

Title: **SUPPLY OF SPECIALISED  
MEASURING EQUIPMENT FOR  
SPECIALISED & QUALITY  
ENGINEERING DEPARTMENT**

Document Identifier:

Alternative  
Reference Number: Not Applicable

Area of Applicability: Eskom Rotek Industries  
SOC Ltd

Functional Area: TGS Specialised &  
Quality Engineering

Revision: 0

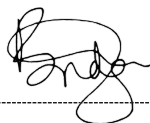
Total Pages: 10

Next Review Date:

Disclosure  
Classification: Controlled Disclosure

---

Functional Responsibility



Fhulufhuwani Nembilwi

Senior Adviser Quality  
Control

Date: 03/12/2025

---

---

Functional Responsibility



Chris Gibbens

Senior Adviser Stress &  
Vibration

Date: 03/12/2025

---

**1. PURPOSE**

The purpose of this document is to define the products needed from the supplier/s to provide:

- 1.1 Accelerometers X 4 for ETSS vibration monitoring
- 1.2 A spark tester machine for material testing for Works Quality team
- 1.3 Gas detectors X 4 for gas detection by Works Quality team

**2. Scope of Supply and Specifications**

**2.1 Accelerometers X 4:**

The scope of supply for this order is as follows:

- Vibration accelerometers
- Cabling for accelerometers

**Hardware Scope of Supply**

The hardware components supplied must include the following:

The selected supplier must supply the following items:

- a) Technical Specification for Vibration accelerometers X 4

The Vibration accelerometers shall comply with the following technical specification.

Specification	High frequency, ceramic shear ICP® accel., 10 mV/g, 5 to 60k Hz, 5-44 top conn.
Current	2-20mA
Application	Vibration sensor
Type	Ceramic shear
Mounting method	Stud
Dimensions(height)	21.6mm

**CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Rotek Industries SOC Ltd.

Dimensions(weight)	6.0 grams
Connection type	5-44 coaxial
Special features	5 to 60kHz;10mV/g

### Cabling

These items are to be included in the quote.

#### b) Technical Specification for Cables

The cables supplied must meet the following technical specification:

Specification	Miniature, lightweight, black coaxial cable, vinyl insulation jacket, 5-ft, 5-44 plug to BNC plug
Length	5-ft
Type	Coaxial
Covering	Vinyl
Connection type	5-44 coaxial
Outside diameter	13.8mm
Shield	Copper alloy

#### CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Rotek Industries SOC Ltd.

#### Software

Not Applicable

#### Equipment Calibration

The calibration shall be carried out at intervals recommended by the OEM or as required.

Prior to any calibration activities taking place, the selected supplier shall supply ERI with a quote for the calibration and will only proceed with calibration activities after ERI issues a purchase order for the calibration.

#### Technical Support

The supplier shall have in their employment, competent, trained personnel to provide support on the hardware and software related to the accelerometers provided.

Training shall be included with the supply of any new equipment.

#### General Requirements

##### Supplier Criteria

The supplier for the above items must meet the following requirements:

1. a minimum of five years' experience with the supplied equipment
2. successfully supply and commission the equipment to at least 2 customers in the last 5 years
3. provide training for the equipment and software supplied.
4. Provide support either online, electronic, or telephonic for both the hardware and software.

#### **2.2 Spark Tester Machine:**

1. The purpose of this instrument is to measure the type of material in XRF.
2. The type of measurement must be 55kV X-ray tube for extra-low detection limits on key elements like Ag, Cd, Sn, Sb, and Ba. optimal performance across the entire periodic table.
3. The handheld machine should be able to measure thickness from 5mm to 300mm.
4. The standard should be able to measure different type of material including the carbon and stainless steel.
5. Should be both DC and AC power supply.
6. Training of the new machine is required as this is a new machine.

#### **CONTROLLED DISCLOSURE**

## 2.2 Gas detectors X 4:

The Supplier is expected to provide the quality and latest technologies of the multi gas monitors which include but not limited to the following:

- The Supplier must have a track record of performing Calibration and repairs on similar equipment.
- The supplier is expected to provide the training if there is a new upgrade and any technical changes required on the instruments.
- The supplier required to deliver the equipment no later than six weeks from the date of the PO provided to the supplier.

### Item Descriptions

- The purpose of this instrument is to detect simultaneously up to 4 gases, according to the configuration requested by the user.
- The detector must be Customizable configuration with up to 4 gases• Intrinsically Safe• IP67 Rated• LCD display for concentration values readout• Audio, visual and vibration alarm• Integrated alligator clip• Fast Bump Test and calibration kit• Approved for ATEX Zone 0Be.
- It must also come with a rechargeable battery to keep the device running for up to 18 hours, with short charging time.
- The design must be • Portable gas detector• Docking station with wall-mount accessory• Calibration cap and gas tubing• USB cable• Quick Guide• Test report• Declaration of conformity ATEX and IECEx.
- The standard should be Safe MG can be configured with up to 4 sensors, among a selection of more than 10 gases, according to user needs, integrating safety and periodic maintenance.
- Training of the new machine is required as this is a new machine.

### Technical Features

#### Technical Features

Size (HxWxD):	140 x 70 x 38 mm / 5.5 x 2.8 x 1.5 “
Weight:	280 g / 9.8 oz
Durability:	Drop test from 1 m / 3 ft according to EN60079-0 (2018)

#### CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Rotek Industries SOC Ltd.

Ingress Protection:	IP67
Working Temperature:	-20 .. +55 °C / -4 .. +131 °F
Working Humidity:	5 - 95% RH (non-condensing)
Typical Battery Life:	up to 18 hours (dependent on sensor configuration) @ -20 °C / -4 °F
Alarms:	Audio: 90 dB @ 30 cm Visual: LED Vibration: Vibrating motor
Alarm levels:	Minimum, Maximum, STEL (Short Term Exposure Limit) and TWA (Time-Weighted Average)
Event Logging:	408 days based on 8 hours shifts and 40 daily events
Data Logging:	22 days based on 8 hour shifts every 10 seconds logging
Conformity:	EN 60079-0:2018 - IEC 60079-0:2017 EN 60079-1:2014 - IEC 60079-1:2014 EN 60079-11:2012 - IEC 60079-11:2023
Certifications & Approvals:	ATEX: II 1G Ex da ia IIC T4 Ga (configuration with LEL sensor) II 1G Ex ia IIC T4 Ga (configuration without LEL sensor) (Certificate: TUV IT 24 ATEX 0162X) IECEx: Ex ia IIC T4 Ga (Certificate: IECEx TPS 23.0053X)
Warranty:	36 months warranty for detector and sensors

**CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Rotek Industries SOC Ltd.

### **3. Hardware Maintenance and Spares**

The supplier shall have the necessary facilities and trained personnel to periodically carry out maintenance on the equipment to ensure the equipment is in proper working order and carry out repairs on the equipment should it be required.

The supplier must be able to supply ERI with spare parts that may require replacement due to wear and tear or damage.

The maintenance shall be carried out at intervals recommended by the OEM or as required.

### **4. Software Maintenance**

The selected supplier shall advise ERI when the required software license is updated by the OEM and provide ERI with a quote for the update. Upon receipt of a Purchase Order from ERI, the supply will provide the required software and updated license file or update the dongle license software (if applicable).

### **5. Technical Support**

The supplier shall have in their employ, competent, trained personnel to provide support on the hardware and software related to the equipment provided. The personnel shall be available during normal working hours. Should the need arise for support outside of working hours, its shall be at the discretion of the supplier.

### **6. Training**

Training shall be included with the supply of any new hardware equipment and new software features.

## **7. SUPPORTING DOCUMENTS - Returnables**

**NB: The following documentation must be returned with the tender submission:**

1. Brochures of the equipment detailing dimensions, accessories, software requirements where applicable, ratings and all performance/model specifications.
2. Information relating to maintenance of the equipment and/or software i.e., maintenance requirements and maintenance intervals.
3. All equipment must be accompanied by a certificate as a proof of calibration and/or ready to be used.
4. All components and accessories must be delivered to ERI-TGS head office, Lower Germiston Rd.

**CONTROLLED DISCLOSURE**

**8. DOCUMENT SUPPORTED BY:**

<b>NAME</b>	<b>POSITION</b>	<b>SIGNATURE</b>	<b>DATE</b>
Reinaldo Da Veiga	Engineering Manager		

**CONTROLLED DISCLOSURE**

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorised version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Rotek Industries SOC Ltd.