

UK-TYPE EXAMINATION CERTIFICATE

Component Intended for use on/in a Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

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- 2
- 3 UK-Type Examination Certificate Number: **BAS21UKEX0034U**
- 4 Product: **Range of sheet metal empty enclosures**
- 5 Manufacturer: **Hawke International**
- 6 Address: **A Division of Hubbell Limited, A Member of the Hubbell Group of Companies, Oxford Street West, Ashton-under-Lyne, Lancashire, OL7 0NA**
- 7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 8 SGS Baseefa, Approved Body number 1180, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.
- The examination and test results are recorded in confidential Report No. **21(C)0033**
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN IEC 60079-0:2018 EN IEC 60079-7: 2015: +A1: 2018 EN 60079-11: 2012 EN 60079-31: 2014
except in respect of those requirements listed at item 18 of the Schedule.
- 10 The sign “U” is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as the basis for certification of an equipment or protective system.
- 11 This UK-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- 12 The marking of the product shall include the following:
- ⓧ II 2G Ex eb IIC Gb **See schedule for Intrinsic Safety and Group I marking**
- ⓧ II 2D Ex tb IIIC Db
- SGS Baseefa Customer Reference No. **0500** Project File No. **21/0033**

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R S SINCLAIR
TECHNICAL MANAGER

On behalf of SGS Baseefa Limited

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Schedule

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Certificate Number BAS21UKEX0034U

15 Description of Product

This certificate covers the following 5 types of enclosure range:

- ~ ZS* and ZM* range
- ~ ZSFI*, ZSFE*, ZMFI* and ZMFE* range
- ~ ZEA* and ZMEA* range
- ~ ZEJB* and ZMEJB* range
- ~ ZEJBM1 and ZEJBM2 (Group I) range.

ZS* and ZM* range and the ZSFI*, ZSFE*, ZMFI* and ZMFE* range:

The ZS* and ZM* and the ZSFI*, ZSFE*, ZMFI* and ZMFE* are a range of fabricated sheet metal enclosures, comprising of a lid and a body complete with gland plates, and optional lid hinges in various designs that are either part of the sealing system or independent of lid sealing. The enclosures have a one-piece silicone sponge gasket between the lid and flange of the body and also between the body and gland plates.

Ingress Protection Rating is IP66.

- ~ The ZS* and ZM* have a recessed double bend external flange design on the body.
- ~ The ZSFI* and ZMFI* have a single bend internal flange (FI) design on the body.
- ~ The ZSFE* and ZMFE* have a single bend external flange (FE) design on the body that overhangs the body.

The ZSFE/ZMFE external flange over hangs the body and means that the lid is larger than that of the ZS/ZM and ZSFI/ZMFI versions.

The ZS*, ZSFI* and ZSFE* ranges are manufactured in stainless steel. The ZM*, ZMFI* and ZMFE* ranges are manufactured in mild steel, except the gland plates and fixings which are manufactured in stainless steel. Mild steel lids and bodies are coated or plated to suit the application.

The two heavy duty sizes ZS15 and ZS17 are only permitted in stainless steel.

The range comprises typically of 9 standard sizes and 2 heavy duty sizes:

TYPE	HEIGHT (mm)		WIDTH (mm)		DEPTH (mm)	LID & BODY THICKNESS minimum (mm)	GLAND PLATE THICKNESS Minimum (mm)	
	Z*FE LID	---	Z*FE LID	---			St/Steel	Brass
ZS1 and ZM1 ZSFI1 and ZMFI1 ZSFE1 and ZMFE1	223	---	153	---	130	1.2	2.0	5.0
ZS2 and ZM2 ZSFI2 and ZMFI2 ZSFE2 and ZMFE2	293	---	263	---	160	1.2	2.0	5.0
ZS3 and ZM3 ZSFI3 and ZMFI3 ZSFE3 and ZMFE3	413	---	263	---	160	ZS3/ZSF*3 1.2 ZMS3/ZMF*3 1.6	2.0	5.0
ZS4 and ZM4 ZSFI4 and ZMFI4 ZSFE4 and ZMFE4	425	---	373	---	160	ZS4 1.2 ZMS4 1.6	2.0	5.0

ZS5 and ZM5 ZSFI5 and ZMFI5 ZSFE5 and ZMFE5	523	---	373	---	160	ZS5 1.2 ZMS5 1.6	2.0	5.0
ZS6 and ZM6 ZSFI6 and ZMFI6 ZSFE6 and ZMFE6	640	---	450	---	160	2.0	2.0	5.0
ZS7 and ZM7 ZSFI7 and ZMFI7 ZSFE7 and ZMFE7	760	---	550	---	160	2.0	2.0	5.0
ZS8 and ZM8 ZSFI8 and ZMFI8 ZSFE8 and ZMFE8	880	---	640	---	160	2.0	2.0	5.0
ZS9 and ZM9 ZSFI9 and ZMFI9 ZSFE9 and ZMFE9	1000	---	740	---	160	2.0	2.0	5.0
ZS15	950	---	950	---	960	2.0	3.0	5.0
ZS17	950	---	1350	---	960	2.0	3.0	5.0

Alternative sizes are permitted providing they are interpolated from within the existing size range, and that lid and gland plate fixing centres are equal to or less than those given in the range shown above as specified on the certification drawings listed below. The enclosure depth may be increased to a maximum of 300mm to suit the application.

Alternative mid-range sizes in landscape orientation of ZS/ZM1 to 9 and ZSFI/ZSFE/ZMFI/ZMFE1 to 9 range are permitted. The enclosures will be coded as follows: ZS*L, ZM*L, ZSFE*L, ZMFE*L e.g. ZS4L

The body may be supplied with gland plates on one or more faces. On the sizes 1 to 7 there is one plate per face, on the size 8 there are up to two gland plates on the side faces and on the size 9 there are up to two gland plates per face. On the ZS15 and ZS17 there is one plate per face. The gland plates are secured to the body by either bolts into sealed threaded inserts or nuts onto captive studs. Cable entry hole configurations are specified on Drawing Number D2534.

The ZS/ZM1 to 9 the lid is hinged to the body on one side and is secured on the opposite side by bolts into threaded inserts, but as an option the hinges may be replaced by bolts and threaded inserts.

The ZS15 and ZS17 the lid is fully bolted.

The ZSFI/ZSFE/ZMFI/ZMFE1 to 9 the lid is secured by bolts and threaded inserts with optional hinges that do not form part of the lid sealing system.

There is an optional padlock bracket welded to the body for all types of enclosure that passes through a slot in the lid.

There is a minimum of four mounting feet welded to the body.

Earthing is provided as standard by an M10 or M14 stainless steel internal/external earth stud assembly located on the body in a position to suit customer requirements, when required the stud may be M6. The threaded stud or hexagon head set screw is welded to the body. The stud is supplied fitted with stainless steel nuts and spring washers and copper shell washers. The earth stud may be reduced to M6 providing it is suitable for the required terminal/conductor size in accordance with EN IEC 60079-7. Optional internal earth studs may be welded to one or more of the gland plates and/or the lid to suit customer requirements.

An optional style of M10 up to M16 internal/external earth stud assembly via a threaded bush may be used. The Ingress Protection rating remains IP66.

On the inside of the enclosure there are four or more raised threaded inserts for subsequent fixing of internal components, and there is an optional base plate.

For the ZS1 to 9 and ZM1 to 9 types, two enclosures may be joined direct together and sealed with a gland plate gasket and fixings via the side face apertures.

An alternative through-hole style internal/external earth stud assembly to drawing number 9464 or 9423, mounted in the gland plate/s or body of the enclosure may be used.

Optional internal and external welded mounting brackets and studs for subsequent component/auxiliary equipment mounting may be used.

An optional window may be included in the lid for size 2 upwards in all types. The Ingress Protection rating remains IP66.

An optional document pocket may be included inside the enclosure. The Ingress Protection rating is not affected.

The enclosures are fitted with a self-adhesive label on the inside of the lid.

ZEA* and ZMEA* range:

The ZEA* and ZMEA* are a range of fabricated sheet metal tapered profile enclosures that are a similar but more basic design to the existing ZS/ZM range of enclosures. The enclosures comprise of a lid and a body complete with a gland plate on the bottom face only. They have a 'wedged' side profile and a simple 'single bend' flange on the body so that the aperture area is the full area of the enclosure. The lid is secured by 4 or more lid fixing screws. The hinge arrangement is a block and pin design that does not form part of the lid sealing arrangement. The hinge can be on the top, bottom or side face to suit the application. The gland plates are secured to the body by either bolts into sealed threaded inserts or nuts onto captive studs. The enclosure has a one piece silicone gasket between the lid and body and also between the body and gland plate.

The Ingress Protection rating is IP66.

The ZEA* range are manufactured in stainless steel, with an option for the gland plate to be manufactured in brass. The ZMEA* range are manufactured in mild steel, except the gland plate and fixings that are manufactured in stainless steel with the option for the gland plate to be manufactured in brass. Mild steel lids and bodies are coated or plated to suit the application.

The range comprises typically of 9 sizes:

TYPE	HEIGHT (mm)	WIDTH (mm)	DEPTH (mm) Full depth / Tapered depth	LID & BODY THICKNESS minimum (mm)	GLAND PLATE THICKNESS	
					Minimum (mm) Stainless Steel	Brass
ZEA231513 and ZMEA231513	229	152	125 / 66	1.5	2.0	5.0
ZEA262620 and ZMEA262620	260	260	190 / 79	1.5	2.0	5.0
ZEA303020 and ZMEA303020	306	306	190 / 80	1.5	2.0	5.0
ZEA352620 and ZMEA352620	350	260	190 / 80	1.5	2.0	5.0
ZEA403020 and ZMEA403020	400	300	190 / 88	1.5	2.0	5.0
ZEA463820 and ZMEA463820	458	382	190 / 82	1.5	2.0	5.0
ZEA484820 and ZMEA484820	480	480	190 / 86	1.5	2.0	5.0
ZEA553522 and ZMEA553522	550	350	205 / 86	1.5	2.0	5.0
ZEA624522 and ZMEA624522	620	450	205 / 83	1.5	2.0	5.0

Alternative sizes are permitted providing they are interpolated from within the existing size range, and that lid and gland plate fixing centres are equal to or less than those given in the range shown above as specified on the certification drawings listed above.

The gland plate or side/back panel of the body may be drilled with clearance holes for suitable certified cable glands or accessories. The size and location of the entry holes are addressed in the certification drawings listed above and on the Assembly Instructions.

There is an optional through hole facility in the lid/body flange for a suitable locking device, the hole does not affect the seal faces. There is a minimum of four mounting feet welded to the body.

Earthing is provided as standard by an M10 or M14 stainless steel internal/external earth stud assembly located on the body in a position to suit customer requirements, when required the stud may be M6. The threaded stud or hexagon head set screw is welded to the body. The stud is supplied fitted with stainless steel nuts and spring washers and copper shell washers. The earth stud may be reduced to M6 providing it is suitable for the required terminal/conductor size in accordance with EN IEC 60079-7. Optional internal earth studs may be welded to one or more of the gland plates and/or the lid to suit customer requirements.

On the inside of the enclosure there are two or more spot welded threaded studs for subsequent fixing of internal components and optional base plate.

An optional window may be included in the lid for ZEA262620/ZMS262620 size upwards. The Ingress Protection rating remains IP66.

An optional document pocket may be included inside the enclosure. The Ingress Protection rating is not affected.

The enclosures may be fitted with certified stopping plugs and breather drain devices in-line with the existing ZS and ZM range.

The enclosures are fitted with a self-adhesive label on the inside of the lid.

ZEJB* and ZMEJB* range:

The ZEJB* and ZMEJB* are a range of sheet metal enclosures. The ZEJB* are manufactured in stainless steel and the ZMEJB* are manufactured in mild steel. The enclosures are a simpler version of the existing ZS/ZM and ZSF*/ZMF* ranges. They comprise of a lid and a body with a simple flange seal face arrangement with no gland plates. The enclosure is sealed by a gasket between the flange of the body and the lid. The lid gasket is in-line with the existing ZS/ZM and ZSF*/ZMF* ranges.

The Ingress Protection rating is IP66 & IPX7.

TYPE	HEIGHT (mm)	WIDTH (mm)	DEPTH (mm)	LID & BODY THICKNESS minimum (mm)
ZEJB1 and ZMEJB1	126	126	81.5	1.5
ZEJB2 and ZMEJB2	156	156	91.5	1.5
ZEJB3 and ZMEJB3	200	200	120	1.5


Optional internal and external welded mounting brackets and studs for subsequent component/auxiliary equipment mounting may be used.

ZEJBM1 and ZEJBM2 (Group I) range:

The Group I enclosures type ZEJBM1 and ZEJBM2 are in-line with the existing ZEJB* range except that they shall only be manufactured in stainless steel and the lid and body thickness is greater.

The Ingress Protection Rating is IP66.

The Group I marking is as follows:

 **I M2 Ex eb I Mb**

Group I ZEJBM1 and ZEJBM2 in stainless steel:

TYPE	HEIGHT (mm)	WIDTH (mm)	DEPTH (mm)	Lid & Body Thickness Minimum (mm)
ZEJBM1	126	126	81.5	2.0
ZEJBM2	156	156	91.5	2.0

Optional internal and external welded mounting brackets and studs for subsequent component/auxiliary equipment mounting may be used.

GENERAL ENCLOSURE INFORMATION:-

Service Temperature Range for all enclosures:

The Hawke International fabricated range of sheet metal enclosures have a Service Temperature Range of -60°C to +135°C The Service Temperature Range may be affected by accessories fitted (See Schedule of Limitations).

The gaskets are UV stable and may be white, black, red or blue.

Two or more optional M3/M4/M5, up to 10mm long, welded or self-clinching studs to the outside of the lid for securing additional labelling, for Group II applications only.

When required for EMC purposes the exposed face of the gaskets may be covered with a self-adhesive fine/braid meshing. The Ingress Protection rating of the enclosure is IP66.

Alternative Marking for all enclosures:

For commercial purposes, alternative Intrinsically Safe (I.S.) marking options are permitted

For Group II enclosures, the marking is as follows:

⊕ II 2G Ex ib IIC Gb

⊕ II 2D Ex ib IIIC Db

OR

⊕ II 1G Ex ia IIC Ga

⊕ II 1D Ex ia IIIC Da

For Group I EJBM1 and EJBM2 enclosures only, the marking is as follows:

⊕ I M1 Ex ia I Ma

Standard Enclosure Accessories:

When required a Hawke International component or equipment certified, internal/external earth stud, stopping plug, breather-drain, as shown below, may be fitted to the enclosure or junction box as specified in the certification documents:

Manufacturer	Product	Type	Certificate Number	IP Rating
Hawke	Stopping Plug	375 375R	BAS21UKEX0053X IECExBAS12.0065X Baseefa12ATEX0095X 375: -60°C to +75°C 375R: -60°C to +65°C	IP66/67
Hawke	Stopping Plug	387	BAS21UKEX0051U IECExBAS06.0029U Baseefa06ATEX0118U Nitrile o-ring: -60°C to +80°C Silicone o-ring: -60°C to +160°C	IP66/67

Hawke	Stopping Plug	390	BAS21UKEX0052X IECExBAS11.0079X Baseefa11ATEX0157X Nitrile o-ring: -60°C to +80°C Silicone o-ring: -60°to +160°C	IP66
Hawke	Stopping Plug	487	BAS21UKEX0058X IECExBAS11.0071X Baseefa11ATEX0149X Nitrile o-ring: -60°C to +80°C Silicone o-ring: -60°to +150°C	IP66/67
Hawke	Breather Drain	389 and 385	BAS21UKEX0043X IECExBAS11.0075X Baseefa11ATEX0153X Nitrile o-ring: -60°C to +80°C Silicone o-ring: 389: -60°to +150°C 385: -60°C to +80°C	IP66
Hawke	Int/Ext Earth	IES10, IES6/12, ES6/12	BAS21UKEX0037U IECExBAS09.0013U Baseefa09ATEX0039U -60°to +200°C	IP66

NOTE: Other suitable 'equipment' certified accessories may also be fitted to suit the application.

16 Report Number

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17 Schedule of Limitations

- The enclosures shall not be exposed to temperatures outside the range of -60°C to +135°C.
- Unused entry holes shall be fitted with stopping plugs as listed above, or fitted with suitable stopping plugs having an equipment certificate, or having a component certificate subject to the confirmation by the end user/installer of the ingress protection rating and the permitted service temperature of the component. The operating temperature range and ingress protection rating of the enclosure is limited to that of the stopping plug fitted.
- Only component certified breather/drain devices as specified in the description above may be used with these enclosures, or any other suitable breather/drain devices having an equipment certificate that are suitable for the wall thickness of the enclosure to ensure draining can occur, subject to the confirmation by the end user/installer of the ingress protection rating and the permitted service temperature. The breather/drain devices must be installed in their correct orientation in the bottom face. The operating temperature range and Ingress Protection rating of the enclosure is limited to that of the breather/drain device fitted.
- The enclosure service temperature range is limited to -60°C to +80°C when the following optional Hawke items are used/fitted:
 - ~ Hawke M10 or M16 internal/external earth stud via a threaded bush.
 - ~ Hawke internal/external earth stud to 9464 or 9423.
 - ~ Nyloc label fixing method.
- For the Group I ZEJBM1 and ZEJBM2, the accessories shall be suitable certified Group I devices.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.2.7	LVD type requirements
1.4.1	External effects
1.4.2	Aggressive substances

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
D2534 Baseefa08ATEX0207U IECEX BAS 08.0064U	1 to 4	K	26/05/21	General Arrangement Sheet Metal Enclosures