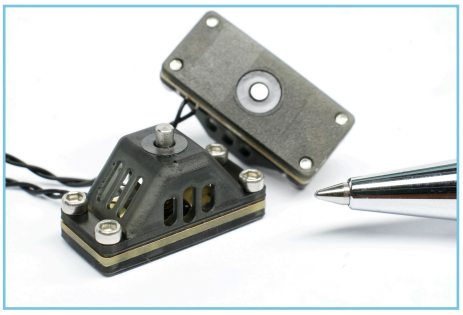
A long plunger (> 20 mm) may be used to:

- Stabilize the vertical plunger alignment
- Fine-tune the plunger length after mounting
- Monitor the plunger position using an external distance sensor (e.g. Laser, Hall-sensor, mechanical switch)

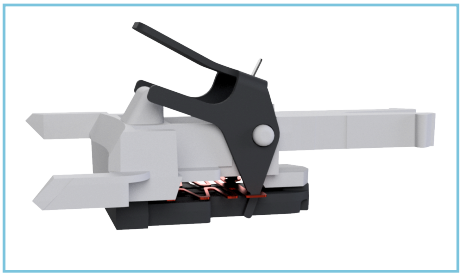
Complementary memetis products



In-plane Actuator (IP0102), most compact pull-actuator with 1 mm stroke (only 3 mm x 9 mm x 14 mm)



The memetis **Upstroke Actuator (UA0204)** has a maximum force of 3.5 N and can perform 2 mm of stroke.



memetis offers customer-specific **actuator systems** to enable new and innovative products.

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