Specifications

Model name	FUD-1 Model-13 / FUD-1 Model-130
Measurement parameters	Ultrasonic propagation speed · temperature
Display	LCD (Conc. Temp. Velocity/Various parameters)
Output	Analog DC4 to 20mA (adjustable for conc. value)
	Digital RS232C (Conc. Temp. Velocity Error code)
	Alarm High & Low limit Error
Power	AC100 to 240V 50/60Hz 30VA
Transmitter	Panel mount type (DIN size)
Environment	(M13) 0 to 50 Celsius (M130) 10 to 40 Celsius / RH85% or less
Fluid temperature	(M13) 0 to 100 Celsius (M130) 0 to 50 Celsius
Function	Output setting, Alarm output setting, Average setting
	Offset and Gain setting, Self-diagnosis check
	Auto error cancelation setting, Fail safe mode setting,R.L.P.F. (M130 only)
Option	RS485 output (Alternative choice with RS232C)
	Temperature output (DC4 to 20mA)
Channel	Maximum 10 Ch
Cable	6m (standard)
Transducer material	SUS316(L) SUS304(L) PFA coating Hastelloy Titanium
	Nickel Tantalum PFA PTFE PVC PVDF etc

＊Specification may change without notice

Model name	FUD-1 Model-53 / FUD-1 Model-530
Measurement parameters	Ultrasonic propagation speed Temperature Conductivity
Display	LCD (Conc. 1 Conc. 2 Temp. Velocity Cond. / Various parameters)
Output	Analog DC 4-20mA (2 lines : adjustable for conc. values)
	Digital RS232C (Conc. 1 Conc. 2 Temp. Velocity Conductivity Error code)
	Alarm High & Low (2 lines) Error
Power	AC100 to 240V 50/60Hz 30VA
Transmitter	Panel mount type (DIN size)
Environment	(M53) 0 to 50 Celsius (M530) 10 to 40 Celsius / RH85% or less
Fluid temperature	(M53) 0 to 100 Celsius (M530) 0 to 50 Celsius
Function	Output setting, Alarm output setting, Average setting
	Offset and Gain setting, Self-diagnosis check
	Auto error cancelation setting, Fail safe mode setting,R.L.P.F. (M530 only)
Option	RS485 output (Alternative choice with RS232C)
	Temperature output (DC4 to 20mA)
Channel	Maximum 7 Ch
Cable	6m (standard)
Transducer material	SUS316(L) SUS304(L) PFA coating Hastelloy Titanium
	Nickel Tantalum PFA PTFE PVC PVDF etc

FUJI ULTRASONIC ENGINEERING CO.,LTD.

Ultrasonic Concentration Meter

FUD-1

Model-13 / 130
Model-53 / 530

WHY ULTRASONIC?

Ultrasonic principle is available for almost every kind of liquid. Moreover, it does not require any periodical calibration because of no long time degradation of piezoelectric element.

In-line/Real time measurement

This product can measure concentration with outstanding tight accuracy and long term stability since the principle of this product is independent of color (transparency), flow rate, and din (sound noise).

User-friendly maintenance

This product does not require any periodical parts replacement due to no moving parts that can wear out or age. In addition, it is possible to check the product condition with water with its self-diagnostic function.

Superior customer service based on over 40 years sales experience

Together with our worldwide sales representatives who pride themselves in superior customer support, we always strive for complete customer's satisfaction.

FUJI ULTRASONIC ENGINEERING CO.,LTD.

We strive to be flexible, reliable & honest for the customer needs based on our over 40 years sales experience.

Available for variety applications such as acid, alkali, and organic fluids with minimum effort for installation and operation

Standard model : Single solute measuring in real time

FUD-1 Model-13

Transmitter : Panel mount type
Transducer : PFA flange

Standard model : Two solutes measuring in real time

FUD-1 Model-53

Transmitter : Panel mount type
Ultrasonic transducer : PFA / JIS10K50A
Conductivity detector : PFA / JIS10K50A

High grade (tighter accuracy + more stable) model

FUD-1 Model-130

Transmitter : Panel mount type
Transducer : PFA flow cell

High grade (tighter accuracy + more stable) model

FUD-1 Model-530

Transmitter : Panel mount type
Transducer : Two in one PFA flow cell (Ultrasonic & Conductivity)

Measurement principle

The ultrasonic velocity is determined by density, bulk module & temperature of the liquid. This product can measure velocity & temperature of the liquid accurately, and can calculate the concentration with the characteristic curve of the liquid.

Ex. NF characteristic curve
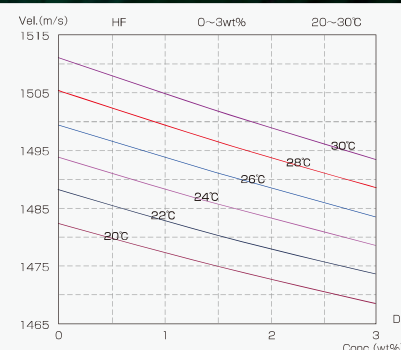
Applications (Binary)

■ H2O2 in CMP slurry
■ NH4OH
■ TMAH
■ HF   and e.t.c.

Applications (Ternary)

■ TMAH (KOH) + PR
■ TMAH (KOH) + Si
■ HF + H2SiF6
■ HF + H2SO4   and e.t.c.

Measurement principle

The graph shows the correlation of ultrasonic velocity, temperature, conductivity and concentration. This characteristic is recorded in a data ROM, and the two concentrations are calculated by measurement result of velocity, temperature, and conductivity.

Ex. TMAH+Si characteristic curve