FUJI ULTRASONIC CONCENTRATION METER

In Line Use

FUD-1 series

Model-12 / Model-22 (Explosion Proof Type)
Model-52 / Model-62 (Explosion Proof Type)

fit Fuji Ultrasonic Engineering Co., Ltd.

ENTRATION METER

FUD-1

Ternary Type
Model-52

FUD-1 · Model-52

The above picture shows a set of Panel Mount Type Transmitter, PFA Transducer (50A) and Conductivity Sensor.

Features

■ This analyzer measures concentrations of two solutions in ternary liquid in real time and controls the concentrations systematically by Alarm output and Error output besides the output of the concentrations of two solutions.

■ By measuring with ultrasonic waves, our analyzers are not influenced from the circumstances such as vibrations, noises, flow speeds, liquid colours, liquid dusts and so on. Also, our analyzers don't contaminate any solutions, so that it makes the maintenance very easy.

■ Our transducers are made from various kinds of materials for good corrosion residence and durability. (SUS316, Tetlon-coated, Titanium, PFA and e.t.c. Please refer to the Specifications for more details.)
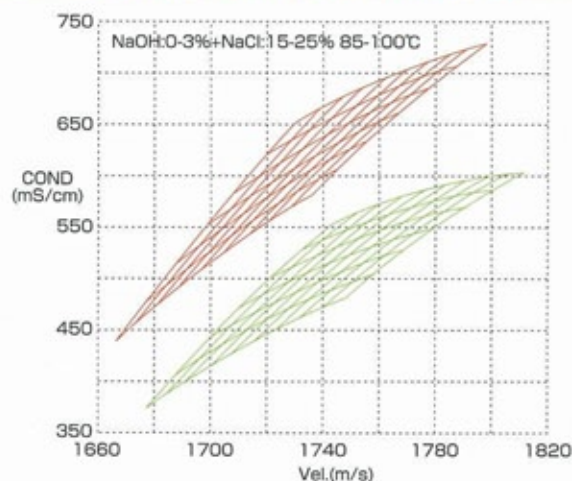
Applications

■ Acid monitoring at steel cleaning process
■ Etching rate control at etching process
■ Concentration monitoring at cleaning process
  We have a lot of experiences including the above applications.
  (more than 500 data as of June '03)
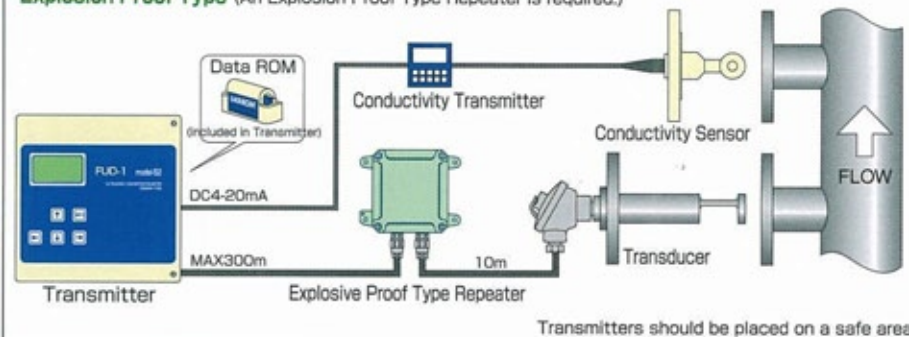■ Polarizer(H_3BO_3+kl)

Principle of measurements

The ultrasonic velocity in a liquid has a characteristic that it is determined by the concentration and the temperature of the liquid, and this analyzer measures the temperature and the ultrasonic velocity of a liquid accurately. By using the data of the temperature, ultrasonic velocity and conductivity of a solution measured, the concentrations of two components in a ternary solution are caluculated from the data of the calibration curves recorded in a Data ROM. The transmitter has two tynes of Pauel Mount and Wall Mount Type has two tynes of with rain proof case and no rain proof case.

Graph of NaOH + NaCl

NaOH:0-3%+NaCl:15-25% 85-100℃

COND (mS/cm) vs Vel.(m/s)

Explosion Proof Type (An Explosion Proof Type Repeater is required.)

Data ROM (included in Transmitter)

Conductivity Transmitter

Conductivity Sensor

FLOW

Transmitter

DC4-20mA

MAX300m

Explosive Proof Type Repeater

10m

Transducer

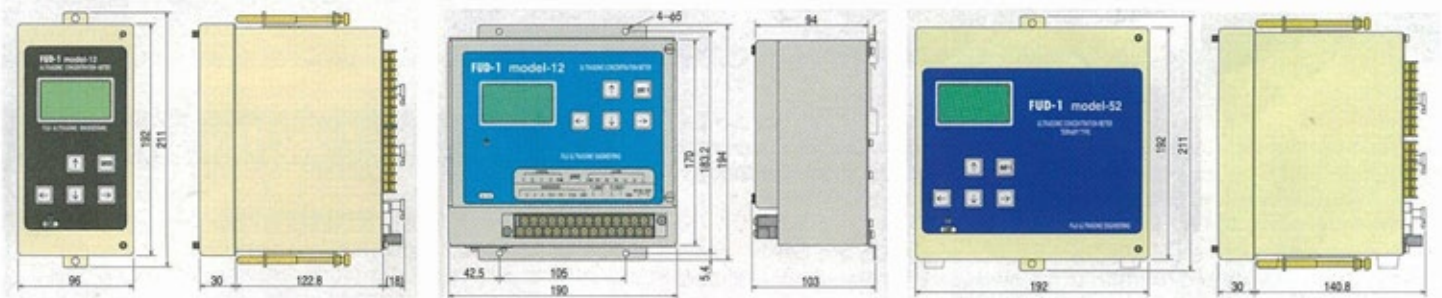Transmitters should be placed on a safe area.

Specifications

Name FUD-1	FUD-1 Model-12, Model-22(Explosion Proof Type)	FUD-1 Model-52, Model-62 (Explosion Proof Type)
Principle of measurement	Ultrasonic velocity and temperature	Ultrasonic velocity, temperature and conductivity
Display	LCD(concentration·temperature·velocity/various parameters)	LCD(concentration1·concentration2·temperature·velocity·conductivity / various parameters)
Output	Analog　DC4～20mA:(adjustable depend on a concentration figure) Digital　RS232C(concentration·temperature·velocity·error code)×2 Alarm　high·highest·low·lowest· error	Two Analogs DC4～20mA:(adjustable depend on a concentration figure) Digital　RS232C(concentration 1·concentration2·temperature·velocity·conductivity·error code) ×2 Two Alarms　high·highest·low·lowest·error
Power	AC100～240V 50/60Hz, 30VA	AC100～240V 50/60Hz, 30VA
Construction	Panel Mount Type(DIN Standard Type)·Rack Type·Rack Type with a Rain-Proof Case	Panel Mount Type(DIN Standard Type)
Environment	Temp. 0～50℃, RH less than 85% (No dew condensation)	Temp. 0～50℃, RH less than 85% (No dew condensation)
Temp. of liquid	0～100℃, -10～160℃(100℃ span)(Option)	0～100℃, -10～160℃(100℃ span)(Option)
Function	Output setting, Alarm-output setting, Average times setting, Offset and Gain setting, Self-diagnosis-check, Fail Safe Mode, Auto Error Canceration Mode.	Output setting, Alarm-output setting, Average times setting, Offset and Gain setting, Self-diagnosis-check, Fail Safe Mode, Auto Error Canceration Mode.
Option	RS485 Output(Alternative choice with RS232C.) Temp. Output(DC4～20mA)	RS485 Output(Alternative choice with RS232C.) Temp. Output(DC4～20mA)
Channel	max.10ch.	max. 7ch.
Cable	10m(normal), Max. 300m (A Repeater is required for more than 10m.)	10m(normal), Max. 300m (A Repeater is required for more than 10m.)
Explosion Proof Type　Repeater 　　　　　　　Transducer	Ex II BT4 Ex II CT4	Ex II BT4 Ex II CT4
Material of Transducer	SUS316(L), SUS304(L), Teflon coated, Hasteroy, Titanium, Nickel, Tantalium, PFA, PTFE, PVC, PVDF, etc.	SUS316(L), SUS304(L), Teflon coated, Hasteroy, Titanium, Nickel, Tantalium, PFA, PTFE, PVC, PVDF, etc.

Dimension of Transmitter

Panel Mount Type

Rack Type

Panel Mount Type

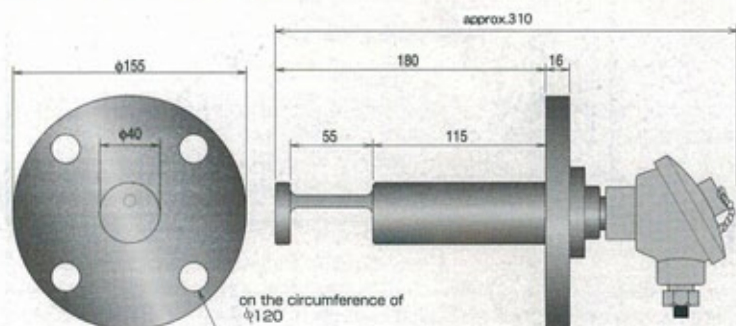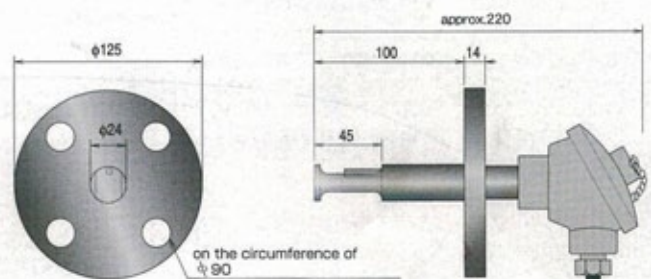# Dimension of Transducer
(The figure is defferent according to its material or spec.)

Flange JIS 10K 50A

The Flange Size is based on JIS B 2210 10K 50A FF.

Flange JIS10K 25A

The Flange Size is based on JIS B 2210 10K 25A FF.

* The specifications or designs may be changed without notice.