



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 04ATEX6126** Issue: **3**

4 Equipment: **Magnetic Level Gauge**

5 Applicant: **TC Fluid Control (A division of the WIKA group)**

6 Address: **Unit 4, The Interchange  
Wested Lane  
Swanley  
Kent  
BR8 8TE  
UK**

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 13463-1:2009 EN 13463-5:2011

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment 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 and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 1G IIC c T1 to T6



II 1/2G IIC c T1 to T6



II 1G IIB c T1 to T6



II 1/2G IIB c T1 to T6

Project Number 70019662

C Ellaby  
Deputy Certification Manager

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## SCHEDULE

### EC TYPE-EXAMINATION CERTIFICATE

Sira 04ATEX6126  
Issue 3

#### 13 DESCRIPTION OF EQUIPMENT

The equipment consists of a sealed chamber containing a float fitted with a permanent omni-directional magnet. The float is free to move within the chamber floating on the liquid being measured. The float indicates the level of that liquid by coupling its magnetic field with magnetic wafers located within the indicator. The indicator can be attached to the chamber to optimise the viewing angle. Fluid level is indicated by the wafers as they rotate through 180 degrees to display a contrasting colour. The rotation of the wafer corresponds with the proximity of the float on the liquid being measured.

The chamber is connected to the vessel containing the liquid by means of two welded, screwed or flanged couplings.

The indicator unit is attached externally to the chamber and does not form part of it. The indicator can be fitted with a perspex 'non-frost block', when fitted two stainless steel plates are affixed to each side of the block, they in turn are bonded to an earth point which forms part of the equipment.

The coding  $\text{Ex}$  II 1/2 G c T6 recognises that the equipment may be fitted across the boundary between a Zone 0 and a Zone 1. In this circumstance the Category 2 requirements only apply to the indicator.

The Magnetic Level Gauge is not a source of heat and therefore its temperature classification is dependent upon the temperature of the process in which it is employed, as shown in the table below.

Process temperature	Temperature classification
$\leq 85^{\circ}\text{C}$	T6
$> 85^{\circ}\text{C} \leq 100^{\circ}\text{C}$	T5
$> 100^{\circ}\text{C} \leq 135^{\circ}\text{C}$	T4
$> 135^{\circ}\text{C} \leq 200^{\circ}\text{C}$	T3
$> 200^{\circ}\text{C} \leq 300^{\circ}\text{C}$	T2
$\leq 300^{\circ}\text{C} \leq 450^{\circ}\text{C}$	T1

**Variation 1** - This variation introduced the following changes:

- To recognise that the gauge body is increased in length.
- To allow the distance from flange to gauge to be increased in length.
- To recognise that a version of the chamber body has a 3½" nominal bore.
- To authorise the use of Type 321 and 304L material for the chamber body.
- The introduction of an optional steam jacket configuration.
- To endorse the lowering of the minimum usable temperature to  $-150^{\circ}\text{C}$ .
- To acknowledge that the label dimensions have been altered.

**Variation 2** - This variation introduced the following changes:

- The products have been re-assessed to the latest versions of the standards as shown at section 9.
- To authorise the introduction of an alternative spring assembly.
- To recognise that the Applicant's name and address on the certificate has changed from K & TC Manufacturing Limited, Unit 49a Victoria Industrial Park, Victoria Road, Dartford, Kent DA1 5AJ to that currently shown.
- The introduction of a new Condition of Certification requiring the product to be marked with the new address.

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### EC TYPE-EXAMINATION CERTIFICATE

Sira 04ATEX6126  
Issue 3

**Variation 3** - This variation introduced the following changes:

- i. The recognition that the company name was changed to the from TC Fluid Control Limited to TC Fluid Control (A division of the WIKA group).
- ii. The recognition of minor drawing modifications; the addition of notes relating to the material used and the thickness of any coatings applied; these amendments are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety.
- iii. The equipment's Gas Group was added to the Marking.
- iv. Following appropriate assessment, an increase in the maximum chamber body bore and chamber wall thickness was recognised.
- v. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, standard EN 13463-5:2003 was replaced by EN 13463-5:2011.

#### 14 DESCRIPTIVE DOCUMENTS

##### 14.1 Drawings

Refer to Certificate Annexe.

##### 14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	19 May 2004 09 March 2005	R53E11821A R53E11821B	The release of the prime certificate. Re-issued to allow report number R53E11821B to replace report number R53E11821A
1	02 May 2005	R52A14681A	The introduction of Variation 1.
2	22 June 2010	R22009A/00	This Issue covers the following changes: <ul style="list-style-type: none"><li>• All previously issued certification was rationalised into a single certificate, Issue 2, Issues 0 to 1 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format.</li><li>• The introduction of Variation 2.</li></ul>
3	15 April 2015	R70019662A	The introduction of Variation 3.

#### 15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

None

#### 16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

#### 17 CONDITIONS OF CERTIFICATION

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

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### Sira Certification Service

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE

Sira 04ATEX6126  
Issue 3

- 17.3 The materials used in the construction of external parts shall contain by mass:
- not more than 10% in total of aluminium, magnesium, titanium and zirconium,
  - not more than 7.5% in total of magnesium, titanium and zirconium.
- 17.4 The manufacturer shall substitute, on the approved label affixed to the apparatus, the new address for the old address.

# Certificate Annexe

Certificate Number: Sira 04ATEX6126  
 Equipment: Magnetic Level Gauge  
 Applicant: TC Fluid Control Limited



## Issue 0

Drawing	Sheet	Rev.	Date	Description
T53003	1 of 1	B	09 Feb 04	By-Pass Magnetic Level Gauge Configuration for ATEX Applications
T53803	1 of 1	A	02 Dec 03	Magnetic Level Gauge for ATEX Applications Indicator Details
T53403	1 of 1	A	02 Dec 03	Magnetic Level Gauge for ATEX Applications Spring Assembly
T53703	1 of 1	C	08 Apr 04	Magnetic Level Gauge ATEX Label Drawings
T55803	1 of 1	-	02 Dec 03	MLG ATEX Applications. Vent/Drain & Isolation Valve Arrangements
T51803	1 of 1	A	25 Aug 03	2" Schedule 10 Gauge Body Magnetic Level Gauge with End Cap. Chamber Details
T51903	1 of 1	A	25 Aug 03	2" Schedule 40 Gauge Body Magnetic Level Gauge with End Cap. Chamber Details
T52003	1 of 1	A	25 Aug 03	2½" Schedule 80 Gauge Body Magnetic Level Gauge with End Cap. Chamber Details
T52103	1 of 1	A	25 Aug 03	2½" Schedule 160 Gauge Body Magnetic Level Gauge with End Cap. Chamber Details

## Issue 1

Drawing	Sheet	Rev	Date	Description
T53003	1 of 1	C	23 May 05	By-pass Magnetic Level
T53803	1 of 1	B	17 Mar 05	Magnetic Level Gauge
T53703	1 of 1	D	22 Dec 05	Magnetic Level Gauge Certification Label
T55803	1 of 1	A	11 Apr 05	MLG ATEX Applications, Vent/Drain & Isolation Valve Arrangements

## Issue 2

Drawing	Sheets	Rev.	Date (Sira stamp)	Description
T53003	1 of 1	D	27 May 10	By-Pass Magnetic Level Gauge Configuration for ATEX Applications
T53803	1 of 2	D	27 May 10	Magnetic Level Gauge for ATEX Applications. Indicator Details
T53803	2 of 2	D	27 May 10	Magnetic Level Gauge for ATEX Applications. Indicator Details
T53403	1 of 1	B	27 May 10	Level Gauge for ATEX Applications. Spring Assembly. Standard Arrangement
T53703	1 of 1	E	27 May 10	Level Gauge for ATEX Applications. Label Drawings.
T55803	1 of 1	B	27 May 10	Level Gauge ATEX Applications. Vent/Drain & Isolation Valve Arrangements.
T51803	1 of 1	C	27 May 10	2" Sch 10 Gauge Body Level Gauge with End Cap Chamber Details. TYP Arrangement
T51903	1 of 1	C	27 May 10	2" Sch 40 Gauge Body. Level Gauge with End Cap. Chamber Details. TYP Drawing
T52003	1 of 1	C	27 May 10	2 ½" Sch 80 Gauge Body Level Gauge with End Cap. Chamber Details. TYP Drawing
T52103	1 of 1	C	27 May 10	2 ½" Sch 160 Gauge Body Level Gauge with End Cap. Chamber Details. TYP Drawing
T60205	1 of 1	A	27 May 10	By-Pass Level Gauge with Steam Jacket Heating for ATEX Applications.
T53505	1 of 1	B	27 May 10	MLG ATEX Applications. Top mount configuration.
T60105	1 of 1	A	27 May 10	MLG Indicator for ATEX Applications. Non Frost Block Assembly Details.
T52705	1 of 1	A	27 May 10	MLG Indicator for ATEX Applications. Non Frost Block Details.
T52905	1 of 1	B	27 May 10	MLG Indicator for ATEX Applications. Non Frost Block Panel Details 75 mm Height.
T60305	1 of 1	A	27 May 10	Magnetic Level Gauge Additional Labels for ATEX & PED

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## Sira Certification Service

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# Certificate Annexe

Certificate Number: Sira 04ATEX6126  
Equipment: Magnetic Level Gauge  
Applicant: TC Fluid Control Limited



Drawing	Sheets	Rev.	Date (Sira stamp)	Description
T54506	1 of 1	B	27 May 10	Level Gauge ATEX Applications: High Temperature Spring Configuration
T50710	1 of 1	A	27 May 10	Level Gauge for ATEX Applications: Spring Assembly

## Issue 3

Drawing	Sheets	Rev.	Date (Sira stamp)	Description
T53003	1 of 1	E	24 Feb 15	By-Pass Magnetic Level Gauge Configuration for ATEX Applications
T53803	1 of 2	E	24 Feb 15	Magnetic Level Gauge for ATEX Applications. Indicator Details
T53803	2 of 2	E	24 Feb 15	Magnetic Level Gauge for ATEX Applications. Indicator Details
T53403	1 of 1	C	24 Feb 15	Level Gauge for ATEX Applications. Spring Assembly. Standard Arrangement
T53703	1 of 1	J	24 Feb 15	Level Gauge for ATEX Applications. Label Drawings.
T55803	1 of 1	C	24 Feb 15	Level Gauge ATEX Applications. Vent/Drain & Isolation Valve Arrangements.
T51803	1 of 1	D	24 Feb 15	2" Sch 10 Gauge Body Level Gauge with End Cap Chamber Details. TYP Arrangement
T51903	1 of 1	D	24 Feb 15	2" Sch 40 Gauge Body. Level Gauge with End Cap. Chamber Details. TYP Drawing
T52003	1 of 1	D	24 Feb 15	2 1/2" Sch 80 Gauge Body Level Gauge with End Cap. Chamber Details. TYP Drawing
T52103	1 of 1	D	24 Feb 15	2 1/2" Sch 160 Gauge Body Level Gauge with End Cap. Chamber Details. TYP Drawing
T60205	1 of 1	B	24 Feb 15	By-Pass Level Gauge with Steam Jacket Heating for ATEX Applications.
T53505	1 of 1	C	24 Feb 15	MLG ATEX Applications. Top mount configuration.
T60105	1 of 1	B	24 Feb 15	MLG Indicator for ATEX Applications. Non Frost Block Assembly Details.
T52705	1 of 1	B	24 Feb 15	MLG Indicator for ATEX Applications. Non Frost Block Details.
T52905	1 of 1	C	24 Feb 15	MLG Indicator for ATEX Applications. Non Frost Block Panel Details 75 mm Height.
T60305	1 of 1	B	24 Feb 15	Magnetic Level Gauge Additional Labels for ATEX & PED
T54506	1 of 1	C	24 Feb 15	Level Gauge ATEX Applications: High Temperature Spring Configuration
T50710	1 of 1	B	24 Feb 15	Level Gauge for ATEX Applications: Spring Assembly

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