

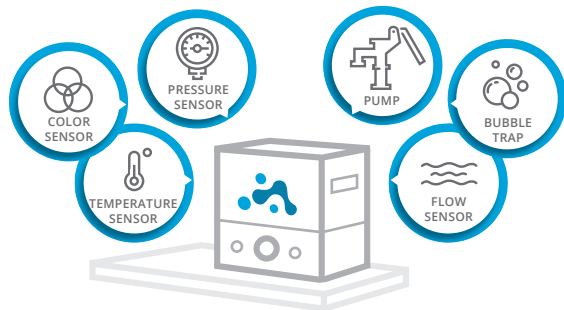
CUSTOMIZED ADAPTABILITY

The patented layered structure of memetis valves enables customer-specific adaptation to your requirements, e.g. housing materials, fluidic and electrical interfaces, closing force, nominal size, pressure and flow regime.

Please contact us!

MODULAR DESIGN

With modular fluidic platforms from memetis, you can flexibly adapt your system to the latest challenges at any time. The modules fulfill various functions, such as switching gases or liquids, measuring physical, chemical and biological properties or pumping the medium.



Magnetic connections offer special user comfort.



WE LOOK FORWARD TO YOUR CHALLENGE!

*Arrange a discussion
with our experts today – call*
+49 (0) 721 47 00 02 40

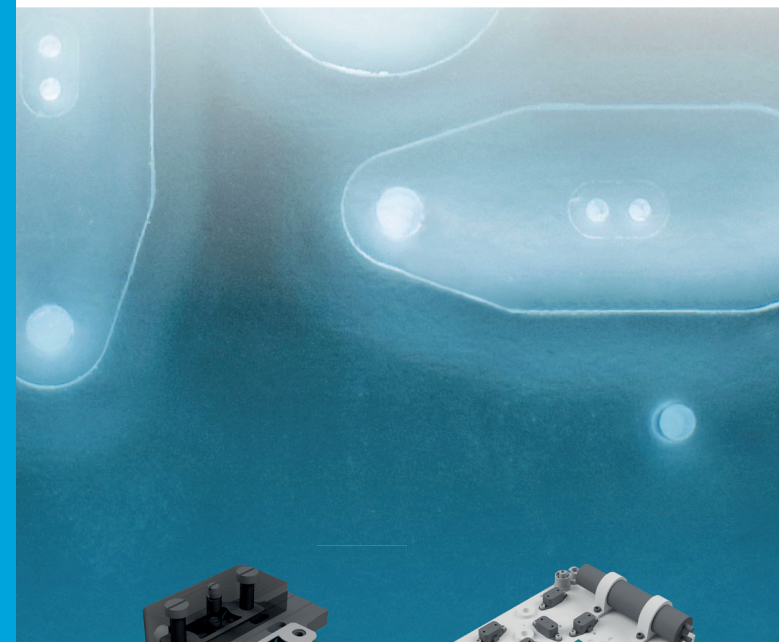
Or send us an e-mail
contact@memetis.com



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WWW.MEMETIS.COM



FLUIDICS

VALVES AND CUSTOM FLUIDIC SYSTEMS

*HIGHEST FUNCTIONALITY
IN THE SMALLEST
INSTALLATION SPACE*

WWW.MEMETIS.COM

OUR OFFER

- › Unique know-how in the design and application of miniature valves
- › Design of application-ready fluidic systems
- › Close cooperation with our customers
- › Prompt feasibility studies through rapid prototyping technologies
- › Competence and experience in R&D
- › Broad-based and motivated team
- › From individual systems to series production

WE CONFIGURE THE OPTIMAL SYSTEM FOR YOUR APPLICATION:

- 01 / Modular design – flexibly adaptable
- 02 / Control via touch-display
- 03 / Different fluidic connections possible
- 04 / Sensor integration
- 05 / Easy handling of fluids
- 06 / Portable systems
- 07 / Careful material selection

MINIATURE VALVES

Not even half the size of a sugar cube, memetis valves are tightly packed to fit even the smallest installation spaces. This is made possible by ultra-flat actuators made of shape memory alloy which are activated by a heating current. Combined with a flow sensor, memetis valves can be used as infinitely variable control valves. Various versions of seat and pinch valves are available in normally closed (NC), normally open (NO) and bistable versions.

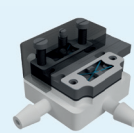
Customized solutions for a wide range of applications for switching gases or liquids.



2/2-way miniature valve
Normally open (NO) /
normally closed (NC)



2/2-way miniature valve
Bistable

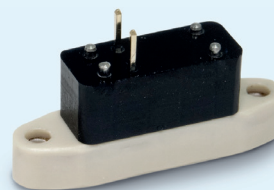


3/4-way miniature valve
Ideal as mixing or
shuttle valve

EXAMPLE:

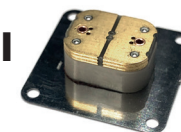
2/2-WAY MINIATURE VALVE

- › Functional types:
NO / NC / bistable
- › Controllable
- › Pressure up to at
least 2 bar
- › Lifetime > 1,000,000
cycles
- › Ultracompact design
(20 x 5 x 9 mm³)
- › Power consumption 0.3 W
- › Flow factor
 $K_v > 0.005 \text{ m}^3/\text{h}$ (NC valve)
- › Internal volume < 4 μl
- › Temperature range
10 - 50°C



Customer-specific
adaptations possible

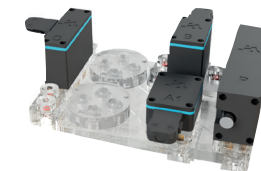
USE CASE I FILLING VALVE



Ultracompact
filling valve
Size 12 x 9 x 6.5 mm³,
500 sccm @ 1.8 kPa

Blue Danube Robotics offers a retrofittable, pressure-sensitive outer-skin for cooperative robots that reliably detects collisions and stops the robot immediately - even at high movement speeds. An extremely flat gas valve developed by memetis enables reliable and safe filling of the AIRSKIN® air modules. In addition to its simple integration and an overpressure protection function, the valve is particularly characterized by a high flow rate with minimum pump pressure and extreme tightness.

USE CASE II CELL CULTURE SYSTEM



Chip-based cell cultivation poses special challenges for the fluidics used - from biocompatibility of the materials to simple sterilisability and continuous supply with nutrient medium.

memetis valve, pump and sensor modules are easily exchangeable and flushable.

USE CASE III LIQUID HANDLING WITH SMART VALVE MANIFOLDS



With miniature valves from memetis a whole new category of microfluidic systems can be realized in a very light-weight and user-friendly way. The ultracompact valves can be stacked together in a smart, portable manifold to control small fluidic pathways. With a graphical touch interface the valve unit can be controlled easily. Our smart valve manifolds can be used in various industries, like bioanalytics and diagnostics.