



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. **A-13345**

This is to certify that the
Level Control System

with type designation(s)
Amplifier; Probes

Manufactured by
ERAB REGULATOR A/S
DRAGOR, Denmark

is found to comply with
Det Norske Veritas' Rules for Classification of Ships and High Speed and Light Craft
Det Norske Veritas' Offshore Standards

Application
The amplifier boxes and probes are approved for auxiliary boilers and water heaters only.

Location classes:

Type	Temperature	Humidity	Vibration	EMC	Enclosure
Amplifier	A	B	A	A	A
Probes	* See below	B	A	-	C

* Probe temperature specifications: SEP: 280°C, SME: 260°C, SME 32: 225°C

Issued at **Høvik** on **2013-06-28**

DNV local station: **Copenhagen**

Approval Engineer: **Ståle Sneen**



for **Det Norske Veritas AS**
Digitally Signed By: Nesvåg, Odd Magne

Location: DNV Høvik, Norway

Signing Date: 2013-07-03

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.
If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

Certificate No.: A-13345
File No.: 864.20
Job Id.: 262.1-005692-3

Product description

SETEC water level control system

Amplifier box:		Probes:	
STS	Safety device	SEP	Electrode
SLH	High-low level alarm	SME	Electrode
SLP	Low level alarm with pump control on/off	SME 32	Electrode
SPR	Feed water control	SEF	Electrode stand
SVR	Feed water control		
SBD (T 12-60)	Blow down control		

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Type Approval documentation

Drawings/datasheets 941031-1, 941031-5, STS S86-12/13 dated 921214, 941032-1, 941032-5, SLH H89-10 dated 890628, SLH H89-11 dated 89.10.12, 941033-1, 941033-5, SLP P89-10 dated 890628, SLP P89-11 dated 89109, 941034-1, 941034-5, SPR O89-10 dated 890628, SPR O89-11 dated 891010, 941035-1, 941035-5, SVR R89-10/11 dated 891101, 941036-1, RES 101-89-12 dated 891102, T12-60 T8910-11 dated 891102, 904030, 904050, S 87101 & S 87102 dated 870429, 904001, 904005.

Type approval periodical assessment report for A-11922, DNV Copenhagen 2013-06-25.

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 at least every second year and at renewal of this certificate.

END OF CERTIFICATE