

REPORT No: PR451569QAN / PR451569QAR / 3030180 FM (Project Index Nos)

APPROVAL / CERTIFICATION CUSTOMER DETAILS:

NAME: D-2 Inc.
ADDRESS: 23 Edgerton Drive, Suite A, North Falmouth, MA 02062, U.S.A.

AUDITED LOCATION DETAILS:

NAME: D-2 Inc.
ADDRESS: 23 Edgerton Drive, Suite A, North Falmouth, MA 02062, U.S.A.
CONTACT PERSON: Al Fougere
TITLE: President
TELEPHONE: 508-329-2046
E-MAIL: afougere@d-2inc.com
APPROVALS ENGINEER: Edmond Laliberte

AUDIT DETAILS: (HIGHLIGHT ALL AS APPROPRIATE)

FM APPROVALS AUDIT **ATEX QAN AUDIT** **IECEX QAR AUDIT**
CONSTRUCTION PRODUCTS REGULATIONS FPC
ELECTRICAL **MATERIALS** **FIRE PROTECTION**
FIRST AUDIT **ANNUAL AUDIT** **QUARTERLY AUDIT** ^{1 2 3 4}
DATE(S) OF ASSESSMENT: 3 January 2019
NAME OF ASSESSOR(S): David Baer
ARRIVAL TIME ON SITE: 0830 **DEPARTURE TIME FROM SITE:** 1500
TIME SPENT AUDITING: 6.5hrs **REPORTING TIME:** 4hrs
TOTAL ASSESSMENT MAN-DAYS: 1.0

Distribution List (HIGHLIGHT AS APPROPRIATE)

- Customer:**
- Other:**

This report relates only to the products identified herein.

This report has been reviewed and the Lead Auditor's recommendations accepted:

Signed **Date** 23 January 2019

Title: Harmonised Surveillance Audit Report	Document No: F 570
Issue Date: 1 December 2016	Issue No: 3



1. SUMMARY REPORT

Summary of Audit: State the most important results of the audit and any concerns or Customer comments.

This audit was conducted to examine the processes and procedures used by D-2, Inc. at their manufacturing location at 23 Edgerton Drive, Suite A, North Falmouth, MA 02062, U.S.A. in relation to the ATEX / IECEx products listed in Section A4 of the attached Annex A.

Summary of nonconformities & observations:

Describe the details of all nonconformities or issues of concerns identified during the audit. (NCR numbering to be NC-yymmdd-01, 02 etc)

None

Recommendations:

Recommendations are subject to review by FM Approvals management who have veto power regarding all decisions.

- Compliance has been demonstrated, no non conformances have been found: recommending that Approval /Certification may be issued or maintained**
- Compliance has been demonstrated, even if minor non conformances were raised as attached: recommending that Approval /Certification may be issued or maintained following receipt of satisfactory documentary evidence supporting effective corrective action submitted within 30 days. Corrective action to be verified at next surveillance visit.**
- Compliance has NOT been demonstrated, due to Major Non-conformances being raised as attached: recommending that Approval /Certification be issued only after a satisfactory follow-up visit. For issued Approval /Certification, recommendation that they be maintained providing a follow up visit is conducted. A follow-up visit is required to verify that corrective actions have been effectively documented and implemented.**
- Compliance has NOT been demonstrated, due to Major Non-conformances being raised, as attached, such that non-complying product may be released to the market: recommending that Approval /Certification be refused or suspended . A further complete assessment, including site assessment is to be conducted. Non-conformities are attached.**

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2. AUDIT INFORMATION

2.1 SCOPE OF AUDIT

Type A: audit of a location with a certified Quality System*

Type B: audit of a location without a certified Quality System

This audit also includes an audit against:

The ATEX Directive and/or IECEx Scheme as described in Annex A

The Construction Products Regulations as described in Annex C

* where the location is the holder of a certified Quality Management System against the requirements of ISO9001, issued by an acceptably accredited certification/registration body and the scope of the registration fully encompasses the products covered by this audit report, the requirements of ISO9001 called up within this report do not need to be examined during every audit. The auditor may however examine aspects of the ISO9001 QMS if it is deemed necessary to do so. A copy of the ISO9001 certificate (including scope) should be attached to this report.

This audit is conducted against FM Approvals' Audit Procedures.

Product specific requirements have been taken from product standards and any guidance issued by relevant parties for the scope identified herein.

2.2 AUDIT DATA

Composition of audit team: As identified on the front page of this report.

Interviewed representatives of manufacturer (auditees):

Name	Position within the Manufacturer
Steve Sayles	Operations Manager
Dennis Fernandes	Administration Manager

3. LIST OF PRODUCTS RELATED TO THIS LOCATION

Identify in the table below all the products or product families related to this location.

Approval / Certificate Ref.	Product Description / Notes	Location's Responsibility				Production at time of visit?		Examined during this visit?	
		Certificate Owner	Design Control	Place of Manufacture	Other ¹	Yes	No	Yes	No
3028162	Type JF-1A. Conductivity Sensor.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

¹ Identify the locations responsibility in the 'Product Description / Notes' section of the table.

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4. RESPONSIBILITIES OVERVIEW

Responsibility Overview		Person, Location and Activity Details (please provide full details of each person or location and the activity that they undertake)
A. Approval Guide / RoofNav Responsibility		
A.1	Person Responsible for the Maintenance of Approval Guide Information.	Alan Fougere @ D-2 Inc., 23 Edgerton Dr, Suite A N Falmouth MA 02556. United States of America
A.2	Person Responsible for the Accuracy of Approval Guide Information.	Alan Fougere
B. Critical Subcontracted Activities²³⁴		
	Location Name & Address	Activity Details
	Adalet	Enclosure Model XDHFCX
	Sealing Nipple Cortem S.P.A.	Sealing Nipple Model NPS
C. FM Approvals Required Testing and Assessment		
C.1	Location(s) Responsible for FM Approvals' Specified tests.	D-2 Inc., 23 Edgerton Dr, Suite A, N Falmouth MA 02556. United States of America
D. FM Approval Marking Responsibility		
D.2	Location(s) responsible for applying the FM Mark.	D-2 Inc., 23 Edgerton Dr, Suite A, N Falmouth MA 02556. United States of America
E. Drawing & Document Control		
	Location(s) responsible for Quality Documents (Manuals, Procedures & Forms)	D-2 Inc., 23 Edgerton Dr, Suite A, N Falmouth MA 02556. United States of America
	Location(s) responsible for Technical Documents (Drawings/Specifications)	D-2 Inc., 23 Edgerton Dr, Suite A, N Falmouth MA 02556. United States of America
G. Quality Procedures and Inspection		
	Person responsible for....	
	... ensuring that processes needed for the manufacture of the FM Approved product are established, implemented and maintained;	Alan Fougere
	...reporting to top management on the performance of the quality assurance system with respect to the FM Approved product and any need for improvement;	Steve Sayles @ D-2 Inc., 23 Edgerton Dr, Suite A, N Falmouth MA 02556. United States of America
	...ensuring the promotion of awareness of FM Approvals' requirements;	Alan Fougere
	...liaising with FM Approvals on matters relating to the quality assurance system;	Alan Fougere
	...liaising with FM Approvals on matters relating to the FM Approved products.	Alan Fougere
H. Equipment Calibration Responsibility		
	Location Name & Address	Calibration Activity Details

² A **Subcontractor** is any individual or company that produces a sub-assembly, component, part or provides a process activity that is controlled by the audited location; built to the design or specification or is critical to the conformity of the FM Approved or Listed product.

³ A **Supplier** is any individual or company that provides a generally commercially available component or part that is not critical to the conformity of the FM Approved or Listed product.

⁴ A **Special Process** is one where the compliance of the activity or resultant product/component is dependant on external factors outside the control of the audited location or cannot easily be determined by subsequent inspection, measurement and inspection. For example: PCB encapsulation; material chemical composition; component parts with a limited shelf-life.

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5. DOCUMENTED SYSTEM REVIEW

	<u>Yes</u>	<u>No</u>
A. Approval Guide / RoofNav General Requirements		
A.1. <u>Maintenance of Approval Guide Information.</u>		
Is the location responsible for maintaining the Approval Guide information?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ensure that the name, address and contact details for the location that is responsible are correctly recorded in Section 4.A. of this report.		
A.2. If 'Yes', confirm the accuracy of the Approval Guide / Specification Testing Listed information for the products examined during this audit and record the details in Section 6 of this report.		
B. Subcontracting		
B.1. <u>Changes to Subcontractors.</u>		
Since the last audit, has the location subcontracted or changed subcontractors or critical suppliers who manufacture compliance critical parts or activities used in the FM Approved Products?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Are the Critical Subcontractor details in Section 4.B. correct?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B.2. If there have been any changes update the 'Critical Subcontracted Activities' details in Section 4.B. and examine the changes as described in Section 6 of this report.		
C. FM Approvals Required Testing and Assessment		
C.1. <u>Performance of FM Approvals' Specified Tests.</u>		
Are there any FM Approvals' Specified tests identified in the FM Approval Report and/or Surveillance audit manual associated with the products manufactured or controlled by this location?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Identify the name, address and contact details for the location that is responsible in Section 4.C. and examine the changes as described in Section 6 of this report.		
C.2. <u>Procedures for Specified Tests.</u>		
Have test procedures for the specified tests been established, documented and implemented?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Identify the applicable procedures and their current revisions below:		
C.3. <u>Instructions/Installation/Maintenance with the approved report.</u>		
Are the instructions for installation, maintenance, and operation of the FM Approved product in accordance with the Approval Report that relate to them?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Identify the applicable documents and their current revisions below:		
D. FM Approval Mark		
D.1. <u>Marking of Outgoing FM Approved Products.</u>		
Are all completed and outgoing shipments of FM Approved Products or materials properly marked with the customer's name, address, model / type designation, and proper ratings in accordance with applicable drawings or Approval reports?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Identify the products examined in Section 3 and record the changes in Section 6 of this report.		
D.2. <u>Responsibility for Marking the FM Approved Products.</u>		
Is the location responsible for applying the FM Mark?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Identify the name, address and contact details for the location that is responsible in Section 4.D of this report.		
D.3. <u>Appropriate Use of the FM Approval Marking.</u>		
Is the Approval Mark properly applied to all, and only, equipment / materials approved by FM Approvals.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5. DOCUMENTED SYSTEM REVIEW

	<u>Yes</u>	<u>No</u>
D.3.a. <u>Control of the Use of the FM Approval Mark.</u>		
Does the location ensure that the FM Approval Mark is only applied to a product when all the planned arrangements, including those specified by FM Approvals in the Approval Report, Surveillance Audit Manual or elsewhere, have been satisfactorily completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Describe the method applied or identify the applicable procedures and their current revisions below:		
FM Approval mark is applied prior to final test but the product is not shipped until all testing has been completed per the requirements. Any product that fails final testing is repaired and retested or scrapped and the FM Approvals label destroyed.		
D.3.b. <u>Control of the Use of the FM Approval Mark when applied in advance of final acceptance.</u>		
Does the location ensure that if the Approval Mark is applied before final acceptance is completed, the location ensures that the Approval Mark is removed from any rejected products or the product is made functionally inoperative.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Describe the method applied or identify the applicable procedures and their current revisions below:		
Any product that fails final testing is repaired and retested or scrapped and the FM Approvals label destroyed.		
E. Critical Drawings and Documentation Control		
E.1. <u>Responsibility for Drawing / Document Control.</u>		
Is the location responsible for the control of technical documentation including drawings and/or documents?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the location responsible for the control of quality system documentation including procedures, forms and/or records?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Identify the name, address and contact details for the location that is responsible in Section 4.E of this report.		
E.2. <u>Procedures for Drawing / Document Control.</u>		
Has the location established documented procedures for the control of critical drawings / formulations, including how document changes may be transmitted from the design / drawing control location?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Identify the applicable procedures and their current revision for the control of technical documentation including drawings and/or documents.		
Identify the applicable procedures and their current revision for the control of quality system documentation including procedures, forms and/or records.		
E.3. <u>Approval of Changes to Drawings and Document.</u>		
Do document change procedures specify that all changes to critical drawings / formulations must be approved by FM Approvals prior to implementation to production?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If 'No', explain how changes are managed so that proposed modifications to the design, specification or manufacturing process for the FM Approved or Listed product are not applied or implemented until such time as FM Approvals has authorised the modification, in writing.		
All controlled drawings have a statement applied that says the drawing cannot be changed without FM Approval notification and acceptance of the change.		
Conduct a sample audit of the documents that have been identified within the Controlled Document List (CDL) or Audit Manual and those available at the location and identify the documents examined in Section 6 of this report.		
E.4. <u>Agreement of Production Drawings / Documents with FM Approvals' Records.</u>		
Is it possible to clearly demonstrate the traceability of current production drawings and documents used in the manufacturing process with those that are retained by FM Approvals and define the product that is FM Approved.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Describe the method applied or identify the applicable procedures and their current revisions.		

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Member of the FM Global Group

5. DOCUMENTED SYSTEM REVIEW

Yes No

E.5. Identification of Drawings and Document Anomalies.

Conduct a sample audit of the documents that have been identified within the Controlled Document List (CDL) or Audit Manual and those available at the location related to the manufacture of the FM Approved product. Identify the documents examined or discussed in Section 6 of this report.

F. **ISO 9001 Registration**

F.1. ISO9001 Details.

If the location is the holder of a certified Quality Management System against the requirements of ISO9001, with a scope of registration that fully encompasses the products covered by this audit report, identify the registrar, certification number, certificate holder details and expiration date **or** attach a copy to this report.

[see attached copy of the ISO Certificate](#)

G. **Quality Procedures and Inspection**

G.1. Quality Management System (QMS) Overview.

Does the QMS identify which individual / group have the following responsibilities and authorities ...

- | | | | |
|--------|--|-------------------------------------|--------------------------|
| G.1.a) | Ensuring that processes needed for the manufacture of the FM Approved product are established, implemented and maintained; | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| G.1.b) | Reporting to top management on the performance of the quality assurance system with respect to the FM Approved product and any need for improvement; | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| G.1.c) | Ensuring the promotion of awareness of FM Approvals' requirements; | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| G.1.d) | Liaising with FM Approvals on matters relating to the quality assurance system; | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| G.1.d) | Liaising with FM Approvals on matters relating to the FM Approved products. | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Identify the name, address and contact details for the responsible person/group in Section 4.G of this report.

G.2. Product Traceability.

Is the traceability of the FM Approved product assured and documented from incoming inspection to finished product?

Identify the applicable procedures and their current revisions.

[A602-221 rev -](#)

G.3. Incoming Inspection

G.3.a) Inspection of Incoming Shipments.

Are incoming shipments identified and checked for conformity with specifications?

Identify the applicable procedure and current revision.

[A602-202 rev 3](#)

G.3.b) Non-conforming Products Identified at Incoming Inspection.

Are Non-conforming items identified, segregated and controlled to prevent unintended use or delivery?

Identify the applicable procedure and current revision.

[A602-236 rev 2](#)

G.3.c) Incoming Inspection Procedures and Records.

Are inspection procedures and their associated records maintained and available for review?

Identify the applicable procedure and current revision.

[A602-201 rev2; A602-202 rev 3; A602-203 rev 3](#)

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5. DOCUMENTED SYSTEM REVIEW

	<u>Yes</u>	<u>No</u>
G.4. <u>In Process Inspection.</u> Are inspection and test instructions available and used? Identify the applicable procedure and current revision.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G.5. <u>Final Inspection</u> G.5.a) <u>Final Inspection Procedures.</u> Are written final test and inspection procedures available and used? Identify the applicable procedure and current revision. A602-209 rev 2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G.5.b) <u>Identification of Products that have completed Final Inspection.</u> Are FM Approved products identified to indicate final acceptance? Identify the applicable procedure and current revision. Verification of the Manufacturing Process Control Document	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G.6. <u>Customer Complaints.</u> Is there a process for monitoring and acting upon complaints received from the market and/or users of FM Approved products? Identify the applicable procedure and current revision. A602-233 rev 2 Have any complaints been received in relation to FM Approved Products since the last audit? If 'Yes', provide details of the complaints and the actions taken. If 'No', identify any complaints that have been received with respect to related products (if any). None	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G.7. <u>Product Complaints & Notifications of Concern.</u> Are any identified product complaints related to FM Approved products suspected to require a Notification of Concern? If 'Yes', provide full details.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
H. Equipment Calibration		
H.1. <u>Traceability to National Standards.</u> Is inspection, measuring and test equipment calibrated in a manner that is traceable to national standards or controlled in an equivalent manner?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
H.2. <u>Calibration Procedures.</u> Have calibration procedures been established and implemented? Identify the applicable procedure and current revision. A601-105 rev 1	<input checked="" type="checkbox"/>	<input type="checkbox"/>
H.3. <u>Calibration Contractors.</u> Identify the name, address and contact details for the person/group that is responsible in Section 4.H of this report.		

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5. DOCUMENTED SYSTEM REVIEW

Yes **No**

H.4. Management of Calibrated Instruments.

Are due date tags or some other instrument tracking / recall system applied to calibrated equipment?

Identify the applicable procedure and current revision.

I. Approved Product Validation

I.1. General Product Details for all FM Approved Products at the Location.

Verify the product information within the Approval Guide / RoofNav and update Section 3 as required.

I.2. Specific Product Details.

Conduct a sample audit of the products at the location and identify the documents and products examined in Section 3 and Section 6 of this report.

I.3. Product Recall of FM Approved Products.

Have any products that are FM Approved or were FM Approved been the subject of a product recall?

If 'Yes', provide details.

If 'No', identify the auditee who made the declaration.

Steve Sayles

I.4. Field Notifications of FM Approved Products.

Have any products that are FM Approved or were FM Approved been the subject of a field notification alerting customers to a non-conformance?

If 'Yes', provide details.

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6. IMPLEMENTED SYSTEM REVIEW

	<u>Yes</u>	<u>No</u>
A. Approval Guide / RoofNav General Requirements		
Was Approval Guide / Specification Testing Listed information examined during this audit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Describe the product information that was examined.		
Has compliance with the requirements been demonstrated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Subcontracting		
Was the subcontractor or critical supplier selection and control examined during this audit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Describe the areas subjected to examination.		
Flameproof enclosures		
Has compliance with the requirements been demonstrated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. FM Approvals Required Testing and Assessment		
Was the performance of FM Approvals' specified tests examined during this audit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If 'Yes', which of the following were examined:		
Current production of FM Approved Products?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Records of production of supplied FM Approved Products?	<input type="checkbox"/>	<input type="checkbox"/>
Tests demonstrated on FM Approved Products?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Tests demonstrated on similar non-Approved products?	<input type="checkbox"/>	<input type="checkbox"/>
Describe the aspects subjected to examination.		
Has compliance with the requirements been demonstrated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Were the examined tests, test procedures and/or records for the specified tests deemed to be satisfactory?	<input type="checkbox"/>	<input type="checkbox"/>
D. FM Approval Mark		
Were completed and outgoing shipments of FM Approved Products or materials examined with respect to Marking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Describe the aspects subjected to examination.		
verified ratings against the certificate		
Has compliance with the requirements been demonstrated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. Critical Drawings and Documentation Control		
Was an audit of the documents that have been identified within the Controlled Document List (CDL) or Audit Manual or those available at the location related to the manufacture of the FM Approved product undertaken?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Describe the aspects subjected to examination.		
reference the attached marked-up CDL provided by the FM Approvals Engineer		
Has compliance with the requirements been demonstrated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G. Quality Procedures and Inspection		
Was an audit conducted to examine any of the following...		
...the processes needed for the manufacture of the FM Approved product to verify that they have been established, implemented and maintained?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

6. IMPLEMENTED SYSTEM REVIEW

	<u>Yes</u>	<u>No</u>
... the traceability of the FM Approved product from incoming inspection to finished product?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
... the validation of incoming shipments with specifications?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
... how Non-conforming items are identified, segregated and controlled to prevent unintended use or delivery?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
... the inspection procedures and their associated records to ensure they are maintained and available for review?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
... the in process inspection activities and ensure that test instructions are available and used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
... the final inspection activities and ensure that test instructions are available and used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
... how FM Approved products are identified to indicate final acceptance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Describe the aspects subjected to examination.		
Has compliance with the requirements been demonstrated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
H. Equipment Calibration		
Was an audit conducted to examine the methods applied to manage and control inspection, measuring and test equipment calibrated in a manner that is traceable to national standards or controlled in an equivalent manner?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Describe the aspects subjected to examination.		
Has compliance with the requirements been demonstrated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
I. Approved Product Validation		
Was an audit conducted to examine Specific Product Details?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Describe the aspects subjected to examination.		
Flameproof		
Has compliance with the requirements been demonstrated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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7. Non-Conformances and Proposed Corrective Actions

Identify in the table below all the non-conformances and proposed corrective actions related to this location resulting from this visit. Review the corrective actions applied to previous non-conformances and if the corrective action has resolved the identified non-conformance identify the date of the visit in the 'Date Resolved' column.

N/C Ref ⁵	Cat	Description of Non-Conformance	Proposed Corrective Action (including a date for completion if not immediate)	Date Resolved
None				
<u>N/C Categories</u>				
A	Approval Guide / RoofNav Responsibility		F	ISO 9001 Registration
B	Critical Subcontracted Activities		G	Quality Procedures and Inspection
C	FM Approvals Required Testing and Assessment		H	Equipment Calibration
D	FM Approval Mark		I	Approved Product Validation
E	Critical Drawings and Documentation Control			

⁵ N/C Naming Convention = NC-YYMMDD-01 etc

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ANNEX A: THE ATEX DIRECTIVE AND/OR IECEX SCHEME

A1. Visit Overview

The products, certifications, and/or IECEX Test Reports covered by this report are listed in Appendix attached hereto.

Applicable Scheme

ATEX
 IECEX

Electrical equipment with type(s) of protection
indicate the protection concepts examined by letter

Flameproof 'd' & Intrinsic Safety 'i'

Protective system

Safety, controlling or regulating device

A2. Conclusions

Audit Team Leader recommendations

Recommendations are subject to review by the ATEX Notified Body and/or IECEX Certification Body who has veto power regarding all decisions

Compliance with BS ISO/IEC 80079-34: *(Select only 1)*

Compliance has been demonstrated, no non conformances have been found.

Compliance has been demonstrated, even if minor non conformances are raised.

Compliance has **NOT** been demonstrated, due to Major Non-conformances being raised.

Compliance has **NOT** been demonstrated, due to Major Non-conformances being raised such that non-conforming product may be or has been released to the market.

Recommendation for ATEX Directive Quality Assurance Notification (QAN): *(Select only 1)*

QAN be issued or maintained subject to the conditions identified below.

QAN be refused or suspended.

Recommendation for IECEX Scheme Quality Assurance Report and Certificate of Conformity:

(Select only 1)
 QAR issued and recommending issue or maintenance of IECEX Certificate of Conformity subject to the conditions identified below.

QAR issued and recommending that IECEX Certificate of Conformity be refused/suspended.

Conditions of the Recommendation: *(Select all that apply)*

No corrective actions required.

Corrective actions to be examined and verified at next surveillance visit.

Corrective actions to be provided to FM Approvals for review and acceptance.

A satisfactory follow up visit is to be conducted within a maximum of 3 calendar months.

A further complete assessment, including site assessment visit to be conducted.

Findings to be communicated to all related parties i.e. ATEX Notified Bodies & UK

Government Department for ATEX Directive and/or the IECEX Secretary and other ACBs for the IECEX Scheme.

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A4. AUDIT OVERVIEW & SUMMARY

The auditor shall identify in the table below and overleaf by highlighting the applicable entries the clauses of the requirements examined during the audit. For each requirements that was examined the auditor will also identify the extent to which the documented system and/or its implementation were examined. If any non conformity reports were raised the total number of NCRs recorded against the particular clause should be recorded in the last column.

BS ISO/IEC 80079-34 requirement	Assessed			Documented System Examination			Implemented System Examination			Total No. of NCR's
	Yes	No	N/A	Full	Part	None	Full	Part	None	
4 Quality management system										
4.1 General requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.2 Documentation requirements	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.2.1 General	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.2.2 Quality manual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4.2.3 Control of documents	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.2.4 Control of records	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5 Management responsibility										
5.1 Management commitment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.2 Customer focus	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.3 Quality policy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.4 Planning	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.4.1 Quality objectives	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.4.2 Quality management system planning	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.5 Responsibility, authority & communication	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.5.1 Responsibility & authority	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.5.2 Management representative	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.5.3 Internal communication	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.6 Management review	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5.6.1 General	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.6.2 Review input	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5.6.3 Review output	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6 Resource management										
6.1 Provision of resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.2 Human resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.2.1 General	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.2.2 Competence, awareness & training	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6.3 Infrastructure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6.4 Work environment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Notes										

Title: ATEX/IECEx Annex A	Document No: F 570 Ex
Issue Date: 1 December 2016	Issue No: 0



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BS ISO/IEC 80079-34 requirement	Assessed			Documented System Examination			Implemented System Examination			Total No. of NCR's
	Yes	No	N/A	Full	Part	None	Full	Part	None	
7 Product realization										
7.1 Planning of product realization	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.2 Customer-related processes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.2.1 Determination of requirements related to the product	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.2.2 Review of requirements related to the product	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.2.3 Customer communication	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.3 Design & development <i>(7.3.7 is the only clause in the scope of this document)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.4 Purchasing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7.4.1 Purchasing process	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.4.2 Purchasing information	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.4.3 Verification of purchased product	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.5 Production & service provision	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.5.1 Control of production & service provision	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.5.2 Validation of processes for production & service provision	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.5.3 Identification & traceability	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.5.4 Customer property	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.5.5 Preservation of product	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7.6 Control of monitoring & measuring devices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8 Measurement, analysis & improvement										
8.1 General	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8.2 Monitoring and measurement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8.2.1 Customer satisfaction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8.2.2 Internal audit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8.2.3 Monitoring & measurement of processes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8.2.4 Monitoring & measurement of product	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8.3 Control of nonconforming product	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8.4 Analysis of data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8.5 Improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8.5.1 Continual improvement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8.5.2 Corrective action	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8.5.3 Preventive action	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Notes										

Title: ATEX/IECEx Annex A	Document No: F 570 Ex
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BS ISO/IEC 80079-34 requirement	Assessed			Documented System Examination			Implemented System Examination			Total No. of NCR's
	Yes	No	N/A	Full	Part	None	Full	Part	None	
Indicate below which Annexes have been examined to assess the scope of the protection concepts included in the scope.										
A										
A.1 General	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A.2 Enclosures – General remark	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A.3 Ex d-flameproof enclosures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A.4 Ex i - intrinsic safety	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
A.5 Ex e – Increased safety and nA – Non sparking	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A.6 Ex p - Pressurized apparatus	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A.7 Ex m - Encapsulation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A.8 Ex o - Oil immersion	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A.9 Ex q - Powder filling	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A.10 Ex t – Dust ignition protection by enclosure	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A.11 Gas detectors	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
A.12 Flame arresters	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
B Verification criteria for elements with non-measurable paths used as an integral part of a type of protection (informative)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB Information relevant to equipment and protective systems according to standards harmonized under Directive 94/9/EC	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB.1 Introduction	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB.2 Non-electrical equipment (EN 13463-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB.3 Protection by flow restricting enclosure „fr“ (EN 13463-2)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB.4 Protection by flameproof enclosure „d“ (EN 13463-3)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB.5 Protection by constructional safety „c“ (EN 13463-5)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB.6 Protection by control of ignition sources „b“ (EN 13463-6)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB.7 Protection by pressurised enclosures „p“ (EN 13463-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB.8 Protection by liquid immersion „k“ (EN 13463-8)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB.9 Fans (EN 14986)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB.10 Petrol dispensers (EN 13617-1)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB.11 Electrostatic spraying equipment (EN 50050)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ZB.12 Protective systems	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ONLY INCLUDE THE ANNEXES THAT ARE INCLUDED IN THE SCOPE OF THE ASSESSMENT TO THIS REPORT										

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ATEX QAN and/or IECEx QAR Schedule:

Confirm the accuracy of the Schedule for all ATEX and IECEx products. Are all ATEX products marked with CE [NB number] listed on QAN, and are all listed products still current and within capability. Describe any inaccuracies fully.

Certificate Number	Model Code	Protection Concept(s)	Revs ¹	Examined	Copy Attached
FM18ATEX0077X	JF-1A and JF-1A-HP, Conductivity Sensor	d, i	0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
KEMA05ATEX1252	JF-1A Conductivity Sensor	d, i	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IECEx FMG 18.0031X	JF-1A and JF-1A-HP, Conductivity Sensor	d, i	0	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Site Activities and Responsibilities

Activities: Summarise the activities carried out at this site and relevant activities carried out elsewhere:

Ref		Conducted at audited location	or elsewhere
A	Liaison with ATEX NB and/or IECEx CB responsible for product conformity	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B	Liaison with ATEX NB and/or IECEx CB responsible for quality assessment	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C	Application of the ATEX / IECEx Scheme marking	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D	Drawing / Document Control.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E	Approval of Changes to Drawings and Documents?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F	Quality Management System Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G	Purchasing or parts or services	<input checked="" type="checkbox"/>	<input type="checkbox"/>
H	Management of Subcontracted activities ²	<input checked="" type="checkbox"/>	<input type="checkbox"/>
I	Product Traceability	<input checked="" type="checkbox"/>	<input type="checkbox"/>
J	Incoming Inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>
K	Inspection of Incoming Shipments	<input checked="" type="checkbox"/>	<input type="checkbox"/>
L	Non-conforming Product Identification	<input checked="" type="checkbox"/>	<input type="checkbox"/>
M	In Process Inspection & Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>
N	Final Inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>
O	Packaging, Storage & Distribution	<input checked="" type="checkbox"/>	<input type="checkbox"/>
P	Customer Complaint Management	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q	Product Complaints & Notifications of Concern Management	<input checked="" type="checkbox"/>	<input type="checkbox"/>
R	Product Recall of FM Approved Products	<input checked="" type="checkbox"/>	<input type="checkbox"/>
S	Control and Management of Calibrated Instruments	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Auditor Notes (if any)...

Customer feedback:

¹ Identify the number of Supplementary Certificates / Issues that apply at the time of visit.

² If activities critical to the conformity of the product are being subcontracted please identify the location and activities involved in detail in the Auditor Notes section.

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A5. ATEX / IECEX Checklist

Summarise any findings or notes within the “Notes” area at the end of this section.

Quality management system.

If a certified ISO9001: 2008 Quality Management System, issued by an acceptably accredited certification/registration body with a scope of registration that fully encompasses the products covered by this audit report exists attach a copy of the certificate, summarise recent findings and only examine the aspects highlighted in blue below if deemed necessary.

			<input checked="" type="checkbox"/>
ISO 9001	4.1	General requirements	<input type="checkbox"/>
BS ISO/IEC 80079-34	4.1	The quality system shall ensure that the product conforms to the type described in the Ex certificate and the technical documentation.	<input checked="" type="checkbox"/>
ISO 9001	4.2	Documentation requirements	<input type="checkbox"/>
	4.2.1	General	<input type="checkbox"/>
	4.2.2	Quality manual	<input type="checkbox"/>
	4.2.3	Control of documents	<input type="checkbox"/>
BS ISO/IEC 80079-34	4.2.3 a)	technical documentation and manufacturer’s documentation shall be controlled.	<input checked="" type="checkbox"/>
	4.2.3 b)	documented procedures shall ensure that information contained within manufacturer’s documentations is compatible with the technical docs.	<input checked="" type="checkbox"/>
	4.2.3 b)	the manufacturer shall not initially approve or subsequently amend related drawings unless they are in compliance with the schedule drawings	<input checked="" type="checkbox"/>
	4.2.3 c)	the quality system shall ensure that no factor defined within the Ex certificate and technical documentation is modified	<input checked="" type="checkbox"/>
	4.2.3 d)	there shall be a documented system that refers all related drawings to the relevant schedule drawings	<input checked="" type="checkbox"/>
	4.2.3 e)	where there are common schedule drawings associated with more than one Ex certificate, there shall be a documented system to ensure simultaneous supplementary action in the event of an amendment to such drawings	<input checked="" type="checkbox"/>
	4.2.3 f)	where a manufacturer also has drawings for equipment not intended for use in explosive atmospheres, the manufacturer shall have a system that enables both the related drawings and schedule drawings to be clearly identified	<input checked="" type="checkbox"/>
	4.2.3 g)	the manufacturer shall document who is responsible for the quality system of each Ex certificate	<input checked="" type="checkbox"/>
	4.2.3 h)	where technical documentation or manufacturer’s documentation are passed to a third party, they shall be provided in a way that is not misleading	<input checked="" type="checkbox"/>
	4.2.3 i)	the manufacturer shall have a documented process to annually check the validity of all Ex related certificates, standards, regulations and other external specifications	<input checked="" type="checkbox"/>
Auditor Notes:			
ISO 9001	4.2.4	Control of records	<input type="checkbox"/>
BS ISO/IEC 80079-34	4.2.4	The manufacturer shall retain adequate quality records to demonstrate conformity of the product and satisfy national regulation and legislation.	<input checked="" type="checkbox"/>
		As a minimum, the list of documents requiring control and retention, as far as applicable, shall be:	

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- those arising from regulatory requirements;
- customer order;
- contract review;
- training records;
- inspection and test data (per batch);
- calibration data;
- sub-contractor evaluation;
- delivery data (customer, delivery date and quantity, including serial numbers where available).

Auditor Notes:

Management responsibility

ISO 9001	5.1	Management commitment	<input type="checkbox"/>
	5.2	Customer focus	<input type="checkbox"/>
	5.3	Quality policy	<input type="checkbox"/>
	5.4	Planning	<input type="checkbox"/>
	5.4.1	Quality objectives	<input type="checkbox"/>
	5.4.2	Quality management system planning (also 7.1 Planning of product realisation)	<input type="checkbox"/>
BS ISO/IEC 80079-34	5.4.2	All the elements, requirements and provisions adopted by the manufacturer in order to ensure compliance of the product with its Ex certificate and technical documentation shall be documented in a systematic and orderly manner in the form of written policies, procedures and instructions. The quality system documentation shall permit a consistent interpretation of quality programs, plans, manuals and records.	<input checked="" type="checkbox"/>

Auditor Notes:

ISO 9001	5.5	Responsibility, authority and communication	<input type="checkbox"/>
	5.5.1	Responsibility and authority	<input type="checkbox"/>
BS ISO/IEC 80079-34	5.5.1	Defined responsibilities include:	<input checked="" type="checkbox"/>
	5.5.1 a)	the effective coordination of activities with respect to equipment intended for use in explosive atmospheres;	<input checked="" type="checkbox"/>
	5.5.1 b)	the liaison with the issuer of the Ex certificate (when not issued by the manufacturer) with respect to any proposed change to the design defined in the Ex certificate and the technical documentation;	<input checked="" type="checkbox"/>
	5.5.1 c)	the liaison with the body responsible for the verification of the quality system with respect to intended updating of the quality system;	<input checked="" type="checkbox"/>
	5.5.1 d)	the authorization of initial approval and changes to related drawings, where appropriate;	<input checked="" type="checkbox"/>
	5.5.1 e)	the authorization of concessions (see 8.3 j));	<input checked="" type="checkbox"/>
	5.5.1 f)	the customers' information of any applicable specific conditions of use and any schedules of limitations;	<input checked="" type="checkbox"/>

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5.5.1 g) the reviewing of Ex certificate and technical documentation and identifying any changes that effect product compliance with the certificate.

Auditor Notes:

ISO 9001 5.5.2 Management representative

5.5.3 Internal communication

5.6 Management review

5.6.1 General

BS ISO/IEC 80079-34 5.6.1 a) the maximum intervals between reviews should normally be 12 months and shall not exceed 14 months;

5.6.1 b) top management shall chair the review;

5.6.1 c) the person(s) responsible for the activities as detailed in 5.5.1 shall participate in the review.

Auditor Notes:

ISO 9001 5.6.2 Review input

BS ISO/IEC 80079-34 5.6.2 The review shall include the overall effectiveness of the quality management system with respect to equipment intended for use in explosive atmospheres.

Auditor Notes:

ISO 9001 5.6.3 Review output

Auditor Notes:

Resource management

ISO 9001 6.1 Provision of resources

6.2 Human resources

6.2.1 General

6.2.2 Competence, awareness and training

6.3 Infrastructure

6.4 Work environment

BS ISO/IEC 80079-34 6.2.2 The manufacturer shall ensure that all persons having an impact on Ex compliance receive appropriate training.

Auditor Notes:

Product realization

ISO 9001 7.1 Planning of product realization

7.2 Customer-related processes

7.2.1 Determination of requirements related to the product

7.2.2 Review of requirements related to the product

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BS ISO/IEC 80079-34 7.2.2 The review shall ensure that any stated customer requirement is compatible with the Ex certificate e.g. equipment group, temperature class, type of protection, EPL and ambient temperature range.

Auditor Notes:

ISO 9001 7.2.3 Customer communication

7.3 Design and development

7.3.1 Design and development planning

7.3.2 Design and development inputs

7.3.3 Design and development outputs

7.3.4 Design and development review

7.3.5 Design and development verification

7.3.6 Design and development validation

7.3.7 Control of design and development changes

7.3.7 The person identified in 5.5.1 a) shall approve any changes that could compromise Ex compliance.

Auditor Notes:

Purchasing

ISO 9001 7.4 Purchasing

7.4.1 Purchasing process

BS ISO/IEC 80079-34 7.4.1 a) while manufacture, testing and final inspection may be sub-contracted, the responsibility for ensuring conformance with the Ex certificate shall not be subcontracted;

7.4.1 b) suppliers that provide a product, process or service that can affect the product's compliance with the Ex certificate, shall only be selected after an evaluation has demonstrated that they have the capability of ensuring compliance with all specified requirements:

7.4.1 b) 1 documented objective evidence that the supplier can provide a product, process or service that is fit for its purpose shall be made by one or more of the following methods:

- the supplier has an acceptable Ex quality system,
- the supplier has a quality system certificate in accordance to the appropriate standard and with an acceptable scope,
- a documented site assessment to ensure that all relevant controls are available, documented, understood and effective.

7.4.1 b) 2 suppliers providing calibration services (including verification on measuring devices by comparison with calibrated equipment) shall be evaluated on their ability to meet stated requirements, in addition to 7.6;

7.4.1 b) 3 where the features affecting the type of protection cannot be verified at a later stage, e.g. encapsulated intrinsically safe circuits, then the product, process or service shall only be accepted by one of the following methods:

- the manufacturer can demonstrate that the control process implemented by the subcontractor ensures Ex compliance,

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- the body responsible for the verification of the quality system performs periodic audits at the sub-contractors.
- 7.4.1 c) suppliers not used for a period exceeding one year shall be re-evaluated in accordance with 7.4.1 b) prior to the placing of a contract or a purchase order;
- 7.4.1 d) requirements b) and c) are not mandatory for products, processes or services where the manufacturer verifies conformance in accordance with 7.4.3;
- 7.4.1 e) the ongoing ability of the supplier to provide conforming product, process or service shall be reviewed at periods not exceeding one year;
- 7.4.1 f) the manufacturer shall facilitate an arrangement whereby the body responsible for the verification of the Ex quality system may also verify aspects of any supplier's operation that affects the type of protection.

Auditor Notes:

- | | | | |
|----------------------------|----------|--|-------------------------------------|
| ISO 9001 | 7.4.2 | Purchasing information | <input type="checkbox"/> |
| BS ISO/IEC 80079-34 | 7.4.2 a) | purchasing documents shall clearly describe the specific requirements pertaining to subcontracted product set out in the Ex certificate and the technical documentation. | <input checked="" type="checkbox"/> |
| | 7.4.2 b) | where conformance cannot be verified after manufacture (e.g. encapsulated intrinsically safe circuits), the purchasing information shall set out the specific quality procedures, resources and sequence of activities; | <input checked="" type="checkbox"/> |
| | 7.4.2 c) | the manufacture shall define the method by which documents stated in a particular purchase order remain traceable to the order; | <input checked="" type="checkbox"/> |
| | 7.4.2 d) | where the manufacturer does not provide such documents with subsequent orders, then the manufacturer shall have procedures for ensuring that suppliers have current copies of documents and that their integrity be maintained | <input checked="" type="checkbox"/> |

Auditor Notes: Purchasing PO requires a Declaration of Conformity for the Flameproof enclosure

- | | | | |
|----------------------------|-----------|--|-------------------------------------|
| ISO 9001 | 7.4.3 | Verification of purchased product | <input type="checkbox"/> |
| BS ISO/IEC 80079-34 | 7.4.3 a) | for purchased products that can compromise the type of protection the manufacturer shall determine and implement verification arrangements which demonstrate the product's compliance with the Ex certificate, taking into account the nature of the product and the nature of the supplier; | <input checked="" type="checkbox"/> |
| | 7.4.3 b) | when deciding what type of verification is required for a particular purchased product, the manufacturer shall consider the nature of the purchased product, the supplier and how critical it is to the type of protection. | <input checked="" type="checkbox"/> |
| | 7.4.3. c) | where the supplier has been evaluated, and documented objective evidence has been obtained to demonstrate that the supplier is fully capable of producing and verifying the product or service, no further verification of the product or service is required, provided a declaration of conformity according to ISO/IEC 17050-1 is supplied with each batch or product; | <input checked="" type="checkbox"/> |
| | 7.4.3. d) | where the Ex certificate specifies routine tests or inspections, these shall be carried out on each product. | <input checked="" type="checkbox"/> |
| | | When carried out by the supplier, this shall be specified on the purchasing documents, e.g. by a quality plan, and confirmed by the supplier, e.g. by a declaration of conformity according to ISO/IEC 17050-1 including test results, if required | <input checked="" type="checkbox"/> |

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- 7.4.3 e) where verification of a purchased product cannot be carried out after manufacture, e.g. the internal parts of encapsulated intrinsically safe circuits, then the product shall only be accepted if supplied with a declaration of conformity according to ISO/IEC 17050-1. This shall specifically state compliance to the purchase documents, e.g. a quality plan that lists the factors that together demonstrate conformity of the product;
- 7.4.3 f) where sample inspections or tests are permitted they shall be conducted in a manner which demonstrates conformity of the entire batch;
- 7.4.3 g) where either the supplier or the manufacturer requires training or specialist skills or knowledge to carry out a verification, then the training material, specialist skill, knowledge or background shall be documented and training records maintained;
- 7.4.3 h) where the manufacturer chooses not to carry out inspections and tests on his own premises, then inspections and tests shall be performed on the supplier's premises under the responsibility of the manufacturer;
- 7.4.3 i) where a supplier provides product with evidence of conformity applicable to use in a explosive atmosphere (e.g. Ex certificate), then further verification is not required unless the manufacturer considers it necessary;
- 7.4.3 j) where verification of a purchased product relates to the material (metals, alloys, non metallic parts, resins and similar), a specific analysis certificate or declaration shall be supplied.

Auditor Notes: Flameproof enclosure are received with Declaration of Conformity and enclosure serial numbers are identified on the in process documentation with the serial number of the product.

Production and service provision

- | | | | |
|----------------------------|---|---|-------------------------------------|
| ISO 9001 | 7.5.1 | Control of production | <input type="checkbox"/> |
| | 7.5.2 | Validation of processes for production | <input type="checkbox"/> |
| | 7.5.3 | Identification and traceability | <input type="checkbox"/> |
| | 7.5.4 | Customer property | <input type="checkbox"/> |
| | 7.5.5 | Preservation of product | <input type="checkbox"/> |
| BS ISO/IEC 80079-34 | 7.5.1 | The manufacturer shall provide procedures, production equipment, working environments and inspection/testing facilities that together provide assurance with respect to the compliance of the product with the type as described in the Ex certificate. | <input checked="" type="checkbox"/> |
| | 7.5.2 | Where a process can affect the integrity of a type of protection, and where the resulting integrity cannot be verified after manufacture (e.g. the environmental conditions required for curing an encapsulant), that specific process shall be measured or monitored and documentary evidence shall be maintained to demonstrate compliance with required parameters (see also Annex A). | <input checked="" type="checkbox"/> |
| | 7.5.3 k) | the manufacturer shall establish and maintain procedures for product identification during all stages of production, testing, final inspection and placing on the market; | <input checked="" type="checkbox"/> |
| | 7.5.3 l) | traceability is required with respect to the final product and its significant parts. Traceability can be achieved using serial number, batch or other acceptable method. | <input checked="" type="checkbox"/> |
| | 7.5.4 | It is the responsibility of the manufacturer to verify the compatibility of the customer supplied product with the requirements of the Ex certificate. | <input checked="" type="checkbox"/> |
| 7.5.5 | The manufacturer shall provide customers with instructions prepared in accordance with the relevant standards or statutory and regulatory requirements. | <input checked="" type="checkbox"/> | |

Auditor Notes: traceability is maintained on the Manufacturing Process Control Document

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Control of monitoring and measuring devices

ISO 9001	7.6	Control of monitoring and measuring devices	<input type="checkbox"/>
BS ISO/IEC 80079-34	7.6 a)	Where a calibration certificate does not bear the accreditation logo of a national accreditation authority, each calibration certificate shall include at least the following information:	<input checked="" type="checkbox"/>
		an unambiguous identification of the item calibrated;	<input checked="" type="checkbox"/>
		evidence that the measurements are traceable to international or national measurement standards;	<input checked="" type="checkbox"/>
		the method of calibration;	<input checked="" type="checkbox"/>
		a statement of compliance with any relevant specification;	<input checked="" type="checkbox"/>
		the calibration results;	<input checked="" type="checkbox"/>
		the uncertainty of measurement, where necessary;	<input checked="" type="checkbox"/>
		the environmental conditions, where relevant;	<input checked="" type="checkbox"/>
		the date of calibration;	<input checked="" type="checkbox"/>
		the signature of the person under whose authority the certificate was issued;	<input checked="" type="checkbox"/>
		the name and address of the issuing organization and the date of issue of the certificate;	<input checked="" type="checkbox"/>
		a unique identification of the calibration certificate.	<input checked="" type="checkbox"/>
	7.6 b)	Where a calibration certificate does not bear the accreditation logo of a national accreditation authority or does not contain the information listed in 7.6 a) of ISO 9001:2008, the manufacturer shall demonstrate a valid relationship to international or national measurement standards by other means (e.g. a documented site assessment).	<input type="checkbox"/>

Auditor Notes:

Measurement, analysis and improvement

ISO 9001	8.1	General	<input type="checkbox"/>
	8.2	Monitoring and measurement	<input type="checkbox"/>
	8.2.1	Customer satisfaction	<input type="checkbox"/>
	8.2.2	Internal audit	<input type="checkbox"/>
BS ISO/IEC 80079-34	8.2.2	The audit program shall address the effectiveness of the elements of the quality system as described in this standard to ensure that the products are in conformity with the Ex certificate.	<input checked="" type="checkbox"/>
		The maximum period between audits should normally be 12 months and shall not exceed 14 months.	<input checked="" type="checkbox"/>

Auditor Notes:

ISO 9001	8.2.3	Monitoring and measurement of processes	<input type="checkbox"/>
	8.2.4	Monitoring and measurement of product	<input type="checkbox"/>
BS ISO/IEC 80079-34	8.2.4	Where routine tests are required by the Ex certificate and by the technical documentation, these tests shall be performed as specified. Unless specifically permitted by the Ex certificate and the technical documentation, statistical methods shall not be used.	<input checked="" type="checkbox"/>

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Where practicable, the label bearing the marking data shall not be affixed until the final inspection and testing has been satisfactorily completed.

Auditor Notes:

ISO 9001	8.3	Control of nonconforming product	<input type="checkbox"/>
BS ISO/IEC 80079-34	8.3 a)	the manufacturer shall maintain a system such that in the event of the product not complying with the Ex certificate, and having been supplied, then the manufacturer's customer can be identified;	<input checked="" type="checkbox"/>
	8.3 b)	the manufacturer shall take action, appropriate to the degree of risk, where a nonconforming product has been supplied to a customer;	<input checked="" type="checkbox"/>
	8.3 c)	where an unsafe nonconforming product has been supplied to a customer, the manufacturer shall inform the customer, in writing as well as the body responsible for the verification of the quality system, and the issuer of the Ex certificate;	<input checked="" type="checkbox"/>
	8.3 d)	where it is not possible to trace the unsafe, nonconforming product (e.g. product supplied via a distributor, or for high volume products such as cable glands) then a notice shall be placed in appropriate publications providing recommended action to be taken;	<input checked="" type="checkbox"/>
	8.3 e)	for all nonconforming product that has been supplied to a customer, the manufacturer shall maintain, for a minimum period of 10 years, records of:	<input checked="" type="checkbox"/>
		1) serial numbers or identification of products supplied;	<input checked="" type="checkbox"/>
		2) the customer who received the product;	<input checked="" type="checkbox"/>
		3) the action taken to inform customers and the body responsible for the verification of the quality system in the case of unsafe nonconforming product;	<input checked="" type="checkbox"/>
		4) the action taken to implement corrective and preventative action;	<input checked="" type="checkbox"/>
	8.3 f)	concessions for the product that take it outside the design, as defined in the Ex certificate and technical documentation, are not permitted.	<input checked="" type="checkbox"/>

Auditor Notes:

ISO 9001	8.4	Analysis of data	<input type="checkbox"/>
	8.5	Improvement	<input type="checkbox"/>
	8.5.1	Continual Improvement	<input type="checkbox"/>
	8.5.2	Corrective action	<input type="checkbox"/>
	8.5.3	Preventive action	<input type="checkbox"/>
	8.5.1	Continual Improvement	<input type="checkbox"/>
	8.5.2	Corrective action	<input type="checkbox"/>
	8.5.3	Preventive action	<input type="checkbox"/>

Auditor Notes:

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A6. ATEX / IECEX PRODUCT CHECKLIST

Item(s) examined : JF-1A and JF-1A-HP, Conductivity Sensor

Certificate number : FM18ATEX0077X
IECEX FMG 18.0031X

Drawings used : 440-217 rev. 1

Equipment used : visual;
(check calibration status)

Findings :

Verified the Flameproof Enclosure from Adalet to be the correct enclosure and verified the declaration of conformity; verified the Sealing Nipple Cortem S.P.A. Model NPS, certified as II 2 G Ex d IIC Gb, Certificate Numbers CESI 01 ATEX 080U with its declaration of conformity; verified all markings on the product label, verified the process for encapsulating the Intrinsically Safe components per the instruction of the casting compound.

Compliance found? YES

NO

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A7. ATEX / IECEX PRODUCT CHECKLIST - BS ISO/IEC 80079-34

Annex A Information relevant to particular types of protection (informative)

A.1 General

The following checklists provides information on those aspects that the quality system should address with respect to particular types of protection. It does not add to or otherwise change the requirements of this standard. This annex provides examples of how to meet the requirements of this standard, recognizing that other methods which achieve the same objectives are equally acceptable; in addition, it draws attention to aspects of requirements that may not be readily apparent to those unfamiliar with quality systems for products intended for use in explosive atmospheres.

For each applicable section each question that has been examined shall have the result box marked **[X]**

Any concerns identified during the audit shall be recorded as an NCR or Observation and described under section A6. of this report.

NOTE 1: Any section below that is not included in the scope of the audit may be deleted from the final report.

NOTE 2: The following examples do not cover all types of protection but give some advice and will be supplemented in the next edition of ISO/IEC 80079-34.

A.2 Enclosures – General remark

For enclosures and other components forming part of the enclosure and also for fans, fan hoods and ventilation screens, the manufacturer should verify the material composition (e.g. declaration of conformity in compliance with ISO/IEC 17050-1 from the supplier).

Statistical bases are not appropriate to routine tests required by the Ex certificate, except where the following currently permit such techniques:

– the relevant standard;

– appropriate interpretation and clarification sheets;

All measurements should take into account temperature variations.

Auditor Notes

A.3 Ex d-flameproof enclosures

A.3.1 Verification

Verification consists of a visual inspection and measurement.

The measurement should be carried out with a suitable measuring equipment.

The persons doing this measurement should have the competence and knowledge of using this measuring equipment.

Auditor Notes Flameproof Enclosure is an Adalet XDHA Series Flameproof Certified Enclosure. The enclosures are received with a Declaration of Conformity.

A.3.2 Castings

Are castings subject to verification that demonstrates conformity, e.g.:

a) 100 % visual inspection done on each part;

b) wall thickness (including those parts not subject to machining);

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Annex A Information relevant to particular types of protection (informative)

c) flaws, inclusions, blow holes and porosity (by either a visual or test method depending upon the criticality).

Recovery of porous castings by impregnation methods, e.g. silicon, is not permitted.

In the event that a casting is recovered by welding is it subject to the requirements applicable to fabricated enclosures, e.g. routine pressure testing.

Auditor Notes N/A

A.3.3 Machining

Is machining subject to verification by either 100 % inspection or statistical techniques as appropriate that demonstrates conformity. e.g. the following should be verified:

a) flatness of flanged flamepaths;

b) surface roughness of non-threaded flamepaths;

c) fit of all threaded flamepaths (e.g. cable entries and threaded access covers);

d) depth of drilling and tapings to ensure adequate residual wall thickness;

e) dimensional requirements of all flamepaths.

NOTE When statistical techniques are used, this should be in accordance with ISO 3951-1 or equivalent standard.

Auditor Notes Declaration of Conformity

A.3.4 Cemented joints and potted assemblies

Do documented procedures address the following:

a) shelf life and storage of cement, potting compounds;

b) mixing;

c) surface preparation (degreasing or equivalent is usually required immediately before the potting-operation to ensure good adhesion);

d) application e.g. filling instructions, freedom from voids and temperature conditions;

e) curing: this should include curing period, any relevant environmental factors, provision to ensure product is undisturbed during the curing period.

Auditor Notes N/A

A.3.5 Routine pressure testing

The purpose of the test is to check that the enclosure does not suffer damage or permanent deformation and that there is no leakage from the enclosure during the test other than through constructional gaps, e.g. flamepaths.

Does leakage through cemented joints or potted assemblies constitute a failure.

Is the test a single test conducted on a complete assembly, or a series of tests on each sub-assembly or component part.

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Annex A Information relevant to particular types of protection (informative)

For enclosures that contain more than one discrete compartment, is each compartment tested individually.

Does the method used ensure that the assembly, sub-assembly or component parts are subjected to representative stress patterns e.g. actual fastening facilities are used.

Is clamping that affects the mechanical properties of the type of protection deemed to invalidate the test results.

Due to safety considerations and difficulty in detecting leakage, hydraulic rather than pneumatic methods are recommended.

Is the test facility adequate to readily provide the required pressure during the test period.

Leakage from flamepaths can be reduced by the use of gaskets or 'O' rings.

Is the pressure gauge calibrated, of suitable resolution and range, located such that it does not invalidate the test (e.g. due to pressure drop down pipelines).

Does the method of test enable any leakage to be monitored during the test period.

Does the verification of the routine pressure test include verification of the product for damage or deformation, e.g. flange flamepaths are still within stated tolerances and fastenings are not stretched.

Auditor Notes N/A

A.3.6 Flanged joints

Are flanged joints verified after final assembly to ensure the specified gap is not exceeded.

If not possible, are special measures taken during the production.

Auditor Notes N/A

A.3.7 Elements, with non-measurable paths, of breathing and draining devices

For products containing elements like sintered metal, pressed metal wire or metal foam, see Annex B.

Auditor Notes N/A

A.4 Ex i - intrinsic safety

A.4.1 Components for intrinsically safe products

Are the following features verified with respect to the following components for use in intrinsically safe apparatus and associated apparatus.

This normally means verifying the marking on the components or packaging and may be achieved by using statistical techniques where appropriate.

Table A.1 – Component features requiring compatibility		
Component	Feature	Notes / Comments
Resistors	Value, power,	100ohm 2W

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Annex A Information relevant to particular types of protection (informative)

Capacitors	type, tolerance, case size Value, tolerance, type, rated voltage, case size	1% CPF1100R00FKB14	<input type="checkbox"/>
Piezo-electric devices	Manufacturer, type, capacitance		<input type="checkbox"/>
Inductive components	Type, inductance, DC resistance, number of turns, wire gauge and material, material specification of core and bobbin, where appropriate		<input type="checkbox"/>
Transformers	Type, manufacturer, isolation, voltage		<input type="checkbox"/>
Optical isolator	Type, isolation, voltage		<input type="checkbox"/>
Semi-conductors: – diodes – Zener diodes – transistors – integrated circuits – thyristors	Type number, power value and where appropriate, the manufacturer	SMAJ5.0CA 1W 7.25V 5%	<input type="checkbox"/>
Cells and batteries	Manufacturer type number, or IEC designation		<input type="checkbox"/>
Fuses	Manufacturer, type, value	Littlefuse 0242.050 50mA, 4000A, 250Vac/Vdc	<input type="checkbox"/>
Insulating materials	Specification, dimensions and where appropriate type number		<input type="checkbox"/>
Connectors (e.g. plugs/ sockets and terminals)	Type number where appropriate, the manufacturer		<input type="checkbox"/>

Auditor Notes

A.4.2	Printed circuit boards (PCB)	<input type="checkbox"/>
A.4.2.1	Non-populated PCB's	<input checked="" type="checkbox"/>
	Are PCBs accepted with a declaration of conformity in accordance with ISO/IEC 17050-1.	<input checked="" type="checkbox"/>
	Does the declaration state compliance to the purchase documents e.g. a quality plan that lists the factors that together demonstrate conformity of the product.	<input checked="" type="checkbox"/>

Title: ATEX/IECEx Annex A	Document No: F 570 Ex
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Annex A Information relevant to particular types of protection (informative)

For simple single or double sided PCBs, is the copper artwork visually verified using photographic negative (transparency), certified drawing or controlled inspection sample.

Do purchase documents specify copper thickness with tolerances, PCB thickness with tolerances and CTI values.

Auditor Notes

A.4.2.2 Populated PCB's

Are varnish and coatings controlled with respect to the specification of material, effectiveness of cover and, where required, application of two independent coverings, i.e. the first covering is allowed to cure or to dry for a suitable time before application of the second covering.

For PCBs, does the manufacturer maintain a list of safety critical components used in production (e.g. resistors and Zener diodes) determined during Ex equipment assessment.

Are the safety critical components placed on the PCB verified on a 100 % basis.

Are specified distances and clearances on manual assembled PCBs verified on a 100 % basis.

This may be conducted by one of the following methods:

a) a visual verification;

b) for surface mount components, by ensuring correct loading of the "pick and place" machines and a visual verification of correct placement;

c) by automatic test equipment (ATE) provided that the ATE addresses each individual safety critical component and by a visual verification is conducted to verify type number of components in shunt Zener diode/diode assemblies.

NOTE Where the surface mount component "pick and place" machine selects the component reel based on measuring the component value, the measuring function should be calibrated.

Are documented procedures provided that ensure that workmanship standards are defined with respect to component mounting and soldering.

Do documented procedures ensure that segregation of related parts (e.g. terminals) and wiring/cabling is maintained...

...and that specified colours, cross-sectional area, insulation thickness and labels (where appropriate) are fitted.

Auditor Notes

A.4.3 Sub-assemblies and assemblies

Do documented procedures ensure that production documentation includes all relevant variations to the product design.

Do production documentation address all safety critical components and,

in the case of encapsulated parts, the compound manufacturer, type, mix and depth.

Do documented procedures ensure that segregation of related parts (e.g. terminals) and wiring/cabling is maintained and that specified colours, cross-sectional area, insulation thickness and labels (where appropriate) are fitted.

Title: ATEX/IECEx Annex A	Document No: F 570 Ex
Issue Date: 1 December 2016	Issue No: 1



Annex A Information relevant to particular types of protection (informative)

Are sealing arrangements verified for compatibility with the product's ingress protection rating.

Auditor Notes

A.4.4 Tests

Are any tests specified Ex certificate, e.g. high voltage tests on complete assemblies or individual components such as transformers, controlled by documented procedures and conducted on a 100 % basis, unless otherwise permitted.

Auditor Notes

A.4.5 Intrinsically safe circuits and assemblies housed in Ex d, Ex p or Ex q enclosures

Where Ex d, Ex p or Ex q enclosures contain intrinsically safe circuits, then are precautions taken as stated in the Ex certificate to ensure that other items listed in the Ex certificate are selected, mounted and installed in accordance with schedule drawings.

Auditor Notes



Certificate of Registration

This certifies that the Quality Management System of

D-2 Incorporated

23 Edgerton Drive
Suite A

North Falmouth, Massachusetts, 02556, United States

has been assessed by NSF-ISR and found to be in conformance to the following standard(s):

ISO 9001:2015

Scope of Registration:

Design, Development, Manufacture and Service of Industrial Instrumentation Sensors and Systems.



Certificate Number: C0289877-IS2
Certificate Issue Date: 01-JUN-2018
Registration Date: 08-AUG-2018
Expiration Date *: 07-AUG-2021

Carl Blazik,
Director, Technical
Operations & Business Units,
NSF-ISR, Ltd.

NSF International Strategic Registrations

Attendees:

- A. Fougere
- D. Fougere
- D. Fernandes
- S. Sayles

Quality Concerns in Production		
Description	Priority/Date	Owner
JF-1A: IECEX; Customer has order IECEx product, the task of acquiring the certification is underway. We are at the point of supplying the drawing package; Most details have already been OK'd by the governing body (FM)	High	Alan/Steve
JF-1A: component obsolescence; a decision to redesign the boards to alleviate the problem of obsolescence along with the inclusion of a hart interface in ongoing.	High	Alan/Steve
JF-1A: Tip build interference discover proper tolerance for thread involved with the Outer electrode and inner electrode isolator	Medium	Alan
JF-1A: Slide Lock Material Can we change the slide lock material to a dark color to lessen the "dirty look" that the standard build can give.	Low	Alan
JF-1A: Bad Loop readings more thoroughly investigate Root cause of customer's bad loop readings. Alan site visit fixed problem.	Medium	Alan/Steve

JF-1A-HH: NIST traceability; Initial testing on conductivity traceability has been conducted. More testing scheduled for this month with results to be written up	High	Alan
JF-WA1-N: EEPROM Error; Service units are being tracked, no new issues found.	Low	Steve
JF-WA1-N: Calibration Timeframe Continue tracking calibration values from service returns. 1 Year period as of now.	Low	Steve
JF-WA1-N: Testpad; Navy has completed and has not approved the pad sue to a 2.7% increase in sensitivity. No further testing at this time.	Low	Alan
JF-WA1-N: Cracked Lens; Conduct in-house test on possibility of cracking lenses and the force necessary. May need redesign of lens holder.	Medium	Steve
JF-WSI: ECO concerning all drawings after first production build and to incorporate design change of tray	Low	All
JF-WSI: ASTM Issues Attend ASTM meeting to difuse or adjudicate any negatives from latest Ballot	High	Alan
JF-WSI: CGSB Issues Attend CGSB meeting to difuse or adjudicate any negatives from latest Ballot	High	Alan
JF-WSI: Firmware Updates; Needs to be completed before first sale.	High	Steve

JF-WSI: SD Card determine cause of SD cards not being recognized by instrument.	Low some work	Alan/Steve
Series 447 Redesign if customers come back to order more sensors.	Low	Alan
Series 447: Calibration; Write Calibration document with Vertical mount specified	Low	Alan/Steve
Series 447 - Conductivity Cell perform ILS to incorporate this conductivity cell into ASTM method D2624	Low	Alan
JF-RC: Redesign Change orientation of conductivity cell to relieve the presence of bubbles	Medium	Alan
JF-RC: Feedback from field; Stanhope wants to try Plunger design concept	Low	Alan
JF-RC: Color, Shell; Remove mentions of Color and Shell water test from all Rampcheck documentation - both website and printed	Low	Dean/Steve
JF-WA1-P: Define final unit; Working with the army, it has a need to test both Jet Fuel (they have ok'd) and Deisel(not OK'd)	High	Alan
JF-WA1-P: Diesel Shuttle Develop second shuttle to work for use with Diesel Fuels	Medium	Alan

MFA: FTIR Test John Seilenbinder to develop new detection schems for the two new additives the Army is looking for	Low	John S.
CT-Sensor: Completed work at Rev 1A. Will need to update if/when more orders are placed	Low	Steve
CTD-Sensor: On going testing with both boards	Medium	Steve
CTD-Sensor: testing with electrodes and glass tube to see if there is a fit issue.	Medium	Steve
Quality Manual: Audit Schedule; Finalize Audit schedule	Low	Steve
Quality Manual: ISO 17025; Next standard to accomplish	Low	Steve
Mysis: Costing; Run Test on product/assembly costing. Make sure it can interface with what Quickbooks is looking for	Medium	Dennis
Misys: Second seat Find out pricing for second seat	Low	Dennis
Sales: New Rep has been hired evaluate performance	Low	Dennis/Alan
Sales: Price reduction of JF-1A-HH evaluate performance	Low	Dennis/Alan
Marketing: Website update website as an ongoing process to reflect all things new to D-2 Inc Create weekly/bi-weekly blog	Low	Dennis/Alan

Management Review Topics

Date: 12OCT18

Attended By:

Alan Fougere – President/Engineering Manager
Dean Fougere – Production
Stephen Sayles – Quality Manager
Dennis Fernandes – Sales Manager

- Review Last Year's Task List
- Quality concerns in Products
 - Quality Issues on Existing Product
 - JF-1A: Resistor added to loop for specific customer
 - New IECEx certification
 - New drawings/boards/assemblies
 - JF-1A-HH:
 - Finalize calibration NIST traceable
 - JF-WA1/JF-WA1-N:
 - EEPROM Error
 - Calibration term length
 - New contract – lead times
 - JF-WSI:
 - Data from field testing
 - Ballot issues
 - SD Card – some work, some don't
 - Series 447 – since the term MicroCond2 is no longer in use
 - Some talk of one customer wanting more

- Quality concerns in Engineering/Development
 - Quality Issues on Product under development
 - JF-WA1-P
 - Issues concerning Diesel Fuel
 - What's next?
 - MFA:
 - FTIR development
 - What's next?
 - Rampcheck:
 - Only offer Conductivity, Temperature and Density?
 - Redesign to remove bubble issue
 - Plunger??
 - Marine Products:
 - CT Sensor
 - Re-do schematic with changes from Rev 1A
 - Customer has on in hand
 - What's next?
 - CTD Sensor
 - Build Rev 1 microcontroller board
 - Rev 2 Conductivity board out for purchase
 - Assembly issues?
 - What's next?
- Quality concerns with Procedures
 - New ISO 9001:2015 Accreditation – accepted and implemented
 - Need to finish Internal Audit schedule
- Quality Concerns with Accounting
 - Quickbooks - ??
 - Misys - ??
 - Navy - ??
- Quality concerns with Sales
 - Future Sales plan
 - WSI rollout
- Review Quality Management
 - Review old Internal Audits
 - IECEx
 - Lab 17025

D-2 INCORPORATED
Manufacturing Process Control Document



IS Safety Card Conformance Certification Report
P/N C440-211

Technician: _____ Date: _____
 Card Work Order Number: _____ Unit Number: _____

Test Section:

- 1.0 IPC 6012 Class II Cert. Of. Conf. 2 Oz. Copper Checked _____
- 2.0 Component Verification TV1 – TV14 Checked _____
- Component Verification R1 – R7 Checked _____
- Component Verification F1 – F7 Checked _____
- 3.0 Supplemental Ground Verification Checked _____
- 4.1 Pass through Resistance Verification

Handwritten notes:
 1.0
 2.0
 3.0
 4.0

Selector Pos.	Pass	Fail	Polarity	Function	Limit Ohms
1	✓		+	Ohms	100 - 120
2	✓		+	Ohms	100 - 120
3	✓		+	Ohms	<1
4	✓		+	Ohms	100 - 120
5	✓		+	Ohms	100 - 120
6	✓		+	Ohms	100 - 120
7	✓		+	Ohms	100 - 120
8	✓		+	Ohms	100 - 120

4.2 Positive Voltage Pass through Verification

Selector Pos.	PASS	FAIL	Polarity	Function	Limit Voltage
9	✓		+	Ohms	>9.0 VDC
1	✓		+	Volts	< 7.0 VDC
2	✓		+	Volts	<7.0 VDC
3	✓		+	Volts	<0.5 VDC
4	✓		+	Volts	<7.0 VDC
5	✓		+	Volts	<7.0 VDC
6	✓		+	Volts	<7.0 VDC
7	✓		+	Volts	<7.0 VDC
8	✓		+	Volts	<7.0 VDC

4.3 Negative Voltage Pass through Verification

Selector Pos.	PASS	FAIL	Polarity	Function	Limit Voltage
1	✓		-	Volts	>-7.0 VDC
2	✓		-	Volts	>-7.0 VDC
3	✓		-	Volts	>-0.5 VDC
4	✓		-	Volts	>-7.0 VDC
5	✓		-	Volts	>-7.0 VDC
6	✓		-	Volts	>-7.0 VDC
7	✓		-	Volts	>-7.0 VDC
8	✓		-	Volts	>-7.0 VDC

DWG. NO. : A440-215	REV 7
TITLE: IS CARD TEST & CERTIFICATION	
Filename – C:\D-2 INC\Drawings\440 - JF1A\Word\440-215R7,IS Card Test Sheet.DOC	
Page 5 of 5	



176985

Attestation of Conformity

This is to declare, in accordance with Directive 94/9/EC, that the following product(s) are designed and manufactured in accordance with Annex II of Directive 94/9/EC .

The manufacturer attests on their own responsibility that the apparatus has been constructed in accordance with the principles of good engineering in safety matters, and that any routine verification and test required by Clause 27 of EN 60079-0:2006 has been successfully completed.

Manufacturer:

ADALET, Scott Fetzer Company
4801 West 150th Street, Cleveland, Ohio 44135, USA

Product Description:

Cast Aluminum or Stainless Steel, Flameproof Enclosure,
Type XIHX Single Ended Body, for use in potentially explosive atmospheres.
(ATEX: Ex d IIC, II 2 G); (II 2 D, Ex tD A20) (Enclosures employed with Cemented Window to Cover joints or solid cover)

Type XDHX Dual Ended Body, for use in potentially explosive atmospheres.
(ATEX: Ex d IIB+H2, II 2 G); (II 2 D, Ex tD A20) (Enclosures employed with Cemented Window to Cover joints or solid cover)

Ambient Temperature Range Of All Enclosures: -50°C TO +100°C

Certifying Agency:

UL International DEMKO A/S Testing & Certification (0539)
P.O. Box 514, Lyskaer 8, DK-2730 Herlev, Denmark

EC-Type Examination Certificate: DEMKO 07 ATEX 0622294 U

This Declaration is based on Compliance with the following Standards:

EN60079-0:2006 ELECTRICAL APPARATUS FOR POTENTIALLY EXPLOSIVE ATMOSPHERES - GENERAL REQUIREMENTS

EN 60079-1:2007 ELECTRICAL APPARATUS FOR POTENTIALLY EXPLOSIVE ATMOSPHERES - FLAMEPROOF 'd'


EN 61241-0:2006 ELECTRICAL APPARATUS FOR USE IN THE PRESENCE OF COMBUSTIBLE DUST - PART 0 GENERAL REQUIREMENTS-1

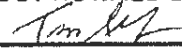
EN61241-1:2004 ELECTRICAL APPARATUS FOR USE IN THE PRESENCE OF COMBUSTIBLE DUST - PART 1 PROTECTION BY ENCLOSURE 'd'

EN 60529:1991 SPECIFICATIONS OF PROTECTION BY ENCLOSURES (IP CODE)

S/N _____ DATE **SEP 04 2012**

For and on behalf of ADALET,


Timothy Snelly,
Standards Engineer
DS682 Rev. B 04MAR.2008

ATEX APPROVED
NO REVISIONS TO DRAWING
WITHOUT NOTIFIED BODY APPROVAL
SIGN 

4801 West 150th Street • Cleveland, Ohio 44135	phone 216•267•9000	fax 216•267•6710	www.adalet.com
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ADALET

Installation Sheet

SERIES XIHX - SINGLE ENDED BODY
XDHX - DUAL ENDED BODY
Flameproof Enclosures EN60079/IEC60079

Adalet's XIHX Single Ended Series Flameproof Enclosure consist of an XIH body and one of the various covers indicated below. The XDHX Double Ended Series of Flameproof Enclosure consists of an XDH body and two of the various covers indicated below. The XIHX and XDHX series of enclosures are cast from copper-free aluminum. The enclosures are intended to be used primarily as instrument housings. The XDHX enclosure is similar to the XIHX enclosure, except they are provided with a threaded cover on both ends of the body. Up to three entries may be provided in the XDH body and four in the XIH body, with threads as specified in the control drawings DS428 AND DS681. The XIHX & XDHX enclosures are available with flat solid, flat glass, dome solid and dome glass style covers. Additional options permitted in the enclosures are also specified on the control drawings DS428E REV. A AND DS681E REV. A.

Certifications

EN60079-1/IEC60079-1 Ex d IIC, EN61241-1/IEC61241-1 Ex tD A20 IP66
XIHX SINGLE ENDED ENCLOSURES WITH CEMENTED WINDOW COVER JOINT OR SOLID COVERS.
EN60079-1/IEC60079-1 Ex d IIB+H2, EN61241-1/IEC61241-1 Ex tD A20 IP66
XDHX DOUBLE ENDED ENCLOSURES WITH CEMENTED WINDOW COVER JOINT OR SOLID COVERS.

Ambient Temperature

Range

-50°C to +100°C

Certificates: DEMKO 07 ATEX 0622294U
IECEX UL.08.0005U

UL 1203: Class I, Groups BCD; Class II, Groups EFG; Class III
CSA C22.2 No. 30: Class I, Groups BCD; Class II, Groups EFG; Class III
(Investigated to CSA Standard C22.2 No. 30 by UL)
FM 3615: Class I, Groups BCD; Class II, Groups EFG; Class III
UL50, NEMA 250: TYPE 4X
EN 60079-0:2006 EN 60079-1:2007
EN 61241-0:2006 EN61241-1:2004
EN 60529:1991 IP66
IEC60079-0:2004 IEC60079-1:2007-04
IEC61241-0:2004-07 IEC61214-1:2004-05
ENCLOSURE CATALOG NUMBERS: (also available in 316 stainless steel)

**ATEX APPROVED
NO REVISIONS TO DRAWING
WITHOUT NOTIFIED BODY APPROVAL**
SIGN *[Signature]*

XIHX SERIES..SINGLE ENDED BODY (XIH)
XDHX SERIES..DUAL ENDED BODY (XDH)

- A) WITH SMALL (FLAT) COVER, ADASEAL CEMENTED WINDOW, - FG CX
- B) WITH SMALL (FLAT) COVER, NO WINDOW, - FC X
- C) WITH LARGE (DOME) COVER, NO WINDOW, - DC X
- D) WITH LARGE (DOME) COVER, ADASEAL CEMENTED WINDOW, - DG CX
- E) WITH SMALL (FLAT) COVER, ADACO CEMENTED WINDOW, - FG CC X
- F) WITH LARGE (DOME) COVER, ADACO CEMENTED WINDOW, - DG CC X

One cover of any of the above referenced covers permitted on XIH Single Ended style body.
Any combination of two of the above referenced covers permitted on XDH Dual Ended style body.

CONDITIONS FOR USE:

- 1) BEFORE OPENING THE ENCLOSURE IN A FLAMMABLE ATMOSPHERE THE CIRCUITS MUST BE INTERRUPTED.
- 2) THE APPROVAL APPLIES TO EQUIPMENT WITHOUT CABLE GLANDS. WHEN MOUNTING THE ENCLOSURE IN A HAZARDOUS AREA, ONLY CABLE GLANDS CERTIFIED TO EN60079-1, IEC60079-1, EN61241-1 AND IEC61241-1 MUST BE USED.
- 3) ANY CLOSE UP PLUG CERTIFIED TO EN60079-1 AND EN61241-1 MAY BE USED FOR ATEX APPLICATIONS.
- 4) REFER TO STUFFER SHEET DS833 FOR NUMBER, SIZE AND LOCATION OF ENTRIES.
- 5) RATED AMBIENT TEMPERATURE RANGE: -50°C ≤ Ta ≤ +100°C
- 6) THE CONTENT OF THE EX COMPONENT ENCLOSURE EQUIPMENT MAY BE PLACED IN ANY ARRANGEMENT PROVIDED THAT AN AREA OF AT LEAST 40% OF EACH CROSS-SECTIONAL AREA REMAINS FREE TO PERMIT UNIMPEDED GAS FLOW AND, THEREFORE, UNRESTRICTED DEVELOPMENT OF AN EXPLOSION. SEPARATE RELIEF AREAS MAY BE AGGREGATED PROVIDED THAT EACH AREA HAS A MINIMUM DIMENSION IN ANY DIRECTION OF 12.5mm.

ADALET, Scott Fetzer Co.
4801 West 150th Street
Cleveland, OH 44135, USA
Phone: (216)267-9000/Fax: (216)267-1681

DS683 REV.C 19JULY,2010

www.adalet.com

Blueprint Report

D-2 Inc (112319)

Class No 3610

Original Project I.D. 3028162

Drawing No.	Revision Level	Drawing Title	Last Report	Electronic Drawing	Moved To Solid Works	Changes	Comment	
440-014	5 7	MODIFICATION SENSOR SHAFT	3042596	Yes (pdf)	Yes	Yes	More Additional Lengths	Complete In Folder
440-040	5	ASSY PACKING GLAND & LOCKING MECHANISM	11/30/07	Yes (pdf)	Yes	No		Done
440-091	2	SENSOR PROBE HOUSING	3042596	Yes (pdf)	Yes	Yes	Add Wire Connection & Strain Relief Hole	Done
440-109	5	NOZZLE ISOLATOR BUSHING	11/30/07	Yes (pdf)	Yes	No		Done
440-135	2	PROBE INNER ELECTRODE	11/30/07	Yes (pdf)	Yes	Yes	Remove Old Ring Terminal Grove, add Thread	Done
440-136	3	PROBE OUTER GUARD	3042596	Yes (pdf)	Yes	No		Done
440-137	1	SCHEMATIC TERMINAL CARD ATEX	11/30/07	Yes (pdf)	No	No		Done
440-139	1	ASSY, Terminal Board	3042596	Yes (pdf)	No	No		Done
440-160	7	SCHEMATIC ATEX INTERCONNECT JF-1A	3042596	Yes (pdf)	Altium	Yes Add HART References		Done
440-169	3	SCHEMATIC, Sensor Tip Board	3042596	Yes (pdf)	Altium	Revisions Shape	Note: Same Board in both JF-1A and JF-1A HP	Done
440-170	3	PCB, Sensor Tip Board	3042596	Yes (pdf)	Altium	Revisions Shape		Done
440-171	3	ASSY, Tip Board	3042596	Yes (pdf)	Yes	Revisions		Done
440-174	6	ASSY INNER STEM	3042596	Yes (pdf)	Yes	Yes Stycast 2850 FT Coat Sensor (backfill)		Done
440-175	2	ASSY PROBE TO HOUSING	11/30/07	Yes (pdf)	Yes	No		Done
440-180	4	CONNECTOR TO HEADER ASSEMBLY	11/30/07	Yes (pdf)	Yes	No		Done
440-194	2	SNAP SPRING CONSTSTRUCTION	11/30/07	Yes (pdf)	N/A	Obsolete	See Wire Soldered Direct to Outer Electrode	REMOVE OBSOLETE
440-206	2	SCHEMATIC ATEX ANALOG INTERFACE CPU II	3042596	Yes (pdf)	Altium	No		Done
440-208	2	ASSY, CPU Board	3042596	Yes (pdf)	No	No		Done
440-209	1B	SCHEMATIC ATEX PROT. CARD (BI-POLAR TVS)	3042596	Yes (pdf)	No	No		Done
440-210	1	COMPONENT SIDE ATEX PROT CARD IS	3042596	Yes (pdf)	No	No		Done
440-211	1B	ASSY, ATEX Protection Board	3042596	Yes (pdf)	No	No		Done
440-216	3	ASSEMBLY HOUSING TO ELECTRONICS (BOM)	11/30/07	Yes (pdf)	Yes	No		Done
440-217	1	ASSY, CAST IS CARD	11/30/07	Yes (pdf)	No	No		Done
440-218	4	Final Assembly: Label Placement	RR207481	Yes (pdf)	No	No		Pending Input From
440-220	-A	SCHEMATIC ATEX PWR USER INT	3042596	Yes (pdf)	Altium	No		Done
440-222	-A	ASSY, POWER/USER INTERFACE BOARD	3042596	Yes (pdf)	No	No		Done
440-225	3	PURCHASE CONTROL NPS SEALING NIPPLE	11/30/07	Yes (pdf)	No	No		Done
440-228	1	LABEL ESD WARNING	11/30/07	Yes (pdf)	No	No		Done
440-229	1	LABLE SAFE USE 7 INSTALLATION WARNING	11/30/07	Yes (pdf)	No	No		Done
New Drawings								
440-016	1	Specification, JF1A & JF-1A-HP Model Numbers			No	Word		Done
440-067	0	Senor Tip Card Mounting Bracket			Yes	Elimination of Ring Terminal		Done
440-192	2	Assy, Probe Wired			Yes	New Tip Assembly		Done
440-172	3	Assy, Probe			Yes	New tip Assembly		Done
440-360	0	Schematic, CPU Analog HART Version			Altium	New		
440-370	0	Schematic, User Interface HART Version			Altium	New		
440-010	6	Installation & Safe Use Manual			Word	Revised		Done
443-022	0	Assy, Probe, Encpsulated JF-1A-HP			Yes	Revised Encapsulation		Done