1 **EU-TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **CSANe 20ATEX1153X** Issue: **0**

4 Equipment: **Type B225264 Probe Assemblies**

5 Applicant: **Minco Products Inc.**

6 Address: 7300 Commerce Lane NE
Minneapolis
MN 55432

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

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

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

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

EN IEC 60079-0:2018 EN 60079-1:2014+AC:2018-09 EN 60079-11:2012 EN 60079-31:2014

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

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

II 2GD
Ex db IIC T6... T2 Gb
Ex tb IIIC T85°C... T160°C Db
Ex ia IIC T6 ... T2 Ga
Ta = -50°C ≤ Ta ≤ +60°C

Project Number 70157624

Signed: J A May

Title: Director of Operations

CSA Group Netherlands B.V.
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13 **DESCRIPTION OF EQUIPMENT**

The Minco Type B225264 Probe Assemblies are comprised of a connection head, probe holder and probe for measuring process temperature. The connection heads are available in aluminium, powder coated aluminium or stainless steel. The connection heads feature either two ½" NPT or ¾" NPT entries and an M85 cover joint. The manufacturer may install a pre-certified IS transmitter within the connection head.

Spring-loaded probe holders are available as set screw, release knob and fixed. Set screw and release knob probe holders are provided with an O-ring, allowing process pressures of up to 50 lbf/in^2. Alternatively, a welded probe holder may be used, which increases the allowed process pressure to 1500 lbf/in^2.

Probes diameters have variances in both diameter and wall thickness; however, the cylindrical joint created with the probe holder is not affected. Probes may be potted, MgO powder filled or unfilled, depending on the intended application. Probe tips are either welded or, for special applications, a tellurium copper tip is available which is mechanically sealed to the stainless-steel tube.

Measuring elements are Type E, J, K and T thermocouples or RTD.

B225264-**abcde**, where:

a: connection head type
- A = CH504 in aluminum alloy
- E = CH504 in aluminum alloy with polyester powder coating finish
- S = CH506 in type 316 stainless steel

b: probe construction type
- 0 = stainless steel probe with copper alloy tip (tip-sensitive)
- 2 = all stainless steel probe
- 4 = stainless steel probe with MgO fill

c: probe fitting type
- A = Adjustable release knob spring-loaded holder type
- B = Welded case type
- C = Fixed spring-loaded holder type
- D = Set screw spring-loaded holder type

d: Probe diameter
- 0 = 6.375mm (.250 inches)
- 1 = 6.000mm (.236 inches)
- 2 = 5.461mm (.215 inches)
- 3 = 5.461mm (.215 inches) with hand bendable case
- 4 = 4.788mm (.188 inches)

Where e: temperature transmitter type
- A = No transmitter
- B = Minco TT111 for 2-lead RTD

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C = Minco TT518 (PRE 5333D) for 3-lead RTD
D = Minco TT519 (PRE 5334B) for thermocouple
E = Minco TT205 for thermocouple
F = Minco TT246 for 3 lead RTD voltage output
G = Minco TT520 (PRE 5331D) programmable
H = Minco TT521 (PRE 5337D) HART programmable

The equipment has been separately tested against the requirements of EN 60529 and it meets IP66 with a cover O-ring and IP64 without a cover O-ring.

14 **DESCRIPTIVE DOCUMENTS**

14.1 **Drawings**

Refer to Certificate Annexe.

14.2 **Associated Sira Reports and Certificate History**

Issue	Date	Report number	Comment
0	04 January 2021	R70157624A R70157624B	The release of the prime certificate.

15 **SPECIFIC CONDITIONS OF USE** (denoted by X after the certificate number)

15.1 The temperature of the equipment can reach 67°C in a 60°C ambient at the cable entry and the branching point. These temperatures may be increased further should the equipment be installed such that the connection head is subject to the effects of heating by the process fluid. This must be considered by the user when selecting field wiring and cable entry devices.

15.2 Aluminium enclosures featuring a non-conducting powder coat may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on non-conducting surfaces. Additionally, cleaning of the equipment should be done with a damp cloth.

15.3 In the end application, the user shall ensure that the temperature within the connection head does not exceed 85°C; and the temperature of the process thread of the probe holder does not exceed 200°C.

15.4 Flamepaths of this equipment shall not be repaired by the user.

15.5 For Group III environments, the process temperature shall be at least 7°C below the desired surface temperature rating of the equipment. Eg, for a surface temperature of T85°C, the process temperature shall not exceed 78°C.

15.6 The temperature class of the equipment for Group II is dictated by the process temperature in the end application:

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Flameproof	Intrinsically Safe
T6: -50°C ≤ $T_{process}$ ≤ +70°C	T6: -40°C ≤ $T_{process}$ ≤ +45°C
T5: -50°C ≤ $T_{process}$ ≤ +85°C	T5: -40°C ≤ $T_{process}$ ≤ +60°C
T4: -50°C ≤ $T_{process}$ ≤ +120°C	T4: -40°C ≤ $T_{process}$ ≤ +85°C
T3: -50°C ≤ $T_{process}$ ≤ +185°C	T3: -40°C ≤ $T_{process}$ ≤ +185°C
T2: -50°C ≤ $T_{process}$ ≤ +280°C	T2: -40°C ≤ $T_{process}$ ≤ +280°C

Additional conditions relevant to Intrinsically Safe installations of the equipment only:

15.7 For equipment utilizing aluminium enclosures in Category 1 Ex ia applications, the equipment must be installed such that ignition sources due to impact and friction sparks are excluded.

15.8 Termination of intrinsically safe circuits that are fed externally from the equipment installed in Category 1 Ex ia applications, must maintain a clearance of at least 6mm between bare live parts of separate intrinsically safe circuits and at least 3mm between bare live parts of intrinsically safe circuits and earthed parts.

15.9 After integration in the end-use system, the apparatus shall be submitted to a dielectric test of 500Vrms, 50-60Hz for 60 Seconds without breakdown, according to Clause 6.3.13 of EN 60079-11:2012. (not applicable for grounded junction thermocouples).

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

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

17 **CONDITIONS OF MANUFACTURE**

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

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 Every temperature probe shall be routinely over-pressured to a value of at least 89.28 bar (1,295 lbf/in^2) for a period of at least 10 seconds. At the conclusion of testing there shall be no damage, permanent deformation, displacement or leakage through the tip of the probe.

17.4 Every connection head and welded probe holder shall be routinely over-pressured to a value of at least 49.23 bar (715 lbf/in^2) for a period of at least 10 seconds. At the conclusion of testing there shall be no damage, permanent deformation, or leakage through the weld of the welded probe holder.

17.5 The equipment covered by this certificate incorporates previously certified devices; it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform CSA UK of any modifications of the devices that may impinge upon the explosion safety design of the equipment.

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Description	Certificate Number
PR Electronics 5333D	KEMA 03ATEX1535X & IECEx DEK 13.0036X
PR Electronics 5334B & 5331D	KEMA 06ATEX0062X & IECEx DEK13.0035X
PR Electronics 5337D	KEMA 03ATEX1537 & IECEx KEM 10.0083X

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Certificate Annexe

Certificate Number: **CSANe 20ATEX1153X**

Equipment: **Type B225264 Probe Assemblies**

Applicant: **Minco Products Inc.**

Issue 0

Drawing	Sheets	Rev.	Date (Stamp)	Title
B224600	1 to 2	-	10 Dec 20	Connection Head Flameproof Explosionproof CH504 and CH506 Series Approval Drawing
B225264	1 to 11	-	10 Dec 20	Ex Assembly Approval Drawing
A12299	1 to 1	B	10 Dec 20	Reducing Bushing

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