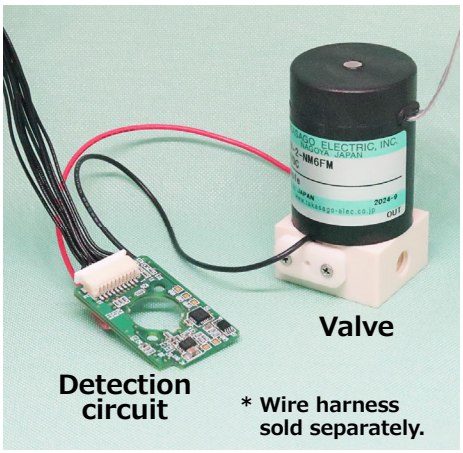
TAKASAGO FLUIDIC SYSTEMS

SOLENOID VALVE

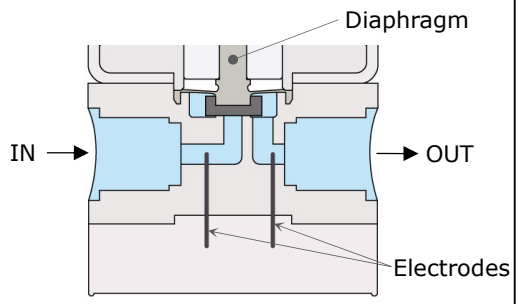
[Under Development]

Solenoid valve with Sensor to detect Irregularity



Principle of detect Irregularity

<Valve cross-section>



Detect electrical conductivity of fluids between electrodes located in valve bodies or manifolds.

Product Video

Detects when it's time to replace the solenoid valve! *1

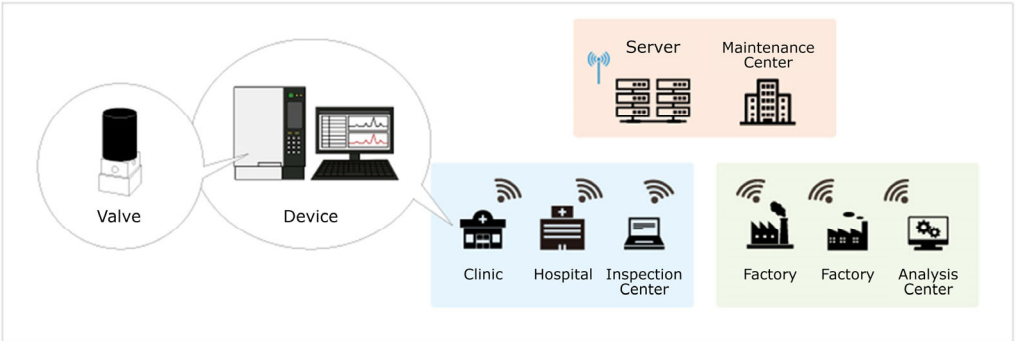
Improves the reliability of your products!

Features

Electrodes are placed in the valve body or manifold, and by monitoring the electrical conductivity of the liquid, the sensors detect fluid leakage at the valve seal caused by foreign objects, etc., and provides feedback signal to customer systems. It can also detect liquid loss or the occurrence of air bubbles when the valve is open.

Future Scalability

- By providing a function to monitor when valves need maintenance or be replaced, it contributes to the realization of remote system management and preventative maintenance.
- This feature can be applied on variety of valves series. Please contact us for details.



<Remote maintenance image>

Note 1: This feature is under development.
Note 2: Details including specifications may change without notification.

TFS (Takasago Fluidic Systems)

URL: https://www.takasago-fluidics.com/

For inquiries, please use this QR code.

2025.11

Specifications (Evaluation product) * Attached to the MTV series

Model Number	MTV-2-NM6(1/4U) F(G)MD
Orifice Diameter	2.0 mm
Voltage	12, 24 VDC
Power Consumption	2.6 W
Port Connection	M6, 1/4-28UNF
Wetted Materials	PEEK, PTFE, FKM (FFKM)

Sensor performance Typical value

Fluids	Liquids other than pure water, ultrapure water, and aqueous solutions (Liquids with an electrical conductivity of 50 μS/cm or greater)

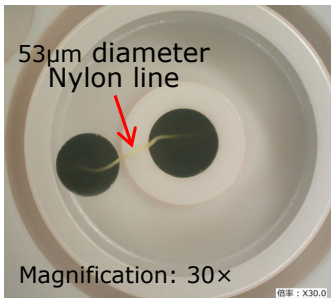
Sensor Board (External interface specifications)

Output Specifications	I^2C
Supply voltage	5 VDC

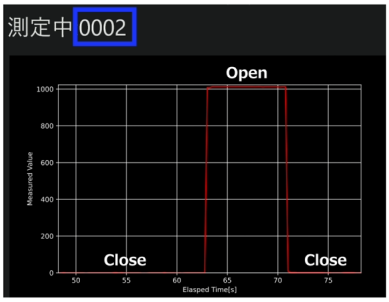
Example of use

Fluid leakage at the valve seal due to foreign object catching

Foreign object examples

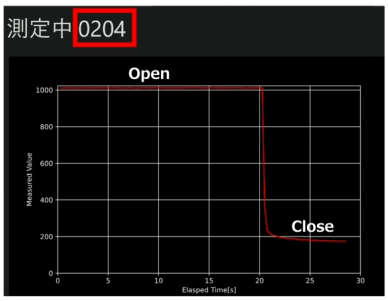


No foreign objects getting caught



Output ≈ 0 when valve closes normally

Foreign object caught

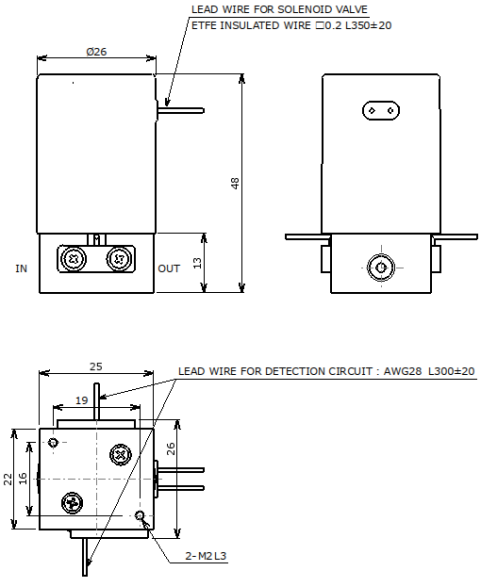


Output high when closed

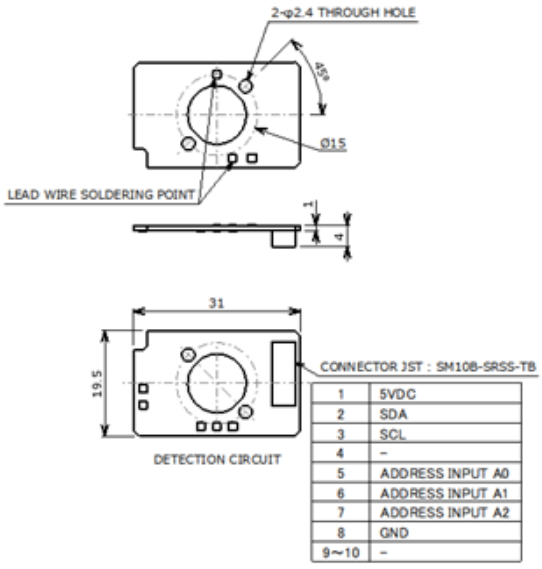
* See video for other examples.

Dimensions

Valve



Detection circuit



1	5VDC
2	SDA
3	SCL
4	–
5	ADDRESS INPUT A0
6	ADDRESS INPUT A1
7	ADDRESS INPUT A2
8	GND
9~10	–

Note: Details including specifications may change at any time without notification.