

# SENSOR APPLICATION NOTE

**Beneficial operation of Oxygen supply measurement for reaction vessel by digitalYEWFLO Multivariable type!**

## Productivity enhancement is expected by utilizing temperature correction function!

A chemical company has been used a variable-area flowmeter at raw material oxidative reaction line. The replacement of flowmeter for productivity enhancement was planned.

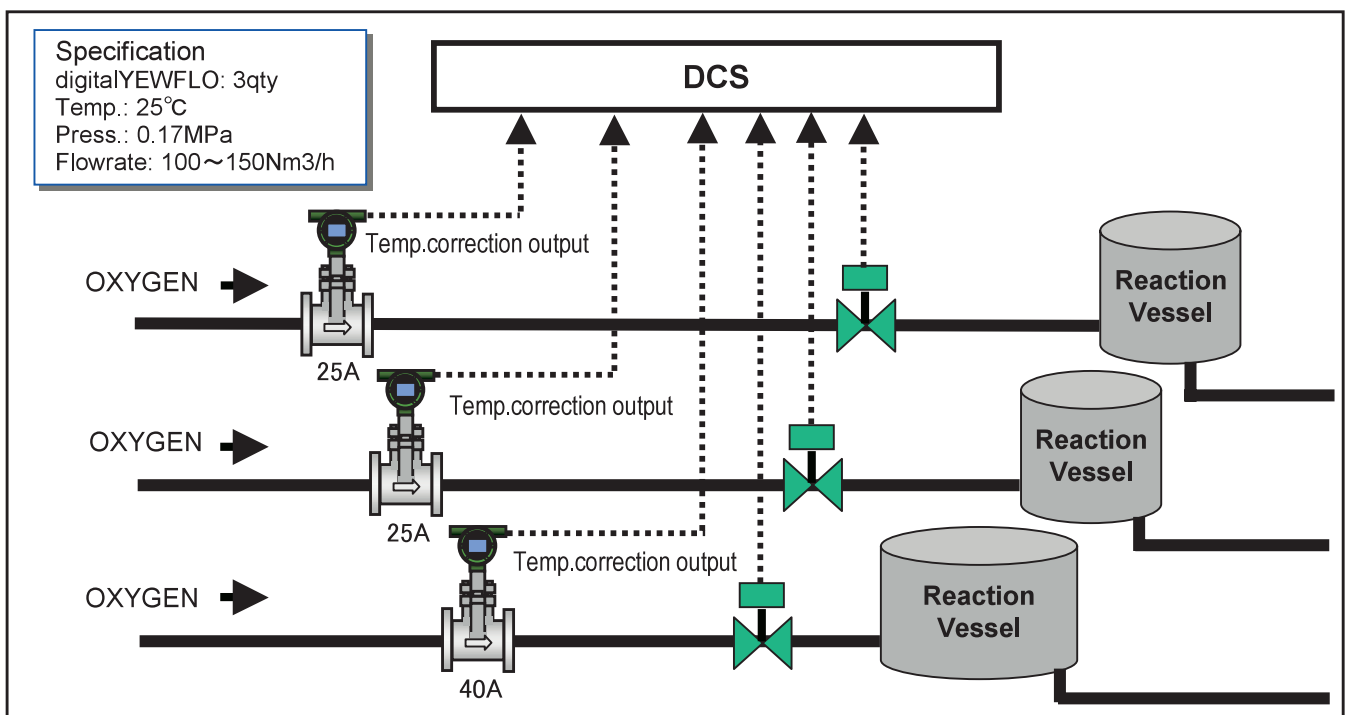
The customer was considering about temperature correction to adjust temperature error (about 10%) for this replacement, because the customer did not adjust temperature error by variable-area flowmeter.



**digitalYEWFLO Multivariable type has the following advantages.**

- ① Extra temperature is not necessary because of Built-in temperature sensor.
- ② Temperature correction can be calculated by flowmeter side.
- ③ Available the same wiring for replacement to two-wired flowmeter.
- ④ Low cost installation is possible.

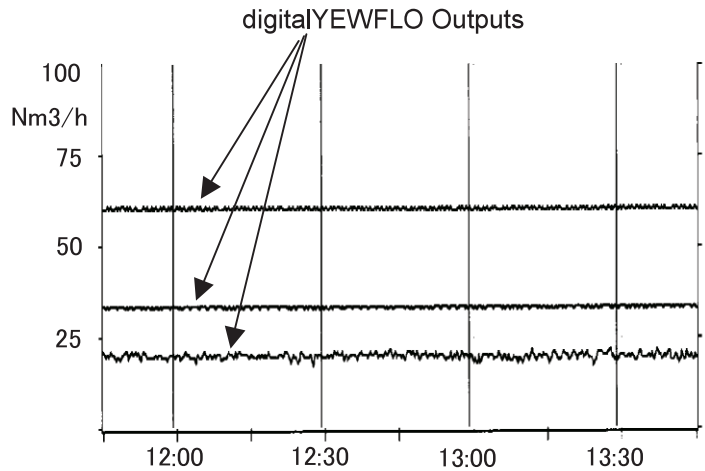
### Process Summary



## Field Data

On this process, temperature correction is necessary for the most suitable flow supply for the reaction vessel. Previous variable-area flowmeter did not compensate for temperature so that temperature fluctuation had been occurred by seasonal condition (Summer/Winter).

**digitalYEWFLO Multivariable type** can operate the accurate flowrate control by temperature correction of built-in temperature sensor.



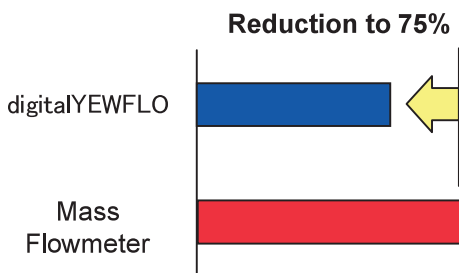
## Advantage for operation

**digitalYEWFLO Multivariable type** could realize the installation cost reduction by using the existing wiring. As a comparison, a mass flowmeter is not possible to use the existing wiring because it is 4-wire system flowmeter. This brings installation cost increase.

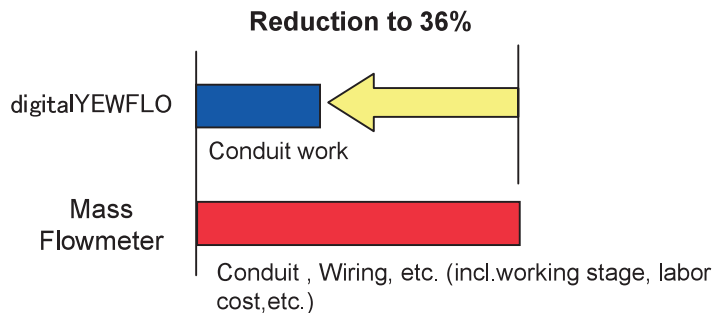
Therefore, almost 25% cost reduction was realized by operation of **digitalYEWFLO Multivariable type**, comparing with mass flowmeter.

These graphs are cost comparison of digitalYEWFLO when Mass flowmeter is reference.

### ■ Total cost comparison



### ■ Installation cost comparison



#### NOTICE

- Before operating the product, read the instruction manual thoroughly for proper and safe operation.
- If this product is for use with a system requiring safeguards that directly involve personnel safety, please contact the Yokogawa sales offices.

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