

1 **EU - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU**

3 EU - Type Examination Certificate Number: **Baseefa16ATEX0042X**

4 Product: **Vortex Cabinet cooler**

5 Manufacturer: **Meech Static Eliminators Limited**

6 Address: **2 Network Point, Range Road, Witney, Oxfordshire, OX29 0YN**

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, Notified Body number 1180, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 Annex II to the Directive.

The examination and test results are recorded in confidential Report No. **GB/BAS/ExTR16.0213/00**

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

EN ISO 80079-36:2016 EN ISO 80079-37:2016

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive 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 2 G Ex h IIC T4 Gb Ta -10°C to + 55°C

SGS Baseefa Customer Reference No. **1402**

Project File No. **15/0660**

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TECHNICAL MANAGER

On behalf of SGS Baseefa Limited

13 **Schedule**

14 **Certificate Number Baseefa16ATEX0042X**

15 **Description of Product**

The Meech Cabinet coolers are compressed air powered devices that are intended to cool electronic/electrical enclosures that are located in Zone 1 areas. The products will be classified as Group II Category 2 equipment.

There are no electric/electronic components in these products they are entirely non-electrical. The cooling that they produce is driven by an internal vortex tube. A vortex tube is a compressed air powered device that has no moving parts. From a high pressure clean and dry compressed air source, the vortex tube creates a cold air stream and a hot air stream. The vortex tube's cold air stream is directed inside the (customer's) protected enclosure while the hot air stream is exhausted outside of the Meech Cabinet Cooler via two side holes to the ambient environment. The Meech Cabinet Cooler can be mounted directly on the top, side or underneath of the enclosure to be cooled via a 26mm diameter hole. An 'O' ring seal between the Meech Cabinet Cooler and the enclosure to be cooled maintains a seal at this interface. The cold airstream is directed inside the enclosure through the bottom exit hole. A nitrile bladder relief valve is located at the base of the vortex. This ensures that the pressure inside the enclosure to be cooled cannot exceed approximately 0.0199 bar.

The main ignition source from the Cabinet Cooler is from the hot air exhaust temperatures that it can develop. The temperature of the hot air exhaust is dependent on the temperature and the pressure of the compressed air that is supplied to the product. When the compressed air pressure is limited to a maximum of 5.5 bar (80 psig) and a maximum inlet air temperature of 55°C, then the hot exhaust air temperature and corresponding surface temperatures on or inside the product will not exceed 135°C. This corresponds to a temperature classification of T4. It is imperative that the compressed air supply conditions be stated and adhered to.

The Meech Cabinet Cooler is primarily constructed from stainless steel. Internally there is a steel spring that supports the silencer foam and locates on to a brass sleeve. There are four interchangeable plastic generators available that offer different rates of cooling ability.

16 **Report Number**

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17 **Specific Conditions of Use**

1. The user shall ensure that the certification of any enclosure onto which this is installed, is not compromised by the installation or operation of this device.
2. The equipment shall be suitably earthed (grounded) prior to operation. Earth continuity shall be maintained between the equipment and the enclosure to which it is installed on.
3. Inlet pressure shall not exceed 5.5 Bar (80 PSI).
4. Inlet air temperature shall not exceed 55°C.
5. When installed, consideration shall be given to the guidance given in PD IEC/TS 60079-32-1 'Explosive atmospheres - Electrostatic hazards, guidance'.
6. The cold fraction adjustment valve must not be altered and remain at 2.5 turns open.

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
1.2.8	Covered by installation rules and manufacturer's instructions
1.4.1	The Purchaser should make the manufacturer aware of such issues. Covered in Instructions
1.4.2	The Purchaser should make the manufacturer aware of such issues. Covered in Instructions

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
C000015	1-2	-	22/08/16	Cabinet Cooler Assembly
C000015	2-2	-	22/08/16	Generators
CABCOOLNAME	1-1	-	01/09/16	Cabinet Cooler Ex Name Plate
D50088 – Spring	11-12	A	26/09/11	Silencer Spring