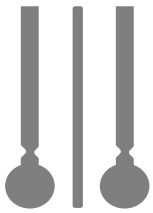
Material and Chemical Resistance of the Sensor Part of Tuning Fork Vibro Viscometer/Rheometer

A&D Weighing

1. Material of Sensor Part

SV Series	SUS304 + Gold Plating
SV-A, RV-A Series	Titanium (JIS Class 2)

- Gold plating has excellent chemical resistance. However, please note that if the plating is chipped, the sample liquid may penetrate and corrode the base metal.
- The sensor plates cannot be replaced. (Repairs must be handled by return service.)



Sensor Part

2. Chemical Resistance of Various Metal Materials

- The following table shows the resistance of metal materials at room temperature for reference only.
- Carefully consider the chemical and physical composition of the sample being measured.
- Stainless steel and titanium are protected by a passivated oxide layer on the surface of the material. However, if this passivated layer is damaged, corrosion may progress. (Although the passivated layer is strong and unlikely to be damaged, please be cautious.)

* **Generally, as temperature and concentration increase, chemical resistance decreases.**

Note

The following conditions may affect chemical resistance:

- Prolonged measurement or insufficient cleaning after use
- Sample containing abrasives or fine particles
- Physical damage to the gold plating (presence of pinholes)

Reference: Chemical Resistance of Sensor Part *Chemical resistance is not guaranteed. (Use as a guide.)

Name	Concentration	SV	SV-A RV-A
Hydrochloric acid	10%	D	B
	30%	D	D
Sulfuric acid	10%	-	C
	30%	D	D
Nitric acid	50%	A	A
Chromic acid	5%	-	A
Hydrogen fluoride	5%	D	D
Ferric chloride	30%	D	A
Cupric chloride	30%	D	B
Ferrous sulfate	50%	B	A
Sodium chloride	10%	B	A
Ammonium chloride	10%	C	A
Magnesium chloride	10%	C	A
Ammonia	30%	A	A
Sodium hydroxide	50%	A	A
Sodium carbonate (Na2CO3)	10%	-	C
	50%	D	D
Oxalic acid	10%	B	B
	20%	-	D
Acetic acid	60%	A	A
Formic acid	50%	B	B
Lactic acid	50%	B	A
Citric acid	50%	B	A

A = Expected to have excellent resistance

B = Expected to have some degree of resistance

C = Risk of corrosion, use with caution

D = Inferior resistance, considered unsuitable for use

- = No data available