Certificate of Conformity

AWARDED TO APPLICANT

SICME ORANGE1 S.r.l.

PIAZZA DELLA REPUBBLICA, 28
20124, MILANO – **ITALY**

MANUFACTURER: SICME ORANGE1 S.r.l.
PIAZZA DELLA REPUBBLICA, 28
20124, MILANO – **ITALY**

Bureau Veritas Certification certifies that the Product in the scope of supply specified below has been evaluated and found to comply with the requirements of the reference documents.

Documents of Reference

ORDINANCE N° 179 FROM INMETRO, ISSUED IN MAY 18TH 2010,
ABNT NBR IEC 60079-0:2013 amd ABNT NBR IEC 60079-1:2016.
CERTIFICATE ISSUED BASED ON THE MANUFACTURER EVALUATION OF QUALITY MANAGEMENT SYSTEM AND PRODUCT TESTS MODEL

Scope of Supply

D.C ELETRIC MOTORS
TYPE: C7, C7C, C11, C13, C16, C19, C23
MARKING: Ex db IIB T4 Gb (Except model C7C)
Ex db IIC T4 Gb (For model C7C)
-20 °C ≤ *Ta* ≤ +60 °C

Initial date of this Certificate: **FEBRUARY 13TH 2020.**
Certificate valid until: **FEBRUARY 12TH 2023.**

This Certificate of Conformity was issued according to the certification model 5 and is valid only accompanied by pages 1 to 6. The validity of this Certificate is linked to carrying out assessments maintenance and treatment of possible non-conformity in accordance with the Bureau Veritas Certification guidelines and in the specific Inmetro Ordinances (RAC).
To check the updated condition of regularity of this Certificate must be obtained from the product database and Certificate Services on Inmetro site.

Product Certification Contract: **BR.3705112**

Certificate since: **FEBRUARY 13TH 2020.**

INMETRO Certificate Number: **BVC20.3802-X**

Vagner Valentino
Coordenador Técnico de Certificação de Produto

Bureau Veritas Certification
Av. Alfredo Egídio de Souza Aranha, 100, Torre C, 3º andar, Centro Administrativo Santo Amaro
Cep: 04726-170, Chácara Santo Antônio, São Paulo, SP, Brasil
Tel.: + 55 11 2655 9000 - www.bureauveritascertification.com.br

Certificate of Conformity
BVC20.3802-X

SPECIFICATION:

Flameproof DC motors C series had been expressly designed for a fuly reliable operation and in conformity of safety prescriptions as requested by the regulation in force for electrical installations in hazardous environments.

Basically, the motors are made up of:
main body (housing);
lateral shields as housing ends;
cooling fan and protection cover;
bearing locking flanges;
main and auxiliary terminal boxes;

Between the external terminal boxes and the internal connections of motor windings, certified Ex "d" sealed bushings are used, according to ATEX certificate CESI 01 ATEX 080U.

CODIFICATION:

C **a) b) c) d) e)**

a) C – Code of the series
b) C7, C7C, C11, C13, C16, C19, C23 – Size
c) S, M, L – Length of the rotor
d) CVE – External ventilaton
e) d – Flameproof motor

Certificate of Conformity

BVC20.3802-X

ELECTRICAL CHARACTERISTICS:

Model	C7C	C7	C11	C13	C16	C19	C23
Gas Group	IIC	IIB					
Temperature Class	T4						
IP Degree	55	55	56	55	56	56	55
Operating Temperature	-20 °C ≤ *Ta* ≤ +60 °C						
Tensão Máxima	440V	440V	500V	500V	500V	750V	500V
Max Armature Current (up to *Ta* = 40 °C)	18A	18A	49A	49A	86A	155A	200A
Max Armature Current (up to *Ta* = 60 °C)	15,5A	15,5A	43A	43A	76A	135A	175A
Max Power	1,2 kW	1,2 kW	2,4 kW	6 kW	14 kW	25 kW	35 kW
Max Speed	3600 rpm	3600 rpm	3000 rpm	3000 rpm	3600 rpm	3200 rpm	2500 rpm
Winding Insulation Class	B or F						
Nr. And Max Section of Cables From Armature to Terminal Board	6x2,5 mm²	6x2,5 mm²	6x25 mm²			6x50 mm²	
Terminal Board Installed Into the Terminal Box	50x32 6 leds M4	50x32 6 leds M4	70x45 6 leds M6			115x70 6 leds M10	
Terminal Box Entry Cable	NPT ½"	NPT ½"	NPT 1" a/to NPT 2"			NPT 1 ½" a/to NPT 2 ½"	
	M16x1,5 a/to M33x1,5	M16x1,5 a/to M33x1,5	M20x1,5 a/to M50x1,5			M25x1,5 a/to M75x1,5	
Auxiliary Terminal Box Entry Cable (for heaters, thermistors)	-	-	NPT 1" a/to NPT 2"			NPT 1 ½" a/to NPT 2 ½"	M25x1,5
	-	-	M20x1,5 a/to M50x1,5			M20x1,5 a/to M75x1,5	
Nr. and Theoretical Section Supply Cables Into the Terminal Box	3x6 mm² +PE	3x6 mm² +PE	3x35 mm² +PE			3x70 mm² +PE	

Certificate of Conformity

BVC20.3802-X

TECHNICAL DOCUMENTATION:

- Certificate of Conformity n° IECEx EPS 15.0048 of 2015/08/06;
- Certificate of Conformity n° BVI 15 ATEX 0061X of 2020/01/23;
- Test Report EPS n° DE/EPS/ExTR15.0050/00 of 2015/08/06;
- Analysis Report (RA) n° 001/2020 of 2020/02/04;
- Factory Inspection Date: 2019/11/20;
- Manual in Portuguese.

DRAWING	DESCRIPTION	REVISION	DATE
1020S00AA	DC Motor Type C7 CVEd - Protection Mode II 2G Ex d IIB T4 Gb Protection Grade IP55	4	2003/12/04
1020S00AB	C7 Exd IIB / C7C Exd IIC - Main Terminal Box Assembled Protection Grade IP55 (M33 x 1,5)	3	2003/12/04
1020S00BA	DC Motor Type C7 CVEd - Protection Mode II 2G Ex d IIC T4 Gb Protection Grade IP55	4	2003/12/04
1040S00AA	DC Motor Type C11 CVEd - Protection Mode II 2G Ex d IIB T4 Gb Protection Grade IP56	4	2003/03/10
1050S00AA	DC Motor Type C13 CVEd - Protection Mode II 2G Ex d IIB T4 Gb Protection Grade IP55	4	2003/03/07
1060S00AA	DC Motor Type C13 CVEd - Protection Mode II 2G Ex d IIB T4 Gb Protection Grade IP55	4	2002/11/29
1060S00AB	C11 Exd IIB / C13 Exd IIB/C16 Exd IIB - Main Terminal Box Assembled Protection Grade IP56 (M33 x 1,5)	3	2002/11/29
1060S00AC	C11 Exd IIB / C13 Exd IIB/C16 Exd IIB - Terminal Box for Auxiliary Circuits Protection Grade IP56 (M33 x 1,5)	3	2002/11/29
1060S00AD	C16 Exd IIB - Main Terminal Box Assembled Protection Grade IP56 (M42 x 1,5)	3	2002/11/29
1070S00AA	DC Motor Type C19 CVEd - Protection Mode II 2G Ex d IIB T4 Gb Protection Grade IP56	5	2003/03/07
1070S00AB	C19 Exd IIB / C19H Exd IIB+H2/C23 Exd IIB - Main Terminal Box Assembled Protection Grade IP56 (M42 x 1,5)	4	2003/03/26
1070S00AC	C19 Exd IIB / C19H Exd IIB+H2 - Terminal Box for Auxiliary Circuits Protection Grade IP56 (M33 x 1,5)	4	2003/03/26
1080S00AA	DC Motor Type C23 CVEd - Protection Mode II 2G Ex d IIB T4 Gb Protection Grade IP55	6	2003/04/22
1080S00AB	C19 Exd IIB / C19H Exd IIB+H2/C23 Ex d IIB – Main Terminal Box Assembled Protection Grade IP56 (M24 x 1,5)	4	2003/03/26
R1060362IM	Targa Motore Exd per ATEX 2014/34/UE ATEX + Certificazione INMETRO	2	2013/11/19
1060362IP	Targa Motore Exd per ATEX 2014/34/UE ATEX + Certificazione INMETRO	2	2013/11/19

Certificate of Conformity

BVC20.3802-X

T813690225	Scatola Protezione Morsetti Completa EE-xd Foro Cavi M25x1,5	0	2006/03/09

OBSERVATIONS:

1. The letter "X" after the certificate number indicates the following conditions for safe use:

   The use in explosive atmospheres raised by gas of group IIC is limited to model C7C.

2. This Certificate is valid only for products with the same model and type as the tested prototype. Any modification in the project, as well as the use of components apart from those defined by the technical documentation, without previous authorization from Bureau Veritas Certification, will invalid this Certificate.

3. The motors must be submitted to the static pressure test for at least 10 seconds without exceeding 1 minute, using the values given in the table below:.

Motor Part	Model	Pressure
Frame	C7, C7C, C11, C13, C16, C19, C23	16 bar
Terminal Box	C7C	12 bar
Terminal Box	C7, C11, C13, C16, C19, C23	10,5 bar

4. The motors shall have, on their outer surface and in a visible place, the Conformity Mark and the technical characteristics thereof, according to the specifications of the Standard ABNT NBR IEC 60079-0 / ABNT NBR IEC 60079-1 and Conformity Assessment Requirements, attached to INMETRO Ordinance 179, published on May 18, 2010. This marking must be legible and durable, possible chemical corrosion.

5. It is the responsibility of the user to ensure that the products are installed in compliance with the relevant Standards for Electrical Installations in Explosive Atmospheres and the manufacturer's recommendations.

Bureau Veritas Certification
Av. Alfredo Egídio de Souza Aranha, 100, Torre C, 3º andar, Centro Administrativo Santo Amaro
Cep: 04726-170, Chácara Santo Antônio, São Paulo, SP, Brasil
Tel.: + 55 11 2655 9000 - www.bureauveritascertification.com.br

Certificate of Conformity
BVC20.3802-X

6. The activities of installation, inspection, maintenance, repair, overhaul and recovery of equipment are the responsibility of users and must be implemented in accordance with the requirements of current technical standards and the manufacturer's recommendations.

7. The Manufacturer shall provide manual of installation and safe use written in Portuguese.

REVISIONS HISTORY	
DATE OF ISSUE	**DESCRIPTION**
2020/02/13	Initial Issue

Bureau Veritas Certification
Av. Alfredo Egídio de Souza Aranha, 100, Torre C, 3º andar, Centro Administrativo Santo Amaro
Cep: 04726-170, Chácara Santo Antônio, São Paulo, SP, Brasil
Tel.: + 55 11 2655 9000 - www.bureauveritascertification.com.br