DNV·GL

Certificate No:
TAA00001JX

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Test and Calibration Equipment

with type designation(s)
JF Instruments CTC, ETC, MTC, mAcal, CSC201, RTC-159, PTC-125

Issued to
Ametek Denmark A/S
Allerød, Denmark

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

The instruments are only approved as portable test instruments.
Traceable calibration certificate is available from the manufacturer.

Issued at **Høvik** on **2018-01-24**
This Certificate is valid until **2022-06-30**.
DNV GL local station: **Copenhagen**

Approval Engineer: **Ståle Sneen**

for **DNV GL**

Odd Magne Nesvåg
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Product description

Calibrators type: JF and JOFRA

Parameter	Type no JF	Type no. JOFRA	Lower cal. setpoint	Upper cal. setpoint
Temperature	JF MTC-140 A	JOFRA MTC-140 A	-30°C to -2°C *	140°C
Temperature	JF MTC-320 A	JOFRA MTC-320 A	10°C to 50°C *	320°C
Temperature	JF MTC-650 A	JOFRA MTC-650 A	10°C to 50°C *	650°C
Temperature		JOFRA CTC-320 B	10°C to 50°C *	320°C
Temperature		JOFRA CTC-650 B	10°C to 50°C *	650°C
Temperature		JOFRA ETC-125 A	-18°C to 6°C *	125°C
Temperature		JOFRA ETC-400A	5°C to 45°C *	400°C
Temperature		JOFRA ETC-400R	5°C to 45°C *	400°C
Temperature		JOFRA PTC-125 A/B/C	-90°C to -73°C *	125°C
Temperature		JOFRA RTC-159 A/B/C	-100°C to -83°C *	155°C
Temperature Calibrator		JOFRA CSC201		
milliamp Calibrator		JOFRA mAcal		

*Depending upon environmental temperature (see technical specification)

Application/Limitation

The Type Approval covers hardware listed under Product description.
Products approved by this certificate are accepted used for calibration on all vessels classed by DNV GL.

Type Approval documentation

Tests carried out

24 hr. endurance test of temp.calibrators at max. setpoint.
Pressure test of pressure calibrators to 1.5 times max. pressure .
Drop test.

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE