1. **EC-TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially explosive atmospheres Directive 94/9/EC**

3. Reference: **VTT 03 ATEX 009X**

4. Equipment: **Capacitive level probe**

Certified type: **SET/OS2**

5. Manufactured by: **Oy Labko Ab**

6. Address: **Labkotie 1**
FIN-36240 Kangasala
Finland

7. This equipment or protective system and any acceptable variations thereto is specified in the schedule and possible supplement(s) to this Certificate and the documents therein referred to.

8. VTT Industrial Systems, notified body number 0537, in accordance with Article 9 of the Council Directive 94/9/EC of March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmospheres given in Annex II to the Directive

The examination and test results are recorded in confidential report no TUO26-021762.

9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with the standards:

EN 50014 (1997) +A1&A2
EN 50020 (2002)
EN 50284 (1999)

VTT INDUSTRIAL SYSTEMS
Ex-Laboratory
Otakaari 7B, Espoo
P.O.Box 13071, FIN-02044 VTT, Finland

Tel + 358 9 4561
Fax + 358 9 456 7042

1018

10. If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11. This EC-Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. This certificate does not cover these.

12. The marking of the equipment or protective system shall include the following:

II 1 G EEx ia IIA T5 (Ta = -25 °C ... +60°C))

Espoo, 03.02.2003

VTT INDUSTRIAL SYSTEMS
Ex-Laboratory

FINAS AKKREDITOINTI SUOMI FINLAND
1018
(EN45004,IIIte A)

Risto Sulonen
Senior research scientist

Martti Siirola
Research scientist

Certificate without signatures shall not be valid.
This certificate, including the schedule, may only be reproduced in its entirety and without any change.

13. # Schedule

14. **EC-TYPE EXAMINATION CERTIFICATE VTT 03 ATEX 009X**

15. Description of Equipment

The capacitive level probe SET/OS2 for liquid level detection. The probe is equipped with a permanently connected cable max length 15 m. The probe is of robust construction. The enclosure is of AISI316. The sensor element is protected with PCV plastics. The probe SET/OS2 shall be connected to an intrinsically safe circuit.

Electrical data

The nominal voltage of the probe is $U_N = 9 ... 18$ V and the maximum input values of the probe type SET/OS2 (with 15 m connecting cable) are:

Ui	Ii	Pi	Ci	Li
18 V	66 mA	297 mW	3 nF	30 µH

Documents:

Description of the SET/OS2 capacitive level switch probe,
XA25187_s, 5 pages, 06.08.2002
Schematic diagram, CBS1.3, XB25148Ae
Part list, CBS 1.3, XC25150Ae, 15.10.2002
Component layout on PCB CBS 1.3, XK25150Ae, 2 pages, 16.05.2002
Printed circuit board, CBS 1.3, XK25149Ae, 2 pages, 15.06.2002
Assembly part list, SET/OS2, XC25195_s, 21.10.2002
Dimensional drawing, SET/OS2, XD25212_s, 06.06.2002
Protection tube of the electronics, XK25198_s, 16.06.2002
Lower cap plate, XK25199_s, 16.06.2002
Upper cap plate, XK25197_s, 16.06.2002
Floater dimension drawing, XK25210_s, 28.10.2002
Junction box LJB3-78-83, Assembly drawing, K15115As, 04.01.2001
Junction box LJB3-78-83, Assembly part list, C15115_s, 04.01.2001
Junction box LJB3-78-83, Borings, K15099As, 02.01.2001
Junction box LJB2-78-83, Assembly drawing, K16075Cs, 04.01.2001
Junction box LJB2-78-83, Assembly part list, C16075Cs, 04.03.2002
Junction box LJB2-78-83, Borings, K16080_s, 04.07.2000

16. Report No. TUO26-021762

Certificate without signatures shall not be valid.
This certificate, including the schedule, may only be reproduced in its entirety and without any change.

17. Special conditions for safe use:

The free end of the permanently connected cable shall be connected according to the manufacturers instructions.

If the probe is equipped with optional non-conductive floaters so there may be hazard of electrostatic charges if the plastic parts are subjected to friction or rubbing. The metal parts of the floater shall be grounded.

The permissible ambient temperature range is $-25\ °C \leq T_a \leq +60\ °C$.

The probe cable can be extended with the junction box type Labko LJB3-78-83 or Labko LJB2-78-83. The junction box is of light metal so there may be sparks, if the box is subjected to friction or impact. The box shall be grounded.

18. Essential Health and Safety Requirements

Met by compliance with the standards referred in point 9.

Espoo, 03.02.2003

VTT INDUSTRIAL SYSTEMS
Ex-Laboratory

FINAS AKKREDITOINTI SUOMI FINLAND
I018
(EN45004,liite A)

Risto Sulonen
Senior research scientist

Martti Siirola
Research scientist

Certificate without signatures shall not be valid.
This certificate, including the schedule, may only be reproduced in its entirety and without any change.

1. **SUPPLEMENT 1 TO EC-TYPE EXAMINATION CERTIFICATE VTT 03 ATEX 009X**

2. Equipment: **Capacitive level probe**

   Certified types: **SET/OS2**

3. Manufactured by: **Wavin-Labko Ltd.**

4. Some mechanical changes have been made on the current versions of the level probe.

5. The former name of the manufacturer was Oy Labko Ab.

6. New Documents:

   Assembly part list, SET/OS2, XC25195Cs, 27.12.2005
   Protection tube of the electronics, XK25198As, 22.12.2005
   Lower cap plate, XK25199As, 27.12.2005
   Upper cap plate, XK25197As, 27.12.2005

Espoo, 11.04.2006

VTT

Jari Kettunen
Research engineer

Martti Siirola
Research scientist

VTT
Electrical Ex-Apparatus
Otakaari 7B, Espoo
P.O.Box 13071, FI-02044 VTT, Finland

Tel + 358 20 722 111
Fax + 358 20 722 7042

FINAS
Finnish Accreditation Service
I018 (EN ISO/IEC 17020)
(Tyyppi A / Type A)

1. SUPPLEMENT TO EC-TYPE EXAMINATION CERTIFICATES

VTT 02 ATEX 012X	**VTT 03 ATEX 067X**
VTT 02 ATEX 021U	**VTT 03 ATEX 068U**
VTT 02 ATEX 022X	**VTT 03 ATEX 073U**
VTT 03 ATEX 007X	**VTT 03 ATEX 075X**
VTT 03 ATEX 009X	**VTT 03 ATEX 088X**
VTT 03 ATEX 015X	**VTT 03 ATEX 089X**
VTT 03 ATEX 024X	**VTT 03 ATEX 090X**
VTT 03 ATEX 030X	**VTT 03 ATEX 094X**

2. Equipment: **Surface level measuring sensors**

Certified types:

KAH/3W, KAR/SA/3W, PA/3W, PAH/3W, SA/FEP/3W,
KAH/2W, KAR/SA/2W, PA/2W, PAH/2W or SA/FEP/2W
TSSH(S)/3W, MET LPG/3W
TSSH(S)/2W, MET LPG/2W
WBS 500 or WBS 500 RTD
WBS 1000/SETTSH2/SETSA2
WBS 3000
LABKO 3000 or LABKO 3000 LPG
MET3VL, MET3V, MET3R
CBM22 R or CBM22 V
SET/OS2, SET/TSH2, SET/TSHS2, SET/TSH2/VP,
SET/OELO2, SET/TSH2 LPG, SET DM/3 or SET DM/3E,
SET/TSSH2, SET/TSSHS2 or SET/SA2, CBS1e, SET/S

3. Manufactured by: **Labkotec Oy**

4. Address: **Myllyhaantie 6**
FI-33960 PIRKKALA
Finland

5. The manufacturer name Wavin-Labko Oy or Wavin-Labko ltd. or Oy Labko Ab has been changed to Labkotec Oy

6. Compliance with the Essential Health and Safety Requirements has been assured by compliance with the standards:

EN 60079-0 (2009)
EN 60079-11 (2007)
EN 60079-26 (2007)

VTT
Electrical Ex-Apparatus
Otakaari 7B, Espoo
P.O.Box 1000, FI-02044 VTT, Finland

Tel + 358 20 722 111
Fax + 358 20 722 7042

FINAS
Finnish Accreditation Service
1018 (EN ISO/IEC 17020)
(Tyyppi A / Type A)

7. The marking of the equipment or protective system shall be according to the standards above.

Espoo, 8.10.2009

VTT Technical Research Centre of Finland

Pertti Kokkonen
Research engineer

Martti Siirola
Research scientist

VTT
Electrical Ex-Apparatus
Otakaari 7B, Espoo
P.O.Box 1000, FI-02044 VTT, Finland

Tel +358 20 722 111
Fax +358 20 722 7042

FINAS
Finnish Accreditation Service
1018 (EN ISO/IEC 17020)
(Tyyppi A / Type A)