

# CALIBRATION SHEET

Name : RINKO-III

Model : ARO-CAV-SB

Serial No. : 0136

Parameter            Temperature  
                          Dissolved Oxygen



**JFE Advantech Co., Ltd.**



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## Temperature

MODEL : ARO-CAV-SB

SERIAL : 0136

DATE : August 1, 2013

Loaction : Calibration office of manufacture department at Kobe

Method : The instrument is calibrated in a constant temperature water tank.  
5 outputs in n-value corresponding to 5 water temperature ranging from 3 to 31 degrees C are computed by least square method.  
(To make the tank temperature constant, water is stirred. The reference temperature is measured by a thermometer)

Reference : Platinum thermometer (certified by JCSS)

Temperature :  $\text{Temperature (}^\circ\text{C)} = A + B \times N + C \times N^2 + D \times N^3$

$$A = -5.398903E+00$$

$$B = 1.6628530E+01$$

$$C = -2.129938E+00$$

$$D = 4.5760250E-01$$

Reference [°C]	Output [V]	Calculated [°C]	Error [°C]
3.582	0.57758	3.583	0.001
10.195	1.04627	10.192	-0.003
16.997	1.55298	17.002	0.005
24.305	2.09534	24.302	-0.003
31.285	2.58691	31.286	0.001

Criteria for acceptability : 1. The errors in above form must be within  $\pm 0.02^\circ\text{C}$   
2. After writing the calibration coefficients into instrument, one point check at any temperature must agree with the accuracy declared by the instrument.

Output Check :

Reference [°C]	Calculated [°C]	Error [°C]
23.106	23.108	0.002

Judgement : **Good**

Calibration group,

Ocean and River Instruments Division

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## Dissolved Oxygen

**MODEL** : ARO-CAV-SB  
**SERIAL** : 0136  
**DATE** : August 1, 2013  
**Loaction** : Calibration office of manufacture department at Kobe  
**Method** : 2 points calibration of span and zero is carried out with 100% saturation water and nitrogen gas. Calibration should be done after making the instruments accustomed in the water and keeping saturation with air-bubbling. Outputs in saturated water and nitr

Film No= 132002A

A = <u>-45.0894</u>	E = <u>0.0044</u>
B = <u>151.736</u>	F = <u>0.00</u>
C = <u>-0.33974</u>	G = <u>0.00</u>
D = <u>0.0102</u>	H = <u>1.00</u>

**Results** : 
 

Temperature at calibration[°C]	25
Air pressure at calibration[hPa]	996.9
Air saturation at calibration[%]	98.3

	Span output [%]	zero output [%]	Span Error [%]	Zero Error [%]
1st	98.29	-0.01	-0.03	-0.01
2nd	98.29	-0.05	-0.03	-0.05
3rd	98.16	-0.07	-0.16	-0.07

**Judgement** : **Good**

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